

Step by step apply Rolling PSU Patch in Oracle Database 19c RAC environment :

Patch Information:-

Patch 30087906 – Database Release Update Revision 19.3.2.0.191015

Step:-1 Environment Details

```
export ORACLE_HOME=/u01/app/19c/grid
export PATH=/u01/app/19c/grid/bin:$PATH
```

```
[oracle@rac1 ~]$ srvctl config database -verbose
oradbwr /u01/app/oracle/product/19c/dbhome_1 19.0.0.0.0
[oracle@rac1 ~]$ crsctl query crs softwareversion -all
Oracle Clusterware version on node [rac1] is [19.0.0.0.0]
Oracle Clusterware version on node [rac2] is [19.0.0.0.0]
[oracle@rac1 ~]$ cat /etc/redhat-release
Red Hat Enterprise Linux Server release 7.7 (Maipo)
[oracle@rac1 ~]$ uname -sr
Linux 4.1.12-124.34.1.el7uek.x86_64
```

Step:2 Prerequisites

Our OPatch utility version 12.2.0.1.17 or later to apply this patch.
Oracle recommends that you use the latest released OPatch version for 19c

```
[oracle@rac1 ~]$ $ORACLE_HOME/OPatch/patch version
OPatch Version: 12.2.0.1.17
OPatch succeeded.
```

Note:- No Need to upgrade the OPatch utility.

Step:-3 Validation of Oracle Inventory

```
. .grid.env
```

```
$ORACLE_HOME/OPatch/patch lsinventory -detail -oh $GRID_HOME
```

```
SQL> select PATCH_ID,ACTION,STATUS from dba_registry_sqlpatch;
```

PATCH_ID ACTION STATUS

29517242 APPLY SUCCESS

Step:-4 Download and Unzip the Patch

Download the Patch 30087906 – Database Release Update Revision 19.3.2.0.191015 from Oracle support and move to server

```
[root@rac1 u01]# unzip p30135696_190000_Linux-x86-64.zip
```

```
[root@rac1 u01]# chmod 775 p30135696_190000_Linux-x86-64.zip
```

Step:-5 Run OPatch Conflict Check

```
$ORACLE_HOME/OPatch/opatch prereq
```

```
CheckConflictAgainstOHWithDetail -phBaseDir /u01/30135696/30087906
```

```
$ORACLE_HOME/OPatch/opatch prereq
```

```
CheckConflictAgainstOHWithDetail -phBaseDir /u01/30135696/29585399
```

```
$ORACLE_HOME/OPatch/opatch prereq
```

```
CheckConflictAgainstOHWithDetail -phBaseDir /u01/30135696/29517247
```

```
$ORACLE_HOME/OPatch/opatch prereq
```

```
CheckConflictAgainstOHWithDetail -phBaseDir /u01/30135696/
```

```
$ORACLE_HOME/OPatch/opatch prereq
```

```
CheckConflictAgainstOHWithDetail -phBaseDir /u01/30135696/29401763
```

Sample:-

```
[oracle@rac1 ~]$ $ORACLE_HOME/OPatch/opatch prereq
```

```
CheckConflictAgainstOHWithDetail -phBaseDir /u01/30135696/29401763
```

Oracle Interim Patch Installer version 12.2.0.1.17

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PREREQ session

Oracle Home : /u01/app/19c/grid

Central Inventory : /u01/app/oraInventory

from : /u01/app/19c/grid/oraInst.loc

OPatch version : 12.2.0.1.17

OUI version : 12.2.0.7.0

Log file location : /u01/app/19c/grid/cfgtoollogs/opatch/opatch2019-12-27_23-58-19PM_1.log

Invoking prereq "checkconflictagainsthwithdetail"
Prereq "checkConflictAgainstOHWithDetail" passed.

Step:-6 Run OPatch SystemSpace Check

Check if enough free space is available on the ORACLE_HOME filesystem for the patches to be applied

NODE 1

Step:-7 Using opatchauto applying

The Opatch utility has automated the patch application for the Oracle Grid Infrastructure (GI) home and the Oracle RAC database homes. It operates by querying existing configurations and automating the steps required for patching each Oracle RAC database home of same version and the GI home.

Note:- Below Command is applying patch both the homes Grid and Oracle for 1st node.

```
[root@rac1 ~]# export PATH=$PATH:/u01/app/19c/grid/OPatch
```

```
[root@rac1 ~]# opatchauto apply /u01/30135696
```

OPatchauto session is initiated at Sat Dec 28 00:04:53 2019

System initialization log file is

/u01/app/19c/grid/cfgtoollogs/patchauto/systemconfig2019-12-28_12-05-10AM.log.

