

performing databases



Your reliability. Our concern.

Oracle Core für Einsteiger: Das Alert Log

Martin Klier 

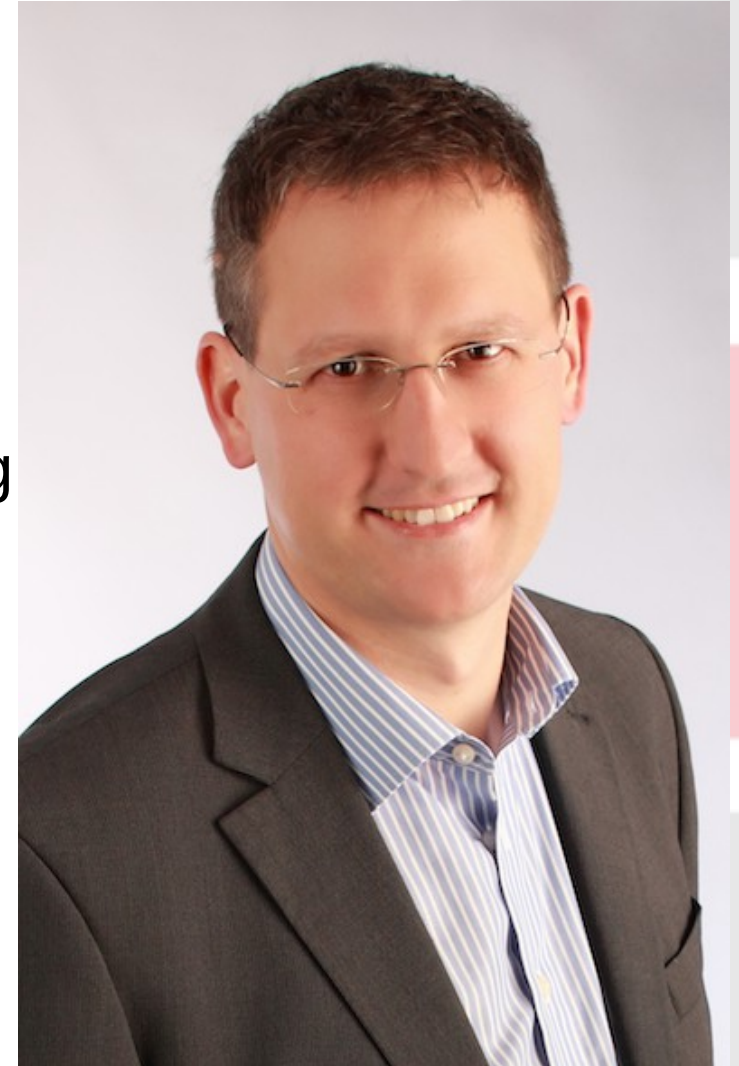
Performing Databases GmbH
Mitterteich



Hello!

Speaker

- Martin Klier
- Solution Architect and Database Professional
- Excels in
 - Performance Optimization / Tuning
 - High Availability
 - DBMS Core
- Linux since 1997
- Oracle Database since 2003

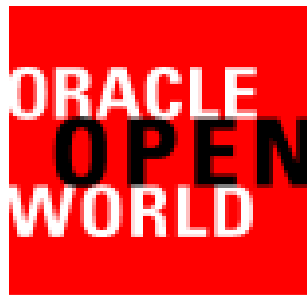


Speaker

- Public Speaker



COLLABORATE
April 2016



DOAG
Regionalgruppen
Fachkonferenzen



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- Weblog: <http://www.usn-it.de>



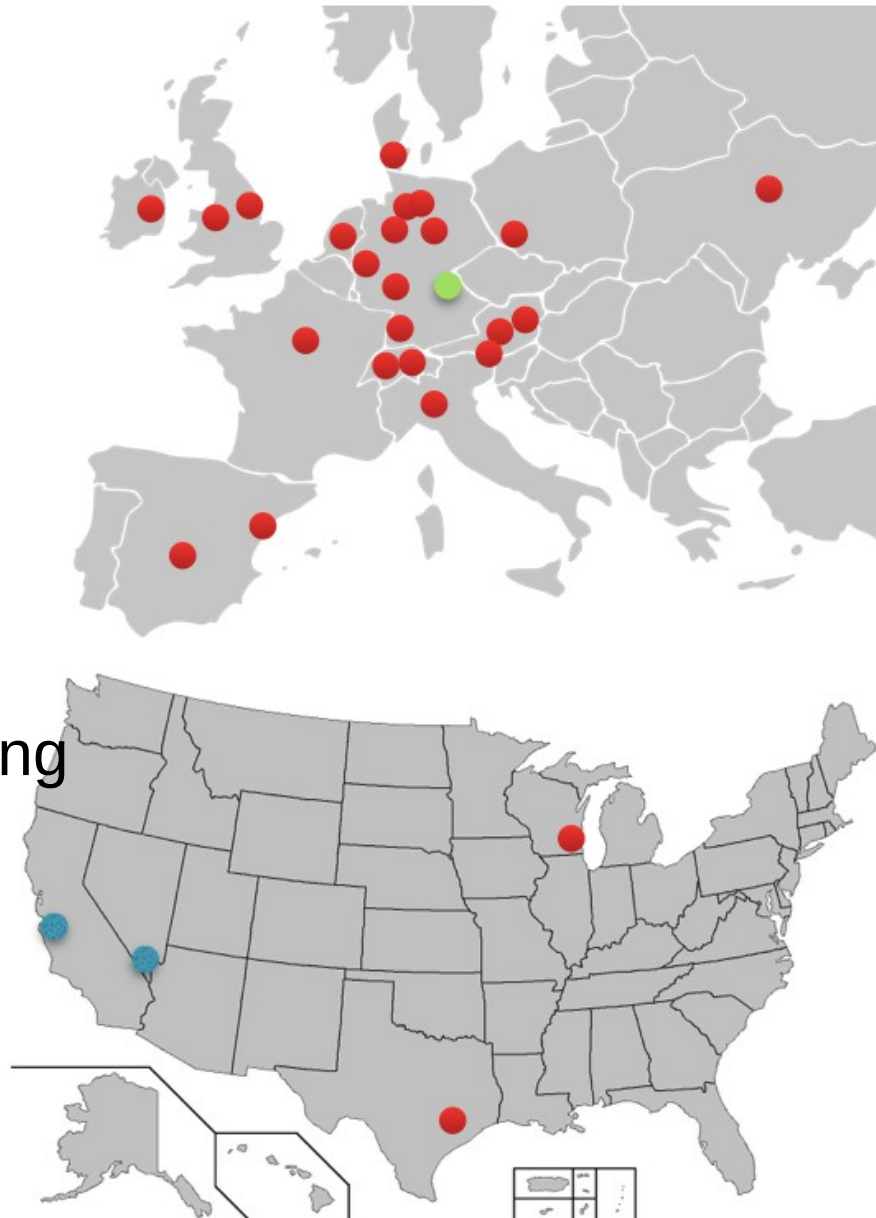
Performing Databases

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 - Konzeptberatung
 - Architektur- und Systemplanung
 - Lizenzierung
 - Realisierung und Troubleshooting
- Kontakt
 - Performing Databases GmbH
Wiesauer Straße 27
95666 Mitterteich
 - Web: <http://www.performing-databases.com>
 - Twitter: @PerformingDB



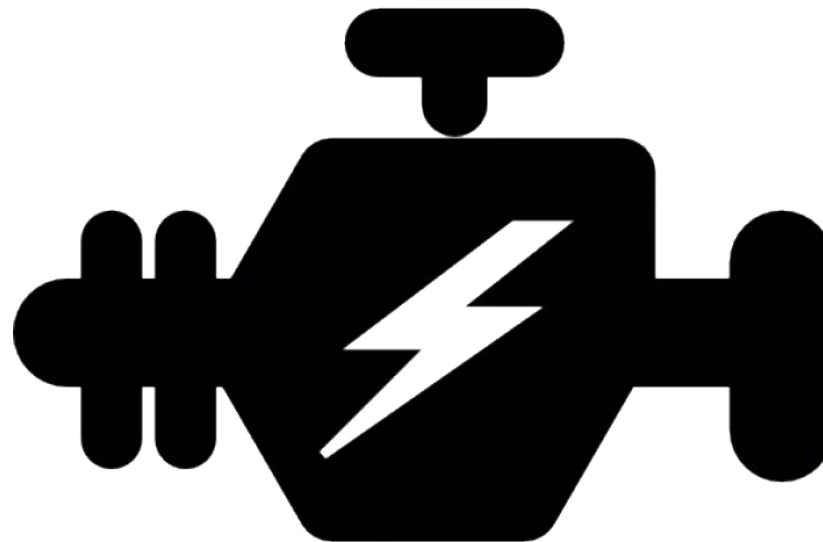
International für Sie im Einsatz

- Planung
- Lizenzierung
- Umsetzung
- Tuning
- Troubleshooting
- Wartung
- Upgrade
- Migration



