

# **Oracle*9i***

Database Reference

Release 2 (9.2)

October 2002

Part No. A96536-02

**ORACLE®**

Part No. A96536-02

Copyright © 1996, 2002 Oracle Corporation. All rights reserved.

Primary Author: Tony Morales

Contributing Author: Diana Lorentz

Contributors: Nipun Agarwal, Angela Amor, Rick Anderson, Lance Ashdown, Mark Bauer, Ruth Baylis, Neerja Bhatt, Tudor Bosman, George Candea, Wilson Chan, Sumanta Chatterjee, Eugene Chong, Michele Cyran, Mary Ann Davidson, Connie Dialeris Green, Harvey Eneman, Bruce Ernst, Ira Greenberg, Steve Harris, Thuvan Hoang, Lilian Hobbs, Namit Jain, Hakkan Jakobsson, Bob Jenkins, Mark Johnson, Jonathan Klein, Sushil Kumar, Tirthankar Lahiri, Bill Lee, Nina Lewis, Yunrui Li, Juan Loaiza, Neil MacNaughton, Kant Patel, Shankar Raman, Ari Mozes, Subramanian Muralidhar, Ravi Murthy, Karuna Muthiah, Arvind Nithrakashyap, Ronald Obermarck, Cetin Ozbutun, Christopher Racicot, Mark Ramacher, Suvendu Ray, Ann Rhee, Vivian Schupmann, Harlan Sexton, Helen Slattery, Ekrem Soylemez, Debbie Steiner, Seema Sundara, Juan Tellez, Alex Tsukerman, Kothanda Umapageswaran, Randy Urbano, Steve Vivian, Eric Voss, Tak Wang, Steve Wertheimer, Andy Witkowski, Daniel Wong, Graham Wood, Brian Wright, Aravind Yalamanchi, Qin Yu, Mohamed Ziauddin

The Programs (which include both the software and documentation) contain proprietary information of Oracle Corporation; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent and other intellectual and industrial property laws. Reverse engineering, disassembly or decompilation of the Programs, except to the extent required to obtain interoperability with other independently created software or as specified by law, is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. Oracle Corporation does not warrant that this document is error-free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Oracle Corporation.

If the Programs are delivered to the U.S. Government or anyone licensing or using the programs on behalf of the U.S. Government, the following notice is applicable:

**Restricted Rights Notice** Programs delivered subject to the DOD FAR Supplement are "commercial computer software" and use, duplication, and disclosure of the Programs, including documentation, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement. Otherwise, Programs delivered subject to the Federal Acquisition Regulations are "restricted computer software" and use, duplication, and disclosure of the Programs shall be subject to the restrictions in FAR 52.227-19, Commercial Computer Software - Restricted Rights (June, 1987). Oracle Corporation, 500 Oracle Parkway, Redwood City, CA 94065.

The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and Oracle Corporation disclaims liability for any damages caused by such use of the Programs.

Oracle is a registered trademark, and Oracle Store, Oracle7, Oracle8, Oracle8i, Oracle9i, PL/SQL, Pro\*C/C++, SQL\*Net, and SQL\*Plus are trademarks or registered trademarks of Oracle Corporation. Other names may be trademarks of their respective owners.

---

---

# Contents

<b>Send Us Your Comments .....</b>	xli
<b>Preface.....</b>	xliii
Audience .....	xliv
Organization.....	xliv
Related Documentation .....	xlv
Conventions.....	xlvi
Documentation Accessibility .....	I
<b>What's New in Oracle9<i>i</i> Database Reference? .....</b>	liii
Oracle9 <i>i</i> Release 2 (9.2) New Features in Oracle9 <i>i</i> Database Reference .....	liv
Oracle9 <i>i</i> Release 1 (9.0.1) New Features in Oracle9 <i>i</i> Database Reference .....	lxii
<b>1 Initialization Parameters</b>	
<b>Uses of Initialization Parameters.....</b>	1-2
Types of Initialization Parameters .....	1-2
<b>Parameter Files .....</b>	1-4
Server Parameter Files .....	1-4
Initialization Parameter Files .....	1-4
<b>Changing Parameter Values.....</b>	1-7
Dynamic Parameters .....	1-8
Displaying Current Parameter Values .....	1-11
Parameters You Should Not Specify in the Parameter File.....	1-11
When Parameters Are Set Incorrectly .....	1-12

<b>Reading the Parameter Descriptions</b>	1-12
<b>Parameter Descriptions</b>	1-14
ACTIVE_INSTANCE_COUNT	1-15
AQ_TM_PROCESSES	1-15
ARCHIVE_LAG_TARGET	1-16
AUDIT_FILE_DEST	1-17
AUDIT_SYS_OPERATIONS	1-17
AUDIT_TRAIL	1-17
BACKGROUND_CORE_DUMP	1-18
BACKGROUND_DUMP_DEST	1-18
BACKUP_TAPE_IO_SLAVES	1-19
BITMAP_MERGE_AREA_SIZE	1-20
BLANK_TRIMMING	1-21
BUFFER_POOL_KEEP	1-21
BUFFER_POOL_RECYCLE	1-22
CIRCUITS	1-24
CLUSTER_DATABASE	1-24
CLUSTER_DATABASE_INSTANCES	1-25
CLUSTER_INTERCONNECTS	1-25
COMMIT_POINT_STRENGTH	1-26
COMPATIBLE	1-27
CONTROL_FILE_RECORD_KEEP_TIME	1-28
CONTROL_FILES	1-28
CORE_DUMP_DEST	1-29
CPU_COUNT	1-29
CREATE_BITMAP_AREA_SIZE	1-30
CURSOR_SHARING	1-31
CURSOR_SPACE_FOR_TIME	1-31
DB_nK_CACHE_SIZE	1-32
DB_BLOCK_BUFFERS	1-33
DB_BLOCK_CHECKING	1-35
DB_BLOCK_CHECKSUM	1-35
DB_BLOCK_SIZE	1-36
DB_CACHE_ADVICE	1-37
DB_CACHE_SIZE	1-38

<b>DB_CREATE_FILE_DEST</b>	1-38
<b>DB_CREATE_ONLINE_LOG_DEST_n</b>	1-39
<b>DB_DOMAIN</b>	1-39
<b>DB_FILE_MULTIBLOCK_READ_COUNT</b>	1-40
<b>DB_FILE_NAME_CONVERT</b>	1-41
<b>DB_FILES</b>	1-43
<b>DB_KEEP_CACHE_SIZE</b>	1-44
<b>DB_NAME</b>	1-44
<b>DB_RECYCLE_CACHE_SIZE</b>	1-45
<b>DB_WRITER_PROCESSES</b>	1-45
<b>DBLINK_ENCRYPT_LOGIN</b>	1-46
<b>DBWR_IO_SLAVES</b>	1-46
<b>DG_BROKER_CONFIG_FILEn</b>	1-47
<b>DG_BROKER_START</b>	1-48
<b>DISK_ASYNCH_IO</b>	1-48
<b>DISPATCHERS</b>	1-49
<b>DISTRIBUTED_LOCK_TIMEOUT</b>	1-53
<b>DML_LOCKS</b>	1-53
<b>DRS_START</b>	1-54
<b>ENQUEUE_RESOURCES</b>	1-55
<b>EVENT</b>	1-56
<b>FAL_CLIENT</b>	1-56
<b>FAL_SERVER</b>	1-57
<b>FAST_START_IO_TARGET</b>	1-57
<b>FAST_START_MTTR_TARGET</b>	1-58
<b>FAST_START_PARALLEL_ROLLBACK</b>	1-59
<b>FILE_MAPPING</b>	1-59
<b>FILESYSTEMIO_OPTIONS</b>	1-60
<b>FIXED_DATE</b>	1-60
<b>GC_FILES_TO_LOCKS</b>	1-60
<b>GLOBAL_CONTEXT_POOL_SIZE</b>	1-62
<b>GLOBAL_NAMES</b>	1-62
<b>HASH_AREA_SIZE</b>	1-63
<b>HASH_JOIN_ENABLED</b>	1-64
<b>HI_SHARED_MEMORY_ADDRESS</b>	1-64

<b>HS_AUTOREGISTER</b>	1-64
<b>IFILE</b>	1-65
<b>INSTANCE_GROUPS</b>	1-66
<b>INSTANCE_NAME</b>	1-67
<b>INSTANCE_NUMBER</b>	1-67
<b>JAVA_MAX_SESSIONSPACE_SIZE</b>	1-68
<b>JAVA_POOL_SIZE</b>	1-68
<b>JAVA_SOFT_SESSIONSPACE_LIMIT</b>	1-69
<b>JOB_QUEUE_PROCESSES</b>	1-69
<b>LARGE_POOL_SIZE</b>	1-70
<b>LICENSE_MAX_SESSIONS</b>	1-71
<b>LICENSE_MAX_USERS</b>	1-72
<b>LICENSE_SESSIONS_WARNING</b>	1-72
<b>LOCAL_LISTENER</b>	1-73
<b>LOCK_NAME_SPACE</b>	1-74
<b>LOCK_SGA</b>	1-74
<b>LOG_ARCHIVE_DEST</b>	1-75
<b>LOG_ARCHIVE_DEST_n</b>	1-76
<b>LOG_ARCHIVE_DEST_STATE_n</b>	1-78
<b>LOG_ARCHIVE_DUPLEX_DEST</b>	1-79
<b>LOG_ARCHIVE_FORMAT</b>	1-80
<b>LOG_ARCHIVE_MAX_PROCESSES</b>	1-81
<b>LOG_ARCHIVE_MIN_SUCCEED_DEST</b>	1-82
<b>LOG_ARCHIVE_START</b>	1-83
<b>LOG_ARCHIVE_TRACE</b>	1-84
<b>LOG_BUFFER</b>	1-85
<b>LOG_CHECKPOINT_INTERVAL</b>	1-86
<b>LOG_CHECKPOINT_TIMEOUT</b>	1-87
<b>LOG_CHECKPOINTS_TO_ALERT</b>	1-88
<b>LOG_FILE_NAME_CONVERT</b>	1-88
<b>LOG_PARALLELISM</b>	1-90
<b>LOGMNR_MAX_PERSISTENT_SESSIONS</b>	1-90
<b>MAX_COMMIT_PROPAGATION_DELAY</b>	1-91
<b>MAX_DISPATCHERS</b>	1-92
<b>MAX_DUMP_FILE_SIZE</b>	1-93

<b>MAX_ENABLED_ROLES</b>	1-94
<b>MAX_ROLLBACK_SEGMENTS</b>	1-94
<b>MAX_SHARED_SERVERS</b>	1-94
<b>NLS_CALENDAR</b>	1-95
<b>NLS_COMP</b>	1-96
<b>NLS_CURRENCY</b>	1-96
<b>NLS_DATE_FORMAT</b>	1-97
<b>NLS_DATE_LANGUAGE</b>	1-98
<b>NLS_DUAL_CURRENCY</b>	1-98
<b>NLS_ISO_CURRENCY</b>	1-99
<b>NLS_LANGUAGE</b>	1-99
<b>NLS_LENGTH_SEMANTICS</b>	1-100
<b>NLS_NCHAR_CONV_EXCP</b>	1-100
<b>NLS_NUMERIC_CHARACTERS</b>	1-101
<b>NLS_SORT</b>	1-101
<b>NLS_TERRITORY</b>	1-102
<b>NLS_TIMESTAMP_FORMAT</b>	1-103
<b>NLS_TIMESTAMP_TZ_FORMAT</b>	1-104
<b>O7_DICTIONARY_ACCESSIBILITY</b>	1-104
<b>OBJECT_CACHE_MAX_SIZE_PERCENT</b>	1-105
<b>OBJECT_CACHE_OPTIMAL_SIZE</b>	1-106
<b>OLAP_PAGE_POOL_SIZE</b>	1-106
<b>OPEN_CURSORS</b>	1-107
<b>OPEN_LINKS</b>	1-107
<b>OPEN_LINKS_PER_INSTANCE</b>	1-108
<b>OPTIMIZER_DYNAMIC_SAMPLING</b>	1-109
<b>OPTIMIZER_FEATURES_ENABLE</b>	1-109
<b>OPTIMIZER_INDEX_CACHING</b>	1-112
<b>OPTIMIZER_INDEX_COST_ADJ</b>	1-113
<b>OPTIMIZER_MAX_PERMUTATIONS</b>	1-113
<b>OPTIMIZER_MODE</b>	1-114
<b>ORACLE_TRACE_COLLECTION_NAME</b>	1-115
<b>ORACLE_TRACE_COLLECTION_PATH</b>	1-116
<b>ORACLE_TRACE_COLLECTION_SIZE</b>	1-116
<b>ORACLE_TRACE_ENABLE</b>	1-117

<b>ORACLE_TRACE_FACILITY_NAME</b>	1-117
<b>ORACLE_TRACE_FACILITY_PATH</b>	1-118
<b>OS_AUTHENT_PREFIX</b>	1-119
<b>OS_ROLES</b>	1-120
<b>PARALLEL_ADAPTIVE_MULTI_USER</b>	1-120
<b>PARALLEL_AUTOMATIC_TUNING</b>	1-121
<b>PARALLEL_EXECUTION_MESSAGE_SIZE</b>	1-122
<b>PARALLEL_INSTANCE_GROUP</b>	1-122
<b>PARALLEL_MAX_SERVERS</b>	1-123
<b>PARALLEL_MIN_PERCENT</b>	1-124
<b>PARALLEL_MIN_SERVERS</b>	1-125
<b>PARALLEL_THREADS_PER_CPU</b>	1-126
<b>PARTITION_VIEW_ENABLED</b>	1-126
<b>PGA_AGGREGATE_TARGET</b>	1-127
<b>PLSQL_COMPILER_FLAGS</b>	1-128
<b>PLSQL_NATIVE_C_COMPILER</b>	1-129
<b>PLSQL_NATIVE_LIBRARY_DIR</b>	1-129
<b>PLSQL_NATIVE_LIBRARY_SUBDIR_COUNT</b>	1-129
<b>PLSQL_NATIVE_LINKER</b>	1-130
<b>PLSQL_NATIVE_MAKE_FILE_NAME</b>	1-130
<b>PLSQL_NATIVE_MAKE.Utility</b>	1-131
<b>PLSQL_V2_COMPATIBILITY</b>	1-131
<b>PRE_PAGE_SGA</b>	1-132
<b>PROCESSES</b>	1-133
<b>QUERY_REWRITE_ENABLED</b>	1-133
<b>QUERY_REWRITE_INTEGRITY</b>	1-134
<b>RDBMS_SERVER_DN</b>	1-135
<b>READ_ONLY_OPEN_DELAYED</b>	1-136
<b>RECOVERY_PARALLELISM</b>	1-136
<b>REMOTE_ARCHIVE_ENABLE</b>	1-137
<b>REMOTE_DEPENDENCIES_MODE</b>	1-138
<b>REMOTE_LISTENER</b>	1-138
<b>REMOTE_LOGIN_PASSWORDFILE</b>	1-139
<b>REMOTE_OS_AUTHENT</b>	1-140
<b>REMOTE_OS_ROLES</b>	1-140

<b>REPLICATION_DEPENDENCY_TRACKING</b>	1-141
<b>RESOURCE_LIMIT</b>	1-141
<b>RESOURCE_MANAGER_PLAN</b>	1-142
<b>ROLLBACK_SEGMENTS</b>	1-143
<b>ROW_LOCKING</b>	1-144
<b>SERIAL_REUSE</b>	1-145
<b>SERVICE_NAMES</b>	1-146
<b>SESSION_CACHED_CURSORS</b>	1-146
<b>SESSION_MAX_OPEN_FILES</b>	1-147
<b>SESSIONS</b>	1-148
<b>SGA_MAX_SIZE</b>	1-148
<b>SHADOW_CORE_DUMP</b>	1-149
<b>SHARED_MEMORY_ADDRESS</b>	1-149
<b>SHARED_POOL_RESERVED_SIZE</b>	1-150
<b>SHARED_POOL_SIZE</b>	1-151
<b>SHARED_SERVER_SESSIONS</b>	1-151
<b>SHARED_SERVERS</b>	1-152
<b>SORT_AREA_RETAINED_SIZE</b>	1-152
<b>SORT_AREA_SIZE</b>	1-153
<b>SPFILE</b>	1-155
<b>SQL_TRACE</b>	1-156
<b>SQL92_SECURITY</b>	1-157
<b>STANDBY_ARCHIVE_DEST</b>	1-157
<b>STANDBY_FILE_MANAGEMENT</b>	1-158
<b>STAR_TRANSFORMATION_ENABLED</b>	1-159
<b>STATISTICS_LEVEL</b>	1-159
<b>TAPE_ASYNCNCH_IO</b>	1-160
<b>THREAD</b>	1-160
<b>TIMED_OS_STATISTICS</b>	1-161
<b>TIMED_STATISTICS</b>	1-162
<b>TRACE_ENABLED</b>	1-163
<b>TRACEFILE_IDENTIFIER</b>	1-163
<b>TRANSACTION_AUDITING</b>	1-164
<b>TRANSACTIONS</b>	1-165
<b>TRANSACTIONS_PER_ROLLBACK_SEGMENT</b>	1-165

<b>UNDO_MANAGEMENT</b>	1-166
<b>UNDO_RETENTION</b>	1-166
<b>UNDO_SUPPRESS_ERRORS</b>	1-167
<b>UNDO_TABLESPACE</b>	1-168
<b>USE INDIRECT DATA BUFFERS</b>	1-168
<b>USER_DUMP_DEST</b>	1-169
<b>UTL_FILE_DIR</b>	1-169
<b>WORKAREA_SIZE_POLICY</b>	1-170

## 2 Static Data Dictionary Views

<b>ALL_ALL_TABLES</b>	2-6
<b>ALL_APPLY</b>	2-8
<b>ALL_APPLY_CONFLICT_COLUMNS</b>	2-9
<b>ALL_APPLY_DML_HANDLERS</b>	2-10
<b>ALL_APPLY_ERROR</b>	2-10
<b>ALL_APPLY_KEY_COLUMNS</b>	2-11
<b>ALL_APPLY_PARAMETERS</b>	2-12
<b>ALL_APPLY_PROGRESS</b>	2-12
<b>ALL_ARGUMENTS</b>	2-13
<b>ALL_ASSOCIATIONS</b>	2-14
<b>ALL_AUDIT_POLICIES</b>	2-15
<b>ALL_BASE_TABLE_MVIEWS</b>	2-16
<b>ALL_CAPTURE</b>	2-17
<b>ALL_CAPTURE_PARAMETERS</b>	2-18
<b>ALL_CAPTURE_PREPARED_DATABASE</b>	2-18
<b>ALL_CAPTURE_PREPARED_SCHEMAS</b>	2-19
<b>ALL_CAPTURE_PREPARED_TABLES</b>	2-19
<b>ALL_CATALOG</b>	2-20
<b>ALL_CLUSTER_HASH_EXPRESSIONS</b>	2-20
<b>ALL_CLUSTERS</b>	2-21
<b>ALL_COL_COMMENTS</b>	2-22
<b>ALL_COL_PRIVS</b>	2-22
<b>ALL_COL_PRIVS_MADE</b>	2-23
<b>ALL_COL_PRIVS_RECV</b>	2-24
<b>ALL_COLL_TYPES</b>	2-25

<b>ALL_CONS_COLUMNS</b>	2-25
<b>ALL_CONS_OBJ_COLUMNS</b>	2-26
<b>ALL_CONSTRAINTS</b>	2-27
<b>ALL_CONTEXT</b>	2-28
<b>ALL_DB_LINKS</b>	2-29
<b>ALL_DEF_AUDIT_OPTS</b>	2-29
<b>ALL_DEPENDENCIES</b>	2-30
<b>ALL_DIM_ATTRIBUTES</b>	2-31
<b>ALL_DIM_CHILD_OF</b>	2-32
<b>ALL_DIM_HIERARCHIES</b>	2-32
<b>ALL_DIM_JOIN_KEY</b>	2-33
<b>ALL_DIM_LEVEL_KEY</b>	2-33
<b>ALL_DIM_LEVELS</b>	2-34
<b>ALL_DIMENSIONS</b>	2-34
<b>ALL_DIRECTORIES</b>	2-35
<b>ALL_ERRORS</b>	2-35
<b>ALL_EVALUATION_CONTEXT_TABLES</b>	2-36
<b>ALL_EVALUATION_CONTEXT_VARS</b>	2-36
<b>ALL_EVALUATION_CONTEXTS</b>	2-37
<b>ALL_EXTERNAL_LOCATIONS</b>	2-38
<b>ALL_EXTERNAL_TABLES</b>	2-39
<b>ALL_IND_COLUMNS</b>	2-40
<b>ALL_IND_EXPRESSIONS</b>	2-41
<b>ALL_IND_PARTITIONS</b>	2-41
<b>ALL_IND_SUBPARTITIONS</b>	2-43
<b>ALL_INDEXES</b>	2-45
<b>ALL_INDEXTYPE_COMMENTS</b>	2-48
<b>ALL_INDEXTYPE_OPERATORS</b>	2-49
<b>ALL_INDEXTYPES</b>	2-50
<b>ALL_INTERNAL_TRIGGERS</b>	2-50
<b>ALL_JAVA_ARGUMENTS</b>	2-51
<b>ALL_JAVA_CLASSES</b>	2-52
<b>ALL_JAVA_DERIVATIONS</b>	2-53
<b>ALL_JAVA_FIELDS</b>	2-54
<b>ALL_JAVA_IMPLEMENTS</b>	2-55

<b>ALL_JAVA_INNERS</b> .....	2-56
<b>ALL_JAVA_LAYOUTS</b> .....	2-57
<b>ALL_JAVA_METHODS</b> .....	2-58
<b>ALL_JAVA_NCOMPS</b> .....	2-59
<b>ALL_JAVA_RESOLVERS</b> .....	2-60
<b>ALL_JAVA_THROWS</b> .....	2-61
<b>ALL_JOBS</b> .....	2-61
<b>ALL_JOIN_IND_COLUMNS</b> .....	2-63
<b>ALL_LIBRARIES</b> .....	2-63
<b>ALL_LOB_PARTITIONS</b> .....	2-64
<b>ALL_LOB_SUBPARTITIONS</b> .....	2-65
<b>ALL_LOB_TEMPLATES</b> .....	2-66
<b>ALL_LOBS</b> .....	2-67
<b>ALL_LOG_GROUP_COLUMNS</b> .....	2-68
<b>ALL_LOG_GROUPS</b> .....	2-69
<b>ALL_METHOD_PARAMS</b> .....	2-69
<b>ALL_METHOD_RESULTS</b> .....	2-70
<b>ALL_MVIEW_AGGREGATES</b> .....	2-71
<b>ALL_MVIEW_ANALYSIS</b> .....	2-72
<b>ALL_MVIEW_DETAIL_RELATIONS</b> .....	2-73
<b>ALL_MVIEW_JOINS</b> .....	2-74
<b>ALL_MVIEW_KEYS</b> .....	2-75
<b>ALL_MVIEW_LOGS</b> .....	2-76
<b>ALL_MVIEW_REFRESH_TIMES</b> .....	2-77
<b>ALL_MVIEWS</b> .....	2-77
<b>ALL_NESTED_TABLES</b> .....	2-82
<b>ALL_OBJ_COLATTRS</b> .....	2-82
<b>ALL_OBJECT_TABLES</b> .....	2-83
<b>ALL_OBJECTS</b> .....	2-85
<b>ALL_OPANCILLARY</b> .....	2-86
<b>ALL_OPARGUMENTS</b> .....	2-87
<b>ALL_OPBINDINGS</b> .....	2-87
<b>ALL_OPERATOR_COMMENTS</b> .....	2-88
<b>ALL_OPERATORS</b> .....	2-89
<b>ALL_OUTLINE_HINTS</b> .....	2-89

ALL_OUTLINES .....	2-90
ALL_PART_COL_STATISTICS .....	2-91
ALL_PART_HISTOGRAMS.....	2-92
ALL_PART_INDEXES .....	2-92
ALL_PART_KEY_COLUMNS.....	2-94
ALL_PART_LOBS.....	2-95
ALL_PART_TABLES .....	2-96
ALL_PARTIAL_DROP_TABS .....	2-98
ALL_PENDING_CONV_TABLES .....	2-98
ALL_POLICIES .....	2-99
ALL_POLICY_CONTEXTS.....	2-100
ALL_POLICY_GROUPS .....	2-101
ALL PROCEDURES .....	2-101
ALL_PROPAGATION .....	2-102
ALL_PUBLISHED_COLUMNS .....	2-103
ALL_QUEUE_TABLES .....	2-103
ALL_QUEUES .....	2-105
ALL_REFRESH.....	2-105
ALL_REFRESH_CHILDREN .....	2-106
ALL_REFRESH_DEPENDENCIES .....	2-107
ALL_REFS .....	2-108
ALL_REGISTERED_MVIEWS .....	2-108
ALL_REGISTRY_BANNERS .....	2-109
ALL_RULE_SET_RULES.....	2-110
ALL_RULE_SETS .....	2-110
ALL_RULES .....	2-111
ALL_SEQUENCES .....	2-112
ALL_SOURCE .....	2-112
ALL_SOURCE_TABLES .....	2-113
ALL_SQLJ_TYPE_ATTRS .....	2-113
ALL_SQLJ_TYPE_METHODS.....	2-114
ALL_SQLJ_TYPES .....	2-115
ALL_STORED_SETTINGS .....	2-116
ALL_STREAMS_GLOBAL_RULES.....	2-117
ALL_STREAMS_SCHEMA_RULES.....	2-118

<b>ALL_STREAMS_TABLE_RULES</b>	2-119
<b>ALL_SUBPART_COL_STATISTICS</b>	2-121
<b>ALL_SUBPART_HISTOGRAMS</b>	2-122
<b>ALL_SUBPART_KEY_COLUMNS</b>	2-123
<b>ALL_SUBPARTITION_TEMPLATES</b>	2-124
<b>ALL_SUBSCRIBED_COLUMNS</b>	2-124
<b>ALL_SUBSCRIBED_TABLES</b>	2-125
<b>ALL_SUBSCRIPTIONS</b>	2-125
<b>ALL_SUMDELTA</b>	2-126
<b>ALL_SYNONYMS</b>	2-126
<b>ALL_TAB_COL_STATISTICS</b>	2-127
<b>ALL_TAB_COLUMNS</b>	2-128
<b>ALL_TAB_COMMENTS</b>	2-130
<b>ALL_TAB_HISTOGRAMS</b>	2-130
<b>ALL_TAB_MODIFICATIONS</b>	2-131
<b>ALL_TAB_PARTITIONS</b>	2-132
<b>ALL_TAB_PRIVS</b>	2-133
<b>ALL_TAB_PRIVS_MADE</b>	2-134
<b>ALL_TAB_PRIVS_REC'D</b>	2-135
<b>ALL_TAB_SUBPARTITIONS</b>	2-136
<b>ALL_TABLES</b>	2-137
<b>ALL_TRIGGER_COLS</b>	2-140
<b>ALL_TRIGGERS</b>	2-141
<b>ALL_TYPE_ATTRS</b>	2-142
<b>ALL_TYPE_METHODS</b>	2-143
<b>ALL_TYPE VERSIONS</b>	2-144
<b>ALL_TYPES</b>	2-144
<b>ALL_UNUSED_COL_TABS</b>	2-145
<b>ALL_UPDATABLE_COLUMNS</b>	2-146
<b>ALL_USERS</b>	2-146
<b>ALL_USTATS</b>	2-147
<b>ALL_VARRAYS</b>	2-148
<b>ALL_VIEWS</b>	2-148
<b>ALL_XML_SCHEMAS</b>	2-149
<b>ALL_XML_TAB_COLS</b>	2-150

<b>ALL_XML_TABLES</b>	2-151
<b>ALL_XML_VIEW_COLS</b>	2-151
<b>ALL_XML_VIEWS</b>	2-152
<b>AUDIT_ACTIONS</b>	2-153
<b>CATALOG</b>	2-153
<b>CAT</b>	2-153
<b>CHAINED_ROWS</b>	2-153
<b>CHANGE_SOURCES</b>	2-154
<b>CHANGE_SETS</b>	2-154
<b>CHANGE_TABLES</b>	2-155
<b>CLU</b>	2-155
<b>CODE_PIECES</b>	2-156
<b>CODE_SIZE</b>	2-156
<b>COL</b>	2-156
<b>COLS</b>	2-156
<b>COLUMN_PRIVILEGES</b>	2-156
<b>DATABASE_PROPERTIES</b>	2-156
<b>DBA_2PC_NEIGHBORS</b>	2-157
<b>DBA_2PC_PENDING</b>	2-157
<b>DBA_ALL_TABLES</b>	2-158
<b>DBA_APPLICATION_ROLES</b>	2-158
<b>DBA_APPLY</b>	2-158
<b>DBA_APPLY_CONFLICT_COLUMNS</b>	2-159
<b>DBA_APPLY_DML_HANDLERS</b>	2-159
<b>DBA_APPLY_ERROR</b>	2-159
<b>DBA_APPLY_INSTANTIATED_OBJECTS</b>	2-159
<b>DBA_APPLY_KEY_COLUMNS</b>	2-160
<b>DBA_APPLY_PARAMETERS</b>	2-160
<b>DBA_APPLY_PROGRESS</b>	2-160
<b>DBA_AQ_AGENT_PRIVS</b>	2-160
<b>DBA_AQ_AGENTS</b>	2-161
<b>DBA_ASSOCIATIONS</b>	2-161
<b>DBA_ATTRIBUTE_TRANSFORMATIONS</b>	2-161
<b>DBA_AUDIT_EXISTS</b>	2-162
<b>DBA_AUDIT_OBJECT</b>	2-163

<b>DBA_AUDIT_POLICIES</b> .....	2-164
<b>DBA_AUDIT_SESSION</b> .....	2-164
<b>DBA_AUDIT_STATEMENT</b> .....	2-165
<b>DBA_AUDIT_TRAIL</b> .....	2-167
<b>DBA_AW_PS</b> .....	2-169
<b>DBA_AWS</b> .....	2-169
<b>DBA_BASE_TABLE_MVIEWS</b> .....	2-170
<b>DBA_BLOCKERS</b> .....	2-170
<b>DBA_CAPTURE</b> .....	2-170
<b>DBA_CAPTURE_PARAMETERS</b> .....	2-171
<b>DBA_CAPTURE_PREPARED_DATABASE</b> .....	2-171
<b>DBA_CAPTURE_PREPARED_SCHEMAS</b> .....	2-171
<b>DBA_CAPTURE_PREPARED_TABLES</b> .....	2-171
<b>DBA_CATALOG</b> .....	2-171
<b>DBA_CLU_COLUMNS</b> .....	2-172
<b>DBA_CLUSTER_HASH_EXPRESSIONS</b> .....	2-172
<b>DBA_CLUSTERS</b> .....	2-172
<b>DBA_COL_COMMENTS</b> .....	2-172
<b>DBA_COL_PRIVS</b> .....	2-172
<b>DBA_COLL_TYPES</b> .....	2-173
<b>DBA_CONS_COLUMNS</b> .....	2-173
<b>DBA_CONS_OBJ_COLUMNS</b> .....	2-173
<b>DBA_CONSTRAINTS</b> .....	2-174
<b>DBA_CONTEXT</b> .....	2-174
<b>DBA_DATA_FILES</b> .....	2-174
<b>DBA_DB_LINKS</b> .....	2-174
<b>DBA_DDL_LOCKS</b> .....	2-175
<b>DBA_DEPENDENCIES</b> .....	2-175
<b>DBA_DIM_ATTRIBUTES</b> .....	2-176
<b>DBA_DIM_CHILD_OF</b> .....	2-176
<b>DBA_DIM_HIERARCHIES</b> .....	2-176
<b>DBA_DIM_JOIN_KEY</b> .....	2-176
<b>DBA_DIM_LEVEL_KEY</b> .....	2-176
<b>DBA_DIM_LEVELS</b> .....	2-176
<b>DBA_DIMENSIONS</b> .....	2-177

<b>DBA_DIRECTORIES</b>	.....	2-177
<b>DBA_DML_LOCKS</b>	.....	2-177
<b>DBA_DMT_FREE_SPACE</b>	.....	2-178
<b>DBA_DMT_USED_EXTENTS</b>	.....	2-178
<b>DBA_ERRORS</b>	.....	2-178
<b>DBA_EVALUATION_CONTEXT_TABLES</b>	.....	2-178
<b>DBA_EVALUATION_CONTEXT_VARS</b>	.....	2-179
<b>DBA_EVALUATION_CONTEXTS</b>	.....	2-179
<b>DBA_EXP_FILES</b>	.....	2-179
<b>DBA_EXP_OBJECTS</b>	.....	2-179
<b>DBA_EXP_VERSION</b>	.....	2-180
<b>DBA_EXTENTS</b>	.....	2-180
<b>DBA_EXTERNAL_LOCATIONS</b>	.....	2-181
<b>DBA_EXTERNAL_TABLES</b>	.....	2-181
<b>DBA_FGA_AUDIT_TRAIL</b>	.....	2-181
<b>DBA_FREE_SPACE</b>	.....	2-182
<b>DBA_FREE_SPACE_COALESCED</b>	.....	2-182
<b>DBA_IND_COLUMNS</b>	.....	2-183
<b>DBA_IND_EXPRESSIONS</b>	.....	2-183
<b>DBA_IND_PARTITIONS</b>	.....	2-183
<b>DBA_IND_SUBPARTITIONS</b>	.....	2-183
<b>DBA_INDEXES</b>	.....	2-183
<b>DBA_INDEXTYPE_COMMENTS</b>	.....	2-183
<b>DBA_INDEXTYPE_OPERATORS</b>	.....	2-184
<b>DBA_INDEXTYPES</b>	.....	2-184
<b>DBA_INTERNAL_TRIGGERS</b>	.....	2-184
<b>DBA_JAVA_ARGUMENTS</b>	.....	2-184
<b>DBA_JAVA_CLASSES</b>	.....	2-184
<b>DBA_JAVA_DERIVATIONS</b>	.....	2-184
<b>DBA_JAVA_FIELDS</b>	.....	2-185
<b>DBA_JAVA_IMPLEMENTATIONS</b>	.....	2-185
<b>DBA_JAVA_INNERS</b>	.....	2-185
<b>DBA_JAVA_LAYOUTS</b>	.....	2-185
<b>DBA_JAVA_METHODS</b>	.....	2-185
<b>DBA_JAVA_NCOMPS</b>	.....	2-185

<b>DBA_JAVA_POLICY</b>	2-186
<b>DBA_JAVA_RESOLVERS</b>	2-186
<b>DBA_JAVA_THROWS</b>	2-187
<b>DBA_JOBS</b>	2-187
<b>DBA_JOBS_RUNNING</b>	2-187
<b>DBA_JOIN_IND_COLUMNS</b>	2-187
<b>DBA_KGLLOCK</b>	2-188
<b>DBA_LIBRARIES</b>	2-188
<b>DBA_LMT_FREE_SPACE</b>	2-188
<b>DBA_LMT_USED_EXTENTS</b>	2-188
<b>DBA_LOB_PARTITIONS</b>	2-189
<b>DBA_LOB_SUBPARTITIONS</b>	2-189
<b>DBA_LOB_TEMPLATES</b>	2-189
<b>DBA_LOBS</b>	2-189
<b>DBA_LOCK</b>	2-189
<b>DBA_LOCK_INTERNAL</b>	2-190
<b>DBA_LOCKS</b>	2-190
<b>DBA_LOG_GROUP_COLUMNS</b>	2-191
<b>DBA_LOG_GROUPS</b>	2-191
<b>DBA_LOGSTDBY_EVENTS</b>	2-191
<b>DBA_LOGSTDBY_LOG</b>	2-191
<b>DBA_LOGSTDBY_NOT_UNIQUE</b>	2-192
<b>DBA_LOGSTDBY_PARAMETERS</b>	2-193
<b>DBA_LOGSTDBY_PROGRESS</b>	2-194
<b>DBA_LOGSTDBY_SKIP</b>	2-195
<b>DBA_LOGSTDBY_SKIP_TRANSACTION</b>	2-195
<b>DBA_LOGSTDBY_UNSUPPORTED</b>	2-196
<b>DBA_METHOD_PARAMS</b>	2-196
<b>DBA_METHOD_RESULTS</b>	2-196
<b>DBA_MVIEW_AGGREGATES</b>	2-196
<b>DBA_MVIEW_ANALYSIS</b>	2-197
<b>DBA_MVIEW_DETAIL_RELATIONS</b>	2-197
<b>DBA_MVIEW_JOINS</b>	2-197
<b>DBA_MVIEW_KEYS</b>	2-197
<b>DBA_MVIEW_LOG_FILTER_COLS</b>	2-197

<b>DBA_MVIEW_LOGS</b> .....	2-198
<b>DBA_MVIEW_REFRESH_TIMES</b> .....	2-198
<b>DBA_MVIEWS</b> .....	2-198
<b>DBA_NESTED_TABLES</b> .....	2-198
<b>DBA_OBJ_AUDIT_OPTS</b> .....	2-198
<b>DBA_OBJ_COLATTRS</b> .....	2-199
<b>DBA_OBJECT_SIZE</b> .....	2-200
<b>DBA_OBJECT_TABLES</b> .....	2-200
<b>DBA_OBJECTS</b> .....	2-200
<b>DBA_OPANCILLARY</b> .....	2-200
<b>DBA_OPARGUMENTS</b> .....	2-201
<b>DBA_OPBINDINGS</b> .....	2-201
<b>DBA_OPERATOR_COMMENTS</b> .....	2-201
<b>DBA_OPERATORS</b> .....	2-201
<b>DBA_ORPHAN_KEY_TABLE</b> .....	2-201
<b>DBA_OUTLINE_HINTS</b> .....	2-202
<b>DBA_OUTLINES</b> .....	2-202
<b>DBA_PART_COL_STATISTICS</b> .....	2-202
<b>DBA_PART_HISTOGRAMS</b> .....	2-202
<b>DBA_PART_INDEXES</b> .....	2-202
<b>DBA_PART_KEY_COLUMNS</b> .....	2-203
<b>DBA_PART_LOBS</b> .....	2-203
<b>DBA_PART_TABLES</b> .....	2-203
<b>DBA_PARTIAL_DROP_TABS</b> .....	2-203
<b>DBA_PENDING_CONV_TABLES</b> .....	2-203
<b>DBA_PENDING_TRANSACTIONS</b> .....	2-203
<b>DBA_POLICIES</b> .....	2-204
<b>DBA_POLICY_CONTEXTS</b> .....	2-204
<b>DBA_POLICY_GROUPS</b> .....	2-204
<b>DBA_PRIV_AUDIT_OPTS</b> .....	2-204
<b>DBA PROCEDURES</b> .....	2-205
<b>DBA_PROFILES</b> .....	2-205
<b>DBA_PROPAGATION</b> .....	2-205
<b>DBA_PROXYES</b> .....	2-205
<b>DBA_PUBLISHED_COLUMNS</b> .....	2-206

DBA_QUEUE_SCHEDULES .....	2-207
DBA_QUEUE_TABLES.....	2-208
DBA_QUEUES.....	2-208
DBA_RCHILD .....	2-209
DBA_REFRESH.....	2-209
DBA_REFRESH_CHILDREN.....	2-209
DBA_REFS .....	2-209
DBA_REGISTERED_MVIEW_GROUPS .....	2-209
DBA_REGISTERED_MVIEWS .....	2-210
DBA_REGISTRY.....	2-210
DBA_REGISTRY_HIERARCHY.....	2-211
DBA_REPAIR_TABLE .....	2-212
DBA_RESUMABLE.....	2-213
DBA_RGROUP .....	2-214
DBA_ROLE_PRIVS.....	2-215
DBA_ROLES.....	2-215
DBA_ROLLBACK_SEGS.....	2-215
DBA_RSRC_CONSUMER_GROUP_PRIVS .....	2-216
DBA_RSRC_CONSUMER_GROUPS .....	2-217
DBA_RSRC_MANAGER_SYSTEM_PRIVS .....	2-217
DBA_RSRC_PLAN_DIRECTIVES.....	2-218
DBA_RSRC_PLANS.....	2-219
DBA_RULE_SET_RULES.....	2-220
DBA_RULE_SETS.....	2-220
DBA_RULES .....	2-220
DBA_SEGMENTS .....	2-220
DBA_SEQUENCES.....	2-221
DBA_SOURCE .....	2-222
DBA_SOURCE_TABLES.....	2-222
DBA_SQLJ_TYPE_ATTRS .....	2-222
DBA_SQLJ_TYPE_METHODS.....	2-222
DBA_SQLJ_TYPES .....	2-222
DBA_STMT_AUDIT_OPTS .....	2-222
DBA_STORED_SETTINGS .....	2-223
DBA_STREAMS_GLOBAL_RULES.....	2-223

<b>DBA_STREAMS_SCHEMA_RULES</b> .....	2-223
<b>DBA_STREAMS_TABLE_RULES</b> .....	2-224
<b>DBA_SUBPART_COL_STATISTICS</b> .....	2-224
<b>DBA_SUBPART_HISTOGRAMS</b> .....	2-224
<b>DBA_SUBPART_KEY_COLUMNS</b> .....	2-224
<b>DBA_SUBPARTITION_TEMPLATES</b> .....	2-224
<b>DBA_SUBSCRIBED_COLUMNS</b> .....	2-224
<b>DBA_SUBSCRIBED_TABLES</b> .....	2-225
<b>DBA_SUBSCRIPTIONS</b> .....	2-225
<b>DBA_SYNONYMS</b> .....	2-225
<b>DBA_SYS_PRIVS</b> .....	2-225
<b>DBA_TAB_COL_STATISTICS</b> .....	2-226
<b>DBA_TAB_COLUMNS</b> .....	2-226
<b>DBA_TAB_COMMENTS</b> .....	2-226
<b>DBA_TAB_HISTOGRAMS</b> .....	2-226
<b>DBA_TAB_MODIFICATIONS</b> .....	2-226
<b>DBA_TAB_PARTITIONS</b> .....	2-226
<b>DBA_TAB_PRIVS</b> .....	2-227
<b>DBA_TAB_SUBPARTITIONS</b> .....	2-227
<b>DBA_TABLES</b> .....	2-227
<b>DBA_TABLESPACES</b> .....	2-228
<b>DBA_TEMP_FILES</b> .....	2-229
<b>DBA_TRANSFORMATIONS</b> .....	2-230
<b>DBA_TRIGGER_COLS</b> .....	2-230
<b>DBA_TRIGGERS</b> .....	2-230
<b>DBA_TS_QUOTAS</b> .....	2-230
<b>DBA_TYPE_ATTRS</b> .....	2-231
<b>DBA_TYPE_METHODS</b> .....	2-231
<b>DBA_TYPE VERSIONS</b> .....	2-231
<b>DBA_TYPES</b> .....	2-231
<b>DBA_UNDO_EXTENTS</b> .....	2-232
<b>DBA_UNUSED_COL_TABS</b> .....	2-232
<b>DBA_UPDATABLE_COLUMNS</b> .....	2-232
<b>DBA_USERS</b> .....	2-233
<b>DBA_USTATS</b> .....	2-234

<b>DBA_VARRAYS</b>	2-234
<b>DBA_VIEWS</b>	2-234
<b>DBA_WAITERS</b>	2-234
<b>DBA_XML_SCHEMAS</b>	2-234
<b>DBA_XML_TAB_COLS</b>	2-235
<b>DBA_XML_TABLES</b>	2-235
<b>DBA_XML_VIEW_COLS</b>	2-235
<b>DBA_XML_VIEWS</b>	2-235
<b>DBMS_ALERT_INFO</b>	2-235
<b>DBMS_LOCK_ALLOCATED</b>	2-236
<b>DEPTREE</b>	2-236
<b>DICT</b>	2-236
<b>DICT_COLUMNS</b>	2-236
<b>DICTIONARY</b>	2-237
<b>ERROR_SIZE</b>	2-237
<b>EXCEPTIONS</b>	2-237
<b>FILE_LOCK</b>	2-237
<b>FILE_PING</b>	2-238
<b>FILEXTS</b>	2-239
<b>GLOBAL_NAME</b>	2-240
<b>HS_ALL_CAPS</b>	2-240
<b>HS_ALL_DD</b>	2-240
<b>HS_ALL_INITS</b>	2-241
<b>HS_BASE_CAPS</b>	2-241
<b>HS_BASE_DD</b>	2-241
<b>HS_CLASS_CAPS</b>	2-242
<b>HS_CLASS_DD</b>	2-242
<b>HS_CLASS_INIT</b>	2-243
<b>HS_EXTERNAL_OBJECT_PRIVILEGES</b>	2-243
<b>HS_EXTERNAL_OBJECTS</b>	2-243
<b>HS_EXTERNAL_USER_PRIVILEGES</b>	2-244
<b>HS_FDS_CLASS</b>	2-244
<b>HS_FDS_INST</b>	2-244
<b>HS_INST_CAPS</b>	2-245
<b>HS_INST_DD</b>	2-245

<b>HS_INST_INIT</b>	2-246
<b>IDEPTREE</b>	2-246
<b>IND</b>	2-247
<b>INDEX_HISTOGRAM</b>	2-247
<b>INDEX_STATS</b>	2-247
<b>MAP_OBJECT</b>	2-248
<b>NLS_DATABASE_PARAMETERS</b>	2-249
<b>NLS_INSTANCE_PARAMETERS</b>	2-249
<b>NLS_SESSION_PARAMETERS</b>	2-249
<b>OBJ</b>	2-250
<b>PARSED_PIECES</b>	2-250
<b>PARSED_SIZE</b>	2-250
<b>PLAN_TABLE</b>	2-250
<b>PLUGGABLE_SET_CHECK</b>	2-252
<b>PRODUCT_COMPONENT_VERSION</b>	2-253
<b>PROXY_USERS</b>	2-253
<b>PSTUBTBL</b>	2-254
<b>PUBLIC_DEPENDENCY</b>	2-254
<b>PUBLICSYN</b>	2-254
<b>QUEUE_PRIVILEGES</b>	2-255
<b>RESOURCE_COST</b>	2-255
<b>RESOURCE_MAP</b>	2-255
<b>ROLE_ROLE_PRIVS</b>	2-256
<b>ROLE_SYS_PRIVS</b>	2-256
<b>ROLE_TAB_PRIVS</b>	2-256
<b>SEQ</b>	2-256
<b>SESSION_CONTEXT</b>	2-257
<b>SESSION_PRIVS</b>	2-257
<b>SESSION_ROLES</b>	2-257
<b>SOURCE_SIZE</b>	2-257
<b>STMT_AUDIT_OPTION_MAP</b>	2-258
<b>SYN</b>	2-258
<b>SYSCATALOG</b>	2-258
<b>SYSFILES</b>	2-258
<b>SYSSEGOBJ</b>	2-258

<b>SYSTEM_PRIVILEGE_MAP</b> .....	2-258
<b>SYS_OBJECTS</b> .....	2-259
<b>TAB</b> .....	2-259
<b>TABLE_PRIVILEGE_MAP</b> .....	2-259
<b>TABLE_PRIVILEGES</b> .....	2-259
<b>TABS</b> .....	2-260
<b>TABQUOTAS</b> .....	2-260
<b>TRUSTED_SERVERS</b> .....	2-260
<b>TS_PITR_CHECK</b> .....	2-261
<b>TS_PITR_OBJECTS_TO_BE_DROPPED</b> .....	2-262
<b>UNI_PLUGGABLE_SET_CHECK</b> .....	2-262
<b>USER_ALL_TABLES</b> .....	2-263
<b>USER_AQ_AGENT_PRIVS</b> .....	2-263
<b>USER_ARGUMENTS</b> .....	2-263
<b>USER_ASSOCIATIONS</b> .....	2-264
<b>USER_ATTRIBUTE_TRANSFORMATIONS</b> .....	2-264
<b>USER_AUDIT_OBJECT</b> .....	2-264
<b>USER_AUDIT_POLICIES</b> .....	2-264
<b>USER_AUDIT_SESSION</b> .....	2-264
<b>USER_AUDIT_STATEMENT</b> .....	2-264
<b>USER_AUDIT_TRAIL</b> .....	2-265
<b>USER_AW_PS</b> .....	2-265
<b>USER_AWS</b> .....	2-265
<b>USER_BASE_TABLE_MVIEWS</b> .....	2-265
<b>USER_CATALOG</b> .....	2-266
<b>USER_CLU_COLUMNS</b> .....	2-266
<b>USER_CLUSTER_HASH_EXPRESSIONS</b> .....	2-266
<b>USER_CLUSTERS</b> .....	2-266
<b>USER_COL_COMMENTS</b> .....	2-266
<b>USER_COL_PRIVS</b> .....	2-266
<b>USER_COL_PRIVS_MADE</b> .....	2-267
<b>USER_COL_PRIVS_REC'D</b> .....	2-267
<b>USER_COLL_TYPES</b> .....	2-267
<b>USER_CONS_COLUMNS</b> .....	2-267
<b>USER_CONS_OBJ_COLUMNS</b> .....	2-267

USER_CONSTRAINTS .....	2-268
USER_DB_LINKS .....	2-268
USER_DEPENDENCIES .....	2-268
USER_DIM_ATTRIBUTES .....	2-268
USER_DIM_CHILD_OF .....	2-268
USER_DIM_HIERARCHIES .....	2-268
USER_DIM_JOIN_KEY .....	2-269
USER_DIM_LEVEL_KEY .....	2-269
USER_DIM_LEVELS .....	2-269
USER_DIMENSIONS .....	2-269
USER_ERRORS .....	2-269
USER_EVALUATION_CONTEXT_TABLES .....	2-269
USER_EVALUATION_CONTEXT_VARS .....	2-270
USER_EVALUATION_CONTEXTS .....	2-270
USER_EXTENTS .....	2-270
USER_EXTERNAL_LOCATIONS .....	2-270
USER_EXTERNAL_TABLES .....	2-270
USER_FREE_SPACE .....	2-271
USER_IND_COLUMNS .....	2-271
USER_IND_EXPRESSIONS .....	2-271
USER_IND_PARTITIONS .....	2-271
USER_IND_SUBPARTITIONS .....	2-271
USER_INDEXES .....	2-271
USER_INDEXTYPE_COMMENTS .....	2-272
USER_INDEXTYPE_OPERATORS .....	2-272
USER_INDEXTYPES .....	2-272
USER_INTERNAL_TRIGGERS .....	2-272
USER_JAVA_ARGUMENTS .....	2-272
USER_JAVA_CLASSES .....	2-273
USER_JAVA_DERIVATIONS .....	2-273
USER_JAVA_FIELDS .....	2-273
USER_JAVA_IMPLEMENTS .....	2-273
USER_JAVA_INNERS .....	2-273
USER_JAVA_LAYOUTS .....	2-274
USER_JAVA_METHODS .....	2-274

<b>USER_JAVA_NCOMPS</b>	2-274
<b>USER_JAVA_POLICY</b>	2-274
<b>USER_JAVA_RESOLVERS</b>	2-274
<b>USER_JAVA_THROWS</b>	2-275
<b>USER_JOBS</b>	2-275
<b>USER_JOIN_IND_COLUMNS</b>	2-275
<b>USER_LIBRARIES</b>	2-275
<b>USER_LOB_PARTITIONS</b>	2-275
<b>USER_LOB_SUBPARTITIONS</b>	2-275
<b>USER_LOB_TEMPLATES</b>	2-276
<b>USER_LOBS</b>	2-276
<b>USER_LOG_GROUP_COLUMNS</b>	2-276
<b>USER_LOG_GROUPS</b>	2-276
<b>USER_METHOD_PARAMS</b>	2-276
<b>USER_METHOD_RESULTS</b>	2-276
<b>USER_MVIEW_AGGREGATES</b>	2-277
<b>USER_MVIEW_ANALYSIS</b>	2-277
<b>USER_MVIEW_DETAIL_RELATIONS</b>	2-277
<b>USER_MVIEW_JOINS</b>	2-277
<b>USER_MVIEW_KEYS</b>	2-277
<b>USER_MVIEW_LOGS</b>	2-278
<b>USER_MVIEW_REFRESH_TIMES</b>	2-278
<b>USER_MVIEWS</b>	2-278
<b>USER_NESTED_TABLES</b>	2-278
<b>USER_OBJ_AUDIT_OPTS</b>	2-278
<b>USER_OBJ_COLATTRS</b>	2-278
<b>USER_OBJECT_SIZE</b>	2-279
<b>USER_OBJECT_TABLES</b>	2-279
<b>USER_OBJECTS</b>	2-279
<b>USER_OPANCILLARY</b>	2-279
<b>USER_OPARGUMENTS</b>	2-279
<b>USER_OPBINDINGS</b>	2-279
<b>USER_OPERATOR_COMMENTS</b>	2-279
<b>USER_OPERATORS</b>	2-280
<b>USER_OUTLINE_HINTS</b>	2-280

<b>USER_OUTLINES</b>	2-280
<b>USER_PART_COL_STATISTICS</b>	2-280
<b>USER_PART_HISTOGRAMS</b>	2-280
<b>USER_PART_INDEXES</b>	2-280
<b>USER_PART_KEY_COLUMNS</b>	2-281
<b>USER_PART_LOBS</b>	2-281
<b>USER_PART_TABLES</b>	2-281
<b>USER_PARTIAL_DROP_TABS</b>	2-281
<b>USER_PASSWORD_LIMITS</b>	2-281
<b>USER_PENDING_CONV_TABLES</b>	2-282
<b>USER_POLICIES</b>	2-282
<b>USER_POLICY_CONTEXTS</b>	2-282
<b>USER_POLICY_GROUPS</b>	2-282
<b>USER PROCEDURES</b>	2-282
<b>USER_PROXYES</b>	2-283
<b>USER_PUBLISHED_COLUMNS</b>	2-283
<b>USER_QUEUE_SCHEDULES</b>	2-283
<b>USER_QUEUE_TABLES</b>	2-283
<b>USER_QUEUES</b>	2-284
<b>USER_REFRESH</b>	2-284
<b>USER_REFRESH_CHILDREN</b>	2-284
<b>USER_REFS</b>	2-284
<b>USER_REGISTERED_MVIEWS</b>	2-284
<b>USER_REGISTRY</b>	2-284
<b>USER_RESOURCE_LIMITS</b>	2-285
<b>USER_RESUMABLE</b>	2-285
<b>USER_ROLE_PRIVS</b>	2-285
<b>USER_RSRC_CONSUMER_GROUP_PRIVS</b>	2-285
<b>USER_RSRC_MANAGER_SYSTEM_PRIVS</b>	2-286
<b>USER_RULE_SET_RULES</b>	2-286
<b>USER_RULE_SETS</b>	2-286
<b>USER_RULES</b>	2-286
<b>USER_SEGMENTS</b>	2-286
<b>USER_SEQUENCES</b>	2-286
<b>USER_SOURCE</b>	2-287

<b>USER_SOURCE_TABLES</b> .....	2-287
<b>USER_SQLJ_TYPE_ATTRS</b> .....	2-287
<b>USER_SQLJ_TYPE_METHODS</b> .....	2-287
<b>USER_SQLJ_TYPES</b> .....	2-287
<b>USER_STORED_SETTINGS</b> .....	2-287
<b>USER_SUBPART_COL_STATISTICS</b> .....	2-288
<b>USER_SUBPART_HISTOGRAMS</b> .....	2-288
<b>USER_SUBPART_KEY_COLUMNS</b> .....	2-288
<b>USER_SUBPARTITION_TEMPLATES</b> .....	2-288
<b>USER_SUBSCRIBED_COLUMNS</b> .....	2-288
<b>USER_SUBSCRIBED_TABLES</b> .....	2-289
<b>USER_SUBSCRIPTIONS</b> .....	2-289
<b>USER_SYNONYMS</b> .....	2-289
<b>USER_SYS_PRIVS</b> .....	2-289
<b>USER_TAB_COL_STATISTICS</b> .....	2-289
<b>USER_TAB_COLUMNS</b> .....	2-289
<b>USER_TAB_COMMENTS</b> .....	2-289
<b>USER_TAB_HISTOGRAMS</b> .....	2-290
<b>USER_TAB_MODIFICATIONS</b> .....	2-290
<b>USER_TAB_PARTITIONS</b> .....	2-290
<b>USER_TAB_PRIVS</b> .....	2-290
<b>USER_TAB_PRIVS_MADE</b> .....	2-290
<b>USER_TAB_PRIVS_REC'D</b> .....	2-291
<b>USER_TAB_SUBPARTITIONS</b> .....	2-291
<b>USER_TABLES</b> .....	2-291
<b>USER_TABLESPACES</b> .....	2-291
<b>USER_TRANSFORMATIONS</b> .....	2-291
<b>USER_TRIGGER_COLS</b> .....	2-292
<b>USER_TRIGGERS</b> .....	2-292
<b>USER_TS_QUOTAS</b> .....	2-292
<b>USER_TYPE_ATTRS</b> .....	2-292
<b>USER_TYPE_METHODS</b> .....	2-292
<b>USER_TYPE_VERSIONS</b> .....	2-292
<b>USER_TYPES</b> .....	2-293
<b>USER_UNUSED_COL_TABS</b> .....	2-293

USER_UPDATABLE_COLUMNS .....	2-293
USER_USERS .....	2-293
USER_USTATS.....	2-293
USER_VARRAYS .....	2-293
USER_VIEWS.....	2-294
USER_XML_SCHEMAS.....	2-294
USER_XML_TAB_COLS .....	2-294
USER_XML_TABLES.....	2-294
USER_XML_VIEW_COLS .....	2-294
USER_XML_VIEWS.....	2-294

### 3 Dynamic Performance (V\$) Views

About Dynamic Performance Views .....	3-1
V\$ Views .....	3-2
GV\$ Views .....	3-2
V\$ACCESS .....	3-4
V\$ACTIVE_INSTANCES.....	3-4
V\$ACTIVE_SESS_POOL_MTH .....	3-4
V\$AQ.....	3-4
V\$ARCHIVE .....	3-5
V\$ARCHIVE_DEST .....	3-5
V\$ARCHIVE_DEST_STATUS .....	3-8
V\$ARCHIVE_GAP .....	3-10
V\$ARCHIVE_PROCESSES .....	3-10
V\$ARCHIVED_LOG .....	3-10
V\$BACKUP .....	3-12
V\$BACKUP_ASYNC_IO.....	3-13
V\$BACKUP_CORRUPTION .....	3-14
V\$BACKUP_DATAFILE.....	3-15
V\$BACKUP_DEVICE .....	3-16
V\$BACKUP_PIECE .....	3-17
V\$BACKUP_REDOLOG.....	3-18
V\$BACKUP_SET .....	3-18
V\$BACKUP_SPFILE .....	3-20
V\$BACKUP_SYNC_IO.....	3-20

V\$BGPROCESS.....	3-21
V\$BH .....	3-21
V\$BUFFER_POOL .....	3-23
V\$BUFFER_POOL_STATISTICS.....	3-24
V\$CACHE.....	3-25
V\$CACHE_LOCK.....	3-26
V\$CACHE_TRANSFER.....	3-29
V\$CIRCUIT .....	3-30
V\$CLASS_CACHE_TRANSFER .....	3-31
V\$COMPATIBILITY .....	3-31
V\$COMPATSEG .....	3-32
V\$CONTEXT .....	3-32
V\$CONTROLFILE.....	3-32
V\$CONTROLFILE_RECORD_SECTION .....	3-32
V\$COPY_CORRUPTION.....	3-33
V\$CR_BLOCK_SERVER .....	3-34
V\$DATABASE .....	3-35
V\$DATABASE_BLOCK_CORRUPTION .....	3-38
V\$DATABASE_INCARNATION .....	3-39
V\$DATAFILE .....	3-39
V\$DATAFILE_COPY.....	3-41
V\$DATAFILE_HEADER.....	3-42
V\$DATAGUARD_STATUS .....	3-43
V\$DB_CACHE_ADVICE .....	3-44
V\$DB_OBJECT_CACHE .....	3-45
V\$DB_PIPES .....	3-46
V\$DBFILE.....	3-46
V\$DBLINK .....	3-46
V\$DELETED_OBJECT .....	3-47
V\$DISPATCHER .....	3-47
V\$DISPATCHER_RATE .....	3-48
V\$ENABLEDPRIVS .....	3-53
V\$ENQUEUE_LOCK .....	3-53
V\$ENQUEUE_STAT .....	3-54
V\$EVENT_NAME.....	3-55

V\$EXECUTION.....	3-55
V\$FALSE_PING .....	3-55
V\$FAST_START_SERVERS .....	3-56
V\$FAST_START_TRANSACTIONS .....	3-57
V\$FILE_CACHE_TRANSFER.....	3-57
V\$FILESTAT .....	3-58
V\$FIXED_TABLE.....	3-59
V\$FIXED_VIEW_DEFINITION.....	3-59
V\$GC_ELEMENT .....	3-60
V\$GC_ELEMENTS_WITH_COLLISIONS .....	3-60
V\$GCSHVMMASTER_INFO .....	3-61
V\$GCSPFMASTER_INFO .....	3-61
V\$GES_BLOCKING_ENQUEUE.....	3-61
V\$GES_CONVERT_LOCAL .....	3-63
V\$GES_CONVERT_REMOTE.....	3-63
V\$GES_ENQUEUE.....	3-64
V\$GES_LATCH.....	3-65
V\$GES_RESOURCE.....	3-65
V\$GES_STATISTICS .....	3-66
V\$GLOBAL_BLOCKED_LOCKS .....	3-66
V\$GLOBAL_TRANSACTION.....	3-66
V\$HS_AGENT.....	3-67
V\$HS_PARAMETER.....	3-67
V\$HS_SESSION .....	3-68
V\$HVMMASTER_INFO.....	3-68
V\$INDEXED_FIXED_COLUMN.....	3-68
V\$INSTANCE.....	3-69
V\$INSTANCE_RECOVERY .....	3-70
V\$LATCH.....	3-71
V\$LATCH_CHILDREN.....	3-72
V\$LATCH_MISSES.....	3-73
V\$LATCH_PARENT.....	3-74
V\$LATCHHOLDER .....	3-74
V\$LATCHNAME .....	3-74
V\$LIBRARY_CACHE_MEMORY .....	3-75

V\$LIBRARYCACHE.....	3-75
V\$LICENSE.....	3-76
V\$LOADISTAT .....	3-76
V\$LOADPSTAT.....	3-76
V\$LOCK.....	3-77
V\$LOCK_ACTIVITY .....	3-79
V\$LOCKED_OBJECT .....	3-79
V\$LOG .....	3-80
V\$LOG_HISTORY.....	3-81
V\$LOGFILE.....	3-81
V\$LOGHIST .....	3-82
V\$LOGMNR_CONTENTS.....	3-82
V\$LOGMNR_DICTIONARY.....	3-84
V\$LOGMNR_LOGS.....	3-85
V\$LOGMNR_PARAMETERS.....	3-86
V\$LOGSTDBY.....	3-86
V\$LOGSTDBY_STATS.....	3-87
V\$MANAGED_STANDBY.....	3-87
V\$MAP_COMP_LIST .....	3-89
V\$MAP_ELEMENT .....	3-89
V\$MAP_EXT_ELEMENT .....	3-90
V\$MAP_FILE .....	3-91
V\$MAP_FILE_EXTENT .....	3-91
V\$MAP_FILE_IO_STACK .....	3-92
V\$MAP_LIBRARY .....	3-92
V\$MAP_SUBELEMENT .....	3-93
V\$MTTR_TARGET_ADVICE.....	3-93
V\$MYSTAT.....	3-94
V\$NLS_PARAMETERS.....	3-95
V\$NLS_VALID_VALUES.....	3-95
V\$OBJECT_DEPENDENCY .....	3-95
V\$OBJECT_USAGE .....	3-96
V\$Obsolete_PARAMETER.....	3-96
V\$OFFLINE_RANGE.....	3-96
V\$OPEN_CURSOR .....	3-97

<b>V\$OPTION</b>	3-97
<b>V\$PARALLEL_DEGREE_LIMIT_MTH</b>	3-98
<b>V\$PARAMETER</b>	3-98
<b>V\$PARAMETER2</b>	3-99
<b>V\$PGA_TARGET_ADVICE</b>	3-100
<b>V\$PGA_TARGET_ADVICE_HISTOGRAM</b>	3-101
<b>V\$PGASTAT</b>	3-103
<b>V\$PQ_SESSTAT</b>	3-106
<b>V\$PQ_SLAVE</b>	3-106
<b>V\$PQ_SYSSTAT</b>	3-107
<b>V\$PQ_TQSTAT</b>	3-108
<b>V\$PROCESS</b>	3-109
<b>V\$PROXY_ARCHIVEDLOG</b>	3-110
<b>V\$PROXY_DATAFILE</b>	3-111
<b>V\$PWFILE_USERS</b>	3-113
<b>V\$PX_PROCESS</b>	3-113
<b>V\$PX_PROCESS_SYSSTAT</b>	3-113
<b>V\$PX_SESSION</b>	3-115
<b>V\$PX_SESSTAT</b>	3-115
<b>V\$QUEUE</b>	3-116
<b>V\$QUEUEING_MTH</b>	3-116
<b>V\$RECOVER_FILE</b>	3-116
<b>V\$RECOVERY_FILE_STATUS</b>	3-117
<b>V\$RECOVERY_LOG</b>	3-117
<b>V\$RECOVERY_PROGRESS</b>	3-118
<b>V\$RECOVERY_STATUS</b>	3-118
<b>V\$REQDIST</b>	3-119
<b>V\$RESERVED_WORDS</b>	3-119
<b>V\$RESOURCE</b>	3-120
<b>V\$RESOURCE_LIMIT</b>	3-120
<b>V\$RMAN_CONFIGURATION</b>	3-121
<b>V\$ROLLNAME</b>	3-121
<b>V\$ROLLSTAT</b>	3-122
<b>V\$ROWCACHE</b>	3-122
<b>V\$ROWCACHE_PARENT</b>	3-123

<b>V\$ROWCACHE_SUBORDINATE</b>	3-124
<b>V\$RSRC_CONSUMER_GROUP</b>	3-124
<b>V\$RSRC_CONSUMER_GROUP_CPU_MTH</b>	3-125
<b>V\$RSRC_PLAN</b>	3-126
<b>V\$RSRC_PLAN_CPU_MTH</b>	3-126
<b>V\$SEGMENT_STATISTICS</b>	3-127
<b>V\$SEGSTAT</b>	3-127
<b>V\$SEGSTAT_NAME</b>	3-127
<b>V\$SESS_IO</b>	3-128
<b>V\$SESSION</b>	3-128
<b>V\$SESSION_CONNECT_INFO</b>	3-133
<b>V\$SESSION_CURSOR_CACHE</b>	3-134
<b>V\$SESSION_EVENT</b>	3-134
<b>V\$SESSION_LONGOPS</b>	3-135
<b>V\$SESSION_OBJECT_CACHE</b>	3-136
<b>V\$SESSION_WAIT</b>	3-137
<b>V\$SESSTAT</b>	3-138
<b>V\$SGA</b>	3-139
<b>V\$SGA_CURRENT_RESIZE_OPS</b>	3-139
<b>V\$SGA_RESIZE_OPS</b>	3-140
<b>V\$SGA_DYNAMIC_COMPONENTS</b>	3-140
<b>V\$SGA_DYNAMIC_FREE_MEMORY</b>	3-141
<b>V\$SGASTAT</b>	3-141
<b>V\$SHARED_POOL_ADVICE</b>	3-142
<b>V\$SHARED_POOL_RESERVED</b>	3-142
<b>V\$SHARED_SERVER</b>	3-143
<b>V\$SHARED_SERVER_MONITOR</b>	3-144
<b>V\$SORT_SEGMENT</b>	3-145
<b>V\$SPPARAMETER</b>	3-146
<b>V\$SQL</b>	3-146
<b>V\$SQL_BIND_DATA</b>	3-148
<b>V\$SQL_BIND_METADATA</b>	3-149
<b>V\$SQL_CURSOR</b>	3-149
<b>V\$SQL_PLAN</b>	3-150
<b>V\$SQL_PLAN_STATISTICS</b>	3-152

V\$SQL_PLAN_STATISTICS_ALL .....	3-153
V\$SQL_REDIRECTION .....	3-156
V\$SQL_SHARED_CURSOR .....	3-157
V\$SQL_SHARED_MEMORY .....	3-158
V\$SQL_WORKAREA .....	3-159
V\$SQL_WORKAREA_ACTIVE .....	3-160
V\$SQL_WORKAREA_HISTOGRAM .....	3-162
V\$SQLAREA .....	3-163
V\$SQLTEXT .....	3-164
V\$SQLTEXT_WITH_NEWLINES .....	3-165
V\$STANDBY_LOG .....	3-165
V\$STATISTICS_LEVEL .....	3-166
V\$STATNAME .....	3-167
V\$STREAMS_APPLY_COORDINATOR .....	3-168
V\$STREAMS_APPLY_READER .....	3-169
V\$STREAMS_APPLY_SERVER .....	3-170
V\$STREAMS_CAPTURE .....	3-172
V\$SUBCACHE .....	3-174
V\$SYSSTAT .....	3-174
V\$SYSTEM_CURSOR_CACHE .....	3-175
V\$SYSTEM_EVENT .....	3-175
V\$SYSTEM_PARAMETER .....	3-176
V\$SYSTEM_PARAMETER2 .....	3-177
V\$TABLESPACE .....	3-178
V\$TEMP_CACHE_TRANSFER .....	3-178
V\$TEMP_EXTENT_MAP .....	3-179
V\$TEMP_EXTENT_POOL .....	3-180
V\$TEMP_SPACE_HEADER .....	3-180
V\$TEMPFILE .....	3-181
V\$TEMPORARY_LOBS .....	3-181
V\$TEMPSEG_USAGE .....	3-181
V\$TEMPSTAT .....	3-182
V\$THREAD .....	3-183
V\$TIMER .....	3-184
V\$TIMEZONE_NAMES .....	3-184

<b>V\$TRANSACTION</b> .....	3-184
<b>V\$TRANSACTION_ENQUEUE</b> .....	3-185
<b>V\$TYPE_SIZE</b> .....	3-186
<b>V\$UNDOSTAT</b> .....	3-187
<b>V\$VERSION</b> .....	3-188
<b>V\$VPD_POLICY</b> .....	3-188
<b>V\$WAITSTAT</b> .....	3-189

## 4 Database Limits

<b>Datatype Limits</b> .....	4-2
<b>Physical Database Limits</b> .....	4-2
<b>Logical Database Limits</b> .....	4-3
<b>Process and Runtime Limits</b> .....	4-4

## 5 SQL Scripts

<b>Creating the Data Dictionary</b> .....	5-2
<b>Creating Additional Data Dictionary Structures</b> .....	5-3
<b>The "NO" Scripts</b> .....	5-6
<b>Database Migration Scripts</b> .....	5-7
<b>Java Scripts</b> .....	5-8

## A Oracle Wait Events

<b>Displaying Wait Events</b> .....	A-2
<b>Wait Events and Parameters</b> .....	A-2
<b>Parameter Descriptions</b> .....	A-14
<b>Wait Event Descriptions</b> .....	A-16
alter system set dispatchers.....	A-17
batched allocate scn lock request.....	A-17
BFILE check if exists.....	A-17
BFILE check if open.....	A-17
BFILE closure.....	A-18
BFILE get length.....	A-18
BFILE get name object.....	A-18
BFILE get path object.....	A-18

BFILE internal seek.....	A-19
BFILE open .....	A-19
BFILE read .....	A-19
buffer busy waits .....	A-20
buffer deadlock .....	A-20
buffer for checkpoint.....	A-20
buffer latch.....	A-21
buffer read retry.....	A-21
checkpoint completed .....	A-22
checkpoint range buffer not saved.....	A-22
control file parallel write .....	A-22
control file sequential read.....	A-23
control file single write .....	A-23
conversion file read .....	A-24
db file parallel read.....	A-24
db file parallel write .....	A-24
db file scattered read .....	A-25
db file sequential read .....	A-25
db file single write .....	A-25
DFS db file lock .....	A-26
DFS lock handle .....	A-26
direct path read .....	A-26
direct path write .....	A-27
dispatcher shutdown .....	A-27
dispatcher timer .....	A-28
duplicate cluster key .....	A-28
enqueue.....	A-28
file identify.....	A-29
file open.....	A-29
free buffer waits .....	A-29
free global transaction table entry .....	A-29
free process state object.....	A-30
global cache busy .....	A-30
global cache lock cleanup .....	A-30
global cache freelist wait .....	A-31

global cache null to s .....	A-31
global cache null to x .....	A-31
global cache open s .....	A-31
global cache open x .....	A-32
global cache s to x .....	A-32
inactive session .....	A-32
inactive transaction branch .....	A-33
index block split .....	A-33
instance recovery .....	A-33
instance state change .....	A-34
io done .....	A-34
kcl bg acks .....	A-34
latch activity .....	A-35
latch free .....	A-35
library cache load lock .....	A-36
library cache lock .....	A-36
library cache pin .....	A-37
lock manager wait for remote message .....	A-37
log buffer space .....	A-37
log file parallel write .....	A-38
log file sequential read .....	A-38
log file single write .....	A-38
log file switch (archiving needed) .....	A-39
log file switch (checkpoint incomplete) .....	A-39
log file switch (clearing log file) .....	A-39
log file switch completion .....	A-39
log file sync .....	A-39
log switch/archive .....	A-40
on-going SCN fetch to complete .....	A-40
parallel execution create server .....	A-40
parallel execution dequeue wait .....	A-40
parallel execution qref latch .....	A-41
parallel execution server shutdown .....	A-41
parallel execution signal server .....	A-41
pending global transaction(s) .....	A-42

pipe get .....	A-42
pipe put .....	A-42
PL/SQL lock timer .....	A-43
pmon rdomain attach .....	A-43
pmon timer .....	A-43
process startup .....	A-43
queue messages .....	A-44
rdbms ipc message .....	A-44
rdbms ipc message block .....	A-44
rdbms ipc reply .....	A-44
redo wait .....	A-45
row cache lock .....	A-45
scginq AST call .....	A-45
single-task message .....	A-45
smon timer .....	A-46
SQL*Net break/reset to client .....	A-46
SQL*Net break/reset to dblink .....	A-46
SQL*Net message from client .....	A-47
SQL*Net message from dblink .....	A-47
SQL*Net message to client .....	A-47
SQL*Net message to dblink .....	A-47
SQL*Net more data from client .....	A-48
SQL*Net more data from dblink .....	A-48
SQL*Net more data to client .....	A-48
SQL*Net more data to dblink .....	A-49
switch logfile command .....	A-49
timer in sksawat .....	A-49
transaction .....	A-49
unbound tx .....	A-50
undo segment extension .....	A-50
undo segment recovery .....	A-50
undo segment tx slot .....	A-50
virtual circuit status .....	A-51
WMON goes to sleep .....	A-51
write complete waits .....	A-51

writes stopped by instance recovery or database suspension ..... A-51

## B Oracle Enqueue Names

## C Statistics Descriptions

Displaying Statistics .....	C-1
Statistics Descriptions.....	C-2

## Index

---

---

# Send Us Your Comments

**Oracle9*i* Database Reference, Release 2 (9.2)**

**Part No. A96536-02**

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this document. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most?

If you find any errors or have any other suggestions for improvement, please indicate the document title and part number, and the chapter, section, and page number (if available). You can send comments to us in the following ways:

- Electronic mail: infodev\_us@oracle.com
- FAX: (650) 506-7227 Attn: Server Technologies Documentation Manager
- Postal service:  
Oracle Corporation  
Server Technologies Documentation  
500 Oracle Parkway, Mailstop 4op11  
Redwood Shores, CA 94065  
USA

If you would like a reply, please give your name, address, telephone number, and (optionally) electronic mail address.

If you have problems with the software, please contact your local Oracle Support Services.



---

---

# 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 system.

Oracle9*i* Database Reference contains information that describes the features and functionality of the Oracle9*i* (also known as the standard edition) and the Oracle9*i* Enterprise Edition products. Oracle9*i* and the Oracle9*i* Enterprise Edition have the same basic features. However, several advanced features are available only with the Enterprise Edition, and some of these are optional. For example, to use application failover, you must have the Enterprise Edition with the Oracle9*i* Real Application Clusters option.

**See Also:** *Oracle9*i* Database New Features* for information about the differences between Oracle9*i* and the Oracle9*i* Enterprise Edition and the features and options that are available to you.

This preface contains these topics:

- [Audience](#)
- [Organization](#)
- [Related Documentation](#)
- [Conventions](#)
- [Documentation Accessibility](#)

## Audience

Oracle9*i* 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

## Organization

This document contains:

### **Chapter 1, "Initialization Parameters"**

This chapter describes the database initialization parameters you can specify in the parameter file to start or configure an instance.

### **Chapter 2, "Static Data Dictionary Views"**

This chapter describes the Oracle data dictionary tables and views, also known as static data dictionary views.

### **Chapter 3, "Dynamic Performance (V\$) Views"**

This chapter describes the dynamic performance views, also known as the V\$ views.

### **Chapter 4, "Database Limits"**

This chapter lists the limits of values associated with database functions and objects.

### **Chapter 5, "SQL Scripts"**

This chapter describes the SQL scripts that are required for optimal operation of the Oracle database server.

### **Appendix A, "Oracle Wait Events"**

This appendix describes some event names, wait times, and parameters for wait events displayed by the V\$SESSION\_WAIT and V\$SYSTEM\_EVENT views.

### **Appendix B, "Oracle Enqueue Names"**

This appendix lists some enqueues used by Oracle9*i*.

## **Appendix C, "Statistics Descriptions"**

This appendix describes some statistics stored in the V\$SESSION\_WAIT and V\$SYSSTAT dynamic performance views.

## **Related Documentation**

For more information, see these Oracle resources:

- *Oracle9i Database Concepts* for a comprehensive introduction to the concepts and terminology used in this manual
- *Oracle9i Database Administrator's Guide* for information about administering the Oracle database server
- *Oracle9i Database Migration* for the procedures for upgrading a previous release of Oracle to the new Oracle9i release
- *Oracle9i SQL Reference* for information on Oracle's SQL commands and functions
- *Oracle9i Application Developer's Guide - Fundamentals* for information about developing database applications within the Oracle database server

Many of the examples in this book use the sample schemas of the seed database, which is installed by default when you install Oracle. Refer to *Oracle9i Sample Schemas* for information on how these schemas were created and how you can use them yourself.

In North America, printed documentation is available for sale in the Oracle Store at  
<http://oraclestore.oracle.com/>

Customers in Europe, the Middle East, and Africa (EMEA) can purchase documentation from

<http://www.oraclebookshop.com/>

Other customers can contact their Oracle representative to purchase printed documentation.

To download free release notes, installation documentation, white papers, or other collateral, please visit the Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at

<http://otn.oracle.com/admin/account/membership.html>

If you already have a username and password for OTN, then you can go directly to the documentation section of the OTN Web site at

<http://otn.oracle.com/docs/index.htm>

To access the database documentation search engine directly, please visit

<http://tahiti.oracle.com>

## Conventions

This section describes the conventions used in the text and code examples of this documentation set. It describes:

- [Conventions in Text](#)
- [Conventions in Code Examples](#)
- [Conventions for Microsoft Windows Operating Systems](#)

### Conventions in Text

We use various conventions in text to help you more quickly identify special terms. The following table describes those conventions and provides examples of their use.

Convention	Meaning	Example
<b>Bold</b>	Bold typeface indicates terms that are defined in the text or terms that appear in a glossary, or both.	When you specify this clause, you create an <b>index-organized table</b> .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	<i>Oracle9i Database Concepts</i> Ensure that the recovery catalog and target database do <i>not</i> reside on the same disk.
UPPERCASE monospace (fixed-width font)	Uppercase monospace typeface indicates elements supplied by the system. Such elements include parameters, privileges, datatypes, RMAN keywords, SQL keywords, SQL*Plus or utility commands, packages and methods, as well as system-supplied column names, database objects and structures, usernames, and roles.	You can specify this clause only for a NUMBER column. You can back up the database by using the BACKUP command. Query the TABLE_NAME column in the USER_TABLES data dictionary view. Use the DBMS_STATS.GENERATE_STATS procedure.

Convention	Meaning	Example
lowercase monospace (fixed-width font)	<p>Lowercase monospace typeface indicates executables, filenames, directory names, and sample user-supplied elements. Such elements include computer and database names, net service names, and connect identifiers, as well as user-supplied database objects and structures, column names, packages and classes, usernames and roles, program units, and parameter values.</p> <p><b>Note:</b> Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.</p>	Enter <code>sqlplus</code> to open SQL*Plus. The password is specified in the <code>orapwd</code> file. Back up the datafiles and control files in the <code>/disk1/oracle/dbs</code> directory. The <code>department_id</code> , <code>department_name</code> , and <code>location_id</code> columns are in the <code>hr.departments</code> table. Set the <code>QUERY_REWRITE_ENABLED</code> initialization parameter to <code>true</code> . Connect as <code>oe</code> user. The <code>JRepUtil</code> class implements these methods.
lowercase monospace (fixed-width font) italic	Lowercase monospace italic font represents placeholders or variables.	You can specify the <code>parallel_clause</code> . Run <code>Uold_release.SQL</code> where <code>old_release</code> refers to the release you installed prior to upgrading.

## Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL\*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

Convention	Meaning	Example
[ ]	Brackets enclose one or more optional items. Do not enter the brackets.	<code>DECIMAL (digits [ , precision ])</code>
{ }	Braces enclose two or more items, one of which is required. Do not enter the braces.	<code>{ENABLE   DISABLE}</code>
	A vertical bar represents a choice of two or more options within brackets or braces. Enter one of the options. Do not enter the vertical bar.	<code>{ENABLE   DISABLE}</code> <code>[COMPRESS   NOCOMPRESS]</code>

Convention	Meaning	Example
...	<p>Horizontal ellipsis points indicate either:</p> <ul style="list-style-type: none"> <li>▪ That we have omitted parts of the code that are not directly related to the example</li> <li>▪ That you can repeat a portion of the code</li> </ul> <p>Vertical ellipsis points indicate that we have omitted several lines of code not directly related to the example.</p>	<pre>CREATE TABLE ... AS subquery;  SELECT col1, col2, ... , coln FROM employees;</pre> <pre>SQL&gt; SELECT NAME FROM V\$DATAFILE; NAME ----- /fsl/dbs/tbs_01.dbf /fsl/dbs/tbs_02.dbf . . . /fsl/dbs/tbs_09.dbf 9 rows selected.</pre>
Other notation	You must enter symbols other than brackets, braces, vertical bars, and ellipsis points as shown.	<pre>acctbal NUMBER(11,2); acct      CONSTANT NUMBER(4) := 3;</pre>
<i>Italics</i>	Italicized text indicates placeholders or variables for which you must supply particular values.	<pre>CONNECT SYSTEM/<i>system_password</i> DB_NAME = <i>database_name</i></pre>
UPPERCASE	<p>Uppercase typeface indicates elements supplied by the system. We show these terms in uppercase in order to distinguish them from terms you define. Unless terms appear in brackets, enter them in the order and with the spelling shown.</p> <p>However, because these terms are not case sensitive, you can enter them in lowercase.</p>	<pre>SELECT last_name, employee_id FROM employees; SELECT * FROM USER_TABLES; DROP TABLE hr.employees;</pre>
lowercase	<p>Lowercase typeface indicates programmatic elements that you supply. For example, lowercase indicates names of tables, columns, or files.</p> <p><b>Note:</b> Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.</p>	<pre>SELECT last_name, employee_id FROM employees; sqlplus hr/hr CREATE USER mjones IDENTIFIED BY ty3MU9;</pre>

## Conventions for Microsoft Windows Operating Systems

The following table describes conventions for Microsoft Windows operating systems and provides examples of their use.

Convention	Meaning	Example
Choose Start >	How to start a program.	To start the Oracle Database Configuration Assistant, choose Start > Programs > Oracle - <i>HOME_NAME</i> > Configuration and Migration Tools > Database Configuration Assistant.
File and directory names	File and directory names are not case sensitive. The following special characters are not allowed: left angle bracket (<), right angle bracket (>), colon (:), double quotation marks ("), slash (/), pipe ( ), and dash (-). The special character backslash (\) is treated as an element separator, even when it appears in quotes. If the file name begins with \\, then Windows assumes it uses the Universal Naming Convention.	c:\winnt\"system32 is the same as C:\WINNT\SYSTEM32
C:\>	Represents the Windows command prompt of the current hard disk drive. The escape character in a command prompt is the caret (^). Your prompt reflects the subdirectory in which you are working. Referred to as the <i>command prompt</i> in this manual.	C:\oracle\oradata>
	The backslash (\) special character is sometimes required as an escape character for the double quotation mark (" special character at the Windows command prompt. Parentheses and the single quotation mark (' do not require an escape character. Refer to your Windows operating system documentation for more information on escape and special characters.	C:\>exp scott/tiger TABLES=emp QUERY=\ "WHERE job='SALESMAN' and sal<1600\"  C:\>impSYSTEM/passwordFROMUSER=scott TABLES=(emp, dept)
<i>HOME_NAME</i>	Represents the Oracle home name. The home name can be up to 16 alphanumeric characters. The only special character allowed in the home name is the underscore.	C:\> net start Oracle <i>HOME_NAME</i> TNSListener

Convention	Meaning	Example
<i>ORACLE_HOME</i> and <i>ORACLE_BASE</i>	<p>In releases prior to Oracle8<i>i</i> release 8.1.3, when you installed Oracle components, all subdirectories were located under a top level <i>ORACLE_HOME</i> directory that by default used one of the following names:</p> <ul style="list-style-type: none"> <li>■ C:\orant for Windows NT</li> <li>■ C:\orawin98 for Windows 98</li> </ul> <p>This release complies with Optimal Flexible Architecture (OFA) guidelines. All subdirectories are not under a top level <i>ORACLE_HOME</i> directory. There is a top level directory called <i>ORACLE_BASE</i> that by default is C:\oracle. If you install Oracle9<i>i</i> release 1 (9.0.1) on a computer with no other Oracle software installed, then the default setting for the first Oracle home directory is C:\oracle\ora90. The Oracle home directory is located directly under <i>ORACLE_BASE</i>.</p> <p>All directory path examples in this guide follow OFA conventions.</p> <p>Refer to <i>Oracle9<i>i</i> Database Getting Started for Windows</i> for additional information about OFA compliances and for information about installing Oracle products in non-OFA compliant directories.</p>	Go to the <i>ORACLE_BASE\ORACLE_HOME\rdbms\admin</i> directory.

## Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle Corporation is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at

<http://www.oracle.com/accessibility/>

**Accessibility of Code Examples in Documentation** JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.

**Accessibility of Links to External Web Sites in Documentation** This documentation may contain links to Web sites of other companies or organizations that Oracle Corporation does not own or control. Oracle Corporation neither evaluates nor makes any representations regarding the accessibility of these Web sites.



---

---

## **What's New in Oracle9*i* Database Reference?**

This section describes new features of Oracle9*i* release 2 (9.2) and provides pointers to additional information. New features information from previous releases is also retained to help those users upgrading to the current release.

The following sections describe the new features in Oracle9*i* Database Reference:

- [\*\*Oracle9\*i\* Release 2 \(9.2\) New Features in Oracle9\*i\* Database Reference\*\*](#)
- [\*\*Oracle9\*i\* Release 1 \(9.0.1\) New Features in Oracle9\*i\* Database Reference\*\*](#)

## Oracle9i Release 2 (9.2) New Features in Oracle9i Database Reference

The following initialization parameters are new to this release:

AUDIT_SYS_OPERATIONS	DG_BROKER_CONFIG_FILEn
DG_BROKER_START	FILE_MAPPING
FILESYSTEMIO_OPTIONS	LOG_PARALLELISM
OLAP_PAGE_POOL_SIZE	OPTIMIZER_DYNAMIC_SAMPLING
STATISTICS_LEVEL	

**See Also:** [Chapter 1, "Initialization Parameters"](#) for more information about these initialization parameters

The following static data dictionary views are new to this release:

ALL_VIEWS	DBA_VIEWS	USER_VIEWS
ALL_APPLY	DBA_APPLY	
ALL_APPLY_CONFLICT_COLUMNS	DBA_APPLY_CONFLICT_COLUMNS	
ALL_APPLY_DML_HANDLERS	DBA_APPLY_DML_HANDLERS	
ALL_APPLY_ERROR	DBA_APPLY_ERROR	
	DBA_APPLY_INSTANTIATED_OBJECTS	
ALL_APPLY_KEY_COLUMNS	DBA_APPLY_KEY_COLUMNS	
ALL_APPLY_PARAMETERS	DBA_APPLY_PARAMETERS	
ALL_APPLY_PROGRESS	DBA_APPLY_PROGRESS	
	DBA_AQ_AGENT_PRIVS	USER_AQ_AGENT_PRIVS
	DBA_AQ_AGENTS	
	DBA_AW_PS	USER_AW_PS
	DBA_AWS	USER_AWS
ALL_CAPTURE	DBA_CAPTURE	
ALL_CAPTURE_PARAMETERS	DBA_CAPTURE_PARAMETERS	
ALL_CAPTURE_PREPARED_DATABASE	DBA_CAPTURE_PREPARED_DATABASE	
ALL_CAPTURE_PREPARED_SCHEMAS	DBA_CAPTURE_PREPARED_SCHEMAS	
ALL_CAPTURE_PREPARED_TABLES	DBA_CAPTURE_PREPARED_TABLES	
ALL_CONS_OBJ_COLUMNS	DBA_CONS_OBJ_COLUMNS	USER_CONS_OBJ_COLUMNS

<b>ALL_ Views</b>	<b>DBA_ Views</b>	<b>USER_ Views</b>
ALL_EVALUATION_CONTEXT_TABLES	DBA_EVALUATION_CONTEXT_TABLES	USER_EVALUATION_CONTEXT_TABLES
ALL_EVALUATION_CONTEXT_VARS	DBA_EVALUATION_CONTEXT_VARS	USER_EVALUATION_CONTEXT_VARS
ALL_EVALUATION_CONTEXTS	DBA_EVALUATION_CONTEXTS	USER_EVALUATION_CONTEXTS
ALL_JAVA_ARGUMENTS	DBA_JAVA_ARGUMENTS	USER_JAVA_ARGUMENTS
ALL_JAVA_CLASSES	DBA_JAVA_CLASSES	USER_JAVA_CLASSES
ALL_JAVA_DERIVATIONS	DBA_JAVA_DERIVATIONS	USER_JAVA_DERIVATIONS
ALL_JAVA_FIELDS	DBA_JAVA_FIELDS	USER_JAVA_FIELDS
ALL_JAVA_IMPLEMENTATIONS	DBA_JAVA_IMPLEMENTATIONS	USER_JAVA_IMPLEMENTATIONS
ALL_JAVA_INNERS	DBA_JAVA_INNERS	USER_JAVA_INNERS
ALL_JAVA_LAYOUTS	DBA_JAVA_LAYOUTS	USER_JAVA_LAYOUTS
ALL_JAVA_METHODS	DBA_JAVA_METHODS	USER_JAVA_METHODS
ALL_JAVA_NCOMPS	DBA_JAVA_NCOMPS	USER_JAVA_NCOMPS
ALL_JAVA_RESOLVERS	DBA_JAVA_RESOLVERS	USER_JAVA_RESOLVERS
ALL_JAVA_THROWS	DBA_JAVA_THROWS	USER_JAVA_THROWS
ALL_LOB_TEMPLATES	DBA_LOB_TEMPLATES DBA_LOGSTDBY_EVENTS DBA_LOGSTDBY_LOG DBA_LOGSTDBY_NOT_UNIQUE DBA_LOGSTDBY_PARAMETERS DBA_LOGSTDBY_PROGRESS DBA_LOGSTDBY_SKIP DBA_LOGSTDBY_SKIP_TRANSACTION DBA_LOGSTDBY_UNSUPPORTED	USER_LOB_TEMPLATES
ALL_OBJ_COLATTRS	DBA_OBJ_COLATTRS	USER_OBJ_COLATTRS
ALL_PROPAGATION	DBA_PROPAGATION	
ALL_PUBLISHED_COLUMNS	DBA_PUBLISHED_COLUMNS	USER_PUBLISHED_COLUMNS
ALL_REGISTRY_BANNERS	DBA_REGISTRY_HIERARCHY	
ALL_RULE_SET_RULES	DBA_RULE_SET_RULES	USER_RULE_SET_RULES
ALL_RULE_SETS	DBA_RULE_SETS	USER_RULE_SETS

<b>ALL_ Views</b>	<b>DBA_ Views</b>	<b>USER_ Views</b>
ALL_RULES	DBA_RULES	USER_RULES
ALL_STREAMS_GLOBAL_RULES	DBA_STREAMS_GLOBAL_RULES	
ALL_STREAMS_SCHEMA_RULES	DBA_STREAMS_SCHEMA_RULES	
ALL_STREAMS_TABLE_RULES	DBA_STREAMS_TABLE_RULES	
ALL_SUBPARTITION_TEMPLATES	DBA_SUBPARTITION_TEMPLATES	USER_SUBPARTITION_TEMPLATES
ALL_XML_SCHEMAS	DBA_XML_SCHEMAS	USER_XML_SCHEMAS
ALL_XML_TAB_COLS	DBA_XML_TAB_COLS	USER_XML_TAB_COLS
ALL_XML_TABLES	DBA_XML_TABLES	USER_XML_TABLES
ALL_XML_VIEW_COLS	DBA_XML_VIEW_COLS	USER_XML_VIEW_COLS
ALL_XML_VIEWS	DBA_XML_VIEWS	USER_XML_VIEWS

**See Also:** [Chapter 2, "Static Data Dictionary Views"](#) for more information about these static data dictionary views

The following dynamic performance views are new to this release:

GV\$AW_CALC	V\$AW_CALC
GV\$AW_OLAP	V\$AW_OLAP
GV\$AW_SESSION_INFO	V\$AW_SESSION_INFO
GV\$BACKUP_SPFILE	V\$BACKUP_SPFILE
GV\$DATABASE_BLOCK_CORRUPTION	V\$DATABASE_BLOCK_CORRUPTION
GV\$DATABASE_INCARNATION	V\$DATABASE_INCARNATION
GV\$DATAGUARD_STATUS	V\$DATAGUARD_STATUS
GV\$LIBRARY_CACHE_MEMORY	V\$LIBRARY_CACHE_MEMORY
GV\$LOGMNR_STATS	V\$LOGMNR_STATS
GV\$MAP_COMP_LIST	V\$MAP_COMP_LIST
GV\$MAP_ELEMENT	V\$MAP_ELEMENT
GV\$MAP_EXT_ELEMENT	V\$MAP_EXT_ELEMENT
GV\$MAP_FILE	V\$MAP_FILE
GV\$MAP_FILE_EXTENT	V\$MAP_FILE_EXTENT

GV\$MAP_FILE_IO_STACK	V\$MAP_FILE_IO_STACK
GV\$MAP_LIBRARY	V\$MAP_LIBRARY
GV\$MAP_SUBELEMENT	V\$MAP_SUBELEMENT
GV\$MTTR_TARGET_ADVICE	V\$MTTR_TARGET_ADVICE
GV\$PGA_TARGET_ADVICE	V\$PGA_TARGET_ADVICE
GV\$PGA_TARGET_ADVICE_HISTOGRAM	V\$PGA_TARGET_ADVICE_HISTOGRAM
GV\$SEGMENT_STATISTICS	V\$SEGMENT_STATISTICS
GV\$SEGSTAT	V\$SEGSTAT
GV\$SEGSTAT_NAME	V\$SEGSTAT_NAME
GV\$SGA_CURRENT_RESIZE_OPS	V\$SGA_CURRENT_RESIZE_OPS
GV\$SGA_DYNAMIC_COMPONENTS	V\$SGA_DYNAMIC_COMPONENTS
GV\$SGA_DYNAMIC_FREE_MEMORY	V\$SGA_DYNAMIC_FREE_MEMORY
GV\$SGA_RESIZE_OPS	V\$SGA_RESIZE_OPS
GV\$SHARED_POOL_ADVICE	V\$SHARED_POOL_ADVICE
GV\$SQL_PLAN_STATISTICS	V\$SQL_PLAN_STATISTICS
GV\$SQL_PLAN_STATISTICS_ALL	V\$SQL_PLAN_STATISTICS_ALL
GV\$SQL_WORKAREA_HISTOGRAM	V\$SQL_WORKAREA_HISTOGRAM
GV\$STATISTICS_LEVEL	V\$STATISTICS_LEVEL
GV\$STREAMS_APPLY_COORDINATOR	V\$STREAMS_APPLY_COORDINATOR
GV\$STREAMS_APPLY_READER	V\$STREAMS_APPLY_READER
GV\$STREAMS_APPLY_SERVER	V\$STREAMS_APPLY_SERVER
GV\$STREAMS_CAPTURE	V\$STREAMS_CAPTURE
GV\$TEMPSEG_USAGE	V\$TEMPSEG_USAGE

**See Also:** [Chapter 3, "Dynamic Performance \(V\\$\) Views"](#) for more information about these dynamic performance views

The following static data dictionary views have new columns in this release:

<b>Static Data Dictionary View</b>	<b>New Columns</b>
ALL_IND_SUBPARTITIONS	HIGH_VALUE HIGH_VALUE_LENGTH
ALL_LOBS	RETENTION FREEPOOLS
ALL_MVIEWS	UNKNOWN_PREBUILT UNKNOWN_PLSQL_FUNC UNKNOWN_EXTERNAL_TABLE UNKNOWN_CONSIDER_FRESH UNKNOWN_IMPORT
ALL_NESTED_TABLES	ELEMENT_SUBSTITUTABLE
ALL_PART_TABLES	DEF_COMPRESSION
ALL_QUEUE_TABLES	SECURE
ALL_TAB_PARTITIONS	COMPRESSION
ALL_TAB_SUBPARTITIONS	HIGH_VALUE HIGH_VALUE_LENGTH COMPRESSION
ALL_VARRAYS	ELEMENT_SUBSTITUTABLE
DBA_FGA_AUDIT_TRAIL	USERHOST CLIENT_ID EXT_NAME
DBA_IND_SUBPARTITIONS	HIGH_VALUE HIGH_VALUE_LENGTH
DBA_LOBS	RETENTION FREEPOOLS
DBA_MVIEWS	UNKNOWN_PREBUILT UNKNOWN_PLSQL_FUNC UNKNOWN_EXTERNAL_TABLE UNKNOWN_CONSIDER_FRESH UNKNOWN_IMPORT

<b>Static Data Dictionary View</b>	<b>New Columns</b>
DBA_NESTED_TABLES	ELEMENT_SUBSTITUTABLE
DBA_PART_TABLES	DEF_COMPRESSION
DBA_QUEUE_TABLES	SECURE
DBA_TAB_PARTITIONS	COMPRESSION
DBA_TAB_SUBPARTITIONS	HIGH_VALUE HIGH_VALUE_LENGTH COMPRESSION
DBA_TABLESPACES	FORCE_LOGGING
DBA_VARRAYS	ELEMENT_SUBSTITUTABLE
USER_IND_SUBPARTITIONS	HIGH_VALUE HIGH_VALUE_LENGTH
USER_LOBS	RETENTION FREEPOOLS
USER_MVIEWS	UNKNOWN_PREBUILT UNKNOWN_PLSQL_FUNC UNKNOWN_EXTERNAL_TABLE UNKNOWN_CONSIDER_FRESH UNKNOWN_IMPORT
USER_NESTED_TABLES	ELEMENT_SUBSTITUTABLE
USER_PART_TABLES	DEF_COMPRESSION
USER_QUEUE_TABLES	SECURE
USER_TAB_PARTITIONS	COMPRESSION
USER_TAB_SUBPARTITIONS	HIGH_VALUE HIGH_VALUE_LENGTH COMPRESSION
USER_TABLESPACES	FORCE_LOGGING
USER_VARRAYS	ELEMENT_SUBSTITUTABLE

**See Also:** [Chapter 2, "Static Data Dictionary Views"](#) for more information about the new columns in these static data dictionary views

The following dynamic performance views have new columns in this release:

Dynamic Performance View	New Columns
GV\$ARCHIVE_DEST and V\$ARCHIVE_DEST	DEST_NAME NET_TIMEOUT REGISTER REMOTE_TEMPLATE
GV\$ARCHIVE_DEST_STATUS and V\$ARCHIVE_DEST_STATUS	DEST_NAME PROTECTION_MODE SRL
GV\$ARCHIVED_LOG and V\$ARCHIVED_LOG	ACTIVATION#
GV\$BACKUP_CORRUPTION and V\$BACKUP_CORRUPTION	CORRUPTION_TYPE
GV\$COPY_CORRUPTION and V\$COPY_CORRUPTION	CORRUPTION_TYPE
GV\$DATABASE and V\$DATABASE	PROTECTION_MODE PROTECTION_LEVEL DATAGUARD_BROKER GUARD_STATUS SUPPLEMENTAL_LOG_DATA_MIN SUPPLEMENTAL_LOG_DATA_PK SUPPLEMENTAL_LOG_DATA_UI FORCE_LOGGING
GV\$DATAFILE_COPY and V\$DATAFILE_COPY	SCANNED
GV\$DB_CACHE_ADVICE and V\$DB_CACHE_ADVICE	SIZE_FACTOR
GV\$DB_OBJECT_CACHE and V\$DB_OBJECT_CACHE	CHILD_LATCH
GV\$FILE_CACHE_TRANSFER and V\$FILE_CACHE_TRANSFER	CR_TRANSFERS CUR_TRANSFERS

<b>Dynamic Performance View</b>	<b>New Columns</b>
GV\$LATCH_CHILDREN and V\$LATCH_CHILDREN	MISSES_WAITLIST SLEEPS_WAITLIST WAIT_TIME_WAITLIST
GV\$LATCH_PARENT and V\$LATCH_PARENT	MISSES_WAITLIST SLEEPS_WAITLIST WAIT_TIME_WAITLIST
GV\$LOGMNR_CALLBACK and V\$LOGMNR_CALLBACK	STATE TYPE CAPABILITY
GV\$LOGMNR_CONTENTS and V\$LOGMNR_CONTENTS	PXIDUSN PXIDSLT PXIDSQN
GV\$LOGMNR_REGION and V\$LOGMNR_REGION	MEMSTATE STATE
GV\$LOGSTDBY and V\$LOGSTDBY	HIGH_SCN
GV\$PGASTAT and V\$PGASTAT	UNIT
GV\$PROCESS and V\$PROCESS	PGA_FREEABLE_MEM
GV\$ROLLSTAT and V\$ROLLSTAT	LATCH
GV\$SQL and V\$SQL	FETCHES CHILD_LATCH
GV\$SQL_PLAN and V\$SQL_PLAN	SEARCH_COLUMNS ACCESS_PREDICATES FILTER_PREDICATES
GV\$SQL_SHARED_CURSOR and V\$SQL_SHARED_CURSOR	NO_TRIGGER_MISMATCH FLASHBACK_CURSOR
GV\$SQL_WORKAREA and V\$SQL_WORKAREA	MAX_TEMPSEG_SIZE LAST_TEMPSEG_SIZE

<b>Dynamic Performance View</b>	<b>New Columns</b>
GV\$SQL_WORKAREA_ACTIVE and V\$SQL_WORKAREA_ACTIVE	TEMPSEG_SIZE TABLESPACE SEGRFNO# SEGBLK#
GV\$SQLAREA and V\$SQLAREA	FETCHES CHILD_LATCH

**See Also:** [Chapter 3, "Dynamic Performance \(V\\$\) Views"](#) for more information about the new columns in these dynamic performance views

## Oracle9i Release 1 (9.0.1) New Features in Oracle9i Database Reference

The following initialization parameters are new to this release:

ARCHIVE_LAG_TARGET	CIRCUITS
CLUSTER_INTERCONNECTS	CLUSTER_DATABASE
CLUSTER_DATABASE_INSTANCES	DB_nK_CACHE_SIZE
DB_CACHE_ADVICE	DB_CACHE_SIZE
DB_CREATE_FILE_DEST	DB_CREATE_ONLINE_LOG_DEST_n
DB_KEEP_CACHE_SIZE	DB_RECYCLE_CACHE_SIZE
DISPATCHERS	DRS_START
FAL_CLIENT	FAL_SERVER
FAST_START_MTTR_TARGET	GLOBAL_CONTEXT_POOL_SIZE
LOG_ARCHIVE_DEST_n ( $n = 6, 7, \dots, 10$ )	LOG_ARCHIVE_DEST_STATE_n ( $n = 6, 7, \dots, 10$ )
LOGMNR_MAX_PERSISTENT_SESSIONS	MAX_DISPATCHERS
MAX_SHARED_SERVERS	NLS_LENGTH_SEMANTICS
NLS_NCHAR_CONV_EXCP	NLS_TIMESTAMP_FORMAT
NLS_TIMESTAMP_TZ_FORMAT	PGA_AGGREGATE_TARGET

PLSQL_COMPILER_FLAGS	PLSQL_NATIVE_C_COMPILER
PLSQL_NATIVE_LIBRARY_DIR	PLSQL_NATIVE_LIBRARY_SUBDIR_COUNT
PLSQL_NATIVE_LINKER	PLSQL_NATIVE_MAKE_FILE_NAME
PLSQL_NATIVE_MAKE.Utility	REMOTE_ARCHIVE_ENABLE
REMOTE_LISTENER	SGA_MAX_SIZE
SHARED_SERVER_SESSIONS	SHARED_SERVERS
SPFILE	STANDBY_FILE_MANAGEMENT
STANDBY_PRESERVES_NAMES	trace_enabled
UNDO_MANAGEMENT	UNDO_RETENTION
UNDO_SUPPRESS_ERRORS	UNDO_TABLESPACE
WORKAREA_SIZE_POLICY	

**See Also:** [Chapter 1, "Initialization Parameters"](#) for more information about these initialization parameters

The following static data dictionary views are new to this release:

ALL_VIEWS	DBA_VIEWS	USER_VIEWS
	DBA_APPLICATION_ROLES	USER_APPLICATION_ROLES
	DBA_ATTRIBUTE_TRANSFORMATIONS	USER_ATTRIBUTE_TRANSFORMATIONS
ALL_AUDIT_POLICIES	DBA_AUDIT_POLICIES	USER_AUDIT_POLICIES
ALL_BASE_TABLE_MVIEWS	DBA_BASE_TABLE_MVIEWS	USER_BASE_TABLE_MVIEWS
ALL_EXTERNAL_LOCATIONS	DBA_EXTERNAL_LOCATIONS	USER_EXTERNAL_LOCATIONS
ALL_EXTERNAL_TABLES	DBA_EXTERNAL_TABLES	USER_EXTERNAL_TABLES
	DBA_FGA_AUDIT_TRAIL	
	DBA_GLOBAL_CONTEXT	
ALL_INDEXTYPE_COMMENTS	DBA_INDEXTYPE_COMMENTS	USER_INDEXTYPE_COMMENTS
ALL_JOIN_IND_COLUMNS	DBA_JOIN_IND_COLUMNS	USER_JOIN_IND_COLUMNS
ALL_LOG_GROUP_COLUMNS	DBA_LOG_GROUP_COLUMNS	USER_LOG_GROUP_COLUMNS
ALL_LOG_GROUPS	DBA_LOG_GROUPS	USER_LOG_GROUPS
	DBA_MVIEW_LOG_FILTER_COLS	

<b>ALL_ Views</b>	<b>DBA_ Views</b>	<b>USER_ Views</b>
ALL_MVIEW_LOGS	DBA_MVIEW_LOGS	USER_MVIEW_LOGS
ALL_MVIEW_REFRESH_TIMES	DBA_MVIEW_REFRESH_TIMES	USER_MVIEW_REFRESH_TIMES
ALL_OPERATOR_COMMENTS	DBA_OPERATOR_COMMENTS	USER_OPERATOR_COMMENTS
ALL_PENDING_CONV_TABLES	DBA_PENDING_CONV_TABLES	USER_PENDING_CONV_TABLES
ALL_POLICY_CONTEXTS	DBA_POLICY_CONTEXTS	USER_POLICY_CONTEXTS
ALL_POLICY_GROUPS	DBA_POLICY_GROUPS	USER_POLICY_GROUPS
ALL_PROCEDURES	DBA_PROCEDURES	USER_PROCEDURES
	DBA_PROXYES	USER_PROXYES
	DBA_REGISTERED_MVIEW_GROUPS	
ALL_REGISTERED_MVIEWS	DBA_REGISTERED_MVIEWS	USER_REGISTERED_MVIEWS
	DBA_REPCAT_EXCEPTIONS	
	DBA_REPEXTENSIONS	
	DBA_REPSITES_NEW	
	DBA_RESUMABLE	USER_RESUMABLE
ALL_SECONDARY_OBJECTS	DBA_SECONDARY_OBJECTS	USER_SECONDARY_OBJECTS
ALL_SOURCE_TAB_COLUMNS	DBA_SOURCE_TAB_COLUMNS	USER_SOURCE_TAB_COLUMNS
ALL_SOURCE_TABLES	DBA_SOURCE_TABLES	USER_SOURCE_TABLES
ALL_SQLJ_TYPE_ATTRS	DBA_SQLJ_TYPE_ATTRS	USER_SQLJ_TYPE_ATTRS
ALL_SQLJ_TYPE_METHODS	DBA_SQLJ_TYPE_METHODS	USER_SQLJ_TYPE_METHODS
ALL_SQLJ_TYPES	DBA_SQLJ_TYPES	USER_SQLJ_TYPES
ALL_STORED_SETTINGS	DBA_STORED_SETTINGS	USER_STORED_SETTINGS
ALL_SUBSCRIBED_COLUMNS	DBA_SUBSCRIBED_COLUMNS	USER_SUBSCRIBED_COLUMNS
ALL_SUBSCRIBED_TABLES	DBA_SUBSCRIBED_TABLES	USER_SUBSCRIBED_TABLES
ALL_SUBSCRIPTIONS	DBA_SUBSCRIPTIONS	USER_SUBSCRIPTIONS
ALL_TAB_COLS	DBA_TAB_COLS	USER_TAB_COLS
	DBA_TEMPLATE_REFGROUPS	
	DBA_TEMPLATE_TARGETS	
	DBA_TRANSFORMATIONS	USER_TRANSFORMATIONS
ALL_TYPE VERSIONS	DBA_TYPE VERSIONS	USER_TYPE VERSIONS
	DBA_UNDO_EXTENTS	

**See Also:** [Chapter 2, "Static Data Dictionary Views"](#) for more information about these static data dictionary views

The following dynamic performance views are new to this release:

GV\$ACTIVE_SESS_POOL_MTH	V\$ACTIVE_SESS_POOL_MTH
GV\$ARCHIVE_DEST_STATUS	V\$ARCHIVE_DEST_STATUS
GV\$ARCHIVE_GAP	V\$ARCHIVE_GAP
GV\$CACHE_TRANSFER	V\$CACHE_TRANSFER
GV\$CLASS_CACHE_TRANSFER	V\$CLASS_CACHE_TRANSFER
GV\$CR_BLOCK_SERVER	V\$CR_BLOCK_SERVER
GV\$ENQUEUE_STAT	V\$ENQUEUE_STAT
GV\$FILE_CACHE_TRANSFER	V\$FILE_CACHE_TRANSFER
GV\$GC_ELEMENT	V\$GC_ELEMENT
GV\$GC_ELEMENTS_WITH_COLLISIONS	V\$GC_ELEMENTS_WITH_COLLISIONS
GV\$GCSHVMMASTER_INFO	V\$GCSHVMMASTER_INFO
GV\$GCSPFMASTER_INFO	V\$GCSPFMASTER_INFO
GV\$GES_BLOCKING_ENQUEUE	V\$GES_BLOCKING_ENQUEUE
GV\$GES_CONVERT_LOCAL	V\$GES_CONVERT_LOCAL
GV\$GES_CONVERT_REMOTE	V\$GES_CONVERT_REMOTE
GV\$GES_ENQUEUE	V\$GES_ENQUEUE
GV\$GES_LATCH	V\$GES_LATCH
GV\$GES_RESOURCE	V\$GES_RESOURCE
GV\$GES_STATISTICS	V\$GES_STATISTICS
GV\$GES_TRAFFIC_CONTROLLER	V\$GES_TRAFFIC_CONTROLLER
GV\$GLOBALCONTEXT	V\$GLOBALCONTEXT
GV\$HVMMASTER_INFO	V\$HVMMASTER_INFO
GV\$LOGMNR_CALLBACK	V\$LOGMNR_CALLBACK
GV\$LOGMNR_LOGFILE	V\$LOGMNR_LOGFILE
GV\$LOGMNR_PROCESS	V\$LOGMNR_PROCESS