Session log file is

/u01/app/19c/grid/cfgtoollogs/patchauto/patchauto2019-12-28_12-12-57AM.log

The id for this session is BQ6L

Executing OPatch prereq operations to verify patch applicability on home
/u01/app/19c/grid

Executing OPatch prereq operations to verify patch applicability on home
/u01/app/oracle/product/19c/dbhome_1

Patch applicability verified successfully on home /u01/app/19c/grid

Patch applicability verified successfully on home

/u01/app/oracle/product/19c/dbhome_1

Verifying SQL patch applicability on home

/u01/app/oracle/product/19c/dbhome_1

SQL patch applicability verified successfully on home
/u01/app/oracle/product/19c/dbhome_1
Preparing to bring down database service on home
/u01/app/oracle/product/19c/dbhome_1
Successfully prepared home /u01/app/oracle/product/19c/dbhome_1 to
bring down database service
Bringing down CRS service on home /u01/app/19c/grid
CRS service brought down successfully on home /u01/app/19c/grid
Performing prepatch operation on home
/u01/app/oracle/product/19c/dbhome_1
Perpatch operation completed successfully on home
/u01/app/oracle/product/19c/dbhome_1
Start applying binary patch on home
/u01/app/oracle/product/19c/dbhome_1
Binary patch applied successfully on home
/u01/app/oracle/product/19c/dbhome_1
Performing postpatch operation on home
/u01/app/oracle/product/19c/dbhome_1
Postpatch operation completed successfully on home
/u01/app/oracle/product/19c/dbhome_1
Start applying binary patch on home /u01/app/19c/grid
Binary patch applied successfully on home /u01/app/19c/grid
Starting CRS service on home /u01/app/19c/grid
CRS service started successfully on home /u01/app/19c/grid
Preparing home /u01/app/oracle/product/19c/dbhome_1 after database
service restarted
No step execution required.....
Trying to apply SQL patch on home /u01/app/oracle/product/19c/dbhome_1
SQL patch applied successfully on home
/u01/app/oracle/product/19c/dbhome_1
OPatchAuto successful.

Summary

Patching is completed successfully. Please find the summary as follows:

Host:rac1

RAC Home:/u01/app/oracle/product/19c/dbhome_1

Version:19.0.0.0.0

Summary:

==Following patches were SKIPPED:

Patch: /u01/30135696/29517247

Reason: This patch is not applicable to this specified target type –
“rac_database”

Patch: /u01/30135696/29401763

Reason: This patch is not applicable to this specified target type –
“rac_database”

Patch: /u01/30135696/29585399

Reason: This patch is already been applied, so not going to apply again.

==Following patches were SUCCESSFULLY applied:

Patch: /u01/30135696/30087906

Log:

/u01/app/oracle/product/19c/dbhome_1/cfgtoollogs/opatchauto/core/patch/
opatch2019-12-28_00-22-26AM_1.log

Host:rac1

CRS Home:/u01/app/19c/grid

Version:19.0.0.0.0

Summary:

==Following patches were SKIPPED:

Patch: /u01/30135696/29585399

Reason: This patch is already been applied, so not going to apply again.

Patch: /u01/30135696/29517247

Reason: This patch is already been applied, so not going to apply again.

Patch: /u01/30135696/29401763

Reason: This patch is already been applied, so not going to apply again.

==Following patches were SUCCESSFULLY applied:

Patch: /u01/30135696/30087906

Log: /u01/app/19c/grid/cfgtoollogs/opatchauto/core/patch/opatch2019-12-
28_00-29-08AM_1.log

OPatchauto session completed at Sat Dec 28 00:48:56 2019

Time taken to complete the session 44 minutes, 3 seconds

Monitoring the log

```
tail -f /u01/app/19c/grid/cfgtoollogs/opatchautodb/systemconfig2019-12-28_12-05-10AM.log
```

Step:-8 Copy the patch folder from 1st node to 2nd node

```
[root@rac1 u01]# scp -rp 30135696 root@rac2:/u01
```

```
[root@rac2 u01]# chown -R oracle:oinstall 30135696/
```

```
[root@rac2 u01]# chown 775 30135696
```

NODE 2

Step:-9 Start applying on 2nd node

```
[root@rac2 30135696]# export PATH=$PATH:/u01/app/19c/grid/OPatch
```

```
[root@rac2 30135696]# opatchauto apply /u01/30135696
```

OPatchauto session is initiated at Sat Dec 28 01:33:26 2019

System initialization log file is

/u01/app/19c/grid/cfgtoollogs/opatchautodb/systemconfig2019-12-28_01-33-35AM.log.

Session log file is

/u01/app/19c/grid/cfgtoollogs/opatchauto/opatchauto2019-12-28_01-42-11AM.log

The id for this session is PXNA

Executing OPatch prereq operations to verify patch applicability on home
/u01/app/19c/grid

Executing OPatch prereq operations to verify patch applicability on home
/u01/app/oracle/product/19c/dbhome_1