Content

DB Engine

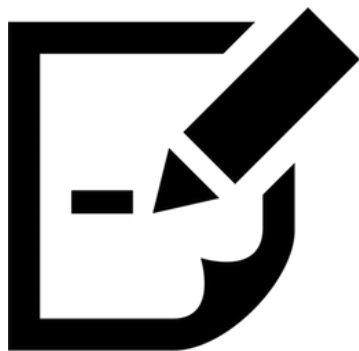


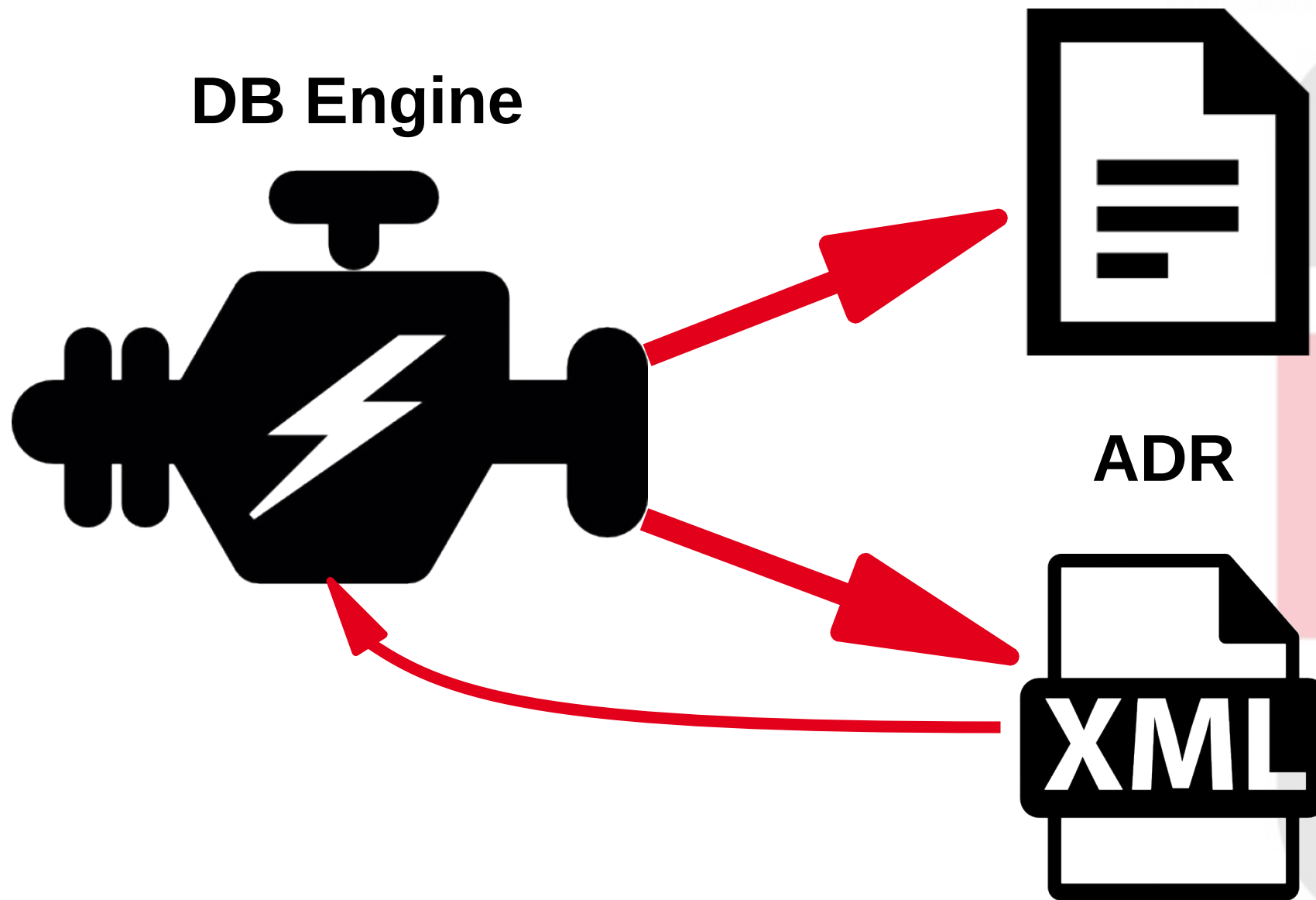
ORACLE®
DATABASE **12^c**



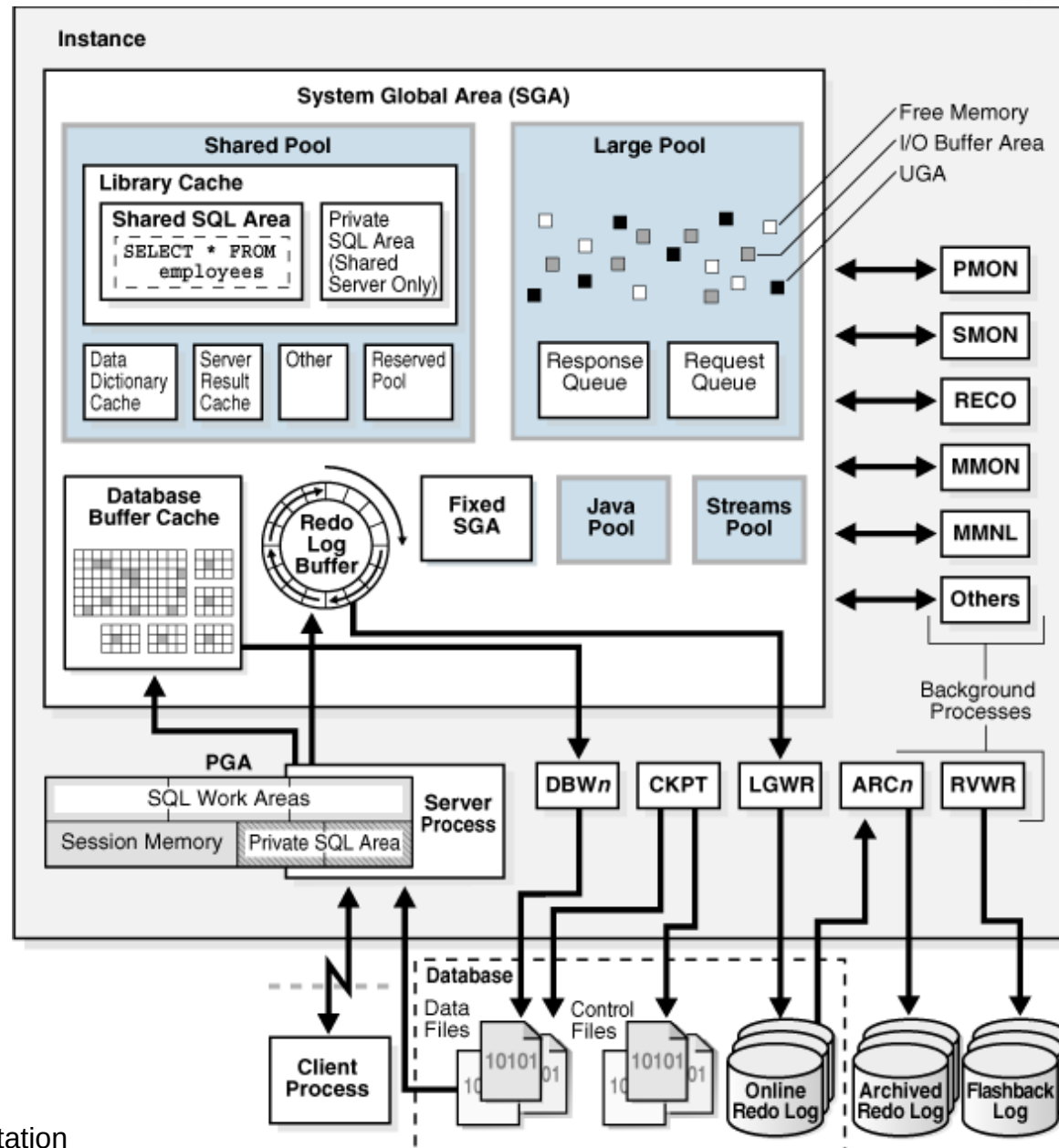


Alert Log



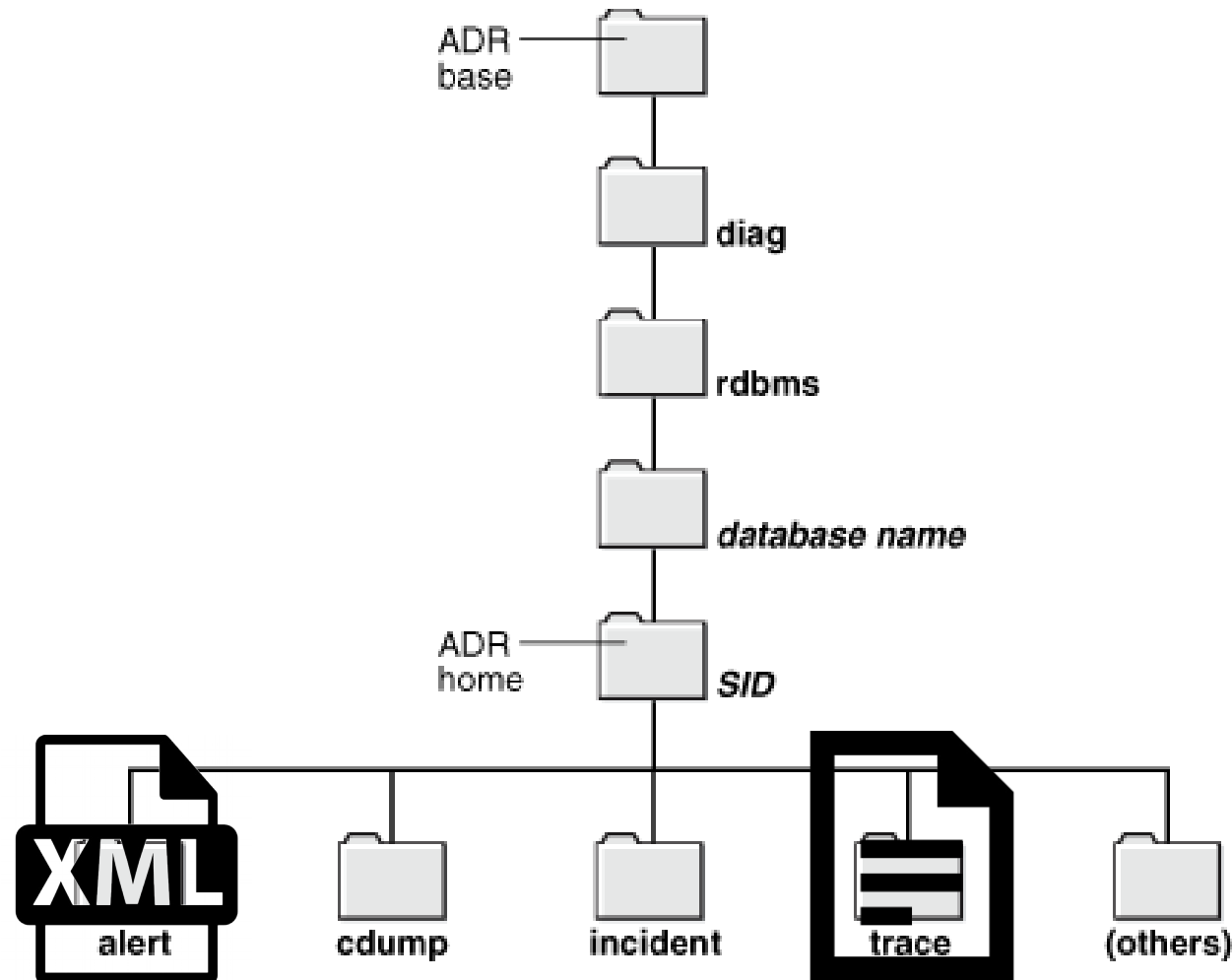


The Engine



Source: Oracle 12c Documentation

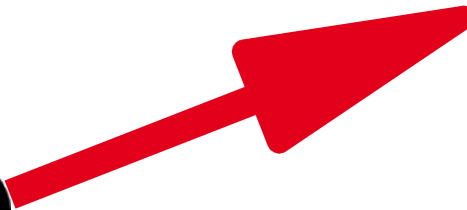
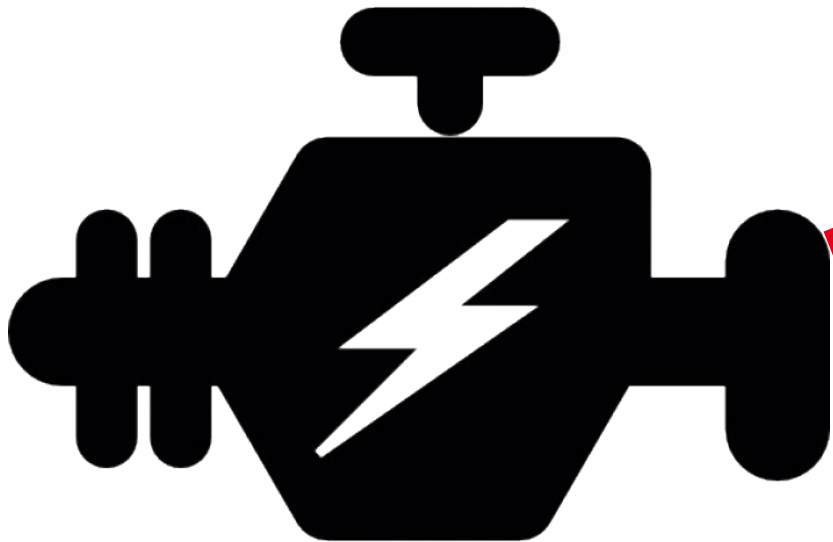
Where to look



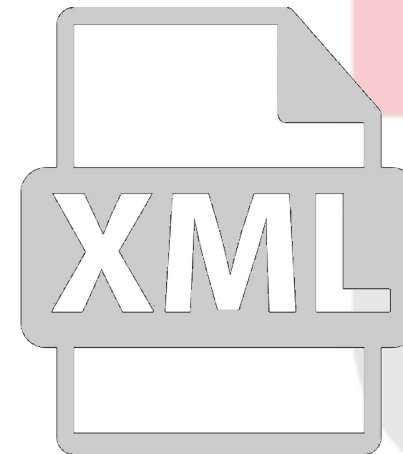
Automatic Diagnostic Repo. „ADR“

Source: Oracle 12c Documentation

DB Engine



ADR



alertSID.log

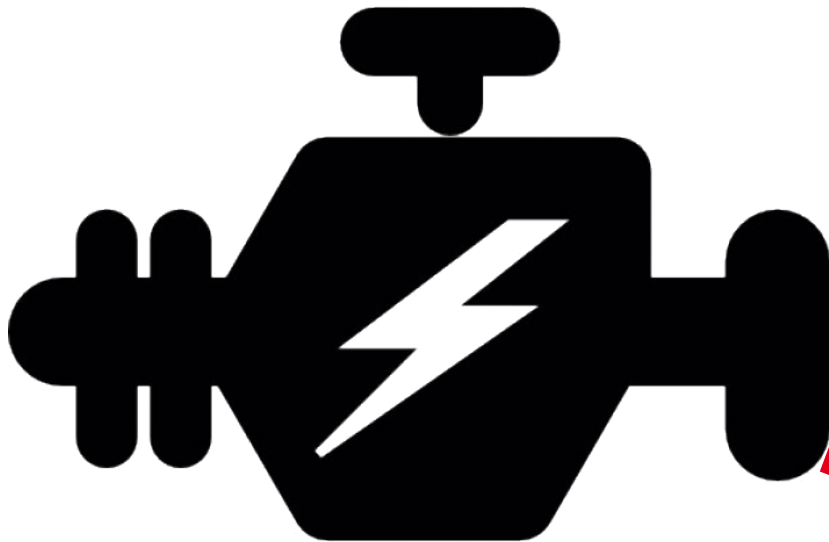


```

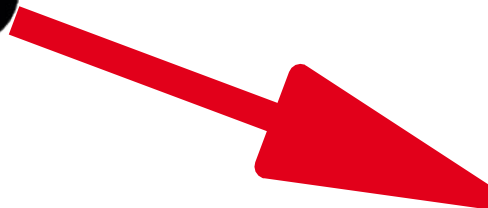
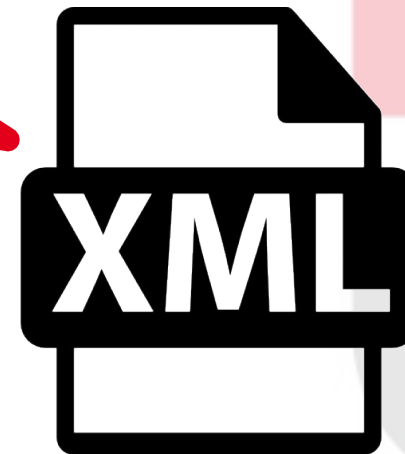
Wed Jul 23 11:10:16 2014
Starting ORACLE instance (normal) (OS id: 7562)
Wed Jul 23 11:10:17 2014
CLI notifier numLatches:3 maxDescs:519
Wed Jul 23 11:10:17 2014
*****
Wed Jul 23 11:10:17 2014
Dump of system resources acquired for SHARED GLOBAL AREA (SGA)

Wed Jul 23 11:10:17 2014
  Per process system memlock (soft) limit = 64K
Wed Jul 23 11:10:17 2014
  Expected per process system memlock (soft) limit to lock