GV\$LOGMNR_REGION	V\$LOGMNR_REGION
GV\$LOGMNR_SESSION	V\$LOGMNR_SESSION
GV\$LOGMNR_TRANSACTION	V\$LOGMNR_TRANSACTION
GV\$LOGSTDBY	V\$LOGSTDBY
GV\$LOGSTDBY_STATS	V\$LOGSTDBY_STATS
GV\$MANAGED_STANDBY	V\$MANAGED_STANDBY
GV\$MVREFRESH	V\$MVREFRESH
	V\$OBJECT_USAGE
GV\$PGASTAT	V\$PGASTAT
GV\$QUEUEING_MTH	V\$QUEUEING_MTH
GV\$REPLPROP	V\$REPLPROP
GV\$REPLQUEUE	V\$REPLQUEUE
GV\$RESUMABLE	V\$RESUMABLE
GV\$RMAN_CONFIGURATION	V\$RMAN_CONFIGURATION
GV\$SHARED_SERVER_MONITOR	V\$SHARED_SERVER_MONITOR
GV\$SPPARAMETER	V\$SPPARAMETER
GV\$SQL_PLAN	V\$SQL_PLAN
GV\$SQL_REDIRECTION	V\$SQL_REDIRECTION
GV\$SQL_WORKAREA	V\$SQL_WORKAREA
GV\$SQL_WORKAREA_ACTIVE	V\$SQL_WORKAREA_ACTIVE
GV\$STANDBY_LOG	V\$STANDBY_LOG
GV\$TEMP_CACHE_TRANSFER	V\$TEMP_CACHE_TRANSFER
GV\$TIMEZONE_NAMES	V\$TIMEZONE_NAMES
GV\$UNDOSTAT	V\$UNDOSTAT
GV\$VPD_POLICY	V\$VPD_POLICY

**See Also:** [Chapter 3, "Dynamic Performance \(V\\$\) Views"](#) for more information about these dynamic performance views

The following static data dictionary views have new columns in this release:

<b>Static Data Dictionary View</b>	<b>New Columns</b>
ALL_ALL_TABLES	DEPENDENCIES
ALL_ARGUMENTS	CHAR_LENGTH
	CHAR_USED
ALL_ASSOCIATIONS	INTERFACE_VERSION
ALL_CLUSTERS	DEPENDENCIES
ALL_CONSTRAINTS	INDEX_OWNER
	INDEX_NAME
	INVALID
	VIEW RELATED
ALL_DIMENSIONS	COMPILE_STATE
ALL_IND_COLUMNS	CHAR_LENGTH
ALL_IND_PARTITIONS	DOMIDX_OPSTATUS
	PARAMETERS
ALL_INDEXES	JOIN_INDEX
ALL_INDEXTYPE_OPERATORS	OPERATOR_SCHEMA
ALL_INDEXTYPES	INTERFACE_VERSION
	PARTITIONING
ALL_MVIEWS	USE_NO_INDEX
ALL_OBJECT_TABLES	DEPENDENCIES
ALL_OPBINDINGS	PROPERTY
ALL_OUTLINES	SIGNATURE
ALL_PART_INDEXES	DEF_PARAMETERS
ALL_POLICIES	POLICY_GROUP
	STATIC_POLICY
ALL_REPCAT_TEMPLATE_OBJECTS	DDL_NUM
ALL_REPCAT_TEMPLATE_SITES	INSTANTIATION_DATE

<b>Static Data Dictionary View</b>	<b>New Columns</b>
ALL_REPCOLUMN	CTYPE_TOID CTYPE_OWNER CTYPE_HASHCODE CTYPE_MOD TOP CHAR_LENGTH CHAR_USED
ALL_REPDDL	DDL_NUM
ALL_REPFLAVOR_COLUMNS	TYPE_TOID TYPE_OWNER TYPE_HASHCODE TYPE_MOD TOP
ALL_REPOBJECT	NESTED_TABLE
ALL_SUMDELTA	SEQUENCE
ALL_TAB_COL_STATISTICS	OWNER
ALL_TAB_COLUMNS	CHAR_LENGTH CHAR_USED V80_FMT_IMAGE DATA_UPGRADED
ALL_TAB_PRIVS	HIERARCHY
ALL_TAB_PRIVS_MADE	HIERARCHY
ALL_TAB_PRIVS_REC'D	HIERARCHY
ALL_TABLES	DEPENDENCIES
ALL_TYPE_ATTRS	INHERITED
ALL_TYPE_METHODS	FINAL INSTANTIABLE OVERRIDING INHERITED

<b>Static Data Dictionary View</b>	<b>New Columns</b>
ALL_TYPES	FINAL INSTANTIABLE SUPERTYPE_OWNER SUPERTYPE_NAME LOCAL_ATTRIBUTES LOCAL_METHODS TYPEID
ALL_USTATS	PARTITION_NAME
ALL_VIEWS	SUPERVIEW_NAME
DBA_ALL_TABLES	DEPENDENCIES
DBA_ASSOCIATIONS	INTERFACE_VERSION
DBA_AUDIT_EXISTS	CLIENT_ID SESSION_CPU
DBA_AUDIT_OBJECT	CLIENT_ID SESSION_CPU
DBA_AUDIT_SESSION	CLIENT_ID SESSION_CPU
DBA_AUDIT_STATEMENT	CLIENT_ID SESSION_CPU
DBA_AUDIT_TRAIL	CLIENT_ID SESSION_CPU
DBA_CLUSTERS	DEPENDENCIES
DBA_CONSTRAINTS	INDEX_OWNER INDEX_NAME INVALID VIEW RELATED
DBA_CONTEXT	TYPE
DBA_DIMENSIONS	COMPILE_STATE
DBA_IND_COLUMNS	CHAR_LENGTH

<b>Static Data Dictionary View</b>	<b>New Columns</b>
DBA_IND_PARTITIONS	DOMIDX_OPSTATUS
	PARAMETERS
DBA_INDEXES	JOIN_INDEX
DBA_INDEXTYPE_OPERATORS	OPERATOR_SCHEMA
DBA_INDEXTYPES	INTERFACE_VERSION
	PARTITIONING
DBA_MVIEWS	USE_NO_INDEX
DBA_OBJECT_TABLES	DEPENDENCIES
DBA_OPBINDINGS	PROPERTY
DBA_OUTLINES	SIGNATURE
DBA_PART_INDEXES	DEF_PARAMETERS
DBA_POLICIES	POLICY_GROUP
	STATIC_POLICY
DBA_REPCAT_TEMPLATE_OBJECTS	DDL_NUM
DBA_REPCAT_TEMPLATE_SITES	INSTANTIATION_DATE
DBA_REPCOLUMN	CTYPE_TOID
	CTYPE_OWNER
	CTYPE_HASHCODE
	CTYPE_MOD
	TOP
	CHAR_LENGTH
	CHAR_USED
DBA_REPDDL	DDL_NUM
DBA_REPFLAVOR_COLUMNS	TYPE_TOID
	TYPE_OWNER
	TYPE_HASHCODE
	TYPE_MOD
	TOP
DBA_REPOBJECT	NESTED_TABLE

<b>Static Data Dictionary View</b>	<b>New Columns</b>
DBA_RSRC_PLAN_DIRECTIVES	ACTIVE_SESS_POOL_P1 QUEUEING_P1 SWITCH_GROUP SWITCH_TIME SWITCH_ESTIMATE MAX_EST_EXEC_TIME UNDO_POOL
DBA_RSRC_PLANS	ACTIVE_SESS_POOL_MTH QUEUEING_MTH
DBA_TAB_COL_STATISTICS	OWNER
DBA_TAB_COLUMNS	CHAR_LENGTH CHAR_USED V80_FMT_IMAGE DATA_UPGRADED
DBA_TAB_PRIVS	HIERARCHY
DBA_TABLES	DEPENDENCIES
DBA_TABLESPACES	BLOCK_SIZE SEGMENT_SPACE_MANAGEMENT
DBA_TYPE_ATTRS	INHERITED
DBA_TYPE_METHODS	FINAL INSTANTIABLE OVERRIDING INHERITED
DBA_TYPES	FINAL INSTANTIABLE SUPERTYPE_OWNER SUPERTYPE_NAME LOCAL_ATTRIBUTES LOCAL_METHODS TYPEID

<b>Static Data Dictionary View</b>	<b>New Columns</b>
DBA_USTATS	PARTITION_NAME
DBA_VIEWS	SUPERVIEW_NAME
USER_ALL_TABLES	DEPENDENCIES
USER_ARGUMENTS	CHAR_LENGTH CHAR_USED
USER_ASSOCIATIONS	INTERFACE_VERSION
USER_AUDIT_OBJECT	CLIENT_ID SESSION_CPU
USER_AUDIT_SESSION	CLIENT_ID SESSION_CPU
USER_AUDIT_STATEMENT	CLIENT_ID SESSION_CPU
USER_AUDIT_TRAIL	CLIENT_ID SESSION_CPU
USER_CLUSTERS	DEPENDENCIES
USER_CONSTRAINTS	INDEX_OWNER INDEX_NAME INVALID VIEW RELATED
USER_DIMENSIONS	COMPILE_STATE
USER_IND_COLUMNS	CHAR_LENGTH
USER_IND_PARTITIONS	DOMIDX_OPSTATUS PARAMETERS
USER_INDEXES	JOIN_INDEX
USER_INDEXTYPE_OPERATORS	OPERATOR_SCHEMA
USER_INDEXTYPES	INTERFACE_VERSION PARTITIONING
USER_MVIEWS	USE_NO_INDEX
USER_OBJECT_TABLES	DEPENDENCIES

<b>Static Data Dictionary View</b>	<b>New Columns</b>
USER_OPBINDINGS	PROPERTY
USER_OUTLINES	SIGNATURE
USER_PART_INDEXES	DEF_PARAMETERS
USER_POLICIES	POLICY_GROUP STATIC_POLICY
USER_REPCAT_TEMPLATE_OBJECTS	DDL_NUM
USER_REPCAT_TEMPLATE_SITES	INSTANTIATION_DATE
USER_REPCOLUMN	CTYPE_TOID CTYPE_OWNER CTYPE_HASHCODE CTYPE_MOD TOP CHAR_LENGTH CHAR_USED
USER_REPDDL	DDL_NUM
USER_REPFLAVOR_COLUMNS	TYPE_TOID TYPE_OWNER TYPE_HASHCODE TYPE_MOD TOP
USER_REPOBJECT	NESTED_TABLE
USER_REPARAMETER_COLUMN	SNAME
USER_TAB_COLUMNS	CHAR_LENGTH CHAR_USED DATA_UPGRADED V80_FMT_IMAGE
USER_TAB_PRIVS	HIERARCHY
USER_TAB_PRIVS_MADE	HIERARCHY
USER_TAB_PRIVS_REC'D	HIERARCHY

<b>Static Data Dictionary View</b>	<b>New Columns</b>
USER_TABLES	DEPENDENCIES
USER_TABLESPACES	BLOCK_SIZE SEGMENT_SPACE_MANAGEMENT
USER_TYPE_ATTRS	INHERITED
USER_TYPE_METHODS	FINAL INSTANTIABLE OVERRIDING INHERITED
USER_TYPES	FINAL INSTANTIABLE SUPERTYPE_OWNER SUPERTYPE_NAME LOCAL_ATTRIBUTES LOCAL_METHODS TYPEID
USER_USTATS	PARTITION_NAME
USER_VIEWS	SUPERVIEW_NAME

**See Also:** [Chapter 2, "Static Data Dictionary Views"](#) for more information about the new columns in these static data dictionary views

The following dynamic performance views have new columns in this release:

<b>Dynamic Performance View</b>	<b>New Columns</b>
GV\$ARCHIVE and V\$ARCHIVE	ISCURRENT

Dynamic Performance View	New Columns
GV\$ARCHIVE_DEST and V\$ARCHIVE_DEST	ARCHIVER SCHEDULE LOG_SEQUENCE DELAY_MINS PROCESS MANIFEST FAILURE_COUNT MAX_FAILURE ALTERNATE DEPENDENCY REGISTER QUOTA_SIZE QUOTA_USED MOUNTID TRANSMIT_MODE AFFIRM TYPE
GV\$ARCHIVED_LOG and V\$ARCHIVED_LOG	DEST_ID APPLIED STATUS DICTIONARY_BEGIN DICTIONARY_END END_OF_REDO BACKUP_COUNT ARCHIVAL_THREAD#
GV\$BACKUP_SET and V\$BACKUP_SET	KEEP KEEP_UNTIL KEEP_OPTIONS

<b>Dynamic Performance View</b>	<b>New Columns</b>
GV\$BUFFER_POOL and V\$BUFFER_POOL	BLOCK_SIZE RESIZE_STATE CURRENT_SIZE TARGET_SIZE TARGET_BUFFERS PREV_SIZE PREV_BUFFERS
GV\$BUFFER_POOL_STATISTICS and V\$BUFFER_POOL_STATISTICS	BLOCK_SIZE
GV\$CIRCUIT and V\$CIRCUIT	PCIRCUIT
GV\$DATABASE and V\$DATABASE	STANDBY_MODE REMOTE_ARCHIVE ACTIVATION# DATABASE_ROLE ARCHIVELOG_CHANGE# SWITCHOVER_STATUS
GV\$DATAFILE and V\$DATAFILE	BLOCK1_OFFSET AUX_NAME
GV\$DATAFILE_COPY and V\$DATAFILE_COPY	STATUS KEEP KEEP_UNTIL KEEP_OPTIONS
GV\$DB_CACHE_ADVICE and V\$DB_CACHE_ADVICE	BLOCK_SIZE ADVICE_STATUS
GV\$DELETED_OBJECT and V\$DELETED_OBJECT	OBJECT_DATA
GV\$FILESTAT and V\$FILESTAT	SINGLEBLKRDS SINGLEBLKRDTIM
GV\$INSTANCE and V\$INSTANCE	ACTIVE_STATE

<b>Dynamic Performance View</b>	<b>New Columns</b>
GV\$INSTANCE_RECOVERY and V\$INSTANCE_RECOVERY	TARGET_MTTR ESTIMATED_MTTR CKPT_BLOCK_WRITES
GV\$LATCH and V\$LATCH	WAIT_TIME
GV\$LATCH_CHILDREN and V\$LATCH_CHILDREN	WAIT_TIME
GV\$LATCH_MISSES and V\$LATCH_MISSES	LOCATION
GV\$LATCH_PARENT and V\$LATCH_PARENT	WAIT_TIME
GV\$LOGFILE and V\$LOGFILE	TYPE
GV\$LOGMNR_CONTENTS and V\$LOGMNR_CONTENTS	CSCN COMMIT_TIMESTAMP TX_NAME OPERATION_CODE SEQUENCE# REDO_VALUE UNDO_VALUE SQL_COLUMN_TYPE SQL_COLUMN_NAME REDO_LENGTH REDO_OFFSET UNDO_LENGTH UNDO_OFFSET
GV\$LOGMNR_LOGS and V\$LOGMNR_LOGS	DICTIONARY_BEGIN DICTIONARY_END
GV\$MLS_PARAMETERS and V\$MLS_PARAMETERS	UPDATE_COMMENT
GV\$PARAMETER and V\$PARAMETER	UPDATE_COMMENT
GV\$PARAMETER2 and V\$PARAMETER2	ORDINAL UPDATE_COMMENT

<b>Dynamic Performance View</b>	<b>New Columns</b>
GV\$PROCESS and V\$PROCESS	PGA_USED_MEM PGA_ALLOC_MEM PGA_MAX_MEM
GV\$PROXY_DATAFILE and V\$PROXY_DATAFILE	KEEP KEEP_UNTIL KEEP_OPTIONS
GV\$RECOVER_FILE and V\$RECOVER_FILE	ONLINE_STATUS
GV\$RSRC_CONSUMER_GROUP and V\$RSRC_CONSUMER_GROUP	QUEUE_LENGTH CURRENT_UNDO_CONSUMPTION
GV\$SESSION and V\$SESSION	CURRENT_QUEUE_DURATION CLIENT_IDENTIFIER
GV\$SESSION_EVENT and V\$SESSION_EVENT	TIME_WAITED_MICRO
GV\$SORT_USAGE and V\$SORT_USAGE	USERNAME
GV\$SQL and V\$SQL	PLAN_HASH_VALUE CPU_TIME ELAPSED_TIME OUTLINE_SID CHILD_ADDRESS SQLTYPE REMOTE OBJECT_STATUS LITERAL_HASH_VALUE LAST_LOAD_TIME IS_OBSOLETE
GV\$SQL_SHARED_CURSOR and V\$SQL_SHARED_CURSOR	LOGMINER_SESSION_MISMATCH INCOMP_LTRL_MISMATCH OVERLAP_TIME_MISMATCH USER_BIND_PEEK_MISMATCH TYPCHK_DEP_MISMATCH

<b>Dynamic Performance View</b>	<b>New Columns</b>
GV\$SQLAREA and V\$SQLAREA	CPU_TIME ELAPSED_TIME IS_OBSOLETE
GV\$SYSTEM_EVENT and V\$SYSTEM_EVENT	TIME_WAITED_MICRO
GV\$SYSTEM_PARAMETER and V\$SYSTEM_PARAMETER	UPDATE_COMMENT
GV\$SYSTEM_PARAMETER2 and V\$SYSTEM_PARAMETER2	ORDINAL UPDATE_COMMENT
GV\$TABLESPACE and V\$TABLESPACE	INCLUDED_IN_DATABASE_BACKUP
GV\$TEMPSTAT and V\$TEMPSTAT	SINGLEBLKRDS SINGLEBLKRDTIM
GV\$TRANSACTION and V\$TRANSACTION	NAME

**See Also:** [Chapter 3, "Dynamic Performance \(V\\$\) Views"](#) for more information about the new columns in these dynamic performance views



---

# Initialization Parameters

This chapter contains detailed descriptions of the database initialization parameters and includes the following topics:

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

## Uses of Initialization Parameters

Initialization parameters fall into various functional groups. For example, parameters perform the following functions:

- 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.

## Types of Initialization Parameters

The Oracle database server has the following types of initialization parameters:

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

## 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.

## 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

## 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\_CURATORS 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.

## 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](#)

### 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 machine 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.

### Initialization Parameter Files

An **initialization parameter file** is a text file that contains a list of initialization parameters. The file should be written in the client's default character set.

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 filename 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.

## Specifying Values in the Initialization Parameter File

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

**Rules Governing Parameter Files** The following rules govern the specification of parameters in initialization parameter files:

- The initialization parameter file should contain only parameters and comments. A pound sign (#) starts a comment line. The rest of the line is ignored.
- 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 value entries. Enter multiple values enclosed in parentheses and separated by commas. For example:

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

Alternatively, you can enter multiple values without parentheses and commas. For example:

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

Either syntax is valid.

If you enter values for one parameter in multiple entries, 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](#)" on page 1-65

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

**Table 1–1 Special Characters in the Initialization Parameter File**

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 the 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.

**Using the Escape Character** As described in ["Rules Governing Parameter Files"](#) on page 1-5, the 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.

**Using Quotation Marks** Quotation marks can be nested in one of two ways. 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'
```

## Changing Parameter Values

You change the value of a parameter by editing the initialization parameter file. In most cases, the new value takes effect the next time you start an instance of the

database. However, you can change the value of some parameters for the duration of the current session, as described in the following section.

## Dynamic Parameters

Some initialization parameters are **dynamic**, that is, they can be modified using the `ALTER SESSION` or `ALTER SYSTEM` statements while an instance is running.

Use the following syntax to dynamically alter initialization parameters:

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

Whenever a dynamic parameter is modified using the `ALTER SYSTEM` statement, Oracle records the command 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`:

CURSOR_SHARING	DB_BLOCK_CHECKING
DB_CREATE_FILE_DEST	DB_CREATE_ONLINE_LOG_DEST_n
DB_FILE_MULTIBLOCK_READ_COUNT	FILESYSTEMIO_OPTIONS
GLOBAL_NAMES	HASH_AREA_SIZE
HASH_JOIN_ENABLED	LOG_ARCHIVE_DEST_n
LOG_ARCHIVE_DEST_STATE_n	LOG_ARCHIVE_MIN_SUCCEED_DEST
MAX_DUMP_FILE_SIZE	NLS_CALENDAR
NLS_COMP	NLS_CURRENCY
NLS_DATE_FORMAT	NLS_DATE_LANGUAGE
NLS_DUAL_CURRENCY	NLS_ISO_CURRENCY
NLS_LANGUAGE	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_DYNAMIC_SAMPLING

---

OPTIMIZER_INDEX_CACHING	OPTIMIZER_INDEX_COST_ADJ
OPTIMIZER_MAX_PERMUTATIONS	OPTIMIZER_MODE
ORACLE_TRACE_ENABLE	PARALLEL_INSTANCE_GROUP
PARALLEL_MIN_PERCENT	PARTITION_VIEW_ENABLED
PLSQL_COMPILER_FLAGS	PLSQL_V2_COMPATIBILITY
QUERY_REWRITE_ENABLED	QUERY_REWRITE_INTEGRITY
REMOTE_DEPENDENCIES_MODE	SESSION_CACHED_CURSORS
SORT_AREA_RETAINED_SIZE	SORT_AREA_SIZE
STAR_TRANSFORMATION_ENABLED	STATISTICS_LEVEL
TIMED_OS_STATISTICS	TIMED_STATISTICS
TRACEFILE_IDENTIFIER	UNDO_SUPPRESS_ERRORS
WORKAREA_SIZE_POLICY	

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`:

AQ_TM_PROCESSES	ARCHIVE_LAG_TARGET
BACKGROUND_DUMP_DEST	CONTROL_FILE_RECORD_KEEP_TIME
CORE_DUMP_DEST	CURSOR_SHARING
DB_nK_CACHE_SIZE	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_KEEP_CACHE_SIZE	DB_RECYCLE_CACHE_SIZE
DG_BROKER_CONFIG_FILEn	DG_BROKER_START
DISPATCHERS	DRS_START
FAL_CLIENT	FAL_SERVER
FAST_START_IO_TARGET	FAST_START_MTTR_TARGET
FAST_START_PARALLEL_ROLLBACK	FILE_MAPPING

FILESYSTEMIO_OPTIONS	FIXED_DATE
GLOBAL_NAMES	HS_AUTOREGISTER
JOB_QUEUE_PROCESSES	LARGE_POOL_SIZE
LICENSE_MAX_SESSIONS	LICENSE_MAX_USERS
LICENSE_SESSIONS_WARNING	LOCAL_LISTENER
LOG_ARCHIVE_DEST	LOG_ARCHIVE_DEST_n
LOG_ARCHIVE_DEST_STATE_n	LOG_ARCHIVE_DUPLEX_DEST
LOG_ARCHIVE_MAX_PROCESSES	LOG_ARCHIVE_MIN_SUCCEED_DEST
LOG_ARCHIVE_TRACE	LOG_CHECKPOINTS_TO_ALERT
LOG_CHECKPOINT_INTERVAL	LOG_CHECKPOINT_TIMEOUT
MAX_DUMP_FILE_SIZE	NLS_LENGTH_SEMANTICS
NLS_NCHAR_CONV_EXCP	OPEN_CURSORS
OPTIMIZER_DYNAMIC_SAMPLING	ORACLE_TRACE_ENABLE
PARALLEL_ADAPTIVE_MULTI_USER	PARALLEL_INSTANCE_GROUP
PARALLEL_THREADS_PER_CPU	PGA_AGGREGATE_TARGET
PLSQL_COMPILER_FLAGS	PLSQL_NATIVE_C_COMPILER
PLSQL_NATIVE_LIBRARY_DIR	PLSQL_NATIVE_LIBRARY_SUBDIR_COUNT
PLSQL_NATIVE_LINKER	PLSQL_NATIVE_MAKE_FILE_NAME
PLSQL_NATIVE_MAKE.Utility	PLSQL_V2_COMPATIBILITY
QUERY_REWRITE_ENABLED	QUERY_REWRITE_INTEGRITY
REMOTE_DEPENDENCIES_MODE	REMOTE_LISTENER
RESOURCE_LIMIT	RESOURCE_MANAGER_PLAN
SERVICE_NAMES	SHARED_POOL_SIZE
SHARED_SERVERS	STANDBY_ARCHIVE_DEST
STANDBY_FILE_MANAGEMENT	STATISTICS_LEVEL
TIMED_OS_STATISTICS	TIMED_STATISTICS
TRACE_ENABLED	UNDO_RETENTION
UNDO_SUPPRESS_ERRORS	UNDO_TABLESPACE

USER\_DUMP\_DEST

WORKAREA\_SIZE\_POLICY

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`:

BACKUP\_TAPE\_IO\_SLAVES

OBJECT\_CACHE\_MAX\_SIZE\_PERCENT

OBJECT\_CACHE\_OPTIMAL\_SIZE

OLAP\_PAGE\_POOL\_SIZE

SORT\_AREA\_RETAINED\_SIZE

SORT\_AREA\_SIZE

TRANSACTION\_AUDITING

## Displaying Current Parameter Values

To see the current settings for initialization parameters, use the following SQL\*Plus command:

```
SQL> SHOW PARAMETERS
```

This command displays all parameters in alphabetical order, 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.

## Parameters You Should Not Specify in the Parameter File

You should not specify the following two types of parameters in your parameter files:

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

## When Parameters Are Set Incorrectly

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.

## Reading the Parameter Descriptions

The parameter descriptions in this chapter adhere to the following format.

### **PARAMETER\_NAME**

<b>Parameter type</b>	Specifies the type of the parameter: <ul style="list-style-type: none"><li>■ A Boolean parameter accepts either <code>true</code> or <code>false</code> as its value.</li><li>■ A string parameter accepts any sequence of characters as its value, subject to the syntax for the parameter.</li><li>■ An integer parameter accepts a 4-byte value that can range from 0 to <math>2^{32}-1</math>.</li><li>■ A parameter file parameter accepts an initialization parameter file specification as its value.</li><li>■ A <b>big integer</b> parameter accepts an 8-byte value that can range from 0 to <math>2^{64}-1</math>. 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.</li></ul>
<b>Syntax</b>	For example, 1000, 100 KB, 50 MB and 2 GB are valid specifications for big integers.

<b>Default value</b>	Specifies the value this parameter assumes if not explicitly specified.
<b>Parameter class</b>	Specifies whether the parameter is dynamic or static. If dynamic, then it also specifies whether its value can be changed by an ALTER SESSION or ALTER SYSTEM statement. ALTER SESSION 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 ALTER SESSION statement. ALTER SYSTEM sets or changes the value of the parameter for all sessions.
<b>Range of values</b>	Specifies the valid range of values that this parameter can assume, shown as a minimum and maximum value. Not applicable to all parameters.
<b>Real Application Clusters</b>	Specifies how the values for this parameter must be specified for multiple instances in a cluster database environment. Not applicable to all parameters.

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

## Parameter Descriptions

Descriptions of the individual initialization parameters follow 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:

- *Oracle9i Database Migration* for information about obsolete parameters
- Your system release bulletins or other operating system-specific Oracle documentation

## ACTIVE\_INSTANCE\_COUNT

<b>Parameter type</b>	Integer
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	1 or >= the number of instances in the cluster. (Values other than 1 have no effect on the active or standby status of any instances.)
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have the same value.

---

**Note:** This parameter functions only in a cluster with only two instances.

---

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.

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.

**See Also:** *Oracle9i Real Application Clusters Setup and Configuration* for more information on setting this parameter

## AQ\_TM\_PROCESSES

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

**Range of values** 0 to 10

AQ\_TM\_PROCESSES enables time monitoring of queue messages. The times can be used in messages that specify delay and expiration properties. Values from 1 to 10 specify the number of queue monitor processes created to monitor the messages. If AQ\_TM\_PROCESSES is not specified or is set to 0, then the queue monitor is not created.

**See Also:** *Oracle9i Application Developer's Guide - Advanced Queuing* for more information about this parameter and Advanced Queuing

## ARCHIVE\_LAG\_TARGET

**Parameter type** Integer

**Default value** 0 (disabled)

**Parameter class** Dynamic: ALTER SYSTEM

**Range of values** 0 or any integer in [60, 7200]

**Real Application Clusters** Multiple instances should use the same value.

ARCHIVE\_LAG\_TARGET limits the amount of data that can be lost and effectively increases the availability of the standby database by forcing a log switch after a user-specified time period elapses.

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:** *Oracle9i Data Guard Concepts and Administration* for more information about criteria for setting this parameter

## AUDIT\_FILE\_DEST

<b>Parameter type</b>	String
<b>Syntax</b>	<code>AUDIT_FILE_DEST = 'directory'</code>
<b>Default value</b>	<code>ORACLE_HOME/rdbms/audit</code>
<b>Parameter class</b>	Static

`AUDIT_FILE_DEST` specifies the directory where Oracle stores auditing files.

## AUDIT\_SYS\_OPERATIONS

<b>Parameter type</b>	Boolean
<b>Default value</b>	<code>false</code>
<b>Parameter class</b>	Static
<b>Range of values</b>	<code>true   false</code>

`AUDIT_SYS_OPERATIONS` enables or disables the auditing of operations issued by user `SYS`, and users connecting with `SYSDBA` or `SYSOPER` privileges. The audit records are written to the operating system's audit trail.

## AUDIT\_TRAIL

<b>Parameter type</b>	String
<b>Syntax</b>	<code>AUDIT_TRAIL = {NONE   FALSE   DB   TRUE   OS}</code>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static

`AUDIT_TRAIL` enables or disables the automatic writing of rows to the audit trail.

### Values:

- `NONE` or `FALSE`

Audit records are not written.

- OS
  - Enables system-wide auditing and causes audited records to be written to the operating system's audit trail.
- DB or TRUE
  - Enables system-wide auditing and causes audited records to be written to the database audit trail (the SYS.AUD\$ table).

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

## BACKGROUND\_CORE\_DUMP

**Parameter type** String

**Syntax** BACKGROUND\_CORE\_DUMP = {partial | full}

**Default value** partial

**Parameter class** Static

BACKGROUND\_CORE\_DUMP specifies whether Oracle includes the SGA in the core file for Oracle background processes.

**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"](#) on page 1-149

## BACKGROUND\_DUMP\_DEST

**Parameter type** String

**Syntax** BACKGROUND\_DUMP\_DEST = {pathname | directory}

<b>Default value</b>	Operating system-dependent
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any valid local path, directory, or disk

BACKGROUND\_DUMP\_DEST specifies the pathname (directory or disc) where debugging trace files for the background processes (LGWR, DBW $n$ , and so on) are written during Oracle operations.

An **alert file** 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 file is a normal text file. Its filename 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.

**See Also:**

- *Oracle9i Database Administrator's Guide* for more information on setting this parameter and on alert files
- Your operating system-specific Oracle documentation for the default value of this parameter
- "[USER\\_DUMP\\_DEST](#)" on page 1-169 for information on setting a destination for server process trace files

## BACKUP\_TAPE\_IO\_SLAVES

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SYSTEM . . . DEFERRED
<b>Range of values</b>	true   false

BACKUP\_TAPE\_IO\_SLAVES specifies whether I/O server processes (also called **slaves**) are used by the Recovery Manager to back up, copy, or restore data to tape. 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:**

- *Oracle9i Recovery Manager User's Guide* for more information on duplexed backups
- "[DBWR\\_IO\\_SLAVES](#)" on page 1-46

## BITMAP\_MERGE\_AREA\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	1048576 (1 MB)
<b>Parameter class</b>	Static
<b>Range of values</b>	Operating system-dependent

---

**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. It specifies the amount of memory Oracle uses to merge bitmaps retrieved from a range scan of the index. The default value is 1 MB. A larger value usually improves performance, because the bitmap segments must be sorted before being merged into a single bitmap.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter

## BLANK\_TRIMMING

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

BLANK\_TRIMMING specifies the data assignment semantics of character datatypes.

### 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 is all blanks. This value complies with the semantics of SQL92 Transitional Level and above.

- FALSE

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

## BUFFER\_POOL\_KEEP

<b>Parameter type</b>	String
<b>Syntax</b>	<pre>BUFFER_POOL_KEEP = {integer       (BUFFERS:integer, LRU_LATCHES:integer)}</pre>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static

**Syntax**

`BUFFER_POOL_KEEP = {integer |`

`(BUFFERS:integer, LRU_LATCHES:integer)}`

where `integer` is the number of buffers and, optionally, the number of LRU latches.

**Default value**

There is no default value.

**Parameter class**

Static

---

**Note:** This parameter is deprecated in favor of the DB\_KEEP\_CACHE\_SIZE parameter. Oracle recommends that you use DB\_KEEP\_CACHE\_SIZE instead. Also, BUFFER\_POOL\_KEEP cannot be combined with the new dynamic DB\_KEEP\_CACHE\_SIZE parameter; combining these parameters in the same parameter file will produce an error. BUFFER\_POOL\_KEEP is retained for backward compatibility only.

---

BUFFER\_POOL\_KEEP lets you save objects in the buffer cache by setting aside a portion of the total number of buffers (the value of the DB\_BLOCK\_BUFFERS parameter) as a KEEP buffer pool. You can also allocate to the KEEP buffer pool a specified portion of the total number of LRU latches.

The string value can take one of two forms. You can simply specify a buffer count:

```
BUFFER_POOL_KEEP = 5
```

Or, you can specify a combination of buffers and LRU latches. Specifying LRU latches is optional:

```
BUFFER_POOL_KEEP = (BUFFERS:400, LRU_LATCHES:3)
```

This parameter is most useful in combination with the BUFFER\_POOL\_RECYCLE parameter.

**See Also:**

- ["BUFFER\\_POOL\\_RECYCLE" on page 1-22](#)
- *Oracle9i Database Performance Tuning Guide and Reference* for information on setting these parameters and on using multiple buffer pools

## BUFFER\_POOL\_RECYCLE

**Parameter type**      String

**Syntax**

```
BUFFER_POOL_RECYCLE = {integer |  
    (BUFFERS:integer, LRU_LATCHES:integer)}
```

where *integer* is the number of buffers and, optionally, the number of LRU latches.

**Default value**

There is no default value.

**Parameter class**

Static

---

**Note:** This parameter is deprecated in favor of the DB\_RECYCLE\_CACHE\_SIZE parameter. Oracle recommends that you use DB\_RECYCLE\_CACHE\_SIZE instead. Also, BUFFER\_POOL\_RECYCLE cannot be combined with the new dynamic DB\_RECYCLE\_CACHE\_SIZE parameter; combining these parameters in the same parameter file will produce an error. BUFFER\_POOL\_RECYCLE is retained for backward compatibility only.

---

BUFFER\_POOL\_RECYCLE lets you limit the size of objects in the buffer cache by setting aside a portion of the total number of buffers (the value of the DB\_BLOCK\_BUFFERS parameter) as a RECYCLE buffer pool. You can also allocate to the RECYCLE buffer pool a specified portion of the total number of LRU latches.

The string value can take one of two forms. You can simply specify a buffer count:

```
BUFFER_POOL_RECYCLE = 5
```

Or, you can specify a combination of buffers and LRU latches. Specifying LRU latches is optional:

```
BUFFER_POOL_RECYCLE = (BUFFERS:50, LRU_LATCHES:1)
```

This parameter is most useful in combination with the BUFFER\_POOL\_KEEP parameter.

**See Also:**

- ["BUFFER\\_POOL\\_KEEP" on page 1-21](#)
- *Oracle9i Database Performance Tuning Guide and Reference* for information on setting these parameters and on using multiple buffer pools

## CIRCUITS

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived: <ul style="list-style-type: none"><li>■ If you are using shared server architecture, then the value of SESSIONS</li><li>■ If you are not using the shared server architecture, then the value is 0</li></ul>
<b>Parameter class</b>	Static

CIRCUITS specifies the total number of virtual circuits that are available for inbound and outbound network sessions. It is one of several parameters that contribute to the total SGA requirements of an instance.

**See Also:**

- *Oracle9i Database Concepts* for more information on memory structures and processes
- "[DB\\_BLOCK\\_BUFFERS](#)" on page 1-33 and "[TRANSACTIONS](#)" on page 1-165, which also contribute to SGA requirements

## CLUSTER\_DATABASE

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false
<b>Real Application Clusters</b>	Multiple instances must have the same value.

CLUSTER\_DATABASE is an Oracle9i Real Application Clusters parameter that specifies whether or not Oracle9i Real Application Clusters is enabled.

**See Also:** *Oracle9i Real Application Clusters Administration*

## CLUSTER\_DATABASE\_INSTANCES

<b>Parameter type</b>	Integer
<b>Default value</b>	1
<b>Parameter class</b>	Static
<b>Range of values</b>	Any nonzero value

CLUSTER\_DATABASE\_INSTANCES is an Oracle9*i* Real Application Clusters parameter that specifies the number of instances that are configured as part of your cluster database. You must set this parameter for every instance. Normally you should set this parameter to the number of instances in your Oracle9*i* Real Application Clusters environment. A proper setting for this parameter can improve memory use.

Oracle uses the value of this parameter to compute the default value of the LARGE\_POOL\_SIZE parameter when the PARALLEL\_AUTOMATIC\_TUNING parameter is set to true.

### See Also:

- *Oracle9*i* Database Performance Tuning Guide and Reference* for more information on tuning parallel execution
- *Oracle9*i* Real Application Clusters Administration* for information on Oracle9*i* Real Application Clusters

## CLUSTER\_INTERCONNECTS

<b>Parameter type</b>	String
<b>Syntax</b>	CLUSTER_INTERCONNECTS = <i>ifn</i> [: <i>ifn</i> ... ]
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	One or more IP addresses, separated by colons

CLUSTER\_INTERCONNECTS provides Oracle with information about additional cluster interconnects available for use in Oracle9*i* Real Application Clusters environments.

The CLUSTER\_INTERCONNECTS parameter can be used to override the default interconnect with a preferred cluster traffic network. This parameter is useful in Data Warehouse systems that have reduced availability requirements and high interconnect bandwidth demands. You can also use CLUSTER\_INTERCONNECTS to override the default interconnect chosen by Oracle.

For example, if you are running two instances of Oracle for two databases on the same machine, then you can load balance the interconnect traffic to different physical interconnects. This does not reduce Oracle availability.

**See Also:** *Oracle9i Real Application Clusters Administration*

## COMMIT\_POINT\_STRENGTH

<b>Parameter type</b>	Integer
<b>Default value</b>	1
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 255

COMMIT\_POINT\_STRENGTH is relevant only in distributed database systems. It specifies a value that determines the **commit point site** in a distributed transaction. 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:**

- *Oracle9i Database Concepts* and *Oracle9i Database Administrator's Guide* for information on two-phase commit
- Your operating system-specific Oracle documentation for the default value of this parameter

## COMPATIBLE

<b>Parameter type</b>	String
<b>Syntax</b>	<code>COMPATIBLE = release_number</code>
<b>Default value</b>	8.1.0
<b>Parameter class</b>	Static
<b>Range of values</b>	Default release to current release
<b>Real Application Clusters</b>	Multiple instances must have the same value.

`COMPATIBLE` allows you to use a new release, while at the same time guaranteeing backward compatibility with an earlier release. This is helpful if it becomes necessary to revert to the earlier release.

This parameter specifies the release with which the Oracle server must maintain compatibility. It allows you to take advantage of the maintenance improvements of a new release immediately in your production systems without testing the new functionality in your environment. Some features of the current release may be restricted.

When using the standby database feature, this parameter must have the same value on the primary and standby databases, and the value must be 7.3.0.0.0 or higher. The default value is the earliest release with which compatibility can be guaranteed.

The value of `COMPATIBLE` must be set to 8.1.0 or higher in order to use stored columns of UROWID type. You can use ROWID pseudo columns for index-organized tables regardless of the parameter setting.

**See Also:** *Oracle9i Database Migration* for more information on setting this parameter

## CONTROL\_FILE\_RECORD\_KEEP\_TIME

<b>Parameter type</b>	Integer
<b>Default value</b>	7 (days)
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0 to 365 (days)

CONTROL\_FILE\_RECORD\_KEEP\_TIME specifies the minimum number of days before a reusable record in the control file can be reused. In the event a new record needs to 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.

---

**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 datafile, tablespace, and redo thread records, which are never reused unless the corresponding object is dropped from the tablespace.

---

### See Also:

- ["CONTROL\\_FILES"](#) on page 1-28
- *Oracle9i Database Concepts*
- *Oracle9i User-Managed Backup and Recovery Guide*

## CONTROL\_FILES

<b>Parameter type</b>	String
<b>Syntax</b>	<code>CONTROL_FILES = filename [, filename [...] ]</code>
<b>Note:</b>	The control file name can be an OMF (Oracle Managed Files) name. This occurs when the control file is re-created using the CREATE CONTROLFILE REUSE statement.
<b>Default value</b>	Operating system-dependent
<b>Parameter class</b>	Static

<b>Range of values</b>	1 to 8 filenames
<b>Real Application Clusters</b>	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 datafiles and redo files). CONTROL\_FILES specifies one or more names of control files, separated by commas.

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

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference*
- *Oracle9i Database Administrator's Guide*

## CORE\_DUMP\_DEST

<b>Parameter type</b>	String
<b>Syntax</b>	CORE_DUMP_DEST = <i>directory</i>
<b>Default value</b>	ORACLE_HOME/DBS
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

CORE\_DUMP\_DEST is primarily a UNIX parameter and may not be supported on your platform. It specifies the directory where Oracle dumps core files.

## CPU\_COUNT

<b>Parameter type</b>	Integer
<b>Default value</b>	Set automatically by Oracle
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to unlimited

---

**Caution:** On most platforms, Oracle automatically sets the value of CPU\_COUNT to the number of CPUs available to your Oracle instance. Do not change the value of CPU\_COUNT.

---

CPU\_COUNT specifies the number of CPUs available to Oracle. On single-CPU computers, the value of CPU\_COUNT is 1.

**See Also:** Your operating system-specific Oracle documentation for more information about this parameter

## CREATE\_BITMAP\_AREA\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	8388608 (8 MB)
<b>Parameter class</b>	Static
<b>Range of values</b>	Operating system-dependent

---

**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.

---

CREATE\_BITMAP\_AREA\_SIZE is relevant only for systems containing bitmap indexes. It specifies the amount of memory (in bytes) allocated for bitmap creation. The default value is 8 MB. 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 on the order of kilobytes rather than megabytes. As a general rule, the higher the cardinality, the more memory is needed for optimal performance.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on using bitmap indexes

## CURSOR\_SHARING

<b>Parameter type</b>	String
<b>Syntax</b>	CURSOR_SHARING = {SIMILAR   EXACT   FORCE}
<b>Default value</b>	EXACT
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM

CURSOR\_SHARING determines what kind of SQL statements can share the same cursors.

### Values:

- FORCE

Forces statements that may differ in some literals, but are otherwise identical, to share a cursor, unless the literals affect the meaning of the statement.

- SIMILAR

Causes statements that may differ in some literals, but are otherwise identical, to share a cursor, unless the literals affect either the meaning of the statement or the degree to which the plan is optimized.

- EXACT

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

---

**Note:** Forcing cursor sharing among similar (but not identical) statements can have unexpected results in some DSS applications, or applications that use stored outlines.

---

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for information on setting this parameter in these and other environments

## CURSOR\_SPACE\_FOR\_TIME

<b>Parameter type</b>	Boolean
<b>Default value</b>	false

**Parameter class**      Static

**Range of values**      true | false

CURSOR\_SPACE\_FOR\_TIME lets you use more space for cursors in order to save time. It affects both the shared SQL area and the client's private SQL area.

**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, the SERIAL\_REUSE parameter is disabled.

---

**See Also:**

- *Oracle9i Database Concepts and Oracle9i Database Performance Tuning Guide and Reference*
- "SERIAL\_REUSE" on page 1-145

## **DB\_nK\_CACHE\_SIZE**

**Parameter type**      Big integer

**Syntax**                DB\_[2 | 4 | 8 | 16 | 32]K\_CACHE\_SIZE =  
                          integer [K | M | G]

<b>Default value</b>	0 (additional block size caches are not configured by default)
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Minimum: the granule size Maximum: operating system-dependent

DB\_ *nK*\_CACHE\_SIZE (where *n* = 2, 4, 8, 16, 32) specifies the size of the cache for the *nK* buffers. You can set this parameter only when DB\_BLOCK\_SIZE has a value other than *nK*. For example, if DB\_BLOCK\_SIZE=4096, then it is illegal to 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.

Platform-specific block size restrictions apply. For example, you cannot set DB\_32K\_CACHE\_SIZE if the maximum block size on the platform 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:** For more information on block size restrictions, see your platform specific documentation

## DB\_BLOCK\_BUFFERS

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived: 48 MB / DB_BLOCK_SIZE
<b>Parameter class</b>	Static
<b>Range of values</b>	50 to an operating system-specific maximum
<b>Real Application Clusters</b>	Multiple instances can have different values, and you can change the values as needed.

---

**Note:** This parameter is deprecated in favor of the DB\_CACHE\_SIZE parameter. Oracle recommends that you use DB\_CACHE\_SIZE instead. Also, DB\_BLOCK\_BUFFERS cannot be combined with the new dynamic DB\_CACHE\_SIZE parameter; combining these parameters in the same parameter file will produce an error. DB\_BLOCK\_BUFFERS is retained for backward compatibility.

---

DB\_BLOCK\_BUFFERS specifies the number of database buffers in the buffer cache. It 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.

The buffers for the "keep" buffer pool and the "recycle" buffer pool come out of the buffer cache. In addition, each LRU list in the buffer cache must have at least 50 buffers. Therefore, if you specify BUFFER\_POOL\_KEEP and BUFFER\_POOL\_RECYCLE, be sure the value of DB\_BLOCK\_BUFFERS conforms to the following formula:

```
DB_BLOCK_BUFFERS > #_buffers_in_"keep"_buffer_pool  
                  + #_BUFFERS_IN_"recycle"_buffer_pool  
                  + 50*(DB_BLOCK_LRU_LATCHES  
                        - #_lru_latches_in_"keep"_buffer_pool  
                        - #_lru_latches_in_"recycle"_buffer_pool)
```

If you did not specify any LRU latches in BUFFER\_POOL\_KEEP and BUFFER\_POOL\_RECYCLE, then the values default to 1.

This parameter affects the probability of data block pinging when Oracle9*i* Real Application Clusters are enabled: the more buffers, the greater the chance of pinging.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference*, "[BUFFER\\_POOL\\_KEEP](#)" on page 1-21, and "[BUFFER\\_POOL\\_RECYCLE](#)" on page 1-22 for more information on setting this parameter
- *Oracle9i Real Application Clusters Concepts* for more information on data block pinging
- Your operating system-specific Oracle documentation

## DB\_BLOCK\_CHECKING

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	true   false

DB\_BLOCK\_CHECKING controls whether Oracle performs block checking for data blocks. When this parameter is set to true, Oracle performs block checking for all data blocks. When it is set to false, Oracle does not perform block checking for blocks in the user tablespaces. However, block checking for the SYSTEM tablespace is always turned on.

Oracle checks a block by going through the data on the block, making sure it is self-consistent. Block checking can often prevent memory and data corruption. Block checking typically causes 1% to 10% overhead, depending on workload. 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 true if the performance overhead is acceptable.

## DB\_BLOCK\_CHECKSUM

<b>Parameter type</b>	Boolean
<b>Default value</b>	true
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

**Range of values**      true | false

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. Checksums are verified when a block is read-only if this parameter is **true** and the last write of the block stored a checksum. In addition, Oracle gives every log block a checksum before writing it to the current log.

If this parameter is set to **false**, DBWn calculates checksums only for the SYSTEM tablespace, but not for user tablespaces.

Checksums allow Oracle to detect corruption caused by underlying disks, storage systems, or I/O systems. Turning on this feature typically causes only an additional 1% to 2% overhead. Therefore, Oracle Corporation recommends that you set DB\_BLOCK\_CHECKSUM to **true**.

## DB\_BLOCK\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	2048
<b>Parameter class</b>	Static
<b>Range of values</b>	2048 to 32768, but your operating system may have a narrower range
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have the same value.

---

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

---

DB\_BLOCK\_SIZE specifies the size (in bytes) of Oracle database blocks. Typical values are 2048 and 4096. 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.

If you are using Oracle9i Real Application Clusters, then 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.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* and *Oracle9i Database Administrator's Guide* for information on setting this parameter
- *Oracle9i SQL Reference* for information on freelist groups
- *Oracle9i Database Performance Tuning Guide and Reference* for more information on the DSS and data warehouse environments
- *Oracle9i Database Concepts* for general information on block sizes

## DB\_CACHE\_ADVICE

<b>Parameter type</b>	String
<b>Syntax</b>	<code>DB_CACHE_ADVICE = {ON   READY   OFF}</code>
<b>Default value</b>	If STATISTICS_LEVEL is set to TYPICAL or ALL, then ON If STATISTICS_LEVEL is set to BASIC, then OFF
<b>Parameter class</b>	Dynamic: <code>ALTER SYSTEM</code>

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

**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.

## DB\_CACHE\_SIZE

**Parameter type** Big integer

**Syntax** DB\_CACHE\_SIZE = *integer* [K | M | G]

**Default value** 48 MB, rounded up to the nearest granule size

**Parameter class** Dynamic: ALTER SYSTEM

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 parameter).

The value must be at least the size of one granule (smaller values are automatically rounded up to the granule size). A value of zero is illegal because zero is the size of the DEFAULT pool for the standard block size, which is the block size for the SYSTEM tablespace.

## DB\_CREATE\_FILE\_DEST

**Parameter type** String

**Syntax** DB\_CREATE\_FILE\_DEST = *directory*

**Default value** There is no default value.

**Parameter class** Dynamic: ALTER SESSION, ALTER SYSTEM

DB\_CREATE\_FILE\_DEST sets the default location for Oracle-managed datafiles. This location is also used as the default for Oracle-managed control files and online redo logs if DB\_CREATE\_ONLINE\_LOG\_DEST\_n is not specified.

You can specify a file system directory as the default location for the creation of datafiles, control files, and online redo logs. However, 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.

## DB\_CREATE\_ONLINE\_LOG\_DEST\_n

<b>Parameter type</b>	String
<b>Syntax</b>	DB_CREATE_ONLINE_LOG_DEST_[1   2   3   4   5] = <i>directory</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM

DB\_CREATE\_ONLINE\_LOG\_DEST\_n (where n = 1, 2, 3, ... 5) sets the default location for Oracle-managed control files and online redo logs.

You should specify at least two parameters: DB\_CREATE\_ONLINE\_LOG\_DEST\_1 and DB\_CREATE\_ONLINE\_LOG\_DEST\_2. This provides greater fault tolerance for the logs if one of the destinations should fail.

If more than one directory is specified, then the control file or online redo log is multiplexed across the directories. One member of each online redo log is created in each directory, and one control file is created in each directory.

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.

## DB\_DOMAIN

<b>Parameter type</b>	String
<b>Syntax</b>	DB_DOMAIN = <i>domain_name</i>

<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	Any legal string of name components, separated by periods and up to 128 characters long (including the periods). This value cannot be NULL.
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have the same value.

In a distributed database system, DB\_DOMAIN specifies the logical location of the database within the network structure. 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, separated by periods. Oracle Corporation 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.ACME.COM, then their SALES database (SALES.JAPAN.ACME.COM) is uniquely distinguished from another database with DB\_NAME = SALES but with DB\_DOMAIN = US.ACME.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. The characters valid in a database domain name are: alphanumeric characters, underscore (\_), and number sign (#).

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- The data dictionary view "[GLOBAL\\_NAME](#)" on page 2-240

## DB\_FILE\_MULTIBLOCK\_READ\_COUNT

<b>Parameter type</b>	Integer
<b>Default value</b>	8
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM

**Range of values**      Operating system-dependent

DB\_FILE\_MULTIBLOCK\_READ\_COUNT is one of the parameters you can use to minimize I/O during table scans. It specifies the maximum number of blocks read in one I/O operation during a sequential scan. 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.

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 always less than 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, Oracle uses the maximum.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- Your operating system-specific Oracle documentation for the default value of this parameter

## DB\_FILE\_NAME\_CONVERT

**Parameter type**      String

**Syntax**

```
DB_FILE_NAME_CONVERT = [ ()'string1' ,  
                      'string2' , 'string3' , 'string4' , ...[] ]
```

Where:

- string1 is the pattern of the primary database filename
- string2 is the pattern of the standby database filename
- string3 is the pattern of the primary database filename
- string4 is the pattern of the standby database filename

You can use as many pairs of primary and standby replacement strings as required. You can use single or double quotation marks. The parentheses are optional.

Following are example settings that are acceptable:

```
DB_FILE_NAME_CONVERT =  
( '/dbs/t1/' , '/dbs/t1/s_-' , 'dbs/t2/'  
  , 'dbs/t2/s_-' )
```

**Default value**

None

**Parameter class**

Static

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. 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.

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).

Set the value of this parameter to two strings. The first string is the pattern found in the datafile names on the primary database. The second string is the pattern found in the datafile names on the standby database.

You can also use DB\_FILE\_NAME\_CONVERT to rename the datafiles in the clone controlfile when setting up a clone database during tablespace point-in-time recovery.

**See Also:**

- *Oracle9i User-Managed Backup and Recovery Guide*
- *Oracle9i Data Guard Concepts and Administration*
- *Oracle9i Recovery Manager User's Guide*

## DB\_FILES

<b>Parameter type</b>	Integer
<b>Default value</b>	200
<b>Parameter class</b>	Static
<b>Range of values</b>	Minimum: the largest among the absolute file numbers of the datafiles in the database Maximum: operating system-dependent
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have the same value.

DB\_FILES specifies the maximum number of database files that can be opened for this database. 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:**

- *Oracle9i Real Application Clusters Administration* for information on setting this parameter in an Oracle9i Real Application Clusters environment
- Your operating system-specific Oracle documentation for the default value of this parameter

## DB\_KEEP\_CACHE\_SIZE

<b>Parameter type</b>	Big integer
<b>Syntax</b>	DB_KEEP_CACHE_SIZE = <i>integer</i> [K   M   G]
<b>Default value</b>	0 (KEEP cache is not configured by default)
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Minimum: the granule size Maximum: operating system-dependent

DB\_KEEP\_CACHE\_SIZE specifies the size of the KEEP buffer pool. The size of the buffers in the KEEP buffer pool is the primary block size (the block size defined by the DB\_BLOCK\_SIZE parameter).

## DB\_NAME

<b>Parameter type</b>	String
<b>Syntax</b>	DB_NAME = <i>database_name</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Real Application Clusters</b>	You must set this parameter for every instance. Multiple instances must have the same value, or the same value must be specified in the STARTUP OPEN SQL*Plus statement or the ALTER DATABASE MOUNT SQL statement.

DB\_NAME specifies a database identifier of up to 8 characters. If specified, it must correspond to the name specified in the CREATE DATABASE statement. Although the use of DB\_NAME is optional, you should generally set it before issuing the CREATE DATABASE statement, and then reference it in that 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 should be the same in both the standby and production initialization parameter files.

If you do not specify this parameter, you must specify a database name in either the STARTUP command or the ALTER DATABASE . . . MOUNT statement for each instance of the cluster database.

The following characters are valid in a database name: alphanumeric characters, underscore (\_), number sign (#), and dollar sign (\$). No other characters are valid. 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:** *Oracle9i Database Administrator's Guide* and *Oracle9i Real Application Clusters Administration* for more information on setting this parameter

## DB\_RECYLE\_CACHE\_SIZE

<b>Parameter type</b>	Big integer
<b>Syntax</b>	DB_RECYLE_CACHE_SIZE = <i>integer</i> [K   M   G]
<b>Default value</b>	0 (RECYLE cache is not configured by default)
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Minimum: the granule size Maximum: operating system-dependent

DB\_RECYLE\_CACHE\_SIZE specifies the size of the RECYLE buffer pool. The size of the buffers in the RECYLE pool is the primary block size (the block size defined by the DB\_BLOCK\_SIZE parameter).

## DB\_WRITER\_PROCESSES

<b>Parameter type</b>	Integer
<b>Default value</b>	1
<b>Parameter class</b>	Static
<b>Range of values</b>	1 to 20

**DB\_WRITER\_PROCESSES** is useful for systems that modify data heavily. It specifies the initial number of database writer processes for an instance.

**See Also:**

- *Oracle9i Database Concepts* for more information on the database writer processes
- *Oracle9i Database Performance Tuning Guide and Reference* for information on setting the DBW $n$  parameters

## **DBLINK\_ENCRYPT\_LOGIN**

**Parameter type** Boolean

**Default value** false

**Parameter class** Static

**Range of values** true | false

When you attempt to connect to a database using a password, Oracle encrypts the password before sending it to the database. **DBLINK\_ENCRYPT\_LOGIN** specifies whether or not attempts to connect to other Oracle servers through database links should use encrypted passwords.

**Values:**

- TRUE  
When a connection fails Oracle does not reattempt the connection.
- FALSE  
When a connection fails Oracle reattempts the connection using an unencrypted version of the password.

## **DBWR\_IO\_SLAVES**

**Parameter type** Integer

**Default value** 0

**Parameter class**      Static

**Range of values**      0 to operating system-dependent

DBWR\_IO\_SLAVES is relevant only on systems with only one database writer process (DBW0). It specifies the number of I/O server processes used by the DBW0 process. 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"](#) on page 1-19

## DG\_BROKER\_CONFIG\_FILEn

**Parameter type**      String

**Syntax**      `DG_BROKER_CONFIG_FILE[1 | 2] = filename`

**Default value**      Operating system-dependent

**Parameter class**      Dynamic: ALTER SYSTEM

**Range of values**      One filename

`DG_BROKER_CONFIG_FILEn` (where  $n = 1, 2$ ) specifies the names for the Data Guard broker configuration files.

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 so as to always maintain the last known good state of the configuration.

If DG\_BROKER\_CONFIG\_FILE $n$  is not explicitly defined, then it is set to an operating system-specific default value at instance startup. The parameter can only be altered when the DMON (Data Guard broker) process is not running.

**See Also:** *Oracle9i Data Guard Broker* for more information about setting this parameter

## DG\_BROKER\_START

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	true   false

DG\_BROKER\_START enables Oracle to determine whether or not the DMON (Data Guard broker) process should be started. DMON is a non-fatal Oracle background process and exists as long as the instance exists, whenever this parameter is set to true.

If the site is never going to be configured in a Data Guard broker configuration, then you can leave the parameter unspecified and accept the default value of false. If the site is part of a Data Guard broker configuration, then automatic startup of the DRMON process is simplified by setting DG\_BROKER\_START to true in the initialization parameter file.

## DISK\_ASYNC\_IO

<b>Parameter type</b>	Boolean
<b>Default value</b>	true
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

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). If your platform supports asynchronous I/O to disk, Oracle Corporation 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_ASYNCH_IO` to `false`, then you should also set `DBWR_IO_SLAVES` to a value other than its default of zero in order to simulate asynchronous I/O.

**See Also:**

- ["DBWR\\_IO\\_SLAVES" on page 1-46](#)
- *Oracle9i Database Performance Tuning Guide and Reference* for more information on asynchronous I/O and on setting this parameter

## DISPATCHERS

<b>Parameter type</b>	String
<b>Syntax</b>	<pre>DISPATCHERS = 'dispatch_clause' <b>dispatch_clause::=</b>   (PROTOCOL = <i>protocol</i>)     (ADDRESS = <i>address</i>)     (DESCRIPTION = <i>description</i> )   [options_clause]</pre>

```
options_clause ::=  
    (DISPATCHERS = integer |  
     SESSIONS = integer |  
     CONNECTIONS = integer |  
     TICKS = seconds |  
     POOL = {1 | ON | YES | TRUE | BOTH |  
              ({IN | OUT} = ticks) | 0 | OFF | NO |  
              FALSE |  
              ticks} |  
     MULTIPLEX = {1 | ON | YES | TRUE |  
                  0 | OFF | NO | FALSE | BOTH | IN | OUT} |  
     LISTENER = tnsname |  
     SERVICE = service |  
     INDEX = integer)
```

**Default value** There is no default value.

**Parameter class** Dynamic: ALTER SYSTEM

DISPATCHERS configures dispatcher processes in the shared server architecture. 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)"
```

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 (PRO or PROT)  
The network protocol for which the dispatcher generates a listening endpoint.
- ADDRESS (ADD or ADDR)  
The network protocol address of the endpoint on which the dispatchers listen.
- DESCRIPTION (DES or DESC)

The network description of the endpoint on which the dispatchers listen, including the protocol address.

#### **options\_clause**

- DISPATCHERS (DIS or DISP)

The initial number of dispatchers to start. The default is 1.

- SESSIONS (SES or SESS)

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 (CON or CONN)

The maximum number of network connections to allow for each dispatcher. The default is operating system-specific.

- TICKS (TIC or TICK)

The length of a network tick in seconds. The default is 1 second.

- POOL (POO)

Enables Connection Pooling.

- An integer indicates that Connection Pooling is enabled for both incoming and outgoing network connections. The number specified is the timeout in ticks for both incoming and outgoing network connections.
- ON, YES, TRUE, and BOTH indicate that Connection Pooling is enabled for both incoming and outgoing network connections. A default timeout of 10 ticks is used for both incoming and outgoing network connections.
- IN indicates that Connection Pooling is enabled for incoming network connections and the default timeout of 10 ticks is used for incoming network connections.
- OUT indicates that Connection Pooling is enabled for outgoing network connections and the default timeout of 10 ticks is used for outgoing network connections.
- NO, OFF, and FALSE indicate that Connection Pooling is disabled for both incoming and outgoing network connections. This is the default.

POOL can also be assigned a name-value string such as: "(IN=10)", "(OUT=20)", or "(IN=10)(OUT=20)". In such cases:

- If an `IN` numeric value is specified, then Connection Pooling is enabled for incoming connections, and the number specified is the timeout in ticks for incoming network connections.
  - If an `OUT` numeric value is specified, then Connection Pooling is enabled for outgoing network connections, and the number specified is the timeout in ticks for outgoing network connections.
  - If the numeric value of a specified timeout is 0 or 1, then the default value of 10 ticks is used.
- **MULTIPLEX (MUL or MULT)**

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 (LIS, LIST)**

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"](#)" on page 1-73 and "["REMOTE\\_LISTENER"](#)" on page 1-138.
  - **SERVICE (SER, SERV)**

The service names the dispatchers register with the listeners.
  - **INDEX**

Use this parameter in an `ALTER SYSTEM SET DISPATCHERS` statement to indicate which dispatcher you want to modify. (If you specify `INDEX` in the initialization parameter file, Oracle 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 process) to one less than the total number of dispatchers you define.

For example, if you specify 3 dispatchers in the initialization parameter file, you would modify the third dispatcher by specifying INDEX=2 in the ALTER SYSTEM statement. You could also add an additional dispatcher in the ALTER SYSTEM statement by specifying INDEX=3.

**See Also:** *Oracle9i Net Services Administrator's Guide* for more information on setting this parameter

## DISTRIBUTED\_LOCK\_TIMEOUT

<b>Parameter type</b>	Integer
<b>Default value</b>	60
<b>Parameter class</b>	Static
<b>Range of values</b>	1 to unlimited

DISTRIBUTED\_LOCK\_TIMEOUT specifies the amount of time (in seconds) for distributed transactions to wait for locked resources.

**See Also:** *Oracle9i Database Concepts* and *Oracle9i Database Administrator's Guide* for more information on data concurrency

## DML\_LOCKS

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived: 4 * TRANSACTIONS
<b>Parameter class</b>	Static
<b>Range of values</b>	20 to unlimited; a setting of 0 disables enqueues
<b>Real Application Clusters</b>	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). DML\_LOCKS specifies the maximum number of DML locks—one for each table modified in a transaction. The 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 cannot use `DROP TABLE`, `CREATE INDEX`, or explicit lock statements such as `LOCK TABLE IN EXCLUSIVE MODE`.

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:**

- *Oracle9i Database Concepts* for a discussion of lock and enqueue resources needed for parallel DML
- *Oracle9i Real Application Clusters Administration, Oracle9i Database Concepts, and Oracle9i Database Administrator's Guide* for more information on data concurrency

## DRS\_START

---

<b>Parameter type</b>	Boolean
<b>Default value</b>	<code>false</code>
<b>Parameter class</b>	Dynamic: <code>ALTER SYSTEM</code>
<b>Range of values</b>	<code>true</code>   <code>false</code>

---

**Note:** This parameter is deprecated in favor of the `DG_BROKER_START` parameter. Oracle recommends that you use `DG_BROKER_START` instead. `DRS_START` is retained for backward compatibility only.

---

`DRS_START` enables Oracle to determine whether or not the DMON (Data Guard broker) process should be started. DMON is a non-fatal Oracle background process and exists as long as the instance exists, whenever this parameter is set to `true`.

If the site is never going to be configured in a Data Guard broker configuration, then you can leave the parameter unspecified and accept the default value of `false`. If the site is part of a Data Guard broker configuration, then automatic startup of the DRMON process is simplified by setting `DRS_START` to `true` in the initialization parameter file.

## ENQUEUE\_RESOURCES

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived from <code>SESSIONS</code> parameter
<b>Parameter class</b>	Static
<b>Range of values</b>	10 to unlimited

`ENQUEUE_RESOURCES` sets the number of resources that can be concurrently locked by the lock manager. An **enqueue** is a sophisticated locking mechanism that permits several concurrent processes to share known resources to varying degrees. Any object that can be used concurrently can be protected with enqueues. For example, Oracle allows varying levels of sharing on tables: two processes can lock a table in share mode or in share update mode.

One difference between enqueues and latches is that latches do not entail an ordered queue of waiting processes as do enqueues. Processes waiting for latches can either use timers to wake up and retry or (in multiprocessors) spin.

At database startup time, Oracle allocates the number of enqueues specified by the `ENQUEUE_RESOURCES` parameter. The default value of `ENQUEUE_RESOURCES` is derived from the `SESSIONS` parameter and is usually adequate, as long as its value is greater than `DML_LOCKS + 20`. For three or fewer sessions, the default value is the number of database files + 20. For 4 to 10 sessions, the default value is the number of database files +  $((SESSIONS - 3) * 5) + 20$ . For more than 10 sessions, it is the number of database files +  $((SESSIONS - 10) * 2) + 55$ .

If you explicitly set `ENQUEUE_RESOURCES` to a value higher than `DML_LOCKS + 20`, then Oracle uses the value you provide. Oracle will automatically allocate additional enqueues from the shared pool as needed if the number specified by `ENQUEUE_RESOURCES` is exceeded. You can check resource usage by querying `V$RESOURCE_LIMIT`.

**See Also:**

- *Oracle9i Real Application Clusters Administration*
- *Oracle9i Database Concepts*
- *Oracle9i Database Administrator's Guide*

## EVENT

<b>Parameter type</b>	String
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static

EVENT is a parameter used only to debug the system. Do not alter the value of this parameter except under the supervision of Oracle Support Services staff.

## FAL\_CLIENT

<b>Parameter type</b>	String
<b>Syntax</b>	<code>FAL_CLIENT = string</code>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

FAL\_CLIENT specifies the FAL (fetch archive log) client name that is used by the FAL service, configured through the FAL\_SERVER parameter, to refer to the FAL client. 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).

Given the dependency of FAL\_CLIENT on FAL\_SERVER, the two parameters should be configured or changed at the same time.

**See Also:** *Oracle9i Data Guard Concepts and Administration* for more information about FAL server

## FAL\_SERVER

<b>Parameter type</b>	String
<b>Syntax</b>	<code>FAL_SERVER = string</code>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

`FAL_SERVER` specifies the FAL (fetch archive log) server for a standby database. 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:** *Oracle9i Data Guard Concepts and Administration* for more information about FAL server

## FAST\_START\_IO\_TARGET

<b>Parameter type</b>	Integer
<b>Default value</b>	All the buffers in the cache
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	1000 to all buffers in the cache. A setting of 0 disables limiting recovery I/Os.
<b>Real Application Clusters</b>	Multiple instances can have different values, and you can change the values at runtime.

---

**Note:** This parameter is deprecated in favor of the `FAST_START_MTTR_TARGET` parameter. Oracle recommends that you use `FAST_START_MTTR_TARGET` instead. `FAST_START_IO_TARGET` is retained for backward compatibility only.

---

`FAST_START_IO_TARGET` (available only with the Oracle Enterprise Edition) specifies the number of I/Os that should be needed during crash or instance recovery.

When you set this parameter, DBW<sub>n</sub> writes dirty buffers out more aggressively, so that the number of blocks that must be processed during recovery stays below the value specified in the parameter. However, this parameter does not impose a hard

limit on the number of recovery I/Os. Under transient workload situations, the number of I/Os needed during recovery may be greater than the value specified in this parameter. In such situations, DBW<sub>n</sub> will not slow down database activity.

Smaller values for this parameter result in faster recovery times. This improvement in recovery performance is achieved at the expense of additional writing activity during normal processing.

Setting this parameter to 0 disables fast-start checkpointing, which is the mechanism that limits the number of I/Os that need to be performed during recovery. All other writing activity is unaffected.

---

**Notes:** Recovery I/O can also be limited by setting the LOG\_CHECKPOINT\_INTERVAL or 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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- [V\\$INSTANCE\\_RECOVERY](#) on page 3-70 for information on fast-start checkpointing

## FAST\_START\_MTTR\_TARGET

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0 to 3600 seconds
<b>Real Application Clusters</b>	Multiple instances can have different values, and you can change the values at runtime.

FAST\_START\_MTTR\_TARGET enables you to specify the number of seconds the database takes to perform crash recovery of a single instance. When specified, FAST\_START\_MTTR\_TARGET

- Is overridden by FAST\_START\_IO\_TARGET
- Is overridden by LOG\_CHECKPOINT\_INTERVAL

## FAST\_START\_PARALLEL\_ROLLBACK

<b>Parameter type</b>	String
<b>Syntax</b>	FAST_START_PARALLEL_ROLLBACK = { HI   LO   FALSE }
<b>Default value</b>	LOW
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

FAST\_START\_PARALLEL\_ROLLBACK determines the maximum number of processes that can exist for performing parallel rollback. This parameter is useful on systems in which some or all of the transactions are long running.

### Values:

- FALSE indicates that parallel rollback is disabled
- LOW limits the number of rollback processes to  $2 * \text{CPU\_COUNT}$
- HIGH limits the number of rollback processes to  $4 * \text{CPU\_COUNT}$

## FILE\_MAPPING

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	true   false

FILE\_MAPPING enables or disables file mapping. The FMON background process will be started to manage the mapping information when file mapping is enabled.

## FILESYSTEMIO\_OPTIONS

<b>Parameter type</b>	String
<b>Syntax</b>	FILESYSTEMIO_OPTIONS = {none   setall   directIO   asynch}
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM

FILESYSTEMIO\_OPTIONS specifies I/O operations for file system files.

## FIXED\_DATE

<b>Parameter type</b>	String
<b>Syntax</b>	FIXED_DATE = YYYY-MM-DD-HH24:MI:SS (or the default Oracle date format)
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

FIXED\_DATE enables you to set a constant date that SYSDATE will always return instead of the current date. 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.

Specify the value either without quotation marks or with double quotation marks.

---

**Note:** Do not use single quotation marks.

---

## GC\_FILES\_TO\_LOCKS

<b>Parameter type</b>	String
-----------------------	--------

---

<b>Syntax</b>	GC_FILES_TO_LOCKS = '{file_list=lock_count[!blocks][EACH][:...]}'
	Spaces are not allowed within the quotation marks.
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have identical values. To change the value, you must shut down all instances in the cluster, change the value for each instance, and then start up each instance.

---

**Note:** Setting this parameter to any value other than the default will disable Cache Fusion processing in Oracle9i Real Application Clusters.

---

GC\_FILES\_TO\_LOCKS is an Oracle9i Real Application Clusters parameter that has no effect on an instance running in exclusive mode. It controls the mapping of pre-release 9.0.1 parallel cache management (PCM) locks to datafiles.

**Values:**

- *file\_list*

One or more datafiles listed by their file numbers, or ranges of file numbers, with comma separators:

filenumber[-filenumber][,filenumber[-filenumber]]...

To find the correspondence between filenames and file numbers, query the FILE\_NAME and FILE\_ID columns of the DBA\_DATA\_FILES data dictionary view.

- *lock\_count*

The number of PCM locks assigned to *file\_list*. By default these locks are fixed. If you set *lock\_count* to 0, then Oracle uses fine-grain locking for these files and takes locks as needed from the pool of releasable locks.

- *blocks*

Specifies the number of contiguous blocks covered by one lock. The default is noncontiguous blocks.

## GLOBAL\_CONTEXT\_POOL\_SIZE

---

- EACH

Indicates that each datafile in *file\_list* is assigned a separate set of *lock\_count* PCM locks.

The value of the parameter should be set to cover as many files as possible. Therefore, to avoid performance problems, you should always change GC\_FILES\_TO\_LOCKS when the size of datafiles change or when new datafiles are added. Doing so requires you to shut down and restart your cluster database.

If the number of PCM locks allocated to a datafile is less than or equal to the number of blocks in a datafile, each of these locks will cover a number of contiguous blocks within the datafile equal to *blocks*. If the number of PCM locks assigned to the datafile is larger than its number of blocks, resources will be wasted because some locks will not be covering any blocks.

A colon (:) separates each clause that assigns a number of PCM locks to *file\_list*.

**See Also:** *Oracle9i Real Application Clusters Concepts* and *Oracle9i Real Application Clusters Deployment and Performance* for more information on setting this parameter

## **GLOBAL\_CONTEXT\_POOL\_SIZE**

**Parameter type** String

**Default value** 1 MB

**Parameter class** Static

**Range of values** Any integer value in MB

GLOBAL\_CONTEXT\_POOL\_SIZE specifies the amount of memory to allocate in the SGA for storing and managing global application context.

## **GLOBAL\_NAMES**

**Parameter type** Boolean

**Default value** false

<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	true   false

GLOBAL\_NAMES specifies whether a database link is required to have the same name as the database to which it connects.

If the value of GLOBAL\_NAMES is `false`, then no check is performed. If you use or plan to use distributed processing, then Oracle Corporation 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:** *Oracle9i Database Administrator's Guide* for more information on setting this parameter

## HASH\_AREA\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived: $2 * \text{SORT\_AREA\_SIZE}$
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	0 to operating system-dependent

---

**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. It specifies the maximum amount of memory, in bytes, to be used for hash joins.

**See Also:**

- *Oracle9i Database Concepts* for information on hash joins in general
- *Oracle9i Database Performance Tuning Guide and Reference* for information on calculating an appropriate value for this parameter

## HASH\_JOIN\_ENABLED

<b>Parameter type</b>	Boolean
<b>Default value</b>	true
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	true   false

HASH\_JOIN\_ENABLED specifies whether the optimizer should consider using a hash join as a join method. If set to `false`, then hashing is not available as a join method. If set to `true`, then the optimizer compares the cost of a hash join with other types of joins, and chooses hashing if it gives the best cost. Oracle Corporation recommends that you set this parameter to `true` for all data warehousing applications.

## HI\_SHARED\_MEMORY\_ADDRESS

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Static

HI\_SHARED\_MEMORY\_ADDRESS specifies the starting address at runtime of the system global area (SGA). It 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](#)" on page 1-149). If both parameters are 0 or unspecified, the SGA address defaults to a platform-specific location.

## HS\_AUTOREGISTER

<b>Parameter type</b>	Boolean
-----------------------	---------

---

<b>Default value</b>	true
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	true   false

HS\_AUTOREGISTER enables or disables automatic self-registration of Heterogeneous Services (HS) agents. When enabled, information is uploaded into the server's data dictionary to describe a previously unknown agent class or a new agent version.

Oracle Corporation 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:** *Oracle9i Heterogeneous Connectivity Administrator's Guide*  
for more information on HS agents

## IFILE

<b>Parameter type</b>	Parameter file
<b>Syntax</b>	IFILE = <i>parameter_file_name</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	Valid parameter filenames
<b>Real Application Clusters</b>	Multiple instances can have different values.

Use IFILE to embed another parameter file within the current parameter file. 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.

---

## INSTANCE\_GROUPS

<b>Parameter type</b>	String
<b>Syntax</b>	<code>INSTANCE_GROUPS = group_name [ , group_name ... ]</code>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	One or more instance group names, separated by commas
<b>Real Application Clusters</b>	Multiple instances can have different values.

`INSTANCE_GROUPS` is an Oracle9*i* Real Application Clusters parameter that you can specify only in parallel mode. Used in conjunction with the `PARALLEL_INSTANCE_GROUP` parameter, it lets you restrict parallel query operations to a limited number of instances.

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:**

- *Oracle9*i* Real Application Clusters Administration* for more information on parallel query execution in an Oracle9*i* Real Application Clusters environment
- "["PARALLEL\\_INSTANCE\\_GROUP"](#) on page 1-122

## INSTANCE\_NAME

<b>Parameter type</b>	String
<b>Syntax</b>	<code>INSTANCE_NAME = instance_id</code>
<b>Default value</b>	The instance's SID
	<b>Note:</b> The SID identifies the instance's shared memory on a host, but may not uniquely distinguish this instance from other instances.
<b>Parameter class</b>	Static
<b>Range of values</b>	Any alphanumeric characters

In an Oracle9*i* 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.

In a single-instance database system, the instance name is usually the same as the database name.

**See Also:** *Oracle9*i* Real Application Clusters Administration* and *Oracle9*i* Net Services Administrator's Guide* for more information

## INSTANCE\_NUMBER

<b>Parameter type</b>	Integer
<b>Default value</b>	Lowest available number; derived from instance start up order and <code>INSTANCE_NUMBER</code> value of other instances. If not configured for Oracle9 <i>i</i> Real Application Clusters, then 0.
<b>Parameter class</b>	Static
<b>Range of values</b>	1 to maximum number of instances specified when the database was created
<b>Real Application Clusters</b>	You must set this parameter for every instance, and all instances must have different values.

`INSTANCE_NUMBER` is an Oracle9*i* Real Application Clusters parameter that can be specified in parallel mode or exclusive mode. It specifies a unique number that maps the instance to one free list group for each database object created with storage parameter `FREELIST GROUPS`.

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:** *Oracle9*i* Real Application Clusters Administration* for more information

## **JAVA\_MAX\_SESSIONSPACE\_SIZE**

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 4 GB

Java session space is the memory that holds Java state from one database call to another. `JAVA_MAX_SESSIONSPACE_SIZE` specifies (in bytes) the maximum amount of session space made available to a Java program executing in the server. When a user's session-duration Java state attempts to exceed this amount, the Java virtual machine kills the session with an out-of-memory failure.

**See Also:**

- *Oracle9*i* Java Developer's Guide*
- "[JAVA\\_SOFT\\_SESSIONSPACE\\_LIMIT](#)" on page 1-69

## **JAVA\_POOL\_SIZE**

<b>Parameter type</b>	Big integer
<b>Syntax</b>	<code>LARGE_POOL_SIZE = integer [K   M   G]</code>

<b>Default value</b>	24 MB, rounded up to the nearest granule size
<b>Parameter class</b>	Static
<b>Range of values</b>	Minimum: the granule size Maximum: operating system-dependent

JAVA\_POOL\_SIZE specifies the size (in bytes) of the Java pool, from which the Java memory manager allocates most Java state during runtime 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.

**See Also:** *Oracle9i Java Developer's Guide* for information on adjusting this parameter

## JAVA\_SOFT\_SESSIONSPACE\_LIMIT

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 4 GB

Java session space is the memory that holds Java state from one database call to another. 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. When a user's session-duration Java state exceeds this size, Oracle generates a warning that goes into the trace files.

**See Also:**

- *Oracle9i Java Developer's Guide* for more information on this parameter
- "[JAVA\\_MAX\\_SESSIONSPACE\\_SIZE](#)" on page 1-68

## JOB\_QUEUE\_PROCESSES

<b>Parameter type</b>	Integer
<b>Default value</b>	0

<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0 to 1000
<b>Real Application Clusters</b>	Multiple instances can have different values.

JOB\_QUEUE\_PROCESSES specifies the maximum number of processes that can be created for the execution of jobs. It specifies the number of job queue processes per instance (J000, ... J999). Replication uses job queues for data refreshes. Advanced queuing uses job queues for message propagation. You can create user job requests through the DBMS\_JOB package.

Some job queue requests are created automatically. An example is refresh support for materialized views. If you wish to have your materialized views updated automatically, you must set JOB\_QUEUE\_PROCESSES to a value of one or higher.

**See Also:**

- *Oracle9i Replication and Oracle9i Data Warehousing Guide* for more information on managing materialized views
- *Oracle9i Application Developer's Guide - Advanced Queuing* for more information on message propagation

## LARGE\_POOL\_SIZE

<b>Parameter type</b>	Big integer
<b>Syntax</b>	LARGE_POOL_SIZE = <i>integer</i> [K   M   G]
<b>Default value</b>	0 if both of the following are true: <ul style="list-style-type: none"><li>▪ The pool is not required by parallel execution</li><li>▪ DBWR_IO_SLAVES is not set</li></ul> Otherwise, derived from the values of PARALLEL_MAX_SERVERS, PARALLEL_THREADS_PER_CPU, CLUSTER_DATABASE_INSTANCES, DISPATCHERS, and DBWR_IO_SLAVES.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	300 KB to at least 2 GB (actual maximum is operating system-specific)

LARGE\_POOL\_SIZE lets you specify the size (in bytes) of the large pool allocation heap. 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 PARALLEL\_AUTOMATIC\_TUNING is set to true.)

---

**Caution:** When Oracle derives a default value, it adds 250K for each session for the shared server if DISPATCHERS is configured. The final derived value also includes a port-specific amount of memory for backup I/O buffers. The total derived default value can either be too large to allocate or can cause performance problems. In that case, set LARGE\_POOL\_SIZE to a number sufficiently small so that the database can start.

---

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:** *Oracle9i Database Performance Tuning Guide and Reference* and *Oracle9i Database Migration* for more information on setting this parameter

## LICENSE\_MAX\_SESSIONS

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0 to number of session licenses
<b>Real Application Clusters</b>	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.

LICENSE\_MAX\_SESSIONS specifies the maximum number of concurrent user sessions allowed. When this limit 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](#)" on page 1-72).

Do not enable both concurrent usage licensing and user licensing. Set either `LICENSE_MAX_SESSIONS` or `LICENSE_MAX_USERS` to zero.

**See Also:** *Oracle9i Database Administrator's Guide* for more information on setting this parameter

## LICENSE\_MAX\_USERS

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0 to number of user licenses
<b>Real Application Clusters</b>	Multiple instances should have the same values. If different instances specify different values for this parameter, then the value of the first instance to mount the database takes precedence.

`LICENSE_MAX_USERS` specifies the maximum number of users you can create in the database. When you reach this limit, you cannot create more users. You can, however, increase the limit.

Do not enable both concurrent usage (session) licensing and user licensing. Set either `LICENSE_MAX_SESSIONS` or `LICENSE_MAX_USERS` to zero.

**See Also:** *Oracle9i Database Administrator's Guide* for more information on setting this parameter

## LICENSE\_SESSIONS\_WARNING

<b>Parameter type</b>	Integer
<b>Default value</b>	0

<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0 to value of LICENSE_MAX_SESSIONS parameter
<b>Real Application Clusters</b>	Multiple instances can have different values.

LICENSE\_SESSIONS\_WARNING specifies a warning limit on the number of concurrent user sessions. When this limit is reached, additional users can connect, but Oracle writes a message in the alert file 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](#)" on page 1-71).

**See Also:**

- *Oracle9i Database Administrator's Guide* for more information on setting this parameter
- *Oracle9i Real Application Clusters Administration* for more information on calculating an appropriate value for this parameter

## LOCAL\_LISTENER

<b>Parameter type</b>	String
<b>Syntax</b>	LOCAL_LISTENER = <i>network_name</i>
<b>Default value</b>	(ADDRESS = (PROTOCOL=TCP)(HOST=)(PORT=1521))
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

LOCAL\_LISTENER specifies a network name that resolves to an address or address list of Oracle Net local listeners (that is, listeners that are running on the same machine as this instance). The address or address list is specified in the TNSNAMES.ORA file or other address repository as configured for your system.

**See Also:**

- *Oracle9i Database Concepts* for more information about instances, listener processes, and dispatcher processes
- *Oracle9i 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

## LOCK\_NAME\_SPACE

<b>Parameter type</b>	String
<b>Syntax</b>	<code>LOCK_NAME_SPACE = namespace</code>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	Up to 8 alphanumeric characters. No special characters allowed.

`LOCK_NAME_SPACE` specifies the namespace that the distributed lock manager (DLM) uses to generate lock names. 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, set `LOCK_NAME_SPACE` in the standby initialization parameter file to a distinct value such as the following:

```
LOCK_NAME_SPACE = standby
```

## LOCK\_SGA

<b>Parameter type</b>	Boolean
<b>Default value</b>	<code>false</code>
<b>Parameter class</b>	Static
<b>Range of values</b>	<code>true</code>   <code>false</code>

`LOCK_SGA` locks the entire SGA into physical memory. 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.

## LOG\_ARCHIVE\_DEST

<b>Parameter type</b>	String
<b>Syntax</b>	<code>LOG_ARCHIVE_DEST = filespec</code>
<b>Default value</b>	Null
<b>Parameter class</b>	Dynamic: <code>ALTER SYSTEM</code>
<b>Range of values</b>	Any valid path or device name, except raw partitions
<b>Real Application Clusters</b>	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:**

- *Oracle9i User-Managed Backup and Recovery Guide*
- "[LOG\\_ARCHIVE\\_DUPLEX\\_DEST](#)" on page 1-79, "[LOG\\_ARCHIVE\\_MIN\\_SUCCEED\\_DEST](#)" on page 1-82, and "[VSARCHIVE\\_DEST](#)" on page 3-5 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 filename using `LOG_ARCHIVE_DEST`

## **LOG\_ARCHIVE\_DEST\_n**

**Parameter type**      String

**Syntax**

```
LOG_ARCHIVE_DEST_[1 | 2 | 3 | 4 | 5 | 6 | 7 |
8 | 9 | 10] =
{ null_string } |
{ LOCATION=path_name | SERVICE=service_name }
[ { MANDATORY | OPTIONAL } ]
[ REOPEN[=seconds] | NOREOPEN ]
[ DELAY[=minutes] | NODELAY ]
[ REGISTER[=template] | NOREGISTER ]
[ TEMPLATE=template ] | NOTEMPLATE ]
[ ALTERNATE=destination | NOALTERNATE ]
[ DEPENDENCY=destination | NODEPENDENCY ]
[ MAX_FAILURE=count | NOMAX_FAILURE ]
[ QUOTA_SIZE=blocks | NOQUOTA_SIZE ]
[ QUOTA_USED=blocks | NOQUOTA_USED ]
[ ARCH | LGWR ]
[ SYNC[=PARALLEL|NOPARALLEL] | ASYNC[=blocks] ]
[ AFFIRM | NOAFFIRM ]
[ NET_TIMEOUT=seconds | NONET_TIMEOUT ]
}
```

**Default value**

There is no default value.

**Parameter class**

Dynamic: ALTER SESSION, ALTER SYSTEM

---

**Note:** This parameter is valid only if you have installed Oracle Enterprise Edition. You may continue to use LOG\_ARCHIVE\_DEST if you have installed Oracle Enterprise Edition. However, you cannot use both LOG\_ARCHIVE\_DEST\_n and LOG\_ARCHIVE\_DEST, as they are not compatible.

---

The LOG\_ARCHIVE\_DEST\_n parameters (where n = 1, 2, 3, ... 10) define up to ten archive log destinations. The parameter integer suffix is defined as the **handle** displayed by the V\$ARCHIVE\_DEST dynamic performance view.

**Values:**

- SERVICE

Specifies a standby destination. Oracle Net (IPC or TCP) transmits the archivelog. A standby instance must be associated with the destination. The value represented by *tnsnames\_service* corresponds to an appropriate service name in *tnsnames.ora*.

- **LOCATION**  
Specifies a local file system destination. You must specify this parameter for at least one destination.
- **MANDATORY**  
Specifies that archiving to the destination must succeed before the redo log file can be made available for reuse.
- **OPTIONAL**  
Specifies that successful archiving to the destination is not required before the redo log file can be made available for reuse. If the "must succeed count," set with `LOG_ARCHIVE_MIN_SUCCEED_DEST`, is met, the redo logfile is marked for reuse. This is the default.
- **REOPEN**  
Specifies the minimum number of seconds before the archiver process (AR $C_n$ , foreground, or log writer process) should try again to access a previously failed destination. Future attempts are made when the next redo log file is archived. If a destination is **MANDATORY**, Oracle Corporation recommends that you specify a **REOPEN** time that reduces the possibility of primary database shutdown due to lack of available online redo log files.

If you do not specify *seconds*, the default value is 300 seconds.

**See Also:** *Oracle9i User-Managed Backup and Recovery Guide* and *Oracle9i Database Administrator's Guide* for more information and examples

## **LOG\_ARCHIVE\_DEST\_STATE\_n**

<b>Parameter type</b>	String
<b>Syntax</b>	<code>LOG_ARCHIVE_DEST_STATE_n = {alternate   reset   defer   enable}</code>
<b>Default value</b>	<code>enable</code>
<b>Parameter class</b>	Dynamic: <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>

The `LOG_ARCHIVE_DEST_STATE_n` parameters (where  $n = 1, 2, 3, \dots, 10$ ) specify the availability state of the corresponding destination. The parameter suffix (1

through 10) specifies one of the ten corresponding LOG\_ARCHIVE\_DEST\_n destination parameters.

**Values:**

- enabled

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 re-enabled.

- alternate

Specifies that a log archive destination is not enabled but will become enabled if communications to another destination fail.

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:**

- *Oracle9i User-Managed Backup and Recovery Guide* and *Oracle9i Database Administrator's Guide* for more information and examples
- "[VSARCHIVE\\_DEST](#)" on page 3-5

## LOG\_ARCHIVE\_DUPLEX\_DEST

<b>Parameter type</b>	String
<b>Syntax</b>	LOG_ARCHIVE_DUPLEX_DEST = <i>filespec</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Either a null string or any valid path or device name, except raw partitions

---

**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.

---

`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_SUCCCEED_DEST` parameter).

The default setting of a null string ("") or (' ') indicates that a duplex archive destination does not exist.

**See Also:**

- "LOG\_ARCHIVE\_DEST\_n" on page 1-76
- "LOG\_ARCHIVE\_MIN\_SUCCCEED\_DEST" on page 1-82
- "V\$ARCHIVE\_DEST" on page 3-5

## LOG\_ARCHIVE\_FORMAT

<b>Parameter type</b>	String
<b>Syntax</b>	<code>LOG_ARCHIVE_FORMAT = filename</code>
<b>Default value</b>	Operating system-dependent
<b>Parameter class</b>	Static
<b>Range of values</b>	Any string that resolves to a valid filename
<b>Real Application Clusters</b>	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

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%s_%t.ARC"
```

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:**

- *Oracle9i User-Managed Backup and Recovery Guide* and *Oracle9i Real Application Clusters Administration* for more information on setting this parameter
- Your operating system- specific Oracle documentation for the default value and range of values for LOG\_ARCHIVE\_FORMAT

## LOG\_ARCHIVE\_MAX\_PROCESSES

<b>Parameter type</b>	Integer
<b>Default value</b>	1
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any integer from 1 to 10

LOG\_ARCHIVE\_MAX\_PROCESSES specifies the number of archiver background processes (ARC0 through ARC9) Oracle initially invokes.

- If the LOG\_ARCHIVE\_START initialization parameter has the value true, then this value is evaluated at instance startup.
- Otherwise, this parameter is evaluated when the archiver process is first invoked by SQL\*Plus or SQL syntax.

The actual number of archiver processes in use may vary subsequently based on archive workload.

**See Also:** *Oracle9i Database Concepts*

## `LOG_ARCHIVE_MIN_SUCCEED_DEST`

<b>Parameter type</b>	Integer
<b>Default value</b>	1
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	1 to 10 if you are using <code>LOG_ARCHIVE_DEST_n</code> 1 or 2 if you are using <code>LOG_ARCHIVE_DEST</code> and <code>LOG_ARCHIVE_DUPLEX_DEST</code>

`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.

- If you are using the `LOG_ARCHIVE_DEST_n` parameters and automatic archiving is enabled, the value of this parameter cannot exceed either of the following:
  - The total number of destinations
  - The number of enabled, valid destinations specified as MANDATORY plus the number of enabled, valid non-standby destinations specified as OPTIONAL
- 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, some of the enabled, valid OPTIONAL non-standby destinations are treated as MANDATORY.

You cannot set a value for this parameter dynamically if `LOG_ARCHIVE_DEST` or `LOG_ARCHIVE_DUPLEX_DEST` are in use. However, you can switch dynamically from one system to the other 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:**

- *Oracle9i Database Administrator's Guide* for more information on setting this parameter
- "[LOG\\_ARCHIVE\\_DEST\\_n](#)" on page 1-76, "[LOG\\_ARCHIVE\\_DUPLEX\\_DEST](#)" on page 1-79, and "[VSARCHIVE\\_DEST](#)" on page 3-5 for information on related parameters

## LOG\_ARCHIVE\_START

**Parameter type** Boolean

**Default value** false

**Parameter class** Static

**Range of values** true | false

**Real Application Clusters** Multiple instances can have different values.

LOG\_ARCHIVE\_START is applicable only when you use the redo log in ARCHIVELOG mode. It indicates whether archiving should be automatic or manual when the instance starts up.

**Values:**

- true  
Indicates that archiving is automatic
- false  
Indicates that the database administrator will archive filled redo log files manually

The SQL\*Plus statements ARCHIVE LOG START or ARCHIVE LOG STOP override this parameter.

In ARCHIVELOG mode, if all online redo log files fill without being archived, Oracle issues an error and suspends instance operations until the necessary archiving is performed. This delay is more likely if you use manual archiving. You can reduce its likelihood by increasing the number of online redo log files.

To use ARCHIVELOG mode while creating a database, set this parameter to `true`. Normally, a database is created in NOARCHIVELOG mode and then altered to ARCHIVELOG mode after creation.

**See Also:** *Oracle9i Database Administrator's Guide* and *Oracle9i Real Application Clusters Administration*

## LOG\_ARCHIVE\_TRACE

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0, 1, 2, 4, 8, 16, 32, 64, 128
<b>Real Application Clusters</b>	Multiple instances can have different values.

`LOG_ARCHIVE_TRACE` controls output generated by the archivelog process.

This process can be initiated by any of the following:

- An `ARCn` background process (designated as `ARCn` in the output logs)
- An explicit session-invoked foreground process (designated as `ARCH` in the output logs)

The valid values have the following meanings:

- 0: Disable archivelog tracing (this is the default)
- 1: Track archival of redo log file
- 2: Track archival status of each archivelog destination
- 4: Track archival operational phase
- 8: Track archivelog destination activity
- 16: Track detailed archivelog destination activity

- 32: Track archivelog destination parameter modifications
- 64: Track ARCn process state activity
- 128: Track FAL (fetch archived log) server related activities

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 changes will take effect at the start of the next archivelog operation.

**See Also:** *Oracle9i User-Managed Backup and Recovery Guide*

## LOG\_BUFFER

<b>Parameter type</b>	Integer
<b>Default value</b>	512 KB or 128 KB * CPU_COUNT, whichever is greater
<b>Parameter class</b>	Static
<b>Range of values</b>	Operating system-dependent

`LOG_BUFFER` specifies the amount of memory (in bytes) that Oracle uses when buffering redo entries to a redo log file. 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.

In general, larger values for `LOG_BUFFER` reduce redo log file I/O, particularly if transactions are long or numerous. In a busy system, a value 65536 or higher is reasonable.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- Your operating system-specific Oracle documentation for the default value and range of values

## LOG\_CHECKPOINT\_INTERVAL

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Unlimited
<b>Real Application Clusters</b>	Multiple instances can have different values.

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.

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.

---

### Notes:

- 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 FAST\_START\_IO\_TARGET or 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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- "[FAST\\_START\\_IO\\_TARGET](#)" on page 1-57, "[LOG\\_CHECKPOINT\\_TIMEOUT](#)" on page 1-87, and "[V\\$INSTANCE\\_RECOVERY](#)" on page 3-70

## LOG\_CHECKPOINT\_TIMEOUT

<b>Parameter type</b>	Integer
<b>Default value</b>	1800
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	0 to unlimited
<b>Real Application Clusters</b>	Multiple instances can have different values.

`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.

Specifying a value of 0 for the timeout disables time-based checkpoints. Hence, setting the value to 0 is not recommended.

---

**Notes:**

- 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 `FAST_START_IO_TARGET` or `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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- "[FAST\\_START\\_IO\\_TARGET](#)" on page 1-57, "[LOG\\_CHECKPOINT\\_TIMEOUT](#)" on page 1-87, and "[V\\$INSTANCE\\_RECOVERY](#)" on page 3-70

## **LOG\_CHECKPOINTS\_TO\_ALERT**

**Parameter type** Boolean

**Default value** false

**Parameter class** Dynamic: ALTER SYSTEM

**Range of values** true | false

`LOG_CHECKPOINTS_TO_ALERT` lets you log your checkpoints to the alert file. Doing so is useful for determining whether checkpoints are occurring at the desired frequency.

## **LOG\_FILE\_NAME\_CONVERT**

**Parameter type** String

**Syntax**

```
LOG_FILE_NAME_CONVERT = [ ( 'string1' ,  
    'string2' , 'string3' , 'string4' , ... ) ]
```

Where:

- `string1` is the pattern of the primary database filename
- `string2` is the pattern of the standby database filename
- `string3` is the pattern of the primary database filename
- `string4` is the pattern of the standby database filename

You can use as many pairs of primary and standby replacement strings as required. You can use single or double quotation marks. The parentheses are optional.

Following are example settings that are acceptable:

```
LOG_FILE_NAME_CONVERT=( '/dbs/t1/' , '/dbs/t1/s_'  
    , 'dbs/t2/' , 'dbs/t2/s_')
```

**Default value**

None

**Parameter class**

Static

**Range of values**

Character strings

`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. If you add a log file to the primary database, you must add a corresponding file to the standby database.

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).

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.

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.

You should also use `LOG_FILE_NAME_CONVERT` to rename the logfiles in the clone controlfile when setting up the clone database during tablespace point-in-time recovery.

**See Also:** *Oracle9i User-Managed Backup and Recovery Guide* and *Oracle9i Data Guard Concepts and Administration*

## LOG\_PARALLELISM

<b>Parameter type</b>	Integer
<b>Default value</b>	1
<b>Parameter class</b>	Static
<b>Range of values</b>	1 to 255

`LOG_PARALLELISM` specifies the level of concurrency for redo allocation within Oracle.

If you are using Oracle on high-end servers that have more than 16 processors, and you are experiencing very high contention on the redo allocation latch, then you should consider enabling parallel redo. This allows the parallel generation of redo and can increase the throughput of certain update-intensive workloads. You can examine the `V$LATCH` view to observe the cumulative wait times on the redo allocation latch.

To enable parallel redo, set the `LOG_PARALLELISM` parameter in the initialization parameter file to the desired level of concurrency for redo allocation. Oracle Corporation recommends setting `LOG_PARALLELISM` to a value between 2 and 8 when running on systems with 16 to 64 processors. You can start with a low value (such as 2) and increment it by 1 until you determine that the redo allocation latch is no longer contended, and that the parameter improves the performance of the application.

Setting `LOG_PARALLELISM` to values greater than 8 is not currently recommended.

## LOGMNR\_MAX\_PERSISTENT\_SESSIONS

<b>Parameter type</b>	Integer
<b>Default value</b>	1

<b>Parameter class</b>	Static
<b>Range of values</b>	1 to LICENSE_MAX_SESSIONS

LOGMNR\_MAX\_PERSISTENT\_SESSIONS enables you to specify the maximum number of persistent LogMiner mining sessions (which are LogMiner sessions that are backed up on disk) that are concurrently active when all sessions are mining redo logs generated by standalone instances. This pre-allocates  $2 \times \text{LOGMNR\_MAX\_PERSISTENT\_SESSIONS}$  MB of contiguous memory in the SGA for use by LogMiner.

LogMiner requires 2 MB of contiguous memory for mining the redo log stream generated by a non-cluster database instance. To mine redo logs generated by an  $n$ -instance cluster database system, 2 MB of contiguous memory is required for each redo thread (or, a total of  $2 \times n$ ). Because persistent LogMiner sessions stage all data in the SGA, read buffers must be allocated in the SGA. The required contiguous memory is allocated at instance startup.

LOGMNR\_MAX\_PERSISTENT\_SESSIONS is normalized for redo logs generated by non-cluster database instances. If you wish to mine a redo log stream generated by a 3-node cluster database instance, you should set this parameter to 3 (because one persistent session mining redo log generated in a 3-node cluster database instance is equivalent to 3 persistent sessions, each with mining redo logs generated by a non-cluster database instance). The memory remains exclusively allocated for LogMiner persistent sessions. This parameter does not affect transient LogMiner sessions that are not backed up on disk and are staged entirely in the Process Global Area (PGA).

**See Also:** *Oracle9i Supplied PL/SQL Packages and Types Reference* for information on the DBMS\_LOGMNR\_SESSION package

## MAX\_COMMIT\_PROPAGATION\_DELAY

<b>Parameter type</b>	Integer
<b>Default value</b>	700
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 90000
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have identical values.

---

**Caution:** Change this parameter only when it is absolutely necessary to see the most current version of the database when performing a query.

---

MAX\_COMMIT\_PROPAGATION\_DELAY is an Oracle9i Real Application Clusters parameter. This initialization parameter should not be changed except under a limited set of circumstances specific to the cluster database.

This parameter specifies the maximum amount of time allowed before the system change number (SCN) held in the SGA of an instance is refreshed by the log writer process (LGWR). It determines whether the local SCN should be refreshed from the lock value when getting the snapshot SCN for a query. Units are in hundredths of seconds.

Under very unusual circumstances involving rapid updates and queries of the same data from different instances, the SCN might not be refreshed in a timely manner. Setting the parameter to zero causes the SCN to be refreshed immediately after a commit. The default value (700 hundredths of a second, or seven seconds) is an upper bound that allows the preferred existing high performance mechanism to remain in place.

**See Also:** *Oracle9i Real Application Clusters Administration* for more information on setting this parameter

## MAX\_DISPATCHERS

<b>Parameter type</b>	Integer
<b>Default value</b>	5
<b>Parameter class</b>	Static
<b>Range of values</b>	5 or the number of dispatchers configured, whichever is greater

MAX\_DISPATCHERS specifies the maximum number of dispatcher processes allowed to be running simultaneously. The default value applies only if dispatchers have been configured for the system.

The value of MAX\_DISPATCHERS should at least equal the maximum number of concurrent sessions divided by the number of connections for each dispatcher. For

most systems, a value of 250 connections for each dispatcher provides good performance.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- Your operating system-specific Oracle documentation for the default value and range of values

## MAX\_DUMP\_FILE\_SIZE

<b>Parameter type</b>	String
<b>Syntax</b>	MAX_DUMP_FILE_SIZE = {integer [K   M]   UNLIMITED}
<b>Default value</b>	UNLIMITED
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	0 to unlimited, or UNLIMITED

MAX\_DUMP\_FILE\_SIZE specifies the maximum size of trace files (excluding the alert file). Change this limit if you are concerned that trace files may use too much space.

- A numerical value for MAX\_DUMP\_FILE\_SIZE specifies the maximum size in operating system blocks.
- A number followed by a K or M suffix specifies the file size in kilobytes or megabytes.
- 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.

**See Also:** *Oracle9i Database Administrator's Guide* and *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter

## MAX\_ENABLED\_ROLES

<b>Parameter type</b>	Integer
<b>Default value</b>	20
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 148

MAX\_ENABLED\_ROLES specifies the maximum number of database roles that users can enable, including roles contained within other roles.

The actual number of roles users can enable is 2 plus the value of MAX\_ENABLED\_ROLES, because each user has two additional roles, PUBLIC and the user's own role. For example, if MAX\_ENABLED\_ROLES is set to 5, user HR can have seven roles enabled: the five enabled by MAX\_ENABLED\_ROLES, plus PUBLIC and HR.

**See Also:** *Oracle9i Database Administrator's Guide* for more information on setting this parameter

## MAX\_ROLLBACK\_SEGMENTS

<b>Parameter type</b>	Integer
<b>Default value</b>	MAX( 30 , TRANSACTIONS/TRANSACTIONS_PER_ROLLBACK_SEGMENT )
<b>Parameter class</b>	Static
<b>Range of values</b>	2 to 65535

MAX\_ROLLBACK\_SEGMENTS specifies the maximum size of the rollback segment cache in the SGA. The number specified signifies the maximum number of rollback segments that can be kept online (that is, status of ONLINE) simultaneously by one instance.

**See Also:** *Oracle9i Database Administrator's Guide* for more information on setting this parameter

## MAX\_SHARED\_SERVERS

<b>Parameter type</b>	Integer
-----------------------	---------

<b>Default value</b>	Derived from SHARED_SERVERS (either 20 or 2*SHARED_SERVERS)
<b>Parameter class</b>	Static
<b>Range of values</b>	Operating system-dependent

MAX\_SHARED\_SERVERS specifies the maximum number of shared server processes allowed to be running simultaneously. If artificial deadlocks occur too frequently on your system, you should increase the value of MAX\_SHARED\_SERVERS.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- *Oracle9i Database Concepts* for information on artificial deadlocks
- Your operating system-specific Oracle documentation for the default value and range of values

## NLS\_CALENDAR

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_CALENDAR = "calendar_system"</code>
<b>Default value</b>	None
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any valid calendar format name

NLS\_CALENDAR specifies which calendar system Oracle uses. It can have one of the following values:

- Arabic Hijrah
- English Hijrah
- 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
```

**See Also:** *Oracle9i Database Globalization Support Guide* for a listing of available calendar systems

## NLS\_COMP

<b>Parameter type</b>	String
<b>Syntax</b>	NLS_COMP = {BINARY   ANSI}
<b>Default value</b>	BINARY
<b>Parameter class</b>	Dynamic: ALTER SESSION

Normally, comparisons in the WHERE clause and in PL/SQL blocks is binary unless you specify the NLSSORT function. By setting NLS\_COMP to ANSI, you indicate that comparisons in the WHERE clause and in PL/SQL blocks should use the linguistic sort specified in the NLS\_SORT parameter. You must also define an index on the column for which you want linguistic sorts.

**See Also:** *Oracle9i Database Globalization Support Guide* for more information on setting this parameter

## NLS\_CURRENCY

<b>Parameter type</b>	String
<b>Syntax</b>	NLS_CURRENCY = <i>currency_symbol</i>
<b>Default value</b>	Derived from NLS_TERRITORY
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any valid character string, with a maximum of 10 bytes (not including null)

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.

**See Also:**

- *Oracle9i Database Globalization Support Guide* for more information on setting this parameter
- *Oracle9i SQL Reference* for information on number format elements

## NLS\_DATE\_FORMAT

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_DATE_FORMAT = "format"</code>
<b>Default value</b>	Derived from NLS_TERRITORY
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any valid date format mask but not exceeding a fixed length

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.

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"
```

**See Also:**

- *Oracle9i Database Globalization Support Guide* for more information on setting this parameter
- *Oracle9i Heterogeneous Connectivity Administrator's Guide* for information on setting this parameter in heterogeneous systems

## NLS\_DATE\_LANGUAGE

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_DATE_LANGUAGE = language</code>
<b>Default value</b>	Derived from NLS_LANGUAGE
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any valid NLS_LANGUAGE value

`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.

**See Also:**

- *Oracle9i Database Globalization Support Guide* for more information on setting this parameter
- *Oracle9i SQL Reference* for information on the `TO_DATE` and `TO_CHAR` functions.
- *Oracle9i Heterogeneous Connectivity Administrator's Guide* for information on setting this parameter in heterogeneous systems

## NLS\_DUAL\_CURRENCY

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_DUAL_CURRENCY = currency_symbol</code>
<b>Default value</b>	Derived from NLS_TERRITORY
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any valid format name up to 10 characters

`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.

**See Also:** *Oracle9i Database Globalization Support Guide* for more information on setting this parameter

## NLS\_ISO\_CURRENCY

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_ISO_CURRENCY = territory</code>
<b>Default value</b>	Derived from NLS_TERRITORY
<b>Parameter class</b>	Dynamic : ALTER SESSION
<b>Range of values</b>	Any valid NLS_TERRITORY value

`NLS_ISO_CURRENCY` specifies the string to use as the international currency symbol for the C number format element.

Local currency symbols can be ambiguous. For example, a dollar sign (\$) can refer to U.S. dollars or Australian dollars. ISO Specification 4217 1987-07-15 defines unique "international" currency symbols for the currencies of specific territories or countries.

**See Also:**

- *Oracle9i Database Globalization Support Guide* for more information on setting this parameter
- *Oracle9i SQL Reference* for information on number format elements

## NLS\_LANGUAGE

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_LANGUAGE = language</code>
<b>Default value</b>	Operating system-dependent, derived from the <code>NLS_LANG</code> environment variable
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any valid language name

`NLS_LANGUAGE` specifies the default language of the database. This 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`.

**See Also:**

- *Oracle9i Database Globalization Support Guide* for a complete list of languages and additional information on this parameter
- Your operating system-specific Oracle documentation and the release notes for your country

## NLS\_LENGTH\_SEMANTICS

**Parameter type** String

**Syntax** NLS\_LENGTH\_SEMANTICS = *string*

Example: NLS\_LENGTH\_SEMANTICS = 'CHAR'

**Default value** BYTE

**Parameter class** Dynamic: ALTER SESSION, ALTER SYSTEM

**Range of values** BYTE | CHAR

NLS\_LENGTH\_SEMANTICS enables you to create CHAR and VARCHAR2 columns using either byte or character length semantics. Existing columns are not affected.

NCHAR, NVARCHAR2, CLOB, and NCLOB columns are always character-based. You may be required to use byte semantics in order to maintain compatibility with existing applications.

NLS\_LENGTH\_SEMANTICS does not apply to tables in SYS and SYSTEM. The data dictionary always uses byte semantics.

## NLS\_NCHAR\_CONV\_EXCP

**Parameter type** String

**Syntax** NLS\_NCHAR\_CONV\_EXCP = {TRUE | FALSE}

**Default value** FALSE

**Parameter class** Dynamic: ALTER SESSION, ALTER SYSTEM

NLS\_NCHAR\_CONV\_EXCP determines whether data loss during an implicit or explicit character type conversion will report an error.

**See Also:** *Oracle9i Database Globalization Support Guide* for more information on setting this parameter

## NLS\_NUMERIC\_CHARACTERS

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_NUMERIC_CHARACTERS = "decimal_character group_separator"</code>
<b>Default value</b>	Derived from NLS_TERRITORY
<b>Parameter class</b>	Dynamic: ALTER SESSION

`NLS_NUMERIC_CHARACTERS` specifies the characters to use as the group separator and decimal character. It 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 wish 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 = ", "
```

**See Also:** *Oracle9i Database Globalization Support Guide* for more information on setting this parameter

## NLS\_SORT

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_SORT = {BINARY   linguistic_definition}</code>

<b>Default value</b>	Derived from NLS_LANGUAGE
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	BINARY or any valid linguistic definition name

NLS\_SORT specifies the collating sequence for ORDER BY queries.

- If the value is BINARY, then the collating sequence for ORDER BY queries is based on the numeric value of characters (a binary sort that requires less system overhead).
- If the value is a named linguistic sort, sorting is based on the order of the defined linguistic sort. Most (but not all) languages supported by the NLS\_LANGUAGE parameter also support a linguistic sort with the same name.

---

**Note:** Setting NLS\_SORT to anything other than BINARY causes a sort to use a full table scan, regardless of the path chosen by the optimizer. BINARY is the exception because indexes are built according to a binary order of keys. Thus the optimizer can use an index to satisfy the ORDER BY clause when NLS\_SORT is set to BINARY. If NLS\_SORT is set to any linguistic sort, the optimizer must include a full table scan and a full sort in the execution plan.

---

You must use the NLS\_SORT operator with comparison operations if you want the linguistic sort behavior.

**See Also:**

- *Oracle9i Database Globalization Support Guide* for a current listing of values you can specify for this parameter
- *Oracle9i Database Concepts* for more information on this parameter

## NLS\_TERRITORY

<b>Parameter type</b>	String
<b>Syntax</b>	<code>NLS_TERRITORY = territory</code>
<b>Default value</b>	Operating system-dependent

**Parameter class**      Dynamic: ALTER SESSION

**Range of values**      Any valid territory name

NLS\_TERRITORY specifies the name of the territory whose conventions are to be followed for day and week numbering.

