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## Database control (Unix)

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### As user oracle ...

\$ sqlplus / nolog

SQL> connect / as sysdba

SQL> startup

**startup** - startup the database

**shutdown** - shutdown the database

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## DBA Views

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### Storage Information --

DBA\_FREE\_SPACE, DBA\_SEGMENTS, DBA\_TABLESPACES,  
DBA\_ROLLBACK\_SEGS, DBA\_OBJECTS, DBA\_OBJECT\_SIZE,  
DBA\_EXTENTS

### Operating System --

DBA\_DATA\_FILES, DBA\_EXP\_FILES

### Privileges --

DBA\_COL\_PRIVS, DBA\_PROFILES, DBA\_ROLES,  
DBA\_ROLE\_PRIVS, DBA\_SYS\_PRIVS, DBA\_TAB\_PRIVS,  
DBA\_UPDATABLE\_COLUMNS

### Indexes --

DBA\_INDEXES, DBA\_IND\_COLUMNS, DBA\_IND\_EXPRESSIONS,  
DBA\_IND\_PARTITIONS

### Tables/Views --

DBA\_TABLES, DBA\_TAB\_COLUMNS, DBA\_TAB\_PARTITIONS,  
DBA\_VIEWS, DBA\_TAB\_COMMENTS, DBA\_UNUSED\_COL\_TABS

### Constraints --

DBA\_CONSTRAINTS, DBA\_CONS\_COLUMNS

### Triggers --

DBA\_TRIGGERS, DBA\_TRIGGER\_COLS,  
DBA\_INTERNAL\_TRIGGERS

### Materialized Views --

DBA\_MVIEW\_AGGREGATES, DBA\_MVIEW\_ANALYSIS,  
DBA\_MVIEW\_DETAIL\_RELATIONS, DBA\_MVIEW\_JOINS,  
DBA\_MVIEW\_KEYS

### Partitions ---

DBA\_PART\_COL\_STATISTICS, DBA\_PART\_HISTOGRAMS,  
DBA\_PART\_INDEXES, DBA\_PART\_KEY\_COLUMNS,  
DBA\_PART\_LOBS, DBA\_PART\_TABLES,  
DBA\_IND\_SUBPARTITIONS, DBA\_LOB\_PARTITIONS,  
DBA\_LOB\_SUBPARTITIONS

### Objects, Methods and Types ---

DBA\_OBJECT\_TABLES, DBA\_METHOD\_PARAMS,  
DBA\_METHOD\_RESULTS, DBA\_TYPES, DBA\_TYPE\_ATTRS,  
DBA\_TYPE\_METHODS, DBA\_DIMENSIONS, DBA\_LOBS

### Operators --

DBA\_OPANCILLARY, DBA\_OPARGUMENTS, DBA\_OPBINDINGS,  
DBA\_OPERATORS

### Summaries --

DBA\_SUMMARIES, DBA\_SUMMARY\_AGGREGATES,  
DBA\_SUMMARY\_DETAIL\_TABLES, DBA\_SUMMARY\_JOINS,  
DBA\_SUMMARY\_KEYS

### Misc --

DBA\_DB\_LINKS, DBA\_SOURCE, DBA\_SEQUENCES,  
DBA\_SYNONYMS, DBA\_USERS, DBA\_OUTLINES,  
DBA\_OUTLINE\_HINTS, DBA\_JOBS, DBA\_JOBS\_RUNNING,  
DBA\_LIBRARIES, DBA\_PENDING\_TRANSACTIONS,  
DBA\_RULESETS, DBA\_POLICIES,  
DBA\_SUBPART\_KEY\_COLUMNS, DBA\_TEMP\_FILES,  
DBA\_TS\_QUOTAS

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## Dynamic Performance Views

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### Instance Level Tuning --

v\$GLOBAL\_TRANSACTION, v\$OBJECT\_DEPENDENCY,  
v\$SHARED\_POOL\_RESERVED, v\$SORT\_SEGMENT,  
v\$SORT\_USAGE, v\$STATNAME, v\$SYSSTAT,  
v\$SYSTEM\_CURSOR\_CACHE, v\$SYSTEM\_EVENT,  
v\$TRANSACTION, v\$INSTANCE, v\$LATCH, v\$LIBRARYCACHE,  
v\$ROLLSTAT, v\$ROWCACHE, v\$SGASTAT, v\$SQLAREA,  
v\$SQLTEXT, v\$WAITSTAT

### Recovery Based Views --

v\$ARCHIVE, v\$ARCHIVE\_DEST, v\$BACKUP\_CORRUPTION,  
v\$BACKUP\_DEVICE, v\$BACKUP\_REDOLOG,  
v\$DELETED\_OBJECT, v\$RECOVERY\_LOG, v\$RECOVER\_FILE,  
v\$ARCHIVED\_LOG, v\$BACKUP, v\$BACKUP\_DATAFILE,  
v\$BACKUP\_PIECE, v\$BACKUP\_SET,  
v\$RECOVERY\_FILE\_STATUS, v\$RECOVERY\_STATUS