  SHARED GLOBAL AREA (SGA) into memory: 1442M
Wed Jul 23 11:10:17 2014
  Available system pagesizes:
    4K, 2048K
Wed Jul 23 11:10:17 2014
  Supported system page(s):
Wed Jul 23 11:10:17 2014
    PAGESIZE  AVAILABLE_PAGES  EXPECTED_PAGES  ALLOCATED_PAGES  ERROR(s)
Wed Jul 23 11:10:17 2014
      4K        Configured           2          368642        NONE
Wed Jul 23 11:10:17 2014
      2048K      1001           721              0        NONE
Wed Jul 23 11:10:17 2014
RECOMMENDATION:
Wed Jul 23 11:10:17 2014
  1. Increase per process memlock (soft) limit to at least 1442MB
  to lock 100% of SHARED GLOBAL AREA (SGA) pages into physical memory
Wed Jul 23 11:10:17 2014
*****
LICENSE_MAX_SESSION = 0
LICENSE_SESSIONS_WARNING = 0
Initial number of CPU is 2
Number of processor cores in the system is 2
Number of processor sockets in the system is 1
Shared memory segment for instance monitoring created
Picked latch-free SCN scheme 3
Using LOG_ARCHIVE_DEST_1 parameter default value as USE_DB_RECOVERY_FILE_DEST
Autotune of undo retention is turned on.
  