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"](#) on page 1-97, "["NLS\\_NUMERIC\\_CHARACTERS"](#) on page 1-101, "["NLS\\_CURRENCY"](#) on page 1-96, and "["NLS\\_ISO\\_CURRENCY"](#) on page 1-99.

**See Also:**

- *Oracle9i 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

## NLS\_TIMESTAMP\_FORMAT

**Parameter type**      String

**Syntax**      NLS\_TIMESTAMP\_FORMAT = "format"

**Default value**      Derived from NLS\_TERRITORY

**Parameter class**      Dynamic: ALTER SESSION

**Range of values**      Any valid datetime format mask

NLS\_TIMESTAMP\_FORMAT defines the default timestamp format to use with the TO\_CHAR and TO\_TIMESTAMP functions.

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.

## NLS\_TIMESTAMP\_TZ\_FORMAT

<b>Parameter type</b>	String
<b>Syntax</b>	NLS_TIMESTAMP_TZ_FORMAT = " <i>format</i> "
<b>Default value</b>	Derived from NLS_TERRITORY
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any valid datetime format mask

NLS\_TIMESTAMP\_TZ\_FORMAT defines the default timestamp with time zone format to use with the TO\_CHAR and TO\_TIMESTAMP\_TZ functions.

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.

## O7\_DICTIONARY\_ACCESSIBILITY

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

O7\_DICTIONARY\_ACCESSIBILITY is intended for use when you migrate from Oracle7 to Oracle9i. It controls restrictions on SYSTEM privileges. If the parameter is set to true, access to objects in the SYS schema is allowed (Oracle7 behavior). The

default setting of `false` ensures that system privileges that allow access to objects in "any schema" do not allow access to objects in `SYS` schema.

For example, if `OPT_DICIONARY_ACCESSIBILITY = false`, then the `SELECT ANY TABLE` privilege allows access to views or tables in any schema except the `SYS` schema (data dictionary tables cannot be accessed). The system privilege `EXECUTE ANY PROCEDURE` allows access on the procedures in any schema except the `SYS` schema.

If this parameter is set to `false` and you need to access objects in the `SYS` schema, then you must be granted explicit object privilege. Also, the following roles, which can be granted to the database administrator, also allow access to dictionary objects: `SELECT_CATALOG_ROLE`, `EXECUTE_CATALOG_ROLE`, and `DELETE_CATALOG_ROLE`.

**See Also:**

- *Oracle9i Database Migration* for more information on this parameter and the roles mentioned here
- *Oracle9i SQL Reference* for information on granting roles

## OBJECT\_CACHE\_MAX\_SIZE\_PERCENT

<b>Parameter type</b>	Integer
<b>Default value</b>	10
<b>Parameter class</b>	Dynamic: <code>ALTER SESSION</code> , <code>ALTER SYSTEM ... DEFERRED</code>
<b>Range of values</b>	0 to operating system-dependent maximum

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. 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" on page 1-106](#) for a description of the object cache
- *Oracle9i Database Concepts, Pro\*C/C++ Precompiler Programmer's Guide*, and *Oracle Call Interface Programmer's Guide* for information on precompiler use of the object cache

## OBJECT\_CACHE\_OPTIMAL\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	102400 (100K)
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM . . . DEFERRED
<b>Range of values</b>	10 KB to operating system-dependent maximum

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\_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.

**See Also:** *Oracle9i Database Concepts, Pro\*C/C++ Precompiler Programmer's Guide*, and *Oracle Call Interface Programmer's Guide* for information on precompiler use of the object cache

## OLAP\_PAGE\_POOL\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	32 MB
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM . . . DEFERRED
<b>Range of values</b>	32 MB to 2 GB

OLAP\_PAGE\_POOL\_SIZE specifies the size (in bytes) of the OLAP pool.

## OPEN\_CURSORS

<b>Parameter type</b>	Integer
<b>Default value</b>	50
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	1 to 4294967295 (4 GB -1)

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. This parameter also constrains the size of the PL/SQL cursor cache which PL/SQL uses to avoid having to reparse as statements are reexecuted by a user.

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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- Your operating system-specific Oracle documentation for the range of values

## OPEN\_LINKS

<b>Parameter type</b>	Integer
<b>Default value</b>	4
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 255

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.

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.

**See Also:** "OPEN\_LINKS\_PER\_INSTANCE" on page 1-108 for information on setting open connections globally for a database instance

## **OPEN\_LINKS\_PER\_INSTANCE**

**Parameter type** Integer

**Default value** 4

**Parameter class** Static

**Range of values** 0 to 4294967295 (4 GB -1)

**Real Application Clusters** Multiple instances can have different values.

`OPEN_LINKS_PER_INSTANCE` specifies the maximum number of migratable open connections globally for each database instance. 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"](#) on page 1-107

## **OPTIMIZER\_DYNAMIC\_SAMPLING**

<b>Parameter type</b>	Integer
<b>Default value</b>	If OPTIMIZER_FEATURES_ENABLE is set to 9.2.0 or higher, then 1 If OPTIMIZER_FEATURES_ENABLE is set to 9.0.1 or lower, then 0
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	0 to 10

OPTIMIZER\_DYNAMIC\_SAMPLING controls the level of dynamic sampling performed by the optimizer.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter

## **OPTIMIZER\_FEATURES\_ENABLE**

<b>Parameter type</b>	String
<b>Syntax</b>	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}
<b>Default value</b>	9.2.0
<b>Parameter class</b>	Static

OPTIMIZER\_FEATURES\_ENABLE acts as an umbrella parameter for enabling a series of optimizer features based on an Oracle release number.

For example, if you upgrade your database from release 8.0.6 to release 9.2, but you want to keep the release 8.0.6 optimizer behavior, you can do so by setting this parameter to 8.0.6. At a later time, you can try the enhancements introduced in releases up to and including release 9.2 by setting the parameter to 9.2.0.

**Table 1–2** describes some of the optimizer features that are enabled when you set the OPTIMIZER\_FEATURES\_ENABLE parameter to an 8.0 release or an 8.1 release. **Table 1–3** describes some of the optimizer features that are enabled when you set the OPTIMIZER\_FEATURES\_ENABLE parameter to a 9.0 release or a 9.2 release.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information about the optimizer and for information about the features listed in the following tables

**Table 1–2 Release 8.0 and Release 8.1 Optimizer Features**

Features	Release											
	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
Index fast full scan	X	X	X	X	X	X	X	X	X	X	X	X
Consideration of bitmap access paths for tables with only B-tree indexes	X	X	X		X							
Complex view merging	X	X	X		X							
Push-join predicate	X	X	X		X							
Ordered nested loop costing	X	X	X		X							
Improved outer join cardinality calculation				X	X	X	X	X	X	X	X	X
Improved verification of NULLs inclusion in B-tree indexes										X	X	X
Random distribution method for left of nested loops										X	X	
Type-dependent selectivity estimates										X	X	
Setting of optimizer mode for user recursive SQL										X	X	

**Table 1–2 (Cont.) Release 8.0 and Release 8.1 Optimizer Features**

Features	Release											
	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
Improved average row length calculation									X	X		
Partition pruning based on subquery predicates									X	X		
Common subexpression elimination											X	
Use statistics of a column imbedded in some selected functions such as TO_CHAR to compute selectivity											X	
Improved partition statistics aggregation											X	

**Table 1–3 Release 9.0 and Release 9.2 Optimizer Features**

Features	Release		
	9.0.0	9.0.1	9.2.0
Index fast full scan	X	X	X
Consideration of bitmap access paths for tables with only B-tree indexes	X	X	X
Complex view merging	X	X	X
Push-join predicate	X	X	X
Ordered nested loop costing	X	X	X
Improved outer join cardinality calculation	X	X	X
Improved verification of NULLs inclusion in B-tree indexes	X	X	X
Random distribution method for left of nested loops	X	X	X
Type-dependent selectivity estimates	X	X	X
Setting of optimizer mode for user recursive SQL	X	X	X
Improved average row length calculation	X	X	X
Partition pruning based on subquery predicates	X	X	X
Common subexpression elimination	X	X	X

**Table 1-3 (Cont.) Release 9.0 and Release 9.2 Optimizer Features**

Features	Release		
	9.0.0	9.0.1	9.2.0
Use statistics of a column imbedded in some selected functions such as TO_CHAR to compute selectivity	X	X	X
Improved partition statistics aggregation	X	X	X
Peeking at user-defined bind variables	X	X	X
Index joins	X	X	X
Subquery unnesting	X	X	X

## OPTIMIZER\_INDEX\_CACHING

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	0 to 100

OPTIMIZER\_INDEX\_CACHING lets you adjust the behavior of cost-based optimization to favor nested loops joins and IN-list iterators.

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:** *Oracle9i Database Performance Tuning Guide and Reference*  
for more information on setting this parameter

## OPTIMIZER\_INDEX\_COST\_ADJ

<b>Parameter type</b>	Integer
<b>Default value</b>	100
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	1 to 10000

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.

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:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter, and on its relationship to "[OPTIMIZER\\_INDEX\\_CACHING](#)"

## OPTIMIZER\_MAX\_PERMUTATIONS

<b>Parameter type</b>	Integer
<b>Default value</b>	If OPTIMIZER_FEATURES_ENABLE is set to 9.0.0 or higher, then 2000 If OPTIMIZER_FEATURES_ENABLE is set to 8.1.7 or lower, then 80000
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	4 to 80000

OPTIMIZER\_MAX\_PERMUTATIONS restricts the number of permutations of the tables the optimizer will consider in queries with joins. Such a restriction ensures

that the parse time for the query stays within acceptable limits. However, a slight risk exists that the optimizer will overlook a good plan it would otherwise have found.

The default value for this parameter is 80000, which corresponds to no limitation at all. Setting this parameter to a value less than 1000 normally ensures parse times of a few seconds or less.

## OPTIMIZER\_MODE

**Parameter type** String

**Syntax** OPTIMIZER\_MODE =  
                  {first\_rows\_[1 | 10 | 100 | 1000] | first\_rows | all\_rows | choose | rule}

**Default value** choose

**Parameter class** Dynamic: ALTER SESSION

OPTIMIZER\_MODE establishes the default behavior for choosing an optimization approach for the instance.

### Values:

- rule

The optimizer chooses a rule-based approach for all SQL statements regardless of the presence of statistics.

- choose

The optimizer chooses between a cost-based approach and a rule-based approach based on whether statistics are available.

If the data dictionary contains statistics for at least one of the accessed tables, then the optimizer uses a cost-based approach and optimizes with a goal of best throughput. If the data dictionary contains only some statistics, then the cost-based approach is used, and the optimizer must guess the statistics for the subjects without any statistics. This can result in sub-optimal execution plans. If the data dictionary contains no statistics for any of the accessed tables, then the optimizer uses a rule-based approach.

- first\_rows\_n

The optimizer uses a cost-based approach, regardless of the presence of statistics, 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.

- **all\_rows**

The optimizer uses a cost-based approach for all SQL statements in the session regardless of the presence of statistics and optimizes with a goal of best throughput (minimum resource use to complete the entire statement).

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- *Oracle9i Database Concepts* and *Oracle9i Database Performance Tuning Guide and Reference* for more information about the optimizer

## ORACLE\_TRACE\_COLLECTION\_NAME

<b>Parameter type</b>	String
<b>Syntax</b>	<code>ORACLE_TRACE_COLLECTION_NAME = collection_name</code>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	Valid collection name up to 16 characters long (except for platforms that enforce 8-character file names)

A **collection** is data collected for events that occurred while an instrumented product was running. `ORACLE_TRACE_COLLECTION_NAME` specifies the Oracle Trace collection name for this instance. Oracle also uses this parameter in the output file names (collection definition file .cdf and data collection file .dat). If you set `ORACLE_TRACE_ENABLE` to `true`, setting this value to a non-null string will start a default Oracle Trace collection that will run until this value is set to null again.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on the Oracle Trace facility and on setting this parameter
- "["ORACLE\\_TRACE\\_ENABLE"](#)" on page 1-117

## ORACLE\_TRACE\_COLLECTION\_PATH

<b>Parameter type</b>	String
<b>Syntax</b>	<code>ORACLE_TRACE_COLLECTION_PATH = pathname</code>
<b>Default value</b>	Operating system-specific
<b>Parameter class</b>	Static
<b>Range of values</b>	Full directory pathname

`ORACLE_TRACE_COLLECTION_PATH` specifies the directory pathname where the Oracle Trace collection definition (.cdf) and data collection (.dat) files are located. If you accept the default, the Oracle Trace .cdf and .dat files will be located in `ORACLE_HOME/otrace/admin/cdf`.

You must specify this parameter if you set the `ORACLE_TRACE_FACILITY_NAME` parameter.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on the Oracle Trace facility and on setting this parameter

## ORACLE\_TRACE\_COLLECTION\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	5242880
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 4294967295

`ORACLE_TRACE_COLLECTION_SIZE` specifies (in bytes) the maximum size of the Oracle Trace collection file (.dat). Once the collection file reaches this maximum, the collection is disabled. A value of 0 means that the file has no size limit.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on the Oracle Trace facility and on setting this parameter

## ORACLE\_TRACE\_ENABLE

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	true   false

To enable Oracle Trace collections for the server, set ORACLE\_TRACE\_ENABLE to true. This setting alone does not start an Oracle Trace collection, but it allows Oracle Trace to be used for the server.

With ORACLE\_TRACE\_ENABLE set to true, you can perform Oracle Trace collection of server event data in any of the following ways:

- By using Oracle Trace Manager, which is supplied with the Oracle Diagnostic Pack
- By using the Oracle Trace command line interface, which is supplied with the server
- By specifying a collection name in the ORACLE\_TRACE\_COLLECTION\_NAME parameter

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on the Oracle Trace facility and on setting this parameter
- "[ORACLE\\_TRACE\\_COLLECTION\\_NAME](#)" on page 1-115

## ORACLE\_TRACE\_FACILITY\_NAME

<b>Parameter type</b>	String
-----------------------	--------

<b>Syntax</b>	ORACLE_TRACE_FACILITY_NAME = {ORACLED   ORACLEE   ORACLESM   ORACLEC}
<b>Default value</b>	ORACLED
<b>Parameter class</b>	Static

ORACLE\_TRACE\_FACILITY\_NAME specifies the event set that Oracle Trace collects. The value of this parameter, followed by the .fdf extension, is the name of the Oracle Trace product definition file. That file must be located in the directory specified by the ORACLE\_TRACE\_FACILITY\_PATH parameter. The product definition file contains definition information for all the events and data items that can be collected for products that use the Oracle Trace data collection API.

The Oracle server has multiple event sets and therefore multiple product definition files:

- ORACLE is the ALL event set
- ORACLED is the DEFAULT event set
- ORACLEE is the EXPERT event set
- ORACLESM is the SUMMARY event set
- ORACLEC is the CACHEIO event set

Oracle Corporation recommends that you use the DEFAULT event set for Oracle server collections, ORACLED.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on the Oracle Trace facility and on setting this parameter
- "["ORACLE\\_TRACE\\_COLLECTION\\_PATH"](#) on page 1-116

## ORACLE\_TRACE\_FACILITY\_PATH

<b>Parameter type</b>	String
<b>Syntax</b>	ORACLE_TRACE_FACILITY_PATH = <i>pathname</i>
<b>Default value</b>	Operating system-specific
<b>Parameter class</b>	Static

<b>Range of values</b>	Full directory pathname
------------------------	-------------------------

ORACLE\_TRACE\_FACILITY\_PATH specifies the directory pathname where Oracle Trace facility definition files are located. On Solaris, the default path is *ORACLE\_HOME*/otrace/admin/fdf/. On NT, the default path is %OTRACE80%\ADMIN\FDF\.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on the Oracle Trace facility and on setting this parameter

## OS\_AUTHENT\_PREFIX

<b>Parameter type</b>	String
<b>Syntax</b>	OS_AUTHENT_PREFIX = <i>authentication_prefix</i>
<b>Default value</b>	OPS\$
<b>Parameter class</b>	Static

OS\_AUTHENT\_PREFIX specifies a prefix that Oracle uses to authenticate users attempting to connect to the server. Oracle concatenates the value of this parameter to the beginning of the user's operating system account name and password. When a connection request is attempted, Oracle compares the prefixed username with Oracle usernames 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 Advanced Security Administrator's Guide* for more information on setting this parameter
- Your operating system-specific Oracle documentation for the default value

## OS\_ROLES

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

OS\_ROLES determines whether Oracle or the operating system identifies and manages the roles of each username.

### 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. A user can subsequently enable as many roles identified by the operating system as specified by the parameter MAX\_ENABLED\_ROLES.

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:

- *Oracle9i Database Administrator's Guide* and *Oracle Advanced Security Administrator's Guide* for more information on roles and on setting this parameter
- "[MAX\\_ENABLED\\_ROLES](#)" on page 1-94 and "[REMOTE\\_OS\\_ROLES](#)" on page 1-140

## PARALLEL\_ADAPTIVE\_MULTI\_USER

<b>Parameter type</b>	Boolean
<b>Default value</b>	Derived from the value of PARALLEL_AUTOMATIC_TUNING
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

**Range of values**      true | false

PARALLEL\_ADAPTIVE\_MULTI\_USER, when set to true, enables an adaptive algorithm designed to improve performance in multiuser environments that use parallel execution. 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 the following:

- The system has been tuned for optimal performance in a single-user environment
- The parameter [PARALLEL\\_AUTOMATIC\\_TUNING](#) parameter is set to TRUE

Tables and hints use the default degree of parallelism.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on tuning parallel execution and on the algorithm described here

## PARALLEL\_AUTOMATIC\_TUNING

**Parameter type**      Boolean

**Default value**      false

**Parameter class**      Static

**Range of values**      true | false

---

**Note:** This parameter applies to parallel execution in exclusive mode as well as in the Oracle9i Real Application Clusters environment.

---

When PARALLEL\_AUTOMATIC\_TUNING is set to true, Oracle determines the default values for parameters that control parallel execution. In addition to setting this parameter, you must specify the PARALLEL clause for the target tables in the system. Oracle then tunes all subsequent parallel operations automatically.

If you used parallel execution in a previous release and are now enabling PARALLEL\_AUTOMATIC\_TUNING, you should reduce the amount of memory

allocated from the shared pool to account for the decreased demand on that pool. This memory will now be allocated from the large pool, and will be computed automatically if `LARGE_POOL_SIZE` is left unset.

As part of the automatic tuning, Oracle will enable the `PARALLEL_ADAPTIVE_MULTI_USER` parameter. You can override any of the system-provided defaults if desired.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference*  
for more information on tuning parallel execution

## **PARALLEL\_EXECUTION\_MESSAGE\_SIZE**

<b>Parameter type</b>	Integer
<b>Default value</b>	Operating system-dependent
<b>Parameter class</b>	Static
<b>Range of values</b>	2148 to 65535 (64 KB - 1)
<b>Real Application Clusters</b>	Multiple instances must have the same value.

`PARALLEL_EXECUTION_MESSAGE_SIZE` specifies the size of messages for parallel execution (formerly referred to as parallel query, PDML, Parallel Recovery, replication).

On most platforms, the default value is 2148 bytes if `PARALLEL_AUTOMATIC_TUNING` is set to `false`, and 4096 bytes if `PARALLEL_AUTOMATIC_TUNING` is set to `true`. 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.

---

**Note:** When `PARALLEL_AUTOMATIC_TUNING` is set to `TRUE`, message buffers are allocated out of the large pool. In this case, the default is generally higher.

---

## **PARALLEL\_INSTANCE\_GROUP**

<b>Parameter type</b>	String
-----------------------	--------

<b>Syntax</b>	PARALLEL_INSTANCE_GROUP = <i>group_name</i>
<b>Default value</b>	A group consisting of all instances currently active
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	Any group name specified in the INSTANCE_GROUPS parameter of any active instance
<b>Real Application Clusters</b>	Different instances can have different values.

PARALLEL\_INSTANCE\_GROUP is an Oracle9*i* Real Application Clusters parameter that you can specify in parallel mode only. Used in conjunction with the INSTANCE\_GROUPS parameter, it lets you restrict parallel query operations to a limited number of instances.

This parameter identifies the parallel instance group Oracle will use for spawning parallel execution processes. Parallel operations will spawn parallel execution processes only on instances that specify a matching group in their INSTANCE\_GROUPS parameter.

If the value of PARALLEL\_INSTANCE\_GROUP does not correspond to an instance group name specified for an active instance, Oracle returns an error.

**See Also:** *Oracle9i Real Application Clusters Administration* for more information on parallel query execution in an Oracle9*i* Real Application Clusters environment

## PARALLEL\_MAX\_SERVERS

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived from the values of CPU_COUNT, PARALLEL_AUTOMATIC_TUNING, and PARALLEL_ADAPTIVE_MULTI_USER
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to 3599
<b>Real Application Clusters</b>	Multiple instances must have the same value.

---

**Note:** This parameter applies to parallel execution in exclusive mode as well as in the Oracle9*i* Real Application Clusters environment.

---

PARALLEL\_MAX\_SERVERS specifies the maximum number of parallel execution processes and parallel recovery processes for an instance. As demand increases, Oracle increases the number of processes from the number created at instance startup up to this value.

If you set this parameter too low, some queries may not have a parallel execution process available to them during query processing. If you set it too high, memory resource shortages may occur during peak periods, which can degrade performance.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on tuning parallel execution

## PARALLEL\_MIN\_PERCENT

**Parameter type** Integer

**Default value** 0

**Parameter class** Dynamic: ALTER SESSION

**Range of values** 0 to 100

**Real Application Clusters** Multiple instances can have different values.

PARALLEL\_MIN\_PERCENT operates in conjunction with PARALLEL\_MAX\_SERVERS and PARALLEL\_MIN\_SERVERS. It lets you specify the minimum percentage of parallel execution processes (of the value of PARALLEL\_MAX\_SERVERS) required for parallel execution. Setting this parameter ensures that parallel operations will not execute sequentially 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 in conjunction 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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on tuning parallel execution
- "[PARALLEL\\_MAX\\_SERVERS](#)" on page 1-123, "[PARALLEL\\_MIN\\_SERVERS](#)" on page 1-125, and "[PARALLEL\\_ADAPTIVE\\_MULTI\\_USER](#)" on page 1-120

## PARALLEL\_MIN\_SERVERS

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to value of PARALLEL_MAX_SERVERS
<b>Real Application Clusters</b>	Multiple instances can have different values.

---

**Note:** This parameter applies to parallel execution in exclusive mode as well as in the Oracle9i Real Application Clusters environment.

---

PARALLEL\_MIN\_SERVERS specifies the minimum number of parallel execution processes for the instance. This value is the number of parallel execution processes Oracle creates when the instance is started.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on tuning parallel execution

## PARALLEL\_THREADS\_PER\_CPU

<b>Parameter type</b>	Integer
<b>Default value</b>	Operating system-dependent, usually 2
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any nonzero number

---

**Note:** This parameter applies to parallel execution in exclusive mode as well as in the Oracle9i Real Application Clusters environment.

---

PARALLEL\_THREADS\_PER\_CPU specifies the default degree of parallelism for the instance and determines the parallel adaptive and load balancing algorithms. The parameter describes the number of parallel execution processes or **threads** that a CPU can handle during parallel execution.

The default is platform-dependent and is adequate in most cases. You should decrease the value of this parameter if the machine appears to be overloaded when a representative parallel query is executed. You should increase the value if the system is I/O bound.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on tuning parallel execution

## PARTITION\_VIEW\_ENABLED

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	true   false

---

**Note:** Oracle Corporation recommends that you use partitioned tables (available starting with Oracle8) rather than partition views. Partition views are supported for backward compatibility only.

---

PARTITION\_VIEW\_ENABLED specifies whether the optimizer uses partition views. If you set this parameter to true, the optimizer prunes (or skips) unnecessary table accesses in a partition view and alters the way it computes statistics on a partition view from statistics on underlying tables.

**See Also:** *Oracle9i Database Concepts* for information on the advantages of partitioned tables and how to convert partition views to partitioned tables

## PGA\_AGGREGATE\_TARGET

<b>Parameter type</b>	Big integer
<b>Syntax</b>	PGA_AGGREGATE_TARGET = <i>integer</i> [K   M   G]
<b>Default value</b>	0 (automatic memory management is turned OFF by default)
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Minimum: 10 MB Maximum: 4096 GB - 1

PGA\_AGGREGATE\_TARGET specifies the target aggregate PGA memory available to all server processes attached to the instance. You must set this parameter to enable the automatic sizing of SQL working areas used by memory-intensive SQL operators such as sort, group-by, hash-join, bitmap merge, and bitmap create.

Oracle uses this parameter as a target for PGA memory. Use this parameter to determine the optimal size of each work area allocated in AUTO mode (in other words, when WORKAREA\_SIZE\_POLICY is set to AUTO).

Oracle attempts to keep the amount of private memory below the target specified by this parameter by adapting the size of the work areas to private memory. When increasing the value of this parameter, you indirectly increase the memory allotted to work areas. Consequently, more memory-intensive operations are able to run fully in memory and less will work their way over to disk.

When setting this parameter, you should examine the total memory on your system that is available to the Oracle instance and subtract the SGA. You can assign the remaining memory to PGA\_AGGREGATE\_TARGET.

## PLSQL\_COMPILER\_FLAGS

<b>Parameter type</b>	String
<b>Syntax</b>	PLSQL_COMPILER_FLAGS = { [ DEBUG   NON_DEBUG ] [ INTERPRETED   NATIVE ] }
<b>Default value</b>	INTERPRETED, NON_DEBUG
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM

PLSQL\_COMPILER\_FLAGS is a parameter used by the PL/SQL compiler. It specifies a list of compiler flags as a comma-separated list of strings.

### Values:

- INTERPRETED
  - PL/SQL modules will be compiled to PL/SQL bytecode format. Such modules are executed by the PL/SQL interpreter engine.
- NATIVE
  - PL/SQL modules (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.
- DEBUG
  - PL/SQL modules will be compiled with PROBE debug symbols.

The following combinations of flags are invalid specifications for the PLSQL\_COMPILER\_FLAGS parameter:

- NATIVE & DEBUG
- NATIVE & INTERPRETED

When the value of the parameter is changed, it has no effect on PL/SQL modules that have already been compiled.

The value of this parameter is stored persistently with the library unit. If a pl/sql library unit is compiled native, all subsequent automatic recompilations of that library unit will use native compilation.

## PLSQL\_NATIVE\_C\_COMPILER

<b>Parameter type</b>	String
<b>Syntax</b>	PLSQL_NATIVE_C_COMPILER = <i>pathname</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any valid path name

PLSQL\_NATIVE\_C\_COMPILER specifies the full path name of a C compiler which is used to compile the generated C file into an object file.

PLSQL\_NATIVE\_C\_COMPILER is optional. The platform-specific make file that is shipped for each platform contains a default value for this parameter. If a value is specified for this parameter, it will override the default value in the make file.

## PLSQL\_NATIVE\_LIBRARY\_DIR

<b>Parameter type</b>	String
<b>Syntax</b>	PLSQL_NATIVE_LIBRARY_DIR = <i>directory</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any valid directory path

PLSQL\_NATIVE\_LIBRARY\_DIR is a parameter used by the PL/SQL compiler. It specifies the name of a directory where the shared objects produced by the native compiler are stored.

## PLSQL\_NATIVE\_LIBRARY\_SUBDIR\_COUNT

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

**Range of values** 0 to  $2^{32}-1$  (max value represented by 32 bits)

PLSQL\_NATIVE\_LIBRARY\_SUBDIR\_COUNT specifies the number of subdirectories created by the database administrator in the directory specified by PLSQL\_NATIVE\_LIBRARY\_DIR.

When using the PL/SQL native compiler, Performance of file create/open operations is unacceptably slow if the number of files in a directory is very large. It is usually advisable to create subdirectories and use this parameter if the total number of different PL/SQL packages that may need to be compiled natively by all users of the database instance exceeds 10000.

The subdirectories should have names corresponding to zero-based decimal numbers, prefixed by d. For example, the database administrator can create 1000 subdirectories named d0, d1, ... d999, and set PLSQL\_NATIVE\_LIBRARY\_SUBDIR\_COUNT to 1000.

## PLSQL\_NATIVE\_LINKER

**Parameter type** String

**Syntax** PLSQL\_NATIVE\_LINKER = *pathname*

**Default value** There is no default value.

**Parameter class** Dynamic: ALTER SYSTEM

**Range of values** Any valid path name

PLSQL\_NATIVE\_LINKER specifies the full path name of a linker such as ld in UNIX or GNU ld which is used to link the object file into a shared object or DLL.

PLSQL\_NATIVE\_LINKER is optional. The platform-specific make file that is shipped for each platform contains a default value for this parameter. If a value is specified for this parameter, it will override the default value in the make file.

## PLSQL\_NATIVE\_MAKE\_FILE\_NAME

**Parameter type** String

**Syntax** PLSQL\_NATIVE\_MAKE\_FILE\_NAME = *pathname*

**Default value** There is no default value.

<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any valid path name

PLSQL\_NATIVE\_MAKE\_FILE\_NAME specifies the full path name of a make file. The make utility (specified by *PLSQL\_NATIVE\_MAKE.Utility*) uses this make file to generate the shared object or DLL.

A port-specific make file is shipped for each platform that contains the rules for the make utility to generate DLLs on that platform.

## PLSQL\_NATIVE\_MAKE.Utility

<b>Parameter type</b>	String
<b>Syntax</b>	PLSQL_NATIVE_MAKE.Utility = <i>pathname</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any valid path name

PLSQL\_NATIVE\_MAKE.Utility specifies the full path name of a make utility such as make in UNIX or gmake (GNU make). The make utility is needed to generate the shared object or DLL from the generated C source.

## PLSQL\_V2\_COMPATIBILITY

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	true   false

PL/SQL Version 2 allows some abnormal 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, PL/SQL Version 8 behavior is enforced and Version 2 behavior is not allowed.

**See Also:** *PL/SQL User's Guide and Reference* for a description of the differences between PL/SQL Version 2 and Version 8, and for more information on setting this parameter

## PRE\_PAGE\_SGA

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

PRE\_PAGE\_SGA determines whether Oracle reads the entire SGA into memory at instance startup. Operating system page table entries are then prebuilt for each page of the SGA. This setting can increase the amount of time necessary for instance startup, but it is likely to decrease the amount of time necessary for Oracle to reach its full performance capacity after startup.

---

**Note:** This setting does not prevent your operating system from paging or swapping the SGA after it is initially read into memory.

---

PRE\_PAGE\_SGA can increase the process startup duration, because every process that starts must access every page in the SGA. The cost of this strategy is fixed; however, you might simply determine that 20,000 pages must be touched every time a process starts. This approach can be useful with some applications, but not with all applications. Overhead can be significant if your system frequently creates and destroys processes by, for example, continually logging on and logging off.

The advantage that PRE\_PAGE\_SGA can afford depends on page size. For example, if the SGA is 80 MB in size and the page size is 4 KB, then 20,000 pages must be touched to refresh the SGA ( $80,000 / 4 = 20,000$ ).

If the system permits you to set a 4 MB page size, then only 20 pages must be touched to refresh the SGA ( $80,000 / 4,000 = 20$ ). The page size is operating system-specific and generally cannot be changed. Some operating systems, however, have a special implementation for shared memory whereby you can change the page size.

## PROCESSES

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived from PARALLEL_MAX_SERVERS
<b>Parameter class</b>	Static
<b>Range of values</b>	6 to operating system-dependent
<b>Real Application Clusters</b>	Multiple instances can have different values.

`PROCESSES` specifies the maximum number of operating system user processes that can simultaneously connect to Oracle. Its value 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:

- *Oracle9i Database Administrator's Guide* for information on setting this parameter in exclusive mode
- *Oracle9i Real Application Clusters Administration* for information on setting this parameter in an Oracle9i Real Application Clusters environment
- Your operating system-specific Oracle documentation for the range of values

## QUERY\_REWRITE\_ENABLED

<b>Parameter type</b>	String
<b>Syntax</b>	<code>QUERY_REWRITE_ENABLED = {force   true   false}</code>
<b>Default value</b>	<code>false</code>
<b>Parameter class</b>	Dynamic: <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>

**Real Application Clusters**    Multiple instances can have different values.

QUERY\_REWRITE\_ENABLED allows you to enable or disable query rewriting globally for the database.

**Values:**

- **true**  
Oracle costs the query with rewrite and without rewrite and chooses the method with the lower cost.
- **false**  
Oracle does not use rewrite.
- **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:**

- *Oracle9i Data Warehousing Guide* for information on query rewrite of materialized views
- *Oracle9i Database Performance Tuning Guide and Reference* and "["OPTIMIZER\\_MODE"](#)" on page 1-114 for information on cost-based optimization

## QUERY\_REWRITE\_INTEGRITY

**Parameter type**    String

**Syntax**              QUERY\_REWRITE\_INTEGRITY =

                        {stale\_tolerated | trusted | enforced}

**Default value**        enforced

**Parameter class**      Dynamic: ALTER SESSION, ALTER SYSTEM

**Real Application Clusters**    Multiple instances can have different values.

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.

**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.

## RDBMS\_SERVER\_DN

**Parameter type**    X.500 Distinguished Name

**Default value**    There is no default value.

**Parameter class**    Static

**Range of values**    All X.500 Distinguished Name format values

RDBMS\_SERVER\_DN specifies the Distinguished Name (DN) of the Oracle server. It is used for retrieving Enterprise Roles from an enterprise directory service.

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 Advanced Security Administrator's Guide* for more information on enterprise roles and the enterprise directory service

## READ\_ONLY\_OPEN\_DELAYED

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

READ\_ONLY\_OPEN\_DELAYED determines when datafiles in read-only tablespaces are accessed.

**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:** *Oracle9i Database Administrator's Guide* for information on the consequences of delaying access of datafiles in read-only tablespaces

## RECOVERY\_PARALLELISM

<b>Parameter type</b>	Integer
<b>Default value</b>	Operating system-dependent
<b>Parameter class</b>	Static
<b>Range of values</b>	Operating system-dependent, but cannot exceed PARALLEL_MAX_SERVERS

RECOVERY\_PARALLELISM specifies the number of processes to participate in instance or crash recovery. A value of 0 or 1 indicates that recovery is to be performed serially by one process.

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for information on setting this parameter in exclusive mode
- *Oracle9i Real Application Clusters Administration* for information on setting this parameter in an Oracle9i Real Application Clusters environment

## REMOTE\_ARCHIVE\_ENABLE

**Parameter type** String

**Syntax** REMOTE\_ARCHIVE\_ENABLE = {receive [, send] |  
false | true}

**Default value** true

**Parameter class** Static

REMOTE\_ARCHIVE\_ENABLE enables or disables the sending of redo archival to remote destinations and the receipt of remotely archived redo.

**Values:**

- receive

Disables the sending of redo archival to remote destinations and enables the receipt of remotely archived redo.

- send

Enables the sending of redo archival to remote destinations and disables the receipt of remotely archived redo.

- false

Disables both the sending of redo archival to remote destinations and the receipt of remotely archived redo.

- receive, send or true

Enables both the sending of redo archival to remote destinations and the receipt of remotely archived redo.

## REMOTE\_DEPENDENCIES\_MODE

<b>Parameter type</b>	String
<b>Syntax</b>	REMOTE_DEPENDENCIES_MODE = {TIMESTAMP   SIGNATURE}
<b>Default value</b>	TIMESTAMP
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM

REMOTE\_DEPENDENCIES\_MODE specifies how Oracle should handle dependencies upon remote PL/SQL stored procedures.

### 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:** *Oracle9i Application Developer's Guide - Fundamentals* for information about the consequences of the settings of this parameter

## REMOTE\_LISTENER

<b>Parameter type</b>	String
<b>Syntax</b>	REMOTE_LISTENER = <i>network_name</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

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 machine as this instance). The address or address list is specified in the TNSNAMES.ORA file or other address repository as configured for your system.

**See Also:**

- *Oracle9i Database Concepts* for more information about instances, listener processes, and dispatcher processes
- *Oracle9i 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

## REMOTE\_LOGIN\_PASSWORDFILE

**Parameter type** String

**Syntax** REMOTE\_LOGIN\_PASSWORDFILE=

{NONE | SHARED | EXCLUSIVE}

**Default value** NONE

**Parameter class** Static

**Real Application Clusters** Multiple instances must have the same value.

REMOTE\_LOGIN\_PASSWORDFILE specifies whether Oracle checks for a password file and how many databases can use the password file.

**Values:**

- NONE

Oracle ignores any password file. Therefore, privileged users must be authenticated by the operating system.

- SHARED

More than one database can use a password file. However, the only user recognized by the password file is SYS.

- EXCLUSIVE

The password file can be used by only one database and the password file can contain names other than SYS.

---

**Note:** This setting is required for Oracle9i Real Application Clusters

---

**See Also:** *Oracle9i Database Administrator's Guide*for more information about secure connections for privileged users

## REMOTE\_OS\_AUTHENT

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

REMOTE\_OS\_AUTHENT specifies whether remote clients will be authenticated with the value of the OS\_AUTHENT\_PREFIX parameter.

**See Also:**

- *Oracle Advanced Security Administrator's Guide* for more information on setting this parameter
- "[OS\\_AUTHENT\\_PREFIX](#)" on page 1-119

## REMOTE\_OS\_ROLES

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

REMOTE\_OS\_ROLES specifies whether operating system roles are allowed for remote clients. The default value, false, causes Oracle to identify and manage roles for remote clients.

**See Also:**

- *Oracle9i Database Administrator's Guide* for more information on setting this parameter
- "[OS\\_ROLES](#)" on page 1-120

## REPLICATION\_DEPENDENCY\_TRACKING

**Parameter type** Boolean

**Default value** true

**Parameter class** Static

**Range of values** true | false

REPLICATION\_DEPENDENCY\_TRACKING enables or disables dependency tracking for read/write operations to the database. 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.

---

**See Also:** *Oracle9i Replication* for more information on parallel propagation dependency tracking

## RESOURCE\_LIMIT

**Parameter type** Boolean

<b>Default value</b>	false
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	true   false

RESOURCE\_LIMIT determines whether resource limits are enforced in database profiles.

**Values:**

- TRUE
  - Enables the enforcement of resource limits
- FALSE
  - Disables the enforcement of resource limits

**See Also:** *Oracle9i Database Administrator's Guide* and *Oracle9i SQL Reference* for more information on setting resource limits for profiles

## RESOURCE\_MANAGER\_PLAN

<b>Parameter type</b>	String
<b>Syntax</b>	RESOURCE_MANAGER_PLAN = <i>plan_name</i>
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any valid character string

RESOURCE\_MANAGER\_PLAN specifies the top-level resource plan to use for an instance. The resource manager will load this top-level 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 plan (if it was previously on). If you specify a plan that does not exist in the data dictionary, Oracle returns an error message.

**See Also:**

- *Oracle9i Database Administrator's Guide* for information on resource plans
- *Oracle9i Supplied PL/SQL Packages and Types Reference* for information on the DBMS\_RESOURCE\_MANAGER and DBMS\_RESOURCE\_MANAGER\_PRIVS packages
- "[DBA\\_RSRC\\_PLANS](#)" on page 2-219, "[DBA\\_RSRC\\_PLAN\\_DIRECTIVES](#)" on page 2-218, and the various V\$RSRC\_ dynamic performance views in [Chapter 3](#) for information on existing resource plans

## **ROLLBACK\_SEGMENTS**

<b>Parameter type</b>	String
<b>Syntax</b>	ROLLBACK_SEGMENTS = (segment_name [, segment_name] . . . )
<b>Default value</b>	The instance uses public rollback segments by default if you do not specify this parameter
<b>Parameter class</b>	Static
<b>Range of values</b>	Any rollback segment names listed in DBA_ROLLBACK_SEGS except SYSTEM
<b>Real Application Clusters</b>	Multiple instances must have different values.

ROLLBACK\_SEGMENTS allocates one or more rollback segments by name to this instance. 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:**

- *Oracle9i Database Administrator's Guide* for more information on setting this parameter
- *Oracle9i Real Application Clusters Deployment and Performance* for information on setting this parameter in an Oracle9i Real Application Clusters environment
- "[DBA\\_ROLLBACK\\_SEGS](#)" on page 2-215

## ROW\_LOCKING

<b>Parameter type</b>	String
<b>Syntax</b>	ROW_LOCKING = {ALWAYS   DEFAULT   INTENT}
<b>Default value</b>	ALWAYS
<b>Parameter class</b>	Static
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have the same value.

ROW\_LOCKING specifies whether row locks are acquired during UPDATE operations.

**Values:**

- **ALWAYS and DEFAULT**  
Row locks are acquired. Table locks are not acquired.
- **INTENT**  
In addition to row locks, restricted table-level locks are acquired during UPDATE operations.

The acquisition of table-level locks is a way to ensure data concurrency. However, Oracle Corporation recommends that you use the SQL statement `LOCK TABLE` for that purpose rather than changing the setting of this parameter from its default setting of `ALWAYS`.

## SERIAL\_REUSE

<b>Parameter type</b>	String
<b>Syntax</b>	SERIAL_REUSE = {DISABLE   SELECT   DML   PLSQL   ALL}
<b>Default value</b>	DISABLE
<b>Parameter class</b>	Static

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.

### Values:

- DISABLE  
Disables the option for all SQL statement types. This value overrides any other values included in the list.
- SELECT  
Enables the option for SELECT statements.
- DML  
Enables the option for DML statements.
- PLSQL  
Currently has no effect (although PLSQL packages do support the serial-reuse memory option using PLSQL pragmas).
- ALL  
Enables the option for both DML and SELECT statements. Equivalent to setting SELECT, DML, and PLSQL.

---

**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"](#) on page 1-31

## SERVICE\_NAMES

<b>Parameter type</b>	String
<b>Syntax</b>	<pre>SERVICE_NAMES =     db_service_name [ , db_service_name [ ,... ] ]</pre>
<b>Default value</b>	DB_NAME.DB_DOMAIN if defined
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any ASCII string or comma-separated list of string names

SERVICE\_NAMES specifies one or more names for the database service to which this instance connects. You can specify multiple service names in order to distinguish among different uses of the same database.

For example:

```
SERVICE_NAMES = sales.acme.com, widgetsales.acme.com
```

You can also use service names to identify a single service that is available from two different databases through the use of replication.

In an Oracle9*i* Real Application Clusters environment, you must set this parameter for every instance.

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, Oracle uses the domain of your local database as it currently exists in the data dictionary.

### See Also:

- *Oracle9*i* Net Services Administrator's Guide* for more information on this parameter and its settings
- "[DB\\_DOMAIN](#)" on page 1-39

## SESSION\_CACHED\_CURSORS

<b>Parameter type</b>	Integer
<b>Default value</b>	0

<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	0 to operating system-dependent
<b>Real Application Clusters</b>	Multiple instances can have different values.

SESSION\_CACHED\_CURSORS lets you specify the number of session cursors to cache. Repeated parse calls of the same SQL statement cause the session cursor for that statement to be moved into the session cursor cache. Subsequent parse calls will find the cursor in the cache and do not need to reopen the cursor. 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:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter and its uses

## SESSION\_MAX\_OPEN\_FILES

<b>Parameter type</b>	Integer
<b>Default value</b>	10
<b>Parameter class</b>	Static
<b>Range of values</b>	1 to either 50 or the value of MAX_OPEN_FILES defined at the operating system level, whichever is less

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.

**See Also:**

- *Oracle9i Application Developer's Guide - Large Objects (LOBs)* for information on LOBs in general and BFILEs in particular
- *Oracle9i Supplied PL/SQL Packages and Types Reference* for information on the DBMS\_LOB.FILEOPEN( ) procedure
- *Oracle Call Interface Programmer's Guide* for information on the OCILobFileOpen( ) procedure

## SESSIONS

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived: (1.1 * PROCESSES) + 5
<b>Parameter class</b>	Static
<b>Range of values</b>	1 to $2^{31}$

SESSIONS specifies the maximum number of sessions that can be created in the system. 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.

In a shared server environment, the value of PROCESSES can be quite small. Therefore, Oracle Corporation recommends that you adjust the value of SESSIONS to approximately 1.1 \* total number of *connections*.

### See Also:

- *Oracle9i Database Concepts* for more information on memory structures and processes
- "[ENQUEUE\\_RESOURCES](#)" on page 1-55 and "[TRANSACTIONS](#)" on page 1-165

## SGA\_MAX\_SIZE

<b>Parameter type</b>	Big integer
<b>Syntax</b>	SGA_MAX_SIZE = <i>integer</i> [K   M   G]

<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>Parameter class</b>	Static
<b>Range of values</b>	0 to operating system-dependent

SGA\_MAX\_SIZE specifies the maximum size of SGA for the lifetime of the instance.

## SHADOW\_CORE\_DUMP

<b>Parameter type</b>	String
<b>Syntax</b>	SHADOW_CORE_DUMP = {partial   full   none}
<b>Default value</b>	partial
<b>Parameter class</b>	Static

SHADOW\_CORE\_DUMP specifies whether Oracle includes the SGA in the core file for foreground (client) processes.

### 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"](#) on page 1-18

## SHARED\_MEMORY\_ADDRESS

<b>Parameter type</b>	Integer
-----------------------	---------

<b>Default value</b>	0
<b>Parameter class</b>	Static

SHARED\_MEMORY\_ADDRESS and HI\_SHARED\_MEMORY\_ADDRESS specify the starting address at runtime of the system global area (SGA). This parameter is ignored on the many platforms that specify the SGA's starting address at linktime.

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" on page 1-64

## SHARED\_POOL\_RESERVED\_SIZE

<b>Parameter type</b>	Big integer
<b>Syntax</b>	SHARED_POOL_RESERVED_SIZE = <i>integer</i> [K   M   G]
<b>Default value</b>	5% of the value of SHARED_POOL_SIZE
<b>Parameter class</b>	Static
<b>Range of values</b>	Minimum: 5000 Maximum: one half of the value of SHARED_POOL_SIZE

SHARED\_POOL\_RESERVED\_SIZE specifies (in bytes) the shared pool space that is reserved for large contiguous requests for shared pool memory.

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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- "SHARED\_POOL\_SIZE" on page 1-151

## SHARED\_POOL\_SIZE

<b>Parameter type</b>	Big integer
<b>Syntax</b>	SHARED_POOL_SIZE = <i>integer</i> [K   M   G]
<b>Default value</b>	32-bit platforms: 8 MB, rounded up to the nearest granule size 64-bit platforms: 64 MB, rounded up to the nearest granule size
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Minimum: the granule size Maximum: operating system-dependent

SHARED\_POOL\_SIZE specifies (in bytes) the size of the shared pool. The shared pool contains shared cursors, stored procedures, control structures, and other structures. If you set PARALLEL\_AUTOMATIC\_TUNING to false, then Oracle also allocates parallel execution message buffers from the shared pool. Larger values improve performance in multi-user systems. Smaller values use less memory.

You can monitor utilization of the shared pool by querying the view V\$SGASTAT.

### See Also:

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- *Oracle9i Database Migration* for information on parallel execution message buffers
- "[PARALLEL\\_AUTOMATIC\\_TUNING](#)" on page 1-121 and "[V\\$SGASTAT](#)" on page 3-141

## SHARED\_SERVER\_SESSIONS

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived: the lesser of CIRCUITS and SESSIONS - 5
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to SESSIONS - 5

SHARED\_SERVER\_SESSIONS specifies the total number of shared server architecture user sessions to allow. Setting this parameter enables you to reserve user sessions for dedicated servers.

**See Also:** *Oracle9i Database Concepts* for more information on memory structures and processes

## SHARED\_SERVERS

<b>Parameter type</b>	Integer
<b>Default value</b>	If you are using shared server architecture, then the value is 1. If you are not using shared server architecture, then the value is 0.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Operating system-dependent

SHARED\_SERVERS specifies the number of server processes that you want to create when an instance is started up. If system load decreases, this minimum number of servers is maintained. Therefore, you should take care not to set SHARED\_SERVERS too high at system startup.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter

## SORT\_AREA\_RETAINED\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived from SORT_AREA_SIZE
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM . . . DEFERRED
<b>Range of values</b>	From the value equivalent of two database blocks to the value of SORT_AREA_SIZE

---

**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.

---

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.

Oracle may allocate multiple sort spaces of this size for each query. Usually, only one or two sorts occur at one time, 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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- "[SORT\\_AREA\\_SIZE](#)" on page 1-153

## SORT\_AREA\_SIZE

<b>Parameter type</b>	Integer
<b>Default value</b>	65536

<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM . . . DEFERRED
<b>Range of values</b>	Minimum: the value equivalent of six database blocks Maximum: operating system-dependent

---

**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.

---

`SORT_AREA_SIZE` specifies in bytes the maximum amount of memory Oracle will use for a sort. 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. Multiple allocations never occur. Only one memory area of `SORT_AREA_SIZE` exists for each user process at any time.

`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:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter
- *Oracle9i Database Concepts* for information on logical storage structures such as sort areas
- Your operating system-specific Oracle documentation for the default value on your system
- "[SORT\\_AREA\\_RETAINED\\_SIZE](#)" on page 1-152

## SPFILE

<b>Parameter type</b>	String
<b>Syntax</b>	<code>SPFILE = spfile_name</code>
<b>Default value</b>	<code>ORACLE_HOME/dbs/spfile.ora</code>
<b>Parameter class</b>	Static
<b>Range of values</b>	Any valid SPFILE
<b>Real Application Clusters</b>	Multiple instances should have the same value.

The value of this parameter is the name of the current server parameter file (SPFILE) in use. 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_HOME/dbs` directory; however, users can place it anywhere on their machine as long as it is specified in an initialization parameter file.

**See Also:** *Oracle9i Database Administrator's Guide* for more information about creating the server parameter file

## SQL\_TRACE

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

The value of SQL\_TRACE disables or enables the SQL trace facility. Setting this parameter to true provides information on tuning that you can use to improve performance. You can change the value using the DBMS\_SYSTEM package.

---

**Caution:** 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, 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:** If you change the value of this parameter by using the ALTER SESSION SET SQL\_TRACE statement, the resulting change will not be reflected in the V\$PARAMETER dynamic performance view. Therefore, this parameter is not considered dynamic. For information on the ALTER SESSION statement, see *Oracle9i SQL Reference*.

---

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information about performance diagnostic tools

## SQL92\_SECURITY

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

The SQL92 standards specify 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. SQL92\_SECURITY lets you specify whether users must have been granted the SELECT object privilege in order to execute such UPDATE or DELETE statements.

## STANDBY\_ARCHIVE\_DEST

<b>Parameter type</b>	String
<b>Syntax</b>	STANDBY_ARCHIVE_DEST = <i>filespec</i>
<b>Default value</b>	Operating system-specific
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	A valid path or device name other than RAW

STANDBY\_ARCHIVE\_DEST is relevant only for a standby database in managed recovery mode. It specifies the location of archive logs arriving from a primary database. Oracle uses STANDBY\_ARCHIVE\_DEST and LOG\_ARCHIVE\_FORMAT to fabricate the fully qualified standby log filenames and stores the filenames in the standby control file.

You can see the value of this parameter by querying the V\$ARCHIVE\_DEST data dictionary view.

**See Also:**

- *Oracle9i Data Guard Concepts and Administration* for more information on setting this parameter and on managed recovery mode in general
- "[LOG\\_ARCHIVE\\_DEST](#)" on page 1-75 and "[V\\$ARCHIVE\\_DEST](#)" on page 3-5

## STANDBY\_FILE\_MANAGEMENT

<b>Parameter type</b>	String
<b>Syntax</b>	<code>STANDBY_FILE_MANAGEMENT = {MANUAL   AUTO}</code>
<b>Default value</b>	MANUAL
<b>Parameter class</b>	Dynamic: <code>ALTER SYSTEM</code>

`STANDBY_FILE_MANAGEMENT` enables or disables automatic standby file management. When automatic standby file management is enabled, operating system file additions and deletions on the primary database are replicated on the standby database.

**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:** *Oracle9i Data Guard Concepts and Administration* for more information about setting this parameter

## STAR\_TRANSFORMATION\_ENABLED

**Parameter type** String

**Syntax** STAR\_TRANSFORMATION\_ENABLED =  
                  {TEMP\_DISABLE | TRUE | FALSE}

**Default value** FALSE

**Parameter class** Dynamic: ALTER SESSION

STAR\_TRANSFORMATION\_ENABLED determines whether a cost-based query transformation will be applied to star queries.

### Values:

- TRUE

The optimizer will consider performing a cost-based query transformation on the star query.

- FALSE

The transformation will not be applied.

- 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:

- *Oracle9i Database Concepts* for information on star queries
- *Oracle9i Database Performance Tuning Guide and Reference* for information on enabling star query

## STATISTICS\_LEVEL

**Parameter type** String

**Syntax** STATISTICS\_LEVEL = {ALL | TYPICAL | BASIC}

**Default value** TYPICAL

**Parameter class** Dynamic: ALTER SESSION, ALTER SYSTEM

STATISTICS\_LEVEL sets the statistics collection level of the database.

## TAPE\_ASYNCNCH\_IO

<b>Parameter type</b>	Boolean
<b>Default value</b>	true
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

TAPE\_ASYNCNCH\_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. If your platform supports asynchronous I/O to sequential devices, Oracle Corporation recommends that you leave this parameter set to its default. However, if the asynchronous I/O implementation is not stable, you can set TAPE\_ASYNCNCH\_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:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on asynchronous I/O and on setting this parameter

## THREAD

<b>Parameter type</b>	Integer
<b>Default value</b>	0
<b>Parameter class</b>	Static
<b>Range of values</b>	0 to the maximum number of enabled threads
<b>Real Application Clusters</b>	If specified, multiple instances must have different values.

THREAD is an Oracle9i Real Application Clusters parameter that specifies the number of the redo thread to be used by an instance.

When you create a database, Oracle creates and enables thread 1 as a **public thread** (one that can be used by any instance). You must create and enable subsequent threads using the ADD LOGFILE THREAD clause and ENABLE THREAD clause of the ALTER DATABASE statement. The number of threads you create is limited by the MAXINSTANCES parameter specified in the CREATE DATABASE statement.

In exclusive mode, thread 1 is the default thread. However, you can specify THREAD for an instance running in exclusive mode if you want to use the redo log files in a thread other than thread 1.

In parallel mode, you can specify any available redo thread number, as long as that thread number is enabled and is not in use by another instance.

A value of zero specifies that this instance can use any available, enabled public thread.

**See Also:** *Oracle9i Real Application Clusters Administration* and  
*Oracle9i SQL Reference*

## TIMED\_OS\_STATISTICS

<b>Parameter type</b>	Integer
<b>Default value</b>	If STATISTICS_LEVEL is set to ALL, then 5 If STATISTICS_LEVEL is set to BASIC or TYPICAL, then 0
<b>Parameter class</b>	Dynamic: ALTER SESSION, ALTER SYSTEM
<b>Range of values</b>	Unlimited

TIMED\_OS\_STATISTICS specifies the interval (in seconds) at which Oracle collects operating system statistics when a request is made from the client to the server or when a request completes.

- 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 Corporation 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.

---

## TIMED\_STATISTICS

<b>Parameter type</b>	Boolean
<b>Default value</b>	If <code>STATISTICS_LEVEL</code> is set to <code>TYPICAL</code> or <code>ALL</code> , then <code>true</code> If <code>STATISTICS_LEVEL</code> is set to <code>BASIC</code> , then <code>false</code>
<b>Parameter class</b>	Dynamic: <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>
<b>Range of values</b>	<code>true</code>   <code>false</code>

`TIMED_STATISTICS` specifies whether or not statistics related to time are collected.

### 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. Normally, `TIMED_STATISTICS` should be `false`.

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:

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on setting this parameter and on performance diagnostic tools in general
- [Appendix C, "Statistics Descriptions"](#) indicates which statistics depend on the setting of this parameter.

## TRACE\_ENABLED

<b>Parameter type</b>	Boolean
<b>Default value</b>	true
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	true   false
<b>Real Application Clusters</b>	You must set this parameter for every instance, and multiple instances must have the same value.

TRACE\_ENABLED controls tracing of the execution history, or code path, of Oracle. Oracle Support Services uses this information for debugging.

When TRACE\_ENABLED is set to true, Oracle records information in specific files when errors occur. See *Oracle9i Real Application Clusters Deployment and Performance* for the types of files and the default destination directories in which Oracle records the execution history.

Oracle records this information for all instances, even if only one instance terminates. This allows Oracle to retain diagnostics for the 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 in the event of unexplained instance failures.

## TRACEFILE\_IDENTIFIER

<b>Parameter type</b>	String
<b>Syntax</b>	TRACEFILE_IDENTIFIER = "traceid"
<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Dynamic: ALTER SESSION
<b>Range of values</b>	Any characters that can occur as part of a file name on the customer platform

`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.

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:** This parameter is not supported on all operating systems. See your operating system-specific Oracle documentation for more information.

## TRANSACTION\_AUDITING

<b>Parameter type</b>	Boolean
<b>Default value</b>	<code>true</code>
<b>Parameter class</b>	Dynamic: <code>ALTER SYSTEM ... DEFERRED</code>
<b>Range of values</b>	<code>true</code>   <code>false</code>

If `TRANSACTION_AUDITING` is `true`, Oracle generates a special redo record that contains the user logon name, username, the session ID, some operating system information, and client information. For each successive transaction, Oracle generates a record that contains only the session ID. These subsequent records link back to the first record, which also contains the session ID.

These records might be useful if you are using a redo log analysis tool. You can access the records by dumping the redo log.

If `TRANSACTION_AUDITING` is `false`, no redo record will be generated.

## TRANSACTIONS

<b>Parameter type</b>	Integer
<b>Default value</b>	Derived: (1.1 * SESSIONS)
<b>Parameter class</b>	Static
<b>Range of values</b>	4 to $2^{32}$
<b>Real Application Clusters</b>	Multiple instances can have different values.

TRANSACTIONS specifies the maximum number of concurrent transactions. Greater values increase the size of the SGA and can increase the number of rollback segments allocated. The default value is greater than SESSIONS (and, in turn, PROCESSES) to allow for recursive transactions.

### See Also:

- *Oracle9i Database Administrator's Guide* for information on setting this parameter
- *Oracle9i Real Application Clusters Administration* for the relationship of this parameter to the number of rollback segments

## TRANSACTIONS\_PER\_ROLLBACK\_SEGMENT

<b>Parameter type</b>	Integer
<b>Default value</b>	5
<b>Parameter class</b>	Static
<b>Range of values</b>	1 to operating system-dependent
<b>Real Application Clusters</b>	Multiple instances can have different values.

TRANSACTIONS\_PER\_ROLLBACK\_SEGMENT specifies the number of concurrent transactions you expect each rollback segment to have to handle. 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:**

- *Oracle9i Database Administrator's Guide* for information on setting this parameter.
- *Oracle9i Real Application Clusters Administration* for how Oracle acquires rollback segments.
- Your operating system-specific Oracle documentation for the range of values for this parameter.

## UNDO\_MANAGEMENT

<b>Parameter type</b>	String
<b>Syntax</b>	UNDO_MANAGEMENT = {MANUAL   AUTO}
<b>Default value</b>	MANUAL
<b>Parameter class</b>	Static
<b>Real Application Clusters</b>	Multiple instances must have the same value.

UNDO\_MANAGEMENT specifies which undo space management mode the system should use. When set to AUTO, the instance starts in automatic undo management mode. In manual undo management mode, undo space is allocated externally as rollback segments.

## UNDO\_RETENTION

<b>Parameter type</b>	Integer
<b>Default value</b>	900
<b>Parameter class</b>	Dynamic: ALTER SYSTEM

**Range of values** 0 to  $2^{32}-1$  (max value represented by 32 bits)

**Real Application Clusters** Multiple instances must have the same value.

UNDO\_RETENTION specifies (in seconds) the amount of committed undo information to retain in the database. You can use UNDO\_RETENTION to satisfy queries that require old undo information to rollback changes to produce older images of data blocks. You can set the value at instance startup.

The UNDO\_RETENTION parameter works best if the current undo tablespace has enough space for the active transactions. If an active transaction needs undo space and the undo tablespace does not have any free space, then the system will start reusing undo space that would have been retained. This may cause long queries to fail. Be sure to allocate enough space in the undo tablespace to satisfy the space requirement for the current setting of this parameter.

**See Also:** *Oracle9i SQL Reference* for more information about creating undo tablespaces

## UNDO\_SUPPRESS\_ERRORS

**Parameter type** Boolean

**Default value** false

**Parameter class** Dynamic: ALTER SESSION, ALTER SYSTEM

**Range of values** true | false

UNDO\_SUPPRESS\_ERRORS enables users to suppress errors while executing manual undo management mode operations (for example, ALTER ROLLBACK SEGMENT ONLINE) in automatic undo management mode. Setting this parameter enables users to use the undo tablespace feature before all application programs and scripts are converted to automatic undo management mode. For example, if you have a tool that uses SET TRANSACTION USE ROLLBACK SEGMENT statement, you can add the statement "ALTER SESSION SET UNDO\_SUPPRESS\_ERRORS = true" to the tool to suppress the ORA-30019 error.

If you want to run in automatic undo management mode, ensure that your tools or applications are updated to run in automatic undo management mode.

## UNDO\_TABLESPACE

<b>Parameter type</b>	String
<b>Syntax</b>	UNDO_TABLESPACE = <i>undoname</i>
<b>Default value</b>	The first available undo tablespace in the database.
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Legal name of an existing undo tablespace
<b>Real Application Clusters</b>	Multiple instances can have different values.

UNDO\_TABLESPACE specifies the undo tablespace to be used when an instance starts up. If this parameter is specified when the instance is in manual undo management mode, an error will occur and startup will fail.

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.

**See Also:** *Oracle9i SQL Reference*.

## USE\_INDIRECT\_DATA\_BUFFERS

<b>Parameter type</b>	Boolean
<b>Default value</b>	false
<b>Parameter class</b>	Static
<b>Range of values</b>	true   false

USE\_INDIRECT\_DATA\_BUFFERS controls how the system global area (SGA) uses memory. It enables or disables the use of the extended buffer cache mechanism for 32-bit platforms that can support more than 4 GB of physical memory. On platforms that do not support this much physical memory, this parameter is ignored.

**See Also:**

- ["LOCK\\_SGA"](#) on page 1-74, ["SHARED\\_MEMORY\\_ADDRESS"](#) on page 1-149, and ["HI\\_SHARED\\_MEMORY\\_ADDRESS"](#) on page 1-64, which are other parameters that control how the SGA uses memory.
- *Oracle9i Database Concepts* for more information about the SGA.

## USER\_DUMP\_DEST

<b>Parameter type</b>	String
<b>Syntax</b>	USER_DUMP_DEST = { <i>pathname</i>   <i>directory</i> }
<b>Default value</b>	Operating system-dependent
<b>Parameter class</b>	Dynamic: ALTER SYSTEM
<b>Range of values</b>	Any valid local path, directory, or disk

USER\_DUMP\_DEST specifies the pathname for a directory where the server will write debugging trace files on behalf of a user process.

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]

**See Also:**

- *Oracle9i Database Performance Tuning Guide and Reference* for more information about the use of trace files
- Your operating system-specific Oracle documentation for the range of values

## UTL\_FILE\_DIR

<b>Parameter type</b>	String
<b>Syntax</b>	UTL_FILE_DIR = <i>pathname</i>

<b>Default value</b>	There is no default value.
<b>Parameter class</b>	Static
<b>Range of values</b>	Any valid directory path

`UTL_FILE_DIR` lets you specify one or more directories that Oracle should use for PL/SQL file I/O. If you are specifying multiple directories, you must repeat the `UTL_FILE_DIR` parameter for each directory on separate lines of the initialization parameter file.

All users can read or write to all files specified by this parameter. Therefore all PL/SQL users must be trusted with the information in the directories specified by this parameter.

---

**Note:** If you list multiple values, all entries of this parameter must be on contiguous lines of the parameter file. If you separate them with other parameters, Oracle will read only the last (contiguous) lines.

---

## WORKAREA\_SIZE\_POLICY

<b>Parameter type</b>	String
<b>Syntax</b>	<code>WORKAREA_SIZE_POLICY = {AUTO   MANUAL}</code>
<b>Default value</b>	If <code>PGA_AGGREGATE_TARGET</code> is set, then <code>AUTO</code> If <code>PGA_AGGREGATE_TARGET</code> is not set, then <code>MANUAL</code>
<b>Parameter class</b>	Dynamic: <code>ALTER SESSION</code> , <code>ALTER SYSTEM</code>

`WORKAREA_SIZE_POLICY` specifies the policy for sizing work areas. This parameter controls the mode in which working areas are tuned.

### Values:

- `AUTO`

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. You can specify `AUTO` only when `PGA_AGGREGATE_TARGET` is defined.

- `MANUAL`

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.



# 2

---

## Static Data Dictionary Views

This chapter 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 a user is granted new privileges). Oracle also maintains tables that monitor ongoing database activity. These **dynamic performance tables** are described in [Chapter 3, "Dynamic Performance \(V\\$\) 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 accessed only by users with the SELECT\_ANY\_TABLE privilege. (This 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.

---

A number of data dictionary views are relevant only if you are using Oracle Replication. [Table 2–1](#) lists these views.

**Table 2–1 Oracle Replication Data Dictionary Views**

ALL_VIEWS	DBA_VIEWS	USER_VIEWS
ALL_REPAUDIT_ATTRIBUTE	DBA_REPAUDIT_ATTRIBUTE	USER_REPAUDIT_ATTRIBUTE
ALL_REPAUDIT_COLUMN	DBA_REPAUDIT_COLUMN	USER_REPAUDIT_COLUMN
ALL_REPCAT	DBA_REPCAT	USER_REPCAT
	DBA_REPCAT_EXCEPTIONS	
ALL_REPCAT_REFRESH_TEMPLATES	DBA_REPCAT_REFRESH_TEMPLATES	USER_REPCAT_REFRESH_TEMPLATES
ALL_REPCAT_TEMPLATE_OBJECTS	DBA_REPCAT_TEMPLATE_OBJECTS	USER_REPCAT_TEMPLATE_OBJECTS
ALL_REPCAT_TEMPLATE_PARMS	DBA_REPCAT_TEMPLATE_PARMS	USER_REPCAT_TEMPLATE_PARMS
ALL_REPCAT_TEMPLATE_SITES	DBA_REPCAT_TEMPLATE_SITES	USER_REPCAT_TEMPLATE_SITES
ALL_REPCAT_USER_AUTHORIZATIONS	DBA_REPCAT_USER_AUTHORIZATIONS	USER_REPCAT_USER_AUTHORIZATIONS
ALL_REPCAT_USER_PARM_VALUES	DBA_REPCAT_USER_PARM_VALUES	USER_REPCAT_USER_PARM_VALUES
ALL_REPCATLOG	DBA_REPCATLOG	USER_REPCATLOG
ALL_REPCOLUMN	DBA_REPCOLUMN	USER_REPCOLUMN
ALL_REPCOLUMN_GROUP	DBA_REPCOLUMN_GROUP	USER_REPCOLUMN_GROUP
ALL_REPCONFICT	DBA_REPCONFICT	USER_REPCONFICT
ALL_REPDLL	DBA_REPDLL	USER_REPDLL
	DBA_REPEXTENSIONS	
ALL_REPFLAVOR_COLUMNS	DBA_REPFLAVOR_COLUMNS	USER_REPFLAVOR_COLUMNS
ALL_REPFLAVOR_OBJECTS	DBA_REPFLAVOR_OBJECTS	USER_REPFLAVOR_OBJECTS
ALL_REPFLAVORS	DBA_REPFLAVORS	USER_REPFLAVORS
ALL_REPGENERATED	DBA_REPGENERATED	USER_REPGENERATED
ALL_REPGENOBJECTS	DBA_REPGENOBJECTS	USER_REPGENOBJECTS
ALL_REPGROUP	DBA_REPGROUP	USER_REPGROUP
ALL_REPGROUP_PRIVILEGES	DBA_REPGROUP_PRIVILEGES	USER_REPGROUP_PRIVILEGES
ALL_REPGROUPED_COLUMN	DBA_REPGROUPED_COLUMN	USER_REPGROUPED_COLUMN
ALL_REPKY_COLUMNS	DBA_REPKY_COLUMNS	USER_REPKY_COLUMNS
ALL_REPOBJECT	DBA_REPOBJECT	USER_REPOBJECT
ALL_REPPARAMETER_COLUMN	DBA_REPPARAMETER_COLUMN	USER_REPPARAMETER_COLUMN
ALL_REPPRIORITY	DBA_REPPRIORITY	USER_REPPRIORITY

---

**Table 2–1 (Cont.) Oracle Replication Data Dictionary Views**

ALL_Views	DBA_VIEWS	USER_VIEWS
ALL_REPPRIORITY_GROUP	DBA_REPPRIORITY_GROUP	USER_REPPRIORITY_GROUP
ALL_REPPROP	DBA_REPPROP	USER_REPPROP
ALL_REPRESOL_STATS_CONTROL	DBA_REPRESOL_STATS_CONTROL	USER_REPRESOL_STATS_CONTROL
ALL_REPRESOLUTION	DBA_REPRESOLUTION	USER_REPRESOLUTION
ALL_REPRESOLUTION_METHOD	DBA_REPRESOLUTION_METHOD	USER_REPRESOLUTION_METHOD
ALL_REPRESOLUTION_STATISTICS	DBA_REPRESOLUTION_STATISTICS	USER_REPRESOLUTION_STATISTICS
ALL_REPSHEMA	DBA_REPSHEMA	USER_REPSHEMA
ALL_REPSITES	DBA_REPSITES	USER_REPSITES
	DBA_REPSITES_NEW	

The following are additional Oracle Replication data dictionary views:

DEFCALL	DEFCALLDEST
DEFDEFAULTDEST	DEFERRCOUNT
DEFERROR	DEFLOB
DEFPROPAGATOR	DEFSCHEDULE
DEFTRAN	DEFTRANDEST

**See Also:** *Oracle9i Replication Management API Reference* for information about these views

A number of data dictionary views are relevant only if you are using Oracle Workspace Manager. [Table 2–2](#) lists these views.

**Table 2–2 Oracle Workspace Manager Data Dictionary Views**

ALL_VIEWS	DBA_VIEWS	USER_VIEWS
ALL_VERSION_HVIEW		
ALL_WM_LOCKED_TABLES		USER_WM_LOCKED_TABLES
ALL_WM_MODIFIED_TABLES		USER_WM_MODIFIED_TABLES
		USER_WM_PRIVS
ALL_WM_RIC_INFO		USER_WM_RIC_INFO
ALL_WM_TAB_TRIGGER		USER_WM_TAB_TRIGGER

**Table 2–2 (Cont.) Oracle Workspace Manager Data Dictionary Views**

ALL_Views	DBA_VIEWS	USER_VIEWS
ALL_WM_VERSIONED_TABLES		USER_WM_VERSIONED_TABLES
ALL_WM_VT_ERRORS		USER_WM_VT_ERRORS
ALL_WORKSPACE_PRIVS		USER_WORKSPACE_PRIVS
ALL_WORKSPACE_SAVEPOINTS		USER_WORKSPACE_SAVEPOINTS
	DBA_WORKSPACE_SESSIONS	
ALL_WORKSPACES		USER_WORKSPACES

The following are additional Oracle Workspace Manager data dictionary views:

ROLE\_WM\_PRIVS WM\_INSTALLATION  
WM\_REPLICATION\_INFO

**See Also:** *Oracle9i Application Developer's Guide - Workspace Manager* for information about these 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_CONTROLFILE
RC_BACKUP_CORRUPTION	RC_BACKUP_DATAFILE
RC_BACKUP_PIECE	RC_BACKUP_REDOLOG
RC_BACKUP_SET	RC_BACKUP_SPFILE
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_CONTROLFILE	RC_PROXY_DATAFILE
RC_REDO_LOG	RC_REDO_THREAD
RC_RESYNC	RC_RMAN_CONFIGURATION

---

RC\_STORED\_SCRIPT

RC\_STORED\_SCRIPT\_LINE

RC\_TABLESPACE

**See Also:** *Oracle9i Recovery Manager Reference* for information about these views

The remainder of this chapter lists the data dictionary views in alphabetical order.

## ALL\_ALL\_TABLES

ALL\_ALL\_TABLES describes all 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 all object tables and relational tables owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )		Owner of the table
TABLE_NAME	VARCHAR2( 30 )		Name of the table
TABLESPACE_NAME	VARCHAR2( 30 )		Name of the tablespace containing the table
CLUSTER_NAME	VARCHAR2( 30 )		Name of the cluster, if any, to which the table belongs
IOT_NAME	VARCHAR2( 30 )		Name of the index-organized table, if any, to which the overflow entry belongs
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
NEXT_EXTENT	NUMBER		Size of secondary extents in bytes
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
FREELISTS	NUMBER		Number of process freelists allocated in this segment
FREELIST_GROUPS	NUMBER		Number of freelist groups allocated in this segment
LOGGING	VARCHAR2( 3 )		Logging attribute
BACKED_UP	VARCHAR2( 1 )		Whether the table has been backed up since the last modification
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

Column	Datatype	NULL	Description
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
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
INSTANCES	VARCHAR2(10)		Number of instances across which the table is to be scanned
CACHE	VARCHAR2(5)		Whether the cluster is to be cached in the buffer cache (CACHE   NOCACHE)
TABLE_LOCK	VARCHAR2(8)		Whether table locking is enabled or 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)		Whether this table is partitioned (YES   NO)
IOT_TYPE	VARCHAR2(12)		If an index-organized table, whether an overflow segment has been specified (OVERFLOW) or not (NULL)
OBJECT_ID_TYPE	VARCHAR2(16)		Whether the object ID is USER-DEFINED or SYSTEM GENERATED
TABLE_TYPE_OWNER	VARCHAR2(30)		If an object table, owner of the type from which the table is created
TABLE_TYPE	VARCHAR2(30)		If an object table, type of the table
TEMPORARY	VARCHAR2(1)		Whether the table is temporary
SECONDARY	VARCHAR2(1)		Whether the table is a secondary object created by the ODCIIndexCreate method of the Oracle9i Data Cartridge to contain the contents of a domain index (Y   N)
NESTED	VARCHAR2(3)		Whether this is a nested table
BUFFER_POOL	VARCHAR2(7)		Default buffer pool for the table
ROW_MOVEMENT	VARCHAR2(8)		If a partitioned table, whether row movement is enabled or disabled

## ALL\_APPLY

---

Column	Datatype	NULL	Description
GLOBAL_STATS	VARCHAR2( 3 )		For partitioned tables, indicates whether statistics were collected by analyzing the table as a whole (YES) or were estimated from statistics on underlying partitions and subpartitions (NO).
USER_STATS	VARCHAR2( 3 )		Whether statistics were entered directly by the user
DURATION	VARCHAR2( 15 )		Indicates the duration of a temporary table: SYS\$SESSION: the rows are preserved for the duration of the session SYS\$TRANSACTION: the rows are deleted after COMMIT Null for a permanent table
SKIP_CORRUPT	VARCHAR2( 8 )		Whether Oracle 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 )		Whether the table has the MONITORING attribute set

## ALL\_APPLY

ALL\_APPLY displays information about the apply processes that dequeue events 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( 30 )	NOT NULL	Name of the apply process
QUEUE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the queue from which the apply process dequeues
QUEUE_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the queue from which the apply process dequeues
APPLY_CAPTURED	VARCHAR2( 3 )		Indicates whether the apply process applies captured events (YES) or user-enqueued events (NO)
RULE_SET_NAME	VARCHAR2( 30 )		Rule set used by the apply process for filtering
RULE_SET_OWNER	VARCHAR2( 30 )		Owner of the rule set
APPLY_USER	VARCHAR2( 30 )	NOT NULL	User who is applying events
APPLY_DATABASE_LINK	VARCHAR2( 128 )		Database link to which changes are applied. If null, then changes are applied to the local database.

Column	Datatype	NULL	Description
APPLY_TAG	RAW(2000)		Tag associated with redo log records that are generated when changes are made by the apply process
DDL_HANDLER	VARCHAR2(92)		Name of the user-specified DDL handler, which handles DDL logical change records
MESSAGE_HANDLER	VARCHAR2(92)		Name of the user-specified procedure that handles dequeued events other than logical change records
STATUS	VARCHAR2(8)		Status of the apply process: <ul style="list-style-type: none"> <li>■ DISABLED</li> <li>■ ENABLED</li> <li>■ ABORTED</li> </ul>

**See Also:** ["DBA\\_APPLY" on page 2-158](#)

## ALL\_APPLY\_CONFLICT\_COLUMNS

ALL\_APPLY\_CONFLICT\_COLUMNS displays information about conflict handlers on the tables accessible to the current user.

### Related View

DBA\_APPLY\_CONFLICT\_COLUMNS displays information about conflict handlers on all tables in the database.

Column	Datatype	NULL	Description
OBJECT_OWNER	VARCHAR2(30)		Owner of the object on which the update conflict handler is defined
OBJECT_NAME	VARCHAR2(30)		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(30)		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" on page 2-159](#)

## 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(30)		Owner of the object on which the DML handler is specified
OBJECT_NAME	VARCHAR2(30)		Name of the object on which the DML handler is specified
OPERATION_NAME	VARCHAR2(12)		Name of the DML operation for which the DML handler is used
USER_PROCEDURE	VARCHAR2(92)		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
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.

See Also: "DBA\_APPLY\_DML\_HANDLERS" on page 2-159

## ALL\_APPLY\_ERROR

ALL\_APPLY\_ERROR displays information about error transactions generated by the apply processes that dequeue events from queues accessible to the current user.

### Related View

DBA\_APPLY\_ERROR displays information about error transactions generated by all apply processes in the database.

Column	Datatype	NULL	Description
APPLY_NAME	VARCHAR2( 30 )		Name of the apply process at the local database which processed the transaction
QUEUE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the queue at the local database from which the transaction was dequeued
QUEUE_OWNER	VARCHAR2( 30 )	NOT NULL	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( 22 )		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 event 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( 30 )		Name of the original user that applied the transaction
MESSAGE_COUNT	NUMBER		Total number of events inside the error transaction

**See Also:** "DBA\_APPLY\_ERROR" on page 2-159

## ALL\_APPLY\_KEY\_COLUMNS

ALL\_APPLY\_KEY\_COLUMNS displays information about substitute key columns for the tables accessible to the current user. Substitute key columns are set using the SET\_KEY\_COLUMNS procedure in the DBMS\_APPLY\_ADM package.

### Related View

DBA\_APPLY\_KEY\_COLUMNS displays information about substitute key columns for all tables in the database.

Column	Datatype	NULL	Description
OBJECT_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the object on which substitute key columns are set

## ALL\_APPLY\_PARAMETERS

---

Column	Datatype	NULL	Description
OBJECT_NAME	VARCHAR2(30)	NOT NULL	Name of the object on which substitute key columns are set
COLUMN_NAME	VARCHAR2(30)	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"](#) on page 2-160

## 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(30)	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"](#) on page 2-160

## 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(30)	NOT NULL	Name of the apply process
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 also may 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 <code>APPLIED_MESSAGE_NUMBER</code> column was applied
APPLIED_MESSAGE_CREATE_TIME	DATE		Time at which the message with the message number displayed in the <code>APPLIED_MESSAGE_NUMBER</code> column was created at its source database

**See Also:** "DBA\_APPLY\_PROGRESS" on page 2-160

## ALL\_ARGUMENTS

`ALL_ARGUMENTS` lists all arguments of procedures and functions that are accessible to the current user.

### Related View

`USER_ARGUMENTS` lists all arguments of procedures and functions that are owned by the current user. This view does not display the `OWNER` column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
OBJECT_NAME	VARCHAR2(30)		Name of the procedure or function
PACKAGE_NAME	VARCHAR2(30)		Name of the procedure or function
OBJECT_ID	NUMBER	NOT NULL	Object number of the object
OVERLOAD	VARCHAR2(40)		Overload unique identifier

## ALL\_ASSOCIATIONS

---

Column	Datatype	NULL	Description
ARGUMENT_NAME	VARCHAR2(30)		Name of the argument
POSITION	NUMBER	NOT NULL	Position in the argument list, or null for a function return value
SEQUENCE	NUMBER	NOT NULL	Argument sequence, including all nesting levels
DATA_LEVEL	NUMBER	NOT NULL	Nesting depth of the argument for composite types
DATA_TYPE	VARCHAR2(30)		Datatype of the argument
DEFAULT_VALUE	LONG		Default value for the argument
DEFAULT_LENGTH	NUMBER		Length of the default value for the argument
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(30)		Owner of the type of the argument
TYPE_NAME	VARCHAR2(30)		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(30)		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.
PLS_TYPE	VARCHAR2(30)		For numeric arguments, the name of the PL/SQL type of the argument. Null otherwise.

## 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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OBJECT_OWNER	VARCHAR2(30)	NOT NULL	Owner of the object for which the association is being defined
OBJECT_NAME	VARCHAR2(30)	NOT NULL	Name of the object for which the association is being defined
COLUMN_NAME	VARCHAR2(30)		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(30)		Owner of the statistics type
STATSTYPE_NAME	VARCHAR2(30)		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 ODCIStats interface. Value is 1 for statistics type implementing Oracle8i 8.1; 0 for types implementing Oracle9i 9.0.0.

## ALL\_AUDIT\_POLICIES

ALL\_AUDIT\_POLICIES describes the fine-grained auditing policies on the tables and views accessible to the current user.

## 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 ( 30 )		Owner of the table or view
OBJECT_NAME	VARCHAR2 ( 30 )		Name of the table or view
POLICY_NAME	VARCHAR2 ( 30 )		Name of the policy
POLICY_TEXT	VARCHAR2 ( 30 )		Audit condition
POLICY_COLUMN	VARCHAR2 ( 30 )		Relevant column
PF_SCHEMA	VARCHAR2 ( 30 )		Owner of the audit handler function
PF_PACKAGE	VARCHAR2 ( 30 )		Name of the package containing the audit handler function
PF_FUNCTION	VARCHAR2 ( 30 )		Name of the audit handler function
ENABLED	VARCHAR2 ( 3 )		Indicates whether the policy is enabled (YES) or disabled (NO)

**See Also:**

- ["DBA\\_AUDIT\\_POLICIES" on page 2-164](#)
- ["USER\\_AUDIT\\_POLICIES" on page 2-264](#)

**ALL\_BASE\_TABLE\_MVIEWS**

ALL\_BASE\_TABLE\_MVIEWS describes all materialized views using materialized view logs accessible to the current user. A materialized view log can be created for a master or base table or a 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 all materialized views using materialized view logs owned by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2 ( 30 )		Schema in which the master table or the master materialized view was created
MASTER	VARCHAR2 ( 30 )		Name of the master table or the master materialized view

Column	Datatype	NULL	Description
MVIEW_LAST_REFRESH_TIME	DATE		Date when the materialized view based on the master was last refreshed
MVIEW_ID	NUMBER		Unique identifier of the materialized view that is based on the master

**See Also:**

- ["DBA\\_BASE\\_TABLE\\_MVIEWS" on page 2-170](#)
- ["USER\\_BASE\\_TABLE\\_MVIEWS" on page 2-265](#)

## 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( 30 )	NOT NULL	Name of the capture process
QUEUE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the queue used for staging captured changes
QUEUE_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the queue used for staging captured changes
RULE_SET_NAME	VARCHAR2( 30 )		Name of the rule set used by the capture process for filtering
RULE_SET_OWNER	VARCHAR2( 30 )		Owner of the rule set
START_SCN	NUMBER		System change number (SCN) from which the capture process will start to capture changes
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 captured message

## ALL\_CAPTURE\_PARAMETERS

---

Column	Datatype	NULL	Description
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.

See Also: ["DBA\\_CAPTURE"](#) on page 2-170

## 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(30)	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.

See Also: ["DBA\\_CAPTURE\\_PARAMETERS"](#) on page 2-171

## 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		Time when the local database was prepared for instantiation

**See Also:** "DBA\_CAPTURE\_PREPARED\_DATABASE" on page 2-171

**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( 30 )	NOT NULL	Name of the schema prepared for instantiation
TIMESTAMP	DATE		Time when the schema was prepared for instantiation

**See Also:** "DBA\_CAPTURE\_PREPARED\_SCHEMAS" on page 2-171

**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(30)		Owner of the table prepared for instantiation
TABLE_NAME	VARCHAR2(30)		Name of the table prepared for instantiation
SCN	NUMBER	NOT NULL	Smallest system change number (SCN) for which the table can be instantiated
TIMESTAMP	DATE		Time when the table was prepared for instantiation

See Also: "DBA\_CAPTURE\_PREPARED\_TABLES" on page 2-171

## ALL\_CATALOG

ALL\_CATALOG lists all indexes, tables, clusters, views, synonyms, and sequences accessible to the current user.

### Related Views

- DBA\_CATALOG lists all indexes, tables, clusters, views, synonyms, and sequences in the entire database.
- USER\_CATALOG lists all indexes, 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(30)	NOT NULL	Owner of the INDEX, TABLE, CLUSTER, VIEW, SYNONYM, SEQUENCE, or UNDEFINED
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the INDEX, TABLE, CLUSTER, VIEW, SYNONYM, SEQUENCE, or UNDEFINED
TABLE_TYPE	VARCHAR2(11)		Type of the INDEX, TABLE, CLUSTER, VIEW, SYNONYM, SEQUENCE, or UNDEFINED

## ALL\_CLUSTER\_HASH\_EXPRESSIONS

ALL\_CLUSTER\_HASH\_EXPRESSIONS lists hash functions for all hash clusters accessible to the current user.

### Related Views

- DBA\_CLUSTER\_HASH\_EXPRESSIONS lists hash functions for all hash clusters in the database.

- **USER\_CLUSTER\_HASH\_EXPRESSIONS** lists hash functions for all hash clusters owned by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Name of the owner of the cluster
CLUSTER_NAME	VARCHAR2( 30 )	NOT NULL	Name of the cluster
HASH_EXPRESSION	LONG		Text of hash function of the hash cluster

## 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( 30 )	NOT NULL	Owner of the cluster
CLUSTER_NAME	VARCHAR2( 30 )	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	NOT NULL	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	NOT NULL	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

## ALL\_COL\_COMMENTS

---

Column	Datatype	NULL	Description
AVG_BLOCKS_PER_KEY	NUMBER		Number of blocks in the table divided by number of cluster keys
CLUSTER_TYPE	VARCHAR2(5)		Type of cluster: B*-Tree index or hash
FUNCTION	VARCHAR2(15)		If a hash cluster, the hash function
HASHKEYS	NUMBER		If a hash cluster, the number of hash keys (hash buckets)
DEGREE	VARCHAR2(10)		Number of threads per instance for scanning the cluster
INSTANCES	VARCHAR2(10)		Number of instances across which the cluster is to be scanned
CACHE	VARCHAR2(5)		Whether the cluster is to be cached in the buffer cache (CACHE   NOCACHE)
BUFFER_POOL	VARCHAR2(7)		Default buffer pool for the cluster
SINGLE_TABLE	VARCHAR2(5)		Whether this is a single-table cluster (Y   N)

## ALL\_COL\_COMMENTS

ALL\_COL\_COMMENTS lists comments on columns of tables and views accessible to the current user.

### Related Views

- DBA\_COL\_COMMENTS lists comments on all tables and views in the database.
- USER\_COL\_COMMENTS lists comments on tables and views owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Name of the column
COMMENTS	VARCHAR2(4000)		Comment on the column

## 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(30)	NOT NULL	Name of the user who performed the grant
GRANTEE	VARCHAR2(30)	NOT NULL	Name of the user to whom access was granted
TABLE_SCHEMA	VARCHAR2(30)	NOT NULL	Schema of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Name of the column
PRIVILEGE	VARCHAR2(40)	NOT NULL	Privilege on the column
GRANTABLE	VARCHAR2(3)		Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)

### See Also:

- "[DBA\\_COL\\_PRIVS](#)" on page 2-172
- "[USER\\_COL\\_PRIVS](#)" on page 2-266

## 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(30)	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object

Column	Datatype	NULL	Description
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Name of the column
GRANTOR	VARCHAR2(30)	NOT NULL	Name of the user who performed the grant
PRIVILEGE	VARCHAR2(40)	NOT NULL	Privilege on the column
GRANTABLE	VARCHAR2(3)		Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)

See Also: ["USER\\_COL\\_PRIVS\\_MADE" on page 2-267](#)

## ALL\_COL\_PRIVS\_REC

ALL\_COL\_PRIVS\_REC 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\_REC 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(30)	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Name of the column
GRANTOR	VARCHAR2(30)	NOT NULL	Name of the user who performed the grant
PRIVILEGE	VARCHAR2(40)	NOT NULL	Privilege on the column
GRANTABLE	VARCHAR2(3)		Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)

See Also: ["USER\\_COL\\_PRIVS\\_REC" on page 2-267](#)

## 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( 30 )	NOT NULL	Owner of the collection
TYPE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the collection
COLL_TYPE	VARCHAR2( 30 )	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 )		Whether the collection
ELEM_TYPE_OWNER	VARCHAR2( 30 )		Owner of the type upon which the collection is based. This value is useful primarily in the case of a user-defined type.
ELEM_TYPE_NAME	VARCHAR2( 30 )		Name of the datatype 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]

## 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(30)	NOT NULL	Owner of the constraint definition
CONSTRAINT_NAME	VARCHAR2(30)	NOT NULL	Name of the constraint definition
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table with constraint definition
COLUMN_NAME	VARCHAR2(4000)		Name of the column or attribute of the object type column specified in the constraint definition  <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: "REF_name" ."attribute"
POSITION	NUMBER		Original position of column or attribute in the definition of the object

## 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( 30 )		Owner of the table
TABLE_NAME	VARCHAR2( 30 )		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( 30 )		Owner of the type that the column (or element) is constrained to
CONS_TYPE_NAME	VARCHAR2( 30 )		Name of the type that the column (or element) is constrained to
CONS_TYPE_ONLY	VARCHAR2( 15 )		Indicates whether the column (or element) is constrained to ONLY type (Y) or not (N)

**See Also:**

- ["DBA\\_CONS\\_OBJ\\_COLUMNS" on page 2-173](#)
- ["USER\\_CONS\\_OBJ\\_COLUMNS" on page 2-267](#)

## 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( 30 )	NOT NULL	Owner of the constraint definition
CONSTRAINT_NAME	VARCHAR2( 30 )	NOT NULL	Name of the constraint definition
CONSTRAINT_TYPE	VARCHAR2( 1 )		Type of 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> </ul>

Column	Datatype	NULL	Description
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name associated with the table (or view) with constraint definition
SEARCH_CONDITION	LONG		Text of search condition for a check constraint
R_OWNER	VARCHAR2(30)		Owner of table referred to in a referential constraint
R_CONSTRAINT_NAME	VARCHAR2(30)		Name of the unique constraint definition for referenced table
DELETE_RULE	VARCHAR2(9)		Delete rule for a referential constraint (CASCADE or NO ACTION)
STATUS	VARCHAR2(8)		Enforcement status of constraint (ENABLED or DISABLED)
DEFERRABLE	VARCHAR2(14)		Whether the constraint is deferrable
DEFERRED	VARCHAR2(9)		Whether the constraint was initially deferred
VALIDATED	VARCHAR2(13)		Whether all data obeys the constraint (VALIDATED or NOT VALIDATED)
GENERATED	VARCHAR2(14)		Whether the name of the constraint is user or system generated
BAD	VARCHAR2(3)		A YES value indicates that this constraint specifies a century in an ambiguous manner. To avoid errors resulting from this ambiguity, rewrite the constraint using the TO_DATE function with a four-digit year. <b>See Also:</b> the TO_DATE function in <i>Oracle9i SQL Reference</i> and <i>Oracle9i Application Developer's Guide - Fundamentals</i>
RELY	VARCHAR2(4)		Whether an enabled constraint is enforced or unenforced. <b>See Also:</b> the constraints in <i>Oracle9i SQL Reference</i>
LAST_CHANGE	DATE		When the constraint was last enabled or disabled
INDEX_OWNER	VARCHAR2(30)		Name of the user owning the index
INDEX_NAME	VARCHAR2(30)		Name of the index

## 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.

## 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( 30 )	NOT NULL	Name of the context namespace
SCHEMA	VARCHAR2( 30 )	NOT NULL	Schema name of the designated package that can set attributes using this namespace
PACKAGE	VARCHAR2( 30 )	NOT NULL	Package name of the designated package that can set attributes using this namespace

## ALL\_DB\_LINKS

`ALL_DB_LINKS` describes database links accessible to the current user. This view does not display the `PASSWORD` column.

### Related Views

- `DBA_DB_LINKS` describes all database links defined in the database. This view does not display the `PASSWORD` column.
- `USER_DB_LINKS` describes database links in the current user's schema. This view does not display the `OWNER` column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Name of the owner of the database link
DB_LINK	VARCHAR2( 12 )	NOT NULL	Name of the database link
USERNAME	VARCHAR2( 30 )		Name of user when logging in
PASSWORD	VARCHAR2( 30 )		Login password for current user
HOST	VARCHAR2( 200 )		Net8 connect string
CREATED	DATE	NOT NULL	Creation time of the database link

## 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:

## ALL\_DEPENDENCIES

---

- - / -: no default auditing
- S / -: auditing whenever successful
- - / S: auditing whenever not successful

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
REF	VARCHAR2( 3 )		Auditing REFERENCES WHENEVER SUCCESSFUL / UNSUCCESSFUL (not used)
EXE	VARCHAR2( 3 )		Auditing EXECUTE WHENEVER SUCCESSFUL / UNSUCCESSFUL

## 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(30)	NOT NULL	Owner of the object
NAME	VARCHAR2(30)	NOT NULL	Name of the object
TYPE	VARCHAR2(12)		Type of object
REFERENCED_OWNER	VARCHAR2(30)		Owner of the parent object
REFERENCED_NAME	VARCHAR2(64)		Type of parent object
REFERENCED_TYPE	VARCHAR2(12)		Type of referenced object
REFERENCED_LINK_NAME	VARCHAR2(128)		Name of the link to the parent object (if remote)
SCHEMAID	NUMBER		ID of the current schema
DEPENDENCY_TYPE	VARCHAR2(4)		Whether the dependency is a REF dependency (REF) or not (HARD)

## 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(30)	NOT NULL	Owner of the dimension
DIMENSION_NAME	VARCHAR2(30)	NOT NULL	Name of the dimension
LEVEL_NAME	VARCHAR2(30)		Name of the hierarchy level
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Dependent column name

## ALL\_DIM\_CHILD\_OF

---

Column	Datatype	NULL	Description
INFERRED	CHAR(1)		Whether inferred

## 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(30)	NOT NULL	Owner of the dimension
DIMENSION_NAME	VARCHAR2(30)	NOT NULL	Name of the dimension
HIERARCHY_NAME	VARCHAR2(30)		Hierarchy name
POSITION	NUMBER	NOT NULL	Hierarchical position within this hierarchy, position 1 being the most detailed
CHILD_LEVEL_NAME	VARCHAR2(30)		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(30)		Parent side of 1:n relationship in relation to the CHILD_LEVEL_NAME

## 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( 30 )	NOT NULL	Owner of the dimension
DIMENSION_NAME	VARCHAR2( 30 )	NOT NULL	Name of the dimension
HIERARCHY_NAME	VARCHAR2( 30 )		Hierarchy name

## 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( 30 )	NOT NULL	Owner of the dimension
DIMENSION_NAME	VARCHAR2( 30 )	NOT NULL	Name of the dimension
DIM_KEY_ID	NUMBER	NOT NULL	Join key ID (unique within a dimension)
LEVEL_NAME	VARCHAR2( 30 )		Name of the hierarchy level
KEY_POSITION	NUMBER	NOT NULL	Ordinal position of the key column within the level
HIERARCHY_NAME	VARCHAR2( 30 )		Name of the hierarchy
CHILD_JOIN_COLUMN	VARCHAR2( 30 )	NOT NULL	Name of the join column

## 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.

## ALL\_DIM\_LEVELS

---

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the dimension
DIMENSION_NAME	VARCHAR2(30)	NOT NULL	Name of the dimension
LEVEL_NAME	VARCHAR2(30)		Name of the hierarchy level
KEY_POSITION	NUMBER	NOT NULL	Ordinal position of the key column within the level
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Name of the key column

## 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(30)	NOT NULL	Owner of the dimension
DIMENSION_NAME	VARCHAR2(30)	NOT NULL	Name of the dimension
LEVEL_NAME	VARCHAR2(30)		Unique within a dimension
NUM_COLUMNS	NUMBER		Number of columns in the level definition
DETAILOBJ_OWNER	VARCHAR2(30)	NOT NULL	Owner of the detail object that the keys of this level come from
DETAILOBJ_NAME	VARCHAR2(30)	NOT NULL	Name of the table that the keys of this level come from

## ALL\_DIMENSIONS

ALL\_DIMENSIONS describes dimension objects accessible to the current user.

### Related Views

- DBA\_DIMENSIONS describes all dimensions in the database.
- USER\_DIMENSIONS describes dimensions in the current user's schema.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the dimension
DIMENSION_NAME	VARCHAR2( 30 )	NOT NULL	Name of the dimension
INVALID	VARCHAR2( 1 )		Whether the dimension is invalid (Y/N)
REVISION	NUMBER		Dimension revision level

## 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( 30 )	NOT NULL	Owner of the directory (always SYS)
DIRECTORY_NAME	VARCHAR2( 30 )	NOT NULL	Name of the directory
DIRECTORY_PATH	VARCHAR2( 4000 )		Operating system pathname for the directory

## ALL\_ERRORS

ALL\_ERRORS describes current errors on all stored objects (views, procedures, functions, packages, and package bodies) accessible to the current user.

### Related Views

- DBA\_ERRORS describes all current errors on all views, procedures, functions, packages, and package bodies in the database.
- USER\_ERRORS describes all current errors on all views, procedures, functions, packages, and package bodies owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the object
NAME	VARCHAR2( 30 )	NOT NULL	Name of the object
TYPE	VARCHAR2( 12 )		Type of object
SEQUENCE	NUMBER	NOT NULL	Sequence number, for ordering

## **ALL\_EVALUATION\_CONTEXT\_TABLES**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
LINE	NUMBER	NOT NULL	Line number at which this error occurs
POSITION	NUMBER	NOT NULL	Position in the line at which this error occurs
TEXT	VARCHAR2(4000)	NOT NULL	Text of the error

## **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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
EVALUATION_CONTEXT_OWNER	VARCHAR2(30)	NOT NULL	Owner of the evaluation context
EVALUATION_CONTEXT_NAME	VARCHAR2(30)	NOT NULL	Name of the evaluation context
TABLE_ALIAS	VARCHAR2(30)		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](#)" on page 2-178
- "[USER\\_EVALUATION\\_CONTEXT\\_TABLES](#)" on page 2-269

## **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
EVALUATION_CONTEXT_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the evaluation context
EVALUATION_CONTEXT_NAME	VARCHAR2( 30 )	NOT NULL	Name of the evaluation context
VARIABLE_NAME	VARCHAR2( 30 )		Name of a variable in the evaluation context
VARIABLE_TYPE	VARCHAR2( 4000 )		Datatype of the variable
VARIABLE_VALUE_FUNCTION	VARCHAR2( 4000 )		Function used to retrieve the value of the variable (NULL for variables that are not implicit)
VARIABLE_METHOD_FUNCTION	VARCHAR2( 228 )		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](#)" on page 2-179
- "[USER\\_EVALUATION\\_CONTEXT\\_VARS](#)" on page 2-270

## 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.

## **ALL\_EXTERNAL\_LOCATIONS**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
EVALUATION_CONTEXT_OWNER	VARCHAR2(30)	NOT NULL	Owner of the evaluation context
EVALUATION_CONTEXT_NAME	VARCHAR2(30)	NOT NULL	Name of the evaluation context
EVALUATION_FUNCTION	VARCHAR2(4000)		Evaluation function associated with the evaluation context, if any
EVALUATION_CONTEXT_COMMENT	VARCHAR2(4000)		Comment specified with the evaluation context, if any

### **See Also:**

- ["DBA\\_EVALUATION\\_CONTEXTS" on page 2-179](#)
- ["USER\\_EVALUATION\\_CONTEXTS" on page 2-270](#)

## **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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2(30)	NOT NULL	Owner of the external table location
TABLE_NAME	VARCHAR2(30)	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(30)		Name of the directory containing the external table location

**See Also:**

- ["DBA\\_EXTERNAL\\_LOCATIONS" on page 2-181](#)
- ["USER\\_EXTERNAL\\_LOCATIONS" on page 2-270](#)

## 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(30)	NOT NULL	Owner of the external table
TABLE_NAME	VARCHAR2(30)	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(30)	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 (can be <code>NULL</code> )
DEFAULT_DIRECTORY_NAME	VARCHAR2(30)	NOT NULL	Name of the default directory for the external table (can be <code>NULL</code> )
REJECT_LIMIT	NUMBER		Reject limit for the external table (default is 0)
ACCESS_TYPE	VARCHAR2(7)		Type of access parameters for the external table (CLOB/BLOB)
ACCESS_PARAMETERS	VARCHAR2(4000)		Access parameters for the external table

**See Also:**

- ["DBA\\_EXTERNAL\\_TABLES" on page 2-181](#)
- ["USER\\_EXTERNAL\\_TABLES" on page 2-270](#)

## ALL\_IND\_COLUMNS

ALL\_IND\_COLUMNS describes the columns of indexes on all tables accessible to the current user.

---

**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.

---

### 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.

Column	Datatype	NULL	Description
INDEX_OWNER	VARCHAR2(30)	NOT NULL	Owner of the index
INDEX_NAME	VARCHAR2(30)	NOT NULL	Name of the index
TABLE_OWNER	VARCHAR2(30)	NOT NULL	Owner of the table or cluster
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table or cluster
COLUMN_NAME	VARCHAR2(4000)		Column name or attribute of object type column
			<p><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:</p> <p>"REF_name" ."attribute"</p>
COLUMN_POSITION	NUMBER	NOT NULL	Position of 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
DESCEND	VARCHAR2(4)		Whether the column is sorted in descending order (Y/N)

## 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(30)	NOT NULL	Index owner
INDEX_NAME	VARCHAR2(30)	NOT NULL	Index name
TABLE_OWNER	VARCHAR2(30)	NOT NULL	Table or cluster owner
TABLE_NAME	VARCHAR2(30)	NOT NULL	Table or cluster name
COLUMN_EXPRESSION	LONG		Function-based index expression defining the column
COLUMN_POSITION	NUMBER	NOT NULL	Position of column or attribute within index

## ALL\_IND\_PARTITIONS

ALL\_IND\_PARTITIONS describes, for each index partition accessible to the current user, the partition-level partitioning information, the storage parameters for the partition, and various partition statistics collected by ANALYZE statements.

### 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	Description
INDEX_OWNER	VARCHAR2(30)	Owner of the index
INDEX_NAME	VARCHAR2(30)	Name of the index
COMPOSITE	VARCHAR2(3)	Whether the partition belongs to a local index on a composite-partitioned table (YES   NO)

## ALL\_IND\_PARTITIONS

---

Column	Datatype	Description
PARTITION_NAME	VARCHAR2(30)	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 partition bound value expression
PARTITION_POSITION	NUMBER	Position of the partition within the index
STATUS	VARCHAR2(8)	Whether index partition is USABLE or 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
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)	Logging attribute of partition
COMPRESSION	VARCHAR2(8)	Indicates whether key compression is ENABLED or DISABLED for a partitioned index. NULL for a nonpartitioned index.
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 UNIQUE and PRIMARY KEY 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.

Column	Datatype	Description
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 by the ANALYZE statement
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
USER_STATS	VARCHAR2( 3 )	Indicates whether the 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 )	Indicates whether statistics for the partition were collected for the partition as a whole (YES) or were estimated from statistics on underlying subpartitions (NO).
DOMIDX_OPSTATUS	VARCHAR2( 6 )	
PARAMETERS	VARCHAR2( 1000 )	

## ALL\_IND\_SUBPARTITIONS

ALL\_IND\_SUBPARTITIONS describes, for each index subpartition accessible to the current user, the partition-level partitioning information, the storage parameters for the subpartition, and various partition statistics collected by ANALYZE statements.

### 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( 30 )	NOT NULL	Owner of the index
INDEX_NAME	VARCHAR2( 30 )	NOT NULL	Name of the index
PARTITION_NAME	VARCHAR2( 30 )		Name of the partition

## ALL\_IND\_SUBPARTITIONS

---

Column	Datatype	NULL	Description
SUBPARTITION_NAME	VARCHAR2(30)		Name of the subpartition
SUBPARTITION_POSITION	NUMBER	NOT NULL	Position of a subpartition within a partition
STATUS	VARCHAR2(8)		Whether index partition is usable or not
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	NOT NULL	Minimum number of extents allowed in the segment
MAX_EXTENT	NUMBER	NOT NULL	Maximum number of extents 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)		Logging attribute of partition
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 UNIQUE and PRIMARY KEY 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.

Column	Datatype	NULL	Description
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
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 )		Default buffer pool for the subpartition
USER_STATS	VARCHAR2( 3 )		Whether the statistics were entered directly by the user
GLOBAL_STATS	VARCHAR2( 3 )		Indicates whether column statistics for the subpartition statistics were collected by analyzing the table as a whole (YES) or estimated from statistics gathered on partitions and subpartitions (NO).

## ALL\_INDEXES

ALL\_INDEXES describes indexes on all tables accessible to the current user. To gather statistics for this view and the related views DBA\_INDEXES and USER\_INDEXES, use the SQL ANALYZE statement.

---

**Note:** Column names followed by an asterisk are populated only if you collect statistics on the index using the ANALYZE statement or 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.

Column	Datatype	NULL	Description
OWNER	VARCHAR2 ( 30 )	NOT NULL	Owner of the index
INDEX_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the index
INDEX_TYPE	VARCHAR2 ( 12 )		Type of index (NORMAL, BITMAP, FUNCTION-BASED NORMAL, FUNCTION-BASED BITMAP, or DOMAIN)
TABLE_OWNER	VARCHAR2 ( 30 )	NOT NULL	Owner of the indexed object
TABLE_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the indexed object
TABLE_TYPE	CHAR ( 5 )		Type of the indexed object (for example, TABLE, CLUSTER)
UNIQUENESS	VARCHAR2 ( 9 )		Whether the index is UNIQUE or NONUNIQUE
COMPRESSION	VARCHAR2 ( 11 )		Whether the index is ENABLED or DISABLED
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 data dictionary views.
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 )		Logging information
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

Column	Datatype	NULL	Description
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 (USER_TABLES.NUM_ROWS)
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 UNIQUE and PRIMARY KEY 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>
STATUS	VARCHAR2(8)		Whether a nonpartitioned index is VALID or UNUSABLE
NUM_ROWS	NUMBER		Number of rows in the index
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
INSTANCES	VARCHAR2(40)		Number of instances across which the indexes to be scanned
PARTITIONED	VARCHAR2(3)		Whether this index is partitioned (YES   NO)
TEMPORARY	VARCHAR2(1)		Whether the index is on a temporary table
GENERATED	VARCHAR2(1)		Whether the name of the index is system generated (Y   N)
SECONDARY	VARCHAR2(1)		Whether the index is a secondary object created by the ODCIIndexCreate method of the Oracle9i Data Cartridge (Y   N)
BUFFER_POOL	VARCHAR2(7)		Name of the default buffer pool to be used for the index blocks

## ALL\_INDEXTYPE\_COMMENTS

---

Column	Datatype	NULL	Description
USER_STATS	VARCHAR2(3)		Whether the statistics were entered directly by the user
DURATION	VARCHAR2(15)		Indicates the duration of a temporary table: <ul style="list-style-type: none"><li>▪ <b>SYS\$SESSION:</b> the rows are preserved for the duration of the session</li><li>▪ <b>SYS\$TRANSACTION:</b> the rows are deleted after COMMIT</li></ul>
			Null for a permanent table
PCT_DIRECT_ACCESS	NUMBER		For a secondary index on an index-organized table, the percentage of rows with VALID guess
ITYP_OWNER	NUMBER		For a domain index, the owner of the indextype
ITYP_NAME	VARCHAR2(30)		For a domain index, the name of the indextype
PARAMETERS	VARCHAR2(1000)		For a domain index, the parameter string
GLOBAL_STATS	VARCHAR2(3)		For partitioned indexes, indicates whether statistics were collected by analyzing index as a whole (YES) or were estimated from statistics on underlying index partitions and subpartitions (NO).
DOMIDX_STATUS	VARCHAR		Reflects the status of the domain index <ul style="list-style-type: none"><li>▪ <b>NULL:</b> the specified index is not a domain index</li><li>▪ <b>VALID:</b> the index is a valid domain index</li><li>▪ <b>IDXTYP_INVLD:</b> the indextype of this domain index is invalid</li></ul>
DOMIDX_OPSTATUS	VARCHAR		Reflects the status of an operation that was performed on a domain index <ul style="list-style-type: none"><li>▪ <b>NULL:</b> the specified index is not a domain index</li><li>▪ <b>VALID:</b> the operation performed without errors</li><li>▪ <b>FAILED:</b> the operation failed with an error</li></ul>
FUNCIDX_STATUS	VARCHAR		Indicates the status of a function-based index <ul style="list-style-type: none"><li>▪ <b>NULL:</b> this is not a function-based index</li><li>▪ <b>ENABLED:</b> the function-based index is enabled</li><li>▪ <b>DISABLED:</b> the function-based index is disabled</li></ul>

## ALL\_INDEXTYPE\_COMMENTS

ALL\_INDEXTYPE\_COMMENTS lists all comments for user-defined indextypes accessible to the current user.

### Related Views

- [DBA\\_INDEXTYPE\\_COMMENTS](#) lists all comments for user-defined indextypes in the database.
- [USER\\_INDEXTYPE\\_COMMENTS](#) lists all comments for user-defined indextypes owned by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the user-defined indextype
INDEXTYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the user-defined indextype
COMMENTS	VARCHAR2(4000)		Comment for the user-defined indextype

### See Also:

- ["DBA\\_INDEXTYPE\\_COMMENTS" on page 2-183](#)
- ["USER\\_INDEXTYPE\\_COMMENTS" on page 2-272](#)

## 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(30)	NOT NULL	Owner of the indextype
INDEXTYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the indextype
OPERATOR_SCHEMA	VARCHAR2(30)	NOT NULL	Name of the operator schema
OPERATOR_NAME	VARCHAR2(30)	NOT NULL	Name of the operator for which the indextype is defined
BINDING#	NUMBER	NOT NULL	Binding# associated with the operator

**See Also:**

- ["DBA\\_INDEXTYPE\\_OPERATORS" on page 2-184](#)
- ["USER\\_INDEXTYPE\\_OPERATORS" on page 2-272](#)

## ALL\_INDEXTYPES

ALL\_INDEXTYPES describes all indextypes accessible to the current user.

**Related Views**

- DBA\_INDEXTYPES describes all indextypes in the database.
- USER\_INDEXTYPES describes all indextypes owned by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the indextype
INDEXTYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the indextype
IMPLEMENTATION_SCHEMA	VARCHAR2(30)	NOT NULL	Name of the schema for indextype implementation (that is, containing the indextype operators)
IMPLEMENTATION_NAME	VARCHAR2(30)	NOT NULL	Name of indextype implementation type
INTERFACE_VERSION	NUMBER		Version of indextype interface
IMPLEMENTATION_VERSION	NUMBER	NOT NULL	Version of indextype implementation
NUMBER_OF_OPERATORS	NUMBER		Number of operators associated with the indextype
PARTITIONING	VARCHAR2(10)		Kinds of local partitioning supported by the indextype

**See Also:**

- ["DBA\\_INDEXTYPES" on page 2-184](#)
- ["USER\\_INDEXTYPES" on page 2-272](#)

## ALL\_INTERNAL\_TRIGGERSS

ALL\_INTERNAL\_TRIGGERSS 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.

