**Step 1. Update OPATCH utility**

Update the OPATCH utility version using the following commands. Make sure before upgrading the opatch utility you must take its backup.

**Check OPATCH version**

Note:Before updating the OPATCH version, you should check the current version of OPATCH.

**$cd $ORACLE\_HOME/OPatch**

**$./opatch version**

**OPatch Version: 12.2.0.1.17**

**OPatch succeeded.**

In my case the OPATCH version is 12.2.o.1.17 and we need the minimum OPATCH version to be 12.2.0.1.30.

**$ cd $ORACLE\_HOME/**

**$mv OPatch OPatch\_bkp**

**Upgrade OPATCH**

Upgrade the OPATCH utility, just unzip the newly downloaded opatch utility version in ORACLE\_HOME directly.

**$unzip /u02/p6880880\_190000\_Linux-x86-64 -d $ORACLE\_HOME/**

Once the above command is completed then check the OPATCH version again.

**$ ./opatch version**

**OPatch Version: 12.2.0.1.35**

**OPatch succeeded.**

This time you can see the OPATCH version successfully updating.

**Step 2. Verify the Database Current version**

Using the below command verify the current version details and some other information related to the database.

SQL> select BANNER\_FULL from v$version;

BANNER\_FULL

--------------------------------------------------------------------------------

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

**Check dba\_registry status**

Registry verification is an important part of the patching activity.

SQL>select comp\_id,comp\_name,version,status from dba\_registry;

COMP\_ID COMP\_NAME VERSION STATUS

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CATALOG Oracle Database Catalog Views 19.0.0.0.0 VALID

CATPROC Oracle Database Packages and Types 19.0.0.0.0 VALID

RAC Oracle Real Application Clusters 19.0.0.0.0 OPTION OFF

JAVAVM JServer JAVA Virtual Machine 19.0.0.0.0 VALID

XML Oracle XDK 19.0.0.0.0 VALID

CATJAVA Oracle Database Java Packages 19.0.0.0.0 VALID

APS OLAP Analytic Workspace 19.0.0.0.0 VALID

XDB Oracle XML Database 19.0.0.0.0 VALID

OWM Oracle Workspace Manager 19.0.0.0.0 VALID

CONTEXT Oracle Text 19.0.0.0.0 VALID

ORDIM Oracle Multimedia 19.0.0.0.0 VALID

SDO Spatial 19.0.0.0.0 VALID

XOQ Oracle OLAP API 19.0.0.0.0 VALID

OLS Oracle Label Security 19.0.0.0.0 VALID

DV Oracle Database Vault 19.0.0.0.0 VALID

15 rows selected.

**Step 3. Rollback Plan**

Due to any type of error if patching got failed, then you must have a backup plan.

* Take Oracle Home Backup
* Full Database [RMAN Backup](https://ocptechnology.com/rman-backup-script/) or Create Guaranteed Restore Point.

**Take Oracle Home backup**

**$cd $ORACLE\_HOME**

**$tar -cvf oracle\_home\_15jan2023.tar $ORACLE\_HOME**

Before Patching 19.3 to 19.16 steps

Let's start the preparation for applying the patch. Unzip the path in the /u02 directory using the following commands.

**Step 3. Unzip the Patch**

**$unzip /u02/p34133642\_19.16.00\_Linux-x86-64.zip -d /u02**

Note:  
Yes, check the prerequisites before applying the patch using the following command.

**Step 4. Check prerequisites**

**$cd /u02/34133642**

**$ $ORACLE\_HOME/OPatch/opatch prereq CheckConflictAgainstOHWithDetail -ph ./**

Output from the above query, if everything is fine.

Oracle Interim Patch Installer version 12.2.0.1.35

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PREREQ session

Oracle Home : /u02/app/oracle/product/19.3.0/db\_home

Central Inventory : /u01/app/oraInventory

from : /u02/app/oracle/product/19.3.0/db\_home/oraInst.loc

OPatch version : 12.2.0.1.35

OUI version : 12.2.0.7.0

Log file location : /u02/app/oracle/product/19.3.0/db\_home/cfgtoollogs/opatch/opatch2023-01-12\_23-58-36PM\_1.log

Invoking prereq "checkconflictagainstohwithdetail"

Prereq "checkConflictAgainstOHWithDetail" passed.

OPatch succeeded.

**Step 5. Stop all Database services**

Check how many instances & listener is running on the machine.

$ ps -ef|grep pmon

oracle 3027 30927 0 00:00 pts/3 00:00:00 grep --color=auto pmon

oracle 3376 1 0 Jan12 ? 00:00:01 ora\_pmon\_orcl

Check the Listener status.

$ ps -ef|grep tns

root 14 2 0 Jan12 ? 00:00:00 [netns]

oracle 3035 30927 0 00:00 pts/3 00:00:00 grep --color=auto tns

oracle 6197 1 0 Jan12 ? 00:00:01 /u02/app/oracle/product/19.3.0/db\_home/bin/tnslsnr LISTENER -inherit

On my machine, one instance and one listener are currently running, letting down both services.

**$ lsnrctl stop LISTENER**

LSNRCTL for Linux: Version 19.0.0.0.0 - Production on 13-JAN-2023 00:00:55

SQL> show pdbs

CON\_ID CON\_NAME OPEN MODE RESTRICTED

---------- ------------------------------ ---------- ----------

2 PDB$SEED READ ONLY YES

3 PDB MOUNTED

**SQL>shut immediate**

Apply Patching 19.3 to 19.16

Using the following command applies the patch.