```

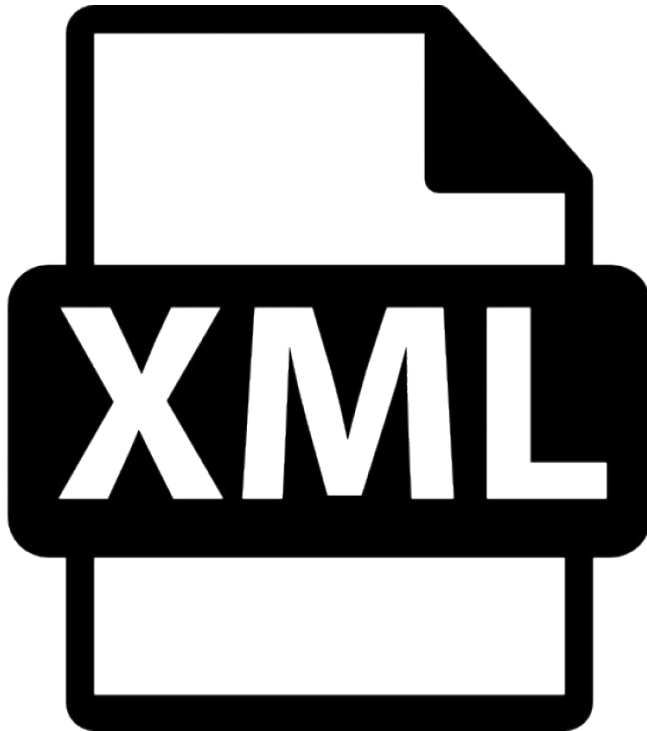

DB Engine



ADR

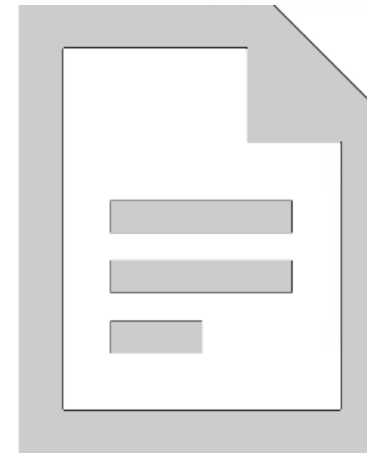
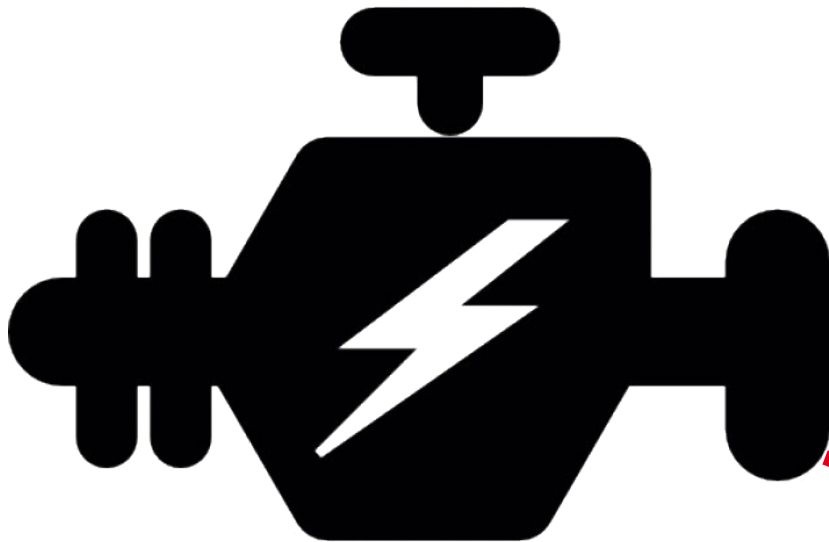


log.xml

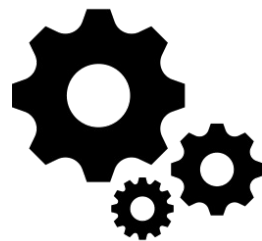
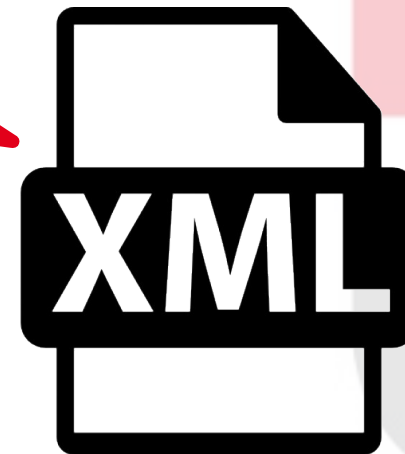


```
<msg time='2014-07-23T11:10:16.998+02:00' org_id='oracle' comp_id='rdbms'
msg_id='opistr_real:1071:2538814769' type='NOTIFICATION' group='startup'
level='16' host_id='kl11101788vm04' host_addr='192.168.99.50'
pid='7562' version='1'>
<txt>Starting ORACLE instance (normal) (OS id: 7562)
</txt>
</msg>
<msg time='2014-07-23T11:10:17.001+02:00' org_id='oracle' comp_id='rdbms'
type='UNKNOWN' level='16' host_id='kl11101788vm04'
host_addr='192.168.99.50' pid='7562'>
<txt>CLI notifier numLatches:3 maxDescs:519
</txt>
</msg>
<msg time='2014-07-23T11:10:17.005+02:00' org_id='oracle' comp_id='rdbms'
type='UNKNOWN' level='16' host_id='kl11101788vm04'
host_addr='192.168.99.50' pid='7562'>
<txt>*****
</txt>
</msg>
<msg time='2014-07-23T11:10:17.005+02:00' org_id='oracle' comp_id='rdbms'
type='UNKNOWN' level='16' host_id='kl11101788vm04'
host_addr='192.168.99.50' pid='7562'>
<txt>Dump of system resources acquired for SHARED GLOBAL AREA (SGA)
</txt>
</msg>
<msg time='2014-07-23T11:10:17.006+02:00' org_id='oracle' comp_id='rdbms'
type='UNKNOWN' level='16' host_id='kl11101788vm04'
host_addr='192.168.99.50' pid='7562'>
<txt> Per process system memlock (soft) limit = 64K
</txt>
</msg>
<msg time='2014-07-23T11:10:17.006+02:00' org_id='oracle' comp_id='rdbms'
type='UNKNOWN' level='16' host_id='kl11101788vm04'
host_addr='192.168.99.50' pid='7562'>
<txt> Expected per process system memlock (soft) limit to lock
</txt>
</msg>
<msg time='2014-07-23T11:10:17.006+02:00' org_id='oracle' comp_id='rdbms'
type='UNKNOWN' level='16' host_id='kl11101788vm04'
host_addr='192.168.99.50' pid='7562'>
<txt> SHARED GLOBAL AREA (SGA) into memory: 1442M
</txt>
```

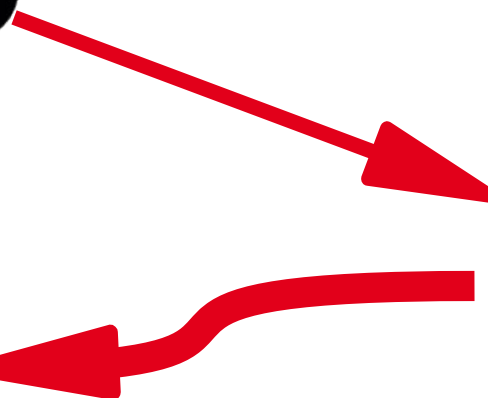
DB Engine



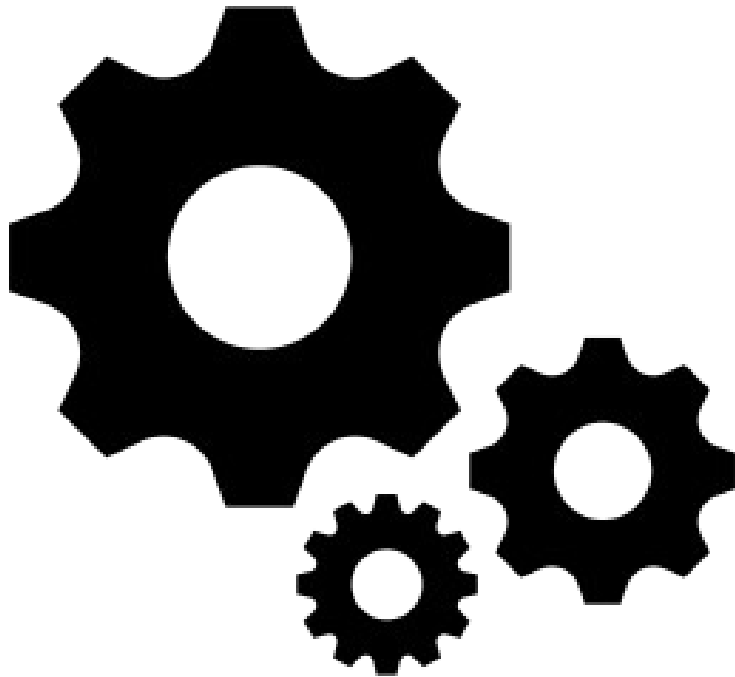
ADR



ADRCI



ADRCI



```
[oracle@kl11101788vm04 ~]$ (KLM12102) adrci
```

```
ADRCI: Release 12.1.0.2.0 - Production on Wed Sep 30 22:58:07 2015
```

```
Copyright (c) 1982, 2014, Oracle and/or its affiliates. All rights reserved.
```

```
ADR base = "/u01/app/oracle"
```

```
adrci> show homes
```

```
ADR Homes:
```

```
diag/clients/user_oracle/host_3653034631_82
```

```
diag/asm/+asm/+ASM
```

```
diag/crs/kl11101788vm04/crs
```

```
diag/rdbms/klm12102/KLM12102
```

```
diag/tnslsnr/kl11101788vm04/listener
```

```
adrci> set home diag/rdbms/klm12102/KLM12102
```

```
adrci> show alert -tail 10 -f
```

```
2015-09-30 21:59:58.812000 +02:00
```

```
Opening pdb PDB$SEED (2) with no Resource Manager plan active
```

```
alter pluggable database all open
```

```
Database Characterset for PDB1 is AL32UTF8
```

```
2015-09-30 22:00:01.217000 +02:00
```

```
Opening pdb PDB1 (3) with no Resource Manager plan active
```

```
Pluggable database PDB1 opened read write
```

```
Completed: alter pluggable database all open
```

```
Starting background process CJQ0
```

```
Completed: ALTER DATABASE OPEN
```

```
CJQ0 started with pid=42, OS id=13570
```

```
2015-09-30 22:00:04.049000 +02:00
```

```
Shared IO Pool defaulting to 96MB. Trying to get it from Buffer Cache for process 133
```

```
=====
```

```
Dumping current patch information
```

```
=====
```