### Related Views

- `DBA_INTERNAL_TRIGGER`s describes internal triggers on all tables in the database. This view does not display the `OWNER_NAME` column.
- `USER_INTERNAL_TRIGGER`s 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(30)		Name of the table on which the trigger is defined
OWNER_NAME	VARCHAR2(30)		Owner of the table
INTERNAL_TRIGGER_TYPE	VARCHAR2(19)		Indicates the type of internal trigger on the table

## 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(30)	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

Column	Datatype	NULL	Description
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" on page 2-184
- "USER\_JAVA\_ARGUMENTS" on page 2-272

## 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(30)	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

Column	Datatype	NULL	Description
MINOR	NUMBER		Minor version number of the Java class, as defined in the JVM specification
KIND	VARCHAR2(9)		Indicates whether the stored object is a Java class (CLASS) or a Java interface (INTERFACE)
ACCESSIBILITY	VARCHAR2(6)		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_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" on page 2-184](#)
- ["USER\\_JAVA\\_CLASSES" on page 2-273](#)

## 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(30)	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
RESOURCE_INDEX	NUMBER		Index of the derived Java resource object
RESOURCE_NAME	VARCHAR2(4000)		Name of the derived Java resource object

**See Also:**

- ["DBA\\_JAVA\\_DERIVATIONS" on page 2-184](#)
- ["USER\\_JAVA\\_DERIVATIONS" on page 2-273](#)

## 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(30)	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)

Column	Datatype	NULL	Description
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)
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" on page 2-185](#)
- ["USER\\_JAVA\\_FIELDS" on page 2-273](#)

## ALL\_JAVA\_IMPLEMENT

ALL\_JAVA\_IMPLEMENT describes interfaces implemented by the stored Java classes accessible to the current user.

**Related Views**

- DBA\_JAVA\_IMPLEMENT describes interfaces implemented by all stored Java classes in the database.
- USER\_JAVA\_IMPLEMENT 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(30)	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 INTERFACE_INDEX column

**See Also:**

- "DBA\_JAVA\_IMPLEMENTS" on page 2-185
- "USER\_JAVA\_IMPLEMENTS" on page 2-273

## 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(30)	NOT NULL	Owner of the Java class
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)

Column	Datatype	NULL	Description
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)

**See Also:**

- ["DBA\\_JAVA\\_INNERS" on page 2-185](#)
- ["USER\\_JAVA\\_INNERS" on page 2-273](#)

## 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( 30 )	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

Column	Datatype	NULL	Description
NATIVE_METHODS	NUMBER		Number of locally declared native methods that this Java class contains

**See Also:**

- ["DBA\\_JAVA\\_LAYOUTS" on page 2-185](#)
- ["USER\\_JAVA\\_LAYOUTS" on page 2-274](#)

## 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( 30 )	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 METHOD_INDEX column
ACCESSIBILITY	VARCHAR2( 9 )		Accessibility of the method: <ul style="list-style-type: none"> <li>■ PUBLIC</li> <li>■ PRIVATE</li> <li>■ PROTECTED</li> </ul>
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)

Column	Datatype	NULL	Description
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_STRICT	VARCHAR2( 3 )		Indicates whether the method is a strict method (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

#### See Also:

- "DBA\_JAVA\_METHODS" on page 2-185
- "USER\_JAVA\_METHODS" on page 2-274

## 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(30)	NOT NULL	Owner of the Java class object
NAME	VARCHAR2(4000)		Name of the Java class object
SOURCE	VARCHAR2(4000)		ncomp source shown in this row
INITIALIZER	VARCHAR2(4000)		ncomp initializer shown in this row
LIBRARYFILE	VARCHAR2(4000)		ncomp library file shown in this row
LIBRARY	VARCHAR2(4000)		ncomp library shown in this row

#### See Also:

- ["DBA\\_JAVA\\_NCOMPS" on page 2-185](#)
- ["USER\\_JAVA\\_NCOMPS" on page 2-274](#)

## 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(30)	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 TERM_INDEX column
SCHEMA	VARCHAR2(64)		Resolver schema of the resolver term identified by the TERM_INDEX column

**See Also:**

- ["DBA\\_JAVA\\_RESOLVERS" on page 2-186](#)
- ["USER\\_JAVA\\_RESOLVERS" on page 2-274](#)

## 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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2( 30 )	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" on page 2-187](#)
- ["USER\\_JAVA\\_THROWS" on page 2-275](#)

## ALL\_JOBS

ALL\_JOBS describes all jobs in the database that are accessible to the current user.

**See Also:** *Oracle9i Database Administrator's Guide*

### Related Views

- DBA\_JOBS describes all jobs in the database.
- USER\_JOBS describes all 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(30)	NOT NULL	Login user when the job was submitted
PRIV_USER	VARCHAR2(30)	NOT NULL	User whose default privileges apply to this job
SCHEMA_USER	VARCHAR2(30)	NOT NULL	Default schema used to parse the job  For example, if the SCHEMA_USER is SCOTT and you submit the procedure HIRE_EMP as a job, Oracle 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. This is when the last successful execution started.
TOTAL_TIME	NUMBER		Total wall clock time spent by the system on this job, in seconds
BROKEN	VARCHAR2(1)		Y: no attempt is made to run this job 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 this job has started and failed since its last success
WHAT	VARCHAR2(4000)		Body of the anonymous PL/SQL block that this job executes
NLS_ENV	VARCHAR2(4000)		Session parameters describing the NLS environment of the job
MISC_ENV	RAW(32)		Other session parameters that apply to this job
INSTANCE	NUMBER		ID of the instance that can execute or is executing the job. The default is 0.

## ALL\_JOIN\_IND\_COLUMNS

ALL\_JOIN\_IND\_COLUMNS describes the join conditions of bitmap join indexes to which you have access. 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 exiting in the database.
- USER\_JOIN\_IND\_COLUMNS describes join conditions owned by the current user. This view does not display the INDEX\_OWNER column.

Column	Datatype	Description
INDEX_OWNER	VARCHAR2(30)	Bitmap join index owner
INDEX_NAME	VARCHAR2(30)	Name of bitmap join index
INNER_TABLE_OWNER	VARCHAR2(30)	Fact table owner
INNER_TABLE_NAME	VARCHAR2(30)	Name of the fact table
OUTER_TABLE_OWNER	VARCHAR2(30)	Dimension table owner
OUTER_TABLE_NAME	VARCHAR2(30)	Name of the dimension table
COL_NAME_INNER	VARCHAR2(4000)	Name of the fact table join column
COL_NAME_OUTER	VARCHAR2(4000)	Name of the dimension table join column

## ALL\_LIBRARIES

ALL\_LIBRARIES describes all the libraries that are accessible to the current user.

### Related Views

- DBA\_LIBRARIES describes all libraries in the database.
- USER\_LIBRARIES describes libraries owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the library
LIBRARY_NAME	VARCHAR2(30)	NOT NULL	Library name

## ALL\_LOB\_PARTITIONS

---

Column	Datatype	NULL	Description
FILE_SPEC	VARCHAR2(2000)		Operating system file specification associated with the library
DYNAMIC	VARCHAR2(1)		Whether the library is dynamically loadable (YES   NO)
STATUS	VARCHAR2(7)		Status of the library (VALID, INVALID, or N/A)

## ALL\_LOB\_PARTITIONS

ALL\_LOB\_PARTITIONS displays LOB partitions contained in tables accessible to the current user.

### Related Views

- DBA\_LOB\_PARTITIONS describes all LOB partitions in the database.
- USER\_LOB\_PARTITIONS describes the LOB partitions owned by the current user. This view does not display the TABLE\_OWNER column.

Column	Datatype	NULL	Description
TABLE_OWNER	VARCHAR2(30)		Owner of the table
TABLE_NAME	VARCHAR2(30)		Name of the table
COLUMN_NAME	VARCHAR2(30)		Name of the LOB column
LOB_NAME	VARCHAR2(30)		Name of the partitioned LOB item
PARTITION_NAME	VARCHAR2(30)		Name of the table partition
LOB_PARTITION_NAME	VARCHAR2(30)		Name of the LOB data partition
LOB_INDPART_NAME	VARCHAR2(30)		Name of the corresponding LOB index partition
PARTITION_POSITION	NUMBER		Position of the LOB data partition within the LOB item
COMPOSITE	VARCHAR2(3)		Whether the partition is composite (YES   NO)
CHUNK	NUMBER		Value of the CHUNK attribute of the LOB data partition
PCTVERSION	NUMBER		Value of the PCTVERSION attribute of the LOB data partition
CACHE	VARCHAR2(3)		Whether and how the cluster is to be cached in the buffer cache (CACHE, NOCACHE, CACHEREADS)
IN_ROW	VARCHAR2(3)		Whether the STORAGE IN ROW attribute is enabled for the LOB data partition

Column	Datatype	NULL	Description
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
NEXT_EXTENT	VARCHAR2( 40 )		Size in bytes of secondary extents of the LOB data partition
MIN_EXTENTS	VARCHAR2( 40 )		Minimum number of extents allowed in the segment of the LOB data partition
MAX_EXTENTS	VARCHAR2( 40 )		Maximum number of extents allowed in the segment of the LOB data partition
PCT_INCREASE	VARCHAR2( 40 )		Percentage increase in extent size for the LOB data partition
FREELISTS	VARCHAR2( 40 )		Number of process frelists 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( 7 )		Logging attribute of the LOB data partition
BUFFER_POOL	VARCHAR2( 7 )		Default buffer pool for the LOB partition blocks

## ALL\_LOB\_SUBPARTITIONS

ALL\_LOB\_SUBPARTITIONS displays partition-level attributes of LOB data subpartitions accessible to the current user.

### Related Views

- DBA\_LOB\_SUBPARTITIONS describes all LOB subpartitions in the database.
- USER\_LOB\_SUBPARTITIONS describes the LOB subpartitions owned by the current user. This view does not display the TABLE\_OWNER column.

Column	Datatype	NULL	Description
TABLE_OWNER	VARCHAR2( 30 )		Owner of the table
TABLE_NAME	VARCHAR2( 30 )		Name of the table
COLUMN_NAME	VARCHAR2( 30 )		Name of the LOB column
LOB_NAME	VARCHAR2( 30 )		Name of the partitioned LOB item
LOB_PARTITION_NAME	VARCHAR2( 30 )		Name of LOB data partition to which this LOB data subpartition belongs

## ALL\_LOB\_TEMPLATES

---

Column	Datatype	NULL	Description
SUBPARTITION_NAME	VARCHAR2(30)		Name of the table subpartition to which this LOB subpartition corresponds
LOB_SUBPARTITION_NAME	VARCHAR2(30)		Name of the LOB subpartition
LOB_INDSUBPART_NAME	VARCHAR2(30)		Name of corresponding LOB index subpartition
SUBPARTITION_POSITION	NUMBER		Position of the LOB data partition within the LOB item
CHUNK	NUMBER		Value of the CHUNK attribute of the LOB data partition
PCTVERSION	NUMBER		Value of the PCTVERSION attribute of the LOB data partition
CACHE	VARCHAR2(3)		Whether and how the cluster is to be cached in the buffer cache (CACHE, NOCACHE, CACHEREADS)
IN_ROW	VARCHAR2(3)		Whether the STORAGE IN ROW attribute of the LOB data partition is enabled
TABLESPACE_NAME	VARCHAR2(30)		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)		Minimum number of extents allowed in the segment of the LOB data partition
MAX_EXTENTS	VARCHAR2(40)		Maximum number of extents allowed in the segment of the LOB data partition
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(7)		Logging attribute of the LOB data partition
BUFFER_POOL	VARCHAR2(7)		Default buffer pool to be used for the LOB data partition blocks

---

## 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(30)	NOT NULL	Owner of the table
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table
LOB_COL_NAME	VARCHAR2(4000)		Name of the LOB column
SUBPARTITION_NAME	VARCHAR2(34)	NOT NULL	Name of the subpartition
LOB_SEGMENT_NAME	VARCHAR2(34)	NOT NULL	Name of the LOB segment
TABLESPACE_NAME	VARCHAR2(30)		Tablespace name of the subpartition

### See Also:

- ["DBA\\_LOB\\_TEMPLATES" on page 2-189](#)
- ["USER\\_LOB\\_TEMPLATES" on page 2-276](#)

## 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(30)		Owner of the object containing the LOB
TABLE_NAME	VARCHAR2(30)		Name of the object containing the LOB
COLUMN_NAME	VARCHAR2(4000)		Name of the LOB column or attribute

## ALL\_LOG\_GROUP\_COLUMNS

---

Column	Datatype	NULL	Description
SEGMENT_NAME	VARCHAR2(30)		Name of the LOB segment
INDEX_NAME	VARCHAR2(30)		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
CACHE	VARCHAR2(10)		Whether and how the cluster is to be cached in the buffer cache (YES, NO, CACHEREADS)
LOGGING	VARCHAR2(7)		Indicates whether changes to the LOB are logged
IN_ROW	VARCHAR2(3)		Indicates whether some of the LOBs are stored inline with the base row

## 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\_COLUMN\_GROUPS describes columns that are owned by the current user and that are specified in log groups.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the log group definition
LOG_GROUP_NAME	VARCHAR2(30)	NOT NULL	Name of the log group definition
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table with log group definition
COLUMN_NAME	VARCHAR2(4000)	NOT NULL	Name of the column or attribute of the object type column specified in the log group definition
POSITION	NUMBER		Original position of column or attribute in the definition of the object

## ALL\_LOG\_GROUPS

ALL\_LOG\_GROUPS describes log group definitions on tables accessible to the current user.

### Related Views

- DBA\_LOG\_GROUPS describes log group definitions on tables owned by the current users.
- USER\_LOG\_GROUPS describes log group definitions on all tables in the database.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the log group definition
LOG_GROUP_NAME	VARCHAR2(30)	NOT NULL	Name of the log group definition
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table with log group definition
ALWAYS	VARCHAR2(6)		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.

## 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(30)	NOT NULL	Owner of the type
TYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the type
METHOD_NAME	VARCHAR2(30)	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.

Column	Datatype	NULL	Description
PARAM_NAME	VARCHAR2(30)	NOT NULL	Name of the parameter
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(30)		Owner of the type of the parameter
PARAM_TYPE_NAME	VARCHAR2(30)		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" on page 2-196](#)
- ["USER\\_METHOD\\_PARAMS" on page 2-276](#)

## 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(30)	NOT NULL	Owner of the type
TYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the type
METHOD_NAME	VARCHAR2(30)	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)	NOT NULL	Whether this result is a REF to another object
RESULT_TYPE_OWNER	VARCHAR2(30)		Owner of the type of the result

Column	Datatype	NULL	Description
RESULT_TYPE_NAME	VARCHAR2(30)		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" on page 2-196](#)
- ["USER\\_METHOD\\_RESULTS" on page 2-276](#)

## 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.

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" prior to Oracle8i and that were never altered to enable query rewrite.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the materialized view
MVIEW_NAME	VARCHAR2(30)	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 <a href="#">"ALL_MVIEW_KEYS" on page 2-75</a> .
CONTAINER_COLUMN	VARCHAR2(30)	NOT NULL	Name of this column in the container table
AGG_FUNCTION	VARCHAR2(8)		Aggregation function
DISTINCTFLAG	VARCHAR2(1)		Whether this aggregation is distinct (Y   N)

Column	Datatype	NULL	Description
MEASURE	LONG		SQL text of the measure, excluding the aggregation function. Equal to * for COUNT( * ).

## 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 Corporation recommends that you refer to `ALL_MVIEWS` for this information instead of these views.

---

Column	Datatype	NULL	Description
OWNER	VARCHAR2 ( 30 )	NOT NULL	Owner of the materialized view
MVIEW_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the materialized view
MVIEW_TABLE_OWNER	VARCHAR2 ( 30 )	NOT NULL	Owner of the container table (see next column)
CONTAINER_NAME	VARCHAR2 ( 30 )		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 in releases before 8.1 (or under pre-8.1 compatibility mode), Oracle attaches the 6-byte prefix <code>SNAP\$_. If <code>MVIEW_NAME</code> has more than 19 bytes, Oracle truncates the name to 19 bytes and adds a 4-byte sequence number as a suffix to produce a nonambiguous <code>CONTAINER_NAME</code>.</code>
LAST_REFRESH_SCN	NUMBER		System change number (SCN) of the last refresh operation
LAST_REFRESH_DATE	DATE		SYSDATE of the last refresh

Column	Datatype	NULL	Description
REFRESH_METHOD	VARCHAR2( 8 )		Default refresh method: FORCE, FAST, COMPLETE, or NONE
SUMMARY	VARCHAR2( 1 )		Whether this materialized view includes a GROUP BY clause or aggregation (Y   N)
FULLREFRESHTIM	NUMBER		Approximate refresh time, in seconds, for full refresh (defined only when SUMMARY = Y)
INCREFRESHTIM	NUMBER		Approximate refresh time, in seconds, for fast refresh (defined only when SUMMARY = Y)
CONTAINS_VIEWS	VARCHAR2( 1 )		Whether this materialized view contains a view in its definition (Y   N)
UNUSABLE	VARCHAR2( 1 )		Whether this materialized view is UNUSABLE (inconsistent data) (Y   N). A materialized view can be UNUSABLE if a system failure occurs during a full refresh.
RESTRICTED_SYNTAX	VARCHAR2( 1 )		Whether this materialized view had a restriction in its defining query that limits the use of query rewrite (Y   N). More complete information is provided by the REWRITE_CAPABILITY column of the ALL_DBA_ and USER_MVIEWS views.
INC_REFRESHABLE	VARCHAR2( 1 )		Whether this materialized view can be fast refreshed (Y   N)
KNOWN_STALE	VARCHAR2( 1 )		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   N)
INVALID	VARCHAR2( 1 )		Whether this materialized view is in an invalid state (inconsistent metadata) (Y   N)
REWRITE_ENABLED	VARCHAR2( 1 )		Whether this materialized view is currently enabled for query rewrite (Y   N)
QUERY_LEN	NUMBER	NOT NULL	Length (in bytes) of the query field
QUERY	LONG	NOT NULL	SELECT expression of the materialized view definition
REVISION	NUMBER		Reserved for internal use

## 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.

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* prior to Oracle8*i* and that were never altered to enable query rewrite.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the materialized view
MVIEW_NAME	VARCHAR2(30)	NOT NULL	Name of the materialized view
DETAILOBJ_OWNER	VARCHAR2(30)	NOT NULL	Detail object owner
DETAILOBJ_NAME	VARCHAR2(30)	NOT NULL	Detail object name (that is, the name of a table or view)
DETAILOBJ_TYPE	VARCHAR2(9)		TABLE, VIEW, SNAPSHOT, CONTAINER, or UNDEFINED
DETAILOBJ_ALIAS	VARCHAR2(30)		Implicit or explicit alias for detail relation

## 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.

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" prior to Oracle8*i* and that were never altered to enable query rewrite.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the materialized view
MVIEW_NAME	VARCHAR2( 30 )	NOT NULL	Materialized view name
<b>Note:</b> The next 8 rows relate only to materialized join views and materialized aggregate views. They describe the two detail objects of a materialized view join.			
DETAILOBJ1_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the first object in the join
DETAILOBJ1_RELATION	VARCHAR2( 30 )	NOT NULL	Name of the first object in the join
DETAILOBJ1_COLUMN	VARCHAR2( 30 )	NOT NULL	Join column of the first object in the join
OPERATOR	CHAR( 1 )		Join operator
OPERATOR_TYPE	VARCHAR2( 1 )		Whether the join is an inner or outer join
DETAILOBJ2_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the second object in the join
DETAILOBJ2_RELATION	VARCHAR2( 30 )	NOT NULL	Name of the second object in the join
DETAILOBJ2_COLUMN	VARCHAR2( 30 )	NOT NULL	Join column of the second object in the join

## 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.

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* prior to Oracle8i and that were never altered to enable query rewrite.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the materialized view
MVIEW_NAME	VARCHAR2( 30 )	NOT NULL	Materialized view name
POSITION_IN_SELECT	NUMBER	NOT NULL	Ordinal position of this key within the SELECT list
CONTAINER_COLUMN	VARCHAR2( 30 )	NOT NULL	Name of the column in the container table

Column	Datatype	NULL	Description
DETAILOBJ_OWNER	VARCHAR2(30)	NOT NULL	Detail object owner
DETAILOBJ_NAME	VARCHAR2(30)	NOT NULL	Detail object name (for example, the name of a table or view)
DETAILOBJ_TYPE	VARCHAR2(5)		Detail object type (VIEW   TABLE)
DETAILOBJ_ALIAS	VARCHAR2(30)		Implicit or explicit alias for detail relation
DETAILOBJ_COLUMN	VARCHAR2(30)	NOT NULL	Name of the detail relation column

## 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(30)		Owner of the materialized view log
MASTER	VARCHAR2(30)		Name of the master table or master materialized view whose changes are logged
LOG_TABLE	VARCHAR2(30)		Name of the table where the changes to the master table or master materialized view are logged
LOG_TRIGGER	VARCHAR2(30)		Obsolete with the release of Oracle8i and higher. Set to NULL. Formerly, this parameter was an after-row trigger on the master which inserted rows into the log.
ROWIDS	VARCHAR2(3)		If YES, records rowid information
PRIMARY_KEY	VARCHAR2(3)		If YES, records primary key information
OBJECT_ID	VARCHAR2(3)		If YES, records object identifier information in an object table
FILTER_COLUMNS	VARCHAR2(3)		If YES, records filter columns
SEQUENCE	VARCHAR2(3)		If YES, records the sequence value, which provides additional ordering information
INCLUDE_NEW_VALUES	VARCHAR2(3)		If YES, records both old and new values. If NO, records old values, but does not record new values.

**See Also:**

- ["DBA\\_MVIEW\\_LOGS" on page 2-198](#)
- ["USER\\_MVIEW\\_LOGS" on page 2-278](#)

## 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(30)	NOT NULL	Owner of the materialized view
NAME	VARCHAR2(30)	NOT NULL	Name of the materialized view
MASTER_OWNER	VARCHAR2(30)		Owner of the master table
MASTER	VARCHAR2(30)		Name of the master table
LAST_REFRESH	DATE		The last refresh

**See Also:**

- ["DBA\\_MVIEW\\_REFRESH\\_TIMES" on page 2-198](#)
- ["USER\\_MVIEW\\_REFRESH\\_TIMES" on page 2-278](#)

## 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 ( 30 )	NOT NULL	Schema in which the materialized view was created
MVIEW_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the materialized view
CONTAINER_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the container in which the materialized view's data is held. Normally this is the same as MVIEW_NAME. For materialized views created in releases before 8.1 (or under pre-8.1 compatibility mode), Oracle attaches the 6-byte prefix SNAP\$__. If MVIEW_NAME has more than 19 bytes, then Oracle truncates the name to 19 bytes and may add a 4-byte sequence number as a suffix to produce a nonambiguous CONTAINER_NAME.
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 ( 30 )		For updatable materialized views, the filename of the update log
MASTER_ROLLBACK_SEG	VARCHAR2 ( 30 )		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)
REWRITE_CAPABILITY	VARCHAR2 ( 9 )		Indicates whether the materialized view is eligible for rewrite, and if so, what rules must be followed: <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 can apply any rewrite rule that is supported</li> </ul>

Column	Datatype	NULL	Description
REFRESH_MODE	VARCHAR2( 6 )		<p>Refresh mode of the materialized view:</p> <ul style="list-style-type: none"> <li>■ DEMAND - Oracle refreshes this materialized view whenever an appropriate refresh procedure is called</li> <li>■ COMMIT - Oracle refreshes this materialized view when a transaction on one of the materialized view's masters commits</li> <li>■ NEVER - Oracle 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 (C) - Materialized view is completely refreshed from the masters</li> <li>■ FORCE (?) - Oracle performs a fast refresh if possible, otherwise a complete refresh</li> <li>■ FAST (F) - Oracle performs an incremental refresh applying changes that correspond to changes in the masters since the last refresh</li> <li>■ NEVER (N) - User specified that Oracle 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.</li> </ul>

Column	Datatype	NULL	Description
FAST_REFRESHABLE	VARCHAR2(18)		<p>Indicates whether the materialized view is eligible for incremental (fast) refresh. Oracle 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>▪ DIRLOAD - Fast refresh is supported only for direct loads</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>
LAST_REFRESH_TYPE	VARCHAR2(8)		<p>Method used for the most recent refresh:</p> <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.
STALENESS	VARCHAR2(19)		<p>Relationship between the contents of the materialized view and the contents of the materialized view's masters:</p> <ul style="list-style-type: none"> <li>▪ FRESH - Materialized view is a read-consistent view of the current state of its masters</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>▪ UNUSABLE - Materialized view is not a read-consistent view of its masters from any point in time</li> <li>▪ UNKNOWN - Oracle 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>▪ UNDEFINED - Materialized view has remote masters. The concept of staleness is not defined for such materialized views.</li> </ul>

Column	Datatype	NULL	Description
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)
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)
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 (other than normal DML changes). 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.

### See Also:

- ["DBA\\_MVIEWS" on page 2-198](#)
- ["USER\\_MVIEWS" on page 2-278](#)
- *Oracle9i Replication* for more information on materialized views to support replication
- *Oracle9i Data Warehousing Guide* for more information on materialized views to support data warehousing

## 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 ( 30 )		Owner of the nested table
TABLE_NAME	VARCHAR2 ( 30 )		Name of the nested table
TABLE_TYPE_OWNER	VARCHAR2 ( 30 )		Owner of the type of which the nested table was created
TABLE_TYPE_NAME	VARCHAR2 ( 30 )		Name of the type of the nested table
PARENT_TABLE_NAME	VARCHAR2 ( 30 )		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 )		Whether storage for the nested table is USER-SPECIFIED or DEFAULT
RETURN_TYPE	VARCHAR2 ( 20 )		Return type of the varray column (LOCATOR   VALUE)
ELEMENT_SUBSTITUTABLE	VARCHAR2 ( 25 )		Indicates whether the nested table element is substitutable (Y) or not (N)

## 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( 30 )		Owner of the table
TABLE_NAME	VARCHAR2( 30 )		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" on page 2-199](#)
- ["USER\\_OBJ\\_COLATTRS" on page 2-278](#)

## ALL\_OBJECT\_TABLES

ALL\_OBJECT\_TABLES describes all object tables accessible to the current user.

**Related Views**

- DBA\_OBJECT\_TABLES describes all object tables in the database.
- USER\_OBJECT\_TABLES describes all object tables owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the table
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the table
TABLESPACE_NAME	VARCHAR2( 30 )		Name of the tablespace containing the table
CLUSTER_NAME	VARCHAR2( 30 )		Name of the cluster, if any, to which the table belongs
IOT_NAME	VARCHAR2( 30 )		Name of the index-organized table, if any, to which the overflow entry belongs
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 (in bytes) of the initial extent
NEXT_EXTENT	NUMBER		Size (in bytes) of secondary extents

## ALL\_OBJECT\_TABLES

---

Column	Datatype	NULL	Description
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
FREELISTS	NUMBER		Number of process freelists allocated in this segment
FREELIST_GROUPS	NUMBER		Number of freelist groups allocated in this segment
LOGGING	VARCHAR2(3)		Logging attribute
BACKED_UP	VARCHAR2(1)		Whether the table has been backed up since last modification
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
INSTANCES	VARCHAR2(10)		Number of instances across which the table is to be scanned
CACHE	VARCHAR2(5)		Whether the cluster is to be cached in the buffer cache (CACHE   NOCACHE)
TABLE_LOCK	VARCHAR2(8)		Whether table locking is enabled or 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)		Whether the table is partitioned (YES   NO)
IOT_TYPE	VARCHAR2(12)		If index-organized table, then IOT_TYPE is IOT or IOT_OVERFLOW else NULL
OBJECT_ID_TYPE	VARCHAR2(16)		Whether the object ID (OID) is USER-DEFINED or SYSTEM-GENERATED
TABLE_TYPE_OWNER	VARCHAR2(30)	NOT NULL	Owner of the type of the table
TABLE_TYPE	VARCHAR2(30)	NOT NULL	Type of the table
TEMPORARY	VARCHAR2(1)		Whether this is a temporary table

Column	Datatype	NULL	Description
SECONDARY	VARCHAR2(1)		Whether the object table is a secondary object created by the ODCIIndexCreate method of the Oracle8i Data Cartridge (Y   N)
NESTED	VARCHAR2(3)		Whether the table a nested table
BUFFER_POOL	VARCHAR2(7)		Default buffer pool to be used for table blocks
ROW_MOVEMENT	VARCHAR2(8)		Whether partitioned row movement is ENABLED or DISABLED
GLOBAL_STATS	VARCHAR2(3)		For partitioned object tables, whether statistics were collected for the table as a whole (YES) or were estimated from statistics on underlying partitions and subpartitions (NO).
USER_STATS	VARCHAR2(3)		Whether statistics were entered directly by the user
DURATION	VARCHAR2(15)		Indicates the duration of a temporary table: <ul style="list-style-type: none"> <li>■ SYS\$SESSION: the rows are preserved for the duration of the session</li> <li>■ SYS\$TRANSACTION: the rows are deleted after COMMIT</li> </ul>
SKIP_CORRUPT	VARCHAR2(8)		Null for a permanent table
MONITORING	VARCHAR2(3)		Whether Oracle 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.

## 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(30)	NOT NULL	Owner of the object
OBJECT_NAME	VARCHAR2(30)	NOT NULL	Name of the object
SUBOBJECT_NAME	VARCHAR2(30)		Name of the subobject (for example, partition)

Column	Datatype	NULL	Description
OBJECT_ID	NUMBER	NOT NULL	Dictionary object number of the object
DATA_OBJECT_ID	NUMBER		Dictionary object number of the segment that contains the object
			<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 assigns to row objects in object tables in the system.
OBJECT_TYPE	VARCHAR2(15)		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 resulting from a DDL command (including grants and revokes)
TIMESTAMP	VARCHAR2(20)		Timestamp for the specification of the object (character data)
STATUS	VARCHAR2(7)		Status of the object (VALID, INVALID, or N/A)
TEMPORARY	VARCHAR2(1)		Whether the object is temporary (the current session can see only data that it placed in this object itself)
GENERATED	VARCHAR2(1)		Was the name of this object system generated? (Y   N)
SECONDARY	VARCHAR2(1)		Whether this is a secondary object created by the ODCIIndexCreate method of the Oracle9i Data Cartridge (Y   N)

## ALL\_OPANCILLARY

ALL\_OPANCILLARY describes operators whose bindings are ancillary to other (primary) operators.

### Related Views

- DBA\_OPANCILLARY provides such information about all operators in the database.
- USER\_OPANCILLARY provides such information about operators owned by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the ancillary operator
OPERATOR_NAME	VARCHAR2(30)	NOT NULL	Name of the ancillary operator

Column	Datatype	NULL	Description
BINDING#	NUMBER	NOT NULL	Binding number the of ancillary operator
PRIMOP_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the primary operator
PRIMOP_NAME	VARCHAR2( 30 )	NOT NULL	Name of the primary operator
PRIMOP_BIND#	NUMBER	NOT NULL	Binding number of the primary operator

## 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( 30 )	NOT NULL	Owner of the operator argument
OPERATOR_NAME	VARCHAR2( 30 )	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

## ALL\_OPBINDINGS

ALL\_OPBINDINGS describes operator bindings accessible to the current user.

### Related Views

- DBA\_OPBINDINGS describes bindings of all operators in the database.
- USER\_OPBINDINGS describes bindings of all operators owned by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the operator

## ALL\_OPERATOR\_COMMENTS

---

Column	Datatype	NULL	Description
OPERATOR_NAME	VARCHAR2( 30 )	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( 30 )		If the return type of the binding is an object type, the schema of the type
RETURN_TYPE	VARCHAR2( 30 )		Name of the return type
IMPLEMENTATION_TYPE_SCHEMA	VARCHAR2( 30 )		If the operator was created WITH INDEX CONTEXT, SCAN CONTEXT, this column displays the schema of the implementation type used by the functional implementation of the operator as a scan context. (Blank if the operator was created without this syntax.)
			<b>See Also:</b> the CREATE OPERATOR statement in <i>Oracle9i SQL Reference</i>
IMPLEMENTATION_TYPE	VARCHAR2( 30 )		If the operator was created WITH INDEX CONTEXT, SCAN CONTEXT, this column displays the name of the implementation type used by the functional implementation of the operator as a scan context. (Blank if the operator was created without this syntax.)
			<b>See Also:</b> the CREATE OPERATOR statement in <i>Oracle9i SQL Reference</i>

## **ALL\_OPERATOR\_COMMENTS**

ALL\_OPERATOR\_COMMENTS lists all comments for user-defined operators accessible to the current user.

### **Related Views**

- DBA\_OPERATOR\_COMMENTS lists all comments for user-defined operators in the database.
- USER\_OPERATOR\_COMMENTS lists all comments for user-defined operators owned by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the user-defined operator
OPERATOR_NAME	VARCHAR2( 30 )	NOT NULL	Name of the user-defined operator
COMMENTS	VARCHAR2( 4000 )		Comment for the user-defined operator

**See Also:**

- ["DBA\\_OPERATOR\\_COMMENTS" on page 2-201](#)
- ["USER\\_OPERATOR\\_COMMENTS" on page 2-279](#)

## ALL\_OPERATORS

ALL\_OPERATORS describes operators accessible to the current user.

**Related Views**

- DBA\_OPERATORS describes all operators in the database.
- USER\_OPERATORS describes all operators owned by the current user.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the operator
OPERATOR_NAME	VARCHAR2( 30 )	NOT NULL	Name of the operator
NUMBER_OF_BINDS	NUMBER	NOT NULL	Number of bindings associated with the operator

**See Also:**

- ["DBA\\_OPERATORS" on page 2-201](#)
- ["USER\\_OPERATORS" on page 2-280](#)

## ALL\_OUTLINE\_HINTS

ALL\_OUTLINE\_HINTS describes the set of hints stored in outlines accessible to the current user.

**Related Views**

- DBA\_OUTLINE\_HINTS describes such hints for all outlines in the database. This is the only one of the three views that displays the OWNER column.
- USER\_OUTLINE\_HINTS describes such hints for all outlines owned by the current user.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
NAME	VARCHAR2( 30 )		Name of the outline

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)		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	VARCHAR2(512)		Text of the hint

## ALL\_OUTLINES

ALL\_OUTLINES describes all stored outlines accessible to the current user.

### Related Views

- DBA\_OUTLINES describes all stored outlines in the database. This is the only one of the three views that displays the OWNER column.
- USER\_OUTLINES describes all stored outlines owned by the current user.

Column	Datatype	NULL	Description
NAME	VARCHAR2(30)		User-specified or generated name of the stored outline. The name must be of a form that can be expressed in SQL.
OWNER	VARCHAR2(30)		Name of the user who created the outline
CATEGORY	VARCHAR2(30)		User-defined name of the category to which this outline belongs
USED	VARCHAR2(9)		Whether the outline has ever been used (USED, UNUSED, or UNDEFINED)
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.

Column	Datatype	NULL	Description
			<b>Note:</b> This field may contain sensitive information about your database or application. Therefore, use discretion when granting <code>SELECT</code> or <code>VIEW</code> object privileges on these views.

## ALL\_PART\_COL\_STATISTICS

`ALL_PART_COL_STATISTICS` provides column statistics and histogram information for table partitions accessible to the current user.

### Related Views

- `DBA_PART_COL_STATISTICS` provides such information for all table partitions in the database.
- `USER_PART_COL_STATISTICS` provides such information for all partitions of tables owned by the current user. This view does not display the `OWNER` column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the partitioned table
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the table
PARTITION_NAME	VARCHAR2( 30 )		Name of the table partition
COLUMN_NAME	VARCHAR2( 30 )	NOT NULL	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		Density of the column
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 )		Indicates whether column statistics were collected for the partition as a whole (YES) or were estimated from statistics on underlying subpartitions (NO).

## ALL\_PART\_HISTOGRAMS

---

Column	Datatype	NULL	Description
USER_STATS	VARCHAR2(3)		Whether the statistics were entered directly by the user
AVG_COL_LEN	NUMBER		Average length of the column, in bytes

## ALL\_PART\_HISTOGRAMS

ALL\_PART\_HISTOGRAMS provides the histogram data (endpoints per histogram) for histograms on table partitions accessible to the current user.

---

**Note:** These views are populated only if you collect statistics on the index using the `ANALYZE` statement or the `DBMS_STATS` package.

---

### Related Views

- `DBA_PART_HISTOGRAMS` provides such information for all table partitions in the database.
- `USER_PART_HISTOGRAMS` provides such information for all partitions of tables owned by the current user. This view does not display the `OWNER` column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)		Owner of the table
TABLE_NAME	VARCHAR2(30)		Name of the table
PARTITION_NAME	VARCHAR2(30)		Name of the table partition
COLUMN_NAME	VARCHAR2(30)		Name of the column
BUCKET_NUMBER	NUMBER		Bucket number of the histogram
ENDPOINT_VALUE	NUMBER		Normalized endpoint values for this bucket
ENDPOINT_ACTUAL_VALUE	VARCHAR2(1000)		Actual (not normalized) string value of the endpoint for this bucket

## ALL\_PART\_INDEXES

ALL\_PART\_INDEXES describes the object-level partitioning information for the partitioned indexes accessible to the current user.

## Related Views

- DBA\_PART\_INDEXES describes the object-level partitioning information for all partitioned indexes in the database.
- USER\_PART\_INDEXES describes 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
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the partitioned index
INDEX_NAME	VARCHAR2( 30 )	NOT NULL	Name of the partitioned index
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the partitioned table
PARTITIONING_TYPE	VARCHAR2( 7 )		RANGE, HASH, SYSTEM, or UNKNOWN
SUBPARTITIONING_TYPE	VARCHAR2( 7 )		HASH, SYSTEM, or NONE
PARTITION_COUNT	NUMBER	NOT NULL	Number of partitions in this index
DEF_SUBPARTITION_COUNT	NUMBER	NOT NULL	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	NOT NULL	For a composite-partitioned index, the number of columns in the subpartitioning key
LOCALITY	VARCHAR2( 6 )		Whether this partitioned index is LOCAL or GLOBAL
ALIGNMENT	VARCHAR2( 12 )		Whether this partitioned index is PREFIXED or 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 INITTRANS to be used when adding a table partition
DEF_MAX_TRANS	NUMBER	NOT NULL	For a local index, the default MAXTRANS to be used when adding a table partition
DEF_INITIAL_EXTENT	VARCHAR2( 40 )	NOT NULL	For a local index, the default INITIAL value to be used when adding a table partition, or DEFAULT if no INITIAL value was specified
DEF_NEXT_EXTENT	VARCHAR2( 40 )	NOT NULL	For a local index, the default NEXT, or DEFAULT if no NEXT value was specified

## ALL\_PART\_KEY\_COLUMNS

---

Column	Datatype	NULL	Description
DEF_MIN_EXTENTS	VARCHAR2(40)	NOT NULL	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)	NOT NULL	For a local index, the default MAXEXTENTS value to be used when adding a table partition, or DEFAULT if no MAXEXTENTS value was specified
DEF_PCT_INCREASE	VARCHAR2(40)	NOT NULL	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, or DEFAULT if no FREELISTS value was specified
DEF_FREELIST_GROUPS	NUMBER	NOT NULL	For a local index, the default FREELIST GROUPS value to be used when adding a table partition, or DEFAULT if no FREELIST GROUPS value was specified
DEF_LOGGING	VARCHAR2(7)		For a local index, the default LOGGING attribute to be used when adding a table partition, or DEFAULT if no LOGGING attribute was specified
DEF_BUFFER_POOL	VARCHAR2(7)		For a local index, the default buffer pool to be used when adding a table partition
DEF_PARAMETERS	VARCHAR2(1000)		Default parameter string for domain indexes

### See Also:

- ["DBA\\_PART\\_INDEXES" on page 2-202](#)
- ["USER\\_PART\\_INDEXES" on page 2-280](#)

## 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( 30 )		Owner of the partitioned table or index
NAME	VARCHAR2( 30 )		Name of the partitioned table or index
OBJECT_TYPE	CHAR( 5 )		Object type: ■ TABLE ■ INDEX
COLUMN_NAME	VARCHAR2( 30 )		Name of the column
COLUMN_POSITION	NUMBER		Position of the column within the partitioning key

**See Also:**

- "DBA\_PART\_KEY\_COLUMNS" on page 2-203
- "USER\_PART\_KEY\_COLUMNS" on page 2-281

## ALL\_PART\_LOBS

ALL\_PART\_LOBS provides table-level information about partitioned LOBs that are accessible to the current user, including default attributes for LOB data partitions.

**Related Views**

- DBA\_PART\_LOBS provides such information for all partitioned LOBs in the database.
- USER\_PART\_LOBS provides such information for all partitioned LOBs owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
TABLE_OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the partitioned table containing LOB(s)
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the partitioned table containing LOB(s)
COLUMN_NAME	VARCHAR2( 30 )	NOT NULL	Name of the LOB column
LOB_NAME	VARCHAR2( 30 )	NOT NULL	Name of the partitioned LOB
LOB_INDEX_NAME	VARCHAR2( 30 )	NOT NULL	Name of the partitioned LOB index
DEF_CHUNK	NUMBER	NOT NULL	Default value of CHUNK for a LOB data partition to be used when adding a partition
DEF_PCTVERSION	NUMBER	NOT NULL	Default value of PCTVERSION for a LOB data partition to be used when adding a partition

## ALL\_PART\_TABLES

---

Column	Datatype	NULL	Description
DEF_CACHE	VARCHAR2(3)		Whether and how the cluster is to be cached by default in the buffer cache (CACHE, NOCACHE, CACHEREADS)
DEF_IN_ROW	VARCHAR2(3)		Whether LOB data < 4000 bytes is stored in the row (inline)—that is, whether ENABLE STORAGE IN ROW 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 INITIAL for a LOB data partition to be used when adding a partition
DEF_NEXT_EXTENT	VARCHAR2(40)		Default value of NEXT for a LOB data partition to be used when adding a partition
DEF_MIN_EXTENTS	VARCHAR2(40)		Default value of MINEXTENT for a LOB data partition to be used when adding a partition
DEF_MAX_EXTENTS	VARCHAR2(40)		Default value of MAXEXTENTS for a LOB data partition to be used when adding a partition
DEF_PCT_INCREASE	VARCHAR2(40)		Default value of PCTINCREASE for a LOB data partition to be used when adding a partition
DEF_FREELISTS	VARCHAR2(40)		Default value of FREELISTS for a LOB data partition to be used when adding a partition
DEF_FREELIST_GROUPS	VARCHAR2(40)		Default value of FREELIST GROUPS for a LOB data partition to be used when adding a partition
DEF_LOGGING	VARCHAR2(7)		Default LOGGING attribute for a LOB data partition to be used when adding a partition
DEF_BUFFER_POOL	VARCHAR2(7)		Default buffer pool for a LOB data partition to be used when adding a partition

## ALL\_PART\_TABLES

ALL\_PART\_TABLES describes the object-level partitioning information for the partitioned tables accessible to the current user.

### Related Views

- DBA\_PART\_TABLES describes the object-level partitioning information for all partitioned tables in the database.
- USER\_PART\_TABLES describes 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( 30 )		Owner of the partitioned table
TABLE_NAME	VARCHAR2( 30 )		Name of the partitioned table
PARTITIONING_TYPE	VARCHAR2( 7 )		Type of partitioning (RANGE   HASH   SYSTEM   LIST)
SUBPARTITIONING_TYPE	VARCHAR2( 7 )		Type of subpartitioning (NONE   HASH   SYSTEM   LIST)
PARTITION_COUNT	NUMBER		Number of partitions in this table
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
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 INITTRANS 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 to be used when adding a partition. DEFAULT if INITIAL was not specified.
DEF_NEXT_EXTENT	VARCHAR2( 40 )		Default value of NEXT to be used when adding a partition. DEFAULT if NEXT was not specified.
DEF_MIN_EXTENTS	VARCHAR2( 40 )		Default value of MINEXTENTS to be used when adding a partition. DEFAULT if MINEXTENTS was not specified.
DEF_MAX_EXTENTS	VARCHAR2( 40 )		Default value of MAXEXTENTS to be used when adding a partition. DEFAULT if MAXEXTENTS was not specified.
DEF_PCT_INCREASE	VARCHAR2( 40 )		Default value of PCTINCREASE to be used when adding a partition. DEFAULT if PCTINCREASE was not 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

## ALL\_PARTIAL\_DROP\_TABS

---

Column	Datatype	NULL	Description
DEF_LOGGING	VARCHAR2(7)		Default logging attribute to be used when adding a partition (NONE   YES   NO)
DEF_COMPRESSION	VARCHAR2(8)		Default compression to be used when adding a partition (NONE   ENABLED   DISABLED)
DEF_BUFFER_POOL	VARCHAR2(7)		Default buffer pool to be used when adding a partition (DEFAULT   KEEP   RECYCLE)

### See Also:

- ["DBA\\_PART\\_TABLES" on page 2-203](#)
- ["USER\\_PART\\_TABLES" on page 2-281](#)

## 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(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table

## 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( 30 )	NOT NULL	Owner of the table
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the table

**See Also:**

- ["DBA\\_PENDING\\_CONV\\_TABLES" on page 2-203](#)
- ["USER\\_PENDING\\_CONV\\_TABLES" on page 2-282](#)

## ALL\_POLICIES

ALL\_POLICIES describes the security policies on the synonyms, tables, and views accessible to the current user.

### Related Views

- DBA\_POLICIES describes all security policies in the database.
- USER\_POLICIES describes the security policies on 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( 30 )		Owner of the synonym, table, or view
OBJECT_NAME	VARCHAR2( 30 )		Name of the synonym, table, or view
POLICY_GROUP	VARCHAR2( 30 )		Name of the policy group
POLICY_NAME	VARCHAR2( 30 )		Name of the policy
PF_OWNER	VARCHAR2( 30 )		Owner of the policy function
PACKAGE	VARCHAR2( 30 )		Name of the package containing the policy function
FUNCTION	VARCHAR2( 30 )		Name of the policy function
SEL	VARCHAR2( 3 )		Indicates whether the policy is applied to query on the object (YES) or not (NO)
INS	VARCHAR2( 3 )		Indicates whether the policy is applied to insert on the object (YES) or not (NO)

## ALL\_POLICY\_CONTEXTS

---

Column	Datatype	NULL	Description
UPD	VARCHAR2 ( 3 )		Indicates whether the policy is applied to update on the object (YES) or not (NO)
DEL	VARCHAR2 ( 3 )		Indicates whether the policy is applied to delete 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)

### See Also:

- ["DBA\\_POLICIES" on page 2-204](#)
- ["USER\\_POLICIES" on page 2-282](#)
- *Oracle9i Database Concepts* for information on security policies and fine-grained access control
- The DBMS\_RLS package in *Oracle9i Supplied PL/SQL Packages and Types Reference* for information on administering security policies

## 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
OBJECT_OWNER	VARCHAR2 ( 30 )		Owner of the synonym, table, or view
OBJECT_NAME	VARCHAR2 ( 30 )		Name of the synonym, table, or view
NAMESPACE	VARCHAR2 ( 30 )		Namespace of the driving context

Column	Datatype	NULL	Description
ATTRIBUTE	VARCHAR2( 30 )		Attribute of the driving context

**See Also:**

- ["DBA\\_POLICY\\_CONTEXTS" on page 2-204](#)
- ["USER\\_POLICY\\_CONTEXTS" on page 2-282](#)

## 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( 30 )		Owner of the synonym, table, or view
OBJECT_NAME	VARCHAR2( 30 )		Name of the synonym, table, or view
POLICY_GROUP	VARCHAR2( 30 )		Name of the policy group

**See Also:**

- ["DBA\\_POLICY\\_GROUPS" on page 2-204](#)
- ["USER\\_POLICY\\_GROUPS" on page 2-282](#)

## ALL PROCEDURES

ALL PROCEDURES lists all functions and procedures, along with associated properties. For example, ALL PROCEDURES 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_PROCEDURES` lists all functions and procedures, along with associated properties.
- `USER_PROCEDURES` lists all functions and procedures, along with associated properties. It does not contain the `OWNER` column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the procedure
OBJECT_NAME	VARCHAR2(30)	NOT NULL	Name of the object: top-level function, procedure, or package name
PROCEDURE_NAME	VARCHAR2(30)		Name of the procedure
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(30)		Name of the owner of the implementation type, if any
IMPLTYPENAME	VARCHAR2(30)		Name of the implementation type, if any
PARALLEL	VARCHAR2(3)		Indicates whether the procedure or function is parallel-enabled (YES) or not (NO)

## ALL\_PROPAGATION

`ALL_PROPAGATION` displays information about the Streams propagations that have a source queue accessible to the current user.

### Related View

`DBA_PROPAGATION` displays information about all Streams propagations in the database.

Column	Datatype	NULL	Description
PROPAGATION_NAME	VARCHAR2(30)	NOT NULL	Name of the Streams propagation
SOURCE_QUEUE_OWNER	VARCHAR2(30)		Owner of the source queue of the propagation
SOURCE_QUEUE_NAME	VARCHAR2(30)		Name of the source queue of the propagation
DESTINATION_QUEUE_OWNER	VARCHAR2(30)		Owner of the destination queue of the propagation
DESTINATION_QUEUE_NAME	VARCHAR2(30)		Name of the destination queue of the propagation

Column	Datatype	NULL	Description
DESTINATION_DBLINK	VARCHAR2(128)		Database link to propagate events from the source queue to the destination queue
RULE_SET_OWNER	VARCHAR2(30)		Propagation rule set owner
RULE_SET_NAME	VARCHAR2(30)		Propagation rule set name

See Also: "DBA\_PROPAGATION" on page 2-205

## ALL\_PUBLISHED\_COLUMNS

ALL\_PUBLISHED\_COLUMNS describes all existing source table columns for which users have privileges.

### Related Views

- [DBA\\_PUBLISHED\\_COLUMNS](#) describes all existing source column tables.
- [USER\\_PUBLISHED\\_COLUMNS](#) describes all existing source table columns for which a user has privileges.

Column	Datatype	Description
CHANGE_SET_NAME	VARCHAR2(30)	Name of the change set
SOURCE_SCHEMA_NAME	VARCHAR2(30)	Table owner in the source system
SOURCE_TABLE_NAME	VARCHAR2(31)	Table name in the source system
PUB_ID	NUMBER	Publication identifier (change table object number)
COLUMN_NAME	VARCHAR2(30)	Column name
DATA_TYPE	VARCHAR2(30)	Column datatype
DATA_LENGTH	NUMBER	Column length (in bytes)
DATA_PRECISION	NUMBER	Decimal precision for NUMBER datatype; binary precision for FLOAT datatype; NULL for all other datatypes
DATA_SCALE	NUMBER	Digits to the right of a decimal point in a number
NULLABLE	CHAR(1)	Nulls allowed (Y   N)?

## 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(30)		Schema of the queue table
QUEUE_TABLE	VARCHAR2(30)		Name of the queue table
TYPE	VARCHAR2(7)		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 (internal use only)</li></ul>
OBJECT_TYPE	VARCHAR2(61)		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
COMPATIBLE	VARCHAR2(5)		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 is not alive. 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
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" on page 2-208](#)
- ["USER\\_QUEUE\\_TABLES" on page 2-283](#)
- *Oracle9i Application Developer's Guide - Advanced Queuing* for more information about these views and Advanced Queuing

## 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.

**See Also:** *Oracle9i Application Developer's Guide - Advanced Queuing* for more information about these views and Advanced Queuing

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the queue
NAME	VARCHAR2(30)	NOT NULL	Name of the queue
QUEUE_TABLE	VARCHAR2(30)	NOT NULL	Name of the table the queue data resides in
QID	NUMBER	NOT NULL	Object number of the queue
QUEUE_TYPE	VARCHAR2(15)		Type of the queue
MAX_RETRIES	NUMBER		Maximum number of retries allowed when dequeuing from the queue
RETRY_DELAY	NUMBER		Time interval between retries
ENQUEUE_ENABLED	VARCHAR2(7)		Queue is enabled for enqueue
DEQUEUE_ENABLED	VARCHAR2(7)		Queue is enabled for dequeue
RETENTION	VARCHAR2(40)		Time interval processed messages retained in the queue
USER_COMMENT	VARCHAR2(50)		User specified comment

## 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(30)	NOT NULL	Name of the owner of the refresh group
RNAME	VARCHAR2(30)	NOT NULL	Name of the refresh group
REFGROUP	NUMBER		Internal identifier of refresh group
IMPLICIT_DESTROY	VARCHAR2(1)		(Y   N) If Y, then destroy the refresh group when its last item is subtracted
PUSH_DEFERRED_RPC	VARCHAR2(1)		(Y   N) If Y then push changes from snapshot to master before refresh
REFRESH_AFTER_ERRORS	VARCHAR2(1)		If Y, proceed with refresh despite error when pushing deferred RPCs
ROLLBACK_SEG	VARCHAR2(30)		Name of the rollback segment to use while refreshing
JOB	NUMBER		Identifier of 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)		(Y   N) Y means the job is broken and will never be run
PURGE_OPTION	NUMBER(38)		The method for purging the transaction queue after each push. 1 indicates quick purge option; 2 indicates precise purge option
PARALLELISM	NUMBER(38)		The level of parallelism for transaction propagation
HEAP_SIZE	NUMBER(38)		The size of the heap

## ALL\_REFRESH\_CHILDREN

ALL\_REFRESH\_CHILDREN lists 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( 30 )	NOT NULL	Owner of the object in the refresh group
NAME	VARCHAR2( 30 )	NOT NULL	Name of the object in the refresh group
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the object
NAME	VARCHAR2( 30 )	NOT NULL	Name of the object
TYPE	VARCHAR2( 30 )		Type of the object in the refresh group
ROWNER	VARCHAR2( 30 )	NOT NULL	Name of the owner of the refresh group
RNAME	VARCHAR2( 30 )	NOT NULL	Name of the refresh group
REFGROUP	NUMBER		Internal identifier of refresh group
IMPLICIT_DESTROY	VARCHAR2( 1 )		(Y   N) If Y, then destroy the refresh group when its last item is subtracted
PUSH_DEFERRED_RPC	VARCHAR2( 1 )		(Y   N) If Y then push changes from snapshot to master before refresh
REFRESH_AFTER_ERRORS	VARCHAR2( 1 )		If Y, proceed with refresh despite error when pushing deferred RPCs
ROLLBACK_SEG	VARCHAR2( 30 )		Name of the rollback segment to use while refreshing
JOB	NUMBER		Identifier of 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 )		(Y   N) Y means the job is broken and will never be run
PURGE_OPTION	NUMBER( 38 )		The method for purging the transaction queue after each push. 1 indicates quick purge option; 2 indicates precise purge option
PARALLELISM	NUMBER( 38 )		The level of parallelism for transaction propagation
HEAP_SIZE	NUMBER( 38 )		The size of the heap

## ALL\_REFRESH\_DEPENDENCIES

ALL\_REFRESH\_DEPENDENCIES lists the names of the dependent detail or container tables of all the summaries or materialized views in the current schema.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the table
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Table name, unique within this schema

## ALL\_REFS

---

Column	Datatype	NULL	Description
PARENT_OBJECT_TYPE	CHAR(7)		MVIEW or SUMMARY
OLDEST_REFRESH_SCN	NUMBER		The minimum SCN of any summary or materialized view that has TABLE_NAME as a detail table
OLDEST_REFRESH_DATE	DATE		SYSDATE when last refreshed

## 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(30)	NOT NULL	Name of the owner
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table
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)		Whether the REF value is stored with ROWID (YES   NO)?
IS_SCOPED	VARCHAR2(3)		Whether the REF column is scoped (YES   NO)?
SCOPE_TABLE_OWNER	VARCHAR2(30)		Name of the owner of the scope table, if it exists and is accessible by the user
SCOPE_TABLE_NAME	VARCHAR2(30)		Name of the scope table, if it exists and is accessible by the user
OBJECT_ID_TYPE	VARCHAR2(16)		If user-defined OID, then USER_DEFINED, else if system generated OID, then SYSTEM GENERATED

## 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.

## 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( 30 )	NOT NULL	Owner of the materialized view
NAME	VARCHAR2( 30 )	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 )		YES if the materialized view can use a materialized view log, NO if the materialized view is too complex to use a log.
UPDATABLE	VARCHAR2( 3 )		(YES/NO) Indicates whether the materialized view is updatable. If set to NO, then the materialized view is read only.
REFRESH_METHOD	VARCHAR2( 11 )		Whether the materialized view uses primary key, rowids, or object identifiers 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 <b>Note:</b> Oracle9 <i>i</i> materialized views show ORACLE 8 MATERIALIZED VIEW.
QUERY_TXT	LONG		Query that defines the materialized view

### See Also:

- "[DBA\\_REGISTERED\\_MVIEWS](#)" on page 2-210
- "[USER\\_REGISTERED\\_MVIEWS](#)" on page 2-284

## ALL\_REGISTRY\_BANNERS

ALL\_REGISTRY\_BANNERS displays the valid components loaded into the database.

Column	Datatype	NULL	Description
BANNER	VARCHAR2( 80 )		Component display banner

## 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(30)	NOT NULL	Owner of the rule set
RULE_SET_NAME	VARCHAR2(30)	NOT NULL	Name of the rule set
RULE_OWNER	VARCHAR2(30)	NOT NULL	Owner of the rule
RULE_NAME	VARCHAR2(30)	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)
RULE_SET_RULE_EVAL_CTX_OWNER	VARCHAR2(30)		Owner of the evaluation context specified when the rule was added to the rule set, if any
RULE_SET_RULE_EVAL_CTX_NAME	VARCHAR2(30)		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" on page 2-220](#)
- ["USER\\_RULE\\_SET\\_RULES" on page 2-286](#)

## 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( 30 )	NOT NULL	Owner of the rule set
RULE_SET_NAME	VARCHAR2( 30 )	NOT NULL	Name of the rule set
RULE_SET_EVAL_CONTEXT_OWNER	VARCHAR2( 30 )		Owner of the evaluation context associated with the rule set, if any
RULE_SET_EVAL_CONTEXT_NAME	VARCHAR2( 30 )		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" on page 2-220](#)
- ["USER\\_RULE\\_SETS" on page 2-286](#)

## 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( 30 )	NOT NULL	Owner of the rule
RULE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the rule
RULE_CONDITION	CLOB		Expressions and operators that constitute the rule condition
RULE_EVALUATION_CONTEXT_OWNER	VARCHAR2( 30 )		Owner of the evaluation context associated with the rule, if any
RULE_EVALUATION_CONTEXT_NAME	VARCHAR2( 30 )		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" on page 2-220](#)
- ["USER\\_RULES" on page 2-286](#)

## ALLSEQUENCES

ALLSEQUENCES describes all sequences accessible to the current user.

**Related Views**

- DBASEQUENCES describes all sequences in the database.
- USERSEQUENCES describes all sequences owned by the current user. This view does not display the SEQUENCE\_OWNER column.

Column	Datatype	NULL	Description
SEQUENCE_OWNER	VARCHAR2(30)	NOT NULL	Name of the owner of the sequence
SEQUENCE_NAME	VARCHAR2(30)	NOT NULL	Sequence name
MIN_VALUE	NUMBER		Minimum value of the sequence
MAX_VALUE	NUMBER		Maximum value of the sequence
INCREMENT_BY	NUMBER	NOT NULL	Value by which sequence is incremented
CYCLE_FLAG	VARCHAR2(1)		Does sequence wrap around on reaching limit
ORDER_FLAG	VARCHAR2(1)		Are sequence numbers generated in order
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.

## ALL\_SOURCE

ALL\_SOURCE describes the text source of the stored objects accessible to the current user.

**Related Views**

- DBASOURCE 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( 30 )	NOT NULL	Owner of the object
NAME	VARCHAR2( 30 )	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

## ALL\_SOURCE\_TABLES

ALL\_SOURCE\_TABLES enables publishers to see all existing source tables.

### Related Views

- DBA\_SOURCE\_TABLES describes all existing source tables.
- USER\_SOURCE\_TABLES describes all existing source tables to which the user has subscribe privileges.

Column	Datatype	Description
SOURCE_SCHEMA_NAME	VARCHAR2( 30 )	The table owner in the source system
SOURCE_TABLE_NAME	VARCHAR2( 31 )	The table name in the source system

### See Also:

- "[DBA\\_SOURCE\\_TABLES](#)" on page 2-222
- "[USER\\_SOURCE\\_TABLES](#)" on page 2-287

## 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(30)		Owner of the type
TYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the type
ATTR_NAME	VARCHAR2(30)	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
ATTR_TYPE_OWNER	VARCHAR2(30)		Owner of the type of the attribute
ATTR_TYPE_NAME	VARCHAR2(30)		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	NOT NULL	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)

### See Also:

- "[DBA\\_SQLJ\\_TYPE\\_ATTRS](#)" on page 2-222
- "[USER\\_SQLJ\\_TYPE\\_ATTRS](#)" on page 2-287

## 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(30)	NOT NULL	Owner of the type
TYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the type
METHOD_NAME	VARCHAR2(30)	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 method (not to be used as an ID number)
METHOD_TYPE	VARCHAR2(6)		Type of the method
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\\_SQLJ\\_TYPE\\_METHODS" on page 2-222](#)
- ["USER\\_SQLJ\\_TYPE\\_METHODS" on page 2-287](#)

## 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(30)		Owner of the type
TYPE_NAME	VARCHAR2(30)	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
TYPECODE	VARCHAR2(30)		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(30)		Owner of the supertype (NULL if type is not a subtype)
SUPERTYPE_NAME	VARCHAR2(30)		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" on page 2-222](#)
- ["USER\\_SQLJ\\_TYPES" on page 2-287](#)

## 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(30)	NOT NULL	Name of the database user owning the stored PL/SQL unit
OBJECT_NAME	VARCHAR2(30)	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(30)		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.

## ALL\_STREAMS\_GLOBAL\_RULES

ALL\_STREAMS\_GLOBAL\_RULES displays information about the following types of rules:

- Global rules created for the Streams capture processes that enqueue the captured changes into queues accessible to the current user
- Global rules created for the Streams propagations that have a source queue accessible to the current user
- Global rules created for the Streams apply processes that dequeue events from queues accessible to the current user

This view only contains information about rules created using the ADD\_GLOBAL\_RULES or ADD\_GLOBAL\_PROPAGATION\_RULES procedures in the DBMS\_STREAMS\_ADMIN package. It does not contain information about rules created using the DBMS\_RULE\_ADMIN package.

### Related View

DBA\_STREAMS\_GLOBAL\_RULES displays information about the global rules created for all Streams capture processes, propagations, and apply processes in the database.

Column	Datatype	NULL	Description
STREAMS_NAME	VARCHAR2(30)		Name of the Streams process or propagation
STREAMS_TYPE	VARCHAR2(11)		Type of the Streams process or propagation: <ul style="list-style-type: none"><li>■ CAPTURE</li><li>■ PROPAGATION</li><li>■ APPLY</li></ul>
RULE_TYPE	VARCHAR2(7)		Type of rule (DML or DDL)
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(30)		Name of the rule
RULE_OWNER	VARCHAR2(30)		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" on page 2-223

## ALL\_STREAMS\_SCHEMA\_RULES

ALL\_STREAMS\_SCHEMA\_RULES displays information about the following types of rules:

- Schema rules created for the Streams capture processes that enqueue the captured changes into queues accessible to the current user
- Schema rules created for the Streams propagations that have a source queue accessible to the current user
- Schema rules created for the Streams apply processes that dequeue events from queues accessible to the current user

This view only contains information about rules created using the ADD\_SCHEMA\_RULES or ADD\_SCHEMA\_PROPAGATION\_RULES procedures in the DBMS\_STREAMS\_ADMIN package. It does not contain information about rules created using the DBMS\_RULE\_ADMIN package.

### Related View

DBA\_STREAMS\_SCHEMA\_RULES displays information about the schema rules created for all Streams capture processes, propagations, and apply processes in the database.

Column	Datatype	NULL	Description
STREAMS_NAME	VARCHAR2(30)		Name of the Streams process or propagation
STREAMS_TYPE	VARCHAR2(11)		Type of the Streams process or propagation: <ul style="list-style-type: none"> <li>■ CAPTURE</li> <li>■ PROPAGATION</li> <li>■ APPLY</li> </ul>
SCHEMA_NAME	VARCHAR2(30)		Schema name in the rule condition. The rule evaluates to true 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 rule (DML or DDL)
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 true for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this source database.
RULE_NAME	VARCHAR2(30)		Name of the rule
RULE_OWNER	VARCHAR2(30)		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" on page 2-223

## ALL\_STREAMS\_TABLE\_RULES

ALL\_STREAMS\_TABLE\_RULES displays information about the following types of rules:

- Table rules created for the Streams capture processes that enqueue the captured changes into queues accessible to the current user
- Table rules created for the Streams propagations that have a source queue accessible to the current user
- Table rules created for the Streams apply processes that dequeue events from queues accessible to the current user
- Subset rules created for the Streams apply processes that have a source queue accessible to the current user

This view only contains information about rules created using the ADD\_TABLE\_RULES, ADD\_TABLE\_PROPAGATION\_RULES, or ADD\_SUBSET\_RULES procedures in the DBMS\_STREAMS\_ADMIN package. It does not contain information about rules created using the DBMS\_RULE\_ADMIN package.

### Related View

DBA\_STREAMS\_TABLE\_RULES displays information about the table rules created for all Streams capture processes, propagations, and apply processes in the database.

Column	Datatype	NULL	Description
STREAMS_NAME	VARCHAR2(30)		Name of the Streams process or propagation
STREAMS_TYPE	VARCHAR2(11)		Type of the Streams process or propagation: <ul style="list-style-type: none"><li>▪ CAPTURE</li><li>▪ PROPAGATION</li><li>▪ APPLY</li></ul>
TABLE_OWNER	VARCHAR2(30)		Table owner in the rule condition. The rule evaluates to true for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this table owner.
TABLE_NAME	VARCHAR2(30)		Table name in the rule condition. The rule evaluates to true 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 rule (DML or DDL)
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>
INCLUDE_TAGGED_LCR	VARCHAR2( 3 )		The rule evaluates to true for a logical change record (LCR) only if the LCR contains this command type after internal transformation.
SOURCE_DATABASE	VARCHAR2( 128 )		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)
RULE_NAME	VARCHAR2( 30 )		Source database in the rule condition. The rule evaluates to true for a redo entry or logical change record (LCR) only if the redo entry or LCR contains this source database.
RULE_OWNER	VARCHAR2( 30 )		Name of the rule
RULE_CONDITION	VARCHAR2( 4000 )		Owner of the rule
			First 4000 bytes of the system-generated rule condition evaluated by the rules engine

See Also: "DBA\_STREAMS\_TABLE\_RULES" on page 2-224

## 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( 30 )	NOT NULL	Owner name
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Table name

## ALL\_SUBPART\_HISTOGRAMS

---

Column	Datatype	NULL	Description
SUBPARTITION_NAME	VARCHAR2(30)		Table subpartition name
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Column name
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		Density of the column
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)		Indicates whether column statistics for the subpartition were collected by analyzing the table as a whole (YES) or estimated from statistics gathered on partitions and subpartitions (NO).
USER_STATS	VARCHAR2(3)		Were the statistics entered directly by the user?
AVG_COL_LEN	NUMBER		The average length of the column, in bytes

## ALL\_SUBPART\_HISTOGRAMS

ALL\_SUBPART\_HISTOGRAMS lists the actual histogram data (end-points per histogram) for histograms on table subpartitions accessible to the current user.

### Related Views

- DBA\_SUBPART\_HISTOGRAMS provides this information for all subpartitions in the database.
- USER\_SUBPART\_HISTOGRAMS provides 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 called statistics on the index using the ANALYZE statement or the DBMS\_STATS package.

---

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)		Owner name
TABLE_NAME	VARCHAR2(30)		Table name
SUBPARTITION_NAME	VARCHAR2(30)		Table subpartition name
COLUMN_NAME	VARCHAR2(30)		Column name
BUCKET_NUMBER	NUMBER		Bucket number
ENDPOINT_VALUE	NUMBER		Normalized endpoint values for this bucket
ENDPOINT_ACTUAL_VALUE	VARCHAR2(1000)		Actual (not normalized) string value of the endpoint for this bucket

## ALL\_SUBPART\_KEY\_COLUMNS

ALL\_SUBPART\_KEY\_COLUMNS lists 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 provides this information for all subpartitions in the database.
- USER\_SUBPART\_KEY\_COLUMNS 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(30)		The partitioned table or index owner
NAME	VARCHAR2(30)		The partitioned table or index name
OBJECT_TYPE	VARCHAR2(11)		The object type (TABLE or INDEX)
COLUMN_NAME	VARCHAR2(30)		The column name
COLUMN_POSITION	NUMBER		The position of the column within the subpartitioning key

### See Also:

- ["DBA\\_SUBPART\\_KEY\\_COLUMNS" on page 2-224](#)
- ["USER\\_SUBPART\\_KEY\\_COLUMNS" on page 2-288](#)

## 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(30)	NOT NULL	Owner of the table
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table
SUBPARTITION_NAME	VARCHAR2(34)	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

### See Also:

- "[DBA\\_SUBPARTITION\\_TEMPLATES](#)" on page 2-224
- "[USER\\_SUBPARTITION\\_TEMPLATES](#)" on page 2-288

## ALL\_SUBSCRIBED\_COLUMNS

ALL\_SUBSCRIBED\_COLUMNS enables publishers to view the columns of published tables to which they have subscribed.

### Related Views

- DBA\_SUBSCRIBED\_COLUMNS enables publishers to view the columns of published tables to which they have subscribed. You must have the SELECT\_CATALOG\_ROLE privilege to access this view.
- USER\_SUBSCRIBED\_COLUMNS enables publishers to view the columns of published tables to which they have subscribed.

Column	Datatype	Description
HANDLE	NUMBER	The subscription handle
SOURCE_SCHEMA_NAME	VARCHAR2(30)	The source table schema identifier
SOURCE_TABLE_NAME	VARCHAR2(31)	The source table identifier
COLUMN_NAME	VARCHAR2(30)	The source table column identifier

## ALL\_SUBSCRIBED\_TABLES

ALL\_SUBSCRIBED\_TABLES enables subscribers to view all published tables to which they have subscribed.

### Related Views

- DBA\_SUBSCRIBED\_TABLES enables publishers to view all published tables to which they have subscribed.
- USER\_SUBSCRIBED\_TABLES enables subscribers to view all published tables to which they have subscribed.

Column	Datatype	Description
HANDLE	NUMBER	The subscription handle
SOURCE_SCHEMA_NAME	VARCHAR2(30)	The source table schema identifier
SOURCE_TABLE_NAME	VARCHAR2(31)	The source table identifier
VIEW_NAME	VARCHAR2(30)	Holds the generated view name so that change data capture can drop the view when necessary
CHANGE_SET_NAME	VARCHAR2(30)	The name of the change set to which the change table belongs

## ALL\_SUBSCRIPTIONS

ALL\_SUBSCRIPTIONS enables subscribers to view all subscriptions. Neither ALL\_SUBSCRIPTIONS nor USER\_SUBSCRIPTIONS contains the USERNAME column.

### Related Views

- DBA\_SUBSCRIPTIONS enables publishers to view all subscriptions. You must have the SELECT\_CATALOG\_ROLE privilege to access this view. DBA\_SUBSCRIPTIONS contains the USERNAME column, which lists the user name of the subscriber.
- USER\_SUBSCRIPTIONS enables subscribers to view all of their subscriptions.

## ALL\_SUMDELTA

---

Column	Datatype	Description
HANDLE	NUMBER	The subscription handler
SET_NAME	VARCHAR2(30)	The change set identifier
CREATED	DATE	Subscription creation date
STATUS	VARCHAR2(1)	N indicates not yet active, A indicates is currently active
EARLIEST_SCN	NUMBER	Starting point for the select/view
LATEST_SCN	NUMBER	The ending point for the select/view
DESCRIPTION	VARCHAR2(30)	A comment field for the subscriber
LAST_PURGED	DATE	The last time the subscriber called the PURGE_WINDOW for this subscription
LAST_EXTENDED	DATE	The last time the subscriber called the EXTEND_WINDOW for this subscription

## 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)
DMLOOPERATION	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 log entry
LOWROWID	ROWID	NOT NULL	The start ROWID in the loaded rowid range
HIGHROWID	ROWID	NOT NULL	The end ROWID in the loaded rowid range

## ALL\_SYNONYMS

ALL\_SYNONYMS describes all synonyms accessible to the current user.

### Related Views

- DBA\_SYNONYMS describes all synonyms in the database.
- USER\_SYNONYMS describes all synonyms owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the synonym
SYNONYM_NAME	VARCHAR2( 30 )	NOT NULL	Name of the synonym
TABLE_OWNER	VARCHAR2( 30 )		Owner of the object referenced by the synonym
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the object referenced by the synonym
DB_LINK	VARCHAR2( 128 )		Name of the database link referenced, if any

## ALL\_TAB\_COL\_STATISTICS

ALL\_TAB\_COL\_STATISTICS provides column statistics and histogram information extracted from "[ALL\\_TAB\\_COLUMNS](#)" on page 2-128.

### Related Views

- DBA\_TAB\_COL\_STATISTICS provides such information extracted from "[DBA\\_TAB\\_COLUMNS](#)" on page 2-226.
- USER\_TAB\_COL\_STATISTICS provides such information extracted from "[USER\\_TAB\\_COLUMNS](#)" on page 2-289.

Column	Datatype	NULL	Description
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Table name
COLUMN_NAME	VARCHAR2( 30 )	NOT NULL	Column name
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		Density of the column
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 )		For partitioned tables, indicates whether column statistics were collected for the table as a whole (YES) or were estimated from statistics on underlying partitions and subpartitions (NO).
USER_STATS	VARCHAR2( 3 )		Were the statistics entered directly by the user?

Column	Datatype	NULL	Description
AVG_COL_LEN	NUMBER		The average length of the column, in bytes

## 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 SQL ANALYZE statement or the DBMS\_STATS package.

### 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(30)	NOT NULL	Owner of the table, view, or cluster
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the table, view, or cluster
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Column name
DATA_TYPE	VARCHAR2(30)		Datatype of the column
DATA_TYPE_MOD	VARCHAR2(3)		Datatype modifier of the column
DATA_TYPE_OWNER	VARCHAR2(30)		Owner of the datatype of the column
DATA_LENGTH	NUMBER	NOT NULL	Length of the column in bytes
DATA_PRECISION	NUMBER		Decimal precision for NUMBER datatype; binary precision for FLOAT datatype, null for all other datatypes
DATA_SCALE	NUMBER		Digits to right of decimal point in a number
NULLABLE	VARCHAR2(1)		Specifies whether a column allows NULLs. 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	NOT NULL	Sequence number of the column as created
DEFAULT_LENGTH	NUMBER		Length of default value for the column
DATA_DEFAULT	LONG		Default value for the column

Column	Datatype	NULL	Description
NUM_DISTINCT	NUMBER		These columns remain for backward compatibility with Oracle7. This information is now in the {TAB   PART}_COL_STATISTICS views. This view now picks up these values from HIST_HEAD\$ rather than COL\$.
LOW_VALUE	RAW( 32 )		
HIGH_VALUE	RAW( 32 )		
DENSITY	NUMBER		
NUM_NULLS	NUMBER		Number of nulls in the column
NUM_BUCKETS	NUMBER		The number of buckets in histogram for the column  <b>Note:</b> The number of buckets in a histogram is specified in the SIZE parameter of the SQL statement ANALYZE. However, Oracle 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 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		The date on which this column was most recently analyzed
SAMPLE_SIZE			The sample size used in analyzing this column
CHARACTER_SET_NAME	VARCHAR2( 44 )		The name of the character set: CHAR_CS or NCHAR_CS
CHAR_COL_DECL_LENGTH	NUMBER		The length
GLOBAL_STATS	VARCHAR2( 3 )		For partitioned tables, indicates whether column statistics were collected for the table as a whole (YES) or were estimated from statistics on underlying partitions and subpartitions (NO).
USER_STATS	VARCHAR2( 3 )		Were the statistics entered directly by the user?
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>■ NVARCHAR</li></ul>

Column	Datatype	NULL	Description
CHAR_USED	VARCHAR2(1)		B   C. B indicates that the column uses BYTE length semantics. C indicates that the column uses CHAR length semantics. NULL indicates the datatype is not any of the following: <ul style="list-style-type: none"><li>▪ CHAR</li><li>▪ VARCHAR2</li><li>▪ NCHAR</li><li>▪ NVARCHAR2</li></ul>

## ALL\_TAB\_COMMENTS

ALL\_TAB\_COMMENTS describes comments on tables and views accessible to the current user.

### Related Views

- DBA\_TAB\_COMMENTS describes comments on all tables and views in the database.
- USER\_TAB\_COMMENTS describes comments on all tables and views owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
TABLE_TYPE	VARCHAR2(11)		Type of the object
COMMENTS	VARCHAR2(4000)		Comment on the object

## ALL\_TAB\_HISTOGRAMS

ALL\_TAB\_HISTOGRAMS describes histograms on tables and views accessible to the current user.

### 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 called statistics on the index using the ANALYZE statement or the DBMS\_STATS package.

---

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)		Owner of table
TABLE_NAME	VARCHAR2(30)		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(1000)		Actual (not normalized) string value of the endpoint for this bucket

---

## 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 provides such information for all tables in the database.
- USER\_TAB\_MODIFICATIONS provides such information for tables owned by the current user. This view does not display the TABLE\_OWNER column.

---

**Note:** These views are populated only for tables with the MONITORING attribute. They are intended for statistics collection over a long period of time. For performance reasons, Oracle may not populate these views until a few hours after the actual modifications occurred.

---

Column	Datatype	NULL	Description
TABLE_OWNER	VARCHAR2(30)		Owner of the modified table.
TABLE_NAME	VARCHAR2(30)		Name of the modified table

## ALL\_TAB\_PARTITIONS

---

Column	Datatype	NULL	Description
PARTITION_NAME	VARCHAR2(30)		Name of the modified partition
SUBPARTITION_NAME	VARCHAR2(30)		Name of the modified subpartition
INSERTS	NUMBER		Approximate number of inserts since the last time statistics were gathered
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)		Whether or not the table was truncated since the last time statistics were gathered

## ALL\_TAB\_PARTITIONS

`ALL_TAB_PARTITIONS` provides partition-level partitioning information, partition storage parameters, and partition statistics collected by `ANALYZE` statements for partitions accessible to the current user.

### Related Views

- `DBA_TAB_PARTITIONS` provides such information for all partitions in the database.
- `USER_TAB_PARTITIONS` provides such information for partitions of all partitioned objects owned by the current user. This view does not display the `OWNER` column.

Column	Datatype	NULL	Description
TABLE_OWNER	VARCHAR2(30)	NOT NULL	Table owner
TABLE_NAME	VARCHAR2(30)	NOT NULL	Table name
COMPOSITE	VARCHAR2(3)		YES if the partition belongs to a Local index on a table partitioned using Composite method; NO otherwise
PARTITION_NAME	VARCHAR2(30)		Partition name
SUBPARTITION_COUNT	NUMBER		If this is a Local index on a table partitioned using a Composite method, the number of subpartitions in the partition
HIGH_VALUE	LONG		Partition bound value expression
HIGH_VALUE_LENGTH	NUMBER	NOT NULL	Length of partition bound value expression

Column	Datatype	NULL	Description
PARTITION_POSITION	NUMBER	NOT NULL	Position of the partition within the table
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
PCT_USED	NUMBER	NOT NULL	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
INITIAL_EXTENT	NUMBER		Size of the initial extent in bytes
NEXT_EXTENT	NUMBER		Size of secondary extents in bytes
MIN_EXTENT	NUMBER	NOT NULL	Minimum number of extents allowed in the segment
MAX_EXTENT	NUMBER	NOT NULL	Maximum number of extents 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 freelist groups allocated in this segment
LOGGING	VARCHAR2( 3 )		Logging attribute of partition
NUM_ROWS	NUMBER		Number of rows in the partition
BLOCKS	NUMBER		Number of used blocks in the partition
EMPTY_BLOCKS	NUMBER		Number of empty (never used) blocks in the partition
AVG_SPACE	NUMBER		Average available free space in the partition
CHAIN_CNT	NUMBER		Number of chained rows in the partition
AVG_ROW_LEN	NUMBER		Average row length, including row overhead
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 )		The default buffer pool to be used for the partition blocks
GLOBAL_STATS	VARCHAR2( 3 )		Indicates whether statistics were collected for the partition as a whole (YES) or were estimated from statistics on underlying subpartitions (NO)
USER_STATS	VARCHAR2( 3 )		User statistics

## ALL\_TAB\_PRIVS

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 ( 30 )	NOT NULL	Name of the user who performed the grant
GRANTEE	VARCHAR2 ( 30 )	NOT NULL	Name of the user to whom access was granted
TABLE_SCHEMA	VARCHAR2 ( 30 )	NOT NULL	Schema of the object
TABLE_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the object
PRIVILEGE	VARCHAR2 ( 40 )	NOT NULL	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)

### See Also:

- ["DBA\\_TAB\\_PRIVS" on page 2-227](#)
- ["USER\\_TAB\\_PRIVS" on page 2-290](#)

## 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 ( 30 )	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2 ( 30 )	NOT NULL	Owner of the object

Column	Datatype	NULL	Description
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
GRANTOR	VARCHAR2(30)	NOT NULL	Name of the user who performed the grant
PRIVILEGE	VARCHAR2(40)	NOT NULL	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)

**See Also:** ["USER\\_TAB\\_PRIVS\\_MADE" on page 2-290](#)

## ALL\_TAB\_PRIVS\_REC

ALL\_TAB\_PRIVS\_REC 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\_REC 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(30)	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
GRANTOR	VARCHAR2(30)	NOT NULL	Name of the user who performed the grant
PRIVILEGE	VARCHAR2(40)	NOT NULL	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)

**See Also:** ["USER\\_TAB\\_PRIVS\\_REC" on page 2-291](#)

## ALL\_TAB\_SUBPARTITIONS

ALL\_TAB\_SUBPARTITIONS describes, for each table subpartition accessible to the current user, the subpartition name, name of the table and partition to which it belongs, and its storage attributes.

### Related Views

- DBA\_TAB\_SUBPARTITIONS provides such information for all subpartitions in the database.
- USER\_TAB\_SUBPARTITIONS provides such information for subpartitions of all partitioned objects owned by the current user. This view does not display the TABLE\_OWNER column.

---

**Note:** Statistics are not collected on a per-subpartition basis.

---

Column	Datatype	NULL	Description
TABLE_OWNER	VARCHAR2(30)	NOT NULL	Table owner
TABLE_NAME	VARCHAR2(30)	NOT NULL	Table name
PARTITION_NAME	VARCHAR2(30)		Partition name
SUBPARTITION_NAME	VARCHAR2(30)		Subpartition name
SUBPARTITION_POSITION	NUMBER	NOT NULL	Position of a subpartition within a 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	NOT NULL	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
INITIAL_EXTENT	NUMBER		Size of the initial extent in bytes
NEXT_EXTENT	NUMBER		Size of secondary extents in bytes
MIN_EXTENT	NUMBER	NOT NULL	Minimum number of extents allowed in the segment
MAX_EXTENT	NUMBER	NOT NULL	Maximum number of extents allowed in the segment
PCT_INCREASE	NUMBER	NOT NULL	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)		Logging attribute of subpartition

Column	Datatype	NULL	Description
NUM_ROWS	NUMBER		The number of rows
BLOCKS	NUMBER		The number of blocks
EMPTY_BLOCKS	NUMBER		The number of empty blocks
AVG_SPACE	NUMBER		The average space
CHAIN_CNT	NUMBER		The chain count
AVG_ROW_LEN	NUMBER		The average row length
SAMPLE_SIZE	NUMBER		The sample size
LAST_ANALYZED	DATE		The date on which this table was most recently analyzed
BUFFER_POOL	VARCHAR2( 7 )		The default buffer pool for this subpartition
GLOBAL_STATS	VARCHAR2( 3 )		Indicates whether column statistics for the subpartition were collected by analyzing the table as a whole (YES) or estimated from statistics collected for partitions and subpartitions (NO)
USER_STATS	VARCHAR2( 3 )		Were the statistics entered directly by the user?

## ALL\_TABLES

ALL\_TABLES describes all relational tables accessible to the current user. To gather statistics for this view, use the SQL ANALYZE statement.

### Related Views

- DBA\_TABLES describes all relational tables in the database.
- USER\_TABLES describes all 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 ANALYZE statement or the DBMS\_STATS package.

---

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )		Owner of the table
TABLE_NAME	VARCHAR2( 30 )		Name of the table

## ALL\_TABLES

---

Column	Datatype	NULL	Description
TABLESPACE_NAME	VARCHAR2(30)		Name of the tablespace containing the table; NULL for partitioned, temporary and index-organized tables
CLUSTER_NAME	VARCHAR2(30)		Name of the cluster, if any, to which the table belongs
IOT_NAME	VARCHAR2(30)		Name of the index-organized table, if any, to which the overflow entry belongs. If IOT_TYPE column is not null, this column contains the base table name.
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 the secondary extension 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 this segment; NULL for partitioned tables
FREELIST_GROUPS	NUMBER		Number of freelist groups allocated to this segment; NULL for partitioned tables
LOGGING	VARCHAR2(3)		Logging attribute; NULL for partitioned tables
BACKED_UP	VARCHAR2(1)		Has table been backed up since last change
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
AVG_SPACE*	NUMBER		Average amount of free space, in bytes, in a data block allocated to the table

Column	Datatype	NULL	Description
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		The average freespace of all blocks on a freelist
NUM_FREELIST_BLOCKS	NUMBER		The number of blocks on the freelist
DEGREE	VARCHAR2(10)		The number of threads per instance for scanning the table
INSTANCES	VARCHAR2(10)		The number of instances across which the table is to be scanned
CACHE	VARCHAR2(5)		Whether the cluster is to be cached in the buffer cache (CACHE   NOCACHE)
TABLE_LOCK	VARCHAR2(8)		Whether table locking is enabled or 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 this table is partitioned. Set to YES if it is partitioned.
IOT_TYPE	VARCHAR2(12)		If this is an index-organized table, then IOT_TYPE is IOT, IOT_OVERFLOW, or IOT_MAPPING. If this is not an index-organized table, then IOT_TYPE is NULL.
TEMPORARY	VARCHAR2(1)		Can the current session only see data that it place in this object itself?
SECONDARY	VARCHAR2(1)		Whether the trigger is a secondary object created by the ODCIIndexCreate method of the Oracle9i Data Cartridge (Y   N)
NESTED	VARCHAR2(3)		Is the table a nested table?
BUFFER_POOL	VARCHAR2(7)		The default buffer pool for the object. NULL for partitioned tables
ROW_MOVEMENT	VARCHAR2(8)		Whether partitioned row movement is enabled or disabled
GLOBAL_STATS	VARCHAR2(3)		For partitioned tables, indicates whether statistics were collected for the table as a whole (YES) or were estimated from statistics on underlying partitions and subpartitions (NO)
USER_STATS	VARCHAR2(3)		Were the statistics entered directly by the user?

## ALL\_TRIGGER\_COLS

---

Column	Datatype	NULL	Description
DURATION	VARCHAR2(15)		Indicates the duration of a temporary table: <ul style="list-style-type: none"><li>▪ SYS\$SESSION: the rows are preserved for the duration of the session</li><li>▪ SYS\$TRANSACTION: the rows are deleted after COMMIT</li></ul> Null for a permanent table
SKIP_CORRUPT	VARCHAR2(8)		Whether Oracle 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)		Whether the table has the MONITORING attribute set

### See Also:

- ["DBA\\_TABLES" on page 2-227](#)
- ["USER\\_TABLES" on page 2-291](#)

## ALL\_TRIGGER\_COLS

ALL\_TRIGGER\_COLS describes the use of columns in triggers owned by user or in triggers on tables owned by user. If the user has the CREATE ANY TRIGGER privilege, this view describes the use of columns in all triggers.

### Related Views

- DBA\_TRIGGER\_COLS provides such information for all triggers in the database.
- USER\_TRIGGER\_COLS provides such information for all triggers owned by the current user.

Column	Datatype	NULL	Description
TRIGGER_OWNER	VARCHAR2(30)	NOT NULL	Owner of the triggers
TRIGGER_NAME	VARCHAR2(30)	NOT NULL	Name of the trigger
TABLE_OWNER	VARCHAR2(30)	NOT NULL	Owner of the table on which the trigger is defined
TABLE_NAME	VARCHAR2(30)	NOT NULL	Table on which the trigger is defined
COLUMN_NAME	VARCHAR2(4000)		Name of the column used in the trigger
COLUMN_LIST	VARCHAR2(3)		Column specified in UPDATE clause (Y   N)

Column	Datatype	NULL	Description
COLUMN_USAGE	VARCHAR2(17)		How the column is used in the trigger. All applicable combinations of NEW, OLD, IN, OUT, and IN OUT.

## ALL\_TRIGGER

ALL\_TRIGGER describes owned by the current user and triggers on tables owned by the current user. If the user has the CREATE ANY TRIGGER privilege, then this view describes all triggers in the database.

### Related Views

- DBA\_TRIGGER describes all triggers in the database.
- USER\_TRIGGER describes all triggers owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Owner of the trigger
TRIGGER_NAME	VARCHAR2(30)	NOT NULL	Name of the trigger
TRIGGER_TYPE	VARCHAR2(16)		When the trigger fires: BEFORE STATEMENT, BEFORE EACH ROW, BEFORE EVENT, AFTER STATEMENT, AFTER EACH ROW, and AFTER EVENT
TRIGGERING_EVENT	VARCHAR2(216)		The DML, DDL, or database event that fires the trigger. For a listing of triggering events, see the CREATE_TRIGGER statement in <i>Oracle9i SQL Reference</i> .
TABLE_OWNER	VARCHAR2(30)	NOT NULL	Owner of the table on which the trigger is defined
BASE_OBJECT_TYPE	VARCHAR2(16)		The base object on which the trigger is defined: TABLE, VIEW, SCHEMA, or DATABASE
TABLE_NAME	VARCHAR2(30)		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, this column indicates the table/view name on which the trigger is defined
COLUMN_NAME	VARCHAR2(30)		Name of the nested table column (if nested table trigger), else null
REFERENCING_NAMES	VARCHAR2(87)		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)		Whether the trigger is enabled (ENABLED   DISABLED)

## ALL\_TYPE\_ATTRS

---

Column	Datatype	NULL	Description
DESCRIPTION	VARCHAR2(4000)		Trigger description; useful for re-creating a trigger creation statement
ACTION_TYPE	VARCHAR2(11)		The action type of the trigger body (CALL or PL/SQL)
TRIGGER_BODY	LONG		Statement(s) executed by the trigger when it fires

## 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.
- USER\_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(30)		Owner of the type
TYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the type
ATTR_NAME	VARCHAR2(30)	NOT NULL	Name of the attribute
ATTR_TYPE_MOD	VARCHAR2(7)		Type modifier of the attribute
ATTR_TYPE_OWNER	VARCHAR2(30)		Owner of the type of the attribute
ATTR_TYPE_NAME	VARCHAR2(30)		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	NOT NULL	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)

**See Also:**

- "DBA\_TYPE\_ATTRS" on page 2-231
- "USER\_TYPE\_ATTRS" on page 2-292

## 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(30)	NOT NULL	Owner of the type
TYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the type
METHOD_NAME	VARCHAR2(30)	NOT NULL	Name of the method
METHOD_NO	NUMBER	NOT NULL	Method number for distinguishing overloaded method (not to be used as ID number)
METHOD_TYPE	VARCHAR2(6)		Type of the method
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" on page 2-231
- "USER\_TYPE\_METHODS" on page 2-292

## 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 ( 30 )	NOT NULL	Owner of the type
TYPE_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the type
VERSION#	NUMBER	NOT NULL	Internal version number of the type
TYPECODE	VARCHAR2 ( 30 )		Typecode of the type
STATUS	VARCHAR2 ( 7 )		Status of the type
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" on page 2-231](#)
- ["USER\\_TYPE VERSIONS" on page 2-292](#)

## 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 ( 30 )		Owner of the type

Column	Datatype	NULL	Description
TYPE_NAME	VARCHAR2(30)	NOT NULL	Name of the type
TYPE_OID	RAW(16)	NOT NULL	Object identifier (OID) of the type
TYPECODE	VARCHAR2(30)		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(30)		Owner of the supertype (NULL if type is not a subtype)
SUPERTYPE_NAME	VARCHAR2(30)		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" on page 2-231](#)
- ["USER\\_TYPES" on page 2-293](#)

## ALL\_UNUSED\_COL\_TABS

ALL\_UNUSED\_COL\_TABS describes all 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.

## ALL\_UPDATABLE\_COLUMNS

---

- **USER\_UNUSED\_COL\_TABS** describes all tables owned by the current user that contain unused columns. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	The owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	The name of the table
COUNT	NUMBER		The number of unused columns

## **ALL\_UPDATABLE\_COLUMNS**

**ALL\_UPDATABLE\_COLUMNS** describes all columns in a join view that are updatable by the current user.

### **Related Views**

- **DBA\_UPDATABLE\_COLUMNS** describes all columns in a join view that are updatable by the database administrator.
- **USER\_UPDATABLE\_COLUMNS** describes all columns owned by the current user that are in a join view and are updatable by the current user.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(30)	NOT NULL	Table owner
TABLE_NAME	VARCHAR2(30)	NOT NULL	Table name
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Column name
UPDATABLE	VARCHAR2(3)		Indicates whether the column is updatable
INSERTABLE	VARCHAR2(3)		Indicates whether the column is insertable
DELETABLE	VARCHAR2(3)		Indicates whether the column is deletable

## **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(30)	NOT NULL	Name of the user
USER_ID	NUMBER	NOT NULL	ID number of the user
CREATED	DATE	NOT NULL	User creation date

**See Also:**

- ["DBA\\_USERS" on page 2-233](#)
- ["USER\\_USERS" on page 2-293](#)

## ALL\_USTATS

ALL\_USTATS describes all user-defined statistics accessible to the current user.

### Related Views

- DBA\_USTATS describes all user-defined statistics in the database.
- USER\_USTATS describes all user-defined statistics owned by the current user.

Column	Datatype	NULL	Description
OBJECT_OWNER	VARCHAR2(30)		Owner of the table or index for which the statistics have been collected
OBJECT_NAME	VARCHAR2(30)		Name of the table or index for which the statistics have been collected
OBJECT_TYPE	VARCHAR2(6)		Indicates the type of object for which statistics have been collected: COLUMN or INDEX
ASSOCIATION	VARCHAR2(8)		DIRECT Indicates a direct association with the object for which the statistics have been collected. IMPLICIT indicates the 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.
COLUMN_NAME	VARCHAR2(30)		Column name, if property is column for which statistics have been collected
STATSTYPE_SCHEMA	VARCHAR2(30)		Schema of statistics type which was used to collect the statistics

## ALL\_VARRAYS

---

Column	Datatype	NULL	Description
STATSTYPE_NAME	VARCHAR2 ( 30 )		Name of statistics type which was used to collect statistics
STATISTICS	RAW ( 2000 )		User collected statistics for the object
PARTITION_NAME	VARCHAR2 ( 30 )		Partition name of a table. If null, the table is either non-partitioned or the entry corresponds to the aggregate statistics for the table.

## ALL\_VARRAYS

ALL\_VARRAYS describes all varrays accessible to the current user.

### Related Views

- DBA\_VARRAYS describes all varrays in the database.
- USER\_VARRAYS describes all varrays owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2 ( 30 )		Owner of the table containing the varray
PARENT_TABLE_NAME	VARCHAR2 ( 30 )		Name of the containing table
PARENT_TABLE_COLUMN	VARCHAR2 ( 4000 )		Name of the varray column or attribute
TYPE_OWNER	VARCHAR2 ( 30 )		Owner of the varray type
TYPE_NAME	VARCHAR2 ( 30 )		Name of the varray type
LOB_NAME	VARCHAR2 ( 30 )		Name of the LOB if the varray is stored in a LOB
STORAGE_SPEC	VARCHAR2 ( 30 )		DEFAULT value indicates that the storage was defaulted. USER_SPECIFIED value indicates that the storage was user-specified.
RETURN_TYPE	VARCHAR2 ( 20 )		Return type of the column
ELEMENT_SUBSTITUTABLE	VARCHAR2 ( 25 )		Indicates whether the varray element is substitutable (Y) or not (N)

## 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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the view
VIEW_NAME	VARCHAR2( 30 )	NOT NULL	Name of the view
TEXT_LENGTH	NUMBER		Length of the view text
TEXT	LONG		View text
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( 30 )		Owner of the type of the view if the view is a typed view
VIEW_TYPE	VARCHAR2( 30 )		Type of the view if the view is a typed view
SUPERVIEW_NAME	VARCHAR2( 30 )		Name of the superview

#### See Also:

- "[DBA\\_VIEWS](#)" on page 2-234
- "[USER\\_VIEWS](#)" on page 2-294

## 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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2( 30 )		Owner of the XML schema
SCHEMA_URL	VARCHAR2( 700 )		Schema URL of the XML schema

Column	Datatype	NULL	Description
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( 767 )		Fully qualified schema URL

**See Also:**

- ["DBA\\_XML\\_SCHEMAS" on page 2-234](#)
- ["USER\\_XML\\_SCHEMAS" on page 2-294](#)

## 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( 30 )		Owner of the XML table
TABLE_NAME	VARCHAR2( 30 )		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( 30 )		Owner of the XML Schema that is used for the table definition
ELEMENT_NAME	VARCHAR2( 256 )		Name of the XML Schema element that is used for the table
STORAGE_TYPE	VARCHAR2( 17 )		Storage option for the XMLtype data (OBJECT-RELATIONAL or CLOB)

**See Also:**

- ["DBA\\_XML\\_TAB\\_COLS" on page 2-235](#)
- ["USER\\_XML\\_TAB\\_COLS" on page 2-294](#)

## 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(30)		Owner of the XML table
TABLE_NAME	VARCHAR2(30)		Name of the XML table
XMLSCHEMA	VARCHAR2(700)		Name of the XML Schema that is used for the table definition
SCHEMA_OWNER	VARCHAR2(30)		Owner of the XML Schema that is used for the table definition
ELEMENT_NAME	VARCHAR2(256)		Name of the XML SCHEMA element that is used for the table
STORAGE_TYPE	VARCHAR2(17)		Storage option for the XMLtype data (OBJECT-RELATIONAL or CLOB)

**See Also:**

- ["DBA\\_XML\\_TABLES" on page 2-235](#)
- ["USER\\_XML\\_TABLES" on page 2-294](#)

## 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(30)		Owner of the XML view
VIEW_NAME	VARCHAR2(30)		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(30)		Owner of the XML Schema that is used for the view definition
ELEMENT_NAME	VARCHAR2(256)		Name of the XML SChema element that is used for the view

#### See Also:

- ["DBA\\_XML\\_VIEW\\_COLS" on page 2-235](#)
- ["USER\\_XML\\_VIEW\\_COLS" on page 2-294](#)

## 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(30)		Owner of the XML view
VIEW_NAME	VARCHAR2(30)		Name of the XML view
XMLSCHEMA	VARCHAR2(700)		Name of the XML Schema that is used for the view definition
SCHEMA_OWNER	VARCHAR2(30)		Owner of the XML Schema that is used for the view definition
ELEMENT_NAME	VARCHAR2(256)		Name of the XML SChema element that is used for the view

**See Also:**

- ["DBA\\_XML\\_VIEWS" on page 2-235](#)
- ["USER\\_XML\\_VIEWS" on page 2-294](#)

## AUDIT\_ACTIONS

AUDIT\_ACTIONS describes audit trail action type codes. This table can be used to map action type numbers to action type names.

Column	Datatype	NULL	Description
ACTION	NUMBER	NOT NULL	Numeric audit trail action type code. These values also appear in the COMMAND column of the V\$SESSION dynamic performance view, and are listed with that view.  <b>See Also:</b> <a href="#">Table 3-3</a> on page 3-131 for a listing of the action type codes
NAME	VARCHAR2( 27 )	NOT NULL	Name of the type of audit trail action

## CATALOG

CATALOG is included for compatibility with Oracle version 5. Oracle Corporation recommends that you not use this view.

## CAT

CAT is a synonym for USER\_CATALOG.

**See Also:** ["USER\\_CATALOG" on page 2-266](#)

## 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

## CHANGE\_SOURCES

---

Column	Description
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

## CHANGE\_SOURCES

CHANGE\_SOURCES enables publishers to view existing change sources. You must have the SELECT\_CATALOG\_ROLE privilege to access this view.

Column	Datatype	NULL	Description
SOURCE_NAME	VARCHAR2(30)	NOT NULL	User specified identifier. For synchronous change sources, there is one pre-created source with the SOURCE_NAME "SYNC_SOURCE."
DBID	NUMBER		The database identifier of the Oracle host instance (set by CDC when the first log is added to LogMiner)
LOG_DIRECTORY	VARCHAR2(4000)	NOT NULL	File system path on the CDC machine where log files for this source are maintained
LOGFILE_PATTERN	VARCHAR2(30)		This pattern enables you to recognize log files (for example, *.log) if the log location has files in it other than log files
SOURCE_DESCRIPTION	VARCHAR2(255)		Comment field for customers
CREATED	DATE	NOT NULL	Creation date of the change source

## CHANGE\_SETS

CHANGE\_SETS enables publishers to view existing change sets. You must have the SELECT\_CATALOG\_ROLE privilege to access this view.

Column	Datatype	NULL	Description
SET_NAME	VARCHAR2(30)	NOT NULL	User specified identifier. For synchronous change sources, there is one pre-created source with the SET_NAME "SYNC_SET."
CHANGE_SOURCE_NAME	VARCHAR2(30)	NOT NULL	The change source to which this set belongs
BEGIN_DATE	DATE		Starting point for capturing change data
END_DATE	DATE		Stopping point for capturing change data

Column	Datatype	NULL	Description
BEGIN_SCN	NUMBER		Starting point for capturing change data
END_SCN	NUMBER		Stopping point for capturing change data
FRESHNESS_DATE	DATE		Stopping point for the last successful advance
FRESHNESS_SCN	NUMBER		Stopping point for the last successful advance
ADVANCE_ENABLED	VARCHAR2(1)	NOT NULL	Identifies eligibility for advance (Y   N)
IGNORE_DDL	VARCHAR2(1)	NOT NULL	Identifies whether to continue (Y) or stop (N)
CREATED	DATE	NOT NULL	The creation date of the change set
ROLLBACK_SEGMENT_NAME	VARCHAR2(30)		Used during advance (optional)
ADVANCING	VARCHAR2(1)	NOT NULL	Identifies whether or not (Y   N) an advance is in progress for this set (set by advance)
PURGING	VARCHAR2(1)	NOT NULL	Identifies whether or not (Y   N) a purge of old data is in progress for this change set (set by advance)
LOWEST_SCN	NUMBER	NOT NULL	Current low water mark for change data remaining in this set after the latest purge
TABLESPACE	VARCHAR2(30)	NOT NULL	Location where advance creates LCR staging tables

## CHANGE\_TABLES

CHANGE\_TABLES enables publishers to see existing change tables. You must have the SELECT\_CATALOG\_ROLE privilege to access this view.

Column	Datatype	NULL	Description
CHANGE_TABLE_SCHEMA	VARCHAR2(30)	NOT NULL	Change table owner
CHANGE_TABLE_NAME	VARCHAR2(30)	NOT NULL	Change table name
CHANGE_SET_NAME	VARCHAR2(30)	NOT NULL	The change set this table belongs to
SOURCE_SCHEMA_NAME	VARCHAR2(30)	NOT NULL	The table owner in the source system
SOURCE_TABLE_NAME	VARCHAR2(30)	NOT NULL	The name of the corresponding table in the source system
CREATED	DATE	NOT NULL	Date on which this change table was created
CREATED_SCN	NUMBER		The system commit SCN when this table was created
CAPTURED_VALUES	VARCHAR2(1)	NOT NULL	Indicates the values O (old), N (new), or B (both)

## CLU

CLU is a synonym for USER\_CLUSTERS.

**See Also:** "USER\_CLUSTERS" on page 2-266

## CODE\_PIECES

Oracle accesses this view to create the DBA\_OBJECT\_SIZE and USER\_OBJECT\_SIZE views.

**See Also:** "DBA\_OBJECT\_SIZE" on page 2-200 and "USER\_OBJECT\_SIZE" on page 2-279

## CODE\_SIZE

Oracle accesses this view to create the DBA\_OBJECT\_SIZE and USER\_OBJECT\_SIZE views.

**See Also:** "DBA\_OBJECT\_SIZE" on page 2-200 and "USER\_OBJECT\_SIZE" on page 2-279

## COL

COL is included for compatibility with Oracle version 5. Oracle Corporation recommends that you not use this view.

## COLS

COLS is a synonym for USER\_TAB\_COLUMNS.

**See Also:** "USER\_TAB\_COLUMNS" on page 2-289

## COLUMN\_PRIVILEGES

COLUMN\_PRIVILEGES is included for compatibility with Oracle version 6. Oracle Corporation does not recommend use of this view.

## DATABASE\_PROPERTIES

DATABASE\_PROPERTIES lists Permanent database properties.

---

Column	Datatype	NULL	Description
PROPERTY_NAME	VARCHAR2(30)	NOT NULL	Property name

---

Column	Datatype	NULL	Description
PROPERTY_VALUE	VARCHAR2(4000)		Property value
DESCRIPTION	VARCHAR2(4000)		Property description

## 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(30)		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 readonly commit
DBID	VARCHAR2(16)		The database ID at the other end of the connection
SESS#	NUMBER		Session number of the connection at this database
BRANCH	VARCHAR2(128)		Transaction branch ID of the connection at this database

## 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(2000)		Text for commit work comment text

## **DBA\_ALL\_TABLES**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
FAIL_TIME	DATE	NOT NULL	Value of SYSDATE when the row was inserted (transaction or system recovery)
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 machine for the end-user
DB_USER	VARCHAR2 ( 30 )		Oracle user name of the end-user at the topmost database
COMMIT#	VARCHAR2 ( 16 )		Global commit number for committed transactions

## **DBA\_ALL\_TABLES**

DBA\_ALL\_TABLES displays descriptions of all object tables and relational tables in the database. Its columns are the same as those in "[ALL\\_ALL\\_TABLES](#)" on page 2-6.

## **DBA\_APPLICATION\_ROLES**

DBA\_APPLICATION\_ROLES describes all the roles that have authentication policy functions defined.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
ROLE	VARCHAR2 ( 30 )	NOT NULL	Name of the application role
SCHEMA	VARCHAR2 ( 30 )	NOT NULL	Schema of the authorized package
PACKAGE	VARCHAR2 ( 30 )	NOT NULL	Name of the authorized package

## **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"](#) on page 2-8

## DBA\_APPLY\_CONFLICT\_COLUMNS

DBA\_APPLY\_CONFLICT\_COLUMNS displays information about 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"](#) on page 2-9

## 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"](#) on page 2-10

## DBA\_APPLY\_ERROR

DBA\_APPLY\_ERROR displays information about 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"](#) on page 2-10

## DBA\_APPLY\_INSTANTIATED\_OBJECTS

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(30)	NOT NULL	Owner of the object at the source database
SOURCE_OBJECT_NAME	VARCHAR2(30)	NOT NULL	Name of the object at the source database
SOURCE_OBJECT_TYPE	NUMBER	NOT NULL	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.

## **DBA\_APPLY\_KEY\_COLUMNS**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
APPLY_DATABASE_LINK	VARCHAR2(128)		Database link to which changes are applied. If null, then changes are applied to the local database.

## **DBA\_APPLY\_KEY\_COLUMNS**

DBA\_APPLY\_KEY\_COLUMNS displays information about 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" on page 2-11

## **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" on page 2-12

## **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" on page 2-12

## **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( 30 )	NOT NULL	Name of the AQ agent
DB_USERNAME	VARCHAR2( 30 )		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](#)" on page 2-263

## DBA\_AQ\_AGENTS

DBA\_AQ\_AGENTS displays information about all registered AQ agents in the database.

Column	Datatype	NULL	Description
AGENT_NAME	VARCHAR2( 30 )	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)

## DBA\_ASSOCIATIONS

DBA\_ASSOCIATIONS describes all user-defined statistics in the database. Its columns are the same as those for "[ALL\\_ASSOCIATIONS](#)" on page 2-14.

## DBA\_ATTRIBUTE\_TRANSFORMATIONS

DBA\_ATTRIBUTE\_TRANSFORMATIONS displays information about the transformation functions for all transformations in the database.

### Related View

[USER\\_ATTRIBUTE\\_TRANSFORMATIONS](#) displays information about the transformation functions for the transformations owned by the current user. This view does not display the OWNER column.

## **DBA\_AUDIT\_EXISTS**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
TRANSFORMATION_ID	NUMBER	NOT NULL	Unique identifier for the transformation
OWNER	VARCHAR2(30)	NOT NULL	Owning user of the transformation
NAME	VARCHAR2(30)	NOT NULL	Transformation name
FROM_TYPE	VARCHAR2(61)		Source type name
TO_TYPE	VARCHAR2(91)		Target type name
ATTRIBUTE	NUMBER	NOT NULL	Target type attribute number
ATTRIBUTE_TRANSFORMATION	VARCHAR2(4000)		Transformation function for the attribute

**See Also:** ["USER\\_ATTRIBUTE\\_TRANSFORMATIONS"](#) on page 2-264

## **DBA\_AUDIT\_EXISTS**

DBA\_AUDIT\_EXISTS lists audit trail entries produced by AUDIT EXISTS and AUDIT NOT EXISTS.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OS_USERNAME	VARCHAR2(255)		Operating system login username of the user whose actions were audited
USERNAME	VARCHAR2(30)		Name (not ID number) of the user whose actions were audited
USERHOST	VARCHAR2(128)		Numeric instance ID for the Oracle instance from which the user is accessing the database
TERMINAL	VARCHAR2(255)		Identifier of the user's terminal
TIMESTAMP	DATE	NOT NULL	Timestamp for the creation of the audit trail entry
OWNER	VARCHAR2(30)		Intended creator of the non-existent object
OBJ_NAME	VARCHAR2(128)		Name of the object affected by the action
ACTION_NAME	VARCHAR2(27)		Name of the action type corresponding to the numeric code in the ACTION column in DBA_AUDIT_TRAIL
NEW_OWNER	VARCHAR2(30)		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
OBJ_PRIVILEGE	VARCHAR2(16)		Object privileges granted or revoked by a GRANT or REVOKE statement

Column	Datatype	NULL	Description
SYS_PRIVILEGE	VARCHAR2(40)		System privileges granted or revoked by a GRANT or REVOKE statement
GRANTEE	VARCHAR2(30)		Name of the grantee specified in a GRANT or REVOKE statement
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: the action succeeded</li> <li>■ 2004: security violation</li> </ul>
CLIENT_ID	VARCHAR2(64)		Client identifier in each Oracle session
SESSION_CPU	NUMBER		Amount of CPU time used by each Oracle session

## DBA\_AUDIT\_OBJECT

DBA\_AUDIT\_OBJECT contains audit trail records for all objects in the system.

### Related View

USER\_AUDIT\_OBJECT contains audit trail records for all 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(30)		Name (not ID number) of the user whose actions were audited
USERHOST	VARCHAR2(2000)		Numeric instance ID for the Oracle instance from which the user is accessing the database
TERMINAL	VARCHAR2(2000)		Identifier of the user's terminal
TIMESTAMP	DATE	NOT NULL	Timestamp for the creation of the audit trail entry or login time for the CONNECT statement
OWNER	VARCHAR2(30)		Creator of the object affected by the action
OBJ_NAME	VARCHAR2(128)		Name of the object affected by the action
ACTION_NAME	VARCHAR2(27)		Name of the action type corresponding to the numeric code in the ACTION column in DBA_AUDIT_TRAIL

## DBA\_AUDIT\_POLICIES

---

Column	Datatype	NULL	Description
NEW_OWNER	VARCHAR2(30)		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: - for none, S for success, F for failure, and B for both).
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: the action succeeded</li><li>■ 2004: security violation</li></ul>
PRIV_USED	VARCHAR2(40)		System privilege used to execute the action
CLIENT_ID	VARCHAR2(64)		Client identifier in each Oracle session
SESSION_CPU	NUMBER		Amount of CPU time used by each Oracle session

## 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.

See Also: "ALL\_AUDIT\_POLICIES" on page 2-15

## DBA\_AUDIT\_SESSION

DBA\_AUDIT\_SESSION lists all audit trail records concerning CONNECT and DISCONNECT.

### Related View

USER\_AUDIT\_SESSION contains 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( 30 )		Name (not ID number) of the user whose actions were audited
USERHOST	VARCHAR2( 2000 )		Numeric instance ID for the Oracle instance from which the user is accessing the database
TERMINAL	VARCHAR2( 2000 )		Identifier of the user's terminal
TIMESTAMP	DATE	NOT NULL	Timestamp for the creation of the audit trail entry or login time for the CONNECT statement
ACTION_NAME	VARCHAR2( 27 )		Name of the action type corresponding to the numeric code in the ACTION column in DBA_AUDIT_TRAIL
LOGOFF_TIME	DATE		Timestamp for 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: the action succeeded</li> <li>■ 2004: security violation</li> </ul>
CLIENT_ID	VARCHAR2( 64 )		Client identifier in each Oracle session
SESSION_CPU	NUMBER		Amount of CPU time used by each Oracle session

## DBA\_AUDIT\_STATEMENT

DBA\_AUDIT\_STATEMENT lists audit trail records concerning GRANT, REVOKE, AUDIT, NOAUDIT, and ALTER SYSTEM statements throughout the database.

