Step by step upgrade 11gR2 RAC GI to 12cR1 GI

Oracle Clusterware ORACLE GRID INFRASTRUCTURE 12c

http://ohsdba.cn

Contents

Summary

Before doing upgrade, you must check below:

Compared with 12.1.0.1, the GIMR (Grid Infrastructure Management Repository) is mandatory in 12.1.0.2.

The DiskGroup stores OCR at least have 4.5G free space

Check the current Cluster version

```
[orgrid@ohs1 grid]$ crsctl query crs softwareversion
Oracle Clusterware version on node [ohs1] is [11.2.0.4.0]
[orgrid@ohs1 grid]$ echo $ORACLE_HOME
/pgold/orgrid/oracle/product/112
```

Pre-check before upgrade

```
[orgrid@ohs1 grid]$ ./runcluvfy.sh stage -pre crsinst -upgrade -rolling -dest_version 12.1.0.2.0
-src_crshome /pgold/orgrid/oracle/product/112 -dest_crshome /pgold/orgrid/oracle/product/121
/bin/cp: omitting directory `./stage/ext/lib/log'
```

Performing pre-checks for cluster services setup

Checking node reachability…
Node reachability check passed from node "ohs1"

Checking user equivalence…
User equivalence check passed for user "orgrid"

Check: Grid Infrastructure home writeability of path /pgold/orgrid/oracle/product/121
Grid Infrastructure home check passed

Checking CRS user consistency
CRS user consistency check successful
Checking network configuration consistency.
Check for network configuration consistency passed.
Checking ASM disk size consistency
All ASM disks are correctly sized
Checking if ASM parameter file is in use by an ASM instance on the local node
ASM   instance   is   using   parameter   file

"+SYSTEMDG/prod-cluster/asmparameterfile/registry.253.929303805" on node "ohs1" on which upgrade is requested.

Checking OLR integrity…
Check of existence of OLR configuration file "/etc/oracle/olr.loc" passed
Check of attributes of OLR configuration file "/etc/oracle/olr.loc" passed

WARNING:
This check does not verify the integrity of the OLR contents. Execute 'ocrcheck -local' as a privileged user to verify the contents of OLR.

OLR integrity check passed

Checking node connectivity…

Checking hosts config file…

Verification of the hosts config file successful

Check: Node connectivity using interfaces on subnet "10.0.2.0"
Node connectivity passed for subnet "10.0.2.0" with node(s) ohs1,ohs2
TCP connectivity check passed for subnet "10.0.2.0"

Check: Node connectivity using interfaces on subnet "172.16.0.0"
Node connectivity passed for subnet "172.16.0.0" with node(s) ohs1,ohs2
TCP connectivity check passed for subnet "172.16.0.0"

Checking subnet mask consistency…
Subnet mask consistency check passed for subnet "10.0.2.0".
Subnet mask consistency check passed for subnet "172.16.0.0".
Subnet mask consistency check passed.

Node connectivity check passed

Checking multicast communication…

Checking subnet "172.16.0.0" for multicast communication with multicast group "224.0.0.251"…
Check of subnet "172.16.0.0" for multicast communication with multicast group "224.0.0.251" passed.

Check of multicast communication passed.
Task ASM Integrity check started…

Starting check to see if ASM is running on all cluster nodes...

ASM Running check passed. ASM is running on all specified nodes
Disk Group Check passed. At least one Disk Group configured

Task ASM Integrity check passed...

Checking OCR integrity...
Disks "+SYSTEMDG" are managed by ASM.

OCR integrity check passed

Checking ASMLib configuration.
Check for ASMLib configuration passed.
Total memory check failed
Check failed on nodes:
        ohs2,ohs1
Available memory check passed
Swap space check passed
Free   disk   space   check   passed   for
"ohs2:/usr,ohs2:/var,ohs2:/etc,ohs2:/pgold/orgrid/oracle/product/112,ohs2:/sbin,ohs2:/t
mp"
Free   disk   space   check   passed   for
"ohs1:/usr,ohs1:/var,ohs1:/etc,ohs1:/pgold/orgrid/oracle/product/112,ohs1:/sbin,ohs1:/t
mp"
Check for multiple users with UID value 1100 passed
User existence check passed for "orgrid"
Group existence check passed for "oinstall"
Group existence check passed for "dba"
Membership check for user "orgrid" in group "oinstall" [as Primary] passed
Membership check for user "orgrid" in group "dba" failed
Check failed on nodes:
        ohs2,ohs1
Run level check passed
Hard limits check passed for "maximum open file descriptors"
Soft limits check passed for "maximum open file descriptors"
Hard limits check passed for "maximum user processes"
Soft limits check passed for "maximum user processes"
There are no oracle patches required for home "/pgold/orgrid/oracle/product/112".
There are no oracle patches required for home "/pgold/orgrid/oracle/product/112".
Source home "/pgold/orgrid/oracle/product/112" is suitable for upgrading to version
"12.1.0.2.0".

