

Best Practices for running catalog, catproc and utlrlp script (Doc ID 863312.1)

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APPLIES TO:

Oracle Database Cloud Schema Service - Version N/A and later
Oracle Database Exadata Cloud Machine - Version N/A and later
Oracle Cloud Infrastructure - Database Service - Version N/A and later
Oracle Database Backup Service - Version N/A and later
Oracle Database Cloud Exadata Service - Version N/A and later
Information in this document applies to any platform. *** **

GOAL

This note explains how the catalog and catproc and utlrlp script should be run on database release 9.2 and higher. This note applies to 12c non-CDB database as well.

SOLUTION

Starting with the 9.2 and 10.1 release, new options have been provided to the startup command making it easier to have certain database parameters set automatically before installing a patch or running the catalog, catproc and catpatch scripts.

The 9.2 release added "startup migrate"

When a database is started in MIGRATE mode, the following ALTER SYSTEM commands will be set automatically:

```
ALTER SYSTEM ENABLE RESTRICTED SESSION;  
ALTER SYSTEM SET "_SYSTEM_TRIG_ENABLED"=FALSE SCOPE=MEMORY;  
ALTER SYSTEM SET JOB_QUEUE_PROCESSES=0 SCOPE=MEMORY;  
ALTER SYSTEM SET AQ_TM_PROCESSES=0 SCOPE=MEMORY;  
ALTER SESSION SET NLS_LENGTH_SEMANTICS=BYTE;
```

The 10.1 release added "startup upgrade" in place of the startup migrate.

Beginning with Oracle 10g, the following additional ALTER SYSTEM commands will be executed:

```
ALTER SYSTEM SET RESOURCE_MANAGER_PLAN="" SCOPE=MEMORY;  
ALTER SESSION SET EVENTS='10933 trace name context off'; --turns off a SQL behavior event used by APPS)
```

- The catalog or catproc script should be run after the database has been opened with startup migrate or startup upgrade depending on version.
- The catalog and catproc script should not be run when the database is opened with unrestricted access. This can cause the database to experience performance issues and can even lead to a hanging situation.

Prior to running the scripts, recommend creating a pfile to modify any additional parameters if required. For example when dealing with a RAC enabled database the cluster specific parameters must be disabled. You cannot startup migrate/upgrade when the cluster specific parameters are enabled.

This would give errors like the following indicating need to disable RAC specific parameters.

```
ORA-39701: database must be mounted EXCLUSIVE for UPGRADE or DOWNGRADE  
Error 39701 happened during db open, shutting down database  
USER: terminating instance due to error 39701
```

In RAC environment "cluster_database" parameter should be set to value "false" for executing catalog, catproc and utlrlp script

In init parameter file set cluster_database=false

Shutdown database

Start only one instance and execute scripts
Revert cluster_database=true and restart database

To create the pfile issue following command:

Create pfile='inittemp.ora' from spfile;

Then, startup with the pfile specified.

- On 9.2

```
>startup migrate pfile='inittemp.ora'
```

- On 10.1 and higher

```
>startup upgrade pfile='inittemp.ora'
```

These scripts must be run as sysdba user. DO NOT run as any other database user.

If these scripts are run as any user other than sysdba then irreversible damage to the dictionary objects may result.

An enhancement has been implemented on 9.2.0.7, 10.1.0.5, 10.2 and higher to ensure these scripts are only run under sys user.

It is also a good idea to spool results to a file for later review if necessary.

```
SQL> SPOOL catout.log
```

Upon completion of running the scripts, verify the dictionary objects are valid per the dba_registry view.

```
set pages 1000
set lines 120
col comp_id format a20
col comp_name format a40
col version format a10
col status format a15
```

```
>select comp_id,comp_name,version,status from dba_registry
order by 1;
```

A typical running of the scripts on 10.2 would look like this following example:

```
sqlplus "/ as sysdba"
spool catout.log
startup upgrade pfile='inittemp.ora'
rdbms/admin/catalog
?/rdbms/admin/catproc
?/rdbms/admin/utlrlp
spool off
shutdown immediate
```

On 9.2,

```
sqlplus "/ as sysdba"
startup migrate pfile='inittemp.ora'
spool catout.log
rdbms/admin/catalog
?/rdbms/admin/catproc
?/rdbms/admin/utlrlp
spool off
shutdown immediate
```

Then, when complete, query dba_registry to see status.

Component status should show valid and match the database binary install version.

COMP_ID	COMP_NAME	VERSION	STATUS
AMD	OLAP Catalog	10.2.0.4.0	VALID
APS	OLAP Analytic Workspace	10.2.0.4.0	VALID
CATALOG	Oracle Database Catalog Views	10.2.0.4.0	VALID
CATJAVA	Oracle Database Java Packages	10.2.0.4.0	VALID
CATPROC	Oracle Database Packages and Types	10.2.0.4.0	VALID
CONTEXT	Oracle Text	10.2.0.4.0	VALID
EM	Oracle Enterprise Manager	10.2.0.4.0	VALID
EXF	Oracle Expression Filter	10.2.0.4.0	VALID
JAVAVM	JServer JAVA Virtual Machine	10.2.0.4.0	VALID
ODM	Oracle Data Mining	10.2.0.4.0	VALID
ORDIM	Oracle interMedia	10.2.0.4.0	VALID
OWM	Oracle Workspace Manager	10.2.0.4.3	VALID
RUL	Oracle Rules Manager	10.2.0.4.0	VALID
SDO	Spatial	10.2.0.4.0	VALID
XDB	Oracle XML Database	10.2.0.4.0	VALID
XML	Oracle XDK	10.2.0.4.0	VALID
XOQ	Oracle OLAP API	10.2.0.4.0	VALID

If any components show as invalid, run the utlrp.sql script again to try to validate.

At any time the utlrp script can be run independently of the catalog and catproc scripts.

There should be no other DDL occurring on the database while running the utlrp script.

Not following this recommendation may lead to deadlocks.

Recommend running the utlrp script when the database is in restricted mode.

>> If XDB option is installed, you may need to run the catmetx.sql script as well.

For reasons having to do with compatibility, the XDB objects can not be created by the catproc.sql script.

The script catproc.sql therefore calls the catmeta.sql script, which contains fake object views for XDB objects.

The real object views are defined in the catmetx.sql script.

Therefore, on versions 10.1.0.x, 10.2.0.1 to 10.2.0.3, 11.1.0.6 the catmetx.sql script must be run to create proper XDB views.

A typical run on these versions would be as follows:

```
sqlplus "/ as sysdba"
startup upgrade pfile='inittemp.ora'
rdbms/admin/catalog
?/rdbms/admin/catproc
?/rdbms/admin/catmetx
?/rdbms/admin/utlrp
```

Enhancement Bug 6603832 fixed this such that on 11.2, 11.1.0.7, 10.2.0.4, 10.2.0.5 catmetx.sql is automatically called by the catproc script if XDB is installed.

For 12c, refer to the below documents:

[NOTE:578841.1](#) - Catalog and Catproc - How to find what Objects are keeping them Invalid in the Registry (dba_registry)

[NOTE:1932340.1](#) - How to execute sql scripts in Multitenant environment (catcon.pl)

[Note:2133437.1](#) - How to validate CATALOG And CATPROC in 12c Multitenant environment

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