### Related View

USER\_AUDIT\_STATEMENT contains audit trail records for the same statements issued by the current user.

## DBA\_AUDIT\_STATEMENT

---

Column	Datatype	NULL	Description
OS_USERNAME	VARCHAR2(255)		Operating system login username of the user whose actions were audited
USERNAME	VARCHAR2(30)		Name (not ID number) of the user whose actions were audited
USERHOST	VARCHAR2(2000)		Numeric instance ID for the Oracle instance from which the user is accessing the database
TERMINAL	VARCHAR2(2000)		Identifier of the user's terminal
TIMESTAMP	DATE	NOT NULL	Timestamp for the creation of the audit trail entry or login time for the CONNECT statement
OWNER	VARCHAR2(30)		Creator of the object affected by the action
OBJ_NAME	VARCHAR2(128)		Name of object affected by the action
ACTION_NAME	VARCHAR2(27)		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
OBJ_PRIVILEGE	VARCHAR2(16)		Object privileges granted or revoked by a GRANT or REVOKE statement
SYS_PRIVILEGE	VARCHAR2(40)		System privileges granted or revoked by a GRANT or REVOKE statement
ADMIN_OPTION	VARCHAR2(1)		Signifies the role or system privilege was granted with ADMIN option
GRANTEE	VARCHAR2(30)		Name of 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: - for none, S for success, F for failure, and B for both).
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

Column	Datatype	NULL	Description
RETURNCODE	NUMBER	NOT NULL	Oracle error code generated by the action. Some useful values: <ul style="list-style-type: none"><li>■ 0: the action succeeded</li><li>■ 2004: security violation</li></ul>
PRIV_USED	VARCHAR2( 40 )		System privilege used to execute the action
CLIENT_ID	VARCHAR2( 64 )		Client identifier in each Oracle session
SESSION_CPU	NUMBER		Amount of CPU time used by each Oracle session

## DBA\_AUDIT\_TRAIL

DBA\_AUDIT\_TRAIL lists all audit trail entries.

### Related View

USER\_AUDIT\_TRAIL contains all 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( 30 )		Name (not ID number) of the user whose actions were audited
USERHOST	VARCHAR2( 128 )		Numeric instance ID for the Oracle instance from which the user is accessing the database. Used only in environments with distributed file systems and shared database files.
TERMINAL	VARCHAR2( 255 )		Identifier of the user's terminal
TIMESTAMP	DATE	NOT NULL	Timestamp for the creation of the audit trail entry or login time for the CONNECT statement
OWNER	VARCHAR2( 30 )		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 ACTION_NAME column.
ACTION_NAME	VARCHAR2( 27 )		Name of the action type corresponding to the numeric code in the ACTION column
NEW_OWNER	VARCHAR2( 30 )		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

Column	Datatype	NULL	Description
OBJ_PRIVILEGE	VARCHAR2(16)		Object privileges granted or revoked by a GRANT or REVOKE statement
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(30)		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		Timestamp for 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 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 Security option</li> <li>■ PROXY - Client was authenticated by another user; the name of the proxy user follows the method type</li> </ul>
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

Column	Datatype	NULL	Description
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( 64 )		Client identifier in each Oracle session
SESSION_CPU	NUMBER		Amount of CPU time used by each Oracle session

## DBA\_AW\_PS

DBA\_AW\_PS describes the pagespaces in all analytic workspaces in the database.

### Related View

USER\_AW\_PS describes the pagespaces in the analytic workspaces owned by the current user. This view does not display the OWNER column.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the analytic workspace
AW_NUMBER	NUMBER	NOT NULL	Number of the analytic workspace
AW_NAME	VARCHAR2( 30 )		Name of the analytic workspace
PSNUMBER	NUMBER( 10 )		Number of the pagespace
GENERATIONS	NUMBER		Number of active generations in the pagespace

### See Also:

- ["USER\\_AW\\_PS" on page 2-265](#)
- *Oracle9i OLAP User's Guide* for more information about this view

## DBA\_AWS

DBA\_AWS describes all analytic workspaces in the database.

### Related View

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 ( 30 )	NOT NULL	Owner of the analytic workspace
AW_NUMBER	NUMBER	NOT NULL	Number of the analytic workspace
AW_NAME	VARCHAR2 ( 30 )		Name of the analytic workspace
PAGESPACES	NUMBER		Number of pagespaces in the analytic workspace
GENERATIONS	NUMBER		Number of active generations in the analytic workspace

### See Also:

- ["USER\\_AWS" on page 2-265](#)
- *Oracle9i OLAP User's Guide* for more information about this view

## 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" on page 2-16](#)

## 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.

Column	Datatype	NULL	Description
HOLDING_SESSION	NUMBER		Session holding a lock

## 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"](#) on page 2-17

## 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"](#) on page 2-18

## 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"](#) on page 2-18

## 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"](#) on page 2-19

## 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"](#) on page 2-19

## DBA\_CATALOG

DBA\_CATALOG lists all indexes, tables, views, clusters, synonyms, and sequences in the database. Its columns are the same as those in ["ALL\\_CATALOG"](#) on page 2-20.

## 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(30)	NOT NULL	Owner of the cluster
CLUSTER_NAME	VARCHAR2(30)	NOT NULL	Cluster name
CLU_COLUMN_NAME	VARCHAR2(30)	NOT NULL	Key column in the cluster
TABLE_NAME	VARCHAR2(30)	NOT NULL	Clustered table name
TAB_COLUMN_NAME	VARCHAR2(4000)		Key column or attribute of the object type column

## 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](#)" on page 2-20.

## DBA\_CLUSTERS

DBA\_CLUSTERS describes all clusters in the database. Its columns are the same as those in "[ALL\\_CLUSTERS](#)" on page 2-21.

## DBA\_COL\_COMMENTS

DBA\_COL\_COMMENTS describes comments on columns of all tables and views in the database. Its columns are the same as those in "[ALL\\_COL\\_COMMENTS](#)" on page 2-22.

## 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(30)	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Name of the column
GRANTOR	VARCHAR2(30)	NOT NULL	Name of the user who performed the grant
PRIVILEGE	VARCHAR2(40)	NOT NULL	Privilege on the column
GRANTABLE	VARCHAR2(3)		Indicates whether the privilege was granted with the GRANT OPTION (YES) or not (NO)

**See Also:** ["USER\\_COL\\_PRIVS" on page 2-266](#)

## 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" on page 2-25](#).

## DBA\_CONS\_COLUMNS

`DBA_CONS_COLUMNS` describes all columns in the database that are specified in constraint definitions. Its columns are the same as those in ["ALL\\_CONS\\_COLUMNS" on page 2-25](#).

## 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" on page 2-26](#)

## DBA\_CONSTRAINTS

DBA\_CONSTRAINTS describes all constraint definitions on all tables in the database. Its columns are the same as those in "[ALL\\_CONSTRAINTS](#)" on page 2-27.

## DBA\_CONTEXT

DBA\_CONTEXT provides all context namespace information in the database. Its columns are the same as those in "[ALL\\_CONTEXT](#)" on page 2-28.

## DBA\_DATA\_FILES

DBA\_DATA\_FILES describes database files.

Column	Datatype	NULL	Description
FILE_NAME	VARCHAR2(513)		Name of the database file
FILE_ID	NUMBER	NOT NULL	File identifier number of the database 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	NOT NULL	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		Autoextension increment
USER_BYTES	NUMBER		Corresponding number of bytes
USER_BLOCKS	NUMBER		Number of blocks which can be used by the data

## DBA\_DB\_LINKS

DBA\_DB\_LINKS describes all database links in the database. Its columns are the same as those in "[ALL\\_DB\\_LINKS](#)" on page 2-29.

## 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(30)		Owner of the lock
NAME	VARCHAR2(30)		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>

## 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](#)" on page 2-30.

## 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](#)" on page 2-31.

## 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](#)" on page 2-32.

## 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](#)" on page 2-32.

## 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](#)" on page 2-33.

## 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](#)" on page 2-33.

## 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](#)" on page 2-34.

## DBA\_DIMENSIONS

DBA\_DIMENSIONS represents dimension objects. Its columns are the same as those in ["ALL\\_DIMENSIONS"](#) on page 2-34.

## DBA\_DIRECTORIES

DBA\_DIRECTORIES describes all directory objects in the database. Its columns are the same as those in ["ALL\\_DIRECTORIES"](#) on page 2-35.

## 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(30)	NOT NULL	Owner of the lock
NAME	VARCHAR2(30)	NOT NULL	Name of the lock
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		The last convert
BLOCKING_OTHERS	VARCHAR2(40)		Blocking others

## 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)

## 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
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

## DBA\_ERRORS

DBA\_ERRORS describes current errors on all stored objects (views, procedures, functions, packages, and package bodies) in the database. Its columns are the same as those in "[ALL\\_ERRORS](#)" on page 2-35.

## 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" on page 2-36

## 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" on page 2-36

## 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" on page 2-37

## 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( 30 )	NOT NULL	Name of user who executed export
TIMESTAMP	DATE	NOT NULL	Timestamp of the export session

## DBA\_EXP\_OBJECTS

DBA\_EXP\_OBJECTS describes objects that have been incrementally exported.

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of exported object
OBJECT_NAME	VARCHAR2( 30 )	NOT NULL	Name of exported object
OBJECT_TYPE	VARCHAR2( 12 )		Type of exported object

## **DBA\_EXP\_VERSION**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
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

## **DBA\_EXP\_VERSION**

**DBA\_EXP\_VERSION** displays the version number of the last export session.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
EXP_VERSION	NUMBER( 3 )	NOT NULL	Version number of the last export session

## **DBA\_EXTENTS**

**DBA\_EXTENTS** describes the extents comprising the segments in all tablespaces in the database.

### **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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2( 30 )		Owner of the segment associated with the extent
SEGMENT_NAME	VARCHAR2( 81 )		Name of the segment associated with the extent
SEGMENT_TYPE	VARCHAR2( 17 )		Type of the segment: INDEX PARTITION, TABLE PARTITION
TABLESPACE_NAME	VARCHAR2( 30 )		Name of the tablespace containing the extent
EXTENT_ID	NUMBER	NOT NULL	Extent number in the segment
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
BYTES	NUMBER		Size of the extent in bytes
BLOCKS	NUMBER	NOT NULL	Size of the extent in Oracle blocks
RELATIVE_FNO	NUMBER	NOT NULL	Relative file number of the first extent block
PARTITION_NAME	VARCHAR2( 30 )		Object Partition Name (Set to NULL for non-partitioned objects)

**See Also:** ["USER\\_EXTENTS" on page 2-270](#)

## DBA\_EXTERNAL\_LOCATIONS

DBA\_EXTERNAL\_TABLES 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" on page 2-38](#)

## 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" on page 2-39](#)

## DBA\_FGA\_AUDIT\_TRAIL

DBA\_FGA\_AUDIT\_TRAIL lists all audit records for fine-grained auditing.

Column	Datatype	NULL	Description
SESSION_ID	NUMBER	NOT NULL	Session id of the query
TIMESTAMP	DATE	NOT NULL	Timestamp of the query
DB_USER	VARCHAR2( 30 )		Database username who executed the query
OS_USER	VARCHAR2( 255 )		Operating system username who executed the query
USERHOST	VARCHAR2( 128 )		Numeric instance ID for the Oracle instance from which the user is accessing the database. Used only in environments with distributed file systems and shared database files.
CLIENT_ID	VARCHAR2( 64 )		Client identifier in each Oracle session
EXT_NAME	VARCHAR2( 4000 )		External name
OBJECT_SCHEMA	VARCHAR2( 30 )		Owner of the table or view
OBJECT_NAME	VARCHAR2( 128 )		Name of the table or view
POLICY_NAME	VARCHAR2( 30 )		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	VARCHAR2( 4000 )		Bind variable data of the query
COMMENT\$TEXT	VARCHAR2( 4000 )		Comments

## DBA\_FREE\_SPACE

DBA\_FREE\_SPACE describes the free extents in all tablespaces in the database.

### 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		File identifier number of the 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" on page 2-271

## 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)	NOT NULL	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

## 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](#)" on page 2-40.

## 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](#)" on page 2-41.

## DBA\_IND\_PARTITIONS

DBA\_IND\_PARTITIONS describes, for each index partition in the database, the partition-level partitioning information, the storage parameters for the partition, and various partition statistics collected by ANALYZE statements. Its columns are the same as those in "[ALL\\_IND\\_PARTITIONS](#)" on page 2-41.

## DBA\_IND\_SUBPARTITIONS

DBA\_IND\_SUBPARTITIONS describes, for each index subpartition in the database, the partition-level partitioning information, the storage parameters for the subpartition, and various partition statistics collected by ANALYZE statements. Its columns are the same as those in "[ALL\\_IND\\_SUBPARTITIONS](#)" on page 2-43.

## DBA\_INDEXES

DBA\_INDEXES describes all indexes in the database. To gather statistics for this view, use the SQL ANALYZE statement. This view supports parallel partitioned index scans. Its columns are the same as those in "[ALL\\_INDEXES](#)" on page 2-45.

## DBA\_INDEXTYPE\_COMMENTS

DBA\_INDEXTYPE\_COMMENTS lists all comments for user-defined indextypes in the database. Its columns are the same as those in ALL\_INDEXTYPE\_COMMENTS.

**See Also:** "[ALL\\_INDEXTYPE\\_COMMENTS](#)" on page 2-48

## 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" on page 2-49

## DBA\_INDEXTYPES

DBA\_INDEXTYPES describes all indextypes in the database. Its columns are the same as those in ALL\_INDEXTYPES.

**See Also:** "ALL\_INDEXTYPES" on page 2-50

## 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\_TRIGGER" on page 2-50.

## 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" on page 2-51

## 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" on page 2-52

## 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" on page 2-53

## 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"](#) on page 2-54

## DBA\_JAVA\_IMPLEMENTS

DBA\_JAVA\_IMPLEMENTS describes interfaces implemented by all stored Java classes in the database. Its columns are the same as those in ALL\_JAVA\_IMPLEMENTS.

**See Also:** ["ALL\\_JAVA\\_IMPLEMENTS"](#) on page 2-55

## 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"](#) on page 2-56

## 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"](#) on page 2-57

## 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"](#) on page 2-58

## 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" on page 2-59

## 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 this permission is a positive (GRANT) or a limitation (RESTRICT)
GRANTEE	VARCHAR2 ( 30 )	NOT NULL	Name of the user, schema, or role to which the permission object is assigned
TYPE_SCHEMA	VARCHAR2 ( 30 )	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" on page 2-274

## 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" on page 2-60

## 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" on page 2-61

## DBA\_JOBS

DBA\_JOBS describes all jobs in the database. Its columns are the same as those in "ALL\_JOBS" on page 2-61.

**See Also:** *Oracle9i Database Administrator's Guide* for more information on jobs

## DBA\_JOBS\_RUNNING

DBA\_JOBS\_RUNNING lists all jobs in the database that are currently running.

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.

## 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" on page 2-63.

## 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
kgl1kuse	RAW(4)		Address of the user session that holds the lock or pin
kgl1khdl	RAW(4)		Address of the handle for the KGL object
kgl1kmod	NUMBER		Current mode of the lock or pin
kgl1kreq	NUMBER		Mode in which the lock or pin was requested
kgl1ktype	VARCHAR2(4)		Whether this is a lock or a pin

## DBA\_LIBRARIES

DBA\_LIBRARIES describes all the libraries in the database. Its columns are the same as those in "[ALL\\_LIBRARIES](#)" on page 2-63.

## 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)

## 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	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

Column	Datatype	NULL	Description
TABLESPACE_ID	NUMBER	NOT NULL	Identifier number of the tablespace containing the extent
EXTENT_ID	NUMBER	NOT NULL	Extent number in the segment
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

## DBA\_LOB\_PARTITIONS

DBA\_LOB\_PARTITIONS displays all LOB partitions in the database. Its columns are the same as those in "[ALL\\_LOB\\_PARTITIONS](#)" on page 2-64.

## 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](#)" on page 2-65.

## 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"](#) on page 2-66

## 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](#)" on page 2-67.

## DBA\_LOCK

DBA\_LOCK lists all locks or latches held in the database, and all outstanding requests for a lock or latch.

## DBA\_LOCK\_INTERNAL

---

Column	Datatype	NULL	Description
SESSION_ID	NUMBER		Session holding or acquiring the lock
LOCK_TYPE	VARCHAR2(26)		Lock type <b>See Also:</b> For a listing of lock types, see <a href="#">Appendix B, "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

## 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 <b>See Also:</b> For a listing of lock types, see <a href="#">Appendix B, "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

## DBA\_LOCKS

DBA\_LOCKS is a synonym for DBA\_LOCK.

**See Also:** ["DBA\\_LOCK"](#) on page 2-189

## 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](#)" on page 2-68.

## 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](#)" on page 2-69.

## 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 logs.

Column	Datatype	NULL	Description
EVENT_TIME	DATE		Time the event was logged
CURRENT_SCN	NUMBER		Change vector SCN for the change. 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).
COMMIT_SCN	NUMBER		SCN value on which the change was committed
XIDUSN	NUMBER		Transaction ID undo segment number
XIDSLT	NUMBER		Transaction ID slot number
XIDSQN	NUMBER		Transaction ID sequence number
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

## DBA\_LOGSTDBY\_LOG

DBA\_LOGSTDBY\_LOG shows the logs registered for a logical standby database.

## DBA\_LOGSTDBY\_NOT\_UNIQUE

---

Column	Datatype	NULL	Description
THREAD#	NUMBER	NOT NULL	Thread ID 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_CHANGE#	NUMBER		System change number (SCN) of the current archived redo log
NEXT_CHANGE#	NUMBER		System change number (SCN) of the next archived redo log
FIRST_TIME	DATE		Date of the current archived redo log
NEXT_TIME	DATE		Date of the next archived redo log
FILE_NAME	VARCHAR2 ( 513 )		Name of the archived redo log
TIMESTAMP	DATE		Time when the archived redo log was registered
DICT_BEGIN	VARCHAR2 ( 3 )		Indicates whether the beginning of the dictionary build is in this particular archived redo log (YES) or not (NO)
DICT_END	VARCHAR2 ( 3 )		Indicates whether the end of the dictionary build is in this particular archived redo log (YES) or not (NO)

---

**Note:** The SCN values in this view correlate to the SCN values shown in the DBA\_LOGSTDBY\_PROGRESS view.

---

## DBA\_LOGSTDBY\_NOT\_UNIQUE

DBA\_LOGSTDBY\_NOT\_UNIQUE identifies tables that have no primary and no non-null unique indexes. Most of the tables displayed in 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 datatype.

Column	Datatype	NULL	Description
OWNER	VARCHAR2 ( 30 )	NOT NULL	Schema name
TABLE_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the table

Column	Datatype	NULL	Description
BAD_COLUMN	VARCHAR2(1)		<ul style="list-style-type: none"><li>■ Y - the table column is defined using an unbounded data type, such as LONG or BLOB. If two rows in the table match except in their LOB column, 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>■ N - 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 RELY constraint to these tables.</li></ul>

## DBA\_LOGSTDBY\_PARAMETERS

DBA\_LOGSTDBY\_PARAMETERS contains the list of parameters used by the log apply services for logical standby databases.

## DBA\_LOGSTDBY\_PROGRESS

---

Column	Datatype	NULL	Description
NAME	VARCHAR2 ( 30 )		Name of the parameter: <ul style="list-style-type: none"><li>▪ MAX_SGA - system global area (SGA) allocated for the log apply services cache (in megabytes)</li><li>▪ MAX_SLAVES - number of parallel query servers specifically reserved for log apply services</li><li>▪ MAX_EVENTS_RECORDED - number of events stored in the DBA_LOGSTDBY_EVENTS table</li><li>▪ TRANSACTION_CONSISTENCY - shows the level of transaction consistency maintained (FULL, READ_ONLY, or NONE)</li><li>▪ RECORD_SKIP_ERRORS - indicates records that are skipped</li><li>▪ RECORD_SKIP_DDL - indicates skipped DDL statements</li><li>▪ RECORD_APPLIED_DDL - indicates applied DDL statements</li><li>▪ FIRST_SCN - SCN at which log transport services will begin applying redo information</li><li>▪ PRIMARY - database ID of the database to which logs are being applied</li><li>▪ LMNR_SID - LogMiner Session ID. This internal value indicates which LogMiner session is in use.</li><li>▪ UNTIL_SCN - SCN value at which the log apply services will shut down all transactions that have been applied</li><li>▪ END_PRIMARY_SCN - during a switchover, this value indicates the last SCN applied by the new primary from the old primary</li><li>▪ NEW_PRIMARY_SCN - during a switchover, this value indicates the starting SCN for the new primary database</li><li>▪ COMPLETED_SESSION - indicates that the log apply services session has concluded. The value will indicate SWITCHOVER or FAILOVER, as appropriate.</li></ul>
VALUE	VARCHAR2 ( 2000 )		Value of the parameter

## DBA\_LOGSTDBY\_PROGRESS

DBA\_LOGSTDBY\_PROGRESS describes the progress of log apply services on the logical standby database.

Column	Datatype	NULL	Description
APPLIED_SCN	NUMBER		Shows the newest SCN at which all changes have been applied. The values in the APPLIED_SCN and NEWEST_SCN columns will match if all available redo log data has been processed.
APPLIED_TIME	DATE		Estimate of the time and date of the APPLIED_SCN
READ_SCN	NUMBER		All log data greater than this SCN has been read and saved
READ_TIME	DATE		Estimate of the time and date of the READ_SCN
NEWEST_SCN	NUMBER		Most recent SCN available on the standby system. If no more logs are being shipped, then changes could be applied to this SCN. The values in the APPLIED_SCN and NEWEST_SCN columns will match if all available redo log data has been processed.
NEWEST_TIME	DATE		Estimate of the time and date of the NEWEST_SCN

---

**Note:** The SCN values shown in this view correlate to the SCN values shown in the DBA\_LOGSTDBY\_LOG view.

---

## DBA\_LOGSTDBY\_SKIP

DBA\_LOGSTDBY\_SKIP lists the tables that will be skipped by log apply services.

Column	Datatype	NULL	Description
ERROR	VARCHAR2(1)		Indicates whether the statement should be skipped (yes) or just return errors for the statement (No)
STATEMENT_OPT	VARCHAR2(30)		Specifies the type of statement that should be skipped. It must be one of the AUDIT_OPTIONS.
OWNER	VARCHAR2(30)		Name of the schema under which this skip option should be used
NAME	VARCHAR2(30)		Name of the option under which this skip option should be used
PROC	VARCHAR2(98)		Name of a stored procedure that will be executed when processing the skip option

## DBA\_LOGSTDBY\_SKIP\_TRANSACTION

DBA\_LOGSTDBY\_SKIP\_TRANSACTION lists the skip settings chosen.

## **DBA\_LOGSTDBY\_UNSUPPORTED**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
XIDUSN	NUMBER		Transaction ID undo segment number
XIDSLT	NUMBER		Transaction ID slot number
XIDSQN	NUMBER		Transaction ID sequence number

## **DBA\_LOGSTDBY\_UNSUPPORTED**

**DBA\_LOGSTDBY\_UNSUPPORTED** identifies the schemas, tables, and columns in those tables that contain unsupported datatypes. Use this view when you are preparing to create a logical standby database.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2(30)	NOT NULL	Schema name of the unsupported table
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the unsupported table
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Name of the unsupported column
DATA_TYPE	VARCHAR2(106)		Data type of the unsupported column

## **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"](#) on page 2-69

## **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"](#) on page 2-70

## **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"](#) on page 2-71.

## 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](#)" on page 2-72.

---

**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 prior to Oracle8*i* and that were never altered to enable query rewrite.

---

## 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](#)" on page 2-73.

## 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](#)" on page 2-74.

## 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](#)" on page 2-75.

## DBA\_MVIEW\_LOG\_FILTER\_COLS

DBA\_MVIEW\_LOG\_FILTER\_COLS lists all columns (excluding primary key columns) being logged in the materialized view logs.

---

Column	Datatype	NULL	Description
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the master table being logged

## **DBA\_MVIEW\_LOGS**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
NAME	VARCHAR2(30)	NOT NULL	Name of the master table being logged
COLUMN_NAME	VARCHAR2(30)	NOT NULL	Column being logged

## **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"](#) on page 2-76

## **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"](#) on page 2-77

## **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"](#) on page 2-77

## **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"](#) on page 2-82.

## **DBA\_OBJ\_AUDIT\_OPTS**

DBA\_OBJ\_AUDIT\_OPTS describes auditing options on all objects.

### **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( 30 )		Owner of the object
OBJECT_NAME	VARCHAR2( 30 )		Name of the object
OBJECT_TYPE	VARCHAR2( 9 )		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
REN	VARCHAR2( 3 )		Auditing RENAME WHENEVER SUCCESSFUL/UNSUCCESSFUL
SEL	VARCHAR2( 3 )		Auditing SELECT WHENEVER SUCCESSFUL/UNSUCCESSFUL
UPD	VARCHAR2( 3 )		Auditing UPDATE WHENEVER SUCCESSFUL/UNSUCCESSFUL
REF	VARCHAR2( 3 )		Auditing REFERENCE WHENEVER SUCCESSFUL/UNSUCCESSFUL (not used)
EXE	VARCHAR2( 3 )		Auditing EXECUTE WHENEVER SUCCESSFUL/UNSUCCESSFUL
REA	VARCHAR2( 3 )		Auditing READ WHENEVER SUCCESSFUL/UNSUCCESSFUL

## 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" on page 2-82](#)

## 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(30)	NOT NULL	Owner of the object
NAME	VARCHAR2(30)	NOT NULL	Name of the object
TYPE	VARCHAR2(12)		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.

## DBA\_OBJECT\_TABLES

DBA\_OBJECT\_TABLES describes all object tables in the database. Its columns are the same as those in "[ALL\\_OBJECT\\_TABLES](#)" on page 2-83.

## DBA\_OBJECTS

DBA\_OBJECTS describes all objects in the database. Its columns are the same as those in "[ALL\\_OBJECTS](#)" on page 2-85.

## DBA\_OPANCILLARY

DBA\_OPANCILLARY provides ancillary information for all operator bindings in the database. Its columns are the same as those in "[ALL\\_OPANCILLARY](#)" on page 2-86.

## DBA\_OPARGUMENTS

DBA\_OPARGUMENTS provides argument information for all operator bindings in the database. Its columns are the same as those in "[ALL\\_OPARGUMENTS](#)" on page 2-87.

## DBA\_OPBINDINGS

DBA\_OPBINDINGS describes bindings of all operators in the database. Its columns are the same as those in "[ALL\\_OPBINDINGS](#)" on page 2-87.

## DBA\_OPERATOR\_COMMENTS

DBA\_OPERATOR\_COMMENTS lists all comments for user-defined operators in the database. Its columns are the same as those in ALL\_OPERATOR\_COMMENTS.

**See Also:** "[ALL\\_OPERATOR\\_COMMENTS](#)" on page 2-88

## DBA\_OPERATORS

DBA\_OPERATORS describes all operators in the database. Its columns are the same as those in ALL\_OPERATORS.

**See Also:** "[ALL\\_OPERATORS](#)" on page 2-89

## 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( 30 )	NOT NULL	Schema name of the index
INDEX_NAME	VARCHAR2( 30 )	NOT NULL	Name of the index
IPART_NAME	VARCHAR2( 30 )	NULL	Name of the index partition or subpartition
INDEX_ID	NUMBER	NOT NULL	Dictionary object ID of the index
TABLE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the base table of the index

Column	Datatype	NULL	Description
PART_NAME	VARCHAR2(30)	NULL	Name of the base table partition or subpartition
TABLE_ID	NUMBER	NOT NULL	Dictionary object ID of the base table
KEYDATA	UROWID	NOT NULL	Physical rowid of the corrupt data row
KEY	UROWID	NOT NULL	Key values for the index entry
DUMP_TIMESTAMP	DATE	NOT NULL	Timestamp when the entry was made into the orphan key table

## DBA\_OUTLINE\_HINTS

DBA\_OUTLINE\_HINTS describes the set of hints that make up all the outlines in the database. Its columns are the same as those in "[ALL\\_OUTLINE\\_HINTS](#)" on page 2-89.

## DBA\_OUTLINES

DBA\_OUTLINES describes all outlines in the database. Its columns are the same as those in "[ALL\\_OUTLINES](#)" on page 2-90.

## DBA\_PART\_COL\_STATISTICS

DBA\_PART\_COL\_STATISTICS provides column statistics and histogram information for partitions of all tables in the database. Its columns are the same as those in "[ALL\\_PART\\_COL\\_STATISTICS](#)" on page 2-91.

## DBA\_PART\_HISTOGRAMS

DBA\_PART\_HISTOGRAMS provides the histogram data (end-points per histogram) for histograms on all table partitions in the database. Its columns are the same as those in "[ALL\\_PART\\_HISTOGRAMS](#)" on page 2-92.

## DBA\_PART\_INDEXES

DBA\_PART\_INDEXES describes 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](#)" on page 2-92

## 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" on page 2-94](#)

## DBA\_PART\_LOBS

DBA\_PART\_LOBS provides 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" on page 2-95](#).

## DBA\_PART\_TABLES

DBA\_PART\_TABLES describes 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" on page 2-96](#)

## 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" on page 2-98](#).

## 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" on page 2-98](#)

## 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

## **DBA\_POLICIES**

DBA\_POLICIES describes all security policies in the database. Its columns are the same as those in ALL\_POLICIES.

**See Also:** "ALL\_POLICIES" on page 2-99

## **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" on page 2-100

## **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" on page 2-101

## **DBA\_PRIV\_AUDIT\_OPTS**

DBA\_PRIV\_AUDIT\_OPTS describes current system privileges being audited across the system and by user.

Column	Datatype	NULL	Description
USER_NAME	VARCHAR2( 30 )		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( 30 )		The name of the proxy user which is performing an operation for the client; NULL if the client is performing the operation directly.

Column	Datatype	NULL	Description
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

## DBA PROCEDURES

DBA PROCEDURES lists all functions and procedures along with their associated properties. Its columns are the same as those in "[ALL PROCEDURES](#)" on page 2-101.

## DBA PROFILES

DBA PROFILES displays all profiles and their limits.

Column	Datatype	NULL	Description
PROFILE	VARCHAR2(30)	NOT NULL	Profile name
RESOURCE_NAME	VARCHAR2(32)	NOT NULL	Resource name
RESOURCE_TYPE	VARCHAR2(8)		Indicates whether the resource profile is a KERNEL or a PASSWORD parameter
LIMIT	VARCHAR2(40)		Limit placed on this resource for this profile

## DBA PROPAGATION

DBA PROPAGATION displays information about all Streams propagations in the database. Its columns are the same as those in ALL\_PROPAGATION.

**See Also:** "[ALL\\_PROPAGATION](#)" on page 2-102

## DBA PROXIES

DBA PROXIES displays Information about all proxy connections in the system.

### Related View

USER\_PROXIES displays information about connections the current user is allowed to proxy. This view does not display the PROXY column.

## DBA\_PUBLISHED\_COLUMNS

---

Column	Datatype	NULL	Description
PROXY	VARCHAR2(30)	NOT NULL	Name of the proxy user
CLIENT	VARCHAR2(30)	NOT NULL	Name of the client user who the proxy user can act on behalf of
CREDENTIAL	VARCHAR2(18)		Credential passed by the proxy for the client (if any)
TYPE	VARCHAR2(5)		Type of the credential
VERSION	VARCHAR2(1)		Version of the credential
AUTHORIZATION_CONSTRAINT	VARCHAR2(35)		Indicates the proxy's authority to exercise roles on client's behalf.
ROLE	VARCHAR2(30)		Name of the role referenced in authorization constraint

See Also: ["USER\\_PROXYIES" on page 2-283](#)

## DBA\_PUBLISHED\_COLUMNS

DBA\_PUBLISHED\_COLUMNS describes all existing source column tables. You must have the SELECT\_CATALOG\_ROLE privilege to access this view.

Column	Datatype	Description
CHANGE_SET_NAME	VARCHAR2(30)	Name of the change set
CHANGE_TABLE_SCHEMA	VARCHAR2(30)	Associated change table owner
CHANGE_TABLE_NAME	VARCHAR2(31)	Associated change table name
PUB_ID	NUMBER	Publication identifier (change table object number)
SOURCE_SCHEMA_NAME	VARCHAR2(30)	Table owner in the source system
SOURCE_TABLE_NAME	VARCHAR2(31)	Table name in the source system
COLUMN_NAME	VARCHAR2(30)	Column name
DATA_TYPE	VARCHAR2(30)	Column datatype
DATA_LENGTH	NUMBER	Column length in bytes
DATA_PRECISION	NUMBER	Decimal precision for NUMBER datatype; binary precision for FLOAT datatype; NULL for all other datatypes
DATA_SCALE	NUMBER	Digits to the right of a decimal point in a number
NULLABLE	CHAR(1)	Nulls allowed (Y   N)?

## DBA\_QUEUE\_SCHEDULES

DBA\_QUEUE\_SCHEDULES describes the current schedules for propagating messages.

### Related View

USER\_QUEUE\_SCHEDULES describes current schedules related to the current user. This view does not display the SCHEMA column.

Column	Datatype	NULL	Description
SCHEMA	VARCHAR2(30)	NOT NULL	The schema
QNAME	VARCHAR2(30)	NOT NULL	Source queue name
DESTINATION	VARCHAR2(128)	NOT NULL	Destination name, currently limited to be a DBLINK name
START_DATE	DATE		Date to start propagation in the default date format
START_TIME	VARCHAR2(8)		Time of day at which to start propagation in HH:MI:SS format
PROPAGATION_WINDOW	NUMBER		Duration in seconds for the propagation window
NEXT_TIME	VARCHAR2(200)		Function to compute the start of the next propagation window
LATENCY	NUMBER		Maximum wait time to propagate a message during the propagation window
SCHEDULE_DISABLED	VARCHAR2(1)		N if enabled; Y if disabled and schedule will not be executed
PROCESS_NAME	VARCHAR2(8)		The name of the process executing the schedule; NULL if not currently executing
SESSION_ID	NUMBER		The session ID (SID, SERIAL#) of the job executing this schedule; NULL if not currently executing
INSTANCE	NUMBER		The cluster database instance number executing the schedule
LAST_RUN_DATE	DATE		The date on the last successful execution
LAST_RUN_TIME	VARCHAR2(8)		The time of the last successful execution in HH:MI:SS format
CURRENT_START_DATE	DATE		The date at which the current window of this schedule was started
CURRENT_START_TIME	VARCHAR2(8)		The time of day at which the current window of this schedule was started in HH:MI:SS format

## **DBA\_QUEUE\_TABLES**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
NEXT_RUN_DATE	DATE		The date at which the next window of this schedule will be started
NEXT_RUN_TIME	VARCHAR2(8)		The time of day at which the next window of this schedule will be started in HH:MI:SS format
TOTAL_TIME	NUMBER		The total time, in seconds, spent by the system in executing this schedule
TOTAL_NUMBER	NUMBER		The total number of messages propagated in this schedule
TOTAL_BYTES	NUMBER		The total number of bytes propagated in this schedule
MAX_NUMBER	NUMBER		The maximum number of messages propagated in a propagation window
MAX_BYTES	NUMBER		The maximum number of bytes propagated in a propagation window
AVG_NUMBER	NUMBER		The average number of messages propagated in a propagation window
AVG_SIZE	NUMBER		The average size of a propagated message in bytes
AVG_TIME	NUMBER		The average time, in seconds, to propagate a message
FAILURES	NUMBER		The number of times the execution failed; if 16, the schedule will be disabled
LAST_ERROR_DATE	DATE		The date of the last unsuccessful execution
LAST_ERROR_TIME	VARCHAR2(8)		The time of the last unsuccessful execution
LAST_ERROR_MSG	VARCHAR2(4000)		The error number and error message text of the last unsuccessful execution

## **DBA\_QUEUE\_TABLES**

DBA\_QUEUE\_TABLES describes the queues in all queue tables in the database. Its columns are the same as those in ALL\_QUEUE\_TABLES.

**See Also:** "ALL\_QUEUE\_TABLES" on page 2-103

## **DBA\_QUEUES**

DBA\_QUEUES describes the operational characteristics of every queue in a database. Its columns are the same as those in "ALL\_QUEUES" on page 2-105.

**See Also:** *Oracle9i Application Developer's Guide - Advanced Queueing* for more information about this view and Advanced Queueing

## DBA\_RCHILD

DBA\_RCHILD lists all the children in any refresh group.

Column	Datatype	NULL	Description
REFGROUP	NUMBER		Internal identifier of refresh group
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the object in the refresh group
NAME	VARCHAR2( 30 )	NOT NULL	Name of the object in the refresh group
TYPE#	VARCHAR2( 30 )		Type of the object in the refresh group

## DBA\_REFRESH

DBA\_REFRESH describes all refresh groups in the database. Its columns are the same as those in "["ALL\\_REFRESH"](#)" on page 2-105.

## 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"](#)" on page 2-106.

## 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"](#)" on page 2-108.

## DBA\_REGISTERED\_MVIEW\_GROUPS

DBA\_REGISTERED\_MVIEW\_GROUPS lists all the materialized view repgroups at this site.

## **DBA\_REGISTERED\_MVIEWS**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
NAME	VARCHAR2 ( 30 )		Name of the materialized view replication group
MVIEW_SITE	VARCHAR2 ( 128 )		Site of the master of the materialized view repgroup
GROUP_COMMENT	VARCHAR2 ( 80 )		Description of the materialized view repgroup
VERSION	VARCHAR2 ( 8 )		Version of the materialized view repgroup
FNAME	VARCHAR2 ( 30 )		Name of the flavor of the materialized view object group
OWNER	VARCHAR2 ( 30 )		Owner of the materialized view group

## **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" on page 2-108

## **DBA\_REGISTRY**

DBA\_REGISTRY displays information about the components loaded into the database.

### **Related View**

USER\_REGISTRY displays information about the components loaded into the database that are owned by the current user.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
COMP_ID	VARCHAR2 ( 30 )	NOT NULL	Component identifier
COMP_NAME	VARCHAR2 ( 255 )		Component name
VERSION	VARCHAR2 ( 30 )		Component version loaded

Column	Datatype	NULL	Description
STATUS	VARCHAR2(11)		Component status: <ul style="list-style-type: none"> <li>■ INVALID</li> <li>■ VALID</li> <li>■ LOADING</li> <li>■ LOADED</li> <li>■ UPGRADEING</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(30)	NOT NULL	User that created the component entry
SCHEMA	VARCHAR2(30)	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
PARENT_ID	VARCHAR2(30)		Parent component identifier

**See Also:** "USER\_REGISTRY" on page 2-284

## 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
COMP_ID	VARCHAR2(4000)		Component identifier
VERSION	VARCHAR2(30)		Component version loaded

Column	Datatype	NULL	Description
STATUS	VARCHAR2(11)		Component status: <ul style="list-style-type: none"> <li>■ INVALID</li> <li>■ VALID</li> <li>■ LOADING</li> <li>■ LOADED</li> <li>■ UPGRADEING</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

## 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(30)	NOT NULL	Schema of the corrupt object
OBJECT_NAME	VARCHAR2(30)	NOT NULL	Name of the corrupt object

Column	Datatype	NULL	Description
BASEOBJECT_NAME	VARCHAR2(30)	NULL	If the object is an index, the name of its base table
PARTITION_NAME	VARCHAR2(30)	NULL	Partition or subpartition name, if applicable
CORRUPT_DESCRIPTION	VARCHAR2(200)	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 on which this row was insert into the repair table
FIX_TIMESTAMP	DATE	NULL	Date on which the block was modified by the FIX_CORRUPT_BLOCKS procedure, if applicable
REFORMAT_TIMESTAMP	DATE	NULL	Reserved for future use

## DBA\_RESUMABLE

DBA\_RESUMABLE lists all resumable statements executed in the system.

### Related View

USER\_RESUMABLE lists 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 Resumable Statement
INSTANCE_ID	NUMBER		Instance Number of Resumable Statement
COORD_SESSION_ID	NUMBER		Session Identifier of Parallel Coordinator
COORD_INSTANCE_ID	NUMBER		Instance Number on which the Parallel Coordinator is Running
SQL_TEXT	VARCHAR2(1000)		The resumable statement, selected from the V\$SQL view.
NAME	VARCHAR2(4000)		The name given in the resumable clause of this resumable statement.
STATUS	VARCHAR2(16)		The status of the resumable statement. Its value can be one of RUNNING, SUSPENDED, ABORTED, ABORTING, TIMEOUT
ERROR_NUMBER	NUMBER		The error code of the last correctable error. When STATUS is equal to RUNNING, its value will be set to 0.

## DBA\_RGROUP

---

Column	Datatype	NULL	Description
ERROR_MSG	VARCHAR2(4000)		The error message corresponding to ERROR_NUMBER. It will be set to NULL when ERROR_NUMBER is NULL.
ERROR_PARAMETER1	VARCHAR2(80)		The first parameter for the error message. NULL if no error.
ERROR_PARAMETER2	VARCHAR2(80)		The second parameter for the error message. NULL if no error.
ERROR_PARAMETER3	VARCHAR2(80)		The third parameter for the error message. NULL if no error.
ERROR_PARAMETER4	VARCHAR2(80)		The forth parameter for the error message. NULL if no error.
ERROR_PARAMETER5	VARCHAR2(80)		The fifth parameter for the error message. NULL if no error.
START_TIME	DATE		The start local time of the resumable statement.
SUSPEND_TIME	DATE		The last local time when the resumable statement was suspended. It is initialized to NULL.
RESUME_TIME	DATE		The last local time when the suspended resumable statement is resumed. It is initialized to NULL.
TIMEOUT	NUMBER		Timeout of the resumable statement

See Also: "USER\_RESUMABLE" on page 2-285

## DBA\_RGROUP

DBA\_RGROUP lists all refresh groups.

Column	Datatype	NULL	Description
REFGROUP	NUMBER		Internal identifier of refresh group
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object in the refresh group
NAME	VARCHAR2(30)	NOT NULL	Name of the object in the refresh group
IMPLICIT_DESTROY	VARCHAR2(1)		(Y or N) If Y, then destroy the refresh group when its last item is removed
PUSH_DEFERRED_RPC	VARCHAR2(1)		(Y or N) If Y, then push changes from snapshot to master before refresh
REFRESH_AFTER_ERRORS	VARCHAR2(1)		(Y or N) If Y, proceed with refresh despite error when pushing deferred RPC's
ROLLBACK_SEG	VARCHAR2(30)		Name of the rollback segment to use while refreshing

Column	Datatype	NULL	Description
JOB	NUMBER	NOT NULL	Identifier of job used to refresh the group automatically
PURGE_OPTION	NUMBER ( 38 )		The method for purging the transaction queue after each push. 1 indicates quick purge option; 2 indicates precise purge option
PARALLELISM	NUMBER ( 38 )		The level of parallelism for transaction propagation
HEAP_SIZE	NUMBER ( 38 )		The size of the heap

## 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 ( 30 )		Name of the user or role receiving the grant
GRANTED_ROLE	VARCHAR2 ( 30 )	NOT NULL	Granted role name
ADMIN_OPTION	VARCHAR2 ( 3 )		Indicates whether the grant was with the ADMIN 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)

**See Also:** "[USER\\_ROLE\\_PRIVS](#)" on page 2-285

## DBA\_ROLES

DBA\_ROLES lists all roles that exist in the database.

Column	Datatype	NULL	Description
ROLE	VARCHAR2 ( 30 )	NOT NULL	Role name
PASSWORD_REQUIRED	VARCHAR2 ( 8 )		Indicates if the role requires a password to be enabled

## DBA\_ROLLBACK\_SEGS

DBA\_ROLLBACK\_SEGS describes rollback segments.

## **DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
SEGMENT_NAME	VARCHAR2(30)	NOT NULL	Name of the rollback segment
OWNER	VARCHAR2(6)		Owner of the rollback segment
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	File identifier number of the file containing the segment head
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	NOT NULL	Percent increase for extent size
STATUS	VARCHAR2(16)		Rollback segment status
INSTANCE_NUM	VARCHAR2(40)		Rollback segment owning Oracle Real Application Cluster instance number
RELATIVE_FNO	NUMBER	NOT NULL	Relative file number of the segment header

## **DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS**

DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS lists 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 lists all resource consumer groups to which the current user is assigned. This view does not display the GRANTEE column.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
GRANTEE	VARCHAR2(30)	NOT NULL	User or role receiving the grant
GRANTED_GROUP	VARCHAR2(30)		Granted consumer group name

Column	Datatype	NULL	Description
GRANT_OPTION	VARCHAR2( 3 )		(YES/NO) Indicates whether grant was with the GRANT option
INITIAL_GROUP	VARCHAR2( 3 )		(YES/NO) Indicates whether consumer group is designated as the default for this user or role

**See Also:**

- ["USER\\_RSRC\\_CONSUMER\\_GROUP\\_PRIVS" on page 2-285](#)
- *Oracle9i Supplied PL/SQL Packages and Types Reference* for more information on consumer group privileges

## DBA\_RSRC\_CONSUMER\_GROUPS

DBA\_RSRC\_CONSUMER\_GROUPS lists all resource consumer groups in the database.

Column	Datatype	NULL	Description
CONSUMER_GROUP	VARCHAR2( 30 )		Name of the consumer group
CPU_METHOD	VARCHAR2( 30 )		CPU resource allocation method for the consumer group
COMMENTS	VARCHAR2( 2000 )		Text comment on the consumer group
STATUS	VARCHAR2( 30 )		Status of the consumer group: PENDING if the group is part of the pending area, ACTIVE otherwise.
MANDATORY	VARCHAR2( 3 )		Whether the consumer group is mandatory (YES   NO)

## DBA\_RSRC\_MANAGER\_SYSTEM\_PRIVS

DBA\_RSRC\_MANAGER\_SYSTEM\_PRIVS lists all the users and roles that have been granted the ADMINISTER\_RESOURCE\_MANAGER system privilege, which is granted using the DBMS\_RESOURCE\_MANAGER package. (This privilege is not granted through the SQL GRANT statement.)

### Related View

USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS lists users who are granted system privilege for the DBMS\_RESOURCE\_MANAGER package. This view does not display the GRANTEE column.

Column	Datatype	NULL	Description
GRANTEE	VARCHAR2 ( 30 )	NOT NULL	User or role receiving the grant
PRIVILEGE	VARCHAR2 ( 40 )	NOT NULL	Name of the system privilege
ADMIN_OPTION	VARCHAR2 ( 3 )		Whether the grant was with the ADMIN option

**See Also:** *Oracle9i Supplied PL/SQL Packages and Types Reference* for more information on consumer group privileges

## DBA\_RSRC\_PLAN\_DIRECTIVES

DBA\_RSRC\_PLAN\_DIRECTIVES lists all resource plan directives in the database.

**See Also:**

- *Oracle9i Database Administrator's Guide* for information on resource plans in general
- *Oracle9i Supplied PL/SQL Packages and Types Reference* for more information on creating resource plans with the DBMS\_RESOURCE\_MANAGER package

Column	Datatype	Description
PLAN	VARCHAR2 ( 30 )	Name of the plan to which this directive belongs
GROUP_OR_SUBPLAN	VARCHAR2 ( 30 )	Name of the consumer group or subplan referred to
TYPE	VARCHAR2 ( 14 )	Whether GROUP_OR_SUBPLAN refers to a consumer group or plan
CPU_P1	NUMBER	First parameter for the CPU resource allocation method
CPU_P2	NUMBER	Second parameter for the CPU resource allocation method
CPU_P3	NUMBER	Third parameter for the CPU resource allocation method
CPU_P4	NUMBER	Fourth parameter for the CPU resource allocation method
CPU_P5	NUMBER	Fifth parameter for the CPU resource allocation method
CPU_P6	NUMBER	Sixth parameter for the CPU resource allocation method
CPU_P7	NUMBER	Seventh parameter for the CPU resource allocation method
CPU_P8	NUMBER	Eighth parameter for the CPU resource allocation method
ACTIVE_SESS_POOL_P1	NUMBER	First parameter for the active session pool resource allocation method
QUEUING_P1	NUMBER	First parameter for the queuing resource allocation method

Column	Datatype	Description
PARALLEL_DEGREE_LIMIT_P1	NUMBER	First parameter for the parallel degree limit resource allocation method
SWITCH_GROUP	VARCHAR2(30)	Group to switch into
SWITCH_TIME	NUMBER	Amount of run time before session is automatically switched
SWITCH_ESTIMATE	VARCHAR2(5)	(TRUE/FALSE) TRUE indicates estimated execution time should be used for switch criteria
MAX_EST_EXEC_TIME	NUMBER	First parameter for the maximum estimated execution time
UNDO_POOL	NUMBER	Undo pool size for the consumer group
COMMENTS	VARCHAR2(2000)	Text comment on the plan directive
STATUS	VARCHAR2(30)	Status of the directive: PENDING if it is part of the pending area, ACTIVE otherwise
MANDATORY	VARCHAR2(3)	Whether the plan is mandatory (YES   NO)

## DBA\_RSRC\_PLANS

DBA\_RSRC\_PLANS lists all resource plans in the database. For a list of currently active plans, see "[V\\$RSRC\\_PLAN](#)" on page 3-126.

### See Also:

- *Oracle9i Database Administrator's Guide* for information on resource plans in general
- *Oracle9i Supplied PL/SQL Packages and Types Reference* for more information on creating resource plans with the DBMS\_RESOURCE\_MANAGER package

Column	Datatype	NULL	Description
PLAN	VARCHAR2(30)		Name of the resource plan
NUM_PLAN_DIRECTIVES	NUMBER		Number of plan directives for the plan
CPU_METHOD	VARCHAR2(30)		CPU resource allocation method for the plan
ACTIVE_SESS_POOL_MTH	VARCHAR2(30)		Active session pool resource allocation method for the plan
PARALLEL_DEGREE_LIMIT_MTH	VARCHAR2(30)		Parallel degree limit resource allocation method for the plan
QUEUEING_MTH	VARCHAR2(30)		Queuing resource allocation method for the plan
COMMENTS	VARCHAR2(2000)		Text comment on the plan

## **DBA\_RULE\_SET\_RULES**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
STATUS	VARCHAR2(30)		Status of the plan: PENDING if it is part of the pending area, ACTIVE otherwise
MANDATORY	VARCHAR2(3)		(YES/NO) Indicates whether the plan is mandatory

## **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"](#) on page 2-110

## **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"](#) on page 2-110

## **DBA\_RULES**

DBA\_RULES describes all rules in the database. Its columns are the same as those in ALL\_RULES.

**See Also:** ["ALL\\_RULES"](#) on page 2-111

## **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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2(30)		Username of the segment owner
SEGMENT_NAME	VARCHAR2(81)		Name, if any, of the segment

Column	Datatype	NULL	Description
PARTITION_NAME	VARCHAR2(30)		Object Partition Name (Set to NULL for non-partitioned objects)
SEGMENT_TYPE	VARCHAR2(17)		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
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 this 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)		Default buffer pool for the object

See Also: "[USER\\_SEGMENTS](#)" on page 2-286

## DBASEQUENCES

DBASEQUENCES describes all sequences in the database. Its columns are the same as those in "[ALLSEQUENCES](#)" on page 2-112.

## 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](#)" on page 2-112.

## DBA\_SOURCE\_TABLES

DBA\_SOURCE\_TABLES enables publishers to see all existing (published) source tables. Its columns are the same as those in ALL\_SOURCE\_TABLES.

**See Also:** ["ALL\\_SOURCE\\_TABLES"](#) on page 2-113

## 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"](#) on page 2-113

## 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"](#) on page 2-114

## 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"](#) on page 2-115

## DBA\_STMT\_AUDIT\_OPTS

DBA\_STMT\_AUDIT\_OPTS describes current system auditing options across the system and by user.

Column	Datatype	NULL	Description
USER_NAME	VARCHAR2( 30 )		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( 30 )		The 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

## 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"](#)" on page 2-116.

## DBA\_STREAMS\_GLOBAL\_RULES

DBA\_STREAMS\_GLOBAL\_RULES displays information about the global rules created for all Streams 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"](#)" on page 2-117

## DBA\_STREAMS\_SCHEMA\_RULES

DBA\_STREAMS\_SCHEMA\_RULES displays information about the schema rules created for all Streams 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"](#)" on page 2-118

## DBA\_STREAMS\_TABLE\_RULES

DBA\_STREAMS\_TABLE\_RULES displays information about the table rules created for all Streams 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" on page 2-119

## 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\_STORED\_SETTINGS" on page 2-116.

## 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" on page 2-122.

## 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" on page 2-123

## 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" on page 2-124

## DBA\_SUBSCRIBED\_COLUMNS

DBA\_SUBSCRIBED\_COLUMNS enables publishers to view the columns of published tables to which they have subscribed. You must have the SELECT\_CATALOG\_ROLE privilege to access this view. The columns in DBA\_SUBSCRIBED\_COLUMNS are the same as those in "ALL\_SUBSCRIBED\_COLUMNS" on page 2-124.

## DBA\_SUBSCRIBED\_TABLES

DBA\_SUBSCRIBED\_TABLES enables publishers to view all of the published tables to which they have subscribed. Its columns are the same as those in "[ALL\\_SUBSCRIBED\\_TABLES](#)" on page 2-125.

## DBA\_SUBSCRIPTIONS

DBA\_SUBSCRIPTIONS enables publishers to see all subscriptions. You must have the SELECT\_CATALOG\_ROLE privilege to access this view. Except for the USERNAME column, which identifies the user name of the subscriber, DBA\_SUBSCRIPTIONS has the same columns as those in "[ALL\\_SUBSCRIPTIONS](#)" on page 2-125.

## DBA\_SYNONYMS

DBA\_SYNONYMS describes all synonyms in the database. Its columns are the same as those in "[ALL\\_SYNONYMS](#)" on page 2-126.

## DBA\_SYS\_PRIVS

DBA\_SYS\_PRIVS describes system privileges granted to users and roles. This view does not display the USERNAME column.

### Related View

USER\_SYS\_PRIVS describes system privileges granted to the current user. This view does not display the GRANTEE column, but instead displays the USERNAME column.

Column	Datatype	NULL	Description
GRANTEE	VARCHAR2( 30 )	NOT NULL	Grantee name, user, or role receiving the grant
USERNAME	VARCHAR2( 30 )		Name of the current user
PRIVILEGE	VARCHAR2( 40 )	NOT NULL	System privilege
ADMIN_OPTION	VARCHAR2( 3 )		Grant was with the ADMIN option

## DBA\_TAB\_COL\_STATISTICS

DBA\_TAB\_COL\_STATISTICS contains column statistics and histogram information extracted from "[DBA\\_TAB\\_COLUMNS](#)" on page 2-226. Its columns are the same as those in "[ALL\\_TAB\\_COL\\_STATISTICS](#)" on page 2-127.

## DBA\_TAB\_COLUMNS

DBA\_TAB\_COLUMNS describes columns of all tables, views, and clusters in the database. Its columns are the same as those in "[ALL\\_TAB\\_COLUMNS](#)" on page 2-128. To gather statistics for this view, use the SQL ANALYZE statement.

## DBA\_TAB\_COMMENTS

DBA\_TAB\_COMMENTS describes comments on all tables and views in the database. Its columns are the same as those in "[ALL\\_TAB\\_COMMENTS](#)" on page 2-130.

## 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](#)" on page 2-130.

## 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](#)" on page 2-131.

---

**Note:** This view is populated only for tables with the MONITORING attribute. It is intended for statistics collection over a long period of time and may not be populated until a few hours after the actual modifications occurred.

---

## DBA\_TAB\_PARTITIONS

DBA\_TAB\_PARTITIONS provides the partition-level partitioning information, partition storage parameters, and partition statistics determined by ANALYZE

---

statements for all partitions in the database. Its columns are the same as those in "[ALL\\_TAB\\_PARTITIONS](#)" on page 2-132.

## 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(30)	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
GRANTOR	VARCHAR2(30)	NOT NULL	Name of the user who performed the grant
PRIVILEGE	VARCHAR2(40)	NOT NULL	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)

See Also: "[USER\\_TAB\\_PRIVS](#)" on page 2-290

## DBA\_TAB\_SUBPARTITIONS

DBA\_TAB\_SUBPARTITIONS describes, for each table subpartition, 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](#)" on page 2-136.

---

**Note:** Statistics are not collected on a per-subpartition basis.

---

## 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 SQL ANALYZE statement.

See Also: "ALL\_TABLES" on page 2-137

## 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	Tablespace name
BLOCK_SIZE	NUMBER	NOT NULL	Tablespace block size
INITIAL_EXTENT	NUMBER		Default initial extent size
NEXT_EXTENT	NUMBER		Default incremental extent size
MIN_EXTENTS	NUMBER	NOT NULL	Default minimum number of extents
MAX_EXTENTS	NUMBER		Default maximum number of extents
PCT_INCREASE	NUMBER		Default percent increase for extent size
MIN_EXTLEN	NUMBER		Minimum extent size for this tablespace
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>■ 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 this tablespace is under force logging mode (YES) or not (NO)
EXTENT_MANAGEMENT	VARCHAR2(10)		Indicates how the extents of this tablespace are managed: <ul style="list-style-type: none"><li>■ DICTIONARY - Tablespace is dictionary managed</li><li>■ LOCAL - Tablespace is locally managed</li></ul>

Column	Datatype	NULL	Description
LOCATION_TYPE	VARCHAR2( 9 )		Type of extent allocation in effect for this tablespace: <ul style="list-style-type: none"> <li>■ SYSTEM</li> <li>■ UNIFORM</li> <li>■ USER</li> </ul>
PLUGGED_IN	VARCHAR2( 3 )		Indicates whether this tablespace is plugged in (YES) or not (NO)
SEGMENT_SPACE_MANAGEMENT	VARCHAR2( 6 )		Indicates how the used and free space in the segments in this tablespace are managed: <ul style="list-style-type: none"> <li>■ MANUAL - Segment space in this tablespace is managed using free lists</li> <li>■ AUTO - Segment space in this tablespace is managed using bitmaps</li> </ul>

**See Also:** "[USER\\_TABLESPACES](#)" on page 2-291

## 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	CHAR( 9 )		File status: <ul style="list-style-type: none"> <li>■ AVAILABLE</li> </ul>
RELATIVE_FNO	NUMBER		Tablespace-relative file number
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
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)

## 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.

### Related View

USER\_TRANSFORMATIONS displays information about 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(30)	NOT NULL	Owning user of the transformation
NAME	VARCHAR2(30)	NOT NULL	Transformation name
FROM_TYPE	VARCHAR2(61)		Source type name
TO_TYPE	VARCHAR2(91)		Target type name

See Also: "USER\_TRANSFORMATIONS" on page 2-291

## DBA\_TRIGGER\_COLS

DBA\_TRIGGER\_COLS lists the use of columns in all triggers in the database. Its columns are the same as those in "ALL\_TRIGGER\_COLS" on page 2-140.

## DBA\_TRIGGERS

DBA\_TRIGGERS describes all triggers in the database. Its columns are the same as those in "ALL\_TRIGGER\_COLS" on page 2-141.

## 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( 30 )	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	NOT NULL	Number of Oracle blocks charged to the user
MAX_BLOCKS	NUMBER		User's quota in Oracle blocks, or -1 if no limit

## DBA\_TYPE\_ATTRS

DBA\_TYPE\_ATTRS describes the attributes of all object types in the database. Its columns are the same as those in ALL\_TYPE\_ATTRS.

**See Also:** ["ALL\\_TYPE\\_ATTRS"](#) on page 2-142

## 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"](#) on page 2-143

## 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"](#) on page 2-144

## 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"](#) on page 2-144

## DBA\_UNDO\_EXTENTS

DBA\_UNDO\_EXTENTS describes the extents comprising the segments in all undo tablespaces in the database.

Column	Datatype	NULL	Description
OWNER	CHAR( 3 )		Owner of the undo tablespace
SEGMENT_NAME	VARCHAR2( 30 )	NOT NULL	Name of the undo segment
TABLESPACE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the undo tablespace
EXTENT_ID	NUMBER		ID of the extent
FILE_ID	NUMBER	NOT NULL	File identifier number of the 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
COMMIT_WTIME	VARCHAR2( 20 )		Commit time of the undo in the extent expressed as Wallclock time
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>

## 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](#)" on page 2-145.

## DBA\_UPDATABLE\_COLUMNS

DBA\_UPDATABLE\_COLUMNS describes all columns in a join view that can be updated by the database administrator. Its columns are the same as those in "[ALL\\_UPDATABLE\\_COLUMNS](#)" on page 2-146.

**See Also:** *Oracle9i Database Concepts* for information on updatable join views

## 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 or PROFILE columns.

Column	Datatype	NULL	Description
USERNAME	VARCHAR2( 30 )	NOT NULL	Name of the user
USER_ID	NUMBER	NOT NULL	ID number of the user
PASSWORD	VARCHAR2( 30 )		Encrypted password
ACCOUNT_STATUS	VARCHAR2( 32 )	NOT NULL	Account status: <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(GRACE) &amp; LOCKED(TIMED)</li> <li>■ EXPIRED &amp; LOCKED</li> <li>■ EXPIRED(GRACE) &amp; LOCKED</li> </ul>
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	Default tablespace for temporary table
CREATED	DATE	NOT NULL	User creation date
PROFILE	VARCHAR2( 30 )	NOT NULL	User resource profile name
INITIAL_RSRC_CONSUMER_GROUP	VARCHAR2( 30 )		Initial resource consumer group for the user
EXTERNAL_NAME	VARCHAR2( 4000 )		User external name

**See Also:** "USER\_USERS" on page 2-293

## DBA\_USTATS

DBA\_USTATS describes all user-defined statistics collected on all objects in the database. Its columns are the same as those in "ALL\_USTATS" on page 2-147.

## DBA\_VARRAYS

DBA\_VARRAYS describes all the varrays in the database. Its columns are the same as those in "ALL\_VARRAYS" on page 2-148.

## DBA\_VIEWS

DBA\_VIEWS describes all views in the database. Its columns are the same as those in ALL\_VIEWS.

**See Also:** "ALL\_VIEWS" on page 2-148

## DBA\_WAITERS

DBA\_WAITERS shows all the sessions that are waiting for a lock, but do not hold locks for which another session is waiting.

Column	Datatype	NULL	Description
WAITING_SESSION	NUMBER		The waiting session
HOLDING_SESSION	NUMBER		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	VARCHAR2( 40 )		Lock ID 1
LOCK_ID2	VARCHAR2( 40 )		Lock ID 2

## 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" on page 2-149](#)

## 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" on page 2-150](#)

## 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" on page 2-151](#)

## 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" on page 2-151](#)

## 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" on page 2-152](#)

## 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

## 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
EXPIRATION	DATE		Planned lock expiration date (updates whenever the allocation procedure is run)

## 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(15)		Object type
OWNER	VARCHAR2(30)		Object owner
NAME	VARCHAR2(1002)		Object name
SEQ#	NUMBER		Sequence number in the dependency tree. Used for ordering queries.
<b>See Also:</b> " <a href="#">DEPTREE</a> " on page 2-246			

## DICT

DICT is a synonym for DICTIONARY.

**See Also:** "[DICTIONARY](#)" on page 2-237

## DICT\_COLUMNS

DICT\_COLUMNS contains descriptions of columns in data dictionary tables and views.

Column	Datatype	NULL	Description
TABLE_NAME	VARCHAR2( 30 )		Name of the object that contains the column
COLUMN_NAME	VARCHAR2( 30 )		Name of the column
COMMENTS	VARCHAR2( 4000 )		Text comment on the column

## DICTIONARY

DICTIONARY contains descriptions of data dictionary tables and views.

Column	Datatype	NULL	Description
TABLE_NAME	VARCHAR2( 30 )		Name of the object
COMMENTS	VARCHAR2( 4000 )		Text comment on the object

## ERROR\_SIZE

ERROR\_SIZE is accessed to create "[DBA\\_OBJECT\\_SIZE](#)" on page 2-200 and "[USER\\_OBJECT\\_SIZE](#)" on page 2-279.

## EXCEPTIONS

EXCEPTIONS contains information on violations of integrity constraints. This view is created by the `utlexcpt.sql` script.

Column	Datatype	NULL	Description
ROW_ID	ROWID		Row that caused the violation
OWNER	VARCHAR2( 30 )		Owner of the table
TABLE_NAME	VARCHAR2( 30 )		Name of the table
CONSTRAINT	VARCHAR2( 30 )		Integrity constraint that was violated

## FILE\_LOCK

This Oracle Real Application Cluster view displays the mapping of PCM locks to datafiles as specified in initialization parameter GC\_FILES\_TO\_LOCKS.

**See Also:** "[GC\\_FILES\\_TO\\_LOCKS](#)" on page 1-60 and *Oracle9i Real Application Clusters Concepts*

## FILE\_PING

---

Column	Datatype	NULL	Description
FILE_ID	NUMBER	NOT NULL	Datafile identifier number (to find the file name, query DBA_DATA_FILES or V\$DBFILES)
FILE_NAME	VARCHAR2(513)		The datafile name
TS_NAME	VARCHAR2(30)	NOT NULL	The tablespace name for the datafile
START_LK	NUMBER		The first lock corresponding to the datafile
NLOCKS	NUMBER		The number of PCM locks allocated to the datafile
BLOCKING	NUMBER		The number of contiguous blocks protected by each PCM lock on the datafile

## FILE\_PING

This Oracle Real Application Cluster view displays the number of blocks pinged per datafile. You can use this information to determine access usage of existing datafiles for better settings of GC\_FILES\_TO\_LOCKS.

**See Also:** "GC\_FILES\_TO\_LOCKS" on page 1-60 and *Oracle9i Real Application Clusters Concepts*

Column	Datatype	NULL	Description
FILE_ID	NUMBER	NOT NULL	Datafile identifier number (to find the file name, query DBA_DATA_FILES or V\$DBFILES)
FILE_NAME	NUMBER		The file name
TS_NAME	VARCHAR2(30)	NOT NULL	Datafile identifier number (to find file name, query DBA_DATA_FILES or V\$DBFILES)
FREQUENCY	NUMBER		The ping count
X_2_NULL	NUMBER		Number of lock conversions from Exclusive-to-NULL for all blocks in the file
X_2_NULL_FORCED_WRITE	NUMBER		Number of forced writes that occur for blocks of the specified file due to Exclusive-to-NULL conversions
X_2_NULL_FORCED_STALE	NUMBER		Number of times a block in the file was made STALE due to Exclusive-to-NULL conversions
X_2_S	NUMBER		Number of lock conversions from Exclusive-to-Shared for all blocks in the file
X_2_S_FORCED_WRITES	NUMBER		Number of forced writes that occur for blocks of the specified file due to Exclusive-to-Shared conversions
X_2_SSX	NUMBER		Number of lock conversions from Exclusive-to-Sub Shared Exclusive for all blocks in the file

Column	Datatype	NULL	Description
X_2_SSX_FORCED_WRITES	NUMBER		Number of forced writes that occur for blocks of the specified file due to Exclusive-to-Sub Shared Exclusive conversions
S_2_NULL	NUMBER		Number of lock conversions from Shared-to-NULL for all blocks in the file
S_2_NULL_FORCED_STALE	NUMBER		Number of times a block in the file was made STALE due to Shared-to-NULL conversions
SS_2_NULL	NUMBER		Number of lock conversions from Sub Shared-to-NULL for all blocks in the file
WRB	NUMBER		Number of times the instance received a write single buffer cross instance call for this file
WRB_FORCED_WRITE	NUMBER		Number of blocks written due to write single buffer cross instance calls for this file
RBR	NUMBER		Number of times the instance received a reuse block range cross instance call for this file
RBR_FORCED_WRITE	NUMBER		Number of blocks written due to reuse block range cross instance calls for this file
RBR_FORCED_STALE	NUMBER		Number of times a block in this file was made STALE due to reuse block range cross instance calls
CBR	NUMBER		Number of times the instance received a checkpoint block range cross instance call for this file
CBR_FORCED_WRITE	NUMBER		Number of blocks in this file which were written due to checkpoint cross range cross instance calls
NULL_2_X	NUMBER		Number of lock conversions from NULL-to-Exclusive for all blocks of the specified file
S_2_X	NUMBER		Number of lock conversions from Shared-to-Exclusive for all blocks of the specified file
SSX_2_X	NUMBER		Number of lock conversions from Sub Shared Exclusive-to-Exclusive for all blocks of the specified file
N_2_S	NUMBER		Number of lock conversions from NULL-to-Shared for all blocks of the specified file
N_2_SS	NUMBER		Number of lock conversions from NULL-to-Sub Shared for all blocks of the specified file

## FILEXT\$

FILEXT\$ is the equivalent of DBA\_DATA\_FILES. Oracle Corporation recommends you use DBA\_DATA\_FILES instead of FILEXT\$.

## **GLOBAL\_NAME**

---

**See Also:** "DBA\_DATA\_FILES"

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
FILE#	NUMBER	NOT NULL	Absolute file number
MAXEXTEND	NUMBER		Maximum file size
INC	NUMBER		Increment amount

## **GLOBAL\_NAME**

GLOBAL\_NAME contains one row that displays the global name of the current database.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
GLOBAL_NAME	VARCHAR2(4000)		Global name of the database

## **HS\_ALL\_CAPS**

HS\_ALL\_CAPS contains information about all of the capabilities (that is, features) associated with non-Oracle (FDS) data stores.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
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

## **HS\_ALL\_DD**

HS\_ALL\_DD contains data dictionary information about non-Oracle (FDS) data stores.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
DD_TABLE_NAME	VARCHAR2(30)		Data dictionary table name

Column	Datatype	NULL	Description
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

## 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

## 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

## HS\_BASE\_DD

HS\_BASE\_DD displays information from the base data dictionary translation table.

## **HS\_CLASS\_CAPS**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
DD_TABLE_ID	NUMBER	NOT NULL	Sequence: a counter that is incremented for every row inserted (used internally)
DD_TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the Oracle data dictionary table
DD_TABLE_DESC	VARCHAR2(255)		Description of the Oracle data dictionary table

## **HS\_CLASS\_CAPS**

HS\_CLASS\_CAPS contains information about the class-specific (driver) capabilities belonging to the non-Oracle (FDS) data store.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
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)

## **HS\_CLASS\_DD**

HS\_CLASS\_DD displays information from the non-Oracle data store (FDS) class-specific data dictionary translations.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
DD_TABLE_NAME	VARCHAR2(30)	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_ID	NUMBER	NOT NULL	Sequence: a counter that is incremented for every row inserted (used internally)
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)

## 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)

## HS\_EXTERNAL\_OBJECT\_PRIVILEGES

HS\_EXTERNAL\_OBJECT\_PRIVILEGES contains information about the privileges on objects that are granted to users.

Column	Datatype	NULL	Description
OBJECT_NAME	VARCHAR2( 30 )	NOT NULL	Name of the object; unique for each instance
PRIVILEGE_NAME	VARCHAR2( 30 )	NOT NULL	Name of the privilege that was granted
GRANTEE	VARCHAR2( 30 )	NOT NULL	ID of the user that was granted the privilege
FDS_CLASS_NAME	VARCHAR2( 30 )	NOT NULL	Name of the FDS Class
FDS_INST_NAME	VARCHAR2( 30 )	NOT NULL	Name of the FDS instance

## HS\_EXTERNAL\_OBJECTS

HS\_EXTERNAL\_OBJECTS contains information about all of the distributed external objects accessible from the Oracle server.

Column	Datatype	NULL	Description
FDS_CLASS_NAME	VARCHAR2( 30 )	NOT NULL	Name of the FDS Class
FDS_INST_NAME	VARCHAR2( 30 )	NOT NULL	Name of the FDS instance
OWNER	VARCHAR( 30 )	NOT NULL	Name of the user who created the object

## **HS\_EXTERNAL\_USER\_PRIVILEGES**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OBJECT_NAME	VARCHAR2(30)	NOT NULL	Name of the object; unique for each instance
OBJECT_TYPE	VARCHAR2(13)	NOT NULL	Type of object: FUNCTION, PROCEDURE, PACKAGE, or LIBRARY
OBJECT_TEXT	LONG	NOT NULL	SQL text used to create the object

## **HS\_EXTERNAL\_USER\_PRIVILEGES**

HS\_EXTERNAL\_USER\_PRIVILEGES contains information about all of the granted privileges that are not tied to any particular object.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
PRIVILEGE_NAME	VARCHAR2(30)	NOT NULL	Name of the privilege that was granted
GRANTEE	VARCHAR2(30)	NOT NULL	ID of the user that was granted the privilege
FDS_CLASS_NAME	VARCHAR2(30)	NOT NULL	Name of the FDS Class
FDS_INST_NAME	VARCHAR2(30)	NOT NULL	Name of the FDS instance

## **HS\_FDS\_CLASS**

HS\_FDS\_CLASS contains information about legal non-Oracle (FDS) classes.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
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)

## **HS\_FDS\_INST**

HS\_FDS\_INST contains information about non-Oracle (FDS) instances.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
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

Column	Datatype	NULL	Description
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)

## 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)

## 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( 30 )	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

## HS\_INST\_INIT

---

Column	Datatype	NULL	Description
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)
FDS_INST_ID	NUMBER	NOT NULL	Sequence: a counter that is incremented for every row inserted (used internally)

## 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)

## 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(15)		Object type
OWNER	VARCHAR2(30)		Object owner
NAME	VARCHAR2(1002)		Object name

## IND

IND is a synonym for USER\_INDEXES.

**See Also:** ["USER\\_INDEXES" on page 2-271](#)

## INDEX\_HISTOGRAM

INDEX\_HISTOGRAM contains information from the ANALYZE INDEX . . . VALIDATE STRUCTURE statement.

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

## INDEX\_STATS

INDEX\_STATS stores information from the last ANALYZE INDEX . . . VALIDATE STRUCTURE statement.

Column	Datatype	NULL	Description
HEIGHT	NUMBER		Height of the B-Tree
BLOCKS	NUMBER	NOT NULL	Blocks allocated to the segment
NAME	VARCHAR2( 30 )	NOT NULL	Name of the index
PARTITION_NAME	VARCHAR2( 30 )		Name of the partition of the index which was analyzed. If the index is not partitioned, a 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

## MAP\_OBJECT

---

Column	Datatype	NULL	Description
DEL_LF_ROWS	NUMBER		Number of deleted leaf rows in the index
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_REPEAT_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_CMPLR_COUNT	NUMBER		Optimal key compression length
OPT_CMPLR_PCTSAVE	NUMBER		Corresponding space savings after an ANALYZE

## MAP\_OBJECT

MAP\_OBJECT 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

Column	Datatype	NULL	Description
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 )		Datatype (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.

## NLS\_DATABASE\_PARAMETERS

NLS\_DATABASE\_PARAMETERS lists permanent NLS parameters of the database.

Column	Datatype	NULL	Description
PARAMETER	VARCHAR2( 30 )	NOT NULL	Parameter name
VALUE	VARCHAR2( 40 )		Parameter value

## NLS\_INSTANCE\_PARAMETERS

NLS\_INSTANCE\_PARAMETERS lists NLS parameters of the instance.

Column	Datatype	NULL	Description
PARAMETER	VARCHAR2( 30 )		Parameter name
VALUE	VARCHAR2( 40 )		Parameter value

## NLS\_SESSION\_PARAMETERS

NLS\_SESSION\_PARAMETERS lists NLS parameters of the user session.

Column	Datatype	NULL	Description
PARAMETER	VARCHAR2 ( 30 )		Parameter name
VALUE	VARCHAR2 ( 40 )		Parameter value

## OBJ

OBJ is a synonym for USER\_OBJECTS.

**See Also:** ["USER\\_OBJECTS" on page 2-279](#)

## PARSED\_PIECES

Oracle accesses this view to create views about object size.

**See Also:** ["DBA\\_OBJECT\\_SIZE" on page 2-200](#) and ["USER\\_OBJECT\\_SIZE" on page 2-279](#)

## PARSED\_SIZE

Oracle accesses this view to create views about object size.

**See Also:** ["DBA\\_OBJECT\\_SIZE" on page 2-200](#) and ["USER\\_OBJECT\\_SIZE" on page 2-279](#)

## PLAN\_TABLE

PLAN\_TABLE is the default table for results of the EXPLAIN PLAN statement. It is created by utlxplan.sql, and it contains one row for each step in the execution plan.

Column	Datatype	NULL	Description
STATEMENT_ID	VARCHAR2 ( 30 )		Optional statement identifier specified in the EXPLAIN PLAN statement
TIMESTAMP	DATE		Date and time that the EXPLAIN PLAN statement was issued
REMARKS	VARCHAR2 ( 80 )		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

Column	Datatype	NULL	Description
OPTIONS	VARCHAR2( 255 )		Options used for the operation performed at this step; the string returned by the index cost function
OBJECT_NODE	VARCHAR2( 128 )		Name of the database link used to reference the object
OBJECT_OWNER	VARCHAR2( 30 )		Owner of the object
OBJECT_NAME	VARCHAR2( 30 )		Name of the object
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 )		The 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 )		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
POSITION	NUMBER( 38 )		Order of processing for steps with the same parent ID. For cost-based optimization, the value in the first row of the plan is the statement's execution cost. For rule-based optimization, the value is null in the first row.
COST	NUMBER( 38 )		The cost of the current operation estimated by the cost-based optimizer (CBO)
CARDINALITY	NUMBER( 38 )		The number of rows returned by the current operation (estimated by the CBO)
BYTES	NUMBER( 38 )		The number of bytes returned by the current operation

## PLUGGABLE\_SET\_CHECK

---

Column	Datatype	NULL	Description
OTHER_TAG	VARCHAR2( 255 )		OTHER_TAG describes the function of the SQL text in the OTHER column. Values for OTHER_TAG are: <ul style="list-style-type: none"><li>■ SERIAL - the 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 - the SQL text shown in the OTHER column will be executed at a remote site.</li><li>■ PARALLEL_COMBINED_WITH_PARENT - the parent of this operation is a DFO that performs both operations in the parallel execution plan.</li><li>■ PARALLEL_COMBINED_WITH_CHILD - the child of this operation is a DFO that performs both operations in the parallel execution plan.</li><li>■ PARALLEL_TO_SERIAL - the SQL text shown in the OTHER column is the top-level of the parallel plan.</li><li>■ PARALLEL_TO_PARALLEL - the SQL text shown in the OTHER column is executed and output in parallel.</li><li>■ PARALLEL_FROM_SERIAL - this operation consumes data from a serial operation and outputs it in parallel.</li></ul>
PARTITION_START	VARCHAR2( 255 )		The start partition of a range of accessed partitions
PARTITION_STOP	VARCHAR2( 255 )		The stop partition of a range of accessed partitions
PARTITION_ID	NUMBER( 38 )		The step that has computed the pair of values of the PARTITION_START and PARTITION_STOP columns
OTHER	LONG		Information about parallel execution slaves and parallel queries
DISTRIBUTION	VARCHAR2( 30 )		The distribution method
CPU_COST	NUMBER		User-defined CPU cost
IO_COST	NUMBER		User-defined I/O cost

## PLUGGABLE\_SET\_CHECK

PLUGGABLE\_SET\_CHECK contains pluggable set checks.

Column	Datatype	NULL	Description
OBJ1_OWNER	VARCHAR2( 30 )		Owner of the object
OBJ1_NAME	VARCHAR2( 30 )		Object 1

Column	Datatype	NULL	Description
OBJ1_SUBNAME	VARCHAR2( 30 )		SubObject1Name
OBJ1_TYPE	VARCHAR2( 15 )		Object Type
TS1_NAME	VARCHAR2( 30 )		Tablespace containing Object 1
OBJ2_NAME	VARCHAR2( 30 )		Object Name
OBJ2_SUBNAME	VARCHAR2( 30 )		SubObject2Name
OBJ2_TYPE	VARCHAR2( 15 )		Object Type
OBJ2_OWNER	VARCHAR2( 30 )		Object owner of second object
TS2_NAME	VARCHAR2( 30 )		Tablespace containing Object 1
CONSTRAINT_NAME	VARCHAR2( 30 )		Name of dependent constraint
REASON	VARCHAR2( 79 )		Reason for Pluggable check violation
MESG_ID	NUMBER		The message ID

## PRODUCT\_COMPONENT\_VERSION

PRODUCT\_COMPONENT\_VERSION contains version and status information for component products.

Column	Datatype	NULL	Description
PRODUCT	VARCHAR2( 64 )		Product name
VERSION	VARCHAR2( 64 )		Version number
STATUS	VARCHAR2( 64 )		Status of release

## PROXY\_USERS

PROXY\_USERS describes users who can assume the identity of other users.

Column	Datatype	NULL	Description
PROXY	VARCHAR2( 30 )	NOT NULL	Name of the client whose identity a proxy may assume
CLIENT	VARCHAR2( 30 )	NOT NULL	Name of a user which assume the identity of a client
ROLE	VARCHAR2( 30 )		Name of a role that a proxy user may or may not activate while acting as a client
FLAGS	VARCHAR2( 35 )		Indicates whether or not a proxy can activate all client roles, no client roles, or a specific client role

## 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 an Oracle database.

---

**Note:** The contents of this table are intended only for use by the PSTUB utility.

---

Column	Datatype	NULL	Description
USERNAME	VARCHAR2 ( 30 )		Schema part of the identifier of a stored procedure
DBNAME	VARCHAR2 ( 128 )		Database link part of the identifier of a stored procedure
LUN	VARCHAR2 ( 30 )		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

## 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)

## PUBLICSYN

PUBLICSYN contains information on public synonyms.

Column	Datatype	NULL	Description
SNAME	VARCHAR2 ( 30 )		Name of the synonym
CREATOR	VARCHAR2 ( 30 )		Owner of the synonym
TNAME	VARCHAR2 ( 30 )		Table of which this is a synonym
DATABASE	VARCHAR2 ( 128 )		Database in which the table resides

Column	Datatype	NULL	Description
TABTYPE	VARCHAR2( 9 )		Type of table

## QUEUE\_PRIVILEGES

QUEUE\_PRIVILEGES shows all Advanced Queuing object privileges granted to the session.

Column	Datatype	NULL	Description
GRANTEE	VARCHAR2( 30 )	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2( 30 )	NOT NULL	Owner of the object
NAME	VARCHAR2( 30 )	NOT NULL	Name of the object
GRANTOR	VARCHAR2( 30 )	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

## 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

## 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

## 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 ( 30 )	NOT NULL	Name of the role
GRANTED_ROLE	VARCHAR2 ( 30 )	NOT NULL	Role that was granted
ADMIN_OPTION	VARCHAR2 ( 3 )		Signifies that the role was granted with ADMIN option

## 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 ( 30 )	NOT NULL	Name of the role
PRIVILEGE	VARCHAR2 ( 40 )	NOT NULL	System privilege granted to the role
ADMIN_OPTION	VARCHAR2 ( 3 )		Signifies the grant was with the ADMIN option

## 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 ( 30 )	NOT NULL	Name of the role
OWNER	VARCHAR2 ( 30 )	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2 ( 30 )	NOT NULL	Name of the object
COLUMN_NAME	VARCHAR2 ( 30 )		Name of the column, if applicable
PRIVILEGE	VARCHAR2 ( 40 )	NOT NULL	Object privilege granted to the role
GRANTABLE	VARCHAR2 ( 3 )		YES if the role was granted with ADMIN OPTION; otherwise NO

## SEQ

SEQ is a synonym for USER\_SEQUENCES.

**See Also:** "USER\_SEQUENCES" on page 2-286

## SESSION\_CONTEXT

SESSION\_CONTEXT lists attributes and the values set for the current session.

**See Also:** *Oracle9i SQL Reference* for information on the predefined attributes of the current session

Column	Datatype	NULL	Description
NAMESPACE	VARCHAR2( 30 )	NOT NULL	The namespace that the active attribute is in
ATTRIBUTE	VARCHAR2( 30 )	NOT NULL	The name of the active attribute
VALUE	VARCHAR2( 4000 )	NOT NULL	The value of the active attribute

## SESSION\_PRIVS

SESSION\_PRIVS lists the privileges that are currently available to the user.

Column	Datatype	NULL	Description
PRIVILEGE	VARCHAR2( 40 )	NOT NULL	Name of the privilege

## SESSION\_ROLES

SESSION\_ROLES lists the roles that are currently enabled to the user.

Column	Datatype	NULL	Description
ROLE	VARCHAR2( 30 )	NOT NULL	Name of the role

## SOURCE\_SIZE

Oracle accesses this view to create views about object size.

**See Also:** "DBA\_OBJECT\_SIZE" on page 2-200 and "USER\_OBJECT\_SIZE" on page 2-279

## 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.

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

## SYN

SYN is a synonym for USER\_SYNONYMS.

SYNONYMS is included for compatibility with Oracle version 5. Oracle Corporation recommends that you do not use this view.

## SYSCATALOG

SYSCATALOG is included for compatibility with Oracle version 5. Oracle Corporation recommends that you do not use this view.

## SYSFILES

SYSFILES is included for compatibility with Oracle version 5. Oracle Corporation recommends that you do not use this view.

## SYSSEGOBJ

SYSSEGOBJ is included for compatibility with Oracle version 5. Oracle Corporation recommends that you do not use this view.

## SYSTEM\_PRIVILEGE\_MAP

SYSTEM\_PRIVILEGE\_MAP describes privilege type codes. This table can be used to map privilege type numbers to type names.

Column	Datatype	NULL	Description
PRIVILEGE	NUMBER	NOT NULL	Numeric privilege type code

---

Column	Datatype	NULL	Description
NAME	VARCHAR2(40)	NOT NULL	Name of the type of privilege
PROPERTY	NUMBER	NOT NULL	Property flag of the privilege

## SYS\_OBJECTS

SYS\_OBJECTS maps object IDs to object types and segment data block addresses.

Column	Datatype	NULL	Description
OBJECT_TYPE	VARCHAR2(15)		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

## TAB

TAB is included for compatibility with Oracle version 5. Oracle Corporation recommends that you do not use this view.

## 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)

## TABLE\_PRIVILEGES

TABLE\_PRIVILEGES contains information on grants on objects for which the user is the grantor, grantee, or owner, or PUBLIC is the grantee. This view is included for

## TABS

---

compatibility with Oracle version 6. Oracle Corporation recommends that you do not use this view.

Column	Datatype	NULL	Description
GRANTEE	VARCHAR2(30)	NOT NULL	Name of the user to whom access was granted
OWNER	VARCHAR2(30)	NOT NULL	Owner of the object
TABLE_NAME	VARCHAR2(30)	NOT NULL	Name of the object
GRANTOR	VARCHAR2(30)	NOT NULL	Name of the user who performed the grant
SELECT_PRIV	VARCHAR2(1)		Permission to select from the object
INSERT_PRIV	VARCHAR2(1)		Permission to insert into the object
DELETE_PRIV	VARCHAR2(1)		Permission to delete from the object
UPDATE_PRIV	VARCHAR2(1)		Permission to update the object
REFERENCES_PRIV	VARCHAR2(1)		Permission to reference the object
ALTER_PRIV	VARCHAR2(1)		Permission to alter the object
INDEX_PRIV	VARCHAR2(1)		Permission to create or drop an index on the object
CREATED	VARCHAR2(0)		Timestamp for the grant

## TABS

TABS is a synonym for USER\_TABLES.

**See Also:** "USER\_TABLES" on page 2-291

## TABQUOTAS

TABQUOTAS is included for compatibility with Oracle version 5. Oracle Corporation recommends that you do not use this view.

## TRUSTED\_SERVERS

TRUSTED\_SERVERS displays whether a server is trusted or untrusted.

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.

Column	Datatype	NULL	Description
NAME	VARCHAR2(128)		Server name. Can be a specific server name or ALL for all servers.

**Table 2-3 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:** *Oracle9i Heterogeneous Connectivity Administrator's Guide*

## TS\_PITR\_CHECK

This view, created by catpitrc.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.

**See Also:** *Oracle9i User-Managed Backup and Recovery Guide*

Column	Datatype	NULL	Description
OBJ1_OWNER	VARCHAR2(30)	NOT NULL	The owner of the object preventing tablespace point-in-time recovery. See the REASON column for details.
OBJ1_NAME	VARCHAR2(30)	NOT NULL	The name of the object preventing tablespace point-in-time recovery
OBJ1_TYPE	VARCHAR2(15)		The object type for the object preventing tablespace point-in-time recovery
OBJ1_SUBNAME	VARCHAR2(30)		Subordinate to OBJ1_NAME
TS1_NAME	VARCHAR2(30)	NOT NULL	Name of the tablespace containing the object preventing tablespace point-in-time recovery

## **TS\_PITR\_OBJECTS\_TO\_BE\_DROPPED**

---

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OBJ2_NAME	VARCHAR2 ( 30 )		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_TYPE	VARCHAR2 ( 15 )		The object type for the second object (will be NULL if OBJ2_NAME is NULL)
OBJ2_OWNER	VARCHAR2 ( 30 )		The owner of the second object (will be NULL if OBJ2_NAME is NULL)
OBJ2_SUBNAME	VARCHAR2 ( 30 )		Subordinate to OBJ2_NAME
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 ( 30 )		Name of the constraint
REASON	VARCHAR2 ( 78 )		Reason why tablespace point-in-time recovery cannot proceed

## **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.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OWNER	VARCHAR2 ( 30 )	NOT NULL	The owner of the object
NAME	VARCHAR2 ( 30 )	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

## **UNI\_PLUGGABLE\_SET\_CHECK**

UNI\_PLUGGABLE\_SET\_CHECK contains pluggable check information.

<b>Column</b>	<b>Datatype</b>	<b>NULL</b>	<b>Description</b>
OBJ1_OWNER	VARCHAR2 ( 30 )		Owner of object
OBJ1_NAME	VARCHAR2 ( 30 )		Object 1
OBJ1_SUBNAME	VARCHAR2 ( 30 )		SubObject1Name

Column	Datatype	NULL	Description
OBJ1_TYPE	VARCHAR2(15)		Object Type
TS1_NAME	VARCHAR2(30)		Tablespace containing Object 1
OBJ2_NAME	VARCHAR2(30)		Object Name
OBJ2_SUBNAME	VARCHAR2(30)		SubObject2Name
OBJ2_TYPE	VARCHAR2(15)		Object Type
OBJ2_OWNER	VARCHAR2(30)		Object owner of second object
TS2_NAME	VARCHAR2(30)		Tablespace containing Object 1
CONSTRAINT_NAME	VARCHAR2(30)		Name of dependent constraint
REASON	VARCHAR2(79)		Reason for Pluggable check violation
MESG_ID	NUMBER		The message ID

## USER\_ALL\_TABLES

USER\_ALL\_TABLES contains descriptions of the object tables and relational tables owned by the current user. Its columns are the same as those in "["ALL\\_ALL\\_TABLES"](#) on page 2-6.

## 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" on page 2-160

## USER\_ARGUMENTS

USER\_ARGUMENTS lists the arguments in all procedures and functions that are owned by the current user. Its columns are the same as those in "["ALL\\_ARGUMENTS"](#) on page 2-13.

## 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](#)" on page 2-14.

## USER\_ATTRIBUTE\_TRANSFORMATIONS

USER\_ATTRIBUTE\_TRANSFORMATIONS displays information about the transformation functions for the transformations owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_ATTRIBUTE\_TRANSFORMATIONS.

**See Also:** "[DBA\\_ATTRIBUTE\\_TRANSFORMATIONS](#)" on page 2-161

## USER\_AUDIT\_OBJECT

This view, created by `cataudit.sql`, lists audit trail records for statements concerning objects that are accessible to the current user. Its columns are the same as those in "[DBA\\_AUDIT\\_OBJECT](#)" on page 2-163.

## 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](#).

**See Also:** "[ALL\\_AUDIT\\_POLICIES](#)" on page 2-15

## USER\_AUDIT\_SESSION

This view, created by `cataudit.sql`, lists all audit trail records concerning connections and disconnections for the user. Its columns are the same as those in "[DBA\\_AUDIT\\_SESSION](#)" on page 2-164.

## USER\_AUDIT\_STATEMENT

This view, created by `cataudit.sql`, lists audit trail entries for the following statements issued by the user: GRANT, REVOKE, AUDIT, NOAUDIT, and ALTER

SYSTEM. Its columns are the same as those in "[DBA\\_AUDIT\\_STATEMENT](#)" on page 2-165.

## USER\_AUDIT\_TRAIL

This view, created by `cataudit.sql`, lists audit trail entries relevant to the user. Its columns are the same as those in "[DBA\\_AUDIT\\_TRAIL](#)" on page 2-167.

## USER\_AW\_PS

USER\_AW\_PS describes the pagespaces in the analytic workspaces owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_AW\_PS.

**See Also:**

- ["DBA\\_AW\\_PS"](#) on page 2-169
- *Oracle9i OLAP User's Guide* for more information about this view

## USER\_AWS

USER\_AWS describes the analytic workspaces owned by the current user. Its columns (except for OWNER) are the same as those in DBA\_AWS.

**See Also:**

- ["DBA\\_AWS"](#) on page 2-169
- *Oracle9i OLAP User's Guide* for more information about this view

## USER\_BASE\_TABLE\_MVIEWS

USER\_BASE\_TABLE\_MVIEWS describes all 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"](#) on page 2-16

## USER\_CATALOG

USER\_CATALOG lists indexes, tables, views, clusters, synonyms, and sequences owned by the current user. Its columns are the same as those in "[ALL\\_CATALOG](#)" on page 2-20.

## 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](#)" on page 2-172.

## 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](#)" on page 2-20.

## USER\_CLUSTERS

USER\_CLUSTERS describes all the clusters owned by the current user. Its columns are the same as those in "[ALL\\_CLUSTERS](#)" on page 2-21.

## USER\_COL\_COMMENTS

USER\_COL\_COMMENTS describes comments on columns of tables and views in the current user's schema. Its columns are the same as those in "[ALL\\_COL\\_COMMENTS](#)" on page 2-22.

## 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](#)" on page 2-172

## 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" on page 2-23](#)

## USER\_COL\_PRIVS\_REC'D

USER\_COL\_PRIVS\_REC'D 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\_REC'D.

**See Also:** ["ALL\\_COL\\_PRIVS\\_REC'D" on page 2-24](#)

## USER\_COLL\_TYPES

USER\_COLL\_TYPES describes named collection types (VARARRAYs, nested tables, object tables, and so on) in the current user's schema. Its columns are the same as those in ["ALL\\_COLL\\_TYPES" on page 2-25](#).

## 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" on page 2-25](#).

## 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" on page 2-26](#)

## 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](#)" on page 2-27.

## USER\_DB\_LINKS

USER\_DB\_LINKS describes database links owned by the current user. Its columns are the same as those in "[ALL\\_DB\\_LINKS](#)" on page 2-29.

## 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](#)" on page 2-30.

## 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](#)" on page 2-31.

## 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](#)" on page 2-32.

## 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](#)" on page 2-32.

## 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](#)" on page 2-33.

## 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](#)" on page 2-33.

## 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](#)" on page 2-34.

## USER\_DIMENSIONS

USER\_DIMENSIONS describes dimension objects in the user's schema. Its columns are the same as those in "[ALL\\_DIMENSIONS](#)" on page 2-34.

## USER\_ERRORS

USER\_ERRORS describes current errors on all stored objects (views, procedures, functions, packages, and package bodies) owned by the current user. Its columns are the same as those in "[ALL\\_ERRORS](#)" on page 2-35.

## 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](#)" on page 2-36

## 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" on page 2-36

## 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" on page 2-37

## 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" on page 2-180

## USER\_EXTERNAL\_LOCATIONS

USER\_EXTERNAL\_TABLES 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" on page 2-38

## 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" on page 2-39

## 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" on page 2-182

## 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 are the same as those in "ALL\_IND\_COLUMNS" on page 2-40.

## USER\_IND\_EXPRESSIONS

USER\_IND\_EXPRESSIONS describes expressions of function-based indexes on tables owned by the current user. Its columns are the same as those in "ALL\_IND\_EXPRESSIONS" on page 2-41.

## USER\_IND\_PARTITIONS

USER\_IND\_PARTITIONS describes, for each index partition owned by the current user, the partition-level partitioning information, the storage parameters for the partition, and various partition statistics analyzed by ANALYZE statements. Its columns are the same as those in "ALL\_IND\_PARTITIONS" on page 2-41.

## USER\_IND\_SUBPARTITIONS

USER\_IND\_SUBPARTITIONS describes, for each index subpartition owned by the current user, the partition-level partitioning information, the storage parameters for the subpartition, and various partition statistics collected by ANALYZE statements. Its columns are the same as those in "ALL\_IND\_SUBPARTITIONS" on page 2-43.

## USER\_INDEXES

USER\_INDEXES describes indexes owned by the current user. To gather statistics for this view, use the SQL ANALYZE statement. This view supports parallel partitioned index scans. Its columns (except for OWNER) are the same as those in "ALL\_INDEXES" on page 2-45.

## USER\_INDEXTYPE\_COMMENTS

USER\_INDEXTYPE\_COMMENTS lists all comments for user-defined indextypes owned by the current user. Its columns are the same as those in ALL\_INDEXTYPE\_COMMENTS.

**See Also:** "ALL\_INDEXTYPE\_COMMENTS" on page 2-48

## 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" on page 2-49

## USER\_INDEXTYPES

USER\_INDEXTYPES describes all indextypes owned by the current user. Its columns are the same as those in ALL\_INDEXTYPES.

**See Also:** "ALL\_INDEXTYPES" on page 2-50

## USER\_INTERNAL\_TRIGGERSS

USER\_INTERNAL\_TRIGGERSS describes the internal triggers on all tables owned by the current user. Its columns are the same as those in "ALL\_INTERNAL\_TRIGGERSS" on page 2-50.

## 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" on page 2-51

## 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" on page 2-52](#)

## 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" on page 2-53](#)

## 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" on page 2-54](#)

## USER\_JAVA\_IMPLEMENTS

USER\_JAVA\_IMPLEMENTS 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\_IMPLEMENTS.

**See Also:** ["ALL\\_JAVA\\_IMPLEMENTS" on page 2-55](#)

## 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" on page 2-56](#)

## 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" on page 2-57

## 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" on page 2-58

## 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" on page 2-59

## 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" on page 2-186

## 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" on page 2-60

## 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" on page 2-61

## USER\_JOBS

USER\_JOBS describes all jobs owned by the user. Its columns are the same as those in "ALL\_JOBS" on page 2-61.

**See Also:** *Oracle9i Database Administrator's Guide* for more information on jobs

## 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" on page 2-63.

## USER\_LIBRARIES

USER\_LIBRARIES describes all libraries owned by the current user. Its columns are the same as those in "ALL\_LIBRARIES" on page 2-63.

## USER\_LOB\_PARTITIONS

USER\_LOB\_PARTITIONS displays the LOB partitions contained in tables owned by the current user. Its columns are the same as those in "ALL\_LOB\_PARTITIONS" on page 2-64.

## USER\_LOB\_SUBPARTITIONS

USER\_LOB\_SUBPARTITIONS describes partition-level attributes of LOB data subpartitions owned by the current user. Its columns are the same as those in "ALL\_LOB\_SUBPARTITIONS" on page 2-65.

- DBA\_LOB\_TEMPLATES describes all LOB subpartition templates in the database.

## 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" on page 2-66

## 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" on page 2-67.

## 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" on page 2-68.

## 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" on page 2-69.

## 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" on page 2-69

## 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" on page 2-70

## 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](#)" on page 2-71.

## 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](#)" on page 2-72.

---

**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 prior to Oracle8i and that were never altered to enable query rewrite.

---

## 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](#)" on page 2-73.

## 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](#)" on page 2-74.

## 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](#)" on page 2-75.

## 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" on page 2-76

## 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" on page 2-77

## 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" on page 2-77

## 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" on page 2-82.

## USER\_OBJ\_AUDIT\_OPTS

This view, created by cataudit.sql, lists auditing characteristics for all objects owned by the current user. Its columns are the same as those in "DBA\_OBJ\_AUDIT\_OPTS" on page 2-198.

## 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" on page 2-82

## 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](#)" on page 2-200.

## USER\_OBJECT\_TABLES

USER\_OBJECT\_TABLES describes the object tables owned by the current user. Its columns are the same as those in "[ALL\\_OBJECT\\_TABLES](#)" on page 2-83.

## USER\_OBJECTS

USER\_OBJECTS describes all objects owned by the current user. Its columns are the same as those in "[ALL\\_OBJECTS](#)" on page 2-85.

## USER\_OPANCILLARY

USER\_OPANCILLARY provides ancillary information for operators owned by the current user. Its columns are the same as those in "[ALL\\_OPANCILLARY](#)" on page 2-86.

## 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](#)" on page 2-87.

## USER\_OPBINDINGS

USER\_OPBINDINGS describes bindings of operators owned by the current user. Its columns are the same as those in "[ALL\\_OPBINDINGS](#)" on page 2-87.

## USER\_OPERATOR\_COMMENTS

USER\_OPERATOR\_COMMENTS lists all comments for user-defined operators owned by the current user. Its columns are the same as those in [ALL\\_INDEXTYPE\\_COMMENTS](#).

**See Also:** "[ALL\\_OPERATOR\\_COMMENTS](#)" on page 2-88

## 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" on page 2-89

## USER\_OUTLINE\_HINTS

USER\_OUTLINE\_HINTS describes the set of hints that make up the outlines owned by the current user. Its columns are the same as those in "ALL\_OUTLINE\_HINTS" on page 2-89.

## USER\_OUTLINES

USER\_OUTLINES describes all outlines owned by the current user. Its columns are the same as those in "ALL\_OUTLINES" on page 2-90.

## USER\_PART\_COL\_STATISTICS

USER\_PART\_COL\_STATISTICS provides column statistics and histogram information for table partitions owned by the current user. Its columns are the same as those in "ALL\_PART\_COL\_STATISTICS" on page 2-91.

## USER\_PART\_HISTOGRAMS

USER\_PART\_HISTOGRAMS contains the histogram data (end-points per histogram) for histograms on table partitions that the current user can access. Its columns are the same as those in "ALL\_PART\_HISTOGRAMS" on page 2-92.

## USER\_PART\_INDEXES

USER\_PART\_INDEXES describes 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" on page 2-92

## 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" on page 2-94](#)

## USER\_PART\_LOBS

USER\_PART\_LOBS provides table-level information for partitioned LOBs owned by the current user, including default attributes for LOB data partitions. Its columns are the same as those in ["ALL\\_PART\\_LOBS" on page 2-95](#).

## USER\_PART\_TABLES

USER\_PART\_TABLES describes 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" on page 2-96](#)

## 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" on page 2-98](#).

## 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

## 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" on page 2-98

## USER\_POLICIES

USER\_POLICIES describes the security policies on the synonyms, tables, and views owned by the current user. Its columns (except for OBJECT\_OWNER) are the same as those in ALL\_POLICIES.

**See Also:** "ALL\_POLICIES" on page 2-99

## 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" on page 2-100

## 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" on page 2-101

## USER\_PROCEDURES

USER\_PROCEDURES lists all functions and procedures, along with their associated properties. Its columns (except OWNER) are the same as those in "ALL\_PROCEDURES" on page 2-101.

## USER\_PROXYIES

USER\_PROXYIES displays information about connections the current user is allowed to proxy. Its columns are the same as those in DBA\_PROXYIES.

**See Also:** ["DBA\\_PROXYIES" on page 2-205](#)

## USER\_PUBLISHED\_COLUMNS

USER\_PUBLISHED\_COLUMNS describes all existing source table columns for which the user has privileges.

Column	Datatype	Description
SOURCE_SCHEMA_NAME	VARCHAR2( 30 )	Table owner in the source system
SOURCE_TABLE_NAME	VARCHAR2( 31 )	Table name in the source system
COLUMN_NAME	VARCHAR2( 30 )	Column name
DATA_TYPE	VARCHAR2( 30 )	Column datatype
DATA_LENGTH	NUMBER	Column length in bytes
DATA_PRECISION	NUMBER	Decimal precision for NUMBER datatype; binary precision for FLOAT datatype; NULL for all other datatypes
DATA_SCALE	NUMBER	Digits to the right of a decimal point in a number
NULLABLE	CHAR( 1 )	Nulls allowed (Y   N)?

## USER\_QUEUE\_SCHEDULES

USER\_QUEUE\_SCHEDULES lists information about queue schedules. Its columns are the same as those in ["DBA\\_QUEUE\\_SCHEDULES" on page 2-207](#).

## 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" on page 2-103](#)

## USER\_QUEUES

USER\_QUEUES describes the operational characteristics of every queue in the user's schema. Its columns are the same as those in "[ALL\\_QUEUES](#)" on page 2-105.

**See Also:** *Oracle9i Application Developer's Guide - Advanced Queuing* for more information about these views and Advanced Queuing

## USER\_REFRESH

USER\_REFRESH describes all refresh groups owned by the current user. Its columns are the same as those in "[ALL\\_REFRESH](#)" on page 2-105.

## 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](#)" on page 2-106.

## 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](#)" on page 2-108.

## 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](#)" on page 2-108

## USER\_REGISTRY

USER\_REGISTRY displays information about the components loaded into the database that are owned by the current user. Its columns are the same as those in DBA\_REGISTRY.

**See Also:** "DBA\_REGISTRY" on page 2-210

## 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

## USER\_RESUMABLE

USER\_RESUMABLE lists resumable statements executed by the current user. Its columns are the same as those in DBA\_RESUMABLE.

**See Also:** "DBA\_RESUMABLE" on page 2-213

## USER\_ROLE\_PRIVS

USER\_ROLE\_PRIVS describes the roles granted to the current user.

Column	Datatype	NULL	Description
USERNAME	VARCHAR2( 30 )		Name of the user, or PUBLIC
GRANTED_ROLE	VARCHAR2( 30 )		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)
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 )		Granted by the operating system (YES) or not (NO); occurs if configuration parameter OS_ROLES = true.

## USER\_RSRC\_CONSUMER\_GROUP\_PRIVS

USER\_RSRC\_CONSUMER\_GROUP\_PRIVS lists all resource consumer groups granted to the user. Its columns are the same as those in DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS.

**See Also:** "DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS" on page 2-216

## USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS

USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS lists all the users who are granted system privileges for the DBMS\_RESOURCE\_MANAGER package. Its columns are the same as those in "[DBA\\_RSRC\\_MANAGER\\_SYSTEM\\_PRIVS](#)" on page 2-217.

## 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"](#) on page 2-110

## 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"](#) on page 2-110

## 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"](#) on page 2-111

## 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"](#) on page 2-220

## USER\_SEQUENCES

USER\_SEQUENCES describes all sequences owned by the current user. Its columns are the same as those in "[ALL\\_SEQUENCES](#)" on page 2-112.

## 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](#)" on page 2-112.

## USER\_SOURCE\_TABLES

USER\_SOURCE\_TABLES enables you to see all of the existing source tables to which you have subscribe privileges. Its columns are the same as those in ALL\_SOURCE\_TABLES.

**See Also:** "[ALL\\_SOURCE\\_TABLES](#)" on page 2-113

## 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](#)" on page 2-113

## 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](#)" on page 2-114

## 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](#)" on page 2-115

## 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](#)" on page 2-116.

## 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 are the same as those in "[ALL\\_STORED\\_SETTINGS](#)" on page 2-116.

## 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 are the same as those in "[ALL\\_SUBPART\\_HISTOGRAMS](#)" on page 2-122.

## 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"](#) on page 2-123

## 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"](#) on page 2-124

## USER\_SUBSCRIBED\_COLUMNS

USER\_SUBSCRIBED\_COLUMNS enables publishers to view the columns of published tables to which they have subscribed. Its columns are the same as those in "[ALL\\_SUBSCRIBED\\_COLUMNS](#)" on page 2-124.

## USER\_SUBSCRIBED\_TABLES

USER\_SUBSCRIBED\_TABLES enables subscribers to view all published tables to which they have subscribed. Its columns are the same as those in "[ALL\\_SUBSCRIBED\\_TABLES](#)" on page 2-125.

## USER\_SUBSCRIPTIONS

USER\_SUBSCRIPTIONS enables subscribers to view all of their subscriptions. Its columns are the same as those in "[ALL\\_SUBSCRIPTIONS](#)" on page 2-125.

## USER\_SYNONYMS

USER\_SYNONYMS describes private synonyms (synonyms owned by the current user). Its columns are the same as those in "[ALL\\_SYNONYMS](#)" on page 2-126.

## USER\_SYS\_PRIVS

USER\_SYS\_PRIVS lists system privileges granted to the current user. Its columns are the same as those in "[DBA\\_SYS\\_PRIVS](#)" on page 2-225.

## USER\_TAB\_COL\_STATISTICS

USER\_TAB\_COL\_STATISTICS contains column statistics and histogram information extracted from "[USER\\_TAB\\_COLUMNS](#)" on page 2-289. Its columns are the same as those in "[ALL\\_TAB\\_COL\\_STATISTICS](#)" on page 2-127.

## USER\_TAB\_COLUMNS

USER\_TAB\_COLUMNS describes the columns of tables, views, and clusters owned by the current user. Its columns are the same as those in "[ALL\\_TAB\\_COLUMNS](#)" on page 2-128. To gather statistics for this view, use the SQL ANALYZE statement.

## USER\_TAB\_COMMENTS

USER\_TAB\_COMMENTS describes comments on the tables and views owned by the current user. Its columns are the same as those in "[ALL\\_TAB\\_COMMENTS](#)" on page 2-130.

## USER\_TAB\_HISTOGRAMS

USER\_TAB\_HISTOGRAMS describes histograms on columns of tables owned by the current user. Its columns are the same as those in "ALL\_TAB\_HISTOGRAMS" on page 2-130.

## 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" on page 2-131.

---

**Note:** This view is populated only for tables with the MONITORING attribute. It is intended for statistics collection over a long period of time and may not be populated until a few hours after the actual modifications occurred.

---

## USER\_TAB\_PARTITIONS

USER\_TAB\_PARTITIONS describes partition-level partitioning information, partition storage parameters, and partition statistics determined by ANALYZE statements for all partitions owned by the current user. Its columns are the same as those in "ALL\_TAB\_PARTITIONS" on page 2-132.

## 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](#)" on page 2-227

## 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](#)" on page 2-134

## USER\_TAB\_PRIVS\_REC

USER\_TAB\_PRIVS\_REC 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\_REC.

**See Also:** ["ALL\\_TAB\\_PRIVS\\_REC"](#) on page 2-135

## USER\_TAB\_SUBPARTITIONS

USER\_TAB\_SUBPARTITIONS describes, for each table subpartition, 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"](#) on page 2-136.

---

**Note:** Statistics are not collected on a per-subpartition basis.

---

## USER\_TABLES

USER\_TABLES describes all relational tables owned by the current user. Its columns are the same as those in ALL\_TABLES. To gather statistics for this view, use the SQL ANALYZE statement.

**See Also:** ["ALL\\_TABLES"](#) on page 2-137

## 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"](#) on page 2-228

## 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 DBA\_TRANSFORMATIONS.

**See Also:** ["DBA\\_TRANSFORMATIONS"](#) on page 2-230

## USER\_TRIGGER\_COLS

USER\_TRIGGER\_COLS describes the use of columns in triggers owned by the current user and triggers on tables owned by the current user. Its columns are the same as those in "[ALL\\_TRIGGER\\_COLS](#)" on page 2-140.

## USER\_TRIGGERS

USER\_TRIGGERS describes all triggers owned by the current. Its columns are the same as those in "[ALL\\_TRIGGERS](#)" on page 2-141.

## USER\_TS\_QUOTAS

USER\_TS\_QUOTAS contains information about tablespace quotas for the current user. Its columns are the same as those in "[DBA\\_TS\\_QUOTAS](#)" on page 2-230.

## USER\_TYPE\_ATTRS

USER\_TYPE\_ATTRS describes the attributes of the object types owned by the current user. Its columns (except for OWNER) are the same as those in ALL\_TYPE\_ATTRS.

**See Also:** ["ALL\\_TYPE\\_ATTRS"](#) on page 2-142

## 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"](#) on page 2-143

## 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"](#) on page 2-144

## 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"](#) on page 2-144

## USER\_UNUSED\_COL\_TABS

USER\_UNUSED\_COL\_TABS contains a description of all tables containing unused columns. Its columns are the same as those in ["ALL\\_UNUSED\\_COL\\_TABS"](#) on page 2-145.