System architecture check passed

Kernel version check passed

Kernel parameter check passed for "semmsl"

Kernel parameter check passed for "semmns"

Kernel parameter check passed for "semopm"

Kernel parameter check passed for "semmni"

Kernel parameter check passed for "shmmax"

Kernel parameter check passed for "shmmni"

Kernel parameter check passed for "shmall"

Kernel parameter check passed for "file-max"

Kernel parameter check passed for "ip_local_port_range"

Kernel parameter check passed for "rmem_default"

Kernel parameter check passed for "rmem_max"

Kernel parameter check passed for "wmem_default"

Kernel parameter check passed for "wmem_max"

Kernel parameter check passed for "aio-max-nr"

Kernel parameter check passed for "panic_on_oops"

Package existence check passed for "binutils"

Package existence check passed for "compat-libcap1"

Package existence check passed for "compat-libstdc++-33(x86_64)"

Package existence check passed for "libgcc(x86_64)"

Package existence check passed for "libstdc++(x86_64)"

Package existence check passed for "libstdc++-devel(x86_64)"

Package existence check passed for "sysstat"

Package existence check passed for "gcc"

Package existence check passed for "gcc-c++"

Package existence check passed for "ksh"

Package existence check passed for "make"

Package existence check passed for "glibc(x86_64)"

Package existence check passed for "glibc-devel(x86_64)"

Package existence check passed for "libaio(x86_64)"

Package existence check passed for "libaio-devel(x86_64)"

Package existence check passed for "nfs-utils"

Check for multiple users with UID value 0 passed

Current group ID check passed

Starting check for consistency of primary group of root user

Check for consistency of root user's primary group passed

Starting Clock synchronization checks using Network Time Protocol(NTP)…

NTP configuration file "/etc/ntp.conf" existence check passed

Liveness check passed for "ntpd"

Check for NTP daemon or service alive passed on all nodes

Check of common NTP Time Server passed
Clock time offset check passed

Clock synchronization check using Network Time Protocol(NTP) passed

Core file name pattern consistency check passed.

User "orgrid" is not part of "root" group. Check passed
Default user file creation mask check passed
Checking integrity of file "/etc/resolv.conf" across nodes

"domain" and "search" entries do not coexist in any "/etc/resolv.conf" file
All nodes have same "search" order defined in file "/etc/resolv.conf"
PRVF-5636 : The DNS response time for an unreachable node exceeded "15000" ms on following nodes: ohs1,ohs2
checking DNS response from all servers in "/etc/resolv.conf"

Check for integrity of file "/etc/resolv.conf" failed

UDev attributes check for OCR locations started…
UDev attributes check passed for OCR locations

UDev attributes check for Voting Disk locations started…
UDev attributes check passed for Voting Disk locations

Time zone consistency check passed
Checking VIP configuration.
Checking VIP Subnet configuration.
Check for VIP Subnet configuration passed.
Checking VIP reachability
Check for VIP reachability passed.

Checking Oracle Cluster Voting Disk configuration…

Oracle Cluster Voting Disk configuration check passed

Clusterware version consistency passed.

Checking integrity of name service switch configuration file "/etc/nsswitch.conf" …
All nodes have same "hosts" entry defined in file "/etc/nsswitch.conf"
Check for integrity of name service switch configuration file "/etc/nsswitch.conf" passed

Checking daemon "avahi-daemon" is not configured and running
Daemon not configured check passed for process "avahi-daemon"
Daemon not running check passed for process "avahi-daemon"

Starting check for Reverse path filter setting …

Check for Reverse path filter setting passed

Starting check for Network interface bonding status of private interconnect network interfaces …

Check for Network interface bonding status of private interconnect network interfaces passed

Starting check for /dev/shm mounted as temporary file system …

Check for /dev/shm mounted as temporary file system passed

Starting check for /boot mount …

Check for /boot mount passed

Starting check for zeroconf check …

Check for zeroconf check passed

Pre-check for cluster services setup was unsuccessful on all the nodes.
[orgrid@ohs1 grid]$
[orgrid@ohs1 grid]$