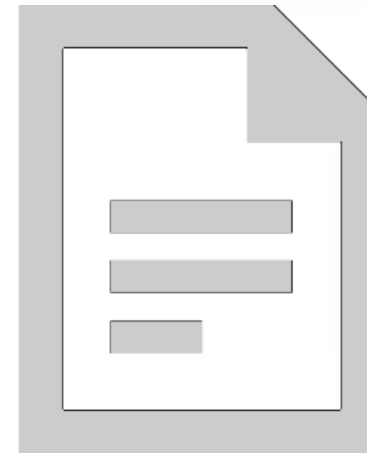
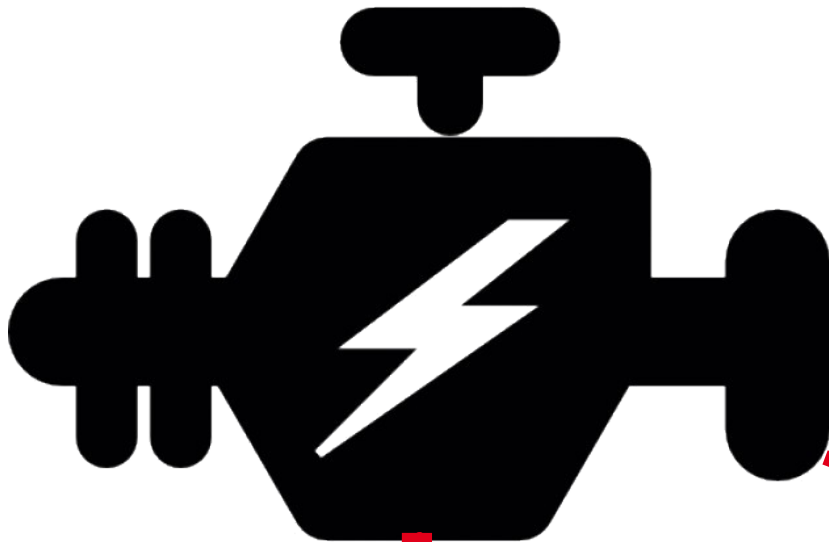
```
No patches have been applied
```

```
=====
```

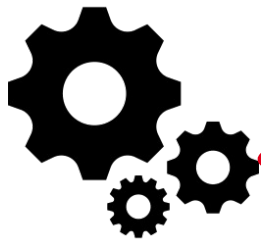
```
2015-09-30 22:00:05.279000 +02:00
```

```
db_recovery_file_dest_size of 4815 MB is 34.02% used. This is a  
user-specified limit on the amount of space that will be used by this  
database for recovery-related files, and does not reflect the amount of  
space available in the underlying filesystem or ASM diskgroup.
```

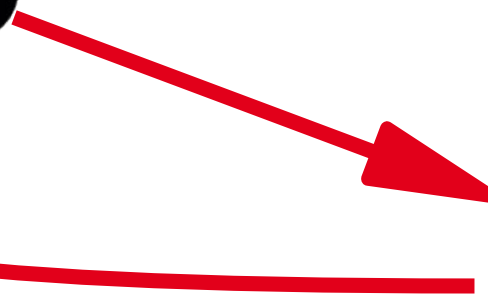
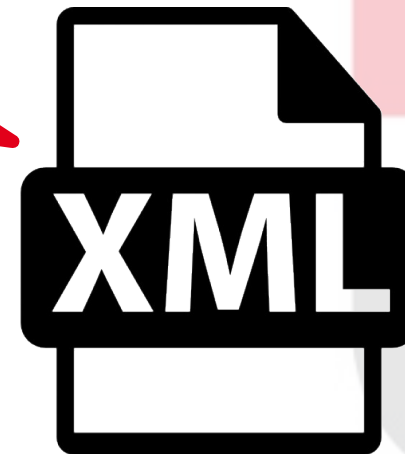
DB Engine



ADR



SQL*



x\$dbgalerttext

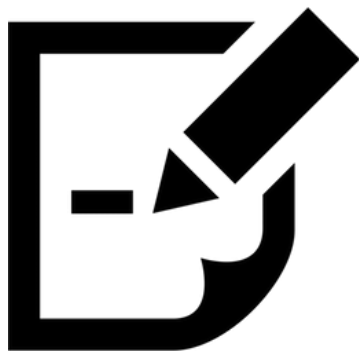
(x\$ - dbg - alert - ext)
~~v\$diag_alert_ext~~

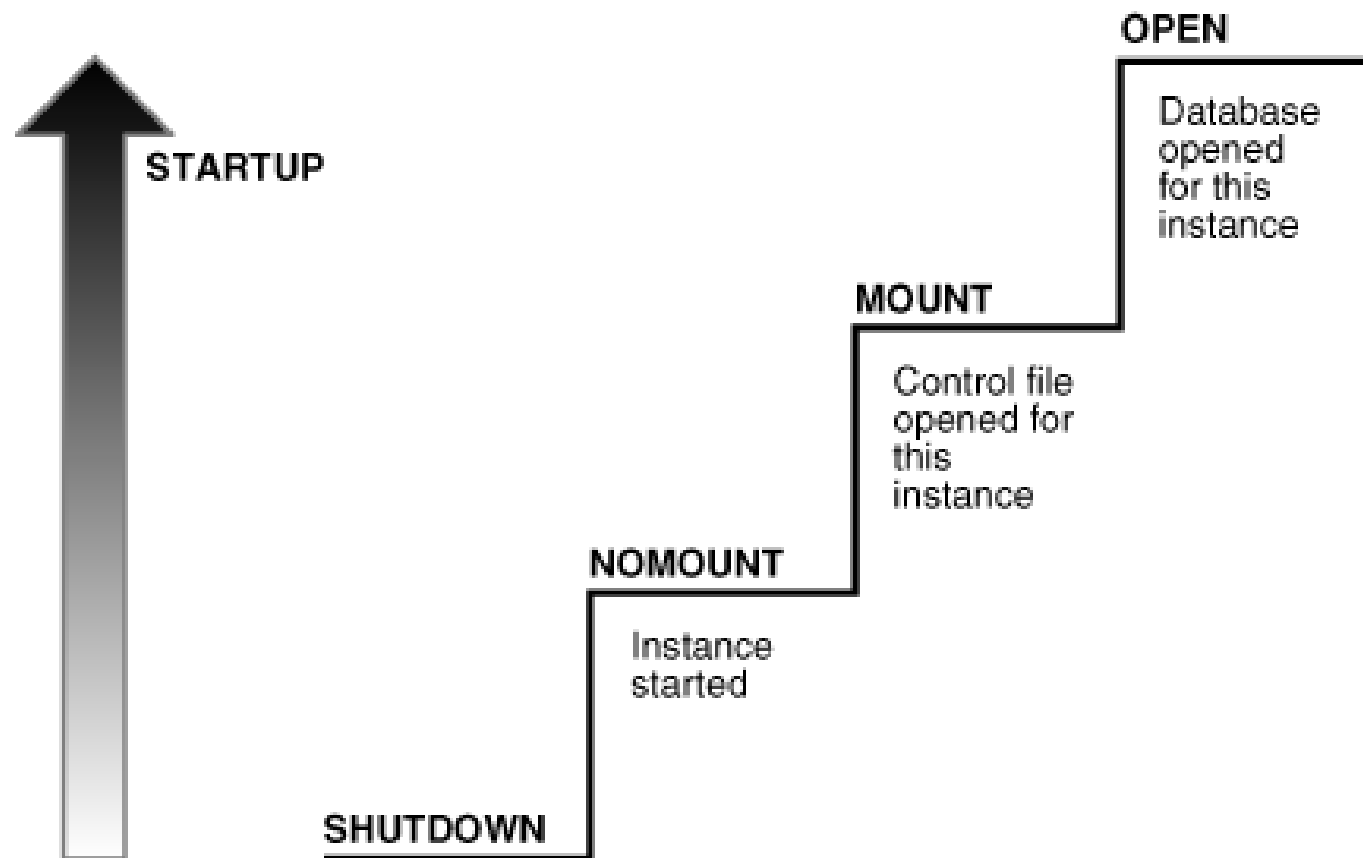
```
40 select originating_timestamp, message_id, message_group, message_text
41 from x$dbgalerttext
42 where trim(COMPONENT_ID)='rdbms';
```



ORIGINATING_TIMESTAMP	MESSAGE_ID	MESSAGE_GROUP	MESSAGE_TEXT
23.07.14 11:10:16,000000 +02:00 (null)	071:2538814769	startup	Starting ORACLE instance (normal) (OS id: 7562)
23.07.14 11:10:17,000000 +02:00 (null)	(null)	(null)	CLI notifier numLatches:3 maxDescs:519
23.07.14 11:10:17,000000 +02:00 (null)	(null)	(null)	*****
23.07.14 11:10:17,000000 +02:00 (null)	(null)	(null)	Dump of system resources acquired for SHARED GLOBAL AREA (SGA)
23.07.14 11:10:17,006000000 +02:00 (null)	(null)	(null)	Per process system memlock (soft) limit = 64K
23.07.14 11:10:17,006000000 +02:00 (null)	(null)	(null)	Expected per process system memlock (soft) limit to lock
23.07.14 11:10:17,006000000 +02:00 (null)	(null)	(null)	SHARED GLOBAL AREA (SGA) into memory: 1442M
23.07.14 11:10:17,006000000 +02:00 (null)	(null)	(null)	Available system pagesizes:
23.07.14 11:10:17,006000000 +02:00 (null)	(null)	(null)	4K, 2048K
23.07.14 11:10:17,006000000 +02:00 (null)	(null)	(null)	Supported system pagesize(s):
23.07.14 11:10:17,006000000 +02:00 (null)	(null)	(null)	PAGESIZE AVAILABLE_PAGES EXPECTED_PAGES ALLOCATED_PAGES ERROR(s)
23.07.14 11:10:17,007000000 +02:00 (null)	(null)	(null)	4K Configured 2 368642 NONE
23.07.14 11:10:17,007000000 +02:00 (null)	(null)	(null)	2048K 1001 721 0 NONE
23.07.14 11:10:17,007000000 +02:00 (null)	(null)	(null)	RECOMMENDATION:
23.07.14 11:10:17,007000000 +02:00 (null)	(null)	(null)	1. Increase per process memlock (soft) limit to at least 1442MB
23.07.14 11:10:17,007000000 +02:00 (null)	(null)	(null)	to lock 100% of SHARED GLOBAL AREA (SGA) pages into physical memory
23.07.14 11:10:17,007000000 +02:00 (null)	(null)	(null)	*****
23.07.14 11:10:17,036000000 +02:00 ksunfy:18678:2937430291	startup	(null)	LICENSE_MAX_SESSION = 0

Use me!