### Cache Views --

v\$CACHE, v\$LIBRARYCACHE, v\$SUBCACHE,  
v\$SDB\_OBJECT\_CACHE, v\$ROWCACHE

### Control File Views --

v\$CONTROLFILE, v\$CONTROLFILE\_RECORD\_SELECTION

### Cursor / SQL Views --

v\$OPEN\_CURSOR, v\$SQLAREA, v\$SQLTEXT\_WITH\_NEWLINES,  
v\$SQL\_BIND\_METADATA, v\$SQL\_SHARED\_MEMORY, v\$SQL,  
v\$SQLTEXT, v\$SQL\_BIND\_DATA, v\$SQL\_CURSOR

### Security Views --

v\$ENABLEDPRIVS, v\$PWFILE\_USERS

### Session Views --

v\$ACCESS, v\$MYSTAT, v\$PROCESS, v\$SESSION,  
v\$SESSION\_CONNECT\_INFO, v\$SESSION\_CURSOR\_CACHE,  
v\$SESSION\_EVENT, v\$SESSION\_LONGOPS,  
v\$SESSION\_OBJECT\_CACHE, v\$SESSION\_WAIT, v\$SESSTAT  
(needs v\$statname, v\$session join), v\$SESS\_IO

### Latch and Lock Views --

v\$BUFFER\_POOL, v\$CACHE\_LOCK, v\$CLASS\_PING,  
v\$DLM\_CONVERT\_LOCAL, v\$DLM\_CONVERT\_REMOTE,  
v\$DLM\_LATCH, v\$DLM\_MISC, v\$ENQUEUE\_LOCK,  
v\$EVENT\_NAME, v\$FALSE\_PING, v\$FILE\_PING,  
v\$LATCH, v\$LATCHHOLDER, v\$LATCHNAME,  
v\$LATCH\_CHILDREN, v\$LATCH\_MISSES,  
v\$LATCH\_PARENT, v\$LOCK, v\$LOCK\_ACTIVITY,  
v\$LOCK\_ELEMENT, v\$LOCKED\_OBJECT, v\$LOCK1,  
v\$LOCKS\_WITH\_COLLISIONS, v\$PING,  
v\$RESOURCE, v\$RESOURCE\_LIMIT,  
v\$TRANSACTION\_ENQUEUE, v\$LOCK

### Instance Views --

v\$ACTIVE\_INSTANCES, v\$BGPROCESS, v\$BH,  
v\$COMPATIBILITY, v\$COMPATSEG,  
v\$COPY\_CORRUPTION, v\$DATABASE, v\$DATAFILE,  
v\$DATAFILE\_COPY, v\$DATAFILE\_HEADER, v\$DBFILE,  
v\$DBLINK, v\$SDB\_PIPES, v\$INSTANCE, v\$LICENSE,  
v\$OFFLINE\_RANGE, v\$OPTION, v\$SSGA, v\$SSGA\_STAT,  
v\$TABLESPACE, v\$VERSION

### Fixed Views --

v\$FIXED\_TABLE, v\$FIXED\_VIEW\_DEFINITION,  
v\$INDEXED\_FIXED\_COLUMN

### Miscellaneous Views --

v\$TIMER, v\$TYPE\_SIZE, v\$SEQUENCES

### MTS and Parallel Server Views --

v\$CIRCUIT, v\$DISPATCHER, v\$DISPATCHER\_RATE,  
v\$MSTS, v\$QUEUE, v\$REQDIST, v\$SHARED\_SERVER,  
v\$THREAD

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## Popular Instance Statistics

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Descriptions for statistics stored in the V\$SESSTAT and V\$SYSSTAT views. Set TIMED\_STATISTICS = TRUE in the database.

### Query:

```
SELECT n.name, s.value  
FROM v$statname n, v$sysstat s  
WHERE n.statistic# = s.statistic#  
ORDER BY n.class, n.name;
```

**cumulative logons** - since last warm start.

**current logons** - current users.

**cumulative opened cursors** - since warm start.

**current opened cursors** - current SQL cursors.

**recursive calls** - high value indicates dict cache too small.

**session logical reads** - total # of reads (logical/physical).

**enqueue timeouts** - lock timed out, s/b small #.

**enqueue waits** - # times waited for a lock.

**enqueue requests** - # of locks requested.

**enqueue conversions** - # times lock type changed.

**enqueue releases** - # of locks released.

**db block gets** - # requests for current copy of block.

**consistent gets** - this + db block gets = # logical reads.

**physical reads** - reads directly from disk.

**write requests** - # multiblock writes performed.

**free buffer requested** - # of free buff

**DBWR timeouts** – number of times dbwr was idle. Larger is better.  
**DBWR free buffers found** – number of clean buffers found in scan.  
**DBWR lru scans** – number of times lru scanned.  
**DBWR buffers scanned** – number of lru scanned for dirty buffers.  
**redo entries** - # redo entries created.  
**redo size** - bytes of generated redo entries.  
**redo buffer allocation retries** - indicates redo problem.  
**redo wastage** - filler added to redos, high value is ok.  
**redo log space requests** - requests to write to redo buffer.  
**table scans (long tables)** minimize in application.  
**table scan rows gotten** - minimize in application.  
**table fetch by rowid** - indexed fetches.  
**sorts(disk)** – number of sorts sent to disk.  
**sorts(memory)** – number of sorts performed in memory.  
**sorts(rows)** - total number of rows sorted cumulative.