Note:  
Make sure 7 GB of disk space is free in your binary location otherwise the patch will be failed.

**Step 6. Execute opatch apply**

**$cd /u02/34133642**

**34133642]$ORACLE\_HOME/OPatch/opatch apply**

OPatch succeeded.

**Start All database services**

Once opatch apply successfully, then start all the database services.

**Start Listener**

$ lsnrctl start LISTENER

**Start Database**

$ sqlplus / as sysdba

SQL> startup

SQL> show pdbs

CON\_ID CON\_NAME OPEN MODE RESTRICTED

---------- ------------------------------ ---------- ----------

2 PDB$SEED READ ONLY YES

3 PDB MOUNTED

SQL> alter session set container=PDB;

Session altered.

SQL> ALTER DATABASE OPEN;

Database altered.

SQL> SHOW PDBS

CON\_ID CON\_NAME OPEN MODE RESTRICTED

---------- ------------------------------ ---------- ----------

3 PDB READ WRITE YES

Post PATCH steps

Now it's time to run datapatch -verbose which updates the patch information at the database binary & dictionary level as well as binary files.

**Run datapatch -verbose**

34133642]$ cd $ORACLE\_HOME/OPatch

OPatch]$ ./datapatch -verbose

**Execute utlrp.sql**

Once datapatch -verbose is completed then execute the utlrp script to validate the invalid objects.

SQL> @?/rdbms/admin/utlrp.sql

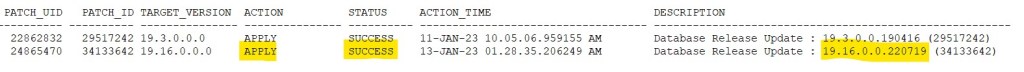
Session altered.

**Verify the PATCH**

**Check applied patch details using lsinventory command.**

**OPatch]$ ./opatch lsinventory**

**SQL> select patch\_uid,patch\_id,SOURCE\_VERSION, TARGET\_VERSION, action, status,action\_time,description from dba\_registry\_sqlpatch;**



**Check Invalid Objects**

SQL>select comp\_id,comp\_name,version,status from dba\_registry;

COMP\_ID COMP\_NAME VERSION STATUS

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CATALOG Oracle Database Catalog Views 19.0.0.0.0 VALID

CATPROC Oracle Database Packages and Types 19.0.0.0.0 VALID

RAC Oracle Real Application Clusters 19.0.0.0.0 OPTION OFF

JAVAVM JServer JAVA Virtual Machine 19.0.0.0.0 VALID

XML Oracle XDK 19.0.0.0.0 VALID

CATJAVA Oracle Database Java Packages 19.0.0.0.0 VALID

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OWM oracle Workspace Manager 19.0.0.0.0 VALID

CONTEXT Oracle Text 19.0.0.0.0 VALID

ORDIM Oracle Multimedia 19.0.0.0.0 VALID

SDO Spatial 19.0.0.0.0 VALID

XOQ Oracle OLAP API 19.0.0.0.0 VALID

OLS Oracle Label Security 19.0.0.0.0 VALID

DV Oracle Database Vault 19.0.0.0.0 VALID

15 rows selected.

**STEPS:**

**STEP-1: CHECK OPTACH VERSION**

**$cd $ORACLE\_HOME/OPatch**

**$./opatch version**

**STEP-2: TAKE ORACLE HOME BACKUP AND RMAN FULL BACKUP**

**$cd $ORACLE\_HOME**

**$tar -cvf oracle\_home\_15jan2023.tar $ORACLE\_HOME**

**STEP 3. DOWNLOAD THE PATCH AND MOVE INTO LINUX AND THEN UNZIP THE PATCH**

**$unzip /u02/p34133642\_19.16.00\_Linux-x86-64.zip -d /u02**

**STEP 4. CHECK PREREQUISITES**

**$cd /u02/34133642**

**$ $ORACLE\_HOME/OPatch/opatch prereq CheckConflictAgainstOHWithDetail -ph ./**

**STEP 5. STOP ALL DATABASE SERVICES**

Check how many instances & listener is running on the machine.

**$ ps -ef|grep pmon**

**$ ps -ef|grep tns**

**$ lsnrctl stop LISTENER**

**STEP-6: SHUTDOWN THE DATABASE**

**SQL>shut immediate**

**STEP 7. EXECUTE OPATCH APPLY**

**$cd /u02/34133642**

**34133642]$ORACLE\_HOME/OPatch/opatch apply**

OPatch succeeded.

**STEP-8 : START ALL DATABASE SERVICES**

Once opatch apply successfully, then start all the database services.

**Start Listener,Database**

$ lsnrctl start LISTENER

$ sqlplus / as sysdba

SQL> startup

SQL> show pdbs

**STEP-9 :RUN DATAPATCH -VERBOSE**

**34133642]$ cd $ORACLE\_HOME/OPatch**

**OPatch]$ ./datapatch -verbose**

**STEP-10 :Execute utlrp.sql**

Once datapatch -verbose is completed then execute the utlrp script to validate the invalid objects.

SQL> @?/rdbms/admin/utlrp.sql

Session altered.

**STEP-11 : CHECK THE DBA\_REGISTRY\_SQLPATCH AND INVALID OBJECTS**

**OPatch]$ ./opatch lsinventory**

**SQL> select patch\_uid,patch\_id,SOURCE\_VERSION, TARGET\_VERSION, action, status,action\_time,description from dba\_registry\_sqlpatch;**

**SQL>select comp\_id,comp\_name,version,status from dba\_registry;**