## USER\_UPDATABLE\_COLUMNS

USER\_UPDATABLE\_COLUMNS describes columns in a join view that can be updated by the current user. Its columns are the same as those in ["ALL\\_UPDATABLE\\_COLUMNS"](#) on page 2-146.

**See Also:** *Oracle9i Database Concepts* for information on updatable join views

## USER\_USERS

USER\_USERS describes the current user. Its columns (except for PASSWORD and PROFILE) are the same as those in DBA\_USERS.

**See Also:** ["DBA\\_USERS"](#) on page 2-233

## USER\_USTATS

USER\_USTATS describes all user-defined statistics owned by the current user. Its columns are the same as those in ["ALL\\_USTATS"](#) on page 2-147.

## USER\_VARRAYS

USER\_VARRAYS describes the varrays owned by the current user. Its columns are the same as those in ["ALL\\_VARRAYS"](#) on page 2-148.

## 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" on page 2-148

## 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" on page 2-149

## 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" on page 2-150

## 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" on page 2-151

## 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" on page 2-151

## 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" on page 2-152



---

## Dynamic Performance (V\$) Views

This chapter describes the dynamic performance views, which are often referred to as V\$ views.

### About Dynamic Performance Views

Oracle contains a set of underlying views that are maintained by the 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 username `SYS` or anyone with `SYSDBA` role has access to the dynamic performance tables.

## 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 Enterprise Manager and Oracle Trace, 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.

A number of dynamic performance views are relevant only if you are using Oracle Replication. Descriptions of the following Oracle Replication dynamic performance views can be found in the *Oracle9i Replication Management API Reference*.

- `V$MVREFRESH`
- `V$REPLPROP`
- `V$REPLQUEUE`

## GV\$ Views

For almost every `V$` view described in this chapter, Oracle has a corresponding `GV$` (global `V$`) view. In Oracle9i Real Application Clusters, querying a `GV$` view retrieves the `V$` view information from all qualified instances. In addition to the `V$` information, each `GV$` view contains an extra column named `INST_ID` of datatype `NUMBER`. The `INST_ID` column displays the instance number from which the associated `V$` 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:

```
SELECT * FROM GV$LOCK WHERE INST_ID = 2 OR INST_ID = 5;
```

---

In order to query the GV\$ views, the value of the PARALLEL\_MAX\_SERVERS initialization parameter must be greater than zero on all instances mounting the database.

**See Also:** *Oracle9i Real Application Clusters Concepts*

The following sections list the columns and public synonyms for the dynamic performance views.

## V\$ACCESS

This view displays objects in the database that are currently locked and the sessions that are accessing them.

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 ( 24 )	Type identifier for the object

## V\$ACTIVE\_INSTANCES

This view maps instance names to instance numbers for all instances that have the database currently mounted.

Column	Datatype	Description
INST_NUMBER	NUMBER	The instance number
INST_NAME	VARCHAR2 ( 60 )	The instance name

## V\$ACTIVE\_SESS\_POOL\_MTH

This view displays all available active session pool resource allocation methods.

Column	Datatype	Description
NAME	VARCHAR2 ( 40 )	Name of the active session pool resource allocation method

## V\$AQ

This view describes statistics for the queues in the database.

Column	Datatype	Description
QID	NUMBER	The 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'
TOTAL_WAIT	NUMBER	Total wait time of all 'READY' messages in the queue

Column	Datatype	Description
AVERAGE_WAIT	NUMBER	Average wait time of 'READY' messages in the queue

## V\$ARCHIVE

This view contains information on redo log files in need of archiving. Each row provides information for one thread. This information is also available in V\$LOG. Oracle recommends that you use V\$LOG.

**See Also:** ["V\\$LOG" on page 3-80](#)

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 only for compatibility reasons. The value of this column is always equal to the value in ISCURRENT.
FIRST_CHANGE#	NUMBER	First SCN stored in the current log

## V\$ARCHIVE\_DEST

V\$ARCHIVE\_DEST describes, for the current instance, all the archived redo log destinations, their current value, mode, and status.

Column	Datatype	Description
DEST_ID	NUMBER	Identifies the log archive destination parameter (1 to 10)
DEST_NAME	VARCHAR2( 256 )	???

## V\$ARCHIVE\_DEST

---

Column	Datatype	Description
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 in an alternate state</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>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>
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>■ ARCn</li> <li>■ FOREGROUND</li> <li>■ LGWR</li> <li>■ RFS</li> </ul>
SCHEDULE	VARCHAR2(8)	<p>Indicates whether the archival of this destination is INACTIVE, PENDING, ACTIVE, or LATENT</p>
DESTINATION	VARCHAR2(256)	<p>Specifies the location where the archived redo logs are to be archived</p>
LOG_SEQUENCE	NUMBER	<p>Identifies the sequence number of the last archived redo log to be archived</p>
REOPEN_SECS	NUMBER	<p>Identifies the retry time (in seconds) after error</p>
DELAY_MINS	NUMBER	<p>Identifies the delay interval (in minutes) before the archived redo log is automatically applied to a standby database</p>
NET_TIMEOUT	NUMBER	<p>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</p>

Column	Datatype	Description
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>■ ARCn</li><li>■ FOREGROUND</li><li>■ LGWR</li></ul>
REGISTER	VARCHAR2(3)	Indicates whether the archived redo log is registered in the remote destination control file. If the archived redo log is registered, it is available to the managed recovery operation: <ul style="list-style-type: none"><li>■ YES</li><li>■ NO</li></ul>
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 re-establish 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)	Dependent archive destination, if any
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>■ SYNC=PARALLEL</li><li>■ SYNC=NOPARALLEL</li><li>■ ASYNC</li></ul>
ASYNC_BLOCKS	NUMBER	Number of blocks specified for the ASYNC attribute
AFFIRM	VARCHAR2(3)	Specifies disk I/O mode

## V\$ARCHIVE\_DEST\_STATUS

---

Column	Datatype	Description
TYPE	VARCHAR2(7)	Indicates whether the archived log destination definition is PUBLIC or PRIVATE. Only PUBLIC destinations can be modified at runtime using the ALTER SYSTEM SET or ALTER SESSION SET statements. By default, all archived log destinations are PUBLIC.

### See Also:

- ["LOG\\_ARCHIVE\\_DEST" on page 1-75](#) and ["LOG\\_ARCHIVE\\_DEST\\_n" on page 1-76](#)
- ["LOG\\_ARCHIVE DUPLEX\\_DEST" on page 1-79](#) and ["LOG\\_ARCHIVE\\_DEST\\_STATE\\_n" on page 1-78](#)
- ["STANDBY\\_ARCHIVE\\_DEST" on page 1-157](#)
- ["LOG\\_ARCHIVE\\_MIN\\_SUCCEED\\_DEST" on page 1-82](#)

## V\$ARCHIVE\_DEST\_STATUS

V\$ARCHIVE\_DEST\_STATUS displays runtime and configuration information for the archived redo log destinations.

Column	Datatype	Description
DEST_ID	NUMBER	Identifies the log archive destination parameter (1 to 10)
DEST_NAME	VARCHAR2(256)	???
STATUS	VARCHAR2(9)	Identifies the 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>
TYPE	VARCHAR2(14)	Identifies the 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></ul>

Column	Datatype	Description
DATABASE_MODE	VARCHAR2(15)	Identifies the 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(7)	Identifies the current mode of media recovery at the archival destination database <ul style="list-style-type: none"> <li>■ IDLE - Managed recovery is not active</li> <li>■ MANUAL - Manual media recovery active</li> <li>■ MANAGED - Managed recovery is active</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 archived redo logs are 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
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 the use of standby redo logfiles on the standby database (YES or (NO))

## 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.

Column	Datatype	Description
THREAD#	NUMBER	Thread number
LOW_SEQUENCE#	NUMBER	Low number of the log file
HIGH_SEQUENCE#	NUMBER	High number of the log file

## V\$ARCHIVE\_PROCESSES

This view provides information about the state of the various ARCH processes for the instance.

Column	Datatype	Description
PROCESS	NUMBER	The identifier for the ARCH process for the instance, numbered from 0-9
STATUS	VARCHAR2(10)	The 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.

## V\$ARCHIVED\_LOG

This view 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

Column	Datatype	Description
NAME	VARCHAR2( 513 )	Archived log file name. If set to NULL, the log file was cleared before it was archived.
DEST_ID	NUMBER	Original destination from which the archivelog 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# of the database when this log was written
RESETLOGS_TIME	DATE	Resetlogs time of the database when this log was written
FIRST_CHANGE#	NUMBER	First change# 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 this 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 )	<p>Creator of the archivelog:</p> <ul style="list-style-type: none"> <li>■ ARCH - ARCH process</li> <li>■ FGRD - Foreground process</li> <li>■ RMAN</li> <li>■ SRMN - RMAN at standby</li> <li>■ LGWR - LGWR process</li> </ul>
REGISTRAR	VARCHAR2( 7 )	<p>Registrar of the entry:</p> <ul style="list-style-type: none"> <li>■ RFS</li> <li>■ ARCH - ARCH process</li> <li>■ FGRD - Foreground process</li> <li>■ RMAN</li> <li>■ SRMN - RMAN at standby</li> <li>■ LGWR - LGWR process</li> </ul>
STANDBY_DEST	VARCHAR2( 3 )	(YES   NO) Indicates if the entry is an archivelog destination
ARCHIVED	VARCHAR2( 3 )	Indicates that the online redo log was archived (YES) or that RMAN only inspected the log and created a record for future application of redo logs during recovery.

**See Also:** Oracle9i Recovery Manager User's Guide.

## V\$BACKUP

---

Column	Datatype	Description
APPLIED	VARCHAR2( 3 )	(YES   NO) Indicates whether or not the archivelog has been applied to its corresponding standby database. YES indicates it has been applied; NO indicates it has not. The value is always NO for local destinations.  This column is meaningful at the physical 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.  You can use this field to identify archivelogs that can be backed up and removed from disk.
DELETED	VARCHAR2( 3 )	Specifies (YES   NO) 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.
STATUS	VARCHAR2( 1 )	The status of this archived log. Possible values are:  A - Available D - Deleted U - Unavailable X - Expired
COMPLETION_TIME	DATE	Time when the archiving completed
DICTIONARY_BEGIN	VARCHAR2( 3 )	(YES   NO) Indicates whether or not this log contains the start of a LogMiner dictionary. This column also appears in the RC_ARCHIVED_LOG view.
DICTIONARY_END	VARCHAR2( 3 )	(YES   NO) Indicates whether or not this log contains the end of a LogMiner dictionary. This column also appears in the RC_ARCHIVED_LOG view.
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 THREAD# column only when a closed thread is archived by another instance.
ACTIVATION#	NUMBER	

## V\$BACKUP

This view displays the backup status of all online datafiles.

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
CHANGE#	NUMBER	System change number when backup started
TIME	DATE	Time the backup started

## V\$BACKUP\_ASYNC\_IO

This view displays performance information about ongoing and recently completed RMAN backups and restores. For each backup, it contains one row for each input datafile, one row for the aggregate total performance of all datafiles, and one row for the output backup piece. This data is not stored persistently, and is not preserved when the instance is re-started.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for information on how to use this table to tune backup performance

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
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

## V\$BACKUP\_CORRUPTION

---

Column	Datatype	Description
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 100ths of seconds, 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
READY	NUMBER	The number of asynchronous requests for which a buffer was immediately ready for use
SHORT_WAITS	NUMBER	The number of times that a buffer was not immediately available, but a buffer became available after doing a non-blocking poll for I/O completion
SHORT_WAIT_TIME_TOTAL	NUMBER	The total time, in 100ths of seconds, taken by non-blocking polls for I/O completion
SHORT_WAIT_TIME_MAX	NUMBER	The maximum time taken for a non-blocking poll for I/O completion, in 100ths of seconds
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 100ths of seconds, 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 100ths of seconds

## V\$BACKUP\_CORRUPTION

V\$BACKUP\_CORRUPTION displays information about corrupt block ranges in datafile 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

---

Column	Datatype	Description
FILE#	NUMBER	Absolute file number of the datafile 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 Oracle (YES) or Oracle had already discovered this corrupt block and marked it as corrupt in the database (NO). Note that when a corrupt block is encountered in a backup, and was not already marked corrupt by Oracle, then the backup process does not mark the block as corrupt in the production datafile. Thus, this field may be YES for the same block in more than one backup set.
CORRUPTION_TYPE	VARCHAR2(9)	<p>Type of block corruption in the datafile:</p> <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 - Specifies the range is for logically corrupt blocks. CORRUPTION_CHANGE# will have a nonzero value.</li> </ul>

---

## V\$BACKUP\_DATAFILE

This view displays backup datafile and backup control file information from the control file.

---

Column	Datatype	Description
RECID	NUMBER	Backup datafile record ID
STAMP	NUMBER	Backup datafile record stamp
SET_STAMP	NUMBER	Backup set stamp
SET_COUNT	NUMBER	Backup set count
FILE#	NUMBER	Datafile number; set to 0 for control file
CREATION_CHANGE#	NUMBER	Creation change of the datafile

---

## V\$BACKUP\_DEVICE

---

Column	Datatype	Description
CREATION_TIME	DATE	Creation timestamp of the datafile
RESETLOGS_CHANGE#	NUMBER	Resetlogs change# of the datafile when it was backed up
RESETLOGS_TIME	DATE	Resetlogs timestamp of the datafile when it was backed up
INCREMENTAL_LEVEL	NUMBER	(0-4) incremental backup level
INCREMENTAL_CHANGE#	NUMBER	All blocks changed after incremental change# is included in this backup; set to 0 for a full backup
CHECKPOINT_CHANGE#	NUMBER	All changes up to checkpoint change# are included in this backup
CHECKPOINT_TIME	DATE	Timestamp of the checkpoint
ABSOLUTE_FUZZY_CHANGE#	NUMBER	Highest change# 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 datafile in blocks at backup time. This value is also the number of blocks taken by the datafile restarted from this backup.
BLOCKS	NUMBER	Size of the backup datafile in blocks. Unused blocks are not copied to the backup.
BLOCK_SIZE	NUMBER	Block size
OLDEST_OFFLINE_RANGE	NUMBER	The RECID of the oldest offline range record in this backup control file. 0 for datafile backups.
COMPLETION_TIME	DATE	The time completed
CONTROLFILE_TYPE	VARCHAR2(1)	B indicates normal copies S indicates standby copies

---

## V\$BACKUP\_DEVICE

This view 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(512)	Name of the backup device

## V\$BACKUP\_PIECE

This view displays information about backup pieces from the control file. Each backup set consist 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.  <b>See Also:</b> V\$BACKUP_DEVICE
HANDLE	VARCHAR2(513)	Backup piece handle identifies the backup piece on restore
COMMENTS	VARCHAR2(81)	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 <b>backup</b> 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	The starting time
COMPLETION_TIME	DATE	The completion time
ELAPSED_SECONDS	NUMBER	The 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.

## V\$BACKUP\_REDOLOG

This view 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

## V\$BACKUP\_SET

V\$BACKUP\_SET displays backup set information 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

Column	Datatype	Description
SET_STAMP	NUMBER	Backup set stamp. The backup set stamp and count uniquely identify the backup set.
		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.
SET_COUNT	NUMBER	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.
		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
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 datafile full backup, the value is D. If this is an incremental backup, the value is I.
CONTROLFILE_INCLUDED	VARCHAR2(3)	Set to YES if there is a control file included in this backup set, otherwise set to NO
INCREMENTAL_LEVEL	NUMBER	Location where this backup set fits into the database's backup strategy. Set to zero for full datafile backups, nonzero for incremental datafile backups, and NULL for archivelog backups.
PIECES	NUMBER	Number of distinct backup pieces in the backup set
START_TIME	DATE	The starting time
COMPLETION_TIME	DATE	The time that this backup set completed
ELAPSED_SECONDS	NUMBER	The number of elapsed seconds
BLOCK_SIZE	NUMBER	Block size of the backup set
INPUT_FILE_SCAN_ONLY	VARCHAR2(3)	YES indicates no actual backup is performed, but the datafiles are read. 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(10)	Lists additional retention options for this backup set. Possible values are: LOGS - The logs need to recover this backup are kept NOLOGS - The logs needed to recover this backup will not be kept

## V\$BACKUP\_SPFILE

V\$BACKUP\_SPFILE displays information about server parameter files in backup sets.

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

## V\$BACKUP\_SYNC\_IO

This view displays performance information about ongoing and recently completed RMAN backups and restores. For each backup, it contains one row for each input datafile, one row for the aggregate total performance of all datafiles, and one row for the output backup piece. This data is not stored persistently, and is not preserved when the instance is re-started.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference*  
for information on how to use this table to tune backup performance

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
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

---

Column	Datatype	Description
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 100ths of seconds, 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 100ths of seconds, 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

---

## V\$BGPROCESS

This view describes the background processes.

---

Column	Datatype	Description
PADDR	RAW( 4   8 )	Address of the process state object
NAME	VARCHAR2( 5 )	Name of this background process
DESCRIPTION	VARCHAR2( 64 )	Description of the background process
ERROR	NUMBER	Error encountered

---

## V\$BH

This is an Oracle9*i* Real Application Clusters view. This view gives the status and number of pings for every buffer in the SGA.

Column	Datatype	Description
FILE#	NUMBER	Datafile identifier number (to find filename, query DBA_DATA_FILES or V\$DBFILES)
BLOCK#	NUMBER	Block number
CLASS#	NUMBER	The class number
STATUS	VARCHAR2(1)	Status of the buffer: <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 but is retained for historical compatibility.
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.
FORCED_READS	NUMBER	Number of times the block had to be made re-read from disk because another instance had forced it out of this instance's cache by requesting the PCM lock on this block in lock mode.
FORCED_WRITES	NUMBER	Number of times DBWR had to write this block to disk because this instance had dirtied the block and another instance had requested the PCM lock on the block in conflicting mode.
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	VARCHAR2(1)	Always set to N. This column is obsolete but is retained for historical compatibility.
OBJD	NUMBER	Database object number of the block that the buffer represents

Column	Datatype	Description
TS#	NUMBER	Tablespace number of block

**See Also:** *Oracle9i Real Application Clusters Concepts*

## V\$BUFFER\_POOL

This view displays information about all buffer pools available for the instance. The "sets" pertain to the number of LRU latch sets.

**See Also:** ["DB\\_BLOCK\\_SIZE" on page 1-36](#)

Column	Datatype	Description
ID	NUMBER	Buffer pool ID number
NAME	VARCHAR2(20)	Buffer pool name. Possible values: DEFAULT, KEEP, RECYCLE. Note: Currently, KEEP and RECYCLE pools only exist for the standard block size. All non-standard block size pools are DEFAULT.
BLOCK_SIZE	NUMBER	Block size in bytes for buffers in this pool. Possible values: the standard block size, the power of 2 non-standard block sizes, 2048, 4096, 8192, 16384, 32768.
RESIZE_STATE	VARCHAR2(10)	Current state of the resize operation STATIC - not being resized ALLOCATING - memory is being allocated (can be cancelled by the user) ACTIVATING - new buffers are being created (user cannot cancel) SHRINKING - buffers are being deleted (can be cancelled by the user)
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 STATIC), records new target size in megabytes. If the pool is STATIC, 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.
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

## V\$BUFFER\_POOL\_STATISTICS

---

Column	Datatype	Description
HI_BNUM	NUMBER	Obsolete column
LO_SETID	NUMBER	Obsolete column
HI_SETID	NUMBER	Obsolete column
SET_COUNT	NUMBER	Obsolete column

## V\$BUFFER\_POOL\_STATISTICS

V\$BUFFER\_POOL\_STATISTICS displays information about all buffer pools available for the instance. The "sets" pertain to the number of LRU latch sets.

**See Also:** ["DB\\_CACHE\\_SIZE" on page 1-38](#)

Column	Datatype	Description
ID	NUMBER	Buffer pool ID number
NAME	VARCHAR2(20)	Buffer pool name
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
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

## V\$CACHE

This is an Oracle9*i* Real Application Clusters view. This view contains information from the block header of each block in the SGA of the current instance as related to particular database objects.

**See Also:** *Oracle9*i* Real Application Clusters Concepts*

Column	Datatype	Description
FILE#	NUMBER	Datafile identifier number (to find filename, query DBA_DATA_FILES or V\$DBFILES)
BLOCK#	NUMBER	Block number
CLASS#	NUMBER	Class number
STATUS	VARCHAR2(1)	Status of 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 only for compatibility reasons.
FORCED_READS	NUMBER	Forced reads
FORCED_WRITES	NUMBER	Forced writes
NAME	VARCHAR2(30)	Name of the database object containing the block
PARTITION_NAME	VARCHAR2(30)	Name of the partition; NULL for non-partitioned objects

## V\$CACHE\_LOCK

---

Column	Datatype	Description
KIND	VARCHAR2(12)	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.

## V\$CACHE\_LOCK

This is an Oracle9*i* Real Application Clusters view. V\$CACHE\_LOCK is similar to V\$CACHE, except for the platform specific lock manager identifiers. This information may be useful if the platform-specific lock manager provides tools for monitoring the PCM lock operations that are occurring. For example, first query to find the lock element address using `INDEX` and `CLASS`, then query V\$BH to find the buffers that are covered by the lock.

**See Also:**

- *Oracle9i Real Application Clusters Concepts*
- "[V\\$CACHE](#)" on page 3-25

Column	Datatype	Description
FILE#	NUMBER	Datafile identifier number (to find filename, query DBA_DATA_FILES or V\$DBFILES)
BLOCK#	NUMBER	Block number
STATUS	VARCHAR2( 4 )	Status of 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
NAME	VARCHAR2( 30 )	Name of the database object containing the block

## V\$CACHE\_LOCK

---

Column	Datatype	Description
KIND	VARCHAR2(12)	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.
FORCED_READS	NUMBER	Number of times the block had to be made re-read from disk because another instance had forced it out of this instance's cache by requesting the PCM lock on this block in lock mode
FORCED_WRITES	NUMBER	Number of times DBWR had to write this block to disk because this instance had dirtied the block and another instance had requested the PCM lock on the block in conflicting mode.
INDX	NUMBER	Platform-specific lock manager identifier
CLASS	NUMBER	Platform-specific lock manager identifier

## V\$CACHE\_TRANSFER

This is an Oracle9*i* Real Application Clusters view. The V\$CACHE\_TRANSFER view 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.

**See Also:** "V\$CACHE" on page 3-25 and *Oracle9i Real Application Clusters Concepts*

Column	Datatype	Description
FILE#	NUMBER	Datafile identifier number (to find the filename, query DBA_DATA_FILES or V\$DBFILE)
BLOCK#	NUMBER	Block number
CLASS#	NUMBER	Class number
STATUS	VARCHAR2( 4 )	Status of 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 but is retained for historical compatibility.
FORCED_READS	NUMBER	Number of times the block had to be reread from disk because another instance had forced it out of this instance's cache by requesting the PCM lock on the block in exclusive mode
FORCED_WRITES	NUMBER	Number of times DBWR had to write this block to disk because this instance had used the block and another instance had requested the lock on the block in a conflicting mode
NAME	VARCHAR2( 30 )	Name of the database object containing the block
PARTITION_NAME	VARCHAR2( 30 )	NULL for non-partitioned objects
KIND	VARCHAR2( 15 )	Type of database object <b>See Also:</b> Table 3-1 on page 3-78
OWNER#	NUMBER	Owner number

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.
GC_ELEMENT_NAME	NUMBER	The name of the lock that contains the PCM lock that is covering the buffer

## 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 server process that is waiting for the (currently busy) circuit to become available
SADDR	RAW( 4   8 )	Address of 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>
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

Column	Datatype	Description
PRESENTATION	VARCHAR2(16)	The presentation protocol used by the client and server

## V\$CLASS\_CACHE\_TRANSFER

V\$CLASS\_CACHE\_TRANSFER displays the number of blocks pinged per block class. Use this view to compare contentions for blocks in different classes.

Column	Datatype	Description
CLASS	VARCHAR2(18)	The block class
X_2_NULL	NUMBER	Number of lock conversions from Exclusive-to-NULL for all blocks of the specified CLASS
X_2_NULL_FORCED_WRITE	NUMBER	Number of forced writes that occur for blocks of the specified CLASS due to Exclusive-to-NULL conversions
X_2_NULL_FORCED_STALE	NUMBER	Number of times a block in the CLASS was made STALE due to Exclusive-to-NULL conversions
X_2_S	NUMBER	Number of lock conversions from Exclusive-to-Shared for all blocks of the specified CLASS
X_2_S_FORCED_WRITE	NUMBER	Number of forced writes that occur for blocks of the specified CLASS due to Exclusive-to-Shared conversions
S_2_NULL	NUMBER	Number of lock conversions from Shared-to-NULL for all blocks of the specified CLASS
S_2_NULL_FORCED_STALE	NUMBER	Number of times a block in the CLASS was made STALE due to Shared-to-NULL conversions
NULL_2_X	NUMBER	Number of lock conversions from NULL-to-Exclusive for all blocks of the specified CLASS
S_2_X	NUMBER	Number of lock conversions from Shared-to-Exclusive for all blocks of the specified CLASS
NULL_2_S	NUMBER	Number of lock conversions from NULL-to-Shared for all blocks of the specified CLASS

## V\$COMPATIBILITY

This view displays features in use by the database instance that may prevent downgrading to a previous release. This is the dynamic (SGA) version of this information, and may not reflect features that other instances have used, and may include temporary incompatibilities (like UNDO segments) that will not exist after the database is shut down cleanly.

## V\$COMPATSEG

---

Column	Datatype	Description
TYPE_ID	VARCHAR2 ( 8 )	Internal feature identifier
RELEASE	VARCHAR2 ( 60 )	Release in which that feature appeared
DESCRIPTION	VARCHAR2 ( 64 )	Description of the feature

## V\$COMPATSEG

This view lists the permanent features in use by the database that will prevent moving back to an earlier release.

Column	Datatype	Description
TYPE_ID	VARCHAR2 ( 8 )	Internal feature identifier
RELEASE	VARCHAR2 ( 60 )	Release in which that feature appeared. The software must be able to interpret data formats added in that release.
UPDATED	VARCHAR2 ( 60 )	Release that first used the feature

## V\$CONTEXT

This view lists set attributes in the current session.

Column	Datatype	Description
NAMESPACE	VARCHAR2 ( 30 )	The namespace that the attribute is in
ATTRIBUTE	VARCHAR2 ( 30 )	The name of attribute
VALUE	VARCHAR2 ( 4000 )	The value of attribute

## V\$CONTROLFILE

This view lists 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 ( 257 )	The name of the control file

## V\$CONTROLFILE\_RECORD\_SECTION

This view displays information about the control file record sections.

Column	Datatype	Description
TYPE	VARCHAR2(17)	Identifies the type of record section: DATABASE, CKPT PROGRESS, REDO THREAD, REDO LOG, DATAFILE, FILENAME, TABLESPACE, LOG HISTORY, OFFLINE RANGE, ARCHIVED LOG, BACKUP SET, BACKUP PIECE, BACKUP DATAFILE, BACKUP REDOLOG, DATAFILE COPY, BACKUP CORRUPTION, COPY CORRUPTION, DELETED OBJECT, or PROXY COPY
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

## V\$COPY\_CORRUPTION

This view displays information about datafile copy corruptions from the control file.

Column	Datatype	Description
RECID	NUMBER	Copy corruption record ID
STAMP	NUMBER	Copy corruption record stamp
COPY_RECID	NUMBER	Datafile copy record ID
COPY_STAMP	NUMBER	Datafile copy record stamp
FILE#	NUMBER	Datafile number
BLOCK#	NUMBER	First block of the corrupted range
BLOCKS	NUMBER	Number of contiguous blocks in the corrupted range
CORRUPTION_CHANGE#	NUMBER	Change# 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 datafile, but were detected and marked as corrupted while making the datafile copy

## V\$CR\_BLOCK\_SERVER

---

Column	Datatype	Description
CORRUPTION_TYPE	VARCHAR2(9)	Type of block corruption in the datafile: <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 - Specifies the range is for logically corrupt blocks. CORRUPTION_CHANGE# will have a nonzero value.</li></ul>

## V\$CR\_BLOCK\_SERVER

This view displays statistics on the block server background processes (BSPn) used in cache fusion.

Column	Datatype	Description
CR_REQUESTS	NUMBER	Number of requests received for a version of a block at a specific SCN ("CR" refers to "consistent-read")
CURRENT_REQUESTS	NUMBER	Number of requests for the most recent (current) version of a block CR_REQUESTS + CURRENT_REQUESTS = total number of requests handled by the BSPn processes
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 DATA_REQUESTS + UNDO_REQUESTS + TX_REQUESTS = total number of requests handled by the BSPn 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.

Column	Datatype	Description
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
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 a BSPn process
LIGHT_WORKS	NUMBER	Number of times the light-work rule was evoked. This rule prevents the BSP back ground process from going to disk while responding to CR requests for data, undo, or undo segment header blocks. This rule can prevent the BSP process from completing its response to the CR request.

**See Also:** *Oracle9i Real Application Clusters Concepts* for more information on these processes and on cache fusion

---

**Note:** This view contains internal diagnostic information for use by Oracle Support Services. It is subject to change without notice.

---

## V\$DATABASE

V\$DATABASE contains database information from the control file.

Column	Datatype	Description
DBID	NUMBER	Database ID calculated when the database is created and stored in all file headers
NAME	VARCHAR2( 9 )	Name of the database
CREATED	DATE	Creation date
RESETLOGS_CHANGE#	NUMBER	Change number at open resetlogs
RESETLOGS_TIME	DATE	Timestamp of open resetlogs
PRIOR_RESETLOGS_CHANGE#	NUMBER	Change number at prior resetlogs
PRIOR_RESETLOGS_TIME	DATE	Timestamp of prior resetlogs

Column	Datatype	Description
LOG_MODE	VARCHAR2(12)	Archive log mode (NOARCHIVELOG or ARCHIVELOG)
CHECKPOINT_CHANGE#	NUMBER	Last SCN checkpointed
ARCHIVE_CHANGE#	NUMBER	Last SCN archived
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 - the control file changes to this type following a standby database activate or database open after recovery</li> </ul>
CONTROLFILE_CREATED	DATE	Control file creation timestamp
CONTROLFILE_SEQUENCE#	NUMBER	Control file sequence number incremented by control file transactions
CONTROLFILE_CHANGE#	NUMBER	Last change number 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(10)	Open mode information
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 protection mode</li> <li>■ UNPROTECTED - Database is unprotected (this normally occurs when the primary database is mounted and not open)</li> </ul>

Column	Datatype	Description
PROTECTION_LEVEL	VARCHAR2( 20 )	<p>Aggregated protection mode currently in effect for the database:</p> <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 protection 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 PROTECTION_MODE of all standby archivelog destinations.</p>
REMOTE_ARCHIVE	VARCHAR2( 8 )	Value of the REMOTE_ARCHIVE_ENABLE initialization parameter
ACTIVATION#	NUMBER	Number assigned to the database instantiation
DATABASE_ROLE	VARCHAR2(16 )	Current role of the database; either primary or standby
ARCHIVELOG_CHANGE#	NUMBER	Highest NEXT_CHANGE# (from the V\$ARCHIVED_LOG view) for an archived log
SWITCHOVER_STATUS	VARCHAR2( 18 )	<p>Indicates whether switchover is allowed:</p> <ul style="list-style-type: none"> <li>▪ NOT ALLOWED - Either this is a standby database and the primary database has not been switched first or this is a primary database and there are no standby databases.</li> <li>▪ SESSIONS ACTIVE - Indicates that there are active SQL sessions attached to the primary or standby database that need to be disconnected before the switchover operation is permitted. Query the V\$SESSION view to identify the specific processes that need to be terminated.</li> <li>▪ SWITCHOVER PENDING - This is a standby database and the primary database switchover request has been received but not processed.</li> <li>▪ SWITCHOVER LATENT - The switchover was in pending mode, but did not complete and went back to the primary database.</li> <li>▪ TO PRIMARY - This is a standby database and is allowed to switch over to a primary database.</li> <li>▪ TO STANDBY - This is a primary database and is allowed to switch over to a standby database.</li> <li>▪ RECOVERY NEEDED - This is a standby database that has not received the switchover request.</li> </ul>

## V\$DATABASE\_BLOCK\_CORRUPTION

---

Column	Datatype	Description
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( 3 )	<p>Ensures that LogMiner will have sufficient information to support chained rows and various storage arrangements such as cluster tables.</p> <p>See <i>Oracle9i SQL 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, ensures that all columns of the primary key are placed into the redo log whenever an update operation is performed.</p> <p>See <i>Oracle9i SQL Reference</i> for additional information about the ALTER DATABASE ADD SUPPLEMENTAL LOG DATA statement.</p>
SUPPLEMENTAL_LOG_DATA_UI	VARCHAR2( 3 )	<p>For all tables with a unique key, ensures that if any unique key columns are modified, all other columns belonging to the unique key are also placed into the redo log.</p> <p>See <i>Oracle9i SQL Reference</i> for additional information about the ALTER DATABASE ADD SUPPLEMENTAL LOG DATA statement.</p>
FORCE_LOGGING	VARCHAR2( 3 )	Indicates whether the database is under force logging mode (YES) or not (NO)

## 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 datafile 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.

Column	Datatype	Description
CORRUPTION_TYPE	VARCHAR2(9)	<p>Type of block corruption in the datafile:</p> <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 - Specifies the range is for logically corrupt blocks. CORRUPTION_CHANGE# will have a nonzero value.</li> </ul>

## V\$DATABASE\_INCARNATION

V\$DATABASE\_INCARNATION displays information about all database incarnations. Oracle creates a new incarnation whenever you open a database with the RESETLOGS option. Records about the current and immediately previous incarnation are also contained in the V\$DATABASE view.

Column	Datatype	Description
RESETLOGS_CHANGE#	NUMBER	SCN of the RESETLOGS operation that created this incarnation
RESETLOGS_TIME	DATE	Timestamp of the RESETLOGS operation that created this incarnation
PRIOR_RESETLOGS_CHANGE#	NUMBER	SCN of the previous RESETLOGS operation
PRIOR_RESETLOGS_TIME	DATE	Timestamp of the previous RESETLOGS operation

## V\$DATAFILE

This view contains datafile information from the control file.

**See Also:** "[V\\$DATAFILE\\_HEADER](#)" on page 3-42, which displays information from datafile headers

Column	Datatype	Description
FILE#	NUMBER	File identification number

## V\$DATAFILE

---

Column	Datatype	Description
CREATION_CHANGE#	NUMBER	Change number at which the datafile was created
CREATION_TIME	DATE	Timestamp of the datafile creation
TS#	NUMBER	Tablespace number
RFILE#	NUMBER	Tablespace relative datafile 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)
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 - should not occur unless the control file is corrupted</li> </ul>
CHECKPOINT_CHANGE#	NUMBER	SCN at last checkpoint
CHECKPOINT_TIME	DATE	Time stamp of the checkpoint#
UNRECOVERABLE_CHANGE#	NUMBER	Last unrecoverable change# made to this datafile. This column is always updated when an unrecoverable operation completes.
UNRECOVERABLE_TIME	DATE	Time stamp of the last unrecoverable change
LAST_CHANGE#	NUMBER	Last change# made to this datafile. Set to NULL if the datafile is being changed.
LAST_TIME	DATE	Timestamp of the last change
OFFLINE_CHANGE#	NUMBER	Offline change# of the last offline range. This column is updated only when the datafile is brought online.
ONLINE_CHANGE#	NUMBER	Online change# of the last offline range
ONLINE_TIME	DATE	Online timestamp of the last offline range
BYTES	NUMBER	Current size in bytes; 0 if inaccessible
BLOCKS	NUMBER	Current datafile size in blocks; 0 if inaccessible
CREATE_BYTES	NUMBER	Size when created, in bytes
BLOCK_SIZE	NUMBER	Block size of the datafile
NAME	VARCHAR2(513)	Datafile name
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	The 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)	The auxiliary name that has been set for this file via CONFIGURE AUXNAME

---

## V\$DATAFILE\_COPY

This view displays datafile copy information from the control file.

Column	Datatype	Description
RECID	NUMBER	Datafile copy record ID
STAMP	NUMBER	Datafile copy record stamp
NAME	VARCHAR2(513)	Filename of the datafile copy. The maximum length of the name is OS dependent.
TAG	VARCHAR2(32)	Datafile copy tag
FILE#	NUMBER	Absolute datafile number
RFILE#	NUMBER	Tablespace relative datafile number
CREATION_CHANGE#	NUMBER	Datafile creation change#
CREATION_TIME	DATE	Datafile creation timestamp
RESETLOGS_CHANGE#	NUMBER	Resetlogs change# of the datafile when the copy was made
RESETLOGS_TIME	DATE	Resetlogs timestamp of the datafile when the copy was made
INCREMENTAL_LEVEL	NUMBER	The incremental level
CHECKPOINT_CHANGE#	NUMBER	Checkpoint change# 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 seen when the datafile 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 datafile 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.
MARKED_CORRUPT	NUMBER	Number of blocks marked corrupt by this copy operation. That is, blocks that were not marked corrupted in the source datafile, 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.

## V\$DATAFILE\_HEADER

---

Column	Datatype	Description
BLOCKS	NUMBER	Size of the datafile 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	The RECID of the oldest offline range record in this control file copy; 0 for datafile copies
DELETED	VARCHAR2 ( 3 )	(YES   NO) If set to YES the datafile copy has been deleted or overwritten
STATUS	VARCHAR2 ( 1 )	Identifies the status of this datafile copy. Possible values are: A - Available D - Deleted U - Unavailable X - Expired
COMPLETION_TIME	DATE	Time when the copy was completed
CONTROLFILE_TYPE	VARCHAR2 ( 1 )	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 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 ( 10 )	Lists additional retention options for this backup set. Possible values are: LOGS - The logs need to recover this backup are kept NOLOGS - The logs needed to recover this backup will not be kept

## V\$DATAFILE\_HEADER

This view displays datafile information from the datafile headers.

Column	Datatype	Description
FILE#	NUMBER	Datafile number (from control file)
STATUS	VARCHAR2 ( 7 )	ONLINE   OFFLINE (from control file)
ERROR	VARCHAR2 ( 18 )	NULL if the datafile 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 datafile must be restored from a backup before it can be recovered or used.

---

<b>Column</b>	<b>Datatype</b>	<b>Description</b>
FORMAT	NUMBER	Indicates the format for the header block. The possible values are 6 , 7, 8, or 0. 6 - indicates Oracle Version 6 7 - indicates Oracle Version 7 8 - indicates Oracle Version 8 0 - indicates the format could not be determined (for example, the header could not be read)
RECOVER	VARCHAR2( 3 )	File needs media recovery (YES   NO)
FUZZY	VARCHAR2( 3 )	File is fuzzy (YES   NO)
CREATION_CHANGE#	NUMBER	Datafile creation change#
CREATION_TIME	DATE	Datafile creation timestamp
TABLESPACE_NAME	VARCHAR2( 30 )	Tablespace name
TS#	NUMBER	Tablespace number
RFILE#	NUMBER	Tablespace relative datafile number
RESETLOGS_CHANGE#	NUMBER	Resetlogs change#
RESETLOGS_TIME	DATE	Resetlogs timestamp
CHECKPOINT_CHANGE#	NUMBER	Datafile checkpoint change#
CHECKPOINT_TIME	DATE	Datafile checkpoint timestamp
CHECKPOINT_COUNT	NUMBER	Datafile checkpoint count
BYTES	NUMBER	Current datafile size in bytes
BLOCKS	NUMBER	Current datafile size in blocks
NAME	VARCHAR2( 512 )	Datafile name

---

## V\$DATAGUARD\_STATUS

V\$DATAGUARD\_STATUS displays and logs events that would typically be triggered by any message to the alert log or server process trace files.

## V\$DB\_CACHE\_ADVICE

---

Column	Datatype	Description
FACILITY	VARCHAR2 ( 24 )	Facility that encountered the event. Possible values are: <ul style="list-style-type: none"><li>■ CRASH RECOVERY</li><li>■ LTS</li><li>■ LAS</li><li>■ RMS</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. Possible values are: <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 )	Indicates whether the current entry is a callout event (YES) or not (NO) A YES value in this column indicates that this event may require the DBA to perform some action. Examine the ERROR_CODE and MESSAGE columns for more information. A NO value in this column generally corresponds to an INFORMATIONAL or WARNING event which would not require any action by the DBA.
TIMESTAMP	DATE	???
MESSAGE	VARCHAR2 ( 256 )	A text message describing the event

## 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" on page 1-37

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 non-standard 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)
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

## V\$DB\_OBJECT\_CACHE

This view 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( 28 )	Library cache namespace of the object: TABLE/PROCEDURE, BODY, TRIGGER, INDEX, CLUSTER, OBJECT
TYPE	VARCHAR2( 28 )	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.

## V\$DB\_PIPES

---

Column	Datatype	Description
EXECUTIONS	NUMBER	Not used  See: " <a href="#">V\$SQLAREA</a> " on page 3-163 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

## V\$DB\_PIPES

This view displays the pipes that are currently represented in the shared pool for this instance.

Column	Datatype	Description
OWNERID	NUMBER	The owner ID of the owner if this is a private pipe. NULL otherwise.
NAME	VARCHAR2 ( 1000 )	The name of the pipe (for example, SCOTT.PIPE)
TYPE	VARCHAR2 ( 7 )	PUBLIC or PRIVATE
PIPE_SIZE	NUMBER	The amount of memory the pipe uses

## V\$DBFILE

This view lists all datafiles 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

**See Also:** "[V\\$DATAFILE](#)" on page 3-39

## V\$DBLINK

This view 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

## V\$DELETED\_OBJECT

This view displays information about deleted archived logs, datafile 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, datafile 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(13)	Identifies the type of deleted object: ARCHIVED LOG, DATAFILE COPY, BACKUP PIECE, PROXY COPY, BACKUP PIECE AVAILABLE, BACKUP PIECE EXPIRED, PROXY COPY AVAILABLE, or PROXY COPY EXPIRED
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.

## V\$DISPATCHER

This view provides information on the dispatcher processes.

Column	Datatype	Description
NAME	VARCHAR2(4)	Name of the dispatcher process
NETWORK	VARCHAR2(128)	Network address of the dispatcher
PADDR	RAW(4   8)	Process address
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 this 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)
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

## V\$DISPATCHER\_RATE

This view provides 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	CHAR	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
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

## V\$DISPATCHER\_RATE

---

Column	Datatype	Description
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
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

Column	Datatype	Description
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
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

## V\$DISPATCHER\_RATE

---

Column	Datatype	Description
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.

## V\$ENABLEDPRIVS

This view displays which privileges are enabled. These privileges can be found in the table `SYS.SYSTEM_PRIVILEGES_MAP`.

Column	Datatype	Description
PRIV_NUMBER	NUMBER	Numeric identifier of enabled privileges

## V\$ENQUEUE\_LOCK

This view 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" on page 3-77](#)

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)

## V\$ENQUEUE\_STAT

---

Column	Datatype	Description
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

## V\$ENQUEUE\_STAT

This view displays statistics on the number of enqueue (lock) requests for each type of lock.

Column	Datatype	Description
INST_ID	NUMBER	Database instance number
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

## V\$EVENT\_NAME

This view contains information about wait events.

Column	Datatype	Description
EVENT#	NUMBER	The number of the wait event
NAME	VARCHAR2( 64 )	The name of the wait event
PARAMETER1	VARCHAR2( 64 )	The description of the first parameter for the wait event
PARAMETER2	VARCHAR2( 64 )	The description of the second parameter for the wait event
PARAMETER3	VARCHAR2( 64 )	The description of the third parameter for the wait event

## V\$EXECUTION

This view 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

## V\$FALSE\_PING

V\$FALSE\_PING is an Oracle9*i* Real Application Clusters view. This view displays buffers that may be getting false pings. That is, buffers pinged more than 10 times that are protected by the same lock as another buffer that pinged more than 10 times. Buffers identified as getting false pings can be remapped in "["GC\\_FILES\\_TO\\_LOCKS"](#)" to reduce lock collisions.

**See Also:** ["GC\\_FILES\\_TO\\_LOCKS"](#) on page 1-60 and *Oracle9*i* Real Application Clusters Concepts*

## V\$FAST\_START\_SERVERS

---

Column	Datatype	Description
FILE#	NUMBER	Datafile identifier number (to find the filename, query DBA_DATA_FILES or V\$DBFILES)
BLOCK#	NUMBER	Block number
STATUS	VARCHAR2(5)	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 from Exclusive mode due to contention with another instance. This column is obsolete but is retained for historical compatibility.
FORCED_READS	NUMBER	Number of times the block had to be reread from disk because another instance had forced it out of this instance's cache by requesting the PCM lock on the block in exclusive mode
FORCED_WRITES	NUMBER	Number of times DBWR had to write this block to disk because this instance had used the block and another instance had requested the lock on the block in a conflicting mode
NAME	VARCHAR2(30)	Name of the database object containing the block
PARTITION_NAME	VARCHAR2(30)	NULL for non-partitioned objects
KIND	VARCHAR2(15)	Type of database object
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
LOCK_ELEMENT_CLASS	NUMBER	Lock element class

## V\$FAST\_START\_SERVERS

V\$FAST\_START\_SERVERS provides information about all the recovery slaves performing parallel transaction recovery.

**See Also:** *Oracle9i User-Managed Backup and Recovery Guide*

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

## V\$FAST\_START\_TRANSACTIONS

V\$FAST\_START\_TRANSACTIONS contains information about the progress of the transactions that Oracle is recovering.

**See Also:** *Oracle9i User-Managed Backup and Recovery Guide*

Column	Datatype	Description
USN	NUMBER	The undo segment number of the transaction
SLT	NUMBER	The slot within the rollback segment
SEQ	NUMBER	The incarnation number of the slot
STATE	VARCHAR2(16)	The state of the transaction may be TO_BE_RECOVERED, RECOVERED, or RECOVERING
UNDOBLOCKSDONE	NUMBER	The number of undo blocks completed on this transaction
UNDOBLOCKSTOTAL	NUMBER	The total number of undo blocks that need recovery
PID	NUMBER	The ID of the current server it has been assigned to
CPUTIME	NUMBER	The time for which recovery has progressed, in seconds
PARENTUSN	NUMBER	The undo segment number of the parent transaction in PDML
PARENTSLT	NUMBER	The slot of the parent transaction in PDML
PARENTSEQ	NUMBER	The sequence number of the parent transaction in PDML

## V\$FILE\_CACHE\_TRANSFER

V\$FILE\_CACHE\_TRANSFER displays the number of blocks pinged per datafile. This information in turn can be used to determine access patterns to existing datafiles and deciding new mappings from datafile blocks to PCM locks.

Column	Datatype	Description
FILE_NUMBER	NUMBER	Number of the datafile
X_2_NULL	NUMBER	Number of lock conversions from Exclusive-to-NULL for all blocks in the file

## V\$FILESTAT

---

Column	Datatype	Description
X_2_NULL_FORCED_WRITE	NUMBER	Number of forced writes that occur for blocks of the specified file due to Exclusive-to-NULL conversions
X_2_NULL_FORCED_STALE	NUMBER	Number of times a block in the file was made STALE due to Exclusive-to-NULL conversions
X_2_S	NUMBER	Number of lock conversions from Exclusive-to-Shared for all blocks in the file
X_2_S_FORCED_WRITE	NUMBER	Number of forced writes that occur for blocks of the specified file due to Exclusive-to-Shared conversions
S_2_NULL	NUMBER	Number of lock conversions from Shared-to-NULL for all blocks in the file
S_2_NULL_FORCED_STALE	NUMBER	Number of times a block in the file was made STALE due to Shared-to-NULL conversions
RBR	NUMBER	Number of times the instance received a reuse block range cross instance call for this file
RBR_FORCED_WRITE	NUMBER	Number of blocks written due to reuse block range cross instance calls for this file
RBR_FORCED_STALE	NUMBER	Number of times a block in this file was made STALE due to reuse block range cross instance calls
NULL_2_X	NUMBER	Number of lock conversions from NULL-to-Exclusive for all blocks of the specified file
S_2_X	NUMBER	Number of lock conversions from Shared-to-Exclusive for all blocks of the specified file
NULL_2_S	NUMBER	Number of lock conversions from NULL-to-Shared for all blocks of the specified file

---

## V\$FILESTAT

This view contains 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
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

Column	Datatype	Description
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
SINGLEBLKRDRTIM	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

## V\$FIXED\_TABLE

This view 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( 30 )	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

## V\$FIXED\_VIEW\_DEFINITION

This view 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 ( 30 )	The name of the fixed view
VIEW_DEFINITION	VARCHAR2 ( 2000 )	The definition of the fixed view

## V\$GC\_ELEMENT

This is an Oracle9*i* Real Application Clusters view. There is one entry in V\$GC\_ELEMENT for each PCM lock that is used by the buffer cache. The name of the PCM lock that corresponds to a lock element is {'BL', indx, class}.

**See Also:** *Oracle9*i* Real Application Clusters Concepts*

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
INVALID	NUMBER	Nonzero if PCM lock is invalid (a lock may become invalid after a system failure)
FLAGS	NUMBER	Process level flags for the lock element

## V\$GC\_ELEMENTS\_WITH\_COLLISIONS

This is an Oracle9*i* Real Application Clusters view. Use this view to find the locks that protect multiple buffers, each of which has been either force-written or force-read at least 10 times. It is very likely that those buffers are experiencing false pings due to being mapped to the same lock.

**See Also:** *Oracle9*i* Real Application Clusters Concepts*

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.

## V\$GCSHVMMASTER\_INFO

V\$GCSHVMMASTER\_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

## 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
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

## V\$GES\_BLOCKING\_ENQUEUE

This Oracle9i Real Application Clusters view 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.

**See Also:** "V\$GES\_ENQUEUE" on page 3-64 for a description of all locks known to the lock manager

## V\$GES\_BLOCKING\_ENQUEUE

---

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
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

## V\$GES\_CONVERT\_LOCAL

V\$GES\_CONVERT\_LOCAL displays average convert time, count information, and timed statistics for remote GES enqueue operations.

Column	Datatype	Description
INST_ID	NUMBER	ID of the instance
CONVERT_TYPE	VARCHAR2(64)	Conversion types are listed in <a href="#">Table 3-3</a>
AVERAGE_CONVERT_TIME	NUMBER	Average conversion time for each type of lock operation (in 100th of a second)
CONVERT_COUNT	NUMBER	The number of operations

## V\$GES\_CONVERT\_REMOTE

V\$GES\_CONVERT\_REMOTE displays average convert time, count information, and timed statistics for remote GES enqueue operations.

Column	Datatype	Description
INST_ID	NUMBER	ID of the instance
CONVERT_TYPE	VARCHAR2(64)	Conversion types are listed in <a href="#">Table 3-3</a> <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)

## V\$GES\_ENQUEUE

---

Column	Datatype	Description
CONVERT_COUNT	NUMBER	Number of operations

## V\$GES\_ENQUEUE

This Oracle9*i* Real Application Clusters view describes all locks currently known to lock manager.

**See Also:** "V\$GES\_BLOCKING\_ENQUEUE" on page 3-61 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
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_	NUMBER	1 if PROCESS_OWNED open option is set, otherwise 0
OWNED		
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

Column	Datatype	Description
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

## V\$GES\_LATCH

V\$GES\_LATCH is obsolete.

**See Also:** "[V\\$Latch](#)" on page 3-71 for statistics about GES latch performance

## V\$GES\_RESOURCE

V\$GES\_RESOURCE is an Oracle9*i* 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
RDOMAIN_NAME	VARCHAR2( 25 )	Recovery domain name
RDOMAINP	RAW( 4   8 )	Recovery domain pointer
MASTER_NODE	NUMBER	Master 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

## V\$GES\_STATISTICS

V\$GES\_STATISTICS displays miscellaneous GES statistics.

Column	Datatype	Description
STATISTIC#	NUMBER	Statistic number
NAME	VARCHAR2(64)	Name of the statistic
VALUE	NUMBER	Value associated with the statistic

## V\$GLOBAL\_BLOCKED\_LOCKS

This view 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

## V\$GLOBAL\_TRANSACTION

This view 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 this 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(18)	State of the branch of the global transaction
FLAGS	NUMBER	The numerical representation of the state
COUPLING	VARCHAR2(15)	Whether the branches are loosely coupled or tightly coupled

## V\$HS\_AGENT

This view identifies the set of HS agents currently running on a given host, using one row per agent process.

Column	Datatype	Description
AGENT_ID	NUMBER	Net8 session identifier used for connections to agent (the identifier used in the LISTENER.ORA file). Maps to the AGENT_ID column of V\$HS_AGENT.
MACHINE	VARCHAR2(64)	Operating system machine name
PROCESS	VARCHAR2(9)	Operating system process identifier of agent
PROGRAM	VARCHAR2(48)	Program name of agent
OSUSER	VARCHAR2(30)	Operating system user
STARTTIME	DATE	The starting time
AGENT_TYPE	NUMBER	Type of agent
FDS_CLASS_ID	NUMBER	The ID of the Foreign Data Store class
FDS_INST_ID	NUMBER	The instance name of the Foreign Data Store

## V\$HS\_PARAMETER

This view describes the initialization parameters in use by the server and agent.

Column	Datatype	Description
HS_SESSION_ID	NUMBER	Unique HS session identifier. This column maps to the HS_SESSION_ID column of V\$HS_SESSION.
PARAMETER	VARCHAR2(64)	Name of the parameter
VALUE	VARCHAR2(64)	Value of the parameter
SOURCE	CHAR(1)	Whether the parameter was defined in the agent (A) or server (S)
ENV	CHAR(1)	Whether the parameter was also set as an environment variable in the agent or elsewhere (T   F)

## V\$HS\_SESSION

This view describes the current HS session.

Column	Datatype	Description
HS_SESSION_ID	NUMBER	Unique HS session identifier
AGENT_ID	NUMBER	Net8 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

## V\$HVMMASTER\_INFO

V\$HVMMASTER\_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

## V\$INDEXED\_FIXED\_COLUMN

This view 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(30)	The name of the dynamic performance table that is indexed
INDEX_NUMBER	NUMBER	Number that distinguishes to which index a column belongs
COLUMN_NAME	VARCHAR2(30)	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)

## V\$INSTANCE

This view displays the state of the current instance.

Column	Datatype	Description
INSTANCE_NUMBER	NUMBER	Instance number used for instance registration. Corresponds to INSTANCE_NUMBER initialization parameter.  See Also: <a href="#">"INSTANCE_NUMBER"</a>
INSTANCE_NAME	VARCHAR2(16)	Instance name
HOST_NAME	VARCHAR2(64)	Name of the host machine
VERSION	VARCHAR2(17)	RDBMS version
STARTUP_TIME	DATE	Time when instance was started up
STATUS	VARCHAR2(12)	Instance status:  <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 MIGRATE</li> </ul>
PARALLEL	VARCHAR2(3)	(YES/NO) Indicates whether the instance is mounted in cluster database mode
THREAD#	NUMBER	Redo thread opened by the instance
ARCHIVER	VARCHAR2(7)	(STOPPED   STARTED   FAILED) FAILED means that the archiver failed to archive a log last time, but will try again within 5 minutes
LOG_SWITCH_WAIT	VARCHAR2(11)	The ARCHIVE LOG/CLEAR LOG/CHECKPOINT event log switching is waiting for. Note that if ALTER SYSTEM SWITCH LOGFILE is hung, but there is room in the current online redo log, then value is NULL
LOGINS	VARCHAR2(10)	ALLOWED   RESTRICTED
SHUTDOWN_PENDING	VARCHAR2(3)	YES   NO
DATABASE_STATUS	VARCHAR2(17)	The status of the database
INSTANCE_ROLE	VARCHAR2(18)	Describes whether the instance is an active instance (PRIMARY_INSTANCE) or a inactive secondary instance (SECONDARY_INSTANCE), or UNKNOWN if the instance has been started but not mounted

Column	Datatype	Description
ACTIVE_STATE	VARCHAR2(9)	(NORMAL QUIESCING QUIESCED). NORMAL indicates the database is in a normal state. QUIESCING indicates that the ALTER SYSTEM QUIESCE RESTRICTED statement 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. QUIESCED indicates that the ALTER SYSTEM QUIESCE RESTRICTED statement 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. Note that a single ALTER SYSTEM QUIESCE RESTRICTED statement quiesces all instances in an Oracle9i Real Application Clusters 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.

## V\$INSTANCE\_RECOVERY

This view monitors the mechanisms available to users to limit recovery I/O. Those mechanisms are:

- Set the initialization parameter `LOG_CHECKPOINT_TIMEOUT`
- Set the initialization parameter `LOG_CHECKPOINT_INTERVAL`
- Set the initialization parameter `FAST_START_MTTR_TARGET`
- Set the size of the smallest redo log

### See Also:

- *Oracle9i Database Performance Tuning Guide and Reference* for more information on limiting recovery I/O, and how MTTR recovery times are determined by Oracle
- [LOG\\_CHECKPOINT\\_INTERVAL](#) on page 1-86
- [FAST\\_START\\_MTTR\\_TARGET](#) on page 1-58

Column	Datatype	Description
RECOVERY_ESTIMATED_IOS	NUMBER	Contains the number of dirty buffers in the buffer cache. In the Standard Edition, this column is always NULL.
ACTUAL_REDO_BLKS	NUMBER	The current actual number of redo blocks required for recovery
TARGET_REDO_BLKS	NUMBER	The 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 that parameter 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 that parameter has been set.
FAST_START_IO_TARGET_REDO_BLKS	NUMBER	This column is obsolete and maintained only for compatibility reasons. 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.  If FAST_START_MTTR_TARGET is not specified, the value of this field is the current estimated MTTR.
ESTIMATED_MTTR	NUMBER	The 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). 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

## V\$LATCH

V\$LATCH shows 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
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 requestor 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	For some latches, the session releasing the latch posts a session waiting for the latch. This counts the number of times a waiting session was awakened.
WAITS_HOLDING_LATCH	NUMBER	Number of waits for the latch while the waiter was holding a different latch
SPIN_GETS	NUMBER	Willing-to-wait latch requests which missed the first try but succeeded while spinning
SLEEP[1   2   3]	NUMBER	Waits that slept 1 time through 3 times, respectively
SLEEP4	NUMBER	Waits that slept 4 or more times
SLEEP[5   6   7   8   9   10   11]	NUMBER	These columns are present for compatibility with previous releases of Oracle. No data is accumulated for these columns.
WAIT_TIME	NUMBER	Elapsed time spent waiting for the latch (in microseconds)

**See Also:**

- ["V\\$LATCH\\_CHILDREN" on page 3-72](#)
- ["V\\$LATCH\\_PARENT" on page 3-74](#)

**V\$LATCH\_CHILDREN**

V\$LATCH\_CHILDREN contains 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
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 requestor 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	For some latches, the session releasing the latch posts a session waiting for the latch. This counts the number of times a waiting session was awakened.
WAITS_HOLDING_LATCH	NUMBER	Number of waits for the latch while the waiter was holding a different latch
SPIN_GETS	NUMBER	Willing-to-wait latch requests which missed the first try but succeeded while spinning
SLEEP[1   2   3]	NUMBER	Waits that slept 1 time through 3 times, respectively
SLEEP4	NUMBER	Waits that slept 4 or more times
SLEEP[5   6   7   8   9   10   11]	NUMBER	These columns are present for compatibility with previous releases of Oracle. No data is accumulated for these columns.
WAIT_TIME	NUMBER	Elapsed time spent waiting for the latch (in microseconds)

**See Also:** "V\$LATCH" on page 3-71

## V\$LATCH\_MISSES

This view contains statistics about missed attempts to acquire a latch.

Column	Datatype	Description
PARENT_NAME	VARCHAR2( 50 )	Latch name of a parent latch
WHERE	VARCHAR2( 64 )	This column is obsolete and maintained only for compatibility reasons. The value of this column is always equal to the value in LOCATION.

## V\$LATCH\_PARENT

---

Column	Datatype	Description
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	
LONGHOLD_COUNT	NUMBER	
LOCATION	VARCHAR2(64)	Location that attempted to acquire the latch

## V\$LATCH\_PARENT

V\$LATCH\_PARENT contains statistics about parent latches. The columns of V\$LATCH\_PARENT are identical to those in V\$LATCH.

**See Also:** "V\$Latch" on page 3-71

## V\$LATCHHOLDER

This view contains 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

## V\$LATCHNAME

This view contains 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

**See Also:** "V\$Latch" on page 3-71

## 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 be comprised 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 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)

## V\$LIBRARYCACHE

This view contains statistics about library cache performance and activity.

Column	Datatype	Description
NAMESPACE	VARCHAR2(15)	The library cache namespace
GETS	NUMBER	The number of times a lock was requested for objects of this namespace
GETHITS	NUMBER	The number of times an object's handle was found in memory
GETHITRATIO	NUMBER	The ratio of GETHITS to GETS
PINS	NUMBER	The number of times a PIN was requested for objects of this namespace
PINHITS	NUMBER	The number of times all of the metadata pieces of the library object were found in memory
PINHITRATIO	NUMBER	The 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	The total number of times objects in this namespace were marked invalid because a dependent object was modified
DLM_LOCK_REQUESTS	NUMBER	The number of GET requests lock instance locks
DLM_PIN_REQUESTS	NUMBER	The number of PIN requests lock instance locks
DLM_PIN_RELEASES	NUMBER	The number of release requests PIN instance locks

## V\$LICENSE

---

Column	Datatype	Description
DLM_INVALIDATION_REQUESTS	NUMBER	The number of GET requests for invalidation instance locks
DLM_INVALIDATIONS	NUMBER	The number of invalidation pings received from other instances

## V\$LICENSE

This view contains 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

## V\$LOADSTAT

This view 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
TABNAME	VARCHAR2(31)	Table name
INDEXNAME	VARCHAR2(31)	Index name
SUBNAME	VARCHAR2(31)	Index sub name
MESSAGE	VARCHAR2(4000)	Error message

## V\$LOADPSTAT

This view 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

Column	Datatype	Description
PARTNAME	VARCHAR2( 31 )	Partition name
LOADED	NUMBER	Number of rows loaded

## V\$LOCK

This view lists the locks currently held by the Oracle database server 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
TYPE	VARCHAR2( 2 )	Type of user or system lock  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: TM - DML enqueue TX - Transaction enqueue UL - User supplied  The locks on the system types are held for extremely short periods of time. The system type locks are listed in <a href="#">Table 3-1</a> .
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>

Column	Datatype	Description
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

**Table 3–1 Values for the TYPE Column: System Types**

System Type	Description	System Type	Description
BL	Buffer hash table instance	NA..NZ	Library cache pin instance (A..Z = namespace)
CF	Control file schema global enqueue	PF	Password File
CI	Cross-instance function invocation instance	PI, PS	Parallel operation
CU	Cursor bind	PR	Process startup
DF	Data file instance	QA..QZ	Row cache instance (A..Z = cache)
DL	Direct loader parallel index create	RT	Redo thread global enqueue
DM	Mount/startup db primary/secondary instance	SC	System commit number instance
DR	Distributed recovery process	SM	SMON
DX	Distributed transaction entry	SN	Sequence number instance
FS	File set	SQ	Sequence number enqueue
HW	Space management operations on a specific segment	SS	Sort segment
IN	Instance number	ST	Space transaction enqueue
IR	Instance recovery serialization global enqueue	SV	Sequence number value
IS	Instance state	TA	Generic enqueue
IV	Library cache invalidation instance	TS	Temporary segment enqueue (ID2=0)
JQ	Job queue	TS	New block allocation enqueue (ID2=1)
KK	Thread kick	TT	Temporary table enqueue

**Table 3–1 (Cont.) Values for the TYPE Column: System Types**

System Type	Description	System Type	Description
LA .. LP	Library cache lock instance lock (A..P = namespace)	UN	User name
MM	Mount definition global enqueue	US	Undo segment DDL
MR	Media recovery	WL	Being-written redo log instance

## V\$LOCK\_ACTIVITY

This is an Oracle9i Real Application Clusters view. V\$LOCK\_ACTIVITY displays the DLM lock operation activity of the current instance. Each row corresponds to a type of lock operation.

**See Also:** *Oracle9i Real Application Clusters Concepts*

Column	Datatype	Description
FROM_VAL	VARCHAR2( 4 )	PCM lock initial state: NULL; S; X; SSX
TO_VAL	VARCHAR2( 4 )	PCM lock initial state: NULL; S; X; SSX
ACTION_VAL	VARCHAR2( 51 )	Description of lock conversions: <ul style="list-style-type: none"> <li>▪ Lock buffers for read</li> <li>▪ Lock buffers for write</li> <li>▪ Make buffers CR (no write)</li> <li>▪ Upgrade read lock to write</li> <li>▪ Make buffers CR (write dirty buffers)</li> <li>▪ Downgrade write lock to read (write dirty buffers)</li> <li>▪ Write transaction table/undo blocks</li> <li>▪ Transaction table/undo blocks (write dirty buffers)</li> <li>▪ Make transaction table/undo blocks available share</li> <li>▪ Rearm transaction table write mechanism</li> </ul>
COUNTER	NUMBER	Number of times the lock operation executed

## V\$LOCKED\_OBJECT

This view lists all locks acquired by every transaction on the system.

## V\$LOG

---

Column	Datatype	Description
XIDUSN	NUMBER	Undo segment number
XIDSLOT	NUMBER	Slot number
XIDSQN	NUMBER	Sequence number
OBJECT_ID	NUMBER	Object ID being locked
SESSION_ID	NUMBER	Session ID
ORACLE_USERNAME	VARCHAR2( 30 )	Oracle user name
OS_USER_NAME	VARCHAR2( 15 )	OS user name
PROCESS	VARCHAR2( 9 )	OS process ID
LOCKED_MODE	NUMBER	Lock mode

## V\$LOG

This view contains log file information from the control files.

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)
MEMBERS	NUMBER	Number of members in the log group
ARCHIVED	VARCHAR2( 3 )	Archive status (YES   NO)

Column	Datatype	Description
STATUS	VARCHAR2(16)	<p>Log status:</p> <ul style="list-style-type: none"> <li>▪ UNUSED - Online redo log has never been written to. This is the state of a redo log that was just added, or just after a <code>RESETLOGS</code>, when it is not the current redo log.</li> <li>▪ CURRENT - Current redo log. This implies that the redo log is active. The redo log could be open or closed.</li> <li>▪ ACTIVE - Log is active but is not the current log. It is needed for crash recovery. It may be in use for block recovery. It might or might not be archived.</li> <li>▪ CLEARING - Log is being re-created as an empty log after an <code>ALTER DATABASE CLEAR LOGFILE</code> statement. After the log is cleared, the status changes to UNUSED.</li> <li>▪ CLEARING_CURRENT - 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>▪ INACTIVE - Log is no longer needed for instance recovery. It may be in use for media recovery. It might or might not be archived.</li> </ul>
FIRST_CHANGE#	NUMBER	Lowest SCN in the log
FIRST_TIME	DATE	Time of first SCN in the log

## V\$LOG\_HISTORY

This view contains log history information from the control file.

Column	Datatype	Description
THREAD#	NUMBER	Thread number of the archived log
SEQUENCE#	NUMBER	Sequence number of the archived log
FIRST_TIME	DATE	Time of first entry (lowest SCN) in the log. This column was previously named TIME.
FIRST_CHANGE#	NUMBER	Lowest SCN in the log. This column was previously named LOW_CHANGE#.
NEXT_CHANGE#	NUMBER	Highest SCN in the log. This column was previously named HIGH_CHANGE#.
RECID	NUMBER	Control file record ID
STAMP	NUMBER	Control file record stamp

## V\$LOGFILE

This view contains information about redo log files.

## V\$LOGHIST

---

Column	Datatype	Description
GROUP#	NUMBER	Redo log group identifier number
STATUS	VARCHAR2( 7 )	Status of the log member: <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>■ blank - File is in use</li></ul>
TYPE	VARCHAR2( 7 )	
MEMBER	VARCHAR2( 513 )	Redo log member name

## V\$LOGHIST

This view 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" on page 3-81

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

## V\$LOGMNR\_CONTENTS

This view contains log history information.

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.

Column	Datatype	Description
SCN	NUMBER	System change number (SCN) when the redo record was generated
CSCN	NUMBER	
TIMESTAMP	DATE	Timestamp
COMMIT_TIMESTAMP	DATE	
THREAD#	NUMBER	Number of the thread which generated the redo record
LOG_ID	NUMBER	Number of the log file which contains the redo record. This number is generated by LogMiner to uniquely identify a log, and corresponds to the LOG_ID column in V\$LOGMNR_FILES.
XIDUSN	NUMBER	Transaction ID undo segment number of the transaction which generated the change
XIDS LT	NUMBER	Transaction ID slot number of the transaction which generated the change
XIDSQN	NUMBER	Transaction ID sequence number of the transaction which generated the change
RBASQN	NUMBER	RBA sequence number of the log that contained this redo record
RBABLK	NUMBER	RBA block number within the log file
RBABYTE	NUMBER	RBA byte offset within the block
UBAFIL	NUMBER	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_DOBJ#	NUMBER	Data block data object number identifying the object within the tablespace
SEG_OWNER	VARCHAR2( 32 )	Owner of the segment
SEG_NAME	VARCHAR2( 256 )	Name of the segment
SEG_TYPE	NUMBER	Segment type
SEG_TYPE_NAME	VARCHAR2( 32 )	Segment type name
TABLE_SPACE	VARCHAR2( 32 )	Tablespace name
ROW_ID	VARCHAR2( 19 )	Row ID

## V\$LOGMNR\_DICTIONARY

---

Column	Datatype	Description
SESSION#	NUMBER	Session number of the session which generated the redo. A null value is reported if the session number is not available from the redo log.
SERIAL#	NUMBER	Serial number of the session which generated the redo. The session number and serial # can be used to uniquely identify the Oracle session. A null value is reported if the session number is not available from the redo log.
USERNAME	VARCHAR2(30)	User name
SESSION_INFO	VARCHAR2(4000)	Session information
ROLLBACK	NUMBER	Rollback request
OPERATION	VARCHAR2(30)	Operation
OPERATION_CODE	NUMBER	Operation code
SQL_REDO	VARCHAR2(4000)	SQL redo
SQL_UNDO	VARCHAR2(4000)	SQL undo
RS_ID	VARCHAR2(32)	Record set ID
SSN	NUMBER	SQL sequence number
CSF	NUMBER	Continuation SQL flag
INFO	VARCHAR2(32)	Informational message
STATUS	NUMBER	Status
REDO_VALUE	RAW(4)	
UNDO_VALUE	RAW(4)	
SQL_COLUMN_TYPE	VARCHAR2(32)	Type of data in the SQL_REDO and SQL_UNDO columns
SQL_COLUMN_NAME	VARCHAR2(32)	Name of the LOB or LONG columns
REDO_LENGTH	NUMBER	Length of the data value in the SQL_REDO column
REDO_OFFSET	NUMBER	Length of the data value in the SQL_REDO column
UNDO_LENGTH	NUMBER	Length of the data value in the SQL_UNDO column
UNDO_OFFSET	NUMBER	If SQL_COLUMN_TYPE is LOB_COLUMN or LONG_COLUMN, then this column contains the byte offset of the SQL_UNDO column data in the column indicated by SQL_COLUMN_NAME. Zero by default.

---

## V\$LOGMNR\_DICTIONARY

This view contains log history information.

Column	Datatype	Description
TIMESTAMP	DATE	Date the dictionary was created

Column	Datatype	Description
DB_ID	NUMBER	Database ID
DB_NAME	VARCHAR2( 8 )	Name of the database
FILENAME	VARCHAR2( 513 )	Dictionary filename
DICTIONARY_SCN	NUMBER	System change number when the dictionary was created
RESET_SCN	NUMBER	Reset log SCN when the dictionary was created
RESET_SCN_TIME	DATE	Time when the reset log SCN was obtained to create the dictionary
ENABLED_THREAD_MAP	RAW( 16 )	Bit map of currently enabled threads when the dictionary was created
INFO	VARCHAR2( 32 )	Informational/Status message 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.

## V\$LOGMNR\_LOGS

This view contains log information.

Column	Datatype	Description
LOG_ID	NUMBER	Log file identifier
FILENAME	VARCHAR2( 513 )	Name of the log file
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	Reset log SCN when the log was created
RESET_SCN_TIME	DATE	Time when the reset log SCN was obtained to create the log
THREAD_ID	NUMBER	Thread number
THREAD_SQN	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.
INFO	VARCHAR2( 32 )	Informational message. A value of MISSING_LOGFILE will be assigned to a row entry where a needed logfile is missing from the list of log files.

## V\$LOGMNR\_PARAMETERS

---

Column	Datatype	Description
STATUS	NUMBER	Indicates the status of a logfile. A NULL value indicates a valid logfile; a non-NULL value indicates further information is contained in the INFO column as a text string. All logfiles successfully added to the file list will have a status value of NULL.

## V\$LOGMNR\_PARAMETERS

This view contains log information.

Column	Datatype	Description
START_DATE	DATE	The date to start search at
END_DATE	DATE	The date to end search at
START_SCN	NUMBER	The system change number to start search
END_SCN	NUMBER	The system change number to end search
INFO	VARCHAR2 ( 32 )	An informational message
STATUS	NUMBER	The status. A NULL value indicates parameters are valid. A non-NULL value indicates further information is contained in the INFO column as a text string.

## V\$LOGSTDBY

V\$LOGSTDBY displays dynamic information about what is happening to the log apply services. This view is very 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.

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 slave ID
PID	VARCHAR2 ( 12 )	Process ID
TYPE	VARCHAR2 ( 30 )	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 SCN seen by the process. This column is used to confirm the progress of the individual process.

## V\$LOGSTDBY\_STATS

V\$LOGSTDBY\_STATS displays LogMiner statistics, current state, and status information for the logical standby database while log apply services are running. If log apply services are not running, then the values for the statistics are cleared.

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>▪ number of preparers</li> <li>▪ number of appliers</li> <li>▪ maximum SGA for LCR cache</li> <li>▪ parallel servers in use</li> <li>▪ transaction consistency</li> <li>▪ coordinator state</li> <li>▪ transactions scheduled</li> <li>▪ transactions applied</li> <li>▪ preparer memory alloc failures</li> <li>▪ builder memory alloc failures</li> <li>▪ attempts to handle low memory</li> <li>▪ successful low memory recovery</li> <li>▪ memory spills avoided</li> <li>▪ rollback attempts</li> <li>▪ successful rollbacks</li> <li>▪ memory spill attempts</li> <li>▪ successful memory spills</li> <li>▪ preparer ignored memory LWM</li> <li>▪ builder ignored memory LWM</li> <li>▪ mining resumed</li> </ul>
VALUE	VARCHAR2(64)	Value of the statistic or state information

## V\$MANAGED\_STANDBY

V\$MANAGED\_STANDBY displays current and status information for some Oracle database server processes related to the Data Guard environment for physical standby database only.

Column	Datatype	Description
PROCESS	VARCHAR2(7)	Type of process whose information is being reported. Possible values are: <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></ul>
PID	NUMBER	Operating system process identifier of process
STATUS	VARCHAR2(12)	Current process status. Possible values are: <ul style="list-style-type: none"><li>■ UNUSED - no active process</li><li>■ ALLOCATED - process is active but not currently connected to a primary database client</li><li>■ CONNECTED - network connection established to a primary database client</li><li>■ ATTACHED - process is actively attached and communicating to a primary database client</li><li>■ IDLE - process is not performing any activities</li><li>■ ERROR - process has failed</li><li>■ OPENING - process is opening the archived redo log</li><li>■ CLOSING - process has completed archival and is closing the archived redo log</li><li>■ WRITING - process is actively writing archived redo log data</li><li>■ RECEIVING - process is receiving network communication</li><li>■ ANNOUNCING - process is announcing the existence of a potential dependent archived redo log</li><li>■ REGISTERING - process is registering the existence of a completed dependent archived redo log</li><li>■ WAIT_FOR_LOG - process is waiting for the archived redo log to be completed</li><li>■ WAIT_FOR_GAP - process is waiting for the archive gap to be resolved</li><li>■ APPLYING_LOG - process is actively applying the archived redo log to the standby database</li></ul>
CLIENT_PROCESS	VARCHAR2(8)	Identifies the corresponding primary database process. Possible values are: <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

Column	Datatype	Description
THREAD#	NUMBER	Archived redo log thread number
SEQUENCE#	NUMBER	Archived redo log sequence number
BLOCK#	NUMBER	Last processed archived redo log block number
BLOCKS	NUMBER	Size of the archived redo log in 512-byte blocks
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

## V\$MAP\_COMP\_LIST

V\$MAP\_COMP\_LIST contains supplementary information for all element mapping structures.

Column	Datatype	Description
ELEM_IDX	NUMBER	Index corresponding to 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
COMP5_NAME	VARCHAR2( 256 )	Name of the fifth component
COMP5_VAL	VARCHAR2( 256 )	Value of the fifth component

## V\$MAP\_ELEMENT

V\$MAP\_ELEMENT contains a list of all element mapping structures in the SGA of the instance.

## V\$MAP\_EXT\_ELEMENT

---

Column	Datatype	Description
ELEM_NAME	VARCHAR2 ( 256 )	Element name
ELEM_IDX	NUMBER	Index corresponding to element
ELEM_CFGID	VARCHAR2 ( 256 )	Configuration ID: N/A if configuration ID is not supported
ELEM_TYPE	VARCHAR2 ( 12 )	Element type (MIRROR, STRIPE, RAID5, CONCATENATED, PARTITION, DISK, or NONE)
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

## V\$MAP\_EXT\_ELEMENT

V\$MAP\_EXT\_ELEMENT contains supplementary information for all element mapping structures.

Column	Datatype	Description
ELEM_IDX	NUMBER	Index corresponding to 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

## V\$MAP\_FILE

V\$MAP\_FILE contains a list of all file mapping structures in the shared memory of the instance.

Column	Datatype	Description
FILE_MAP_IDX	NUMBER	Index corresponding to file
FILE_CFGID	VARCHAR2(256)	Configuration ID: N/A if configuration ID is not supported
FILE_STATUS	VARCHAR2(7)	Status of the mapping information: <ul style="list-style-type: none"> <li>■ VALID - file mapping information is latest</li> <li>■ INVALID - mapping needs to be refreshed</li> </ul>
FILE_NAME	VARCHAR2(256)	Absolute file name
FILE_TYPE	VARCHAR2(11)	File type (DATAFILE, SPFILE, TEMPFILE, CONTROLFILE, LOGFILE, or ARCHIVEFILE)
FILE_STRUCTURE	VARCHAR2(9)	File structure (FILE, RAWVOLUME, RAWDEVICE, or NONE)
FILE_SIZE	NUMBER	File size in HKB (Half KB)
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

## V\$MAP\_FILE\_EXTENT

V\$MAP\_FILE\_EXTENT contains 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 (DATA, PARITY, or NONE)
ELEM_IDX	NUMBER	Index in V\$MAP_ELEMENT corresponding to the element where the file extent resides

## 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
ELEM_IDX	NUMBER	Index corresponding to 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 ( 15 )	Datatype (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.
ID	NUMBER	Unique identifier
PARENT_ID	NUMBER	Parent identifier

## V\$MAP\_LIBRARY

V\$MAP\_LIBRARY contains a list of all mapping libraries dynamically loaded by the external process.

Column	Datatype	Description
LIB_IDX	NUMBER	Index corresponding to 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

Column	Datatype	Description
PATH_NAME	VARCHAR2(1024)	Path name
MAP_FILE	VARCHAR2(1)	Indicates whether this 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>
MAP_ELEM	VARCHAR2(1)	Indicates whether this 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 this library needs to be explicitly synced 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.

## V\$MAP\_SUBELEMENT

V\$MAP\_SUBELEMENT contains 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 child element
PARENT_IDX	NUMBER	Index in V\$MAP_ELEMENT corresponding to parent element
SUB_NUM	NUMBER	Subelement number
SUB_SIZE	NUMBER	Subelement size in HKB
ELEM_OFFSET	NUMBER	Offset in HKB on child element
SUB_FLAGS	NUMBER	Subelement flags (currently unused)

## V\$MTTR\_TARGET\_ADVICE

V\$MTTR\_TARGET\_ADVICE contains 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
<code>MTTR_TARGET_FOR_ESTIMATE</code>	NUMBER	MTTR setting being simulated. Equal to the current MTTR setting if this is the first row of the view.
<code>ADVICE_STATUS</code>	VARCHAR2(5)	Current status of MTTR simulation (ON, READY, or OFF)
<code>DIRTY_LIMIT</code>	NUMBER	Dirty buffer limit derived from the MTTR being simulated
<code>ESTD_CACHE_WRITES</code>	NUMBER	Estimated number of cache physical writes under this MTTR
<code>ESTD_CACHE_WRITE_FACTOR</code>	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.
<code>ESTD_TOTAL_WRITES</code>	NUMBER	Estimated total number of physical writes under this MTTR
<code>ESTD_TOTAL_WRITE_FACTOR</code>	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.
<code>ESTD_TOTAL_IOS</code>	NUMBER	Estimated total number of I/Os under this MTTR
<code>ESTD_TOTAL_IO_FACTOR</code>	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.

## V\$MYSTAT

This view contains statistics on the current session.

Column	Datatype	Description
<code>SID</code>	NUMBER	ID of the current session
<code>STATISTIC#</code>	NUMBER	Number of the statistic
<code>VALUE</code>	NUMBER	Value of the statistic

## V\$NLS\_PARAMETERS

This view contains current values of NLS parameters.

Column	Datatype	Description
PARAMETER	VARCHAR2( 64 )	Parameter name: NLS_CALENDAR, NLS_CHARACTERSET, NLS_CURRENCY, NLS_DATE_FORMAT, NLS_DATE_LANGUAGE, NLS_ISO_CURRENCY, NLS_LANGUAGE, NLS_NUMERIC_CHARACTERS, NLS_SORT, NLS_TERRITORY, NLS_UNION_CURRENCY, NLS_NCHAR_CHARACTERSET, NLS_COMP
VALUE	VARCHAR2( 64 )	NLS parameter value

## V\$NLS\_VALID\_VALUES

This view 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

## V\$OBJECT\_DEPENDENCY

This view can be used to determine what objects are 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, it can be used to determine which tables are used in the SQL statement that a user is currently executing.

**See Also:** "V\$SESSION" on page 3-128 and "V\$SQL" on page 3-146

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	The hash value of a procedure, package, or cursor that is currently loaded in the shared pool
TO_OWNER	VARCHAR2( 64 )	The owner of the object that is depended on
TO_NAME	VARCHAR2( 1000 )	The 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.

## V\$OBJECT\_USAGE

---

Column	Datatype	Description
TO_HASH	NUMBER	The 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	The type of the object that is depended on

## V\$OBJECT\_USAGE

You can use this view to monitor index usage. The view displays statistics about index usage gathered from the database. All indexes that have been used at least once can be monitored and displayed in this view.

Column	Datatype	Description
INDEX_NAME	VARCHAR2(30)	Index name in sys.obj\$.name
TABLE_NAME	VARCHAR2(30)	Table name in sys.obj\$.name
MONITORING	VARCHAR2(3)	YES   NO
USED	VARCHAR2(3)	YES   NO
START_MONITORING	VARCHAR2(19)	Start monitoring time in sys.object_stats.start_monitoring
END_MONITORING	VARCHAR2(19)	End monitoring time in sys.object_stats.end_monitoring

## 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)

## V\$OFFLINE\_RANGE

This view 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" on page 3-39](#)

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 onlined
ONLINE_TIME	DATE	Time of offline SCN

## V\$OPEN\_CURSOR

This view lists cursors that each user session currently has opened and parsed.

Column	Datatype	Description
SADDR	RAW( 4   8 )	Session address
SID	NUMBER	Session identifier
USER_NAME	VARCHAR2( 30 )	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
HASH_VALUE	NUMBER	Used with ADDRESS to uniquely identify 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

## V\$OPTION

This view lists options that are installed with the Oracle server.

Column	Datatype	Description
PARAMETER	VARCHAR2( 64 )	The name of the option
VALUE	VARCHAR2( 64 )	TRUE if the option is installed

## V\$PARALLEL\_DEGREE\_LIMIT\_MTH

This view displays all available parallel degree limit resource allocation methods.

Column	Datatype	Description
NAME	VARCHAR2(40)	The name of the parallel degree limit resource allocation method

## 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(64)	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(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 (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>

Column	Datatype	Description
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)
DESCRIPTION	VARCHAR2(64)	Description of the parameter
UPDATE_COMMENT	VARCHAR2(255)	Comments associated with the most recent update

## 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(64)	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(512)	Parameter value for the session (if modified within the session); otherwise, the instance-wide parameter value

## V\$PGA\_TARGET\_ADVICE

---

Column	Datatype	Description
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>
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)
DESCRIPTION	VARCHAR2(64)	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

## 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)
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_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 BYTES_PROCESSED / (BYTES_PROCESSED + 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.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for information on tuning the PGA\_AGGREGATE\_TARGET initialization parameter using the PGA advice views

## 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 PGA\_AGGREGATE\_TARGET parameter is changed. This 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 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 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)
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
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 PGA_AGGREGATE_TARGET 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 PGA_AGGREGATE_TARGET 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 PGA_AGGREGATE_TARGET 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

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for information on tuning the PGA\_AGGREGATE\_TARGET initialization parameter using the PGA advice views

## V\$PGASTAT

V\$PGASTAT provides 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 )	<p>Name of the statistic:</p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ aggregate PGA auto target - Amount of PGA memory Oracle 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 Oracle. 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.</li> <li>▪ global memory bound - Maximum size of a work area executed in automatic mode. This value is continuously adjusted by Oracle 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. If the value of the global bound decreases below 1 MB, then the value of <code>PGA_AGGREGATE_TARGET</code> should be increased.</li> <li>▪ total PGA allocated - Current amount of PGA memory allocated by the instance. Oracle 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.</li> <li>▪ total PGA used - 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).</li> <li>▪ 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).</li> <li>▪ 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).</li> <li>▪ over allocation count - 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, Oracle cannot honor the value of <code>PGA_AGGREGATE_TARGET</code> and extra PGA memory needs to be allocated. 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.</li> <li>▪ bytes processed - Number of bytes processed by memory intensive SQL operations.</li> <li>▪ 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</li> </ul>

## V\$PQ\_SESSTAT

---

Column	Datatype	Description
VALUE	NUMBER	Statistic value
UNITS	VARCHAR2(12)	Unit for the value (microseconds, bytes, or percent)

## V\$PQ\_SESSTAT

This view 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 slave processes used, and other information for the session and system.

Column	Datatype	Description
STATISTIC	VARCHAR2(30)	Name of the statistic: <ul style="list-style-type: none"><li>■ Queries Parallelized - Number of queries run in parallel</li><li>■ DDL Parallelized - Number of DDL operations run in parallel</li><li>■ DML Parallelized - Number of DML operations run in parallel</li><li>■ DFO Trees - Number of executed DFO trees</li><li>■ Server Threads - Total number of cluster databases used</li><li>■ Allocation Height - Requested number of servers per instance</li><li>■ Allocation Width - Requested number of instances</li><li>■ Local Msgs Sent - Number of local (intra-instance) messages sent</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>■ Distr Msgs Recv'd - Number of remote (inter-instance) messages received</li></ul>
LAST_QUERY	NUMBER	Value of the statistic for the last operation
SESSION_TOTAL	NUMBER	Value of the statistic for the entire session to this point in time

## V\$PQ\_SLAVE

This view lists statistics for each of the active parallel execution servers on an instance.

Column	Datatype	Description
SLAVE_NAME	VARCHAR2( 4 )	Name of the parallel execution server
STATUS	VARCHAR2( 4 )	The current status of the parallel execution server (BUSY   IDLE)
SESSIONS	NUMBER	The number of sessions that have used this parallel execution server
IDLE_TIME_CUR	NUMBER	The amount of time spent idle while processing statements in the current session
BUSY_TIME_CUR	NUMBER	The amount of time spent busy while processing statements in the current session
CPU_SECS_CUR	NUMBER	The amount of CPU time spent on the current session
MSGs_SENT_CUR	NUMBER	The number of messages sent while processing statements for the current session
MSGs_RCVD_CUR	NUMBER	The number of messages received while processing statements for the current session
IDLE_TIME_TOTAL	NUMBER	The total amount of time this query server has been idle
BUSY_TIME_TOTAL	NUMBER	The total amount of time this query server has been active
CPU_SECS_TOTAL	NUMBER	The total amount of CPU time this query server has used to process statements
MSGs_SENT_TOTAL	NUMBER	The total number of messages this query server has sent
MSGs_RCVD_TOTAL	NUMBER	The total number of messages this query server has received

## V\$PQ\_SYSSTAT

This view 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 slave processes used, and other information for the system.

## V\$PQ\_TQSTAT

---

Column	Datatype	Description
STATISTIC	VARCHAR2(30)	<p>Name of the statistic:</p> <ul style="list-style-type: none"><li>■ Servers Busy - Number of currently busy servers on this instance</li><li>■ Servers Idle - Number of currently idle servers on this instance</li><li>■ Servers Highwater - Number of active servers on this instance that have partaken in <math>\geq 1</math> operation so far</li><li>■ Server Sessions - Total number of operations executed in all servers on this instance</li><li>■ Servers Started - Total number of servers started on this instance</li><li>■ Servers Shutdown - Total number of servers shutdown on this instance</li><li>■ Servers Cleaned Up - Total number of servers on this instance cleaned up due to process death</li><li>■ Queries Initiated - Total number of parallel queries initiated on this instance</li><li>■ DDL Initiated - Total number of parallel DDL operations that were initiated</li><li>■ DML Initiated - Total number of parallel DML operations that were initiated</li><li>■ DFO Trees - Total number of DFO trees executed on this instance</li><li>■ Local Msgs Sent - Total number of local (intra-instance) messages sent 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>■ Distr Msgs Recv'd - Total number of remote (inter-instance) messages received on this instance</li></ul>
VALUE	NUMBER	The value of the statistic

## V\$PQ\_TQSTAT

This view 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 parallel execution server at each stage of the execution tree. This view can help determine skew problems in a query's execution.

Column	Datatype	Description
DFO_NUMBER	NUMBER	The data flow operator (DFO) tree number to differentiate queries
TQ_ID	NUMBER	The 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(10)	Process ID
INSTANCE	NUMBER	Instance ID

## V\$PROCESS

This view contains information about the currently active processes. While the LATCHWAIT column indicates what latch a process is waiting for, the LATCHSPIN column indicates what latch a process is spinning on. On multi-processor machines, Oracle processes will spin on a latch before waiting on it.

Column	Datatype	Description
ADDR	RAW(4   8)	Address of process state object
PID	NUMBER	Oracle process identifier
SPID	VARCHAR2(12)	Operating system process identifier
USERNAME	VARCHAR2(15)	Operating system process username. Any two-task user coming across the network has "-T" appended to the username.
SERIAL#	NUMBER	Process serial number
TERMINAL	VARCHAR2(30)	Operating system terminal identifier
PROGRAM	VARCHAR2(48)	Program in progress
TRACEID	VARCHAR2(255)	Trace file identifier
BACKGROUND	VARCHAR2(1)	1 for a background process; NULL for a normal process
LATCHWAIT	VARCHAR2(8)	Address of latch the process is waiting for; NULL if none
LATCHSPIN	VARCHAR2(8)	Address of the latch the process is spinning on; NULL if none

## V\$PROXY\_ARCHIVEDLOG

---

Column	Datatype	Description
PGA_USED_MEM	NUMBER	PGA memory currently used by the process
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)
PGA_FREEABLE_MEM	NUMBER	Allocated PGA memory which can be freed
PGA_MAX_MEM	NUMBER	Maximum PGA memory ever allocated by the process

## V\$PROXY\_ARCHIVEDLOG

This view contains descriptions of archived log backups which are taken with Proxy Copy. Each row represents a backup of one archived log.

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.
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.
STATUS	VARCHAR2(1)	Indicates the status of the copy: <ul style="list-style-type: none"><li>■ A - Object is available</li><li>■ D - Object is deleted</li><li>■ X - Object has been "cross-checked" and found not to exist. A subsequent "delete expired" command will change the status to D. If, for some reason, the object really does still exist, then a subsequent "cross-check" command will change the status back to A.</li></ul>
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
FIRST_CHANGE#	NUMBER	First change number in the archived log
FIRST_TIME	DATE	Timestamp of the first change

Column	Datatype	Description
NEXT_CHANGE#	NUMBER	First change number 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
START_TIME	DATE	Starting time
COMPLETION_TIME	DATE	Completion time
ELAPSED_SECONDS	NUMBER	Number of elapsed seconds

## V\$PROXY\_DATAFILE

This view 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.
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
STATUS	VARCHAR2(1)	Indicates the status of the copy: <ul style="list-style-type: none"> <li>■ A - Object is available</li> <li>■ D - Object is deleted</li> <li>■ X - Object has been "cross-checked" and found not to exist. A subsequent "delete expired" command will change the status to D. If, for some reason, the object really does still exist, then a subsequent "cross-check" command will change the status back to A.</li> </ul>
FILE#	NUMBER	Absolute datafile number, or 0 if this is a control file backup
CREATION_CHANGE#	NUMBER	Datafile creation change number

## V\$PROXY\_DATAFILE

---

Column	Datatype	Description
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)	(YES   NO) If set to YES, 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). 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. Note that the BEGIN BACKUP   END BACKUP 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 file# 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)	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 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.

Column	Datatype	Description
KEEP_OPTIONS	VARCHAR2(10)	Additional retention options for this backup set: <ul style="list-style-type: none"> <li>▪ LOGS - Logs need to recover this backup are kept</li> <li>▪ NOLOGS - Logs needed to recover this backup will not be kept</li> </ul>

## V\$PWFILE\_USERS

This view lists users who have been granted SYSDBA and SYSOPER privileges as derived from the password file.

Column	Datatype	Description
USERNAME	VARCHAR2(30)	The name of the user that is contained in the password file
SYSDBA	VARCHAR2(5)	If TRUE, the user can connect with SYSDBA privileges
SYSOPER	VARCHAR2(5)	If TRUE, the user can connect with SYSOPER privileges

## V\$PX\_PROCESS

This view contains information about the sessions running parallel execution.

Column	Datatype	Description
SERVER_NAME	VARCHAR2(4)	The name of the cluster database (P000, P001, etc)
STATUS	VARCHAR2(9)	The state of the cluster database (IN USE   AVAILABLE)
PID	NUMBER	The process identifier
SPID	VARCHAR2(9)	The OS process ID
SID	NUMBER	The session ID of slave, if in use
SERIAL#	NUMBER	The session serial number of slave, if in use

## V\$PX\_PROCESS\_SYSSTAT

This view contains information about the sessions running parallel execution.

## V\$PX\_PROCESS\_SYSSTAT

---

Column	Datatype	Description
STATISTIC	VARCHAR2(30)	<p>Name of the statistic:</p> <ul style="list-style-type: none"> <li>■ Servers In Use - Number of PX servers currently performing parallel operations</li> <li>■ Servers Available - Number of PX servers available to perform parallel operations</li> <li>■ Servers Started - Number of times the system has had to create a PX server process</li> <li>■ Servers Shutdown - 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. The length of time it may remain "Available" is controlled by the PARALLEL_SERVER_IDLE_TIME initialization parameter.</li> </ul> <p>If this value is large, then consider increasing the parameter. This will improve performance by avoiding the latency of PX server process creation.</p> <ul style="list-style-type: none"> <li>■ Servers HWM - Maximum number of concurrent PX server processes</li> </ul> <p>If this number is equal to the PARALLEL_MAX_SERVERS initialization parameter, then consider increasing the parameter. This could allow you to increase your throughput, especially if your system is under-utilized and the V\$SYSSTAT statistic "Parallel operations downgraded to serial" is large.</p> <ul style="list-style-type: none"> <li>■ Servers Cleaned Up - Number of times PMON had to clean up a PX server. This should only happen during abnormal termination of a parallel operation.</li> </ul> <p>If this number is large, then you should determine the cause.</p> <ul style="list-style-type: none"> <li>■ Server Sessions - Total number of sessions created by all PX servers</li> <li>■ Memory Chunks Allocated - Number of large memory chunks allocated by PX servers</li> <li>■ Memory Chunks Freed - Number of large memory chunks freed</li> <li>■ Memory Chunks Current - Number of large memory chunks currently being used</li> <li>■ Memory Chunks HWM - Maximum number of concurrently allocated chunks</li> <li>■ Buffers allocated - Number of times a message buffer has been allocated</li> <li>■ Buffers freed - Number of times a message buffer has been freed</li> <li>■ Buffers Current - Number of message buffers currently being used</li> <li>■ Buffers HWM - Maximum number of concurrently allocated message buffers</li> </ul>
VALUE	NUMBER	Value of the statistic

## V\$PX\_SESSION

This view 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
QC SERIAL#	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 servers to which this cluster database process belongs
SERVER_SET	NUMBER	The logical set of servers to which this cluster database process belongs. A single server group will have at most two server sets.
SERVER#	NUMBER	The logical number of the cluster database process within a server set
DEGREE	NUMBER	The degree of parallelism being used by the server set
REQ_DEGREE	NUMBER	The degree of parallelism that was requested by the user when the statement was issued and prior to any resource, multi-user, or load balancing reductions

## V\$PX\_SESSTAT

This view 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
QC SERIAL#	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 servers to which this cluster database process belongs
SERVER_SET	NUMBER	The logical set of servers that this cluster database process belongs to. A single server group will have at most two server sets.
SERVER#	NUMBER	The logical number of the cluster database process within a server set

## V\$QUEUE

---

Column	Datatype	Description
DEGREE	NUMBER	The degree of parallelism being used by the server set
REQ_DEGREE	NUMBER	The degree of parallelism that was requested by the user when the statement was issued and prior to any resource, multi-user, or load balancing reductions
STATISTIC#	NUMBER	Statistic number (identifier)
VALUE	NUMBER	Statistic value

## 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 )	Type of queue: <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

## 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

## V\$RECOVER\_FILE

This view displays the status of files needing media recovery.

Column	Datatype	Description
FILE#	NUMBER	File identifier number

Column	Datatype	Description
ONLINE	VARCHAR2( 7 )	This column is obsolete and maintained only for compatibility reasons. 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 needs to 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

## 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 is able to view the relevant information in this view. V\$RECOVERY\_FILE\_STATUS will be empty to all other Oracle users.

**See Also:** *Oracle9i Recovery Manager User's Guide*

Column	Datatype	Description
FILENUM	NUMBER	The number of the file being recovered
FILENAME	VARCHAR2( 257 )	The filename of the datafile being recovered
STATUS	VARCHAR2( 13 )	The status of the recovery (IN RECOVERY   CURRENT   NOT RECOVERED)

## V\$RECOVERY\_LOG

This view 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 is able to 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

## V\$RECOVERY\_PROGRESS

---

Column	Datatype	Description
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  See Also: " <a href="#">LOG_ARCHIVE_FORMAT</a> " on page 1-80

See Also: "[V\\$LOG\\_HISTORY](#)" on page 3-81 and *Oracle9i Recovery Manager User's Guide*

## 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.

V\$RECOVERY\_PROGRESS is a subview of V\$SESSION\_LONGOPS.

See Also: *Oracle9i User-Managed Backup and Recovery Guide*

Column	Datatype	Description
TYPE	VARCHAR2 ( 64 )	The type of recovery operation being performed
ITEM	VARCHAR2 ( 32 )	The item being measured
SOFAR	NUMBER	The amount of work done so far
TOTAL	NUMBER	The total amount of work expected

## 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 is able to view the relevant information in this view. V\$RECOVERY\_STATUS will be empty to all other Oracle users.

See Also: *Oracle9i Recovery Manager User's Guide*

Column	Datatype	Description
RECOVERY_CHECKPOINT	DATE	The 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	The 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)	The 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(257)	The filename of the log
PREVIOUS_LOG_STATUS	VARCHAR2(13)	The status of the previous log. Contains one of the following values: RELEASE; WRONG NAME; MISSING NAME; UNNEEDED NAME; NONE
REASON	VARCHAR2(13)	The reason recovery is returning control to the user (NEED LOG LOG REUSED THREAD DISABLED)

## V\$REQDIST

This view 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

## V\$RESERVED\_WORDS

This view gives a list of all the keywords that are used by the PL/SQL compiler. This view helps developers to determine whether a word is already being used as a keyword in the language.

Column	Datatype	Description
KEYWORD	VARCHAR2(64)	The name of the keyword
LENGTH	NUMBER	The length of the keyword

## V\$RESOURCE

This view 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 3-1</a> on page 3-78
ID1	NUMBER	Resource identifier #1
ID2	NUMBER	Resource identifier #2

## V\$RESOURCE\_LIMIT

This view 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 3-2](#).

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( 30 )	Name of the resource (see <a href="#">Table 3-2</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( 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).

**Table 3–2 Values for RESOURCE\_NAME column**

Resource Name	Corresponds to this Initialization Parameter
DML_LOCKS	See "DML_LOCKS" on page 1-53
ENQUEUE_LOCKS	This value is computed by Oracle. Use the V\$ENQUEUE_LOCK view (described on page 3-53) to obtain more information about the enqueue locks.
ENQUEUE_RESOURCES	See "ENQUEUE_RESOURCES" on page 1-55
LM_PROCESSES	Lock manager processes
LM_LOCKS	See "LOCAL_LISTENER" on page 1-73
MAX_SHARED_SERVERS	See "MAX_SHARED_SERVERS" on page 1-94
PARALLEL_MAX_SERVERS	See "PARALLEL_MAX_SERVERS" on page 1-123
PROCESSES	See "PROCESSES" on page 1-133
ROLLBACK_SEGMENTS	See "MAX_ROLLBACK_SEGMENTS" on page 1-94
SESSIONS	See "SESSIONS" on page 1-148
SORT_SEGMENT_LOCKS	This value is computed by Oracle
TEMPORARY_LOCKS	This value is computed by Oracle
TRANSACTIONS	See "TRANSACTIONS" on page 1-165

## V\$RMAN\_CONFIGURATION

This view lists information about RMAN persistent configuration settings.

Column	Datatype	Description
CONF#	NUMBER	A unique key identifying this record within the database that owns it
NAME	VARCHAR2( 65 )	The name for this particular configuration. Example: RETENTION POLICY
VALUE	VARCHAR2( 1025 )	The value for this configuration row. Example: RETENTION POLICY TO RECOVERY WINDOW OF 10 DAYS

## V\$ROLLNAME

This view lists the names of all online rollback segments. It can only be accessed when the database is open.

Column	Datatype	Description
USN	NUMBER	Rollback (undo) segment number
NAME	VARCHAR2( 30 )	Rollback segment name

## V\$ROLLSTAT

This view 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	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 ALL/DBA/USER_SEGMENTS views.  See Also: <i>Oracle9i Database Administrator's Guide</i> .
WRITES	NUMBER	Number of bytes written to the rollback segment
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 water mark of 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
AVESHINK	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

## V\$ROWCACHE

This view 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
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

## V\$ROWCACHE\_PARENT

This view 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

## V\$ROWCACHE\_SUBORDINATE

---

Column	Datatype	Description
LOCK_MODE	NUMBER	Mode the lock is held in
LOCK_REQUEST	NUMBER	Mode the lock is requested in
TXN	RAW( 4 )	Transaction currently locking the object
SADDR	RAW( 4   8 )	Address of the session
<b>Note:</b> The following are only relevant for Real Application Clusters.		
INST_LOCK_REQUEST	NUMBER	Mode in which instance lock is being requested
INST_LOCK_RELEASE	NUMBER	Whether the instance lock needs to be released
INST_LOCK_TYPE	VARCHAR2( 2 )	Type of instance lock
INST_LOCK_ID1	RAW( 4 )	ID associated with the instance lock
INST_LOCK_ID2	RAW( 4 )	ID associated with the instance lock
KEY	RAW( 100 )	Contents of the key

## V\$ROWCACHE\_SUBORDINATE

This view 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

## V\$RSRC\_CONSUMER\_GROUP

This view displays data related to currently active resource consumer groups.

Column	Datatype	Description
NAME	VARCHAR2( 32 )	Name of the consumer group

Column	Datatype	Description
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.
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
CPU_WAITS	NUMBER	Cumulative number of times all sessions in the consumer group had to wait for CPU
CONSUMED_CPU_TIME	NUMBER	Cumulative amount of CPU time consumed by all sessions in the consumer group
YIELDS	NUMBER	Cumulative number of times sessions in the consumer group had to yield the CPU
QUEUE_LENGTH	NUMBER	Number of sessions waiting in the queue
CURRENT_UNDO_CONSUMPTION	NUMBER	Current amount (in kilobytes) of undo consumed by the consumer group

**See Also:**

- *Oracle9i Database Administrator's Guide* for information on resource groups
- *Oracle9i Supplied PL/SQL Packages and Types Reference* for information on creating resource groups with the DBMS\_RESOURCE\_MANAGER package

**V\$RSRC\_CONSUMER\_GROUP\_CPU\_MTH**

This view lists all resource allocation methods defined for resource consumer groups.

**See Also:**

- *Oracle9i Database Administrator's Guide* for information on resource allocation methods
- *Oracle9i Supplied 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](#)" on page 3-126 for a listing of all resource allocation methods defined for resource plans

Column	Datatype	Description
NAME	VARCHAR2 ( 40 )	The name of the CPU resource allocation method

## V\$RSRC\_PLAN

This view displays the names of all currently active resource plans.

**See Also:**

- ["DBA\\_RSRC\\_PLANS" on page 2-219](#) for a listing of all plans in the database
- *Oracle9i Database Administrator's Guide* for information on resource plans
- *Oracle9i Supplied PL/SQL Packages and Types Reference* on defining resource allocation methods for consumer groups with the DBMS\_RESOURCE\_MANAGER package

Column	Datatype	Description
NAME	VARCHAR2 ( 32 )	Name of the resource plan

## V\$RSRC\_PLAN\_CPU\_MTH

This view lists all available CPU resource allocation methods defined for resource plans.

**See Also:**

- ["V\\$RSRC\\_CONSUMER\\_GROUP\\_CPU\\_MTH" on page 3-125](#) for a listing of resource allocation methods defined for consumer groups
- *Oracle9i Database Administrator's Guide* for information on resource plans
- *Oracle9i Supplied PL/SQL Packages and Types Reference* on defining resource allocation methods for consumer plans with the DBMS\_RESOURCE\_MANAGER package

---

Column	Datatype	Description
NAME	VARCHAR2( 32 )	Name of the resource allocation method

---

## V\$SEGMENT\_STATISTICS

V\$SEGMENT\_STATISTICS displays information about segment-level statistics.

---

Column	Datatype	Description
OWNER	VARCHAR2( 30 )	Owner of the object
OBJECT_NAME	VARCHAR2( 30 )	Name of the object
SUBOBJECT_NAME	VARCHAR2( 30 )	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

---

## 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

---

## V\$SEGSTAT\_NAME

V\$SEGSTAT\_NAME displays information about segment-level statistics properties.

## V\$SESS\_IO

---

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)

## V\$SESS\_IO

This view lists 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

## V\$SESSION

This view lists 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 identify uniquely 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
PADDR	RAW ( 4   8 )	Address of the process that owns this session
USER#	NUMBER	Oracle user identifier
USERNAME	VARCHAR2 ( 30 )	Oracle username
COMMAND	NUMBER	Command in progress (last statement parsed); for a list of values, see <a href="#">Table 3-3</a> . These values also appear in the AUDIT_ACTIONS table.

Column	Datatype	Description
OWNERID	NUMBER	The column contents are invalid if the value is 2147483644. Otherwise, this column contains the identifier of the user who owns the migratable session.
		For operations using Parallel Slaves, interpret this value as a 4-byte value. The low-order 2 bytes of which represent the session number, and the high-order bytes the instance ID of the query coordinator.
TADDR	VARCHAR2( 8 )	Address of transaction state object
LOCKWAIT	VARCHAR2( 8 )	Address of lock waiting for; NULL if none
STATUS	VARCHAR2( 8 )	Status of the session: ACTIVE (currently executing SQL), INACTIVE, KILLED (marked to be killed), CACHED (temporarily cached for use by Oracle*XA), SNIPED (session inactive, waiting on the client)
SERVER	VARCHAR2( 9 )	Server type (DEDICATED   SHARED   PSEUDO   NONE)
SCHEMA#	NUMBER	Schema user identifier
SCHEMANAME	VARCHAR2( 30 )	Schema user name
OSUSER	VARCHAR2( 30 )	Operating system client user name
PROCESS	VARCHAR2( 9 )	Operating system client process ID
MACHINE	VARCHAR2( 64 )	Operating system machine name
TERMINAL	VARCHAR2( 30 )	Operating system terminal name
PROGRAM	VARCHAR2( 48 )	Operating system program name
TYPE	VARCHAR2( 10 )	Session type
SQL_ADDRESS	RAW( 4 )	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
PREV_SQL_ADDR	RAW( 4 )	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
MODULE	VARCHAR2( 48 )	Contains the name of the currently executing module as set by calling the DBMS_APPLICATION_INFO.SET_MODULE procedure
MODULE_HASH	NUMBER	The hash value of the above MODULE
ACTION	VARCHAR2( 32 )	Contains the name of the currently executing action as set by calling the DBMS_APPLICATION_INFO.SET_ACTION procedure
ACTION_HASH	NUMBER	The hash value of the above action name
CLIENT_INFO	VARCHAR2( 64 )	Information set by the DBMS_APPLICATION_INFO.SET_CLIENT_INFO procedure

Column	Datatype	Description
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 ROWID specified in ROW_WAIT_ROW#
ROW_WAIT_FILE#	NUMBER	Identifier for the datafile containing the ROWID 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 ROWID 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	The current ROWID 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.
LOGON_TIME	DATE	Time of logon
LAST_CALL_ET	NUMBER	The last call
PDML_ENABLED	VARCHAR2(3)	This column has been replaced by column PDML_STATUS
FAILOVER_TYPE	VARCHAR2(13)	Indicates whether and to what extent transparent application failover (TAF) is enabled for the session: <ul style="list-style-type: none"> <li>■ NONE - failover is disabled for this session</li> <li>■ SESSION - the client is able to fail over its session following a disconnect</li> <li>■ SELECT - the client is able to fail over queries in progress as well</li> </ul> <p><b>See Also:</b></p> <ul style="list-style-type: none"> <li>■ <i>Oracle9i Database Concepts</i> for more information on TAF</li> <li>■ <i>Oracle9i Net Services Administrator's Guide</i> for information on configuring TAF</li> </ul>
FAILOVER_METHOD	VARCHAR2(10)	Indicates the transparent application failover method for the session: <ul style="list-style-type: none"> <li>■ NONE - failover is disabled for this session</li> <li>■ BASIC - the client itself reconnects following a disconnect</li> <li>■ PRECONNECT - the backup instance can support all connections from every instance for which it is backup</li> </ul>
FAILED_OVER	VARCHAR2(3)	Indicates (YES   NO) whether the session is running in failover mode and failover has occurred

Column	Datatype	Description
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, value is 0.
CLIENT_IDENTIFIER	VARCHAR2( 64 )	

**Table 3–3 COMMAND Column of V\$SESSION and Corresponding Commands**

Number	Command	Number	Command
1	CREATE TABLE	2	INSERT
3	SELECT	4	CREATE CLUSTER
5	ALTER CLUSTER	6	UPDATE
7	DELETE	8	DROP CLUSTER
9	CREATE INDEX	10	DROP INDEX
11	ALTER INDEX	12	DROP TABLE
13	CREATE SEQUENCE	14	ALTER SEQUENCE
15	ALTER TABLE	16	DROP SEQUENCE
17	GRANT OBJECT	18	REVOKE OBJECT
19	CREATE SYNONYM	20	DROP SYNONYM
21	CREATE VIEW	22	DROP VIEW
23	VALIDATE INDEX	24	CREATE PROCEDURE
25	ALTER PROCEDURE	26	LOCK
27	NO-OP	28	RENAME
29	COMMENT	30	AUDIT OBJECT
31	NOAUDIT OBJECT	32	CREATE DATABASE LINK

**Table 3–3 (Cont.) COMMAND Column of V\$SESSION and Corresponding Commands**

Number	Command	Number	Command
33	DROP DATABASE LINK	34	CREATE DATABASE
35	ALTER DATABASE	36	CREATE ROLLBACK SEG
37	ALTER ROLLBACK SEG	38	DROP ROLLBACK SEG
39	CREATE TABLESPACE	40	ALTER TABLESPACE
41	DROP TABLESPACE	42	ALTER SESSION
43	ALTER USER	44	COMMIT
45	ROLLBACK	46	SAVEPOINT
47	PL/SQL EXECUTE	48	SET TRANSACTION
49	ALTER SYSTEM	50	EXPLAIN
51	CREATE USER	52	CREATE ROLE
53	DROP USER	54	DROP ROLE
55	SET ROLE	56	CREATE SCHEMA
57	CREATE CONTROL FILE	59	CREATE TRIGGER
60	ALTER TRIGGER	61	DROP TRIGGER
62	ANALYZE TABLE	63	ANALYZE INDEX
64	ANALYZE CLUSTER	65	CREATE PROFILE
66	DROP PROFILE	67	ALTER PROFILE
68	DROP PROCEDURE	70	ALTER RESOURCE COST
71	CREATE SNAPSHOT LOG	72	ALTER SNAPSHOT LOG
73	DROP SNAPSHOT LOG	74	CREATE SNAPSHOT
75	ALTER SNAPSHOT	76	DROP SNAPSHOT
77	CREATE TYPE	78	DROP TYPE
79	ALTER ROLE	80	ALTER TYPE
81	CREATE TYPE BODY	82	ALTER TYPE BODY
83	DROP TYPE BODY	84	DROP LIBRARY
85	TRUNCATE TABLE	86	TRUNCATE CLUSTER
91	CREATE FUNCTION	92	ALTER FUNCTION
93	DROP FUNCTION	94	CREATE PACKAGE
95	ALTER PACKAGE	96	DROP PACKAGE
97	CREATE PACKAGE BODY	98	ALTER PACKAGE BODY
99	DROP PACKAGE BODY	100	LOGON

**Table 3–3 (Cont.) COMMAND Column of V\$SESSION and Corresponding Commands**

Number	Command	Number	Command
101	LOGOFF	102	LOGOFF BY CLEANUP
103	SESSION REC	104	SYSTEM AUDIT
105	SYSTEM NOAUDIT	106	AUDIT DEFAULT
107	NOAUDIT DEFAULT	108	SYSTEM GRANT
109	SYSTEM REVOKE	110	CREATE PUBLIC SYNONYM
111	DROP PUBLIC SYNONYM	112	CREATE PUBLIC DATABASE LINK
113	DROP PUBLIC DATABASE LINK	114	GRANT ROLE
115	REVOKE ROLE	116	EXECUTE PROCEDURE
117	USER COMMENT	118	ENABLE TRIGGER
119	DISABLE TRIGGER	120	ENABLE ALL TRIGGERS
121	DISABLE ALL TRIGGERS	122	NETWORK ERROR
123	EXECUTE TYPE	157	CREATE DIRECTORY
158	DROP DIRECTORY	159	CREATE LIBRARY
160	CREATE JAVA	161	ALTER JAVA
162	DROP JAVA	163	CREATE OPERATOR
164	CREATE INDEXTYPE	165	DROP INDEXTYPE
167	DROP OPERATOR	168	ASSOCIATE STATISTICS
169	DISASSOCIATE STATISTICS	170	CALL METHOD
171	CREATE SUMMARY	172	ALTER SUMMARY
173	DROP SUMMARY	174	CREATE DIMENSION
175	ALTER DIMENSION	176	DROP DIMENSION
177	CREATE CONTEXT	178	DROP CONTEXT
179	ALTER OUTLINE	180	CREATE OUTLINE
181	DROP OUTLINE	182	UPDATE INDEXES
183	ALTER OPERATOR		

## V\$SESSION\_CONNECT\_INFO

This view displays information about network connections for the current session.