### Initialization Parameters

- **audit\_file\_dest** = /u01/app/oracle/admin/ORCL/adump # Sets the path to which audit files are written.
- **audit\_trail** = FALSE # Enables (TRUE) or disables (FALSE) writing of rows to the audit table.
- **background\_dump\_dest** = /u01/app/oracle/admin/ORCL/bdump # Directory in which to write debugging trace files for the background processes (LGWR, DBWn, and so on).
- **control\_files** = (/u01/oradata/ORCL/controlORCL01.ctl, /u02/oradata/ORCL/controlORCL02.ctl) # Full path to database control files.
- **core\_dump\_dest** = /u01/app/oracle/admin/ORCL/cdumpn # Directory in which to write core dumps in an error situation.
- **db\_block\_buffers** = 6000 # Sets the size of the database buffer cache in memory. In 8.1.x, the default buffer cache size is calculated to be as many buffers as will fit in 48MB
- **db\_block\_size** = 8192 # Size of each database buffer. Oracle recommends that you set the parameter to a minimum of 8 kilobytes. This parameter takes effect only at the time the database is created.
- **db\_domain** = my\_company.com # Specifies the extension components of a global database name, consisting of valid identifiers, separated by periods
- **db\_files** = 80 # Number of database files that can be open when the database is running.
- **db\_file\_multiblock\_read\_count** = 8 # Number of blocks read into the buffer cache at once when performing a sequential scan.
- **db\_name** = ORCL # The name of this database.
- **enqueue\_resources** = 9999 # Sets the number of resources (10-65535) that can be locked by the operating system lock manager.
- **global\_names** = TRUE # Enables (TRUE) or disables (FALSE) db link name checking.
- **log\_archive\_dest** = /u08/oraarch/ORCL/arch # Directory location and the first part of the name of each archive log that will be written.
- **log\_archive\_format** = %s.log # Sets the format for archived logs.
- **log\_archive\_start** = TRUE # Enables (TRUE) or Disables (FALSE) archiving.
- **log\_buffer** = 65536 # Number of bytes allocated to redo log buffer in the SGA. Max = 500K or 128K \* CPU\_COUNT.
- **log\_checkpoint\_interval** = 10000 # Number of new redo log file blocks needed to trigger a checkpoint. Values: 2 to UNLIMITED.

- **max\_dump\_file\_size** = 500 # Limits the physical size of the trace file to the specified number of operating system blocks (or UNLIMITED)
- **max\_enabled\_roles** = 20 # Maximum number of roles per user.
- **max\_rollback\_segments** = 30 # Maximum number of rollback segments that can be kept online simultaneously by one instance
- **mts\_dispatchers** = "tcp,1" # Number and type of dispatcher processes to be created when a database or database instance starts up.
- **mts\_max\_dispatchers** = 5 # Maximum number of dispatchers that can run simultaneously.
- **mts\_max\_servers** = 20 # Maximum number of server processors that can run simultaneously.
- **mts\_servers** = 1 # Number of servers with which to start.
- **open\_cursors** = 64 # Maximum number of cursors that a user session can have open at any one time.
- **parallel\_max\_servers** = 5 # Maximum number of servers that are allowed to exist concurrently. Set the value to (maximum number of PQO users \* their maximum degree of parallelism \* 2).
- **processes** = 25 # Max number of simultaneous connections allowed to the instance.
- **rollback\_segments** = (r01,r02,r03,r04) # Indicates all of the private rollback segments that you want brought online at instance startup.
- **row\_locking** = ALWAYS # Should row locking be used?
- **shared\_pool\_size** = 3500000 # Size of the shared buffer pool in the SGA.
- **small\_table\_threshold** = 5 # Number of blocks that will be stored in the most-recently-used end of the buffer cache during a full table scan before the rest of the blocks from the same table will be stored in the least-recently-used end of the list and will be overwritten by new data coming into the buffer cache.
- **sort\_area\_size** = 2048000 # Size in bytes that a user process has available for sorting.
- **timed\_statistics** = TRUE # If set TRUE, provides needed CPU timing information on your SQL statements and by user sessions.
- **user\_dump\_dest** = /u01/app/oracle/admin/ORCL/udump # Directory in which to write user process trace files.

### Accessing Utilities Help

#### Import --

\$ imp help = y

**import example:** \$ imp system/manager file=expdat.dmp  
full=Y rows=Y buffer=2048000 indexes=Y ignore=Y commit=Y  
log=full\_import.log

#### Export --

\$ exp help = y

**export example:** \$ exp system/manager file=expdat.dmp  
full=y compress=y consistent=y buffer=1024000  
log=full\_exp.log

#### Sql\*Loader --

\$ sqlldr <Enter>

#### SQL\*Plus --

Installing Help into SQL\*Plus.

As user *oracle* execute the script, \$ORACLE\_HOME/bin/helpins



# ORACLE 8i DBA Pocket Guide

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