System Info

NOMOUNT

Non-default parameters

Process startup



```
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options.
ORACLE_HOME = /u01/app/oracle/product/12.1.0/dbhome_1
System name:    Linux
Node name:      kl11101788vm04
Release:        2.6.39-400.212.1.el6uek.x86_64
Version:        #1 SMP Fri Dec 20 16:45:16 PST 2013
Machine:        x86_64

Using parameter settings in server-side spfile +ORADATA/KLM12102/PARAMETERFILE/spfile.264.853679903
System parameters with non-default values:
processes              = 300
sga_max_size           = 4G
lock_sga               = TRUE
pga_aggregate_limit    = 1705M
nls_language           = "AMERICAN"
nls_territory          = "AMERICA"
sga_target             = 4G
control_files          = "+ORAREDO1/KLM12102/CONTROLFILE/current.257.853672225"
control_files          = "+ORAREDO2/KLM12102/CONTROLFILE/current.256.853672227"
control_file_record_keep_time = 31
db_block_size          = 8192
compatible             = "12.1.0.2.0"
log_archive_format     = "%t_%s_%r.dbf"
db_create_file_dest    = "+ORADATA"
db_create_online_log_dest_1 = "+ORAREDO1"
db_create_online_log_dest_2 = "+ORAREDO2"
db_recovery_file_dest  = "+ORAFRA"
db_recovery_file_dest_size = 4815M
log_checkpoints_to_alert = TRUE
undo_tablespace        = "UNDOTBS1"
inmemory_size          = 2G
db_block_checking      = "TRUE"
remote_login_passwordfile = "EXCLUSIVE"
db_domain              = ""
dispatchers            = "(PROTOCOL=TCP) (SERVICE=KLM12102XDB)"
local_listener         = "LISTENER_KLM12102"
session_cached_cursors = 500
audit_file_dest        = "/u01/app/oracle/admin/KLM12102/adump"
audit_trail            = "DB"
db_name                = "KLM12102"
open_cursors           = 300
pga_aggregate_target   = 480M
statistics_level       = "TYPICAL"
diagnostic_dest        = "/u01/app/oracle"
enable_pluggable_database = TRUE

NOTE: remote asm mode is local (mode 0x1; from cluster type)
Starting background process PMON
Wed Sep 30 15:14:32 2015
PMON started with pid=2, OS id=2535
Starting background process PSP0
Wed Sep 30 15:14:32 2015
PSP0 started with pid=3, OS id=2537
Starting background process VKTM
Wed Sep 30 15:14:33 2015
VKTM started with pid=4, OS id=2539 at elevated (RT) priority
Starting background process GEN0
```

MOUNT

Mount Status



```
Wed Sep 30 15:14:36 2015
ALTER DATABASE MOUNT /* db agent *//* {0:0:2} */
Wed Sep 30 15:14:39 2015
NOTE: ASMB mounting group 3 (ORARE01)
NOTE: Assigning number (3,0) to disk (/dev/disk/by-id/ASMORARE01)
SUCCESS: mounted group 3 (ORARE01)
NOTE: grp 3 disk 0: ORARE01_0000 path:/dev/disk/by-id/ASMORARE01
NOTE: ASMB mounting group 4 (ORARE02)
Wed Sep 30 15:14:40 2015
NOTE: dependency between database KLM12102 and diskgroup resource ora.ORARE01.dg is established
Wed Sep 30 15:14:40 2015
NOTE: Assigning number (4,0) to disk (/dev/disk/by-id/ASMORARE02)
SUCCESS: mounted group 4 (ORARE02)
NOTE: grp 4 disk 0: ORARE02_0000 path:/dev/disk/by-id/ASMORARE02
Wed Sep 30 15:14:40 2015
NOTE: dependency between database KLM12102 and diskgroup resource ora.ORARE02.dg is established
Wed Sep 30 15:14:44 2015
Network Resource Management enabled for Process LGWR (pid 2559) for Exadata I/O
Successful mount of redo thread 1, with mount id 328543582
Wed Sep 30 15:14:44 2015
Database mounted in Exclusive Mode
Lost write protection disabled
Completed: ALTER DATABASE MOUNT /* db agent *//* {0:0:2} */
ALTER DATABASE OPEN /* db agent *//* {0:0:2} */
```

Begin OPEN

```
ALTER DATABASE OPEN /* db agent */* {0:0:2} */
Wed Sep 30 15:14:44 2015
NOTE: ASMB mounting group 1 (ORADATA)
NOTE: Assigning number (1,0) to disk (/dev/disk/by-id/ASMORADATA)
SUCCESS: mounted group 1 (ORADATA)
NOTE: grp 1 disk 0: ORADATA_0000 path:/dev/disk/by-id/ASMORADATA
Wed Sep 30 15:14:44 2015
Ping without log force is disabled
```

```
Wed Sep 30 15:14:45 2015
Beginning crash recovery of 1 threads
Wed Sep 30 15:14:45 2015
NOTE: dependency between database KLM12102 and diskgroup resource ora.ORADATA.dg is established
Wed Sep 30 15:14:45 2015
parallel recovery started with 3 processes
Wed Sep 30 15:14:45 2015
Started redo scan
Wed Sep 30 15:14:45 2015
Completed redo scan
read 1351 KB redo, 253 data blocks need recovery
Wed Sep 30 15:14:45 2015
Started redo application at
Thread 1: logseq 197, block 1848
Wed Sep 30 15:14:45 2015
Recovery of Online Redo Log: Thread 1 Group 4 Seq 197 Reading mem 0
Mem# 0: +ORAREDO1/KLM12102/ONLINELOG/group_4.261.853673677
Mem# 1: +ORAREDO2/KLM12102/ONLINELOG/group_4.260.853673679
Wed Sep 30 15:14:45 2015
Completed redo application of 0.90MB
Wed Sep 30 15:14:45 2015
Completed crash recovery at
Thread 1: logseq 197, block 4550, scn 48083059
253 data blocks read, 253 data blocks written, 1351 redo k-bytes read
```

```
Starting background process TMON
Wed Sep 30 15:14:45 2015
TMON started with pid=35, OS id=2623
Wed Sep 30 15:14:45 2015
LGWR: STARTING ARCH PROCESSES
Starting background process ARC0
Wed Sep 30 15:14:45 2015
ARC0 started with pid=36, OS id=2625
ARC0: Archival started
LGWR: STARTING ARCH PROCESSES COMPLETE
Wed Sep 30 15:14:45 2015
ARC0: STARTING ARCH PROCESSES
Starting background process ARC1
Wed Sep 30 15:14:45 2015
ARC1 started with pid=37, OS id=2627
Starting background process ARC2
Starting background process ARC3
Wed Sep 30 15:14:45 2015
ARC2 started with pid=38, OS id=2629
Wed Sep 30 15:14:45 2015
ARC3 started with pid=39, OS id=2631
ARC1: Archival started
ARC2: Archival started
```