Patch applicability verified successfully on home /u01/app/19c/grid

Patch applicability verified successfully on home

/u01/app/oracle/product/19c/dbhome_1

Verifying SQL patch applicability on home

/u01/app/oracle/product/19c/dbhome_1

SQL patch applicability verified successfully on home

/u01/app/oracle/product/19c/dbhome_1

Preparing to bring down database service on home

/u01/app/oracle/product/19c/dbhome_1

Successfully prepared home /u01/app/oracle/product/19c/dbhome_1 to

bring down database service

Bringing down CRS service on home /u01/app/19c/grid

CRS service brought down successfully on home /u01/app/19c/grid

Performing prepatch operation on home

/u01/app/oracle/product/19c/dbhome_1

Perpatch operation completed successfully on home

/u01/app/oracle/product/19c/dbhome_1

Start applying binary patch on home

/u01/app/oracle/product/19c/dbhome_1

Binary patch applied successfully on home

/u01/app/oracle/product/19c/dbhome_1

Performing postpatch operation on home

/u01/app/oracle/product/19c/dbhome_1

Postpatch operation completed successfully on home

/u01/app/oracle/product/19c/dbhome_1

Start applying binary patch on home /u01/app/19c/grid

Binary patch applied successfully on home /u01/app/19c/grid

Starting CRS service on home /u01/app/19c/grid

CRS service started successfully on home /u01/app/19c/grid

Preparing home /u01/app/oracle/product/19c/dbhome_1 after database service restarted

No step execution required.....

Trying to apply SQL patch on home /u01/app/oracle/product/19c/dbhome_1

SQL patch applied successfully on home

/u01/app/oracle/product/19c/dbhome_1

OPatchAuto successful.

—————Summary—————

Patching is completed successfully. Please find the summary as follows:

Host:rac2

RAC Home:/u01/app/oracle/product/19c/dbhome_1

Version:19.0.0.0.0

Summary:

==Following patches were SKIPPED:

Patch: /u01/30135696/29517247

Reason: This patch is not applicable to this specified target type –

"rac_database"

Patch: /u01/30135696/29401763

Reason: This patch is not applicable to this specified target type –

"rac_database"

Patch: /u01/30135696/29585399

Reason: This patch is already been applied, so not going to apply again.

==Following patches were SUCCESSFULLY applied:

Patch: /u01/30135696/30087906

Log:

/u01/app/oracle/product/19c/dbhome_1/cfgtoollogs/opatchauto/core/patch/
opatch2019-12-28_01-51-10AM_1.log

Host:rac2

CRS Home:/u01/app/19c/grid

Version:19.0.0.0.0

Summary:

==Following patches were SKIPPED:

Patch: /u01/30135696/29585399

Reason: This patch is already been applied, so not going to apply again.

Patch: /u01/30135696/29517247

Reason: This patch is already been applied, so not going to apply again.

Patch: /u01/30135696/29401763

Reason: This patch is already been applied, so not going to apply again.

==Following patches were SUCCESSFULLY applied:

Patch: /u01/30135696/30087906

Log: /u01/app/19c/grid/cfgtoollogs/opatchauto/core/patch/opatch2019-12-
28_01-59-10AM_1.log

OPatchauto session completed at Sat Dec 28 02:29:38 2019

Time taken to complete the session 56 minutes, 13 seconds

Step:-10 Patch Post-Installation

```
[oracle@rac1 ~]$ .db.env
```

```
[oracle@rac1 ~]$ sqlplus / as sysdba
```

```
SQL*Plus: Release 19.0.0.0.0 – Production on Sat Dec 28 02:41:16 2019
```

```
Version 19.3.2.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Connected to:
```

```
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 – Production
```

```
Version 19.3.2.0.0
```

```
SQL> SELECT
```

```
description,ACTION,STATUS,TARGET_BUILD_TIMESTAMP from  
dba_registry_sqlpatch;
```

```
DESCRIPTION ACTION STATUS TARGET_BUILD_TIMESTAMP
```

```
Database Release Update : 19.3.0.0.190416 (29517242)
```

```
APPLY SUCCESS
```

```
10-APR-19 12.27.20.000000 PM
```

```
Database Release Update Revision : 19.3.2.0.191015 (30087906)
```

```
APPLY SUCCESS
```

```
29-AUG-19 07.21.37.000000 PM
```

From Server level:-

```
[oracle@rac1 ~]$ $ORACLE_HOME/OPatch/opatch lsinventory -oh
```

```
$ORACLE_HOME | grep 30087906
```

```
Patch 30087906 : applied on Sat Dec 28 00:25:06 IST 2019
```

```
Patch description: "Database Release Update Revision : 19.3.2.0.191015  
(30087906)"
```

```
[oracle@rac1 ~]$ crsctl query crs releasepatch
```

```
Oracle Clusterware release patch level is [1141955458] and the complete  
list of patches [29401763 29517242 29517247 29585399 30087906 ] have  
been applied on the local node. The release patch string is [19.3.2.0.0].
```

```
[oracle@rac2 ~]$ crsctl query crs releasepatch
```

```
Oracle Clusterware release patch level is [1141955458] and the complete
```

list of patches [29401763 29517242 29517247 29585399 30087906] have been applied on the local node. The release patch string is [19.3.2.0.0].

Step:-11 Any databases that have invalid objects after the execution of datapatch should have utlrp.sql run to revalidate those objects.

```
cd $ORACLE_HOME/rdbms/admin
```

```
sqlplus /nolog
```

```
SQL> CONNECT / AS SYSDBA
```

```
SQL> @utlrp.sql
```