Column	Datatype	Description
SID	NUMBER	Session identifier (can be used to join this view with V\$SESSION)

## V\$SESSION\_CURSOR\_CACHE

---

Column	Datatype	Description
AUTHENTICATION_TYPE	VARCHAR2 ( 15 )	How the user was authenticated: DATABASE - username/password authentication OS - operating system external user authentication NETWORK - network protocol or ANO authentication PROXY - OCI proxy connection authentication
OSUSER	VARCHAR2 ( 30 )	The external username for this database user
NETWORK_SERVICE_BANNER	VARCHAR2 ( 2000 )	Product banners for each Net8 service used for this connection (one row per banner)

## V\$SESSION\_CURSOR\_CACHE

This view 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 OPEN_CURSORS.
COUNT	NUMBER	The current number of cursors (whether they are in use or not)
OPENED_ONCE	NUMBER	Number of cursors opened at least once
OPEN	NUMBER	Current number of open cursors
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

## V\$SESSION\_EVENT

This view lists 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, you must set `TIMED_STATISTICS` to `true` in the parameter file. Please remember that doing this will have a small negative effect on system performance.

**See Also:** ["TIMED\\_STATISTICS"](#) on page 1-162

Column	Datatype	Description
SID	NUMBER	The ID of the session
EVENT	VARCHAR2(64)	The name of the wait event <b>See Also:</b> <a href="#">Appendix A, "Oracle Wait Events"</a>
TOTAL_WAITS	NUMBER	The total number of waits for this event by this session
TOTAL_TIMEOUTS	NUMBER	The total number of timeouts for this event by this session
TIME_WAITED	NUMBER	The total amount of time waited for this event by this session, in hundredths of a second
AVERAGE_WAIT	NUMBER	The average amount of time waited for this event by this session, in hundredths of a second
MAX_WAIT	NUMBER	The maximum time (in hundredths of a second) waited for this event by this session

## V\$SESSION\_LONGOPS

This view 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` parameter to `true`
- Gather statistics for your objects with the `ANALYZE` statement or 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.

**See Also:** [Oracle9i Supplied PL/SQL Packages and Types Reference](#) for more information on `DBMS_APPLICATION_INFO.SET_SESSION_LONGOPS`

## V\$SESSION\_OBJECT\_CACHE

---

Column	Datatype	Description
SID	NUMBER	Session identifier
SERIAL#	NUMBER	Session serial number
OPNAME	VARCHAR2 ( 64 )	Brief description of the operation
TARGET	VARCHAR2 ( 64 )	The object on which the operation is carried out
TARGET_DESC	VARCHAR2 ( 32 )	Description of the target
SOFAR	NUMBER	The units of work done so far
TOTALWORK	NUMBER	The total units of work
UNITS	VARCHAR2 ( 32 )	The units of measurement
START_TIME	DATE	The starting time of operation
LAST_UPDATE_TIME	DATE	Time when statistics last updated
TIME_REMAINING	NUMBER	Estimate (in seconds) of time remaining for the operation to complete
ELAPSED_SECONDS	NUMBER	The number of elapsed seconds from the start of 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 )	Used with the value of the SQL_HASH_VALUE column to identify the SQL statement associated with the operation
SQL_HASH_VALUE	NUMBER	Used with the value of the SQL_ADDRESS column to identify the SQL statement associated with the operation
QCSID	NUMBER	Session identifier of the parallel coordinator

## V\$SESSION\_OBJECT\_CACHE

This view 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	The ratio of HITS/PINS
TRUE_HIT_RATIO	NUMBER	The ratio of TRUE_HITS/PINS

Column	Datatype	Description
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

## V\$SESSION\_WAIT

This view lists the resources or events for which active sessions are waiting.

The following are tuning considerations:

- P1RAW, P2RAW, and P3RAW display the same values as the P1, P2, and P3 columns, except that the numbers are displayed in hexadecimal.
- The WAIT\_TIME column contains a value of -2 on 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, you must set the TIMED\_STATISTICS parameter to TRUE. Remember that doing this has a small negative effect on system performance.

In previous releases the WAIT\_TIME column contained an arbitrarily large value instead of a negative value to indicate the platform did not have a fast timing mechanism.

- The STATE column interprets the value of WAIT\_TIME and describes the state of the current or most recent wait.

**See Also:** "TIMED\_STATISTICS" on page 1-162 and [Appendix A, "Oracle Wait Events"](#)

## V\$SESSTAT

---

Column	Datatype	Description
SID	NUMBER	Session identifier
SEQ#	NUMBER	Sequence number that uniquely identifies this wait. Incremented for each wait.
EVENT	VARCHAR2 ( 64 )	Resource or event for which the session is waiting <b>See Also:</b> <a href="#">Appendix A, "Oracle Wait Events"</a>
P1TEXT	VARCHAR2 ( 64 )	Description of first additional parameter
P1	NUMBER	First additional parameter
P1RAW	RAW ( 4 )	First additional parameter
P2TEXT	VARCHAR2 ( 64 )	Description of second parameter
P2	NUMBER	Second additional parameter
P2RAW	RAW ( 4 )	Second additional parameter
P3TEXT	VARCHAR2 ( 64 )	Description of third parameter
P3	NUMBER	Third additional parameter
P3RAW	RAW ( 4 )	Third additional parameter
WAIT_TIME	NUMBER	A nonzero value is the session's last wait time. A zero value means the session is currently waiting.
SECONDS_IN_WAIT	NUMBER	If WAIT_TIME = 0, then SECONDS_IN_WAIT is the seconds spent in the current wait condition. If WAIT_TIME > 0, then SECONDS_IN_WAIT is the seconds since the start of the last wait, and SECONDS_IN_WAIT - WAIT_TIME / 100 is the active seconds since the last wait ended.
STATE	VARCHAR2 ( 19 )	Wait state: <ul style="list-style-type: none"><li>■ 0 - WAITING (the session is currently waiting)</li><li>■ -2 - WAITED UNKNOWN TIME (duration of last wait is unknown)</li><li>■ -1 - WAITED SHORT TIME (last wait &lt;1/100th of a second)</li><li>■ &gt;0 - WAITED KNOWN TIME (WAIT_TIME = duration of last wait)</li></ul>

## V\$SESSTAT

This view lists 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

Column	Datatype	Description
STATISTIC#	NUMBER	Statistic number (identifier)  <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

**See Also:** "V\$STATNAME" on page 3-167 and Appendix C, "Statistics Descriptions"

## V\$SGA

This view contains summary information on the system global area (SGA).

Column	Datatype	Description
NAME	VARCHAR2( 20 )	SGA component group
VALUE	NUMBER	Memory size (in bytes)

## 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( 6 )	Operation type: <ul style="list-style-type: none"><li>■ GROW</li><li>■ SHRINK</li></ul>
OPER_MODE	VARCHAR2( 6 )	Operation mode: <ul style="list-style-type: none"><li>■ MANUAL</li><li>■ AUTO</li></ul>
PARAMETER	VARCHAR2( 64 )	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

## V\$SGA\_RESIZE\_OPS

---

Column	Datatype	Description
START_TIME	DATE	Start time of the operation
LAST_UPDATE_TIME	DATE	Last time progress was made for the operation

## **V\$SGA\_RESIZE\_OPS**

V\$SGA\_RESIZE\_OPS displays information about the last 100 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(6)	Operation type: <ul style="list-style-type: none"><li>■ GROW</li><li>■ SHRINK</li></ul>
OPER_MODE	VARCHAR2(6)	Operation mode: <ul style="list-style-type: none"><li>■ MANUAL</li><li>■ AUTO</li></ul>
PARAMETER	VARCHAR2(64)	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
STATUS	VARCHAR2(6)	Completion status of the operation: <ul style="list-style-type: none"><li>■ NORMAL</li><li>■ CANCEL</li><li>■ ERROR</li></ul>
START_TIME	DATE	Start time of the operation
END_TIME	DATE	End time of the operation

## **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
OPER_COUNT	NUMBER	Number of operations since instance startup
LAST_OPER_TYPE	VARCHAR2( 6 )	Last completed operation for the component: <ul style="list-style-type: none"> <li>■ GROW</li> <li>■ SHRINK</li> </ul>
LAST_OPER_MODE	VARCHAR2( 6 )	Mode of the last completed operation: <ul style="list-style-type: none"> <li>■ MANUAL</li> <li>■ AUTO</li> </ul>
LAST_OPER_TIME	DATE	Start time of the last completed operation
GRANULE_SIZE	NUMBER	Granularity of the grow or the shrink operation

## 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)

## V\$SGASTAT

This view contains detailed information on the system global area (SGA).

Column	Datatype	Description
NAME	VARCHAR2( 26 )	SGA component name
BYTES	NUMBER	Memory size in bytes
POOL	VARCHAR2( 11 )	Designates the pool in which the memory in NAME resides: <ul style="list-style-type: none"> <li>■ large pool - memory is allocated from the large pool</li> <li>■ shared pool - memory is allocated from the shared pool</li> <li>■ java pool - memory is allocated from the Java pool</li> </ul>

## V\$SHARED\_POOL\_ADVICE

V\$SHARED\_POOL\_ADVICE displays information about estimated parse time savings in the shared pool for different sizes. The sizes range from 50% 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_MEMORY_OBJECT_HITS	NUMBER	Estimated number of times a library cache memory object was found in a shared pool of the specified size

## V\$SHARED\_POOL\_RESERVED

This fixed view lists statistics that help you tune the reserved pool and space within the shared pool.

Column	Datatype	Description
The following columns of V\$SHARED_POOL_RESERVED are valid only if the initialization parameter SHARED_POOL_RESERVED_SIZE is set to a valid value.		
FREE_SPACE	NUMBER	Total amount of free space on the reserved list
AVG_FREE_SIZE	NUMBER	Average size of the free memory on the reserved list
FREE_COUNT	NUMBER	Number of free pieces of memory on the reserved list
MAX_FREE_SIZE	NUMBER	Size of the largest free piece of memory on the reserved list
USED_SPACE	NUMBER	Total amount of used memory on the reserved list

Column	Datatype	Description
AVG_USED_SIZE	NUMBER	Average size of the used memory on the reserved list
USED_COUNT	NUMBER	Number of used pieces of memory on the reserved list
MAX_USED_SIZE	NUMBER	Size of the largest used piece of memory on the reserved list
REQUESTS	NUMBER	Number of times that the reserved list was searched for a free piece of memory
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
LAST_MISS_SIZE	NUMBER	Request size of the last request miss, when the reserved list did not have a free piece of memory to satisfy the request and started flushing objects from the LRU list
MAX_MISS_SIZE	NUMBER	Request size of the largest request miss, when the reserved list did not have a free piece of memory to satisfy the request and started flushing objects from the LRU list

The following columns of V\$SHARED\_POOL\_RESERVED contain values which are valid even if SHARED\_POOL\_RESERVED\_SIZE is not set.

REQUEST_FAILURES	NUMBER	Number of times that no memory was found to satisfy a request (that is, the number of times the error ORA-04031 occurred)
LAST_FAILURE_SIZE	NUMBER	Request size of the last failed request (that is, the request size for the last ORA-04031 error)
ABORTED_REQUEST_THRESHOLD	NUMBER	Minimum size of a request which signals an ORA-04031 error without flushing objects
ABORTED_REQUESTS	NUMBER	Number of requests that signalled an ORA-04031 error without flushing objects
LAST_ABORTED_SIZE	NUMBER	Last size of the request that returned an ORA-04031 error without flushing objects from the LRU list

## V\$SHARED\_SERVER

This view contains information on the shared server processes.

Column	Datatype	Description
NAME	VARCHAR2( 4 )	Name of the server
PADDR	RAW( 4   8 )	Server's process address

## V\$SHARED\_SERVER\_MONITOR

---

Column	Datatype	Description
STATUS	VARCHAR2 (16)	Server status: EXEC - Executing SQL WAIT (ENQ) - Waiting for a lock WAIT (SEND) - Waiting to send data to user WAIT (COMMON) - Idle; waiting for a user request WAIT (RESET) - Waiting for a circuit to reset after a break QUIT - Terminating
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 circuit currently being serviced
IDLE	NUMBER	Total idle time (in hundredths of a second)
BUSY	NUMBER	Total busy time (in hundredths of a second)
REQUESTS	NUMBER	Total number of requests taken from the common queue in this server's lifetime

---

## V\$SHARED\_SERVER\_MONITOR

This view contains 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 CIRCUITS initialization parameter, then consider raising the value of CIRCUITS.  <b>See Also:</b> " <a href="#">CIRCUITS</a> " on page 1-24
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 SHARED_SERVER_SESSIONS initialization parameter, then consider raising the value of SHARED_SERVER_SESSIONS.  <b>See Also:</b> " <a href="#">SHARED_SERVER_SESSIONS</a> " on page 1-151
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

Column	Datatype	Description
SERVERS_HIGHWATER	NUMBER	Highest number of servers running at one time since the instance started. If this value reaches the value set for the MAX_SHARED_SERVERS initialization parameter, then consider raising the value of SHARED_SERVERS.  See Also: " <a href="#">SHARED_SERVERS</a> " on page 1-152

## V\$SORT\_SEGMENT

This view contains 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( 31 )	Name of 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
RELATIVE_FNO	NUMBER	Relative file number of the sort segment header
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

## 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
SID	VARCHAR2(80)	SID for which the parameter is defined
NAME	VARCHAR2(80)	Name of the parameter
VALUE	VARCHAR2(255)	Parameter value (null if a server parameter file was not used to start the instance)
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)

## V\$SQL

V\$SQL lists statistics on shared SQL area without the GROUP BY clause and contains one row for each child of the original SQL text entered.

Column	Datatype	Description
SQL_TEXT	VARCHAR2(1000)	First thousand characters of the SQL text for the current cursor
SHARABLE_MEM	NUMBER	Amount of shared memory used by this child cursor (in bytes)
PERSISTENT_MEM	NUMBER	Fixed amount of memory used for the lifetime of this child cursor (in bytes)
RUNTIME_MEM	NUMBER	Fixed amount of memory required during the execution of this child cursor
SORTS	NUMBER	Number of sorts that were done for this 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 executing the statement
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

Column	Datatype	Description
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(19)	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
BUFFER_GETS	NUMBER	Number of buffer gets for this child cursor
ROWS_PROCESSED	NUMBER	Total number of rows the parsed SQL statement returns
COMMAND_TYPE	NUMBER	Oracle command type definition
OPTIMIZER_MODE	VARCHAR2(10)	Mode under which the SQL statement is executed
OPTIMIZER_COST	NUMBER	Cost of this query given by the optimizer
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
KEPT VERSIONS	NUMBER	Indicates whether this child cursor has been marked to be kept pinned in the cache using the DBMS_SHARED_POOL package
ADDRESS	RAW(4   8)	Address of the handle to the parent for this cursor
TYPE_CHK_HEAP	RAW(4)	Descriptor of the type check heap for this child cursor
HASH_VALUE	NUMBER	Hash value of the parent statement in the library cache
PLAN_HASH_VALUE	NUMBER	Numerical representation of the 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).
CHILD_NUMBER	NUMBER	Number of this child 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
MODULE_HASH	NUMBER	Hash value of the module listed in the MODULE column
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
ACTION_HASH	NUMBER	Hash value of the action listed in the ACTION column
SERIALIZABLE_ABORTS	NUMBER	Number of times the transaction fails 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.

## V\$SQL\_BIND\_DATA

---

Column	Datatype	Description
CPU_TIME	NUMBER	CPU time (in microseconds) used by this cursor for parsing/executing/fetching
ELAPSED_TIME	NUMBER	Elapsed time (in microseconds) used by this cursor for parsing/executing/fetching
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 (VALID or INVALID)
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	VARCHAR2( 19 )	Time at which the query plan (heap 6) 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.
CHILD_LATCH	NUMBER	Child latch number that is protecting the cursor

## V\$SQL\_BIND\_DATA

For each distinct bind variable in each cursor owned by the session querying this view, this view describes:

- 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	Bind datatype
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)

Column	Datatype	Description
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

## V\$SQL\_BIND\_METADATA

For each distinct bind variable in each cursor owned by the session querying this view, this view describes:

- 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	Bind datatype
MAX_LENGTH	NUMBER	Maximum length of the bind value
ARRAY_LEN	NUMBER	Maximum number of array elements (for array binds only)
BIND_NAME	VARCHAR2( 30 )	User-defined or system-generated bind variable name (if used)

## V\$SQL\_CURSOR

This view displays debugging information for each cursor associated with the session querying this view.

## V\$SQL\_PLAN

---

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)

## 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.
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.
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)

Column	Datatype	Description
OBJECT_NODE	VARCHAR2(10)	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(30)	Name of the user who owns the schema containing the table or index
OBJECT_NAME	VARCHAR2(64)	Name of the table or index
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.
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(5)	Start partition of a range of accessed partitions
PARTITION_STOP	VARCHAR2(5)	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.

## V\$SQL\_PLAN\_STATISTICS

---

Column	Datatype	Description
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

## 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.
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.

Column	Datatype	Description
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 <code>INSERT</code> , <code>UPDATE</code> , and <code>DELETE</code> .
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 <code>INSERT</code> , <code>UPDATE</code> , and <code>DELETE</code> .
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

## 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.
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.
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)

## V\$SQL\_PLAN\_STATISTICS\_ALL

---

Column	Datatype	Description
OBJECT_NODE	VARCHAR2(10)	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(30)	Name of the user who owns the schema containing the table or index
OBJECT_NAME	VARCHAR2(64)	Name of the table or index
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.
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(5)	Start partition of a range of accessed partitions
PARTITION_STOP	VARCHAR2(5)	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.

Column	Datatype	Description
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
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

## V\$SQL\_REDIRECTION

---

Column	Datatype	Description
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.

---

## V\$SQL\_REDIRECTION

This view identifies SQL statements that are redirected.

Column	Datatype	Description
ADDRESS	RAW(4   8)	KGL address
PARENT_HANDLE	RAW(4   8)	KGL address of parent
HASH_VALUE	NUMBER	SQL hash
CHILD_NUMBER	NUMBER	Number of child (instance) for hash
PARSING_USER_ID	NUMBER	

Column	Datatype	Description
PARSING_SCHEMA_ID	NUMBER	
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

## V\$SQL\_SHARED\_CURSOR

This view 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
ADDRESS	RAW( 4   8 )	Address of the child cursor
KGLHDPAR	RAW( 4   8 )	Address of the parent cursor
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
SEC_DEPTH_MISMATCH	VARCHAR2(1)	(Y   N) Security level does not match the existing child cursor
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 slave 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 slave cursor)

## V\$SQL\_SHARED\_MEMORY

---

Column	Datatype	Description
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
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
ROW_LEVEL_SEC_MISMATCH	VARCHAR2(1)	(Y N) The row level security policies do not match
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)
INCOMP_LTRL_MISMATCH	VARCHAR2(1)	(Y N)

---

## V\$SQL\_SHARED\_MEMORY

This view 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 a number of parts, one of which is the context heap, which holds, among other things, the query plan.

Column	Datatype	Description
SQL_TEXT	VARCHAR2(1000)	The SQL text of the shared cursor child object for which this row is displaying information
HASH_VALUE	NUMBER	The hash value 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(16)	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(16)	Similar to the STRUCTURE column, this is the "Y" field of the comment

Column	Datatype	Description
COMMENT	VARCHAR2(16)	The 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 FREEABLE or PERMANENT.
CHUNK_TYPE	NUMBER	An index into a table of callback functions that tell the server how to recreate this chunk of memory should it need to be removed from the shared pool based on an LRU algorithm
SUBHEAP_DESC	RAW(4)	If the parent heap of this context heap is itself a subheap, then this is the address of the descriptor of the parent heap

## 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.
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 workarea handle. This is the "primary key" for the view.
OPERATION_TYPE	VARCHAR2(20)	Type of operation using the work area (SORT, HASH JOIN, GROUP BY, BUFFERING, BITMAP MERGE, or BITMAP CREATE)
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.

## V\$SQL\_WORKAREA\_ACTIVE

---

Column	Datatype	Description
POLICY	VARCHAR2(10)	Sizing policy for this work area (MANUAL or AUTO)
ESTIMATED_OPTIMAL_SIZE	NUMBER	Estimated size (in KB) 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 KB) 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 KB) used by this work area during the last execution of the cursor
LAST_EXECUTION	VARCHAR2(10)	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.

---

## 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 my 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
WORKAREA_ADDRESS	RAW( 4   8 )	Address of the workarea handle. This is the "primary key" for the view.
OPERATION_TYPE	VARCHAR2( 20 )	Type of operation using the work area (SORT, HASH JOIN, GROUP BY, BUFFERING, BITMAP MERGE, or BITMAP CREATE)
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( 6 )	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 centi-seconds)
WORK_AREA_SIZE	NUMBER	Maximum size of the work area as it is currently used by the operation
EXPECTED_SIZE	NUMBER	Expected size (in KB) 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 KB) 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 KB) 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.
TABLESPACE	VARCHAR2( 31 )	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.

## V\$SQL\_WORKAREA\_HISTOGRAM

---

Column	Datatype	Description
SEGBLK#	NUMBER	Block number for the temporary segment created on behalf of this work area. This column is <code>NULL</code> if this work area has not (yet) spilled to disk.

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for more information on how to monitor SQL work areas

## 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
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

**See Also:** *Oracle9i Database Performance Tuning Guide and Reference* for detailed information on how to monitor automatic PGA memory performance using this view

## V\$SQLAREA

V\$SQLAREA lists statistics on shared SQL area 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
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, 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, 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 (KGL heap 6) loaded
OPEN VERSIONS	NUMBER	The number of child cursors that are currently open under this current parent
USERS_OPENING	NUMBER	The 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
USERS_EXECUTING	NUMBER	Total number of users executing the statement over all child cursors
LOADS	NUMBER	The number of times the object was loaded or reloaded
FIRST_LOAD_TIME	VARCHAR2(19)	Timestamp of the parent creation time
INVALIDATIONS	NUMBER	Total number of invalidations over all the child cursors
PARSE_CALLS	NUMBER	The sum of all parse calls to all the child cursors under this parent
DISK_READS	NUMBER	The sum of the number of disk reads over all child cursors
BUFFER_GETS	NUMBER	The sum of buffer gets over all child cursors
ROWS_PROCESSED	NUMBER	The total number of rows processed on behalf of this SQL statement

## V\$SQLTEXT

---

Column	Datatype	Description
COMMAND_TYPE	NUMBER	The Oracle command type definition
OPTIMIZER_MODE	VARCHAR2(10)	Mode under which the SQL statement was executed
PARSING_USER_ID	NUMBER	The user ID of the user that has parsed the very first cursor under this parent
PARSING_SCHEMA_ID	NUMBER	The schema ID that was used to parse this child cursor
KEPT VERSIONS	NUMBER	The number of child cursors that have been marked to be kept using the DBMS_SHARED_POOL 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
MODULE	VARCHAR2(64)	Contains the name of the module that was executing at the time that 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 at the time that 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 fails to serialize, producing ORA-08177 errors, totalled over all the child cursors
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.
CHILD_LATCH	NUMBER	Child latch number that is protecting the cursor

## V\$SQLTEXT

This view contains 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
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

## V\$SQLTEXT\_WITH\_NEWLINES

This view 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
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

**See Also:** "V\$SQLTEXT" on page 3-164

## V\$STANDBY\_LOG

V\$STANDBY\_LOG contains standby log file information from the control files.

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)
USED	NUMBER	Number of bytes used in the log
ARCHIVED	VARCHAR2( 3 )	Archive status

## V\$STATISTICS\_LEVEL

---

Column	Datatype	Description
STATUS	VARCHAR2(10)	Indicates the log status. Possible values are: <ul style="list-style-type: none"><li>■ UNUSED - 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>■ CURRENT - Current redo log. This implies that the redo log is active. The redo log could be open or closed.</li><li>■ ACTIVE - Log is active but is not the current log. It is needed for failure recovery. It may be in use for block recovery. It might or might not be archived.</li><li>■ CLEARING - 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>■ CLEARING_CURRENT - 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>■ INACTIVE - Log is no longer needed for instance recovery. It may be in use for managed recovery. It might or might not be archived.</li><li>■ INVALIDATED - Archived the current redo log without a log switch.</li></ul>
FIRST_CHANGE#	NUMBER	Lowest SCN in the log
FIRST_TIME	DATE	Time of first SCN in the log
LAST_CHANGE#	NUMBER	Last change number made to this datafile. Set to NULL if the datafile is being changed.
LAST_TIME	DATE	Time stamp of the last change

## V\$STATISTICS\_LEVEL

V\$STATISTICS\_LEVEL lists the status of the statistics/advisories controlled by STATISTICS\_LEVEL.

Column	Datatype	Description
STATISTICS_NAME	VARCHAR2(64)	Name of the statistics/advisory
DESCRIPTION	VARCHAR2(4000)	Description of the statistics/advisory
SESSION_STATUS	VARCHAR2(8)	(ENABLED/DISABLED) Status of the statistics/advisory for this session
SYSTEM_STATUS	VARCHAR2(8)	(ENABLED/DISABLED) Status of the statistics/advisory system-wide
ACTIVATION_LEVEL	VARCHAR2(7)	Indicates the level of STATISTICS_LEVEL that enables this statistics/advisory (BASIC, TYPICAL, or ALL)

---

Column	Datatype	Description
STATISTICS_VIEW_NAME	VARCHAR2( 64 )	If there is a single view externalizing this statistics/advisory, then this column contains the name of that view. If there is no such view, then this column is empty. If there are multiple views involved, then the DESCRIPTION column mentions the view names.
SESSION_SETTABLE	VARCHAR2( 3 )	Indicates whether this statistics/advisory can be set at the session level (YES) or not (NO)

---

## V\$STATNAME

This view 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  <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
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> </ul>

---

### See Also:

- "V\$SESSTAT" on page 3-138 and "V\$SYSSTAT" on page 3-174
- Appendix C, "Statistics Descriptions" for a description of each statistic
- Your operating system-specific Oracle documentation

## 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.

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</li><li>■ APPLYING</li><li>■ SHUTTING DOWN CLEANLY</li><li>■ ABORTING</li></ul>
APPLY#	NUMBER	Apply process number. An apply process is an Oracle background process, prefixed by ap.
APPLY_NAME	VARCHAR2(30)	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_ERRORS	NUMBER	Number of transactions applied by the apply process that resulted in an apply error since the apply process was last started
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.

Column	Datatype	Description
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 last started
ELAPSED_SCHEDULE_TIME	NUMBER	Time elapsed (in hundredths of a second) scheduling messages since the apply process was last started

---

**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.

---

## V\$STREAMS\_APPLY\_READER

V\$STREAMS\_APPLY\_READER displays information about each apply reader. The apply reader for an apply process is a process which reads (dequeues) messages from the queue, computes message dependencies, builds transactions, and passes the transactions on to the apply process coordinator in commit order for assignment to the apply servers.

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 ap.
APPLY_NAME	VARCHAR2( 30 )	Name of the apply process

## V\$STREAMS\_APPLY\_SERVER

---

Column	Datatype	Description
STATE	VARCHAR2(17)	State of the reader: <ul style="list-style-type: none"><li>■ IDLE</li><li>■ DEQUEUE MESSAGES</li><li>■ SCHEDULE MESSAGES</li></ul>
TOTAL_MESSAGES_DEQUEUED	NUMBER	Total number of messages dequeued since the apply process was last started
DEQUEUE_TIME	DATE	Time 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 enqueue into the queue at the local database.
SGA_USED	NUMBER	Amount of SGA memory used (in bytes) 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.

---

**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.

---

## V\$STREAMS\_APPLY\_SERVER

V\$STREAMS\_APPLY\_SERVER displays information about each apply server and its activities. An apply server receives events from the apply coordinator for an apply process. For each event received, an apply server either applies the event or sends the event to the appropriate apply handler.

Column	Datatype	Description
SID	NUMBER	Session ID of the apply server's session
SERIAL#	NUMBER	Serial number of the apply server's session

Column	Datatype	Description
APPLY#	NUMBER	Apply process number. An apply process is an Oracle background process, prefixed by ap.
APPLY_NAME	VARCHAR2(30)	Name of the apply process
SERVER_ID	NUMBER	Parallel execution server number of the apply server
STATE	VARCHAR2(20)	<p>State of the apply server:</p> <ul style="list-style-type: none"> <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 drops a partition that was 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 none 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>▪ WAIT FOR NEXT CHUNK - Waiting for the next set of logical change records (LCRs) for a large transaction</li> </ul>
XIDUSN	NUMBER	Transaction ID undo segment number of the transaction currently being applied
XIDS LT	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_XIDS LT	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

## V\$STREAMS\_CAPTURE

---

Column	Datatype	Description
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
TOTAL_ADMIN	NUMBER	Total number of administrative jobs done by the apply server since the apply process was last started. See the STATE information in this view for the types of administrative jobs.
TOTAL_MESSAGES_APPLIED	NUMBER	Total number of messages applied by this apply server since the apply process was last started
APPLY_TIME	DATE	Time 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

---

**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.

---

## V\$STREAMS\_CAPTURE

V\$STREAMS\_CAPTURE displays information about each capture process.

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 cp.
CAPTURE_NAME	VARCHAR2(30)	Name of the capture process

Column	Datatype	Description
STARTUP_TIME	DATE	Time when the capture process was last started
STATE	VARCHAR2(17)	<p>State of the capture process:</p> <ul style="list-style-type: none"> <li>▪ INITIALIZING</li> <li>▪ CAPTURING CHANGES</li> <li>▪ EVALUATING RULE</li> <li>▪ ENQUEUING MESSAGE</li> <li>▪ SHUTTING DOWN</li> <li>▪ CREATING LCR</li> </ul>
TOTAL_MESSAGES_CAPTURED	NUMBER	Total changes captured since the capture process was last started
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_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
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 logical change records (LCRs) since the capture process was last started

---

**Note:** The ELAPSED\_CAPTURE\_TIME, ELAPSED\_RULE\_TIME, ELAPSED\_ENQUEUE\_TIME, and ELAPSED\_LCR\_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.

---

## V\$SUBCACHE

This view 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 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

## V\$SYSSTAT

This view lists 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  Note: 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
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></ul>

Column	Datatype	Description
VALUE	NUMBER	Statistic value

**See Also:** "V\$STATNAME" on page 3-167 and Appendix C, "Statistics Descriptions"

## V\$SYSTEM\_CURSOR\_CACHE

This view displays similar information to the V\$SESSION\_CURSOR\_CACHE view except that this information is system wide.

**See Also:** "V\$SESSION\_CURSOR\_CACHE" on page 3-134

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 you found an open cursor divided by the number of times you looked for a cursor

## V\$SYSTEM\_EVENT

This view contains 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, 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" on page 1-162

Column	Datatype	Description
EVENT	VARCHAR2( 64 )	The name of the wait event
TOTAL_WAITS	NUMBER	The total number of waits for this event
TOTAL_TIMEOUTS	NUMBER	The total number of timeouts for this event
TIME_WAITED	NUMBER	The total amount of time waited for this event, in hundredths of a second

## V\$SYSTEM\_PARAMETER

---

Column	Datatype	Description
AVERAGE_WAIT	NUMBER	The average amount of time waited for this event, in hundredths of a second

## 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( 64 )	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( 512 )	Instance-wide parameter value
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)
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>
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)
DESCRIPTION	VARCHAR2(64)	Description of the parameter
UPDATE_COMMENT	VARCHAR2(255)	Comments associated with the most recent update

## 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(64)	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(512)	Parameter value
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)

## V\$TABLESPACE

---

Column	Datatype	Description
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>
ISMODIFIED	VARCHAR2(8)	Indicates how the parameter was modified. If an ALTER SYSTEM was performed, the value will be MODIFIED.
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)
DESCRIPTION	VARCHAR2(64)	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

## V\$TABLESPACE

This view 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 BACKUP DATABASE RMAN command (YES) or not (NO). NO only if the CONFIGURE EXCLUDE RMAN command was used for this tablespace.

## V\$TEMP\_CACHE\_TRANSFER

V\$TEMP\_CACHE\_TRANSFER displays the number of blocks pinged per datafile. This information in turn can be used to determine access patterns to existing datafiles and deciding new mappings from datafile blocks to PCM locks.

Column	Datatype	Description
FILE_NUMBER	NUMBER	Number of the datafile
X_2_NULL	NUMBER	Number of lock conversions from Exclusive-to-NULL for all blocks in the file
X_2_NULL_FORCED_WRITE	NUMBER	Number of forced writes that occur for blocks of the specified file due to Exclusive-to-NULL conversions
X_2_NULL_FORCED_STALE	NUMBER	Number of times a block in the file was made STALE due to Exclusive-to-NULL conversions
X_2_S	NUMBER	Number of lock conversions from Exclusive-to-Shared for all blocks in the file
X_2_S_FORCED_WRITE	NUMBER	Number of forced writes that occur for blocks of the specified file due to Exclusive-to-Shared conversions
S_2_NULL	NUMBER	Number of lock conversions from Shared-to-NULL for all blocks in the file
S_2_NULL_FORCED_STALE	NUMBER	Number of times a block in the file was made STALE due to Shared-to-NULL conversions
RBR	NUMBER	Number of times the instance received a reuse block range cross instance call for this file
RBR_FORCED_WRITE	NUMBER	Number of blocks written due to reuse block range cross instance calls for this file
NULL_2_X	NUMBER	Number of lock conversions from NULL-to-Exclusive for all blocks of the specified file
S_2_X	NUMBER	Number of lock conversions from Shared-to-Exclusive for all blocks of the specified file
NULL_2_S	NUMBER	Number of lock conversions from NULL-to-Shared for all blocks of the specified file

## V\$TEMP\_EXTENT\_MAP

This view displays the status of each unit for all LOCALLY MANAGED temporary tablespaces.

Column	Datatype	Description
TABLESPACE_NAME	NUMBER	Name of tablespace this unit belongs to
FILE_ID	NUMBER	Absolute file number
BLOCK_ID	NUMBER	Begin block number for this unit
BYTES	NUMBER	Bytes in extent
BLOCKS	NUMBER	Blocks in extent

## V\$TEMP\_EXTENT\_POOL

---

Column	Datatype	Description
OWNER	NUMBER	Which instance own this unit (string)
RELATIVE_FNO	NUMBER	The relative file number

## V\$TEMP\_EXTENT\_POOL

This view displays the state of temporary space cached and used for a given instance. Note that loading of the temporary space cache is lazy, and that instances can be dormant. Use GV\$TEMP\_EXTENT\_POOL for information about all instances.

Column	Datatype	Description
TABLESPACE_NAME	VARCHAR2 ( 30 )	Name of the tablespace
FILE_ID	NUMBER	Absolute file number
EXTENTS_CACHED	NUMBER	How many extents have been cached
EXTENTS_USED	NUMBER	How many extents are actually being used
BLOCKS_CACHED	NUMBER	How many blocks are cached
BLOCKS_USED	NUMBER	How many blocks are used
BYTES_CACHED	NUMBER	How many bytes are cached
BYTES_USED	NUMBER	How many bytes used
RELATIVE_FNO	NUMBER	The relative file number

## V\$TEMP\_SPACE\_HEADER

This view 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	Description
TABLESPACE_NAME	VARCHAR2 ( 30 )	The name of the temporary tablespace
FILE_ID	NUMBER	The 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

## V\$TEMPFILE

This view displays tempfile information.

Column	Datatype	Description
FILE#	NUMBER	The absolute file number
CREATION_CHANGE#	NUMBER	The creation System Change Number (SCN)
CREATION_TIME	DATE	The creation time
TS#	NUMBER	The tablespace number
RFILE#	NUMBER	The relative file number in tablespace
STATUS	VARCHAR2(7)	The status of the file (OFFLINE   ONLINE)
ENABLED	VARCHAR2(10)	Enabled for read and/or write
BYTES	NUMBER	The size of the file in bytes (from file header)
BLOCKS	NUMBER	The size of the file in blocks (from file header)
CREATE_BYTES	NUMBER	The creation size of the file (in bytes)
BLOCK_SIZE	NUMBER	The block size for the file
NAME	VARCHAR2(513)	The name of the file

## V\$TEMPORARY\_LOBS

This view displays temporary lobs.

Column	Datatype	Description
SID	NUMBER	Session ID
CACHE_LOBS	NUMBER	Number cache temp lobs
NOCACHE_LOBS	NUMBER	Number of nocache temp lobs

## V\$TEMPSEG\_USAGE

This view describes temporary segment usage.

Column	Datatype	Description
USERNAME	VARCHAR2(30)	User who requested temporary space
USER	VARCHAR2(30)	This column is obsolete and maintained only for compatibility reasons. The value of this column is always equal to the value in USERNAME.
SESSION_ADDR	RAW(4   8)	Address of shared SQL cursor

## V\$TEMPSTAT

---

Column	Datatype	Description
SESSION_NUM	NUMBER	Serial number of session
SQLADDR	RAW(4   8)	Address of SQL statement
SQLHASH	NUMBER	Hash value of SQL statement
TABLESPACE	VARCHAR2(31)	Tablespace in which space is allocated
CONTENTS	VARCHAR2(9)	Indicates whether tablespace is TEMPORARY or PERMANENT
SEGTTYPE	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

## V\$TEMPSTAT

This view contains 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
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

Column	Datatype	Description
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

## V\$THREAD

This view contains thread information from the control file.

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
INSTANCE	VARCHAR2(16)	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

## V\$TIMER

This view lists the elapsed time in hundredths of seconds. 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

## V\$TIMEZONE\_NAMES

This view lists 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)

## V\$TRANSACTION

This view 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
START_UEXT	NUMBER	Start extent number
START_UBAFIL	NUMBER	Start UBA file number

Column	Datatype	Description
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	VARCHAR 2( 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	Dependent SCN base
DSCN-W	NUMBER	Dependent SCN 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

## 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

## V\$TYPE\_SIZE

---

Column	Datatype	Description
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	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

## V\$TYPE\_SIZE

This view lists 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

## 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 1008 rows, spanning a 7 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 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.
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

## V\$VERSION

---

Column	Datatype	Description
EXPBLKREUCNT	NUMBER	Number of expired undo blocks reused within the same undo segments
SSOLDERRCNT	NUMBER	Identifies the number of times the error ORA-01555 occurred. You can use this statistic to decide whether or not the UNDO_RETENTION initialization parameter is set properly given the size of the undo tablespace. Increasing the value of UNDO_RETENTION 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.

## V\$VERSION

This view lists version numbers of core library components in the Oracle database server. There is one row for each component.

Column	Datatype	Description
BANNER	VARCHAR2(64)	Component name and version number

## V\$VPD\_POLICY

This view lists 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
CHILD_NUMBER	NUMBER	Cursor's child number under the parent
OBJECT_OWNER	VARCHAR2(30)	Owner of the object with policy
OBJECT_NAME	VARCHAR2(30)	Name of the object with policy
POLICY_GROUP	VARCHAR2(30)	Name of the policy group
POLICY	VARCHAR2(30)	Name of the policy
POLICY_FUNCTION_OWNER	VARCHAR2(30)	Owner of the policy function
PREDICATE	VARCHAR2(4096)	Predicate for the policy, truncated to 4096 bytes in length

## V\$WAITSTAT

This view lists 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



# 4

---

## Database Limits

This chapter 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

## Datatype Limits

**See Also:** *Oracle9i SQL Reference* for information on the rules and limitations governing the use of datatypes, naming database objects and parts of objects

## Physical Database Limits

Item	Type of Limit	Limit Value
Database Block Size	Minimum	2048 bytes; must be a multiple of operating system physical block size
	Maximum	Operating system dependent; never more than 32 KB
Database Blocks	Minimum in initial extent of a segment.	2 blocks
	Maximum per datafile	Platform dependent; typically $2^{22}-1$ blocks
Controlfiles	Number of control files	1 minimum; 2 or more (on separate devices) strongly recommended
	Size of a control file	Dependent on operating system and database creation options; maximum of 20,000 x (database block size)
Database files	Maximum per tablespace	Operating system dependent; usually 1022
	Maximum per database	65533 May be less on some operating systems Limited also by size of database blocks and by the DB_FILES initialization parameter for a particular instance
Database extents	Maximum	4 GB, regardless of the maximum file size allowed by the operating system
Database file size	Maximum	Operating system dependent. Limited by maximum operating system file size; typically $2^{22}$ or 4M blocks
MAXEXTENTS	Default value	Derived from tablespace default storage or DB_BLOCK_SIZE initialization parameter
	Maximum	Unlimited

Item	Type of Limit	Limit Value
Redo Log Files	Maximum number of logfiles	Limited by value of MAXLOGFILES parameter in the CREATE DATABASE statement  Control file can be resized to allow more entries; ultimately an operating system limit
	Maximum number of logfiles per group	Unlimited
Redo Log File Size	Minimum size	50 KB
	Maximum size	Operating system limit; typically 2 GB
Tablespaces	Maximum number per database	64 K  Number of tablespaces cannot exceed the number of database files, as each tablespace must include at least one file

## Logical Database Limits

Item	Type	Limit
GROUP BY clause	Maximum length	The GROUP BY expression and all of the nondistinct aggregate functions (for example, SUM, AVG) must fit within a single database block.
Indexes	Maximum per table	Unlimited
	total size of indexed column	75% of the database block size minus some overhead
Columns	Per table	1000 columns maximum
	Per index (or clustered index)	32 columns maximum
	Per bitmapped index	30 columns maximum
Constraints	Maximum per column	Unlimited
Subqueries	Maximum levels of subqueries in a SQL statement	Unlimited in the FROM clause of the top-level query  255 subqueries in the WHERE clause

Item	Type	Limit
Partitions	Maximum length of linear partitioning key	4 KB - overhead
	Maximum number of columns in partition key	16 columns
	Maximum number of partitions allowed per table or index	64 K-1 partitions
Rollback Segments	Maximum number per database	No limit; limited within a session by the <code>MAX_ROLLBACK_SEGMENTS</code> initialization parameter
Rows	Maximum number per table	Unlimited
SQL Statement Length	Maximum length of statements	64 K maximum; particular tools may impose lower limits
Stored Packages	Maximum size	PL/SQL and Developer/2000 may have limits on the size of stored procedures they can call. The limits typically range from 2000 to 3000 lines of code.  <b>See Also:</b> Your PL/SQL or Developer/2000 documentation for details
Trigger Cascade Limit	Maximum value	Operating system-dependent, typically 32
Users and Roles	Maximum	2,147,483,638
Tables	Maximum per clustered table	32 tables
	Maximum per database	Unlimited

## Process and Runtime Limits

Item	Type	Limit
Instances per database	Maximum number of cluster database instances per database	Operating system-dependent
Locks	Row-level	Unlimited
	Distributed Lock Manager	Operating system dependent
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
Advanced Queuing Processes	Maximum per instance	10

Item	Type	Limit
Job Queue Processes	Maximum per instance	1000
I/O Slave Processes	Maximum per background process (DBWR, LGWR, etc.)	15
	Maximum per Backup session	15
Sessions	Maximum per instance	32 KB; limited by the PROCESSES and SESSIONS initialization parameters
Global Cache Service Processes	Maximum per instance	10
Shared Servers	Maximum per instance	Unlimited within constraints set by the PROCESSES and SESSIONS initialization parameters, for instance
Dispatchers	Maximum per instance	Unlimited within constraints set by PROCESSES and SESSIONS initialization parameters, for instance
Parallel Execution Slaves	Maximum per instance	Unlimited within constraints set by PROCESSES and SESSIONS initialization parameters, for instance
Backup Sessions	Maximum per instance	Unlimited within constraints set by PROCESSES and SESSIONS initialization parameters, for instance



# 5

---

## SQL Scripts

This chapter describes SQL scripts that are required for optimal operation of Oracle.

The SQL scripts are described in the following sections:

- [Creating the Data Dictionary](#)
- [Creating Additional Data Dictionary Structures](#)
- [The "NO" Scripts](#)
- [Database Migration Scripts](#)
- [Java Scripts](#)

---

**Note:** Comments within the SQL scripts themselves contain more detailed information and examples.

---

## 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 5–1** 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, or if you upgrade and subsequently downgrade a database. To run these scripts, you must be connected to Oracle as a user with SYSDBA privileges.

**Table 5–1 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 Grants PUBLIC access to the synonyms
catproc.sql	All databases	Runs all scripts required for, or used with PL/SQL
catclust.sql	Real Application Clusters	Creates Oracle9 <i>i</i> 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
- *Oracle9i Database Administrator's Guide* for more information about creating a database
- Your release notes and *Oracle9i Database Migration* to learn when it is necessary to run these scripts

## Creating Additional Data Dictionary Structures

Oracle supplies other scripts that create additional structures you can use in managing your database and creating database applications. These scripts are listed in [Table 5–2](#).

**See Also:** Your operating system-specific Oracle documentation for the exact names and locations of these scripts on your operating system

**Table 5–2 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
catexp7.sql	Exporting data to Oracle7	SYS	Creates the dictionary views needed for the Oracle7 Export utility to export data from Oracle9i in Oracle7 Export file format
caths.sql	Heterogeneous Services	SYS	Installs packages for administering heterogeneous services
catio.sql	Performance management	SYS	Allows I/O to be traced on a table-by-table basis
catoctk.sql	Security	SYS	Creates the Oracle Cryptographic Toolkit package
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
catrman.sql	Recovery Manager	RMAN or any user with GRANT_RECOVERY_CATALOG_OWNER role	Creates recovery manager tables and views (schema) to establish an external recovery catalog for the backup, restore, and recovery functionality provided by the Recovery Manager (RMAN) utility
dbmsiotc.sql	Storage management	Any user	Analyzes chained rows in index-organized tables
dbmsotrc.sql	Performance management	SYS or SYSDBA	Enables and disables generation of Oracle Trace output

**Table 5–2 (Cont.) Creating Additional Data Dictionary Structures**

<b>Script Name</b>	<b>Needed For</b>	<b>Run By</b>	<b>Description</b>
dbmspool.sql	Performance management	SYS or SYSDBA	Enables DBA to lock PL/SQL packages, SQL statements, and triggers into the shared pool
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 utlestat.sql	Performance monitoring	SYS	Respectively start and stop collecting performance tuning statistics
utlchn1.sql	Storage management	Any user	For use with Oracle9 <i>i</i> . Creates tables for storing the output of the ANALYZE command with the CHAINED ROWS option. Can handle both physical and logical rowids.
utlconst.sql	Year 2000 compliance	Any user	Provides functions to validate that CHECK constraints on date columns are year 2000 compliant
utldtree.sql	Metadata management	Any user	Creates tables and views that show dependencies between objects
utlexpt1.sql	Constraints	Any user	For use with Oracle9 <i>i</i> . Creates the default table (EXCEPTIONS) for storing exceptions from enabling constraints. Can handle both physical and logical rowids.
utlip.sql	PL/SQL	SYS	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 STANDARD and DBMS_STANDARD, which are necessary for any PL/SQL compilations.

**Table 5–2 (Cont.) Creating Additional Data Dictionary Structures**

Script Name	Needed For	Run By	Description
utlirp.sql	PL/SQL	SYS	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 STANDARD and DBMS_STANDARD, which are necessary for using PL/SQL. Finally, it triggers a recompilation of all PL/SQL modules, such as packages, procedures, and types.
utllockt.sql	Performance monitoring	SYS or SYSDBA	Displays a lock wait-for graph, in tree structure format
utlpwdmg.sql	Security	SYS or SYSDBA	Creates PL/SQL functions for default password complexity verification. Sets the default password profile parameters and enables password management features.
utlrp.sql	PL/SQL	SYS	Recompiles all existing PL/SQL modules that were previously in an INVALID state, such as packages, procedures, and types.
utlsampl.sql	Examples	SYS or any user with DBA role	Creates sample tables, such as emp and dept, and users, such as scott
utlscln.sql	Oracle Replication	Any user	Copies a snapshot schema from another snapshot site
utltkprf.sql	Performance management	SYS	Creates the TKPROFER role to allow the TKPROF profiling utility to be run by non-DBA users
utlvalid.sql	Partitioned tables	Any user	Creates tables required for storing output of ANALYZE TABLE ... VALIDATE STRUCTURE of a partitioned table
utlxplan.sql	Performance management	Any user	Creates the table PLAN_TABLE, which holds output from the EXPLAIN PLAN statement

## The "NO" Scripts

The scripts in [Table 5–3](#) are used to remove dictionary information for various optional services or components.

**See Also:** *Oracle9i Database Migration* for more information about these scripts

**Table 5–3 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
catnohs.sql	Heterogeneous Services	SYS	Removes Heterogeneous Services dictionary metadata
catnoprt.sql	Partitioning	SYS	Drops views and synonyms on dictionary metadata that relate to partitioned tables and indexes
catnoque.sql	Advanced Queuing	SYS	Removes Advanced Queuing dictionary metadata
catnormn.sql	Recovery Manager	Owner of recovery catalog	Removes recovery catalog schema
catnosvm.sql	Server Manager	SYS	Removes Oracle7 Server Manager views and synonyms
catnsnmp.sql	Distributed management	SYS	Drops the DBSNMP user and SNMPAGENT role

## Database Migration Scripts

The scripts in [Table 5–4](#) are useful when upgrading or downgrading to another release of Oracle. To run these scripts, you must be connected to Oracle as a user with SYSDBA privileges.

**Table 5–4 Database Migration Scripts**

Script Name	Needed For	Description
cmpdbmig.SQL	Upgrading components	Runs the database migration scripts for all components that can be upgraded when connected as a user with SYSDBA privileges
d0801070.sql	Downgrading to release 8.1.7 of Oracle	Provides a direct downgrade path from your current release of Oracle to release 8.1.7
d0900010.sql	Downgrading to release 9.0.1 of Oracle	Provides a direct downgrade path from your current release of Oracle to release 9.0.1
u0703040.sql	Upgrading from release 7.3.4 of Oracle	Provides a direct upgrade path from release 7.3.4 of Oracle to the new release
u0800060.sql	Upgrading from release 8.0.6 of Oracle	Provides a direct upgrade path from release 8.0.6 of Oracle to the new release
u0801070.sql	Upgrading from release 8.1.7 of Oracle	Provides a direct upgrade path from release 8.1.7 of Oracle to the new release
u0900010.sql	Upgrading from release 9.0.1 of Oracle	Provides a direct upgrade path from release 9.0.1 of Oracle to the new release
utlincmp.sql	Removing incompatibilities before a downgrade	Contains a set of queries that identify database objects that are incompatible with previous releases of Oracle

**See Also:** [Oracle9i Database Migration](#) for more information about these scripts

## Java Scripts

The scripts in [Table 5–5](#) are useful only if the JServer option is installed.

**See Also:** *Oracle9i Java Developer's Guide*

**Table 5–5 Java Scripts**

Script Name	Description
initjvm.sql	Initializes JServer by installing core Java class libraries and Oracle-specific Java classes
rmjvm.sql	Removes all elements of the JServer
catjava.sql	Installs Java-related packages and classes

# A

---

## Oracle Wait Events

This appendix describes the event name, wait time, and parameters for wait events displayed by the V\$SESSION\_WAIT and V\$SYSTEM\_EVENT views.

Topics covered include:

- [Displaying Wait Events](#)
- [Wait Events and Parameters](#)
- [Parameter Descriptions](#)
- [Wait Event Descriptions](#)

## Displaying 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\_EVENT" on page 3-134, "V\$SESSION\_WAIT" on page 3-137, and "V\$SYSTEM\_EVENT" on page 3-175

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.

This appendix describes the event name, wait time, and parameters for each event.

The following SQL statement displays all Oracle events:

```
SELECT * FROM V$EVENT_NAME;
```

## Wait Events and Parameters

The following wait events are present in the Oracle database server. The columns P1, P2, and P3 represent parameters for the wait event. Selected parameters and wait events are further described in the sections that follow.

Event Name	P1	P2	P3
alter system set dispatcher	waited		
ARCH random i/o			
ARCH sequential i/o			
ARCH wait on ATTACH			
ARCH wait on DETACH			
ARCH wait on SENDREQ			
async disk IO	count	intr	timeout
background parameter adjustment	parameter number		
BFILE check if exists			

Event Name	P1	P2	P3
BFILE check if open			
BFILE closure			
BFILE get length			
BFILE get name object			
BFILE get path object			
BFILE internal seek			
BFILE open			
BFILE read			
buffer busy global cache	file#	block#	id
buffer busy global CR	file#	block#	id
buffer busy waits	file#	block#	id
buffer deadlock	dba	class*10+mode	flag
buffer for checkpoint	buffer#	dba	state*10+mode
buffer latch	latch addr	chain#	not used
buffer read retry	file#	block#	not used
buffer resize			
cache simulator heap			
CGS skgnx join retry	retry count		
CGS wait for IPC msg			
checkpoint completed			
contacting SCN server or SCN lock master			
control file heartbeat			
control file parallel write	files	blocks	requests
control file sequential read	file#	block#	blocks
control file single write	file#	block#	blocks
conversion file read	block#	blocks	
cr request retry	file#	block#	
db file parallel read	files	blocks	requests
db file parallel write	files	blocks	requests
db file scattered read	file#	block#	blocks
db file sequential read	file#	block#	blocks
db file single write	file#	block#	blocks

## Wait Events and Parameters

---

Event Name	P1	P2	P3
debugger command	not used	not used	not used
DFS db file lock	file#	not used	not used
DFS lock handle	type   mode	id1	id2
direct path write	file number	first dba	block cnt
dispatcher shutdown			
dispatcher timer	sleep time	not used	not used
DLM generic wait event			
dupl. cluster key	dba	not used	not used
enqueue	name   mode	id1	id2
fib/fob latch			
file identify	fib	file name	opcode
file open	fib	iov	0
free buffer waits	file#	block#	set-id#
free global transaction table entry	tries		
free process state object			
gcs domain validation	cluinc	rcvinc	
gcs for action			
gcs remote message	waittime	poll	p3
gcs to be enabled			
ges cached resource cleanup	waittime		
ges cancel			
ges cgs de-registration			
ges cgs registration			
ges drm deferred close			
ges enter server mode			
ges generic event			
ges global resource directory to be frozen			
ges global resource directory to be unfrozen			
ges inquiry response	type   mode	id1	id2
ges lmd and pmon to attach			
ges LMD suspend for testing event			
ges LMD to inherit communication channels			

Event Name	P1	P2	P3
ges LMD to shutdown			
ges lmd/lmsses to freeze in rcfg - mrcvr			
ges lmd/lmsses to freeze in rcfg - srcvr			
ges lmd/lmsses to unfreeze in rcfg - mrcvr			
ges lmd/lmsses to unfreeze in rcfg - srcvr			
ges LMON for send buffers to be empty			
ges LMON for send queues			
ges LMON to get to FTDONE			
ges LMON to join CGS group			
ges LMS suspend for testing event			
ges master to get established for SCN op			
ges performance test completion			
ges pmon to exit			
ges proc table latch - kjdrptref			
ges process allocation			
ges process with outstanding i/o	pid		
ges reconfiguration to start			
ges remote message	waittime	loop	p3
ges resource cleanout during enqueue open			
ges resource cleanout during enqueue open-cvt			
ges reusing os pid	pid	count	
ges server qs to be empty - kjbrrit			
ges1 LMON to wake up LMD			
ges1 LMON to wake up LMD - mrcvr			
ges2 LMON to wake up LMD - mrcvr			
ges2 LMON to wake up LMD - srcvr			
ges2 LMON to wake up lms - mrcvr 2			
global cache assume wait	le		
global cache bg acks	count	loops	
global cache busy	file#	block#	id
global cache cancel wait	le		
global cache claim wait			

## Wait Events and Parameters

---

Event Name	P1	P2	P3
global cache cr cancel wait	le		
global cache cr disk request	file#	block#	le
global cache cr request	file#	block#	le
global cache domain validation			
global cache freelist wait			
global cache null to s	file#	block#	le
global cache null to x	file#	block#	le
global cache open s	file#	block#	le
global cache open x	file#	block#	le
global cache pending ast	le		
global cache pred cancel wait	le		
global cache recovery free wait			
global cache recovery quiesce wait	le		
global cache retry prepare	file#	block#	
global cache s to x	file#	block#	le
i/o slave wait	msg ptr		
imm op	msg ptr		
inactive session	session#	waited	
inactive transaction branch	branch#	waited	
index (re)build online cleanup	object	mode	wait
index (re)build online merge	object	mode	wait
index (re)build online start	object	mode	wait
index block split	rootdba	level	childdba
instance recovery	undo segment#		
instance state change	layer	value	waited
io done	msg ptr		
IPC busy async request			
IPC send completion sync		send count	
IPC wait for name service busy			
IPC waiting for OSD resources			
jobq slave wait			
KJC: Wait for msg sends to complete			

Event Name	P1	P2	P3
kjctcisnd: Queue/Send client message			
kjctssqmg: quick message send wait			
kksfbc child completion			
kksfbc research			
kkshgnc reloop			
kkssl hash split			
ksxr poll remote instances			
L1 validation	seghdr	l1bmb	
latch activity	address	number	process#
latch free	address	number	tries
LGWR random i/o			
LGWR sequential i/o			
LGWR wait for redo copy	copy latch #		
LGWR wait on ATTACH			
LGWR wait on DETACH			
LGWR wait on LNS			
LGWR wait on SENDREQ			
library cache load lock	object address	lock address	100*mask+namespace
library cache lock	handle address	lock address	100*mode+namespace
library cache pin	handle address	pin address	100*mode+namespace
listen endpoint status	end-point#	status	
LNS wait on ATTACH			
LNS wait on DETACH			
LNS wait on LGWR			
LNS wait on SENDREQ			
local write wait	file#	block#	
lock deadlock retry			
lock escalate retry			
log buffer space			
log file parallel write	files	blocks	requests
log file sequential read	log#	block#	blocks
log file single write	log#	block#	blocks

## Wait Events and Parameters

---

Event Name	P1	P2	P3
log file switch (archiving needed)			
log file switch (checkpoint incomplete)			
log file switch (clearing log file)			
log file switch completion			
log file sync	buffer#		
log switch/archive	thread#		
multiple dbwriter suspend/resume for file offline			
name-service call wait	waittime		
null event			
parallel recovery coordinator waits for cleanup of slaves			
pending global transaction(s)	scans		
pipe get	handle address	buffer length	timeout
pipe put	handle address	record length	timeout
PL/SQL lock timer	duration		
pmmon timer	duration		
process startup	type	process#	<b>waited</b>
PX create server	nservers	sleeptime	enqueue
PX Deq Credit: free buffer	sleeptime/senderid	passes	qref
PX Deq Credit: need buffer	sleeptime/senderid	passes	qref
PX Deq Credit: send blkd	sleeptime/senderid	passes	qref
PX Deq: Execute Reply	sleeptime/senderid	passes	
PX Deq: Execution Msg	sleeptime/senderid	passes	
PX Deq: Index Merge Close	sleeptime/senderid	passes	
PX Deq: Index Merge Execute	sleeptime/senderid	passes	
PX Deq: Index Merge Reply	sleeptime/senderid	passes	
PX Deq: Join ACK	sleeptime/senderid	passes	
PX Deq: Msg Fragment	sleeptime/senderid	passes	
PX Deq: OLAP Update Close	sleeptime/senderid	passes	
PX Deq: OLAP Update Execute	sleeptime/senderid	passes	
PX Deq: OLAP Update Reply	sleeptime/senderid	passes	
PX Deq: Par Recov Change Vector	sleeptime/senderid	passes	

Event Name	P1	P2	P3
PX Deq: Par Recov Execute	sleeptime/senderid	passes	
PX Deq: Par Recov Reply	sleeptime/senderid	passes	
PX Deq: Parse Reply	sleeptime/senderid	passes	
PX Deq: reap credit			
PX Deq: Signal ACK	sleeptime/senderid	passes	
PX Deq: Table Q Close	sleeptime/senderid	passes	
PX Deq: Table Q Get Keys	sleeptime/senderid	passes	
PX Deq: Table Q Normal	sleeptime/senderid	passes	
PX Deq: Table Q qref	sleeptime/senderid	passes	
PX Deq: Table Q Sample	sleeptime/senderid	passes	
PX Deq: Test for msg	sleeptime/senderid	passes	
PX Deq: Txn Recovery Reply	sleeptime/senderid	passes	
PX Deq: Txn Recovery Start	sleeptime/senderid	passes	
PX Deque wait	sleeptime/senderid	passes	
PX Idle Wait	sleeptime/senderid	passes	
PX Nsq: PQ descriptor query			
PX Nsq: PQ load info query			
PX qref latch	function	sleeptime	qref
PX Send Wait			
PX server shutdown	nalive	sleeptime	loop
PX signal server	serial	error	nbusy
PX slave connection			
PX slave release			
queue messages	queue id	process#	wait time
rdbms ipc message	timeout		
rdbms ipc message block			
rdbms ipc reply	from_process	timeout	
recovery read			
refresh controlfile command			
reliable message	channel context	channel handle	broadcast message
Replication Dequeue	sleeptime/senderid	passes	
resmgr:wait in actses run			

## Wait Events and Parameters

---

Event Name	P1	P2	P3
resmgr:waiting for cschlat1			
resmgr:waiting for cschlat2			
resmgr:waiting for cschlat3			
resmgr:waiting for cschlat4			
resmgr:waiting in check			
resmgr:waiting in check2			
resmgr:waiting in end wait			
resmgr:waiting in end wait2			
resmgr:waiting in enter			
resmgr:waiting in enter2			
resmgr:waiting in run (queued)			
resmgr:waiting in shutdown			
resmgr:waiting in system stop			
retry contact SCN lock master			
RFS random i/o			
RFS sequential i/o			
row cache lock	cache id	mode	request
row cache read	cache id	address	times
sbtbackup			
sbtclose			
sbtclose2			
sbtcommand			
sbtend			
sbterror			
sbtinfo			
sbtinfo2			
sbtinit			
sbtinit2			
sbtopen			
sbtpcbackup			
sbtpccancel			
sbtppcommit			

Event Name	P1	P2	P3
sbtpcend			
sbtpcquerybackup			
sbtpcqueryrestore			
sbtpcrestore			
sbtpcstart			
sbtpcstatus			
sbtpcvalidate			
sbtread			
sbtread2			
sbtremove			
sbtremove2			
sbtrestore			
sbtwrite			
sbtwrite2			
scginq AST call			
secondary event	event #	wait time	
select wait			
single-task message			
slave exit	native	sleeptime	loop
slave shutdown wait			
slave TJ process wait			
smon timer	sleep time	failed	
sort segment request			
SQL*Net break/reset to client	driver id	break?	not used
SQL*Net break/reset to dblink	driver id	break?	not used
SQL*Net message from client	driver id	#bytes	not used
SQL*Net message from dblink	driver id	#bytes	not used
SQL*Net message to client	driver id	#bytes	not used
SQL*Net message to dblink	driver id	#bytes	not used
SQL*Net more data from client	driver id	#bytes	not used
SQL*Net more data from dblink	driver id	#bytes	not used
SQL*Net more data to client	driver id	#bytes	not used

## Wait Events and Parameters

---

Event Name	P1	P2	P3
SQL*Net more data to dblink	driver id	#bytes	not used
statement suspended, wait error to be cleared			
STREAMS apply coord waiting for slave message			
STREAMS apply slave waiting for coord message			
STREAMS capture process filter callback wait for ruleset			
STREAMS capture process waiting for archive log			
STREAMS fetch slave waiting for txns			
Streams: Waiting for DDL to apply	sleep time		
switch logfile command			
switch undo - offline			
timer in sksawat			
trace continue	delay time		
trace unfreeze			
trace writer flush			
trace writer I/O			
transaction	undo seg#   slot#	wrap#	count
txn to complete			
unbound tx			
undo segment extension	segment#		
undo segment recovery	segment#	tx flags	
undo segment tx slot	segment#		
virtual circuit status	circuit#	status	
wait for a parallel reco to abort			
wait for a undo record			
wait for activate message			
wait for another txn - rollback to savepoint			
wait for another txn - txn abort			
wait for another txn - undo rcv abort			
wait for assert messages to be sent			

Event Name	P1	P2	P3
Wait for Dictionary Build to lock all tables			
wait for EMON to spawn			
wait for FMON to come up			
wait for Logical Standby Apply shutdown			
wait for master scn	waittime		
wait for membership change			
wait for membership synchronization			
wait for message ack			
wait for MTTR advisory state object			
wait for name service busy			
wait for possible quiesce finish			
wait for record update			
wait for rr lock release			
wait for scn from all nodes	waittime		
wait for split-brain resolution			
wait for stopper event to be increased			
wait for sync ack	cluinc	pending_nd	
wait for tmc2 to complete			
wait for transaction			
wait for unread message on broadcast channel	channel context	channel handle	
wait for unread message on multiple broadcast channels	channel context	channel handle count	
wait for verification ack	cluinc	pending_insts	
wait for votes			
wait list latch activity	address	number	process#
wait list latch free	address	number	tries
waiting to get CAS latch			
waiting to get RM CAS latch			
wakeup event for builder			
wakeup event for preparer			
wakeup event for reader			
wakeup time manager			

Event Name	P1	P2	P3
write complete waits	file#	block#	
writes stopped by instance recovery or database suspension	by thread#	our thread#	

## Parameter Descriptions

### **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, enter the following SQL statements:

```
select name, kind
from ext_to_obj_view
where file# = file#
      and lowb <= block#
      and highb >= block#;
```

### **blocks**

The number of blocks that is being either read from or written to the file. The block size is dependent on the file type:

- Database files have a block size of DB\_BLOCK\_SIZE
- Logfiles and controlfiles 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 4 represents segment header.

### **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$logfile
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).

**le**

The relative index number into V\$GC\_ELEMENT.

**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 A-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, 65536) "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.

## **Wait Event Descriptions**

This section describes some of the more common Oracle events in more detail.

## alter system set dispatchers

A session has issued a statement ALTER SYSTEM SET DISPATCHERS = string and is waiting for the dispatchers to get started.

**Wait Time:** The session will wait 1 / 100 of a second and check to see if the new dispatchers have started else the session will wait again

**Parameters:**

*waited*      Number of times that the session has waited 1 / 100 of a second

## batched allocate scn lock request

A session is waiting on another process to allocate a system change number (SCN). If the foreground timed out waiting on a process to get the SCN, the foreground will get the SCN.

**Wait Time:** The wait time is 1 second on the assumption that an SCN allocation should normally need much less than that

**Parameters:** None

## 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

**Parameters:**

*session#*      See "[session#](#)" on page A-16

*waited*      See "[waited](#)" on page A-16

## BFILE check if open

The session waits to check if an external large object (LOB) has already been opened.

**Wait Time:** The total elapsed time for the **isopen** call

**Parameters:**

*session#*      See "[session#](#)" on page A-16

*waited*      See "[waited](#)" on page A-16

## BFILE closure

The session waits for an external large object (LOB) to close.

**Wait Time:** The total elapsed time for the **close** call

**Parameters:**

*session#*      See "[session#](#)" on page A-16

*waited*      See "[waited](#)" on page A-16

## 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

**Parameters:**

*session#*      See "[session#](#)" on page A-16

*waited*      See "[waited](#)" on page A-16

## 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 elapse time for **make external file name** to complete

**Parameters:**

*session#*      See "[session#](#)" on page A-16

*waited*      See "[waited](#)" on page A-16

## 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

**Parameters:**

*session#* See "[session#](#)" on page A-16  
*waited* See "[waited](#)" on page A-16

## BFILE internal seek

The session waits for a positioning call within the external large object (LOB) to complete.

**Wait Time:** The total elapse time for the **seek** to complete

**Parameters:**

*session#* See "[session#](#)" on page A-16  
*waited* See "[waited](#)" on page A-16

## BFILE open

The session waits to check if an external large object (LOB) has already been opened.

**Wait Time:** The total elapsed time for the **isopen** call

**Parameters:**

*session#* See "[session#](#)" on page A-16  
*waited* See "[waited](#)" on page A-16

## BFILE read

The session waits for a read from a external large object (LOB) to complete.

**Wait Time:** The total elapse time for the **read** to complete

**Parameters:**

*session#* See "[session#](#)" on page A-16  
*waited* See "[waited](#)" on page A-16

## buffer busy waits

Wait until a buffer becomes available. This event happens because a buffer is either being read into the buffer cache by another session (and the session is waiting for that read to complete) or the buffer is in the buffer cache, but in an incompatible mode (that is, some other session is changing the buffer).

**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.

**Parameters:**

<i>file#</i>	See " <a href="#">file#</a> " on page A-15
<i>block#</i>	See " <a href="#">block#</a> " on page A-14
<i>id</i>	The buffer busy wait event is called from different places in the session

## 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.

**Parameters:**

<i>class</i>	See " <a href="#">class</a> " on page A-14
<i>mode</i>	See " <a href="#">mode</a> " on page A-15
<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> " on page A-14

## buffer for checkpoint

The buffer could not be checkpointed, because some process is modifying it. This means that after the wait, the DBWR will scan the whole buffer cache again. This could happen during a database close or after a user does a local checkpoint. During this situation the database cannot be closed.

**Wait Time:** 1 second

**Parameters:**

<i>dba</i>	See " <a href="#">dba</a> " on page A-14
<i>state</i>	State refers to the status of the buffer contents
<i>mode</i>	See " <a href="#">mode</a> " on page A-15
<i>buffer#</i>	This is the index of the block in the buffer cache (V\$BH)

## buffer latch

The session waits on the buffer hash chain latch. Primarily used in the dump routines.

**Wait Time:** 1 second

**Parameters:**

<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:
-------------------	---

```
select *
from v$Latch a, v$LatchName b
where addr = latch addr
and a.latch# = b.latch#;
```

<i>chain#</i>	The index into array of buffer hash chains. When the chain is 0xffffffff, the foreground waits on the LRU latch.
---------------	--

## 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 re-read (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

**Parameters:**

- |               |   |
|---------------|---|
| <i>file#</i>  | See " <a href="#">file#</a> " on page A-15  |
| <i>block#</i> | See " <a href="#">block#</a> " on page A-14 |

## **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

## **checkpoint range buffer not saved**

During a range checkpoint operation a buffer was found that was not saved or written. Either:

- The session will wait on this event if the write batch is empty and it is the first time that the session waited on this event in the range checkpoint operation
- The current range checkpoint operation will be aborted and a new one will be started to complete the operation

**Wait Time:** 10 milliseconds

**Parameters:** None

## **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 make sure that 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

**Parameters:**

---

<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

## control file sequential read

Reading from the control file. This happens in many cases. For example, while:

- Making a backup of the controlfiles
- Sharing information (between instances) from the controlfile
- Reading other blocks from the controlfiles
- Reading the header block

**Wait Time:** The wait time is the elapsed time of the read

**Parameters:**

<i>file#</i>	The controlfile from which the session is reading
<i>block#</i>	Block number in the controlfile 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

## 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

**Parameters:**

<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 read

## conversion file read

This event occurs during the creation of a Version 7 controlfile as part of converting a database to Version 7 from Version 6.

**Wait Time:** The wait time is the elapsed time of the read

**Parameters:**

<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 read

## db file parallel read

This happens during recovery. Database blocks that need to be changed as part of recovery are read in parallel from the database.

**Wait Time:** Wait until all of the I/Os are completed

**Parameters:**

<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

## db file parallel write

This event occurs in the DBWR. It indicates that the DBWR is performing a parallel write to files and blocks. The parameter *requests* indicates the real number of I/Os that are being performed. When the last I/O has gone to disk, the wait ends.

**Wait Time:** Wait until all of the I/Os are completed

**Parameters:**

<i>files</i>	This indicates the number of files to which the session is writing
<i>blocks</i>	This indicates the total number of blocks to be written
<i>requests</i>	This indicates the total number of I/O requests, which will be the same as blocks

## db file scattered read

Similar to **db file sequential read**, 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

**Parameters:**

*file#* See "[file#](#)" on page A-15

*block#* See "[block#](#)" on page A-15

*blocks* The number of blocks that the session is trying to read from the *file#* starting at *block#*

## 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 datafile headers, and getting the database file headers.

**Wait Time:** The wait time is the actual time it takes to do the I/O

**Parameters:**

*file#* See "[file#](#)" on page A-15

*block#* See "[block#](#)" on page A-15

*blocks* This is the number of blocks that the session is trying to read (should be 1)

## 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

**Parameters:**

*file#* See "[file#](#)" on page A-15

*block#* See "[block#](#)" on page A-15

*blocks* This is the number of blocks that the session is trying to write in *file#* starting at *block#*

## DFS db file lock

This event occurs only for the DBWR in the Oracle Real Application Cluster. Each DBWR of every instance holds a global lock on each file in shared mode. The instance that is trying to offline the file will escalate the global lock from shared to exclusive. This signals the other instances to synchronize their SGAs with the controlfile before the file can be taken offline. The name of this lock is **DF** (see [Appendix B, "Oracle Enqueue Names"](#) for more information).

**Wait Time:** 1 second in loop. The DBWR is waiting in a loop (sleep, check) for the other instances to downgrade to NULL mode. During this time, the DBWR cannot perform other tasks such as writing buffers.

**Parameter:**

*file*      See "[file#](#)" on page A-15

## 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.

**Parameters:**

*name*      See "[name and type](#)" on page A-16

*mode*      See "[mode](#)" on page A-15

*id1*      See "[id1](#)" on page A-15

*id2*      See "[id2](#)" on page A-15

The session needs to get the lock handle.

## 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.

**Parameters:**

<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

## 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.

**Parameters:**

<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

## 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 is waits on this event until the requested dispatcher is no longer alive.

**Wait Time:** 1 second

**Parameter:**

- waited*      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.

**dispatcher timer**

This basically means that the dispatcher is idle and waiting for some work to arrive.

**Wait Time:** 60 seconds

**Parameter:**

- sleep time*      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.

**duplicate 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:**

- dba*      The dba of the block into which the session is trying to insert a cluster key

**enqueue**

The session is waiting for a local enqueue. The wait is dependent on the name of the enqueue (see [Appendix B, "Oracle Enqueue Names"](#)).

**Wait Time:** Depends on the enqueue name

**Parameters:**

- name*      See "[name and type](#)" on page A-16  
*mode*      See "[mode](#)" on page A-15

## file identify

The time it takes to identify a file so that it can be opened later.

## file open

The time it takes to open the file.

## free buffer waits

This will happen if:

- All buffer gets have been suspended. This could happen when a file was read-only and is now read-write. All the existing buffers need to 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 needs to 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](#) on page C-8.

**Wait Time:** 1 second

**Parameters:**

*file#*              See "[file#](#)" on page A-15

*block#*              See "[block#](#)" on page A-14

## 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:**

<i>tries</i>	The number of times the session tried to find a free slot in the global transaction table
--------------	---

## 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 alive. If there are dead 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

## global cache busy

The session waits to convert a buffer from Shared Current to Exclusive Current status.

**Wait Time:** 1 second

**Parameters:**

*file#* See "[file#](#)" on page A-15

*block#* See "[block#](#)" on page A-15

*l*e See "lenum" on page A-8

## global cache lock cleanup

PMON is waiting for an LCK process to cleanup the lock context after a foreground process died while doing a global cache lock operation.

**Wait Time:** 1 second

**Parameters:**

*file#* See "[file#](#)" on page A-15

*block#* See "[block#](#)" on page A-15

*l*enum See "lenum" on page A-8

## global cache freelist wait

All releasable locks are used and a new one has been requested. To make a resource element available, a resource element is pinged.

**Wait Time:** The duration of the resource get operation to ping the resource element

**Parameters:** None

## global cache null to s

The session waits for a resource convert from NULL to SHARED mode on the block identified by file# and block#.

**Wait Time:** 1 second

**Parameters:**

*file#* See "[file#](#)" on page A-15

*block#* See "[block#](#)" on page A-15

*class* See "[class](#)" on page A-14

## global cache null to x

The session waits for a resource convert from NULL to EXCLUSIVE mode on the block identified by file# and block#.

**Wait Time:** 1 second

**Parameters:**

*file#* See "[file#](#)" on page A-15

*block#* See "[block#](#)" on page A-15

*lenum* See "[le](#)" on page A-15

## global cache open s

The session waits for a resource get in SHARED mode on the block identified by file# and block#.

**Wait Time:** 1 second

**Parameters:**

<i>file#</i>	See " <a href="#">file#</a> " on page A-15
<i>block#</i>	See " <a href="#">block#</a> " on page A-15
<i>class</i>	See " <a href="#">class</a> " on page A-15

## global cache open x

The session waits for a resource get in EXCLUSIVE mode on the block identified by file# and block#.

**Wait Time:** 1 second

**Parameters:**

<i>file#</i>	See " <a href="#">file#</a> " on page A-15
<i>block#</i>	See " <a href="#">block#</a> " on page A-15
<i>lenum</i>	See " <a href="#">le</a> " on page A-15

## global cache s to x

The session waits for a resource convert from SHARED to EXCLUSIVE mode on the block identified by file# and block#.

**Wait Time:** 1 second

**Parameters:**

<i>file#</i>	See " <a href="#">file#</a> " on page A-15
<i>block#</i>	See " <a href="#">block#</a> " on page A-15
<i>lenum</i>	See " <a href="#">le</a> " on page A-15

## inactive session

This event is used for two purposes:

- Switching sessions

If a time-out period has been specified, then wait that amount of time for the session to be detached.

- Killing sessions

From either KILL SESSION or internal request. Having posted a session that it should kill itself, wait for up to 1 minute for the session to terminate.

**Wait Time:** 1 second

**Parameters:**

- |                 |   |
|-----------------|---|
| <i>session#</i> | See " <a href="#">session#</a> " on page A-16 |
| <i>waited</i>   | See " <a href="#">waited</a> " on page A-16   |

## inactive transaction branch

The session waits for a transaction branch that is currently used by another session.

**Wait Time:** 1 second

**Parameters:**

- |                |   |
|----------------|---|
| <i>branch#</i> | The serial number of the transaction for which the session is waiting |
| <i>waited</i>  | See " <a href="#">waited</a> " on page A-16                           |

## index block split

While trying to find an index key in an index block, Oracle noticed that the index block was being split. Oracle will wait for the split to finish and try to find the key again.

**Wait Time:** The session will yield the CPU, so there is no actual waiting time

**Parameters:**

- |                |   |
|----------------|---|
| <i>rootdba</i> | The root of the index   |
| <i>level</i>   | This is the level of the block that the session is trying to split in the index. The leaf blocks are level 0. If the level is > 0, it is a branch block. (The root block can be considered a special branch block). |
| <i>childdb</i> | The block that the session is trying to split   |

## 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:**

*undo segment#* If the value is 0, SMON is probably performing instance recovery.  
If P1 > 0, use this query to find the undo segment:

```
select *
  from v$rollstat
 where usn = undo segment#;
```

## 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)

**Parameters:**

<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

## io done

The session waits for an I/O to complete or it waits for a slave 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:**

*msg ptr* A pointer to the I/O request

## kcl bg acks

The session waits for the background LCK process(es) to finish what they are doing.  
For example:

- Lock recovery
- Initializing the locks (start up)
- Finalizing the locks (shut down)

**Wait Time:** 10 seconds

**Parameters:**

<i>count</i>	The number of LCK processes that have finished
<i>loops</i>	The number times the process had to wait for the LCK processes to finish what they were doing

## latch activity

This event is used as part of the process of determining whether a latch needs to be cleaned.

**Wait Time:** 0.05 to 0.1 seconds

**Parameters:**

<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:  select * from v\$latchname where latch# = <i>number</i> ;
<i>process#</i>	If this is 0, it is the first phase of the in-flux tests

## 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.

**Parameters:**

<i>address</i>	The address of the latch for which the process is waiting
----------------	---

<i>number</i>	The latch number that indexes in the V\$LATCHNAME view. To find more information on the latch, use the following SQL statement:
	<pre>select * from v\$latchname where latch# = number;</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

## 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)

**Parameters:**

<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 needs to be loaded

## 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)

**Parameters:**

<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 need to be loaded
<i>namespace</i>	See " <a href="#">namespace</a> " on page A-16

## 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)

**Parameters:**

<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 needs to be loaded
<i>namespace</i>	See " <a href="#">namespace</a> " on page A-16

## lock manager wait for remote message

The lock manager waits for a message from a remote lock manager in the same configuration.

**Wait Time:** The elapsed time of the wait

**Parameter:**

<i>waittime</i>	The elapsed time of the actual wait
-----------------	-------------------------------------

## 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

## 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.

**Parameters:**

<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

## 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)

**Parameters:**

<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> " on page A-14
<i>blocks</i>	The number of blocks to read

## 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

**Parameters:**

<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> " on page A-14
<i>blocks</i>	The number of blocks to write

## 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 file to make sure 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

## 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

## 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

## log file switch completion

Waiting for a log switch to complete.

**Wait Time:** 1 second

**Parameters:** None

## log file sync

When a user session commits, the session's redo information needs to 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:**

<i>buffer#</i>	The number of the physical buffer in the redo log buffer that needs to be synchronized
----------------	--

## 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:**

<i>thread#</i>	The thread number of the thread that is currently archiving its current log
----------------	---

## on-going SCN fetch to complete

Another session is fetching the SCN (system change number). This session waits for the other session finish fetching the SCN.

**Wait Time:** 1 second

**Parameters:** None

## parallel execution create server

Used when creating or starting a parallel execution slave.

**Wait Time:** The time it takes to start all of the requested parallel execution slaves

**Parameters:**

<i>nservers</i>	The number of parallel execution slaves that are being started
<i>sleeptime</i>	Time it takes to get the processes started. The process should be started within <i>sleeptime</i>
<i>enqueue</i>	The number of blocks to read

## parallel execution dequeue 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.

**Parameters:**

<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

**parallel execution qref latch**

Each parallel execution process has a parallel execution qref latch, which needs to be acquired before the queue buffers can be manipulated.

**Wait Time:** Wait up to 1 second

**Parameters:**

<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 waits

**parallel execution server shutdown**

During normal or immediate shutdown the parallel execution slaves are posted to shutdown cleanly. If any parallel execution slaves are still alive after 10 seconds, they are killed.

**Wait Time:** Wait up to 0.5 seconds

**Parameters:**

<i>nalive</i>	The number of parallel execution slaves 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

**parallel execution signal server**

This event occurs only in Exclusive mode. The query coordinator is signalling the Query Slaves that an error has occurred.

**Wait Time:** 0.5 seconds

**Parameters:**

<i>serial</i>	The serial number of the slave process queue
<i>error</i>	The error that has occurred
<i>nbusy</i>	The number of slave processes that are still busy

**pending global transaction(s)**

This event should happen only during testing. The session waits for pending transactions to clear.

**Wait Time:** 30 seconds

**Parameter:**

<i>scans</i>	Number of times the session has scanned the PENDING_TRANS\$ table
--------------	---

**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

**Parameters:**

<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

**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

**Parameters:**

<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

## PL/SQL lock timer

This event is called through the DBMSLOCK.SLEEP procedure or USERLOCK.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 is dependent on the user context

**Parameter:**

<i>duration</i>	The duration that the user specified in the DBMS_LOCK.SLEEP or USER_LOCK.SLEEP procedures
-----------------	---

## pmon rdomain attach

This is the main wait event for PMON. When PMON is idle, it is waiting on this event.

## 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:**

<i>duration</i>	The actual amount of time that the PMON is trying to sleep
-----------------	--

## 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.

**Parameters:**

<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

## queue messages

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*

**Parameters:**

<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

## 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:**

<i>timeout</i>	The amount of time that the session waits for an IPC message
----------------	--

## 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

## 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*.

**Parameters:**

<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

## redo wait

Defined but not used by the code.

## row cache lock

The session is trying to get a data dictionary lock.

**Wait Time:** Wait up to 60 seconds.

**Parameters:**

<i>cache id</i>	The CACHE# column value in the V\$ROWCACHE view
<i>mode</i>	See " <a href="#">mode</a> " on page A-15
<i>request</i>	The pipe timer set by the user

## 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

## 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

## 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)

**Parameters:**

*sleeptime*      The amount of time that SMON tries to wait on this event in seconds

*failed*      The number of times SMON was posted when there some kind of error

## 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

**Parameters:**

*driver id*      See "[driver id](#)" on page A-15

*break?*      See "[break?"](#) on page A-14

## 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

**Parameters:**

*driver id*      See "[driver id](#)" on page A-15

*break?*      See "[break?"](#) on page A-14

## 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

**Parameters:**

*driver id* See "[driver id](#)" on page A-15

*#bytes* The number of bytes received by the server (foreground process) from the client.

## 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.

**Parameters:**

*driver id* See "[driver id](#)" on page A-15

*#bytes* The number of bytes received by the server (foreground process) from another foreground process over a database link.

## SQL\*Net message to client

The server (foreground process) is sending a message to the client.

**Wait Time:** The actual time the **send** takes

**Parameters:**

*driver id* See "[driver id](#)" on page A-15

*#bytes* The number of bytes sent by the server process to the client

## 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

**Parameters:**

*driver id* See "[driver id](#)" on page A-15

*#bytes* The number of bytes sent by the server process to another server process over a database link

## SQL\*Net more data from client

The server is performing another send to the client. The previous operation was also a send to the client.

**Wait Time:** The time waited depends on the time it took to receive the data (including the waiting time)

**Parameters:**

*driver id* See "[driver id](#)" on page A-15

*#bytes* The number of bytes received from the client

## 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)

**Parameters:**

*driver id* See "[driver id](#)" on page A-15

*#bytes* The number of bytes received

## 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

**Parameters:**

*driver id* See "[driver id](#)" on page A-15

#bytes            The number of bytes that are being sent to the client

## 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

**Parameters:**

*driver id*       See "[driver id](#)" on page A-15

#bytes            The number of bytes that are sent over the database link to the other server process

## switch logfile command

The session waits on the user command SWITCH LOGFILE to complete.

**Wait Time:** 5 seconds

**Parameters:** None

## timer in sksawat

The session waits for the Archiver (ARCH) asynchronous I/O to complete.

**Wait Time:** 0.01 seconds

**Parameters:** None

## transaction

Wait for a blocking transaction to be rolled back. Continue waiting until the transaction has been rolled back.

**Wait Time:** 1 second

**Parameters:**

*undo seg#*       The rollback segment ID

*slot#*            The slot ID inside the rollback segment

*wrap#*            The sequence number that is incremented for each transaction

<i>count</i>	The number of times that the session has waited on this transaction
--------------	---

## 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

## 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:**

*segment#*      The ID of the rollback segment that is being extended or shrunk

## undo segment recovery

PMON is rolling back a dead transaction. The wait continues until rollback finishes.

**Wait Time:** 3 seconds

**Parameters:**

*segment#*      The ID of the rollback segment that contains the transaction that is being rolled back

*tx flags*      The transaction flags (options) set for the transaction that is being rolled back

## 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

**Parameters:**

*segment#* The ID of the rollback segment that contains the transaction that is being rolled back

## virtual circuit status

The session waits for a virtual circuit to return a message type indicated by *status*.

**Wait Time:** 30 seconds

**Parameters:**

*circuit#* Indicates the virtual circuit# being waited on

*status* Indicates what the session is waiting for

## WMON goes to sleep

WMON is the UNIX-specific Wait Monitor, that can be used to reduce the number of system calls related to setting timers for posting or waiting in Oracle. You need to set an initialization parameter that enables the WMON process.

**Wait Time:** Depends on the next timeout

**Parameters:** None

## 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

**Parameters:**

*file#* The rollback segment id that contains the transaction that is being rolled back

*block#* The transaction flags (options) set for the transaction that is being rolled back

*id* Identifies the reason for waiting

## writes stopped by instance recovery or database suspension

The session is blocked until the instance that started Instance Recovery is finished.

**Wait Time:** 5 seconds

**Parameters:**

*bythread#*      The rollback segment id that contains the transaction that is being rolled back

*ourthread#*      The current instance thread number

# B

---

## 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:

- *Oracle9i Application Developer's Guide - Advanced Queuing* for more information on enqueues
- "["DBA\\_LOCK\\_INTERNAL"](#) on page 2-190 and "["DBA\\_LOCK"](#) on page 2-189

The Oracle enqueues are:

- BL, Buffer Cache Management
- CF, Controlfile Transaction
- CI, Cross-instance Call Invocation
- CU, Bind Enqueue
- DF, Datafile

- 
- DL, Direct Loader Index Creation
  - DM, Database Mount
  - DR, Distributed Recovery
  - DX, Distributed TX
  - FS, File Set
  - IN, Instance Number
  - IR, Instance Recovery
  - IS, Instance State
  - IV, Library Cache Invalidation
  - JQ, Job Queue
  - KK, Redo Log "Kick"
  - L[A-P], Library Cache Lock
  - MR, Media Recovery
  - N[A-Z], Library Cache Pin
  - PF, Password File
  - PI, Parallel Slaves
  - PR, Process Startup
  - PS, Parallel Slave Synchronization
  - Q[A-Z], Row Cache
  - RT, Redo Thread
  - SC, System Commit Number
  - SM, SMON
  - SQ, Sequence Number Enqueue
  - SR, Synchronized Replication
  - SS, Sort Segment
  - ST, Space Management Transaction
  - SV, Sequence Number Value
  - TA, Transaction Recovery

- 
- TM, DML 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



# C

---

## 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.

### 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"](#) on page 3-138, ["V\\$STATNAME"](#) on page 3-167, and ["V\\$SYSSTAT"](#) on page 3-174 for more information on these views

## Statistics Descriptions

This section describes the statistics stored in the V\$SESSTAT and V\$SYSSTAT views. The statistics are listed here 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

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 in the right-hand column.

**Table C-1 Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
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 ALTER SYSTEM CHECKPOINT LOCAL statements)</li> </ul>	
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 Net8	
bytes received via SQL*Net from dblink	1	Total number of bytes received from a database link over Net8	
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	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
calls to kcmgcs	128	Number of calls to routine kcmgcs to get a current SCN	
calls to kcmgrs	128	Number of calls to routine kcsgrs to get a recent SCN	
change write time	8	Elapsed redo write time for changes made to CURRENT blocks in 10s of milliseconds. This statistic is populated only if the TIME_STATISTICS parameter is set to TRUE.	
cleanouts and rollbacks - consistent read gets	128	Number of consistent gets that require both block rollbacks and block cleanouts.  <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.  <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	
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 CURRENT	
commit cleanout failures: buffer being written	8	Number of times Oracle attempted a cleanout at commit, but the buffer was currently being written	
commit cleanout failures: callback failure	8	Number of times the cleanout callback function returns FALSE	
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 needs to be logged before the buffer can be made dirty.	
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	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
commit cleanouts successfully completed	8	Number of times the cleanout block at commit function completed successfully	
Commit SCN cached	128	Number of times the system change number of a commit operation was cached	
consistent changes	8	Number of times a user process has applied rollback entries to perform a consistent read on the block  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.  <a href="#">See Also:</a> "consistent changes" and "session logical reads" statistics	
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 statistic, and 0 milliseconds are added.  A similar problem can exist in the reporting by the operating system, especially on systems that suffer from many context switches.	3
CPU used when call started	128	The CPU time used when the call is started  <a href="#">See Also:</a> "CPU used by this session"	3
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 an incompatible mode.	
current blocks converted for CR	8	Number CURRENT 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	

**Table C-1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
db block changes	8	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.  This approximates total database work. It statistic indicates the rate at which buffers are being dirtied (on a per-transaction or per-second basis, for example).	
db block gets	8	Number of times a CURRENT block was requested  <b>See Also:</b> " <a href="#">consistent gets</a> "	
DBWR buffers scanned	8	Total number of dirty and clean buffers Oracle looks at when scanning LRU sets for dirty buffers to clean. Divide by " <a href="#">DBWR lru scans</a> " to find the average number of buffers scanned.	
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 cross instance writes	40	Oracle Real Application Cluster only: Number of blocks written to satisfy a lock request from another instance	
DBWR free buffers found	8	Number of clean buffers that DBWR found when it was requested to make free buffers. Divide by " <a href="#">DBWR make free requests</a> " to find the average number of reusable buffers at the end of each LRU.	
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). This statistic is always greater than or equal to " <a href="#">DBWR make free requests</a> ".	
DBWR make free requests	8	Number of requests to DBWR to make some free buffers for the LRU	

**Table C-1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
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 summed scan depth	8	The current <b>scan depth</b> (number of buffers examined by DBWR) is added to this statistic every time DBWR scans the LRU for dirty buffers. Divide by " <a href="#">DBWR lru scans</a> " to find the average scan depth.	
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	
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	
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	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
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	
free buffer inspected	8	Number of buffers skipped over from the end of an LRU queue in order to find a reusable buffer. The difference between this statistic and " <a href="#">dirty buffers inspected</a> " 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 requested	8	Number of times a reusable buffer or a free buffer was requested to create or load a block	
global cache blocks corrupt	40	Real Application Clusters only: Number of blocks that encountered a corruption or checksum failure during interconnect	
global cache convert time	40	Real Application Clusters only: Total time elapsed during lock converts	
global cache convert timeouts	40	Number of times lock converts in the global cache timed out	
global cache converts	40	Number of lock converts in the global cache	
global cache cr block receive time	40	Total amount of time foreground processes waited for a CR block to be sent through the interconnect. This statistic divided by " <a href="#">global cache cr blocks received</a> " = time waited per block.	
global cache cr block serve time	40	Total amount of time the BSP process took to construct consistent-read (CR) blocks. This statistic divided by " <a href="#">global cache cr blocks served</a> " = construction time per CR block.	

**Table C-1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
global cache cr blocks received	40	Total number of blocks received	
global cache cr blocks served	40	Total number of blocks constructed by the BSP process	
global cache cr requests blocked	40	Number of times foreground attempt to request a cr block and failed	
global cache cr timeouts	40	Number of times a foreground process requested a consistent-read (CR) block when the request timed out	
global cache defers	40	Number of times a lock was requested and the holder of the lock deferred the release	
global cache freelist waits	40	System configured with fewer lock elements than buffers. Number of times foreground has to wait for a lock element.	
global cache get time	40	Total time spent waiting. This divided by global cache gets = time waited per request.	
global cache gets	40	Number of locks acquired	
global cache cr block send time	40	Total time spent by the BSP process in sending constructed consistent-read (CR) blocks. This statistic divided by "global cache cr blocks served" = send time per CR block.	
global cache cr block log flushes	40	Number of log flushes of the consistent-read block	
global cache cr block log flush time	40	Total time spent by the BSP process in log flushes after sending a constructed consistent-read (CR) block. This statistic divided by "global cache cr blocks served" = log flush time per CR block.	
global cache prepare failures	40	Number of times a failure occurred during preparation for interconnect transfer	
global lock async converts	32	Total number of asynchronous global lock converts	
global lock async gets	32	Total number of asynchronous global lock gets	
global lock convert time	32	Total elapsed time in 10s of milliseconds of all synchronous (non-asynchronous) global lock converts	
global lock get time	32	Total elapsed time in 10s of milliseconds of all synchronous (non-asynchronous) global lock gets	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
global lock releases	32	Total number of synchronous global lock releases	
global lock sync converts	32	Total number of synchronous global lock converts	
global lock sync gets	32	Total number of synchronous global lock gets	
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.	
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> "	
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	
instance recovery database freeze count	32	Number of times the database is frozen during instance recovery	
kcmccs called get current scn	32	Number of times the kernel got the CURRENT SCN when there was a need to casually confirm the SCN	
kcmgss read scn without going to DLM	32	Number of times the kernel got a snapshot SCN without going to the distributed lock manager (DLM)	
kcmgss waited for batching	32	Number of times a database process is blocked waiting for a snapshot SCN	
leaf node splits	128	Number of times an index leaf node was split because of the insertion of an additional value	
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.	
messages received	128	Number of messages sent and received between background processes	
messages sent	128		

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
native hash arithmetic execute	64	Number of hash operations performed using native arithmetic rather than Oracle NUMBERs	
native hash arithmetic fail	64	Number of has operations performed using native arithmetic that failed, requiring the hash operation to be performed with Oracle NUMBERs	
next scns gotten without going to DLM	32	Number of system change numbers obtained without going to the distributed lock manager or server	
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.  <a href="#">See Also: "consistent gets"</a>	
opened cursors cumulative	1	In V\$SYSSTAT: Total number of cursors opened since the instance started.  In VSSESSTAT: Total number of cursors opened since the start of the session.	
opened cursors current	1	Total number of current open cursors	
opens of replaced files	8	Total number of files that had to be reopened because they were no longer in the process file cache	
opens requiring cache replacement	8	Total number of file opens that caused a current file in the process file cache to be closed	
OS All other sleep time	16	Time spent sleeping for reasons other than misses in the data segment (see " <a href="#">OS Data page fault sleep time</a> "), kernel page faults (see " <a href="#">OS Kernel page fault sleep time</a> "), misses in the text segment (see " <a href="#">OS Text page fault sleep time</a> "), or waiting for an OS locking object (see " <a href="#">OS User lock wait sleep time</a> "). An example of such a reason is expiration of quanta.	
OS Chars read and written	16	Number of bytes read and written	
OS Data page fault sleep time	16	Time spent sleeping due to misses in the data segment	
OS Input blocks	16	Number of read I/Os	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
OS Involuntary context switches	16	Number of context switches that were enforced by the operating system	
OS Kernel page fault sleep time	16	Time spent sleeping due to OS kernel page faults	
OS Major page faults	16	Number of page faults that resulted in I/O	
OS Messages received	16	Number of messages received	
OS Messages sent	16	Number of messages sent	
OS Minor page faults	16	Number of page faults that did not result in an actual I/O	
OS Other system trap CPU time	16	Total amount of time to process system traps (as distinct from system calls)	
OS Output blocks	16	Number of write I/Os	
OS Process heap size	16	Size of area in memory allocated by the process. Typically this represents memory obtained by way of malloc().	
OS Process stack size	16	Size of the process stack segment	
OS Signals received	16	Number of signals received	
OS Swaps	16	Number of swap pages	
OS System call CPU time	16	Total amount of time spent executing in system mode	
OS System calls	16	Number of system calls	
OS Text page fault sleep time	16	Time spent sleeping due to misses in the text segment	
OS User level CPU time	16	Total amount of time spent executing in user mode	
OS User lock wait sleep time	16	Total amount of time sleeping while waiting for an OS locking object	
OS Voluntary context switches	16	Number of voluntary context switches (for example, when a process gives up the CPU by a SLEEP() system call)	
OS Wait-cpu (latency) time	16	Time spent sleeping while waiting for a CPU to become available	

**Table C-1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
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		
Parallel operations downgraded 50 to 75 pct	32		
Parallel operations downgraded 75 to 99 pct	32		
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 (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 and soft). 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	3
parse time elapsed	64	Total elapsed time for parsing, in 10s of milliseconds. Subtract "parse time cpu" from the this statistic to determine the total waiting time for parse resources.	3
physical reads	8	Total number of data blocks read from disk. This number equals the value of "physical reads direct" plus all reads into buffer cache.	
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.	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
physical writes	8	Total number of data blocks written to disk. This number equals the value of "physical writes direct" plus all writes from buffer cache.	
physical writes direct	8	Number of writes directly to disk, bypassing the buffer cache (as in a direct load operation)	
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 FAST_START_IO_TARGET parameter to limit recovery I/Os. 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.	
prefetched blocks	8	Number of contiguous and noncontiguous blocks that were prefetched	
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	3
PX local messages recv'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 recv'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 C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
recovery blocks read	8	Number of blocks read 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 "CPU used by this session" to determine how much CPU time was used by the user calls.	
redo blocks written	2	Total number of redo blocks written. This statistic divided by "redo writes" 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 log space requests	2	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.  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.  Also examine the <b>log file space</b> and <b>log file space switch</b> wait events in V\$SESSION_WAIT	
redo log space wait time	2	Total elapsed waiting time for "redo log space requests" in 10s of milliseconds	3
redo log switch interrupts	2	Number of times that another instance asked this instance to advance to the next log file	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
redo ordering marks	2	Number of times that a system change number was allocated to force a redo record to have an higher SCN than a record generated in another thread using the same block	
redo size	2	Total amount of redo generated in bytes	
redo synch time	8	Elapsed time of all "redo synch writes" calls in 10s of milliseconds	3
redo synch writes	8	Number of times a change being applied to the log buffer must be written out to disk due to a 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 time	2	Total elapsed time of the write from the redo log buffer to the current redo log file in 10s of milliseconds	3
redo writer latching time	2	Elapsed time in 10s of milliseconds needed by LWGR to obtain and release each copy latch	3
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	
remote instance undo block writes	40	Number of times this instance wrote a rollback segment so that another instance could read it	
remote instance undo header writes	40	Number of times this instance wrote a undo header block so that another instance could read it	
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.  See Also: " <a href="#">consistent gets</a> "	
rows fetched via callback	64	Rows fetched via callback. Useful primarily for internal debugging purposes.	