RECOVERY

Crash- /
Instance Recovery



First Log Switch

OPEN

SMON
cleaning starts

Pluggable DBs

OPEN Status



```

Wed Sep 30 15:14:45 2015
ARC3: Archival started
ARC0: STARTING ARCH PROCESSES COMPLETE
Wed Sep 30 15:14:45 2015
Thread 1 advanced to log sequence 198 (thread open)
Thread 1 opened at log sequence 198
  Current log# 5 seq# 198 mem# 0: +ORAREDO1/KLM12102/ONLINELOG/group_5.262.853673685
  Current log# 5 seq# 198 mem# 1: +ORAREDO2/KLM12102/ONLINELOG/group_5.261.853673689
Successful open of redo thread 1
Wed Sep 30 15:14:45 2015
MTTR advisory is disabled because FAST_START_MTTR_TARGET is not set
Wed Sep 30 15:14:45 2015
Network Resource Management enabled for Process LG00 (pid 2563) for Exadata I/O
Wed Sep 30 15:14:45 2015
SMON: enabling cache recovery
Wed Sep 30 15:14:45 2015
NOTE: ASMB mounting group 2 (ORAFRA)
NOTE: Assigning number (2,0) to disk (/dev/disk/by-id/ASMORAFRA)
SUCCESS: mounted group 2 (ORAFRA)
NOTE: grp 2 disk 0: ORAFRA_0000 path:/dev/disk/by-id/ASMORAFRA
Wed Sep 30 15:14:45 2015
Archived log entry 133 added for thread 1 sequence 197 ID 0x1150d49f dest 1:
Wed Sep 30 15:14:45 2015
NOTE: dependency between database KLM12102 and diskgroup resource ora.ORAFRA.dg is established
Wed Sep 30 15:14:46 2015
[2591] Successfully onlined Undo Tablespace 2.
Undo initialization finished serial:0 start:4294095920 end:4294096060 diff:140 ms (0.1 seconds)
Verifying minimum file header compatibility (11g) for tablespace encryption..
Verifying 11g file header compatibility for tablespace encryption completed
Wed Sep 30 15:14:46 2015
SMON: enabling tx recovery
Starting background process SMC0
Wed Sep 30 15:14:46 2015
SMC0 started with pid=41, OS id=2635
Wed Sep 30 15:14:46 2015
Database Characterset is AL32UTF8
No Resource Manager plan active
Starting background process IMC0
Wed Sep 30 15:14:46 2015
IMC0 started with pid=44, OS id=2641
replication_dependency_tracking turned off (no async multimaster replication found)
Wed Sep 30 15:14:46 2015
Incremental checkpoint up to RBA [0xc6.3.0], current log tail at RBA [0xc6.76.0]
Starting background process AQPC
Wed Sep 30 15:14:46 2015
AQPC started with pid=45, OS id=2643
Wed Sep 30 15:14:47 2015
Database Characterset for PDB$SEED is AL32UTF8
Opening pdb PDB$SEED (2) with no Resource Manager plan active
alter pluggable database all open
Database Characterset for PDB1 is AL32UTF8
Opening pdb PDB1 (3) with no Resource Manager plan active
Pluggable database PDB1 opened read write
Completed: alter pluggable database all open
Starting background process CJQ0
Completed: ALTER DATABASE OPEN /* db agent */* {0:0:2} */

```


FRA Status

Admin DDL (Partition Mgmt)

OMF handling by Backup Job

... running ...

Regular operation
log_checkpoints_to_alert=true

```

Wed Sep 30 15:14:53 2015
db_recovery_file_dest_size of 4815 MB is 34.89% used. This is a
user-specified limit on the amount of space that will be used by this
database for recovery-related files, and does not reflect the amount of
space available in the underlying filesystem or ASM diskgroup.
Wed Sep 30 15:14:56 2015
Closing scheduler window
Closing Resource Manager plan via scheduler window
Clearing Resource Manager plan at pdb PDB1 (3) via parameter
Wed Sep 30 15:15:41 2015
TABLE SYS.WRP$_REPORTS: ADDED INTERVAL PARTITION SYS_P638 (2099) VALUES LESS THAN (TO_DATE(' 2015-10-01 01:00:00', 'YYYY-MM-DD HH24:MI:SS', 'NLS_CALENDAR=GREGORIAN'))
TABLE SYS.WRP$_REPORTS_DETAILS: ADDED INTERVAL PARTITION SYS_P639 (2099) VALUES LESS THAN (TO_DATE(' 2015-10-01 01:00:00', 'YYYY-MM-DD HH24:MI:SS', 'NLS_CALENDAR=GREGORIAN'))
TABLE SYS.WRP$_REPORTS TIME BANDS: ADDED INTERVAL PARTITION SYS_P642 (2098) VALUES LESS THAN (TO_DATE(' 2015-09-30 01:00:00', 'YYYY-MM-DD HH24:MI:SS', 'NLS_CALENDAR=GREGORIAN'))
Wed Sep 30 15:15:48 2015
Deleted Oracle managed file +ORAFRA/KLM12102/FED9B648382C1EA7E0433263A8C0C3A6/BACKUPSET/2015_06_30/nnndf0_tag20150630t161054_0.270.883757537
Wed Sep 30 15:16:02 2015
Deleted Oracle managed file +ORAFRA/KLM12102/FED9B648382C1EA7E0433263A8C0C3A6/BACKUPSET/2015_06_30/nnndf0_tag20150630t161054_0.267.883757561
Deleted Oracle managed file +ORAFRA/KLM12102/BACKUPSET/2015_06_30/annnf0_tag20150630t161517_0.280.883757719
Deleted Oracle managed file +ORAFRA/KLM12102/AUTOBACKUP/2015_06_30/s_883757722.273.883757723
Deleted Oracle managed file +ORAFRA/KLM12102/BACKUPSET/2015_06_30/ncnnf0_tag20150630t162707_0.260.883758429
Deleted Oracle managed file +ORAFRA/KLM12102/AUTOBACKUP/2015_06_30/s_883758430.279.883758431
Wed Sep 30 15:16:03 2015
Deleted Oracle managed file +ORAFRA/KLM12102/BACKUPSET/2015_06_30/ncnnf0_tag20150630t162714_0.282.883758435
Deleted Oracle managed file +ORAFRA/KLM12102/AUTOBACKUP/2015_06_30/s_883758436.259.883758437
Deleted Oracle managed file +ORAFRA/KLM12102/FEDB87066E473C24E0433263A8C0B658/BACKUPSET/2015_09_28/nnndf0_tag20150928t175110_0.292.891625871
Wed Sep 30 15:19:38 2015
Deleted Oracle managed file +ORAFRA/KLM12102/BACKUPSET/2015_09_28/nnndf0_tag20150928t175110_0.290.891625871
Deleted Oracle managed file +ORAFRA/KLM12102/FEDB87066E473C24E0433263A8C0B658/BACKUPSET/2015_09_28/nnndf0_tag20150928t175110_0.258.891625871
Deleted Oracle managed file +ORAFRA/KLM12102/BACKUPSET/2015_09_28/nnndf0_tag20150928t175110_0.271.891625879
Wed Sep 30 15:19:52 2015
ALTER SYSTEM ARCHIVE LOG
Wed Sep 30 15:19:52 2015
Thread 1 cannot allocate new log, sequence 199
Private strand flush not complete
Current log# 5 seq# 198 mem# 0: +ORARED01/KLM12102/ONLINELOG/group_5.262.853673685
Current log# 5 seq# 198 mem# 1: +ORARED02/KLM12102/ONLINELOG/group_5.261.853673689
Beginning log switch checkpoint up to RBA [0xc7.2.10], SCN: 48185883
Wed Sep 30 15:19:52 2015
Thread 1 advanced to log sequence 199 (LGWR switch)
Current log# 6 seq# 199 mem# 0: +ORARED01/KLM12102/ONLINELOG/group_6.263.853673693
Current log# 6 seq# 199 mem# 1: +ORARED02/KLM12102/ONLINELOG/group_6.262.853673695
Wed Sep 30 15:19:52 2015
Archived Log entry 134 added for thread 1 sequence 198 ID 0x1150d49f dest 1:
Wed Sep 30 15:20:01 2015
Network Resource Management enabled for Process LG01 (pid 2567) for Exadata I/O
Wed Sep 30 15:25:05 2015
Completed checkpoint up to RBA [0xc7.2.10], SCN: 48185883
Wed Sep 30 15:44:54 2015
Incremental checkpoint up to RBA [0xc7.1d9c.0], current log tail at RBA [0xc7.1fce.0]
Wed Sep 30 16:15:04 2015
Incremental checkpoint up to RBA [0xc7.330b.0], current log tail at RBA [0xc7.35ae.0]

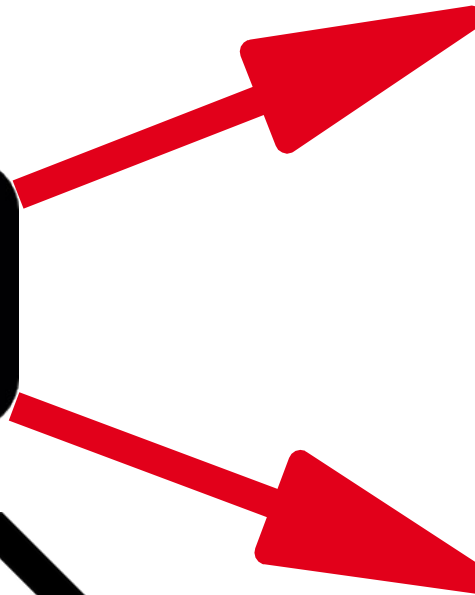
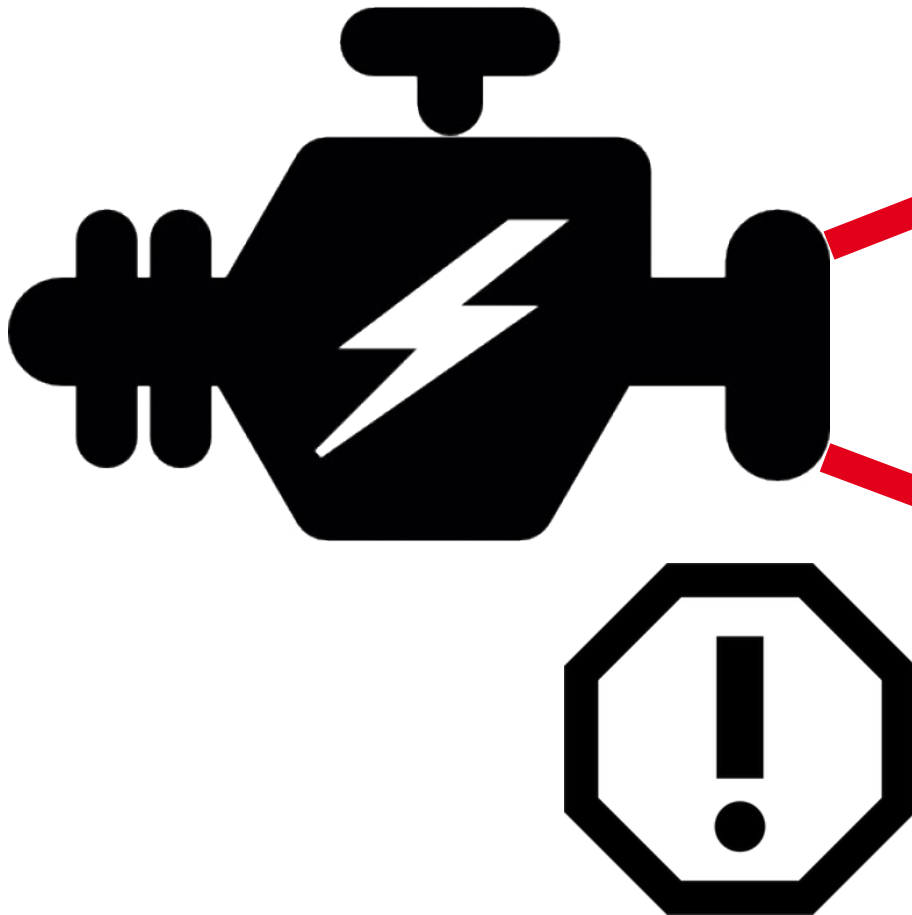
```

log_checkpoints_to_alert
= true



Error

DB Engine



**Alert
Log**



**Trace
File**

Wed Sep 30 22:30:02 2015
Incremental checkpoint up to RBA [0xc7.1c9c6.0], current log tail at RBA [0xc7.1cb53.0]
Wed Sep 30 22:31:43 2015

Error and corresponding Trace File

ORA-00060: Deadlock detected. See Note 60.1 at My Oracle Support for Troubleshooting ORA-60 Errors. More info in file `/u01/app/oracle/diag/rdbms/klm12102/KLM12102/trace/KLM12102_ora_15102.trc.`

Trace file `/u01/app/oracle/diag/rdbms/klm12102/KLM12102/trace/KLM12102_ora_15102.trc`
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, Automatic Storage Management, OLAP, Advanced Analytics
and Real Application Testing options
ORACLE_HOME = `/u01/app/oracle/product/12.1.0/dbhome_1`
System name: Linux
Node name: kll1101788vm04
Release: 2.6.39-400.212.1.el6uek.x86_64
Version: #1 SMP Fri Dec 20 16:45:16 PST 2013
Machine: x86_64
Instance name: KLM12102
Redo thread mounted by this instance: 1
Oracle process number: 28
Unix process pid: 15102, image: oracle@kll1101788vm04

```
*** 2015-09-30 22:31:42.708
*** SESSION ID: (17.32453) 2015-09-30 22:31:42.708
*** CLIENT ID: () 2015-09-30 22:31:42.708
*** SERVICE NAME: (pdb1) 2015-09-30 22:31:42.708
*** MODULE NAME: (SQL Developer) 2015-09-30 22:31:42.708
*** CLIENT DRIVER: (jdbcthin) 2015-09-30 22:31:42.708
*** ACTION NAME: () 2015-09-30 22:31:42.708
*** CONTAINER ID: (3) 2015-09-30 22:31:42.708
```

Error

```
*** 2015-09-30 22:31:42.708
DEADLOCK DETECTED ( ORA-00060 )
See Note 60.1 at My Oracle Support for Troubleshooting ORA-60 Errors
[Transaction Deadlock]
```

The following deadlock is not an ORACLE error. It is a deadlock due to user error in the design of an application or from issuing incorrect ad-hoc SQL. The following information may aid in determining the deadlock:

Details

Deadlock graph:

Resource Name	-----Blocker(s)-----				-----Waiter(s)-----			
	process	session	holds	waits	process	session	holds	waits
TX-0008001F-0000180B-00000000-00000000	28	17	X		31	379		X
TX-000A0012-00001AD6-00000000-00000000	31	379	X		28	17		X

session 17: DID 0001-001C-0000005A session 379: DID 0001-001F-00000011
session 379: DID 0001-001F-00000011 session 17: DID 0001-001C-0000005A

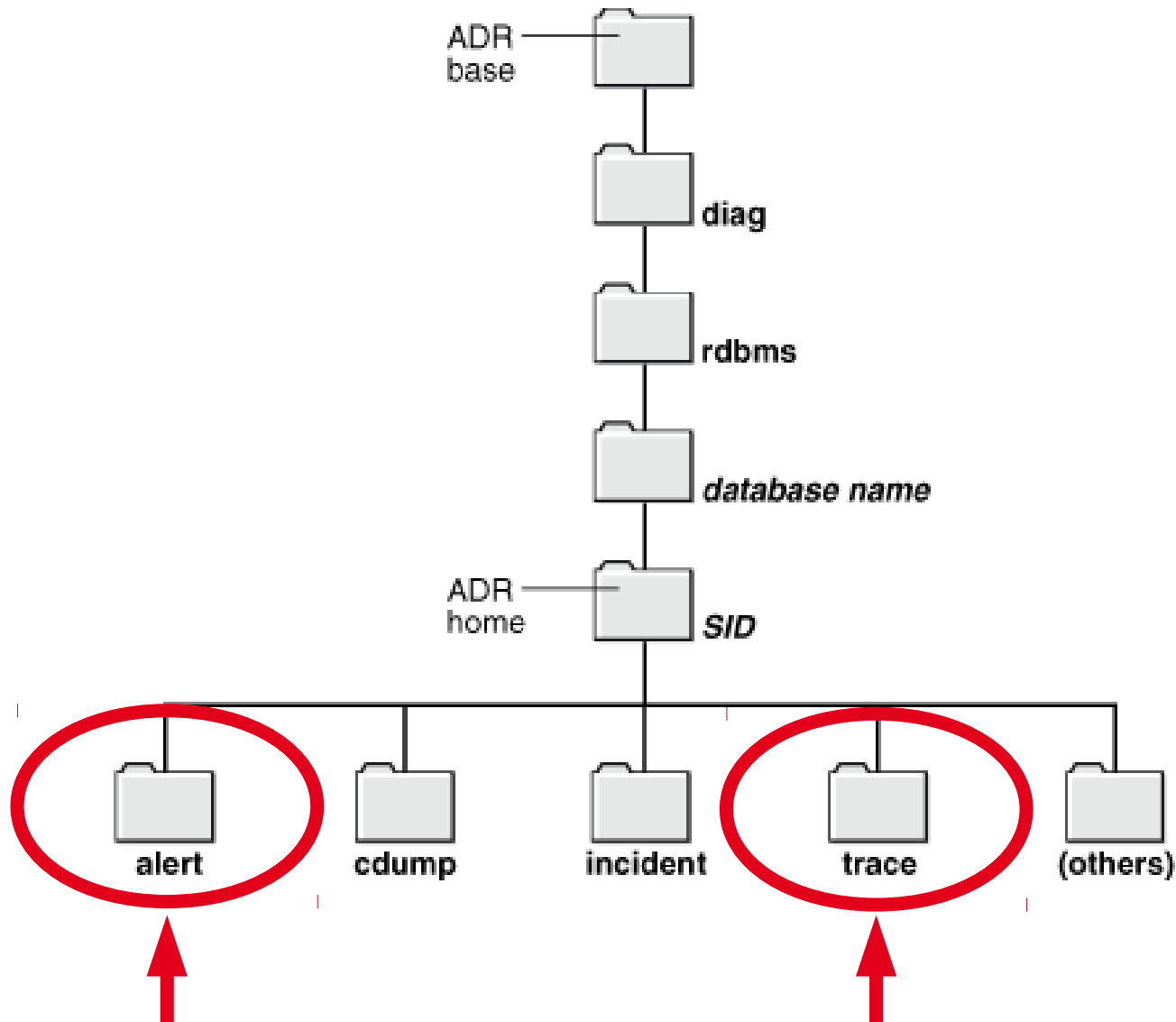
Rows waited on:

Session 17: obj - rowid = 0001668F - AAaWAPAAJAAAdg/AAB
(dictionary objn - 91791, file - 9, block - 120895, slot - 1)
Session 379: obj - rowid = 0001668F - AAaWAPAAJAAAbsjAAA
(dictionary objn - 91791, file - 9, block - 113443, slot - 0)

ERROR + reference to TRACE FILE

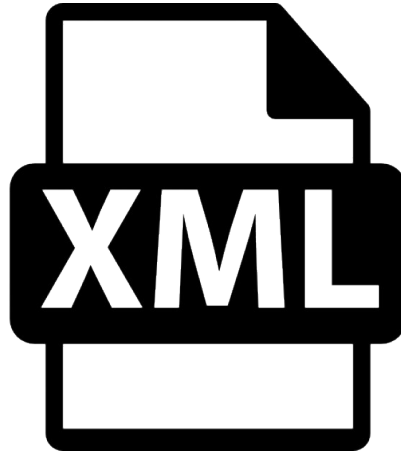


Alert and Trace



Source: Oracle 12c Documentation

Incident



**Alert
Log**



**Trace
File(s)**

ADRCI



Sorry

We don't see

- Non-deadlock locks (→ v\$lock)
- User and their SQL (→ v\$session, Audit Trail)
- Performance Impacts
(→ Wait Interface, Statspack/AWR, SQL Tracing ...)
- Client-side issues (→ Client logs)
- Database Scheduler (→ dba_scheduler_% views)

Other components

- TNS Listener, for connectivity issues
(→ Listener Log)
- Oracle Clusterware / RAC
(→ crsd.log, ocssd.log, evmd.log, Alert Log)
- Automatic Storage Management (ASM)
(→ has its own alert.log)

Tips 4U

Be lazy

- but accurate
 - purge what you can forget
 - keep what's good to have
 - monitor what's important

Tips 4U

- Live it, love it - or leave it
- Gain overview ASAP
- Proof stuff, be certain (and thus, aplomb)
- Start teaching.

DBA
is the best job in the world



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