**Table C-1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
serializable aborts	1	Number of times a SQL statement in a serializable isolation level had to abort	
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.	3
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.	
session cursor cache hits	64	Number of hits in the session cursor cache. A hit means that the SQL statement did not have to be reparsed. Subtract this statistic from "parse count (total)" to determine the real number of parses that occurred.	
session logical reads	1	The sum of "db block gets" plus "consistent gets"	
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.	
sorts (disk)	64	Number of sort operations that required at least one disk write  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 "SORT_AREA_SIZE" on page 1-153.	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
sorts (memory)	64	Number of sort operations that were performed completely in memory and did not require any disk writes  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	
SQL*Net roundtrips to/from client	1	Total number of Net8 messages sent to and received from the client	
SQL*Net roundtrips to/from dblink	1	Total number of Net8 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 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)  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  Retrieving rows that span more than one block increases the logical I/O by a factor that corresponds to the number of blocks than 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 datatype is used and the rows are extremely large).	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
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.  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 "consistent gets" to determine how much of the consistent read activity can be attributed to scanning.	
table scan rows gotten	64	Number of rows that are processed during scanning operations	
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 (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.	
total file opens	8	Total number of file opens performed by the instance. Each process needs a number of files (control file, log file, database file) in order to work against the database.	
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	

**Table C–1 (Cont.) Database Statistics Descriptions**

Name	Class	Description	TIMED_STATISTICS
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	
Unnecessary process cleanup for SCN batching	32	Total number of times that the process cleanup was performed unnecessarily because the session or process did not get the next batched SCN. The next batched SCN went to another session instead.	
user calls	1	Number of user calls such as login, parse, fetch, or execute  When determining activity, the ratio of user calls to RPI calls, give you an indication of how much internal work gets generated as a result 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 rollbacks	1	Number of times users manually issue the ROLLBACK statement or an error occurs during a user's transactions	
write clones created in background	8	Number of times a background or foreground process clones a CURRENT buffer that is being written. The clone becomes the new, accessible CURRENT buffer, leaving the original buffer (now the clone) to complete writing.	
write clones created in foreground	8		

---

---

# Index

## A

ACTIVE\_INSTANCE\_COUNT initialization parameter, 1-15  
ALL\_ALL\_TABLES view, 2-6  
ALL\_APPLY view, 2-8  
ALL\_APPLY\_CONFLICT\_COLUMNS view, 2-9  
ALL\_APPLY\_DML\_HANDLERS view, 2-10  
ALL\_APPLY\_ERROR view, 2-10  
ALL\_APPLY\_KEY\_COLUMNS view, 2-11  
ALL\_APPLY\_PARAMETERS view, 2-12  
ALL\_APPLY\_PROGRESS view, 2-12  
ALL\_ARGUMENTS view, 2-13  
ALL\_ASSOCIATIONS view, 2-14  
ALL\_AUDIT\_POLICIES view, 2-15  
ALL\_BASE\_TABLE\_MVIEWS view, 2-16  
ALL\_CAPTURE view, 2-17  
ALL\_CAPTURE\_PARAMETERS view, 2-18  
ALL\_CAPTURE\_PREPARED\_DATABASE view, 2-18  
ALL\_CAPTURE\_PREPARED\_SCHEMAS view, 2-19  
ALL\_CAPTURE\_PREPARED\_TABLES view, 2-19  
ALL\_CATALOG view, 2-20  
ALL\_CLUSTER\_HASH\_EXPRESSIONS view, 2-20  
ALL\_CLUSTERS view, 2-21  
ALL\_COL\_COMMENTS view, 2-22  
ALL\_COL\_PRIVS view, 2-22  
ALL\_COL\_PRIVS\_MADE view, 2-23  
ALL\_COL\_PRIVS\_REC'D view, 2-24  
ALL\_COLL\_TYPES view, 2-25  
ALL\_CONS\_COLUMNS view, 2-25  
ALL\_CONS\_OBJ\_COLUMNS view, 2-26  
ALL\_CONSTRAINTS view, 2-27

ALL\_CONTEXT view, 2-28  
ALL\_DB\_LINKS view, 2-29  
ALL\_DEF\_AUDIT\_OPTS view, 2-29  
ALL\_DEPENDENCIES view, 2-30  
ALL\_DIM\_ATTRIBUTES view, 2-31  
ALL\_DIM\_CHILD\_OF view, 2-32  
ALL\_DIM\_HIERARCHIES view, 2-32  
ALL\_DIM\_JOIN\_KEY view, 2-33  
ALL\_DIM\_LEVEL\_KEY view, 2-33  
ALL\_DIM\_LEVELS view, 2-34  
ALL\_DIMENSIONS view, 2-34  
ALL\_DIRECTORIES view, 2-35  
ALL\_ERRORS view, 2-35  
ALL\_EVALUATION\_CONTEXT\_TABLES view, 2-36  
ALL\_EVALUATION\_CONTEXT\_VARS view, 2-36  
ALL\_EVALUATION\_CONTEXTS view, 2-37  
ALL\_EXTERNAL\_LOCATIONS view, 2-38  
ALL\_EXTERNAL\_TABLES view, 2-39  
ALL\_IND\_COLUMNS view, 2-40  
ALL\_IND\_EXPRESSIONS view, 2-41  
ALL\_IND\_PARTITIONS view, 2-41  
ALL\_IND\_SUBPARTITIONS view, 2-43  
ALL\_INDEXES view, 2-45  
ALL\_INDEXTYPE\_COMMENTS view, 2-48  
ALL\_INDEXTYPE\_OPERATORS view, 2-49  
ALL\_INDEXTYPES view, 2-50  
ALL\_INTERNAL\_TRIGGERS view, 2-50  
ALL\_JAVA\_ARGUMENTS view, 2-51  
ALL\_JAVA\_CLASSES view, 2-52  
ALL\_JAVA\_DERIVATIONS view, 2-53  
ALL\_JAVA\_FIELDS view, 2-54  
ALL\_JAVA\_IMPLEMENTS view, 2-55

ALL\_JAVA\_INNERS view, 2-56  
ALL\_JAVA\_LAYOUTS view, 2-57  
ALL\_JAVA\_METHODS view, 2-58  
ALL\_JAVA\_NCOMPS view, 2-59  
ALL\_JAVA\_RESOLVERS view, 2-60  
ALL\_JAVA\_THROWS view, 2-61  
ALL\_JOBS view, 2-61  
ALL\_JOIN\_IND\_COLUMNS view, 2-63  
ALL\_LIBRARIES view, 2-63  
ALL\_LOB\_PARTITIONS view, 2-64  
ALL\_LOB\_SUBPARTITIONS view, 2-65  
ALL\_LOB\_TEMPLATES view, 2-66  
ALL\_LOBS view, 2-67  
ALL\_LOG\_GROUP\_COLUMNS view, 2-68  
ALL\_LOG\_GROUPS view, 2-69  
ALL\_METHOD\_PARAMS view, 2-69  
ALL\_METHOD\_RESULTS view, 2-70  
ALL\_MVIEW\_AGGREGATES view, 2-71  
ALL\_MVIEW\_ANALYSIS view, 2-72  
ALL\_MVIEW\_DETAIL\_RELATIONS view, 2-73  
ALL\_MVIEW\_JOINS view, 2-74  
ALL\_MVIEW\_KEYS view, 2-75  
ALL\_MVIEW\_LOGS view, 2-76  
ALL\_MVIEW\_REFRESH\_TIMES view, 2-77  
ALL\_MVIEWS view, 2-77  
ALL\_NESTED\_TABLES view, 2-82  
ALL\_OBJ\_COLATTRS view, 2-82  
ALL\_OBJECT\_TABLES view, 2-83  
ALL\_OBJECTS view, 2-85  
ALL\_OPANCILLARY view, 2-86  
ALL\_OPARGUMENTS view, 2-87  
ALL\_OPBINDINGS view, 2-87  
ALL\_OPERATOR\_COMMENTS view, 2-88  
ALL\_OPERATORS view, 2-89  
ALL\_OUTLINE\_HINTS view, 2-89  
ALL\_OUTLINES view, 2-90  
ALL\_PART\_COL\_STATISTICS view, 2-91  
ALL\_PART\_HISTOGRAMS view, 2-92  
ALL\_PART\_INDEXES view, 2-92  
ALL\_PART\_KEY\_COLUMNS view, 2-94  
ALL\_PART\_LOBS view, 2-95  
ALL\_PART\_TABLES view, 2-96  
ALL\_PARTIAL\_DROP\_TABS view, 2-98  
ALL\_PENDING\_CONV\_TABLES view, 2-98  
ALL\_POLICIES view, 2-99  
ALL\_POLICY\_CONTEXTS view, 2-100  
ALL\_POLICY\_GROUPS view, 2-101  
ALL PROCEDURES view, 2-101  
ALL\_PROPAGATION view, 2-102  
ALL\_PUBLISHED\_COLUMNS view, 2-103  
ALL\_QUEUE\_TABLES view, 2-103  
ALL\_QUEUES view, 2-105  
ALL\_REFRESH view, 2-105  
ALL\_REFRESH\_CHILDREN view, 2-106  
ALL\_REFRESH\_DEPENDENCIES view, 2-107  
ALL\_REFS view, 2-108  
ALL\_REGISTERED\_MVIEWS view, 2-108  
ALL\_REGISTRY\_BANNERS view, 2-109  
ALL\_REPAUDIT\_ATTRIBUTE view, 2-2  
ALL\_REPAUDIT\_COLUMN view, 2-2  
ALL\_REPCAT view, 2-2  
ALL\_REPCAT\_REFRESH\_TEMPLATES view, 2-2  
ALL\_REPCAT\_TEMPLATE\_OBJECTS view, 2-2  
ALL\_REPCAT\_TEMPLATE\_PARMS view, 2-2  
ALL\_REPCAT\_TEMPLATE\_SITES view, 2-2  
ALL\_REPCAT\_USER\_AUTHORIZATIONS  
view, 2-2  
ALL\_REPCAT\_USER\_PARM\_VALUES view, 2-2  
ALL\_REPCATLOG view, 2-2  
ALL\_REPCOLUMN view, 2-2  
ALL\_REPCOLUMN\_GROUP view, 2-2  
ALL\_REPOFLICT view, 2-2  
ALL\_REPDDL view, 2-2  
ALL\_REPOFLAVOR\_COLUMNS view, 2-2  
ALL\_REPOFLAVOR\_OBJECTS view, 2-2  
ALL\_REPOFLAVORS view, 2-2  
ALL\_REPOGENERATED view, 2-2  
ALL\_REPOGENOBJECTS view, 2-2  
ALL\_REPOGROUP view, 2-2  
ALL\_REPOGROUP\_PRIVILEGES view, 2-2  
ALL\_REPOGROUPED\_COLUMN view, 2-2  
ALL\_REPOKEY\_COLUMNS view, 2-2  
ALL\_REPOBJECT view, 2-2  
ALL\_REPOPARAMETER\_COLUMN view, 2-2  
ALL\_REPORIORITY view, 2-2  
ALL\_REPORIORITY\_GROUP view, 2-2  
ALL\_REPOPROP view, 2-2  
ALL\_REPORESOL\_STATS\_CONTROL view, 2-2  
ALL\_REPORESOLUTION view, 2-2  
ALL\_REPORESOLUTION\_METHOD view, 2-2

ALL\_REPRESOLUTION\_STATISTICS view, 2-2  
ALL\_REPSHEMA view, 2-2  
ALL\_REPSITES view, 2-2  
ALL\_RULE\_SET\_RULES view, 2-110  
ALL\_RULE\_SETS view, 2-110  
ALL\_RULES view, 2-111  
ALL\_SEQUENCES view, 2-112  
ALL\_SOURCE view, 2-112  
ALL\_SOURCE\_TABLES view, 2-113  
ALL\_SQLJ\_TYPE\_ATTRS view, 2-113  
ALL\_SQLJ\_TYPE\_METHODS view, 2-114  
ALL\_SQLJ\_TYPES view, 2-115  
ALL\_STORED\_SETTINGS view, 2-116  
ALL\_STREAMS\_GLOBAL\_RULES view, 2-117  
ALL\_STREAMS\_SCHEMA\_RULES view, 2-118  
ALL\_STREAMS\_TABLE\_RULES view, 2-119  
ALL\_SUBPART\_COL\_STATISTICS view, 2-121  
ALL\_SUBPART\_HISTOGRAMS view, 2-122  
ALL\_SUBPART\_KEY\_COLUMNS view, 2-123  
ALL\_SUBPARTITION\_TEMPLATES view, 2-124  
ALL\_SUBSCRIBED\_COLUMNS view, 2-124  
ALL\_SUBSCRIBED\_TABLES view, 2-125  
ALL\_SUBSCRIPTIONS view, 2-125  
ALL\_SUMDELTA view, 2-126  
ALL\_SYNONYMS view, 2-126  
ALL\_TAB\_COL\_STATISTICS view, 2-127  
ALL\_TAB\_COLUMNS view, 2-128  
ALL\_TAB\_COMMENTS view, 2-130  
ALL\_TAB\_HISTOGRAMS view, 2-130  
ALL\_TAB\_MODIFICATIONS view, 2-131  
ALL\_TAB\_PARTITIONS view, 2-132  
ALL\_TAB\_PRIVS view, 2-133  
ALL\_TAB\_PRIVS\_MADE view, 2-134  
ALL\_TAB\_PRIVS\_REC'D view, 2-135  
ALL\_TAB\_SUBPARTITIONS view, 2-136  
ALL\_TABLES view, 2-137  
ALL\_TRIGGER\_COLS view, 2-140  
ALL\_TRIGGERS view, 2-141  
ALL\_TYPE\_ATTRS view, 2-142  
ALL\_TYPE\_METHODS view, 2-143  
ALL\_TYPE\_VERSIONS view, 2-144  
ALL\_TYPES view, 2-144  
ALL\_UNUSED\_COL\_TABS view, 2-145  
ALL\_UPDATABLE\_COLUMNS view, 2-146  
ALL\_USERS view, 2-146

ALL\_USTATS view, 2-147  
ALL\_VARRAYS view, 2-148  
ALL\_VERSION\_HVIEW view, 2-3  
ALL\_VIEWS view, 2-148  
ALL\_WM\_LOCKED\_TABLES view, 2-3  
ALL\_WM\_MODIFIED\_TABLES view, 2-3  
ALL\_WM\_RIC\_INFO view, 2-3  
ALL\_WM\_TAB\_TRIGGERES view, 2-3  
ALL\_WM\_VERSIONED\_TABLES view, 2-3  
ALL\_WM\_VT\_ERRORS view, 2-3  
ALL\_WORKSPACE\_PRIVS view, 2-3  
ALL\_WORKSPACE\_SAVEPOINTS view, 2-3  
ALL\_WORKSPACES view, 2-3  
ALL\_XML\_SCHEMAS view, 2-149  
ALL\_XML\_TAB\_COLS view, 2-150  
ALL\_XML\_TABLES view, 2-151  
ALL\_XML\_VIEW\_COLS view, 2-151  
ALL\_XML\_VIEWS view, 2-152  
ALLOCATE EXTENT clause  
  of ALTER TABLE  
    instance number, 1-67  
allocation  
  PCM locks, 1-60  
ALTER DATABASE statement  
  ADD LOGFILE, 1-160  
  database name, 1-44  
  ENABLE THREAD, 1-160  
  THREAD, 1-160  
ALTER SESSION statement  
  SET HASH\_AREA\_SIZE clause, 1-63  
  SET HASH\_JOIN\_ENABLED clause, 1-64  
ALTER TABLE statement  
  allocating extents, 1-67  
ANALYZE statement, 2-45, 2-128, 2-130, 2-137, 2-183, 2-226, 2-227, 2-289, 2-291  
AQ\_TM\_PROCESSES initialization  
  parameter, 1-15  
ARCHIVE LOG START statement  
  automatic archiving, 1-75  
ARCHIVE\_LAG\_TARGET initialization  
  parameter, 1-16  
archived redo logs  
  automatic versus manual, 1-83  
  destination file, 1-75  
  storage device, 1-75, 1-80

ARCHIVELOG mode, 1-75  
    archiving destination, 1-75, 1-80  
    automatic archiving, 1-83  
AUDIT\_ACTIONS table, 2-153  
AUDIT\_FILE\_DEST initialization parameter, 1-17  
AUDIT\_SYS\_OPERATIONS initialization  
    parameter, 1-17  
AUDIT\_TRAIL initialization parameter, 1-17  
authenticating remote clients, 1-140  
authenticating users, 1-119

## B

---

BACKGROUND\_CORE\_DUMP initialization  
    parameter, 1-18  
BACKGROUND\_DUMP\_DEST initialization  
    parameter, 1-18  
BACKUP\_TAPE\_IO\_SLAVES initialization  
    parameter, 1-19  
BITMAP\_MERGE\_AREA\_SIZE initialization  
    parameter, 1-20  
BLANK\_TRIMMING initialization parameter, 1-21  
blocks  
    PCM lock, 1-60  
    redo log, 1-86  
    size, 1-32, 1-36, 1-44, 4-2  
BUFFER\_POOL\_KEEP initialization  
    parameter, 1-21  
BUFFER\_POOL\_RECYCLE initialization  
    parameter, 1-22

## C

---

cache  
    dictionary, 3-98, 3-123, 3-124, 3-126, 3-127  
    statistics, 1-86  
CAT synonym for USER\_CATALOG view, 2-153  
CATALOG view, 2-153  
CATALOG.SQL script, 5-2  
    creating V\$ views, 3-1  
CATAUDIT.SQL script  
    audit trail records created by, 2-264  
    audit trails for connections and  
        disconnections, 2-264  
    auditing characteristics described by, 2-278

CATBLOCK.SQL script, 5-3  
CATCLUST.SQL script, 5-2  
CATEXP7.SQL script, 5-3  
CATHS.SQL script, 5-3  
CATIO.SQL script, 5-3  
CATJAVA.SQL script, 5-8  
CATNOADT.SQL script, 5-6  
CATNOAUD.SQL script, 5-6  
CATNOHS.SQL script, 5-6  
CATNOPRT.SQL script, 5-6  
CATNOQUE.SQL script, 5-6  
CATNORMN.SQL script, 5-6  
CATNOSVM.SQL script, 5-6  
CATNSNMP.SQL script, 5-6  
CATOCTK.SQL script, 5-3  
CATPROC.SQL script, 5-2  
CATQUEUE.SQL script, 5-3  
CATREP.SQL script, 5-3  
CATRMAN.SQL script, 5-3  
CHAINED\_ROWS table, 2-153  
CHANGE\_SETS view, 2-154  
CHANGE\_SOURCES view, 2-154  
CHANGE\_TABLES view, 2-155  
characters  
    numeric group separators, 1-101  
checkpoints  
    checkpoint interval, 1-86  
    statistics, 1-86  
CIRCUITS initialization parameter, 1-24  
CLU synonym for USER\_CLUSTERS view, 2-155  
CLUSTER\_DATABASE initialization  
    parameter, 1-24  
CLUSTER\_DATABASE\_INSTANCES initialization  
    parameter, 1-25  
CLUSTER\_INTERCONNECTS initialization  
    parameter, 1-25  
CMPDBMIG.SQL script, 5-7  
CODE\_PIECES view, 2-156  
CODE\_SIZE view, 2-156  
COL view, 2-156  
COLS synonym for USER\_TAB\_COLUMNS  
    view, 2-156  
COLUMN\_PRIVILEGES view, 2-156  
COMMIT\_POINT\_STRENGTH initialization  
    parameter, 1-26

COMPATIBLE initialization parameter, 1-27  
concurrency  
  ROW\_LOCKING initialization parameter, 1-144  
contention  
  block-level, 3-189  
control files  
  names, 1-28  
  specifying, 1-28  
CONTROL\_FILE\_RECORD\_KEEP\_TIME  
  initialization parameter, 1-28  
CONTROL\_FILES initialization parameter, 1-28  
CORE\_DUMP\_DEST initialization parameter, 1-29  
cost-based optimization, 1-114  
  favoring IN-list iterators, 1-112  
CPU\_COUNT initialization parameter, 1-29  
CREATE DATABASE statement  
  database name, 1-44  
  setting the log mode, 1-83  
CREATE TABLE statement  
  FREELIST GROUPS clause, 1-67  
CREATE\_BITMAP\_AREA\_SIZE initialization  
  parameter, 1-30  
creating  
  a database  
    setting block size, 1-32, 1-36, 1-44  
  currency, 1-96  
    international currency symbol, 1-99  
CURSOR\_SHARING initialization parameter, 1-31  
CURSOR\_SPACE\_FOR\_TIME initialization  
  parameter, 1-31  
cursors  
  OPEN\_CURSORS initialization  
    parameter, 1-107  
  shared pool, 1-64, 1-149, 1-151

## D

---

D0801070.SQL script, 5-7  
D0900010.SQL script, 5-7  
data blocks  
  reading multiple, 1-40  
  size of, 1-32, 1-36, 1-44  
data dictionary, 2-1  
  cache, 3-98, 3-123, 3-124, 3-126, 3-127  
datafiles, 1-60

scripts, 5-3  
SQL scripts, 5-2  
tables, 2-1  
views, 1-60  
  overview, 2-1  
  user views, 2-1  
database migration  
  scripts, 5-7  
database writer process (DBWR)  
  checkpoint, 1-86  
DATABASE\_PROPERTIES view, 2-156  
databases  
  block size, 4-2  
  database limits, 4-1  
  default language, 1-99  
  name, 1-44, 1-45  
  resource limits, 1-141, 1-142  
  valid characters for database name, 1-44  
datafiles  
  mapping blocks to PCM locks, 1-60  
  maximum number, 1-43  
  parameter, 1-43  
  unspecified for PCM locks, 1-60  
dates  
  language used for, 1-98, 1-103, 1-104  
  setting SYSDATE, 1-60  
  TO\_CHAR function, 1-97  
  TO\_DATE function, 1-97  
DB\_BLOCK\_BUFFERS initialization  
  parameter, 1-33  
DB\_BLOCK\_CHECKING initialization  
  parameter, 1-35  
DB\_BLOCK\_CHECKSUM initialization  
  parameter, 1-35  
DB\_BLOCK\_SIZE initialization parameter, 1-36  
DB\_CACHE\_ADVICE initialization  
  parameter, 1-37  
DB\_CACHE\_SIZE initialization parameter, 1-38  
DB\_CREATE\_FILE\_DEST initialization  
  parameter, 1-38  
DB\_CREATE\_ONLINE\_LOG\_DEST\_n initialization  
  parameter, 1-39  
DB\_DOMAIN initialization parameter, 1-39  
DB\_FILE\_MULTIBLOCK\_READ\_COUNT  
  initialization parameter, 1-40

DB\_FILE\_NAME\_CONVERT initialization  
    parameter, 1-41  
DB\_FILES initialization parameter, 1-43  
DB\_KEEP\_CACHE\_SIZE initialization  
    parameter, 1-44  
DB\_NAME initialization parameter, 1-44  
DB\_nK\_CACHE\_SIZE initialization  
    parameter, 1-32  
DB\_RECYCLE\_CACHE\_SIZE initialization  
    parameter, 1-45  
DB\_WRITER\_PROCESSES initialization  
    parameter, 1-45  
DBA\_2PC\_NEIGHBORS view, 2-157  
DBA\_2PC\_PENDING view, 2-157  
DBA\_ALL\_TABLES view, 2-158  
DBA\_APPLICATION\_ROLES view, 2-158  
DBA\_APPLY view, 2-158  
DBA\_APPLY\_CONFLICT\_COLUMNS view, 2-159  
DBA\_APPLY\_DML\_HANDLERS view, 2-159  
DBA\_APPLY\_ERROR view, 2-159  
DBA\_APPLY\_INSTANTIATED\_OBJECTS  
    view, 2-159  
DBA\_APPLY\_KEY\_COLUMNS view, 2-160  
DBA\_APPLY\_PARAMETERS view, 2-160  
DBA\_APPLY\_PROGRESS view, 2-160  
DBA\_AQ\_AGENT\_PRIVS view, 2-160  
DBA\_AQ\_AGENTS view, 2-161  
DBA\_ASSOCIATIONS view, 2-161  
DBA\_ATTRIBUTE\_TRANSFORMATIONS  
    view, 2-161  
DBA\_AUDIT\_EXISTS view, 2-162  
DBA\_AUDIT\_OBJECT view, 2-163  
DBA\_AUDIT\_POLICIES view, 2-164  
DBA\_AUDIT\_SESSION view, 2-164  
DBA\_AUDIT\_STATEMENT view, 2-165  
DBA\_AUDIT\_TRAIL view, 2-167  
DBA\_AW\_PS view, 2-169  
DBA\_AWS view, 2-169  
DBA\_BASE\_TABLE\_MVIEWS view, 2-170  
DBA\_BLOCKERS view, 2-170  
DBA\_CAPTURE view, 2-170  
DBA\_CAPTURE\_PARAMETERS view, 2-171  
DBA\_CAPTURE\_PREPARED\_DATABASE  
    view, 2-171  
DBA\_CAPTURE\_PREPARED\_SCHEMAS  
    view, 2-171  
DBA\_CAPTURE\_PREPARED\_TABLES  
    view, 2-171  
DBA\_CATALOG view, 2-171  
DBA\_CLU\_COLUMNS view, 2-172  
DBA\_CLUSTER\_HASH\_EXPRESSIONS  
    view, 2-172  
DBA\_CLUSTERS view, 2-172  
DBA\_COL\_COMMENTS view, 2-172  
DBA\_COL\_PRIVS view, 2-172  
DBA\_COLL\_TYPES view, 2-173  
DBA\_CONS\_COLUMNS view, 2-173  
DBA\_CONS\_OBJ\_COLUMNS view, 2-173  
DBA\_CONSTRAINTS view, 2-174  
DBA\_CONTEXT view, 2-174  
DBA\_DATA\_FILES view, 1-60, 2-174, 2-239  
DBA\_DB\_LINKS view, 2-174  
DBA\_DDL\_LOCKS view, 2-175  
DBA\_DEPENDENCIES view, 2-175  
DBA\_DIM\_ATTRIBUTES view, 2-176  
DBA\_DIM\_CHILD\_OF view, 2-176  
DBA\_DIM\_HIERARCHIES view, 2-176  
DBA\_DIM\_JOIN\_KEY view, 2-176  
DBA\_DIM\_LEVEL\_KEY view, 2-176  
DBA\_DIM\_LEVELS view, 2-176  
DBA\_DIMENSIONS view, 2-177  
DBA\_DIRECTORIES view, 2-177  
DBA\_DML\_LOCKS view, 2-177  
DBA\_DMT\_FREE\_SPACE view, 2-178  
DBA\_DMT\_USED\_EXTENTS view, 2-178  
DBA\_ERRORS view, 2-178  
DBA\_EVALUATION\_CONTEXT\_TABLES  
    view, 2-178  
DBA\_EVALUATION\_CONTEXT\_VARS  
    view, 2-179  
DBA\_EVALUATION\_CONTEXTS view, 2-179  
DBA\_EXP\_FILES view, 2-179  
DBA\_EXP\_OBJECTS view, 2-179  
DBA\_EXP\_VERSION view, 2-180  
DBA\_EXTENTS view, 2-180  
DBA\_EXTERNAL\_LOCATIONS view, 2-181  
DBA\_EXTERNAL\_TABLES view, 2-181  
DBA\_FGA\_AUDIT\_TRAIL view, 2-181  
DBA\_FREE\_SPACE view, 2-182  
DBA\_FREE\_SPACE\_COALESCED view, 2-182

DBA\_IND\_COLUMNS view, 2-183  
DBA\_IND\_EXPRESSIONS view, 2-183  
DBA\_IND\_PARTITIONS view, 2-183  
DBA\_IND\_SUBPARTITIONS view, 2-183  
DBA\_INDEXES view, 2-183  
    collecting statistics for, 2-183  
DBA\_INDEXTYPE\_COMMENTS view, 2-183  
DBA\_INDEXTYPE\_OPERATORS view, 2-184  
DBA\_INDEXTYPES view, 2-184  
DBA\_INTERNAL\_TRIGGERS view, 2-184  
DBA\_JAVA\_ARGUMENTS view, 2-184  
DBA\_JAVA\_CLASSES view, 2-184  
DBA\_JAVA\_DERIVATIONS view, 2-184  
DBA\_JAVA\_FIELDS view, 2-185  
DBA\_JAVA\_IMPLEMENTS view, 2-185  
DBA\_JAVA\_INNERS view, 2-185  
DBA\_JAVA\_LAYOUTS view, 2-185  
DBA\_JAVA\_METHODS view, 2-185  
DBA\_JAVA\_NCOMPS view, 2-185  
DBA\_JAVA\_POLICY view, 2-186  
DBA\_JAVA\_RESOLVERS view, 2-186  
DBA\_JAVA\_THROWS view, 2-187  
DBA\_JOBS view, 2-187  
DBA\_JOBS\_RUNNING view, 2-187  
DBA\_JOIN\_IND\_COLUMNS view, 2-187  
DBA\_KGLLOCK view, 2-188  
DBA\_LIBRARIES view, 2-188  
DBA\_LMT\_FREE\_SPACE view, 2-188  
DBA\_LMT\_USED\_EXTENTS view, 2-188  
DBA\_LOB\_PARTITIONS view, 2-189  
DBA\_LOB\_SUBPARTITIONS view, 2-189  
DBA\_LOB\_TEMPLATES view, 2-189  
DBA\_LOBS view, 2-189  
DBA\_LOCK view, 2-189  
    DBA\_LOCKS synonym, 2-190  
DBA\_LOCK\_INTERNAL view, 2-190  
DBA\_LOCKS synonym for DBA\_LOCK  
    view, 2-190  
DBA\_LOG\_GROUP\_COLUMNS view, 2-191  
DBA\_LOG\_GROUPS view, 2-191  
DBA\_LOGSTDBY\_EVENTS view, 2-191  
DBA\_LOGSTDBY\_LOG view, 2-191  
DBA\_LOGSTDBY\_NOT\_UNIQUE view, 2-192  
DBA\_LOGSTDBY\_PARAMETERS view, 2-193  
DBA\_LOGSTDBY\_PROGRESS view, 2-194

DBA\_LOGSTDBY\_SKIP view, 2-195  
DBA\_LOGSTDBY\_SKIP\_TRANSACTION  
    view, 2-195  
DBA\_LOGSTDBY\_UNSUPPORTED view, 2-196  
DBA\_METHOD\_PARAMS view, 2-196  
DBA\_METHOD\_RESULTS view, 2-196  
DBA\_MVIEW\_AGGREGATES view, 2-196  
DBA\_MVIEW\_ANALYSIS view, 2-197  
DBA\_MVIEW\_DETAIL\_RELATIONS view, 2-197  
DBA\_MVIEW\_JOINS view, 2-197  
DBA\_MVIEW\_KEYS view, 2-197  
DBA\_MVIEW\_LOG\_FILTER\_COLS view, 2-197  
DBA\_MVIEW\_LOGS view, 2-198  
DBA\_MVIEW\_REFRESH\_TIMES view, 2-198  
DBA\_MVIEWS view, 2-198  
DBA\_NESTED\_TABLES view, 2-198  
DBA\_OBJ\_AUDIT\_OPTS view, 2-198  
DBA\_OBJ\_COLATTRS view, 2-199  
DBA\_OBJECT\_SIZE view, 2-200  
DBA\_OBJECT\_TABLES view, 2-200  
DBA\_OBJECTS view, 2-200  
DBA\_OPANCILLARY view, 2-200  
DBA\_OPARGUMENTS view, 2-201  
DBA\_OPBINDINGS view, 2-201  
DBA\_OPERATOR\_COMMENTS view, 2-201  
DBA\_OPERATORS view, 2-201  
DBA\_OUTLINE\_HINTS view, 2-202  
DBA\_OUTLINES view, 2-202  
DBA\_PART\_COL\_STATISTICS view, 2-202  
DBA\_PART\_HISTOGRAMS view, 2-202  
DBA\_PART\_INDEXES view, 2-202  
DBA\_PART\_KEY\_COLUMNS view, 2-203  
DBA\_PART\_LOBS view, 2-203  
DBA\_PART\_TABLES view, 2-203  
DBA\_PARTIAL\_DROP\_TABS view, 2-203  
DBA\_PENDING\_CONV\_TABLES view, 2-203  
DBA\_PENDING\_TRANSACTIONS view, 2-203  
DBA\_POLICIES view, 2-204  
DBA\_POLICY\_CONTEXTS view, 2-204  
DBA\_POLICY\_GROUPS view, 2-204  
DBA\_PRIV\_AUDIT\_OPTS view, 2-204  
DBA PROCEDURES view, 2-205  
DBA\_PROFILES view, 2-205  
DBA\_PROPAGATION view, 2-205  
DBA\_PROXYES view, 2-205

DBA\_PUBLISHED\_COLUMNS view, 2-206  
DBA\_QUEUE\_SCHEDULES view, 2-207  
DBA\_QUEUE\_TABLES view, 2-208  
DBA\_QUEUES view, 2-208  
DBA\_RCHILD view, 2-209  
DBA\_REFRESH view, 2-209  
DBA\_REFRESH\_CHILDREN view, 2-209  
DBA\_REFS view, 2-209  
DBA\_REGISTERED\_MVIEW\_GROUPS  
    view, 2-209  
DBA\_REGISTERED\_MVIEWS view, 2-210  
DBA\_REGISTRY view, 2-210  
DBA\_REGISTRY\_HIERARCHY view, 2-211  
DBA\_REPAIR\_TABLE view, 2-212  
DBA\_REPAUDIT\_ATTRIBUTE view, 2-2  
DBA\_REPAUDIT\_COLUMN view, 2-2  
DBA\_REPCAT view, 2-2  
DBA\_REPCAT\_EXCEPTIONS view, 2-2  
DBA\_REPCAT\_REFRESH\_TEMPLATES view, 2-2  
DBA\_REPCAT\_TEMPLATE\_OBJECTS view, 2-2  
DBA\_REPCAT\_TEMPLATE\_PARMS view, 2-2  
DBA\_REPCAT\_TEMPLATE\_SITES view, 2-2  
DBA\_REPCAT\_USER\_AUTHORIZATIONS  
    view, 2-2  
DBA\_REPCAT\_USER\_PARM\_VALUES view, 2-2  
DBA\_REPCATLOG view, 2-2  
DBA\_REPCOLUMN view, 2-2  
DBA\_REPCOLUMN\_GROUP view, 2-2  
DBA\_REPCONFICT view, 2-2  
DBA\_REPDLL view, 2-2  
DBA\_REPEXTENSIONS view, 2-2  
DBA\_REPFLAVOR\_COLUMNS view, 2-2  
DBA\_REPFLAVOR\_OBJECTS view, 2-2  
DBA\_REPFLAVORS view, 2-2  
DBA REPGENERATED view, 2-2  
DBA REPGENOBJECTS view, 2-2  
DBA REPGRUP view, 2-2  
DBA REPGRUP\_PRIVILEGES view, 2-2  
DBA REPGRUPED\_COLUMN view, 2-2  
DBA REPKEY\_COLUMNS view, 2-2  
DBA REPOBJECT view, 2-2  
DBA REPPARAMETER\_COLUMN view, 2-2  
DBA REPPRIORITY view, 2-2  
DBA REPPRIORITY\_GROUP view, 2-2  
DBA REPPROP view, 2-2

DBA\_REPRESOL\_STATS\_CONTROL view, 2-2  
DBA\_REPRESOLUTION view, 2-2  
DBA\_REPRESOLUTION\_METHOD view, 2-2  
DBA\_REPRESOLUTION\_STATISTICS view, 2-2  
DBA\_REPSHEMA view, 2-2  
DBA\_REPSITES view, 2-2  
DBA\_REPSITES\_NEW view, 2-2  
DBA\_RESUMABLE view, 2-213  
DBA\_RGROUP view, 2-214  
DBA\_ROLE\_PRIVS view, 2-215  
DBA\_ROLES view, 2-215  
DBA\_ROLLBACK\_SEGS view, 2-215  
DBA\_RSRC\_CONSUMER\_GROUP\_PRIVS  
    view, 2-216  
DBA\_RSRC\_CONSUMER\_GROUPS view, 2-217  
DBA\_RSRC\_MANAGER\_SYSTEM\_PRIVS  
    view, 2-217  
DBA\_RSRC\_PLAN\_DIRECTIVES view, 2-218  
DBA\_RSRC\_PLANS view, 2-219  
DBA\_RULE\_SET\_RULES view, 2-220  
DBA\_RULE\_SETS view, 2-220  
DBA\_RULES view, 2-220  
DBA\_SEGMENTS view, 2-220  
DBASEQUENCES view, 2-221  
DBA\_SOURCE view, 2-222  
DBA\_SOURCE\_TABLES view, 2-222  
DBA\_SQLJ\_TYPE\_ATTRS view, 2-222  
DBA\_SQLJ\_TYPE\_METHODS view, 2-222  
DBA\_SQLJ\_TYPES view, 2-222  
DBA\_STMT\_AUDIT\_OPTS view, 2-222  
DBA\_STORED\_SETTINGS view, 2-223  
DBA\_STREAMS\_GLOBAL\_RULES view, 2-223  
DBA\_STREAMS\_SCHEMA\_RULES view, 2-223  
DBA\_STREAMS\_TABLE\_RULES view, 2-224  
DBA\_SUBPART\_COL\_STATISTICS view, 2-224  
DBA\_SUBPART\_HISTOGRAMS view, 2-224  
DBA\_SUBPART\_KEY\_COLUMNS view, 2-224  
DBA\_SUBPARTITION\_TEMPLATES view, 2-224  
DBA\_SUBSCRIBED\_COLUMNS view, 2-224  
DBA\_SUBSCRIBED\_TABLES view, 2-225  
DBA\_SUBSCRIPTIONS view, 2-225  
DBA\_SYNONYMS view, 2-225  
DBA\_SYS\_PRIVS view, 2-225  
DBA\_TAB\_COL\_STATISTICS view, 2-226  
DBA\_TAB\_COLUMNS view, 2-226

DBA\_TAB\_COMMENTS view, 2-226  
DBA\_TAB\_HISTOGRAMS view, 2-226  
DBA\_TAB\_MODIFICATIONS view, 2-226  
DBA\_TAB\_PARTITIONS view, 2-226  
DBA\_TAB\_PRIVS view, 2-227  
DBA\_TAB\_SUBPARTITIONS view, 2-227  
DBA\_TABLES view, 2-227  
DBA\_TABLESPACES view, 2-228  
DBA\_TEMP\_FILES view, 2-229  
DBA\_TRANSFORMATIONS view, 2-230  
DBA\_TRIGGER\_COLS view, 2-230  
DBA\_TRIGGERS view, 2-230  
DBA\_TS\_QUOTAS view, 2-230  
DBA\_TYPE\_ATTRS view, 2-231  
DBA\_TYPE\_METHODS view, 2-231  
DBA\_TYPE VERSIONS view, 2-231  
DBA\_TYPES view, 2-231  
DBA\_UNDO\_EXTENTS view, 2-232  
DBA\_UNUSED\_COL\_TABS view, 2-232  
DBA\_UPDATABLE\_COLUMNS view, 2-232  
DBA\_USERS view, 2-233  
DBA\_USTATS view, 2-234  
DBA\_VARRAYS view, 2-234  
DBA\_VIEWS view, 2-234  
DBA\_WAITERS view, 2-234  
DBA\_WORKSPACE\_SESSIONS view, 2-3  
DBA\_XML\_SCHEMAS view, 2-234  
DBA\_XML\_TAB\_COLS view, 2-235  
DBA\_XML\_TABLES view, 2-235  
DBA\_XML\_VIEW\_COLS view, 2-235  
DBA\_XML\_VIEWS view, 2-235  
DBLINK\_ENCRYPT\_LOGIN initialization parameter, 1-46  
DBMS\_ALERT\_INFO view, 2-235  
DBMS\_LOCK\_ALLOCATED view, 2-236  
DBMSIOTC.SQL script, 5-3  
DBMSOTRC.SQL script, 5-3  
DBMSPPOOL.SQL script, 5-4  
DBWR\_IO\_SLAVES initialization parameter, 1-46  
DEFCALL view, 2-2  
DEFCALLDEST view, 2-2  
DEFDEFAULTDEST view, 2-2  
DEFERRCOUNT view, 2-2  
DEFERROR view, 2-2  
DEFLOB view, 2-2

DEFPROPAGATOR view, 2-2  
DEFSCHEDULE view, 2-2  
DEFTRAN view, 2-2  
DEFTRANDEST view, 2-2  
DEPTREE view, 2-236  
destination  
    archiving redo log files, 1-75  
    overriding default, 1-75  
    USER\_DUMP\_DEST, 1-169  
DG\_BROKER\_CONFIGFILEn initialization parameter, 1-47  
DG\_BROKER\_START initialization parameter, 1-48  
DICT synonym for DICTIONARY, 2-236  
DICT\_COLUMNS view, 2-236  
DICTIONARY view, 2-237  
    DICT synonym, 2-236  
disk drives  
    archiving destination, 1-75  
DISK\_ASYNCNCH\_IO initialization parameter, 1-48  
dispatcher processes  
    maximum number, 1-92  
DISPATCHERS initialization parameter, 1-49  
distinguished name, 1-135  
DISTRIBUTED\_LOCK\_TIMEOUT initialization parameter, 1-53  
DML\_LOCKS initialization parameter, 1-53  
DRS\_START initialization parameter, 1-54  
dump files, 1-93  
dynamic performance tables  
    CATALOG.SQL script, 3-1  
    public synonyms (V\$), 3-2  
    views (V\$\_), 3-2

## E

---

embedded parameter files, 1-65  
ENQUEUE\_RESOURCES initialization parameter, 1-55  
enqueue  
    being written redo log, B-1  
    bind, B-1  
    buffer cache management, B-1  
    controlfile transaction, B-1  
    cross-instance call invocation, B-1

database mount, B-1  
datafile, B-1  
direct loader index creation, B-1  
disabling, 1-53  
distributed recovery, B-1  
distributed TX, B-1  
DML, B-1  
ENQUEUE\_RESOURCES initialization  
    parameter, 1-55  
file set, B-1  
instance attribute lock, B-1  
instance number, B-1  
instance recovery, B-1  
instance registration lock, B-1  
instance state, B-1  
job queue, B-1  
library cache invalidation, B-1  
library cache lock, B-1  
library cache pin, B-1  
media recovery, B-1  
parallel slave synchronization, B-1  
parallel slaves, B-1  
password file, B-1  
process startup, B-1  
redo log "kick", B-1  
redo thread, B-1  
row cache, B-1  
sequence number, B-1  
SMON, B-1  
sort segment, B-1  
space management transaction, B-1  
synchronized replication, B-1  
system commit number, B-1  
temporary segment, B-1  
temporary table, B-1  
transaction, B-1  
transaction recovery, B-1  
undo segment, serialization, B-1  
user name, B-1  
    user-defined locks, B-1  
enterprise roles, 1-135  
ERROR\_SIZE view, 2-237  
errors  
    archiving, 1-83  
EVENT initialization parameter, 1-56

EXCEPTIONS view, 2-237  
exclusive mode  
    specifying instance number, 1-67  
extent  
    allocating to instance, 1-67

---

**F**

FAL\_CLIENT initialization parameter, 1-56  
FAL\_SERVER initialization parameter, 1-57  
FAST\_START\_IO\_TARGET initialization  
    parameter, 1-57  
FAST\_START\_MTTR\_TARGET initialization  
    parameter, 1-58  
FAST\_START\_PARALLEL\_ROLLBACK  
    initialization parameter, 1-59  
FILE\_LOCK view, 2-237  
FILE\_MAPPING initialization parameter, 1-59  
FILE\_PING view, 2-238  
filenames  
    case significance, 1-5  
    name and number, 1-60  
FILESYSTEMIO\_OPTIONS initialization  
    parameter, 1-60  
FILEXT\$ view, 2-239  
FIXED\_DATE initialization parameter, 1-60  
free space list  
    locating space, 1-67  
FREELIST GROUPS clause, 1-67

---

**G**

GC\_FILES\_TO\_LOCKS initialization  
    parameter, 1-60  
GLOBAL\_CONTEXT\_POOL\_SIZE initialization  
    parameter, 1-62  
GLOBAL\_NAME view, 2-240  
GLOBAL\_NAMES initialization parameter, 1-62  
GV\$ views  
    for parallel servers, 3-2

---

**H**

HASH\_AREA\_SIZE initialization parameter, 1-63  
HASH\_JOIN\_ENABLED initialization

parameter, 1-64  
Heterogeneous Services  
agents, 1-64  
HI\_SHARED\_MEMORY\_ADDRESS initialization  
parameter, 1-64  
hints  
  RULE, 1-114  
HS\_ALL\_CAPS view, 2-240  
HS\_ALL\_DD view, 2-240  
HS\_ALL\_INITS view, 2-241  
HS\_AUTOREGISTER initialization  
  parameter, 1-64  
HS\_BASE\_CAPS view, 2-241  
HS\_BASE\_DD view, 2-241  
HS\_CLASS\_CAPS view, 2-242  
HS\_CLASS\_DD view, 2-242  
HS\_CLASS\_INIT view, 2-243  
HS\_EXTERNAL\_OBJECT\_PRIVILEGES  
  view, 2-243  
HS\_EXTERNAL\_OBJECTS view, 2-243  
HS\_EXTERNAL\_USER\_PRIVILEGES view, 2-244  
HS\_FDS\_CLASS view, 2-244  
HS\_FDS\_INST view, 2-244  
HS\_INST\_CAPS view, 2-245  
HS\_INST\_DD view, 2-245  
HS\_INST\_INIT view, 2-246

## I

---

IDEPTREE view, 2-246  
IFILE initialization parameter, 1-6, 1-65  
IND synonym for USER\_INDEXES view, 2-247  
INDEX\_HISTOGRAM view, 2-247  
INDEX\_STATS view, 2-247  
initialization parameter file  
  common file, 1-65  
  embedded, 1-65  
  INITDW.ORA, 1-4  
  line continuation character (), 1-6  
  overview, 1-4  
initialization parameters  
  ACTIVE\_INSTANCE\_COUNT, 1-15  
  altering, 1-7  
  AQ\_TM\_PROCESSES, 1-15  
  ARCHIVE\_LAG\_TARGET, 1-16

AUDIT\_FILE\_DEST, 1-17  
AUDIT\_SYS\_OPERATIONS, 1-17  
AUDIT\_TRAIL, 1-17  
BACKGROUND\_CORE\_DUMP, 1-18  
BACKGROUND\_DUMP\_DEST, 1-18  
BACKUP\_TAPE\_IO\_SLAVES, 1-19  
BITMAP\_MERGE\_AREA\_SIZE, 1-20  
BLANK\_TRIMMING, 1-21  
BUFFER\_POOL\_KEEP, 1-21  
BUFFER\_POOL\_RECYCLE, 1-22  
case significance in filenames, 1-5  
CIRCUITS, 1-24  
CLUSTER\_DATABASE, 1-24  
CLUSTER\_DATABASE\_INSTANCES, 1-25  
CLUSTER\_INTERCONNECTS, 1-25  
COMMIT\_POINT\_STRENGTH, 1-26  
COMPATIBLE, 1-27  
CONTROL\_FILE\_RECORD\_KEEP\_TIME, 1-28  
CONTROL\_FILES, 1-28  
CORE\_DUMP\_DEST, 1-29  
CPU\_COUNT, 1-29  
CREATE\_BITMAP\_AREA\_SIZE, 1-30  
CURSOR\_SHARING, 1-31  
CURSOR\_SPACE\_FOR\_TIME, 1-31  
database creation, 1-44  
DB\_BLOCK\_BUFFERS, 1-33  
DB\_BLOCK\_CHECKING, 1-35  
DB\_BLOCK\_CHECKSUM, 1-35  
DB\_BLOCK\_SIZE, 1-36  
DB\_CACHE\_ADVICE, 1-37  
DB\_CACHE\_SIZE, 1-38  
DB\_CREATE\_FILE\_DEST, 1-38  
DB\_CREATE\_ONLINE\_LOG\_DEST\_n, 1-39  
DB\_DOMAIN, 1-39  
DB\_FILE\_MULTIBLOCK\_READ\_COUNT, 1-40  
DB\_FILE\_NAME\_CONVERT, 1-41  
DB\_FILES, 1-43  
DB\_KEEP\_CACHE\_SIZE, 1-44  
DB\_NAME, 1-44  
DB\_nK\_CACHE\_SIZE, 1-32  
DB\_RECYCLE\_CACHE\_SIZE, 1-45  
DB\_WRITER\_PROCESSES, 1-45  
DBLINK\_ENCRYPT\_LOGIN, 1-46  
DBWR\_IO\_SLAVES, 1-46  
derived, 1-3

DG\_BROKER\_CONFIG\_FILEn, 1-47  
DG\_BROKER\_START, 1-48  
DISK\_ASYNCH\_IO, 1-48  
DISPATCHERS, 1-49  
display current settings, 1-11  
DISTRIBUTED\_LOCK\_TIMEOUT, 1-53  
DML\_LOCKS, 1-53  
DRS\_START, 1-54  
dynamic, 1-8  
embedded initialization parameter files, 1-6  
ENQUEUE\_RESOURCES, 1-55  
EVENT, 1-56  
FAL\_CLIENT, 1-56  
FAL\_SERVER, 1-57  
FAST\_START\_IO\_TARGET, 1-57  
FAST\_START\_MTTR\_TARGET, 1-58  
FAST\_START\_PARALLEL\_ROLLBACK, 1-59  
FILE\_MAPPING, 1-59  
FILESYSTEMIO\_OPTIONS, 1-60  
FIXED\_DATE, 1-60  
GC\_FILES\_TO\_LOCKS, 1-60  
GLOBAL\_CONTEXT\_POOL\_SIZE, 1-62  
GLOBAL\_NAMES, 1-62  
HASH\_AREA\_SIZE, 1-63  
HASH\_JOIN\_ENABLED, 1-64  
HI\_SHARED\_MEMORY\_ADDRESS, 1-64  
HS\_AUTOREGISTER, 1-64  
IFILE, 1-6, 1-65  
INSTANCE\_GROUPS, 1-66  
INSTANCE\_NAME, 1-67  
INSTANCE\_NUMBER, 1-67  
JAVA\_MAX\_SESSIONSPACE\_SIZE, 1-68  
JAVA\_POOL\_SIZE, 1-68  
JAVA\_SOFT\_SESSIONSPACE\_LIMIT, 1-69  
JOB\_QUEUE\_PROCESSES, 1-69  
LARGE\_POOL\_SIZE, 1-70  
LICENSE\_MAX\_SESSIONS, 1-71  
LICENSE\_MAX\_USERS, 1-72  
LICENSE\_SESSIONS\_WARNING, 1-72  
LOCAL\_LISTENER, 1-73  
LOCK\_NAME\_SPACE, 1-74  
LOCK\_SGA, 1-74  
LOG\_ARCHIVE\_DEST, 1-75  
LOG\_ARCHIVE\_DEST\_n, 1-76  
LOG\_ARCHIVE\_DEST\_STATE\_n, 1-78  
LOG\_ARCHIVE\_DUPLEX\_DEST, 1-79  
LOG\_ARCHIVE\_FORMAT, 1-80  
LOG\_ARCHIVE\_MAX\_PROCESSES, 1-81  
LOG\_ARCHIVE\_MIN\_SUCCEED\_DEST, 1-82  
LOG\_ARCHIVE\_START, 1-83  
LOG\_ARCHIVE\_TRACE, 1-84  
LOG\_BUFFER, 1-85  
LOG\_CHECKPOINT\_INTERVAL, 1-86  
LOG\_CHECKPOINT\_TIMEOUT, 1-87  
LOG\_CHECKPOINTS\_TO\_ALERT, 1-88  
LOG\_FILE\_NAME\_CONVERT, 1-88  
LOG\_PARALLELISM, 1-90  
LOGMNR\_MAX\_PERSISTENT\_SESSONS, 1-90  
MAX\_COMMIT\_PROPAGATION\_DELAY, 1-91  
MAX\_DISPATCHERS, 1-92  
MAX\_DUMP\_FILE\_SIZE, 1-93  
MAX\_ENABLED\_ROLES, 1-94  
MAX\_ROLLBACK\_SEGMENTS, 1-94  
MAX\_SHARED\_SERVERS, 1-94  
NLS\_CALENDAR, 1-95  
NLS\_COMP, 1-96  
NLS\_CURRENCY, 1-96  
NLS\_DATE\_FORMAT, 1-97  
NLS\_DATE\_LANGUAGE, 1-98  
NLS\_DUAL\_CURRENCY, 1-98  
NLS\_ISO\_CURRENCY, 1-99  
NLS\_LANGUAGE, 1-99  
NLS\_LENGTH\_SEMANTICS, 1-100  
NLS\_NCHAR\_CONV\_EXCP, 1-100  
NLS\_NUMERIC\_CHARACTERS, 1-101  
NLS\_SORT, 1-101  
NLS\_TERRITORY, 1-102  
NLS\_TIMESTAMP\_FORMAT, 1-103  
NLS\_TIMESTAMP\_TZ\_FORMAT, 1-104  
O7\_DICTIONARY\_ACCESSIBILITY, 1-104  
OBJECT\_CACHE\_MAX\_SIZE\_PERCENT, 1-105  
OBJECT\_CACHE\_OPTIMAL\_SIZE, 1-106  
OLAP\_PAGE\_POOL\_SIZE, 1-106  
OPEN\_CURSORS, 1-107  
OPEN\_LINKS, 1-107  
operating system-dependent values, 1-3  
OPTIMIZER\_DYNAMIC\_SAMPLING, 1-109

OPTIMIZER\_FEATURES\_ENABLE, 1-109  
OPTIMIZER\_INDEX\_CACHING, 1-112  
OPTIMIZER\_INDEX\_COST\_ADJ, 1-113  
OPTIMIZER\_MAX\_PERMUTATIONS, 1-113  
OPTIMIZER\_MODE, 1-114  
ORACLE\_TRACE\_COLLECTION\_  
    NAME, 1-115  
ORACLE\_TRACE\_COLLECTION\_  
    PATH, 1-116  
ORACLE\_TRACE\_COLLECTION\_SIZE, 1-116  
ORACLE\_TRACE\_ENABLE, 1-117  
ORACLE\_TRACEFacility\_NAME, 1-117  
ORACLE\_TRACEFacility\_PATH, 1-118  
OS\_AUTHENT\_PREFIX, 1-119  
OS\_ROLES, 1-120  
PARALLEL\_ADAPTIVE\_MULTI\_USER, 1-120  
PARALLEL\_AUTOMATIC\_TUNING, 1-121  
PARALLEL\_EXECUTION\_MESSAGE\_  
    SIZE, 1-122  
PARALLEL\_INSTANCE\_GROUP, 1-122  
PARALLEL\_MAX\_SERVERS, 1-123  
PARALLEL\_MIN\_PERCENT, 1-124  
PARALLEL\_MIN\_SERVERS, 1-125  
PARALLEL\_THREADS\_PER\_CPU, 1-126  
parameter files, 1-4  
PARTITION\_VIEW\_ENABLED, 1-126  
performance tuning, 1-3  
PGA\_AGGREGATE\_TARGET, 1-127  
PLSQL\_COMPILER\_FLAGS, 1-128  
PLSQL\_NATIVE\_C\_COMPILER, 1-129  
PLSQL\_NATIVE\_LIBRARY\_DIR, 1-129  
PLSQL\_NATIVE\_LIBRARY\_SUBDIR\_  
    COUNT, 1-129  
PLSQL\_NATIVE\_LINKER, 1-130  
PLSQL\_NATIVE\_MAKE\_FILE\_NAME, 1-130  
PLSQL\_NATIVE\_MAKE.Utility, 1-131  
PLSQL\_V2\_COMPATIBILITY, 1-131  
PRE\_PAGE\_SGA, 1-132  
PROCESSES, 1-133  
QUERY\_REWRITE\_ENABLED, 1-133  
QUERY\_REWRITE\_INTEGRITY, 1-134  
RDBMS\_SERVER\_DN, 1-135  
READ\_ONLY\_OPEN\_DELAYED, 1-136  
RECOVERY\_PARALLELISM, 1-136  
REMOTE\_ARCHIVE\_ENABLE, 1-137  
REMOTE\_DEPENDENCIES\_MODE, 1-138  
REMOTE\_LISTENER, 1-138  
REMOTE\_LOGIN\_PASSWORDFILE, 1-139  
REMOTE\_OS\_AUTHENT, 1-140  
REMOTE\_OS\_ROLES, 1-140  
REPLICATION\_DEPENDENCY\_  
    TRACKING, 1-141  
RESOURCE\_LIMIT, 1-141  
RESOURCE\_MANAGER\_PLAN, 1-142  
ROLLBACK\_SEGMENTS, 1-143  
ROW\_LOCKING, 1-144  
SERIAL\_REUSE, 1-145  
SERVICE\_NAMES, 1-146  
SESSION\_CACHED\_CURSORS, 1-146  
SESSION\_MAX\_OPEN\_FILES, 1-147  
SESSIONS, 1-148  
SGA\_MAX\_SIZE, 1-148  
SHADOW\_CORE\_DUMP, 1-149  
SHARED\_MEMORY\_ADDRESS, 1-149  
SHARED\_POOL\_RESERVED\_SIZE, 1-150,  
    3-142  
SHARED\_POOL\_SIZE, 1-151  
SHARED\_SERVER\_SESSIONS, 1-151  
SHARED\_SERVERS, 1-152  
SORT\_AREA\_RETAINED\_SIZE, 1-152  
SORT\_AREA\_SIZE, 1-153  
specifying in initialization parameter files, 1-5  
SPFILE, 1-155  
SQL\_TRACE, 1-156  
SQL92\_SECURITY, 1-157  
STANDBY\_ARCHIVE\_DEST, 1-157  
STANDBY\_FILE\_MANAGEMENT, 1-158  
STAR\_TRANSFORMATION\_ENABLED, 1-159  
STATISTICS\_LEVEL, 1-159  
TAPE\_ASYNC\_IO, 1-160  
THREAD, 1-160  
TIMED\_OS\_STATISTICS, 1-161  
TIMED\_STATISTICS, 1-162  
TRACE\_ENABLED, 1-163  
TRACEFILE\_IDENTIFIER, 1-163  
TRANSACTION\_AUDITING, 1-164  
TRANSACTIONS, 1-165  
TRANSACTIONS\_PER\_ROLLBACK\_  
    SEGMENT, 1-165  
UNDO\_MANAGEMENT, 1-166

UNDO\_RETENTION, 1-166  
UNDO\_SUPPRESS\_ERRORS, 1-167  
UNDO\_TABLESPACE, 1-168  
USE\_INDIRECT\_DATA\_BUFFERS, 1-168  
USER\_DUMP\_DEST, 1-169  
UTL\_FILE\_DIR, 1-169  
variable, 1-3  
WORKAREA\_SIZE\_POLICY, 1-170  
INITJVM.SQL script, 5-8  
INIT.ORA file. *See* initialization parameter file  
IN-list iterators  
    optimizer use of, 1-112  
inserts  
    locating free space, 1-67  
INST\_ID column, 3-2  
INSTANCE clause  
    of ALTER TABLE  
        allocating extents, 1-67  
INSTANCE\_GROUPS initialization  
    parameter, 1-66  
INSTANCE\_NAME initialization parameter, 1-67  
INSTANCE\_NUMBER initialization  
    parameter, 1-67  
    exclusive or parallel mode, 1-67  
instances  
    checkpoint, 1-86  
    startup order, 1-67  
I/O  
    reading multiple blocks, 1-40  
    redo log files, 1-85

## J

Java initialization parameters  
    JAVA\_MAX\_SESSIONSPACE\_SIZE, 1-68  
    JAVA\_POOL\_SIZE, 1-68  
    JAVA\_SOFT\_SESSIONSPACE\_LIMIT, 1-69  
Java scripts, 5-8  
JAVA\_MAX\_SESSIONSPACE\_SIZE initialization  
    parameter, 1-68  
JAVA\_POOL\_SIZE initialization parameter, 1-68  
JAVA\_SOFT\_SESSIONSPACE\_LIMIT initialization  
    parameter, 1-69  
JOB\_QUEUE\_PROCESSES initialization  
    parameter, 1-69

## L

---

language  
    database default language, 1-99  
LARGE\_POOL\_SIZE initialization parameter, 1-70  
LICENSE\_MAX\_SESSIONS initialization  
    parameter, 1-71  
LICENSE\_MAX\_USERS initialization  
    parameter, 1-72  
LICENSE\_SESSIONS\_WARNING initialization  
    parameter, 1-72  
licenses  
    maximum sessions, 1-71  
    maximum users, 1-72  
    warning for concurrent user sessions, 1-72  
limits on the database, 4-1  
linguistic sorts, 1-101  
local currency, 1-96  
LOCAL\_LISTENER initialization parameter, 1-73  
lock  
    conversion, 3-26  
LOCK\_NAME\_SPACE initialization  
    parameter, 1-74  
LOCK\_SGA initialization parameter, 1-74  
locks  
    conversion, 3-22, 3-25, 3-29, 3-56  
    names, A-16  
    on KGL objects, 2-188  
    table lock, 1-144  
LOG\_ARCHIVE\_DEST initialization  
    parameter, 1-75  
LOG\_ARCHIVE\_DEST\_n initialization  
    parameter, 1-76  
LOG\_ARCHIVE\_DEST\_STATE\_n initialization  
    parameter, 1-78  
LOG\_ARCHIVE\_DUPLEX\_DEST initialization  
    parameter, 1-79  
LOG\_ARCHIVE\_FORMAT initialization  
    parameter, 1-80  
LOG\_ARCHIVE\_MAX\_PROCESSES initialization  
    parameter, 1-81  
LOG\_ARCHIVE\_MIN\_SUCCEED\_DEST  
    initialization parameter, 1-82  
LOG\_ARCHIVE\_START initialization  
    parameter, 1-83

LOG\_ARCHIVE\_TRACE initialization  
    parameter, 1-84  
LOG\_BUFFER initialization parameter, 1-85  
LOG\_CHECKPOINT\_INTERVAL initialization  
    parameter, 1-86  
LOG\_CHECKPOINT\_TIMEOUT initialization  
    parameter, 1-87  
LOG\_CHECKPOINTS\_TO\_ALERT initialization  
    parameter, 1-88  
LOG\_FILE\_NAME\_CONVERT initialization  
    parameter, 1-88  
LOG\_PARALLELISM initialization  
    parameter, 1-90  
LOGMNR\_MAX\_PERSISTENT\_SESSIONS  
    initialization parameter, 1-90  
lowercase significance, 1-5

## M

---

manual archiving, 1-83  
MAP\_OBJECT table, 2-248  
MAX\_COMMIT\_PROPAGATION\_DELAY  
    initialization parameter, 1-91  
MAX\_DISPATCHERS initialization  
    parameter, 1-92  
MAX\_DUMP\_FILE\_SIZE initialization  
    parameter, 1-93  
MAX\_ENABLED\_ROLES initialization  
    parameter, 1-94  
MAX\_ROLLBACK\_SEGMENTS initialization  
    parameter, 1-94  
MAX\_SHARED\_SERVERS initialization  
    parameter, 1-94  
memory  
    amount used for sorting, 1-152  
    virtual, 1-3  
modes  
    archiving, 1-83  
monitor  
    performance, 1-86  
multiple-process systems  
    number of processes, 1-133

## N

---

nested files, 1-65  
NLS\_CALENDAR initialization parameter, 1-95  
NLS\_COMP initialization parameter, 1-96  
NLS\_CURRENCY initialization parameter, 1-96  
    defined by NLS\_TERRITORY, 1-102  
NLS\_DATABASE\_PARAMETERS view, 2-249  
NLS\_DATE\_FORMAT initialization  
    parameter, 1-97  
    defined by NLS\_NUMERIC\_  
        CHARACTERS, 1-102  
    defined by NLS\_TERRITORY, 1-102  
NLS\_DATE\_LANGUAGE initialization  
    parameter, 1-98  
NLS\_DUAL\_CURRENCY initialization  
    parameter, 1-98  
NLS\_INSTANCE\_PARAMETERS view, 2-249  
NLS\_ISO\_CURRENCY initialization  
    parameter, 1-99  
    defined by NLS\_TERRITORY, 1-102  
NLS\_LANGUAGE initialization parameter, 1-99  
NLS\_LENGTH\_SEMANTICS initialization  
    parameter, 1-100  
NLS\_NCHAR\_CONV\_EXCP initialization  
    parameter, 1-100  
NLS\_NUMERIC\_CHARACTERS initialization  
    parameter, 1-101  
NLS\_SESSION\_PARAMETERS view, 2-249  
NLS\_SORT initialization parameter, 1-101  
NLS\_TERRITORY initialization parameter, 1-102  
NLS\_TIMESTAMP\_FORMAT initialization  
    parameter, 1-103  
NLS\_TIMESTAMP\_TZ\_FORMAT initialization  
    parameter, 1-104  
NOARCHIVELOG mode  
    creating a database, 1-83  
numeric group separators, 1-101

## O

---

O7\_DICTIONARY\_ACCESSIBILITY initialization  
    parameter, 1-104  
OBJ synonym for USER\_OBJECTS view, 2-250  
OBJECT\_CACHE\_MAX\_SIZE\_PERCENT

initialization parameter, 1-105  
OBJECT\_CACHE\_OPTIMAL\_SIZE initialization parameter, 1-106  
objects  
  data dictionary, 2-1  
OLAP\_PAGE\_POOL\_SIZE initialization parameter, 1-106  
online redo log  
  archiving, 1-83  
  archiving mode, 1-75  
  block, 1-86  
  file size, 1-86  
  number of files, 1-83  
  setting checkpoint interval, 1-86  
OPEN\_CURSORS initialization parameter, 1-107  
OPEN\_LINKS initialization parameter, 1-107  
operating system  
  authenticating remote clients, 1-140  
  authenticating users and passwords, 1-119  
  dependent parameters, 1-3  
  roles for remote clients, 1-140  
optimization  
  trading cursor space for time, 1-31  
OPTIMIZER\_DYNAMIC\_SAMPLING initialization parameter, 1-109  
OPTIMIZER\_FEATURES\_ENABLE initialization parameter, 1-109  
OPTIMIZER\_INDEX\_CACHING initialization parameter, 1-112  
OPTIMIZER\_INDEX\_COST\_ADJ initialization parameter, 1-113  
OPTIMIZER\_MAX\_PERMUTATIONS initialization parameter, 1-113  
OPTIMIZER\_MODE initialization parameter, 1-114  
ORACLE\_TRACE\_COLLECTION\_NAME initialization parameter, 1-115  
ORACLE\_TRACE\_COLLECTION\_PATH initialization parameter, 1-116  
ORACLE\_TRACE\_COLLECTION\_SIZE initialization parameter, 1-116  
ORACLE\_TRACE\_ENABLE initialization parameter, 1-117  
ORACLE\_TRACE\_FACILITY\_NAME initialization parameter, 1-117

ORACLE\_TRACE\_FACILITY\_PATH initialization parameter, 1-118  
Oracle9i Real Application Clusters  
  dynamic performance views, 3-2  
initialization parameters  
  CIRCUITS, 1-24  
  CLUSTER\_DATABASE, 1-24  
  CLUSTER\_DATABASE\_INSTANCES, 1-25  
  CLUSTER\_INTERCONNECTS, 1-25  
  DISPATCHERS, 1-49  
  FAST\_START\_PARALLEL\_ROLLBACK, 1-59  
  PARALLEL\_ADAPTIVE\_MULTI\_USER, 1-120  
  PARALLEL\_AUTOMATIC\_TUNING, 1-121  
  PARALLEL\_EXECUTION\_MESSAGE\_SIZE, 1-122  
  PARALLEL\_INSTANCE\_GROUP, 1-122  
  PARALLEL\_MAX\_SERVERS, 1-123  
  PARALLEL\_MIN\_PERCENT, 1-124  
  PARALLEL\_MIN\_SERVERS, 1-125  
  PARALLEL\_THREADS\_PER\_CPU, 1-126  
ORPHAN\_KEY\_TABLE view. *See DBA\_ORPHAN\_KEY\_TABLE*  
view, 2-201  
OS\_AUTHENT\_PREFIX initialization parameter, 1-119  
OS\_ROLES initialization parameter, 1-120

## P

---

parallel mode  
  instance number, 1-67  
parallel query  
  maximum number of instances, 1-122  
  maximum number of servers, 1-123  
  minimum number of queries, 1-125  
PARALLEL\_ADAPTIVE\_MULTI\_USER initialization parameter, 1-120  
PARALLEL\_AUTOMATIC\_TUNING initialization parameter, 1-121  
PARALLEL\_EXECUTION\_MESSAGE\_SIZE initialization parameter, 1-122  
PARALLEL\_INSTANCE\_GROUP initialization parameter, 1-122

**PARALLEL\_MAX\_SERVERS** initialization parameter, 1-123  
**PARALLEL\_MIN\_PERCENT** initialization parameter, 1-124  
**PARALLEL\_MIN\_SERVERS** initialization parameter, 1-125  
**PARALLEL\_THREADS\_PER\_CPU** initialization parameter, 1-126  
**PARSED\_PIECES** view, 2-250  
**PARSED\_SIZE** view, 2-250  
**PARTITION\_VIEW\_ENABLED** initialization parameter, 1-126  
partitions  
  raw, 1-75  
passwords  
  authenticating, 1-119, 1-140  
  **REMOTE\_LOGIN\_PASSWORDFILE** initialization parameter, 1-139  
PCM lock  
  mapping blocks to, 1-60  
performance, 1-3  
  rule-based optimization, 1-114  
  shared pool, 1-64, 1-149, 1-151  
**PGA\_AGGREGATE\_TARGET** initialization parameter, 1-127  
pins  
  on KGL objects, 2-188  
**PLAN\_TABLE** execution plan table, 2-250  
**PLSQL\_COMPILER\_FLAGS** initialization parameter, 1-128  
**PLSQL\_NATIVE\_C\_COMPILER** initialization parameter, 1-129  
**PLSQL\_NATIVE\_LIBRARY\_DIR** initialization parameter, 1-129  
**PLSQL\_NATIVE\_LIBRARY\_SUBDIR\_COUNT** initialization parameter, 1-129  
**PLSQL\_NATIVE\_LINKER** initialization parameter, 1-130  
**PLSQL\_NATIVE\_MAKE\_FILE\_NAME** initialization parameter, 1-130  
**PLSQL\_NATIVE\_MAKE.Utility** initialization parameter, 1-131  
**PLSQL\_V2\_COMPATIBILITY** initialization parameter, 1-131  
**PLUGGABLE\_SET\_CHECK** view, 2-252

**PRE\_PAGE\_SGA** initialization parameter, 1-132  
privileges  
  remote login, 1-139  
  **RESTRICTED\_SESSION** privilege, 1-71, 1-72  
  table-level select privileges, 1-157, 1-159  
procedures  
  shared pool, 1-64, 1-149, 1-151  
processes  
  derived parameter values, 1-165  
  dispatcher process maximum number, 1-92  
  maximum shared server processes, 1-94  
  number of server processes, 1-68, 1-69, 1-133, 1-151, 1-152  
  recovery, 1-134, 1-136  
  trace files, 1-169  
  user processes, 1-133  
**PROCESSES** initialization parameter, 1-133  
**PRODUCT\_COMPONENT\_VERSION** view, 2-253  
profiles  
  resource limits, 1-141, 1-142  
**PROXY\_USERS** view, 2-253  
**PSTUBTBL** view, 2-254  
**PUBLIC** clause  
  of **ALTER DATABASE**  
    thread of redo, 1-160  
**PUBLIC\_DEPENDENCY** view, 2-254  
**PUBLICSYN** view, 2-254

## Q

---

queries  
  dictionary views, 1-60  
  hints, 1-114  
**QUERY\_REWRITE\_ENABLED** initialization parameter, 1-133  
**QUERY\_REWRITE\_INTEGRITY** initialization parameter, 1-134  
**QUEUE\_PRIVILEGES** view, 2-255

## R

---

raw partition  
  **LOG\_ARCHIVE\_DEST** initialization parameter, 1-75  
**RC\_ARCHIVED\_LOG** view, 2-4

RC\_BACKUP\_CONTROLFILE view, 2-4  
 RC\_BACKUP\_CORRUPTION view, 2-4  
 RC\_BACKUP\_DATAFILE view, 2-4  
 RC\_BACKUP\_PIECE view, 2-4  
 RC\_BACKUP\_REDOLOG view, 2-4  
 RC\_BACKUP\_SET view, 2-4  
 RC\_BACKUP\_SPFILE view, 2-4  
 RC\_CHECKPOINT view, 2-4  
 RC\_CONTROLFILE\_COPY view, 2-4  
 RC\_COPY\_CORRUPTION view, 2-4  
 RC\_DATABASE view, 2-4  
 RC\_DATABASE\_BLOCK\_CORRUPTION view, 2-4  
 RC\_DATABASE\_INCARNATION view, 2-4  
 RC\_DATAFILE view, 2-4  
 RC\_DATAFILE\_COPY view, 2-4  
 RC\_LOG\_HISTORY view, 2-4  
 RC\_OFFLINE\_RANGE view, 2-4  
 RC\_PROXY\_CONTROLFILE view, 2-4  
 RC\_PROXY\_DATAFILE view, 2-4  
 RC\_REDO\_LOG view, 2-4  
 RC\_REDO\_THREAD view, 2-4  
 RC\_RESYNC view, 2-4  
 RC\_RMAN\_CONFIGURATION view, 2-4  
 RC\_STORED\_SCRIPT view, 2-4  
 RC\_STORED\_SCRIPT\_LINE view, 2-4  
 RC\_TABLESPACE view, 2-4  
 RDBMS\_SERVER\_DN initialization parameter, 1-135  
 READ\_ONLY\_OPEN\_DELAYED initialization parameter, 1-136  
 recovery number of required processes, 1-134, 1-136  
 RECOVERY\_PARALLELISM initialization parameter, 1-136  
 redo logs buffer size, 1-85  
 redo thread, 1-160  
 remote clients authenticating, 1-140  
 remote logins, 1-139  
 REMOTE\_ARCHIVE\_ENABLE initialization parameter, 1-137  
 REMOTE\_DEPENDENCIES\_MODE initialization parameter, 1-138  
 REMOTE\_LISTENER initialization parameter, 1-138  
 REMOTE\_LOGIN\_PASSWORDFILE initialization parameter, 1-139  
 REMOTE\_OS\_AUTHENT initialization parameter, 1-140  
 REMOTE\_OS\_ROLES initialization parameter, 1-140  
 REPAIR\_TABLE view. See DBA\_REPAIR\_TABLE view.  
 REPLICATION\_DEPENDENCY\_TRACKING initialization parameter, 1-141  
 resource limits for profiles, 1-141, 1-142  
 RESOURCE\_COST view, 2-255  
 RESOURCE\_LIMIT initialization parameter, 1-141  
 RESOURCE\_MANAGER\_PLAN initialization parameter, 1-142  
 RESOURCE\_MAP table, 2-255  
 RMJVM.SQL script, 5-8  
 ROLE\_ROLE\_PRIVS view, 2-256  
 ROLE\_SYS\_PRIVS view, 2-256  
 ROLE\_TAB\_PRIVS view, 2-256  
 ROLE\_WM\_PRIVS view, 2-3  
 roles, 1-120
 

- remote clients, 1-140

 rollback segments maximum size, 1-94  
 ROLLBACK\_SEGMENTS initialization parameter, 1-143  
 ROW\_LOCKING initialization parameter, 1-144  
 rule-based optimization, 1-114

## S

---

scripts  
 CATALOG.SQL, 5-2  
 CATBLOCK.SQL, 5-3  
 CATCLUST.SQL, 5-2  
 CATEXP7.SQL, 5-3  
 CATHS.SQL, 5-3  
 CATIO.SQL, 5-3  
 CATJAVA.SQL, 5-8  
 CATNOADT.SQL, 5-6  
 CATNOAUD.SQL, 5-6  
 CATNOHS.SQL, 5-6

CATNOPRT.SQL, 5-6  
CATNOQUE.SQL, 5-6  
CATNORMN.SQL, 5-6  
CATNOSVM.SQL, 5-6  
CATNSNMP.SQL, 5-6  
CATOCTK.SQL, 5-3  
CATPROC.SQL, 5-2  
CATQUEUE.SQL, 5-3  
CATREP.SQL, 5-3  
CATRMAN.SQL, 5-3  
CMPDBMIG.SQL, 5-7  
D0801070.SQL, 5-7  
D0900010.SQL, 5-7  
data dictionary, 5-3  
database migration, 5-7  
DBMSIOTC.SQL, 5-3  
DBMSOTRC.SQL, 5-3  
DBMSPOOL.SQL, 5-4  
INITJVM.SQL, 5-8  
Java, 5-8  
RMJVM.SQL, 5-8  
SQL scripts, 5-2  
U0703040.SQL, 5-7  
U0800060.SQL, 5-7  
U0801070.SQL, 5-7  
U0900010.SQL, 5-7  
USERLOCK.SQL, 5-4  
UTLBSTAT.SQL, 5-4  
UTLCHN1.SQL, 5-4  
UTLCONST.SQL, 5-4  
UTLDTREE.SQL, 5-4  
UTLESTAT.SQL, 5-4  
UTLEXPT1.SQL, 5-4  
UTLINCMP.SQL, 5-7  
UTLIP.SQL, 5-4  
UTLRP.SQL, 5-5  
UTLLOCKT.SQL, 5-5  
UTLPWDMG.SQL, 5-5  
UTLRP.SQL, 5-5  
UTLSAMPL.SQL, 5-5  
UTLSCLN.SQL, 5-5  
UTLTCKPRF.SQL, 5-5  
UTLVALID.SQL, 5-5  
UTLXPLAN.SQL, 5-5  
SEQ synonym for USER\_SEQUENCES view, 2-256

SERIAL\_REUSE initialization parameter, 1-145  
server parameter file  
    overview, 1-4  
server processes  
    number, 1-68, 1-69, 1-133, 1-151, 1-152  
SERVICE\_NAMES initialization parameter, 1-146  
SESSION\_CACHED\_CURSORS initialization  
    parameter, 1-146  
SESSION\_CONTEXT view, 2-257  
SESSION\_MAX\_OPEN\_FILES initialization  
    parameter, 1-147  
SESSION\_PRIVS view, 2-257  
SESSION\_ROLES view, 2-257  
SESSIONS initialization parameter, 1-148  
SGA\_MAX\_SIZE initialization parameter, 1-148  
SHADOW\_CORE\_DUMP initialization  
    parameter, 1-149  
shared server  
    SESSIONS initialization parameter, 1-148  
shared server dispatcher request statistics, 3-119  
shared server processes  
    maximum number, 1-94  
SHARED\_MEMORY\_ADDRESS initialization  
    parameter, 1-149  
SHARED\_POOL\_RESERVED\_SIZE initialization  
    parameter, 1-150  
    VSSHARED\_POOL\_RESERVED, 3-142  
SHARED\_POOL\_SIZE initialization  
    parameter, 1-151  
SHARED\_SERVER\_SESSIONS initialization  
    parameter, 1-151  
SHARED\_SERVERS initialization parameter, 1-152  
SHOW PARAMETERS command, 1-11  
SORT\_AREA\_RETAINED\_SIZE initialization  
    parameter, 1-152  
SORT\_AREA\_SIZE initialization parameter, 1-153  
sorting  
    maximum memory, 1-152  
    ORDER BY queries, 1-101  
SOURCE\_SIZE view, 2-257  
SPFILE initialization parameter, 1-155  
SQL scripts  
    creating the data dictionary, 5-2  
    optional, 5-3  
    required, 5-2

SQL\_TRACE initialization parameter, 1-156  
SQL92\_SECURITY initialization parameter, 1-157  
STANDBY\_ARCHIVE\_DEST initialization  
    parameter, 1-157  
STANDBY\_FILE\_MANAGEMENT initialization  
    parameter, 1-158  
STAR\_TRANSFORMATION\_ENABLED  
    initialization parameter, 1-159  
starting up  
    database name, 1-44  
    instance number, 1-67  
    startup order, 1-67  
STARTUP statement  
    database name, 1-44  
statistics  
    background checkpoints completed, C-3  
    background checkpoints started, C-3  
    branch node splits, C-3  
    buffer is not pinned count, C-3  
    buffer is pinned count, C-3  
    bytes received via SQL\*Net from client, C-3  
    bytes received via SQL\*Net from dblink, C-3  
    bytes sent via SQL\*Net to client, C-3  
    bytes sent via SQL\*Net to dblink, C-3  
    Cached Commit SCN referenced, C-3  
    calls to get snapshot scn  
        kcmgss, C-3  
    calls to kcmgas, C-3  
    calls to kcmgcs, C-4  
    calls to kcmgrs, C-4  
    change write time, C-4  
    cleanouts and rollbacks - consistent read  
        gets, C-4  
    cleanouts only - consistent read gets, C-4  
    cluster key scan block gets, C-4  
    cluster key scans, C-4  
    cold recycle reads, C-4  
    commit cleanout failures  
        block lost, C-4  
        buffer being written, C-4  
        callback failure, C-4  
        cannot pin, C-4  
        hot backup in progress, C-4  
        write disabled, C-4  
    commit cleanouts, C-4  
commit cleanouts successfully completed, C-5  
Commit SCN cached, C-5  
consistent changes, C-5  
consistent gets, C-5  
CPU used by this session, C-5  
CPU used when call started, C-5  
CR blocks created, C-5  
cross instance CR read, C-6  
current blocks converted for CR, C-5  
cursor authentication, C-5  
data blocks consistent reads - undo records  
    applied, C-5  
db block changes, C-6  
db block gets, C-6  
DBWR buffers scanned, C-6  
DBWR checkpoint buffers written, C-6  
DBWR checkpoints, 1-86, C-6  
DBWR cross instance writes, C-6  
DBWR free buffers found, C-6  
DBWR lru scans, C-6  
DBWR make free requests, C-6  
DBWR revisited being-written buffer, C-7  
DBWR summed scan depth, C-7  
DBWR transaction table writes, C-7  
DBWR undo block writes, C-7  
DDL statements parallelized, C-7  
deferred (CURRENT) block cleanout  
    applications, C-7  
DFO trees parallelized, C-7  
dirty buffers inspected, C-7  
DML statements parallelized, C-7  
enqueue conversions, C-7  
enqueue deadlocks, C-7  
enqueue releases, C-7  
enqueue requests, C-7  
enqueue timeouts, C-8  
enqueue waits, C-8  
exchange deadlocks, C-8  
execute count, C-8  
free buffer inspected, C-8  
free buffer requested, C-8  
global cache blocks corrupt, C-8  
global cache cr block log flush time, C-9  
global cache cr block send time, C-9  
global cache cr timeouts, C-9

global cache defers, C-9  
global cache freelist waits, C-9  
global cache get time, C-9  
global cache gets, C-9  
global cache prepare failures, C-9  
global lock async converts, C-9  
global lock async gets, C-9  
global lock convert time, C-9  
global lock get time, C-9  
global lock release time, C-10  
global lock releases, C-10  
global lock sync converts, C-10  
global lock sync gets, C-10  
hot buffers moved to head of LRU, C-10  
immediate (CR) block cleanout  
    applications, C-10  
immediate (CURRENT) block cleanout  
    applications, C-10  
index fast full scans (direct read), C-10  
index fast full scans (full), C-10  
index fast full scans (rowid ranges), C-10  
instance recovery database freeze count, C-10  
kcmccs called get current scn, C-10  
kcmccs read scn without going to DLM, C-10  
kcmggs waited for batching, C-10  
leaf node splits, C-10  
logons cumulative, C-10  
logons current, C-10  
messages received, C-10  
messages sent, C-10  
native hash arithmetic execute, C-11  
native hash arithmetic fail, C-11  
next scns gotten without going to DLM, C-11  
no buffer to keep pinned count, C-11  
no work - consistent read gets, C-11  
opened cursors cumulative, C-11  
opened cursors current, C-11  
opens of replaced files, C-11  
opens requiring cache replacement, C-11  
operating system  
    OS All other sleep time, C-11  
    OS Chars read and written, C-11  
    OS Data page fault sleep time, C-11  
    OS Input blocks, C-11  
    OS Involuntary context switches, C-12  
    OS Kernel page fault sleep time, C-12  
    OS Major page faults, C-12  
    OS Messages received, C-12  
    OS Messages sent, C-12  
    OS Minor page faults, C-12  
    OS Other system trap CPU time, C-12  
    OS Output blocks, C-12  
    OS Process heap time, C-12  
    OS Signals received, C-12  
    OS Swaps, C-12  
    OS System call CPU time, C-12  
    OS System calls, C-12  
    OS Text page fault sleep time, C-12  
    OS User level CPU time, C-12  
    OS User lock wait sleep time, C-12  
    OS Voluntary context switches, C-12  
    OS Wait-cpu (latency) time, C-12  
    Process stack size, C-12  
OS Input blocks, C-12  
Parallel operations downgraded 1 to 25  
    pct, C-13  
Parallel operations downgraded 25 to 50  
    pct, C-13  
Parallel operations downgraded 50 to 75  
    pct, C-13  
Parallel operations downgraded 75 to 99  
    pct, C-13  
Parallel operations downgraded to serial, C-13  
Parallel operations not downgraded, C-13  
parse count (hard), C-13  
parse count (total), C-13  
parse time cpu, C-13  
parse time elapsed, C-13  
physical reads, C-13  
physical reads direct, C-13  
physical writes, C-14  
physical writes direct, C-14  
physical writes non checkpoint, C-14  
pinned buffers inspected, C-14  
prefetched blocks, C-14  
prefetched blocks aged out before use, C-14  
process last non-idle time, C-14  
PX local messages recv'd, C-14  
PX local messages sent, C-14  
PX remote messages recv'd, C-14

PX remote messages sent, C-14  
queries parallelized, C-14  
recovery array read time, C-14  
recovery array reads, C-14  
recovery blocks read, C-15  
recursive calls, C-15  
recursive cpu usage, C-15  
redo blocks written, C-15  
redo buffer allocation retries, C-15  
redo entries, C-15  
redo log space requests, C-15  
redo log space wait time, C-15  
redo log switch interrupts, C-15  
redo ordering marks, C-16  
redo size, C-16  
redo sync writes, C-16  
redo synch time, C-16  
redo wastage, C-16  
redo write time, C-16  
redo writer latching time, C-16  
redo writes, C-16  
remote instance undo block writes, C-16  
remote instance undo header writes, C-16  
rollback changes - undo records applied, C-16  
rollbacks only - consistent read gets, C-16  
rows fetched via callback, C-16  
serializable aborts, C-17  
session connect time, C-17  
session cursor cache count, C-17  
session cursor cache hits, C-17  
session logical reads, C-17  
session pga memory, C-17  
session pga memory max, C-17  
session stored procedure space, C-17  
session uga memory, C-17  
session uga memory max, C-17  
sorts (disk), C-17  
sorts (memory), C-18  
sorts (rows), C-18  
SQL\*Net roundtrips to/from client, C-18  
SQL\*Net roundtrips to/from dblink, C-18  
summed dirty queue length, C-18  
switch current to new buffer, C-18  
table fetch by rowid, C-18  
table fetch continued row, C-18

table scan blocks gotten, C-19  
table scan rows gotten, C-19  
table scans (cache partitions), C-19  
table scans (direct read), C-19  
table scans (long tables), C-19  
table scans (rowid ranges), C-19  
table scans (short tables), C-19  
timed, 1-162  
total file opens, C-19  
transaction lock background get time, C-19  
transaction lock background gets, C-19  
transaction lock foreground requests, C-19  
transaction lock foreground wait time, C-19  
transaction rollbacks, C-19  
transaction tables consistent read  
    rollbacks, C-20  
transaction tables consistent reads - undo records  
    applied, C-20  
Unnecessary process cleanup for SCN  
    batching, C-20  
user calls, C-20  
user commits, C-20  
user rollbacks, C-20  
write clones created in background, C-20  
write clones created in foreground, C-20  
STATISTICS\_LEVEL initialization  
    parameter, 1-159  
STMT\_AUDIT\_OPTION\_MAP table, 2-258  
switch redo log file, 1-86  
SYN synonym for USER\_SYNONYMS view, 2-258  
SYNONYMS view, 2-258  
SYS\_OBJECTS view, 2-259  
SYSCATALOG view, 2-258  
SYSFILES view, 2-258  
SYSSEGOBJ view, 2-258  
system global area, 1-3  
    buffer areas, 1-85  
    maximum concurrent transactions, 1-165  
    rollback segment size, 1-94  
system performance, 1-3  
SYSTEM\_PRIVILEGE\_MAP table, 2-258

## T

---

TAB view, 2-259

TABLE\_PRIVILEGE\_MAP table, 2-259  
TABLE\_PRIVILEGES view, 2-259  
tables  
  data dictionary, 2-1  
  DML locks, 1-53  
  locating free space, 1-67  
  row locking, 1-144  
TABQUOTAS view, 2-260  
TABS synonym for USER\_TABLES view, 2-260  
tape archiving destination, 1-75  
TAPE\_ASYNCH\_IO initialization parameter, 1-160  
territory, 1-98, 1-102  
THREAD initialization parameter, 1-160  
TIMED\_OS\_STATISTICS initialization  
  parameter, 1-161  
TIMED\_STATISTICS initialization  
  parameter, 1-162  
  file read/write statistics, 3-58, 3-182  
TO\_CHAR function, 1-97  
TO\_DATE function, 1-97  
trace files  
  destination, 1-169  
  maximum size, 1-93  
TRACE\_ENABLED initialization parameter, 1-163  
TRACEFILE\_IDENTIFIER initialization  
  parameter, 1-163  
TRANSACTION\_AUDITING initialization  
  parameter, 1-164  
transactions  
  concurrent, 1-165  
  data locking, 1-53  
TRANSACTIONS initialization parameter, 1-165  
  DML locks, 1-53  
TRANSACTIONS\_PER\_ROLLBACK\_SEGMENT  
  initialization parameter, 1-165  
TRUSTED\_SERVERS view, 2-260  
TS\_PITR\_CHECK view, 2-261  
TS\_PITR\_OBJECTS\_TO\_BE\_DROPPED view, 2-262

## U

---

U0703040.SQL script, 5-7  
U0800060.SQL script, 5-7  
U0801070.SQL script, 5-7  
U0900010.SQL script, 5-7

UNDO\_MANAGEMENT initialization  
  parameter, 1-166  
UNDO\_RETENTION initialization  
  parameter, 1-166  
UNDO\_SUPPRESS\_ERRORS initialization  
  parameter, 1-167  
UNDO\_TABLESPACE initialization  
  parameter, 1-168  
UNI\_PLUGGABLE\_SET\_CHECK view, 2-262  
updates  
  locating free space, 1-67  
  transaction processing option, 1-144  
uppercase characters, 1-5  
USE\_INDIRECT\_DATA\_BUFFERS initialization  
  parameter, 1-168  
user processes  
  trace files, 1-169  
USER\_ALL\_TABLES view, 2-263  
USER\_AQ\_AGENT\_PRIVS view, 2-263  
USER\_ARGUMENTS view, 2-263  
USER\_ASSOCIATIONS view, 2-264  
USER\_ATTRIBUTE\_TRANSFORMATIONS  
  view, 2-264  
USER\_AUDIT\_OBJECT view, 2-264  
USER\_AUDIT\_POLICIES view, 2-264  
USER\_AUDIT\_SESSION view, 2-264  
USER\_AUDIT\_STATEMENT view, 2-264  
USER\_AUDIT\_TRAIL view, 2-265  
USER\_AW\_PS view, 2-265  
USER\_AWS view, 2-265  
USER\_BASE\_TABLE\_MVIEWS view, 2-265  
USER\_CATALOG view, 2-266  
  CAT synonym, 2-153  
USER\_CLU\_COLUMNS view, 2-266  
USER\_CLUSTER\_HASH\_EXPRESSIONS  
  view, 2-266  
USER\_CLUSTERS view, 2-266  
  CLU synonym, 2-155  
USER\_COL\_COMMENTS view, 2-266  
USER\_COL\_PRIVS view, 2-266  
USER\_COL\_PRIVS\_MADE view, 2-267  
USER\_COL\_PRIVS\_REC view, 2-267  
USER\_COLL\_TYPES view, 2-267  
USER\_CONS\_COLUMNS view, 2-267  
USER\_CONS\_OBJ\_COLUMNS view, 2-267

USER\_CONSTRAINTS view, 2-268  
USER\_DB\_LINKS view, 2-268  
USER\_DEPENDENCIES view, 2-268  
USER\_DIM\_ATTRIBUTES view, 2-268  
USER\_DIM\_CHILD\_OF view, 2-268  
USER\_DIM\_HIERARCHIES view, 2-268  
USER\_DIM\_JOIN\_KEY view, 2-269  
USER\_DIM\_LEVEL\_KEY view, 2-269  
USER\_DIM\_LEVELS view, 2-269  
USER\_DIMENSIONS view, 2-269  
USER\_DUMP\_DEST initialization  
    parameter, 1-169  
USER\_ERRORS view, 2-269  
USER\_EVALUATION\_CONTEXT\_TABLES  
    view, 2-269  
USER\_EVALUATION\_CONTEXT\_VARS  
    view, 2-270  
USER\_EVALUATION\_CONTEXTS view, 2-270  
USER\_EXTENTS view, 2-270  
USER\_EXTERNAL\_LOCATIONS view, 2-270  
USER\_EXTERNAL\_TABLES view, 2-270  
USER\_FREE\_SPACE view, 2-271  
USER\_IND\_COLUMNS view, 2-271  
USER\_IND\_EXPRESSIONS view, 2-271  
USER\_IND\_PARTITIONS view, 2-271  
USER\_IND\_SUBPARTITIONS view, 2-271  
USER\_INDEXES view, 2-271  
    IND synonym, 2-247  
USER\_INDEXTYPE\_COMMENTS view, 2-272  
USER\_INDEXTYPE\_OPERATORS view, 2-272  
USER\_INDEXTYPES view, 2-272  
USER\_INTERNAL\_TRIGGERS view, 2-272  
USER\_JAVA\_ARGUMENTS view, 2-272  
USER\_JAVA\_CLASSES view, 2-273  
USER\_JAVA\_DERIVATIONS view, 2-273  
USER\_JAVA\_FIELDS view, 2-273  
USER\_JAVA\_IMPLEMENTS view, 2-273  
USER\_JAVA\_INNERS view, 2-273  
USER\_JAVA\_LAYOUTS view, 2-274  
USER\_JAVA\_METHODS view, 2-274  
USER\_JAVA\_NCOMPS view, 2-274  
USER\_JAVA\_POLICY view, 2-274  
USER\_JAVA\_RESOLVERS view, 2-274  
USER\_JAVA\_THROWS view, 2-275  
USER\_JOBS view, 2-275  
USER\_JOIN\_IND\_COLUMNS view, 2-275  
USER\_LIBRARIES view, 2-275  
USER\_LOB\_PARTITIONS view, 2-275  
USER\_LOB\_SUBPARTITIONS view, 2-275  
USER\_LOB\_TEMPLATES view, 2-276  
USER\_LOBS view, 2-276  
USER\_LOG\_GROUP\_COLUMNS view, 2-276  
USER\_LOG\_GROUPS view, 2-276  
USER\_METHOD\_PARAMS view, 2-276  
USER\_METHOD\_RESULTS view, 2-276  
USER\_MVIEW\_AGGREGATES view, 2-277  
USER\_MVIEW\_ANALYSIS view, 2-277  
USER\_MVIEW\_DETAIL\_RELATIONS view, 2-277  
USER\_MVIEW\_JOINS view, 2-277  
USER\_MVIEW\_KEYS view, 2-277  
USER\_MVIEW\_LOGS view, 2-278  
USER\_MVIEW\_REFRESH\_TIMES view, 2-278  
USER\_MVIEWS view, 2-278  
USER\_NESTED\_TABLES view, 2-278  
USER\_OBJ\_AUDIT\_OPTS view, 2-278  
USER\_OBJ\_COLATTRS view, 2-278  
USER\_OBJECT\_SIZE view, 2-279  
USER\_OBJECT\_TABLES view, 2-279  
USER\_OBJECTS view, 2-279  
    OBJ synonym, 2-250  
USER\_OPANCILLARY view, 2-279  
USER\_OPARGUMENTS view, 2-279  
USER\_OPBINDINGS view, 2-279  
USER\_OPERATOR\_COMMENTS view, 2-279  
USER\_OPERATORS view, 2-280  
USER\_OUTLINE\_HINTS view, 2-280  
USER\_OUTLINES view, 2-280  
USER\_PART\_COL\_STATISTICS view, 2-280  
USER\_PART\_HISTOGRAMS view, 2-280  
USER\_PART\_INDEXES view, 2-280  
USER\_PART\_KEY\_COLUMNS view, 2-281  
USER\_PART\_LOBS view, 2-281  
USER\_PART\_TABLES view, 2-281  
USER\_PARTIAL\_DROP\_TABS view, 2-281  
USER\_PASSWORD\_LIMITS view, 2-281  
USER\_PENDING\_CONV\_TABLES view, 2-282  
USER\_POLICIES view, 2-282  
USER\_POLICY\_CONTEXTS view, 2-282  
USER\_POLICY\_GROUPS view, 2-282  
USER\_PROCEDURES view, 2-282

USER\_PROXYES view, 2-283  
USER\_PUBLISHED\_COLUMNS view, 2-283  
USER\_QUEUE\_SCHEDULES view, 2-283  
USER\_QUEUE\_TABLES view, 2-283  
USER\_QUEUES view, 2-284  
USER\_REFRESH view, 2-284  
USER\_REFRESH\_CHILDREN view, 2-284  
USER\_REFES view, 2-284  
USER\_REGISTERED\_MVIEWS view, 2-284  
USER\_REGISTRY view, 2-284  
USER\_REPAUDIT\_ATTRIBUTE view, 2-2  
USER\_REPAUDIT\_COLUMN view, 2-2  
USER\_REPCAT view, 2-2  
USER\_REPCAT\_REFRESH\_TEMPLATES view, 2-2  
USER\_REPCAT\_TEMPLATE\_OBJECTS view, 2-2  
USER\_REPCAT\_TEMPLATE\_PARMS view, 2-2  
USER\_REPCAT\_TEMPLATE\_SITES view, 2-2  
USER\_REPCAT\_USER\_AUTHORIZATION view, 2-2  
USER\_REPCAT\_USER\_PARM\_VALUES view, 2-2  
USER\_REPCATLOG view, 2-2  
USER\_REPCOLUMN view, 2-2  
USER\_REPCOLUMN\_GROUP view, 2-2  
USER\_REPCONFICT view, 2-2  
USER\_REPDLL view, 2-2  
USER\_REPFLAVOR\_COLUMNS view, 2-2  
USER\_REPFLAVOR\_OBJECTS view, 2-2  
USER\_REPFLAVORS view, 2-2  
USER\_REPGENERATED view, 2-2  
USER\_REPGENOBJECTS view, 2-2  
USER\_REPGROUP view, 2-2  
USER\_REPGROUP\_PRIVILEGES view, 2-2  
USER\_REPGROUPED\_COLUMN view, 2-2  
USER\_REPKEY\_COLUMNS view, 2-2  
USER\_REPOBJECT view, 2-2  
USER\_REPPARAMETER\_COLUMN view, 2-2  
USER\_REPPRIORITY view, 2-2  
USER\_REPPRIORITY\_GROUP view, 2-2  
USER\_REPPROP view, 2-2  
USER\_REPRESOL\_STATS\_CONTROL view, 2-2  
USER\_REPRESOLUTION view, 2-2  
USER\_REPRESOLUTION\_METHOD view, 2-2  
USER\_REPRESOLUTION\_STATISTICS view, 2-2  
USER\_REPSHEMA view, 2-2

USER\_REPSITES view, 2-2  
USER\_RESOURCE\_LIMITS view, 2-285  
USER\_RESUMABLE view, 2-285  
USER\_ROLE\_PRIVS view, 2-285  
USER\_RSRC\_CONSUMER\_GROUP\_PRIVS view, 2-285  
USER\_RSRC\_MANAGER\_SYSTEM\_PRIVS view, 2-286  
USER\_RULE\_SET\_RULES view, 2-286  
USER\_RULE\_SETS view, 2-286  
USER\_RULES view, 2-286  
USER\_SEGMENTS view, 2-286  
USER\_SEQUENCES view, 2-286  
SEQ synonym, 2-256  
USER\_SOURCE view, 2-287  
USER\_SOURCE\_TABLES view, 2-287  
USER\_SQLJ\_TYPE\_ATTRS view, 2-287  
USER\_SQLJ\_TYPE\_METHODS view, 2-287  
USER\_SQLJ\_TYPES view, 2-287  
USER\_STORED\_SETTINGS view, 2-287  
USER\_SUBPART\_COL\_STATISTICS view, 2-288  
USER\_SUBPART\_HISTOGRAMS view, 2-288  
USER\_SUBPART\_KEY\_COLUMNS view, 2-288  
USER\_SUBPARTITION\_TEMPLATES view, 2-288  
USER\_SUBSCRIBED\_COLUMNS view, 2-288  
USER\_SUBSCRIBED\_TABLES view, 2-289  
USER\_SUBSCRIPTIONS view, 2-289  
USER\_SYONYMS view, 2-289  
SYN synonym, 2-258  
USER\_SYS\_PRIVS view, 2-289  
USER\_TAB\_COL\_STATISTICS view, 2-289  
USER\_TAB\_COLUMNS view, 2-289  
COLS synonym, 2-156  
USER\_TAB\_COMMENTS view, 2-289  
USER\_TAB\_HISTOGRAMS view, 2-290  
USER\_TAB\_MODIFICATIONS view, 2-290  
USER\_TAB\_PARTITIONS view, 2-290  
USER\_TAB\_PRIVS view, 2-290  
USER\_TAB\_PRIVS\_MADE view, 2-290  
USER\_TAB\_PRIVS\_REC'D view, 2-291  
USER\_TAB\_SUBPARTITIONS view, 2-291  
USER\_TABLES view, 2-291  
TABS synonym, 2-260  
USER\_TABLESPACES view, 2-291  
USER\_TRANSFORMATIONS view, 2-291

USER\_TRIGGER\_COLS view, 2-292  
USER\_TRIGGERS view, 2-292  
USER\_TS\_QUOTAS view, 2-292  
USER\_TYPE\_ATTRS view, 2-292  
USER\_TYPE\_METHODS view, 2-292  
USER\_TYPE VERSIONS view, 2-292  
USER\_TYPES view, 2-293  
USER\_UNUSED\_COL\_TABS view, 2-293  
USER\_UPDATABLE\_COLUMNS view, 2-293  
USER\_USERS view, 2-293  
USER\_USTATS view, 2-293  
USER\_VARRAYS view, 2-293  
USER\_VIEWS view, 2-294  
USER\_WM\_LOCKED\_TABLES view, 2-3  
USER\_WM\_MODIFIED\_TABLES view, 2-3  
USER\_WM\_PRIVS view, 2-3  
USER\_WM\_RIC\_INFO view, 2-3  
USER\_WM\_TAB\_TRIGGERS view, 2-3  
USER\_WM\_VERSIONED\_TABLES view, 2-3  
USER\_WM\_VT\_ERRORS view, 2-3  
USER\_WORKSPACE\_PRIVS view, 2-3  
USER\_WORKSPACE\_SAVEPOINTS view, 2-3  
USER\_WORKSPACES view, 2-3  
USER\_XML\_SCHEMAS view, 2-294  
USER\_XML\_TAB\_COLS view, 2-294  
USER\_XML\_TABLES view, 2-294  
USER\_XML\_VIEW\_COLS view, 2-294  
USER\_XML\_VIEWS view, 2-294  
USERLOCK.SQL script, 5-4  
users  
  authenticating, 1-119  
  multiple, 1-53  
UTL\_FILE\_DIR initialization parameter, 1-169  
UTLBSTAT.SQL script, 5-4  
UTLCHN1.SQL script, 5-4  
UTLCONST.SQL script, 5-4  
UTLDTREE.SQL script, 2-236, 5-4  
utldtree.sql script, 2-246  
UTLESTAT.SQL script, 5-4  
UTLEXPT1.SQL script, 5-4  
UTLINCMP.SQL script, 5-7  
UTLIP.SQL script, 5-4  
UTLIRP.SQL script, 5-5  
UTLLOCKT.SQL script, 5-5  
UTLPWDMG.SQL script, 5-5

UTLRP.SQL script, 5-5  
UTLSAMPL.SQL script, 5-5  
UTLSCLN.SQL script, 5-5  
UTLTKPRF.SQL script, 5-5  
UTLVALID.SQL script, 5-5  
UTLXPLAN.SQL script, 5-5

## V

---

VSACCESS view, 3-4  
V\$ACTIVE\_INSTANCES view, 3-4  
V\$ACTIVE\_SESS\_POOL\_MTH view, 3-4  
V\$AQ view, 3-4  
V\$ARCHIVE view, 3-5  
V\$ARCHIVE\_DEST view, 3-5  
V\$ARCHIVE\_DEST\_STATUS view, 3-8  
V\$ARCHIVE\_GAP view, 3-10  
V\$ARCHIVE\_PROCESSES view, 3-10  
V\$ARCHIVED\_LOG view, 3-10  
V\$BACKUP view, 3-12  
V\$BACKUP\_ASYNC\_IO view, 3-13  
V\$BACKUP\_CORRUPTION view, 3-14  
V\$BACKUP\_DATAFILE view, 3-15  
V\$BACKUP\_DEVICE view, 3-16  
V\$BACKUP\_PIECE view, 3-17  
V\$BACKUP\_REDOLOG view, 3-18  
V\$BACKUP\_SET view, 3-18  
V\$BACKUP\_SFILE view, 3-20  
V\$BACKUP\_SYNC\_IO view, 3-20  
V\$BGPPROCESS view, 3-21  
V\$BH view, 3-21  
V\$BUFFER\_POOL view, 3-23  
V\$BUFFER\_POOL\_STATISTICS view, 3-24  
V\$CACHE view, 3-25  
V\$CACHE\_LOCK view, 3-26  
V\$CACHE\_TRANSFER view, 3-29  
V\$CIRCUIT view, 3-30  
V\$CLASS\_CACHE\_TRANSFER view, 3-31  
V\$COMPATIBILITY view, 3-31  
V\$COMPATSEG view, 3-32  
V\$CONTEXT view, 3-32  
V\$CONTROLFILE view, 3-32  
V\$CONTROLFILE\_RECORD\_SECTION view, 3-32  
V\$COPY\_CORRUPTION view, 3-33

V\$CR\_BLOCK\_SERVER view, 3-34  
V\$DATABASE view, 3-35  
V\$DATABASE\_BLOCK\_CORRUPTION view, 3-38  
V\$DATABASE\_INCARNATION view, 3-39  
V\$DATAFILE view, 3-39  
V\$DATAFILE\_COPY view, 3-41  
V\$DATAFILE\_HEADER view, 3-42  
V\$DATAGUARD\_STATUS view, 3-43  
V\$DB\_CACHE\_ADVICE view, 3-44  
V\$DB\_OBJECT\_CACHE view, 3-45  
V\$DB\_PIPES view, 3-46  
V\$DBFILE view, 3-46  
V\$DBLINK view, 3-46  
V\$DELETED\_OBJECT view, 3-47  
V\$DISPATCHER view, 3-47  
V\$DISPATCHER\_RATE view, 3-48  
V\$ENABLEDPRIVS view, 3-53  
V\$ENQUEUE\_LOCK view, 3-53  
V\$ENQUEUE\_STAT view, 3-54  
V\$EVENT\_NAME view, 3-55  
V\$EXECUTION view, 3-55  
V\$FALSE\_PING view, 3-55  
V\$FAST\_START\_SERVERS view, 3-56  
V\$FAST\_START\_TRANSACTIONS view, 3-57  
V\$FILE\_CACHE\_TRANSFER view, 3-57  
V\$FILESTAT view, 3-58  
V\$FIXED\_TABLE view, 3-59  
V\$FIXED\_VIEW\_DEFINITION view, 3-59  
V\$GC\_ELEMENT view, 3-60  
V\$GC\_ELEMENTS\_WITH\_COLLISIONS view, 3-60  
V\$GCSHVMMASTER\_INFO view, 3-61  
V\$GCSPFMASTER\_INFO view, 3-61  
V\$GES\_BLOCKING\_ENQUEUE view, 3-61  
V\$GES\_CONVERT\_LOCAL view, 3-63  
V\$GES\_CONVERT\_REMOTE view, 3-63  
V\$GES\_ENQUEUE view, 3-64  
V\$GES\_LATCH view, 3-65  
V\$GES\_RESOURCE view, 3-65  
V\$GES\_STATISTICS view, 3-66  
V\$GLOBAL\_BLOCKED\_LOCKS view, 3-66  
V\$GLOBAL\_TRANSACTION view, 3-66  
V\$HS\_AGENT view, 3-67  
V\$HS\_PARAMETER view, 3-67  
V\$HS\_SESSION view, 3-68  
V\$HVMMASTER\_INFO view, 3-68  
V\$INDEXED\_FIXED\_COLUMN view, 3-68  
V\$INSTANCE view, 3-69  
V\$INSTANCE\_RECOVERY view, 3-70  
V\$LATCH view, 3-71  
V\$LATCH\_CHILDREN view, 3-72  
V\$LATCH\_MISSES view, 3-73  
V\$LATCH\_PARENT view, 3-74  
V\$LATCHHOLDER view, 3-74  
V\$LATCHNAME view, 3-74  
V\$LIBRARY\_CACHE\_MEMORY view, 3-75  
V\$LIBRARYCACHE view, 3-75  
V\$LICENSE view, 3-76  
V\$LOADISTAT view, 3-76  
V\$LOADPSTAT view, 3-76  
V\$LOCK view, 3-77  
V\$LOCK\_ACTIVITY view, 3-79  
V\$LOCKED\_OBJECT view, 3-79  
V\$LOG view, 3-80  
V\$LOG\_HISTORY view, 3-81  
V\$LOGFILE view, 3-81  
V\$LOGHIST view, 3-82  
V\$LOGMNR\_CONTENTS view, 3-82  
V\$LOGMNR\_DICTIONARY view, 3-84  
V\$LOGMNR\_LOGS view, 3-85  
V\$LOGMNR\_PARAMETERS view, 3-86  
V\$LOGSTDBY view, 3-86  
V\$LOGSTDBY\_STATS view, 3-87  
V\$MANAGED\_STANDBY view, 3-87  
V\$MAP\_COMP\_LIST view, 3-89  
V\$MAP\_ELEMENT view, 3-89  
V\$MAP\_EXT\_ELEMENT view, 3-90  
V\$MAP\_FILE view, 3-91  
V\$MAP\_FILE\_EXTENT view, 3-91  
V\$MAP\_FILE\_IO\_STACK view, 3-92  
V\$MAP\_LIBRARY view, 3-92  
V\$MAP\_SUBELEMENT view, 3-93  
V\$MTTR\_TARGET\_ADVICE view, 3-93  
V\$MVREFRESH view, 3-2  
V\$MYSTAT view, 3-94  
V\$NLS\_PARAMETERS view, 3-95  
V\$NLS\_VALID\_VALUES view, 3-95  
V\$OBJECT\_DEPENDENCY view, 3-95  
V\$OBJECT\_USAGE view, 3-96

V\$Obsolete\_Parameter view, 3-96  
V\$Offline\_Range view, 3-96  
V\$Open\_Cursor view, 3-97  
V\$Option view, 3-97  
V\$Parallel\_Degree\_Limit\_Mth view, 3-98  
V\$Parameter view, 3-98  
V\$Parameter2 view, 3-99  
V\$PGA\_Target\_Advice view, 3-100  
V\$PGA\_Target\_Advice\_Histogram view, 3-101  
V\$PGastat view, 3-103  
V\$PQ\_Sesstat view, 3-106  
V\$PQ\_Slave view, 3-106  
V\$PQ\_Sysstat view, 3-107  
V\$PQ\_Tqstat view, 3-108  
V\$Process view, 3-109  
V\$Proxy\_ArchivedLog view, 3-110  
V\$Proxy\_Datafile view, 3-111  
V\$Pwfile\_Users view, 3-113  
V\$Px\_Process view, 3-113  
V\$Px\_Process\_Sysstat view, 3-113  
V\$Px\_Session view, 3-115  
V\$Px\_Sesstat view, 3-115  
V\$Queue view, 3-116  
V\$Queueing\_Mth view, 3-116  
V\$Recover\_File view, 3-116  
V\$Recovery\_File\_Status view, 3-117  
V\$Recovery\_Log view, 3-117  
V\$Recovery\_Progress view, 3-118  
V\$Recovery\_Status view, 3-118  
V\$ReplProp view, 3-2  
V\$ReplQueue view, 3-2  
V\$ReqDist view, 3-119  
V\$Reserved\_Words view, 3-119  
V\$Resource view, 3-120  
V\$Resource\_Limit view, 3-120  
V\$RMAN\_Configuration view, 3-121  
V\$Rollname view, 3-121  
V\$RollStat view, 3-122  
V\$RowCache view, 3-122  
V\$RowCache\_Parent view, 3-123  
V\$RowCache\_Subordinate view, 3-124  
V\$Rsrc\_Consumer\_Group view, 3-124  
V\$Rsrc\_Consumer\_Group\_Cpu\_Mth view, 3-125

V\$Rsrc\_Plan view, 3-126  
V\$Rsrc\_Plan\_Cpu\_Mth view, 3-126  
V\$Segment\_Statistics view, 3-127  
V\$Segstat view, 3-127  
V\$Segstat\_Name view, 3-127  
V\$Session\_Io view, 3-128  
V\$Session view, 3-128  
V\$Session\_Connect\_Info view, 3-133  
V\$Session\_Cursor\_Cache view, 3-134  
V\$Session\_Event view, 3-134, A-2  
V\$Session\_Longops view, 3-135  
V\$Session\_Object\_Cache view, 3-136  
V\$Session\_Wait view, 3-137, A-2  
V\$Sesstat view, 3-138, C-1  
V\$SGA view, 3-139  
V\$SGA\_Current\_Resize\_Ops view, 3-139  
V\$SGA\_Dynamic\_Components view, 3-140  
V\$SGA\_Dynamic\_Free\_Memory view, 3-141  
V\$SGA\_Resize\_Ops view, 3-140  
V\$SGastat view, 3-141  
V\$Shared\_Pool\_Advice view, 3-142  
V\$Shared\_Pool\_Reserved view, 3-142  
V\$Shared\_Server view, 3-143  
V\$Shared\_Server\_Monitor view, 3-144  
V\$Sort\_Segment view, 3-145  
V\$SPParameter view, 3-146  
V\$SQL view, 3-146  
V\$SQL\_Bind\_Data view, 3-148  
V\$SQL\_Bind\_Metadata view, 3-149  
V\$SQL\_Cursor view, 3-149  
V\$SQL\_Plan view, 3-150  
V\$SQL\_Plan\_Statistics view, 3-152  
V\$SQL\_Plan\_Statistics\_All view, 3-153  
V\$SQL\_Redirection view, 3-156  
V\$SQL\_Shared\_Cursor view, 3-157  
V\$SQL\_Shared\_Memory view, 3-158  
V\$SQL\_Workarea view, 3-159  
V\$SQL\_Workarea\_Active view, 3-160  
V\$SQL\_Workarea\_Histogram view, 3-162  
V\$SQLArea view, 3-163  
V\$SQLText view, 3-164  
V\$SQLText\_With\_Newlines view, 3-165  
V\$Standby\_Log view, 3-165  
V\$Statistics\_Level view, 3-166  
V\$Statname view, 3-167, C-1

V\$STREAMS\_APPLY\_COORDINATOR  
view, 3-168  
V\$STREAMS\_APPLY\_READER view, 3-169  
V\$STREAMS\_APPLY\_SERVER view, 3-170  
V\$STREAMS\_CAPTURE view, 3-172  
V\$SUBCACHE view, 3-174  
V\$SYSSTAT view, 3-174, C-1  
V\$SYSTEM\_CURSOR\_CACHE view, 3-175  
V\$SYSTEM\_EVENT view, 3-175, A-2  
V\$SYSTEM\_PARAMETER view, 3-176  
V\$SYSTEM\_PARAMETER2 view, 3-177  
V\$TABLESPACE view, 3-178  
V\$TEMP\_CACHE\_TRANSFER view, 3-178  
V\$TEMP\_EXTENT\_MAP view, 3-179  
V\$TEMP\_EXTENT\_POOL view, 3-180  
V\$TEMP\_SPACE\_HEADER view, 3-180  
V\$TEMPFILE view, 3-181  
V\$TEMPORARY\_LOBS view, 3-181  
V\$TEMPSEG\_USAGE view, 3-181  
V\$TEMPSTAT view, 3-182  
V\$THREAD view, 3-183  
V\$TIMER view, 3-184  
V\$TIMEZONE\_NAMES view, 3-184  
V\$TRANSACTION view, 3-184  
V\$TRANSACTION\_ENQUEUE view, 3-185  
V\$TYPE\_SIZE view, 3-186  
VSUNDOSTAT view, 3-187  
VSVERSION view, 3-188  
V\$VPD\_POLICY view, 3-188  
V\$WAITSTAT view, 3-189  
views  
    data dictionary views, 2-1  
    data files, 1-60  
virtual circuit status, A-51

## W

---

wait events  
    alter system set dispatchers, A-17  
    batched allocate scn lock request, A-17  
    BFILE check if exists, A-17  
    BFILE check if open, A-17  
    BFILE closure, A-18  
    BFILE get length, A-18  
    BFILE get name object, A-18

BFILE get path object, A-18  
BFILE internal seek, A-19  
BFILE open, A-19  
BFILE read, A-19  
buffer busy waits, A-20  
buffer deadlock, A-20  
buffer for checkpoint, A-20  
buffer latch, A-21  
buffer read retry, A-21  
checkpoint completed, A-22  
checkpoint range buffer not saved, A-22  
controlfile parallel write, A-22  
controlfile sequential read, A-23  
controlfile single write, A-23  
conversion file read, A-24  
db file parallel read, A-24  
db file parallel write, A-24  
db file scattered read, A-25  
db file sequential read, A-25  
db file single write, A-25  
DFS db file lock, A-26  
DFS lock handle, A-26  
direct path read, A-26  
direct path write, A-27  
dispatcher shutdown, A-27  
dispatcher timer, A-28  
duplicate cluster key, A-28  
enqueue, A-28  
file identify, A-29  
file open, A-29  
free buffer waits, A-29  
free global transaction table entry, A-29  
free process state object, A-30  
global cache busy, A-30  
global cache freelist wait, A-31  
global cache lock cleanup, A-30  
global cache null to s, A-31  
global cache null to x, A-31  
global cache open s, A-31  
global cache open x, A-32  
global cache s to x, A-32  
inactive session, A-32  
inactive transaction branch, A-33  
index block split, A-33  
instance recovery, A-33

instance state change, A-34  
io done, A-34  
kcl bg acks, A-34  
latch activity, A-35  
latch free, A-35  
library cache load lock, A-36  
library cache lock, A-36  
library cache pin, A-37  
lock manager wait for remote message, A-37  
log file parallel write, A-38  
log file sequential read, A-38  
log file single write, A-38  
log file switch (archiving needed), A-39  
log file switch (checkpoint incomplete), A-39  
log file switch (clearing log file), A-39  
log file switch completion, A-39  
log file sync, A-39  
log switch/archive, A-40  
on-going SCN fetch to complete, A-40  
parallel query create server, A-40  
parallel query dequeue wait, A-40  
parallel query qref latch, A-41  
parallel query server shutdown, A-41  
parallel query signal server, A-41  
pending global transaction(s), A-42  
pipe get, A-42  
pipe put, A-42  
PL/SQL lock timer, A-17, A-43  
pmmon rdomain attach, A-43  
pmmon timer, A-43  
process startup, A-43  
queue messages, A-44  
rdbms ipc message, A-44  
rdbms ipc message block, A-44  
rdbms ipc reply, A-44  
redo, A-45  
row cache lock, A-45  
scginq AST call, A-45  
single-task message, A-45  
smmon timer, A-46  
SQL\*Net break/reset to client, A-46  
SQL\*Net break/reset to dblink, A-46  
SQL\*Net message from client, A-47  
SQL\*Net message from dblink, A-47  
SQL\*Net message to client, A-47  
SQL\*Net message to dblink, A-47  
SQL\*Net more data from client, A-48  
SQL\*Net more data from dblink, A-48  
SQL\*Net more data to client, A-48  
SQL\*Net more data to dblink, A-49  
switch logfile command, A-49  
timer in sksawat, A-49  
transaction, A-49  
unbound tx, A-50  
undo segment extension, A-50  
undo segment recovery, A-50  
undo segment tx slot, A-50  
wait events  
    log buffer space, A-37  
WMON goes to sleep, A-17, A-51  
write complete, A-51  
writes stopped by instance recovery or database  
    suspension, A-51  
WM\_INSTALLATION view, 2-3  
WM\_REPLICATION\_INFO view, 2-3  
WORKAREA\_SIZE\_POLICY initialization  
    parameter, 1-170