Run runinstaller

[orgrid@ohs1 grid]$ ./runInstaller
Starting Oracle Universal Installer…

Checking Temp space: must be greater than 415 MB.   Actual 22200 MB   Passed
Checking swap space: must be greater than 150 MB.   Actual 4143 MB   Passed
Checking monitor: must be configured to display at least 256 colors.   Actual 16777216   Passed
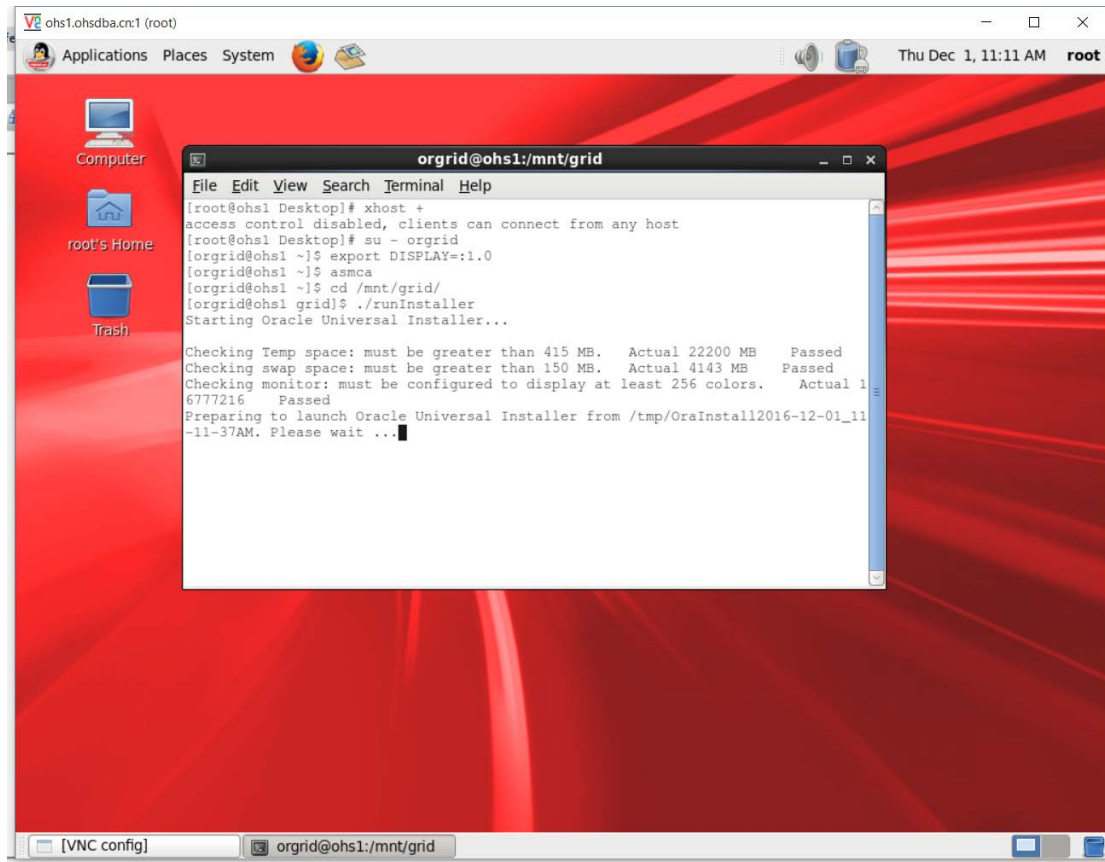Preparing to launch Oracle Universal Installer from /tmp/OraInstall2016-12-01_11-11-37AM. Please wait …
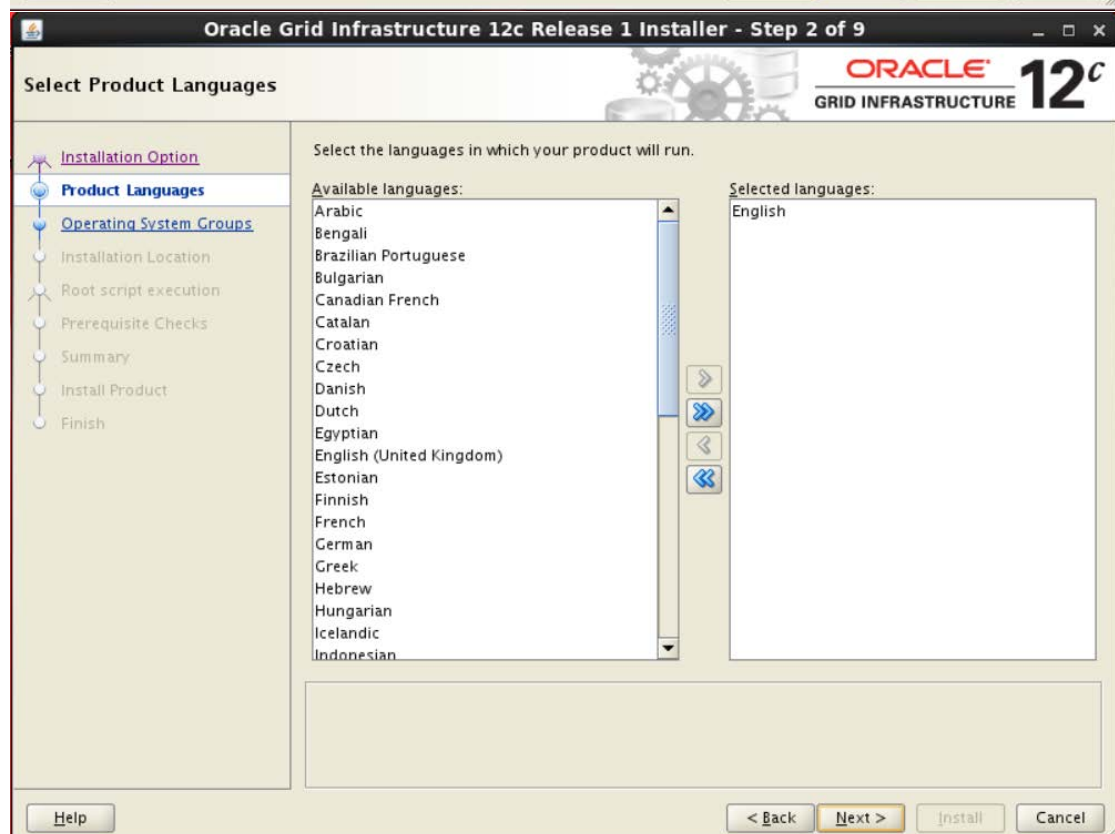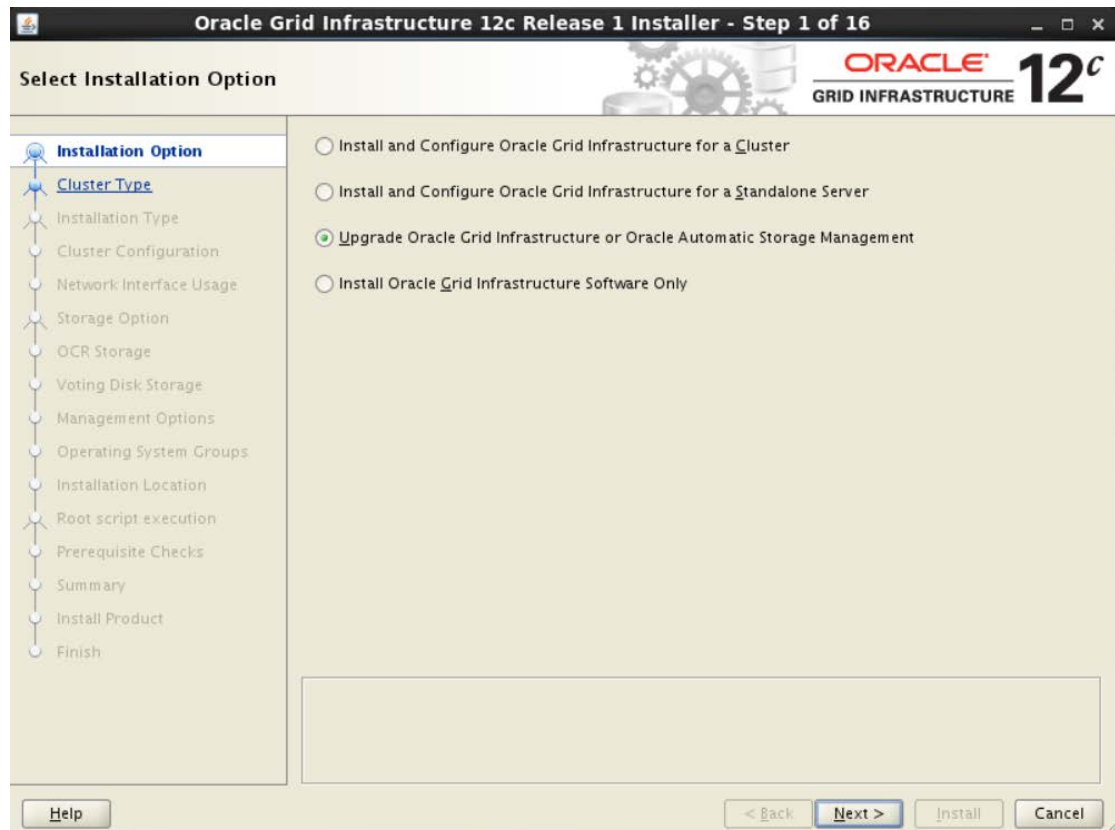[orgrid@ohs1 grid]$ You can find the log of this install session at:
 /pgold/oraInventory/logs/installActions2016-12-01_11-11-37AM.log

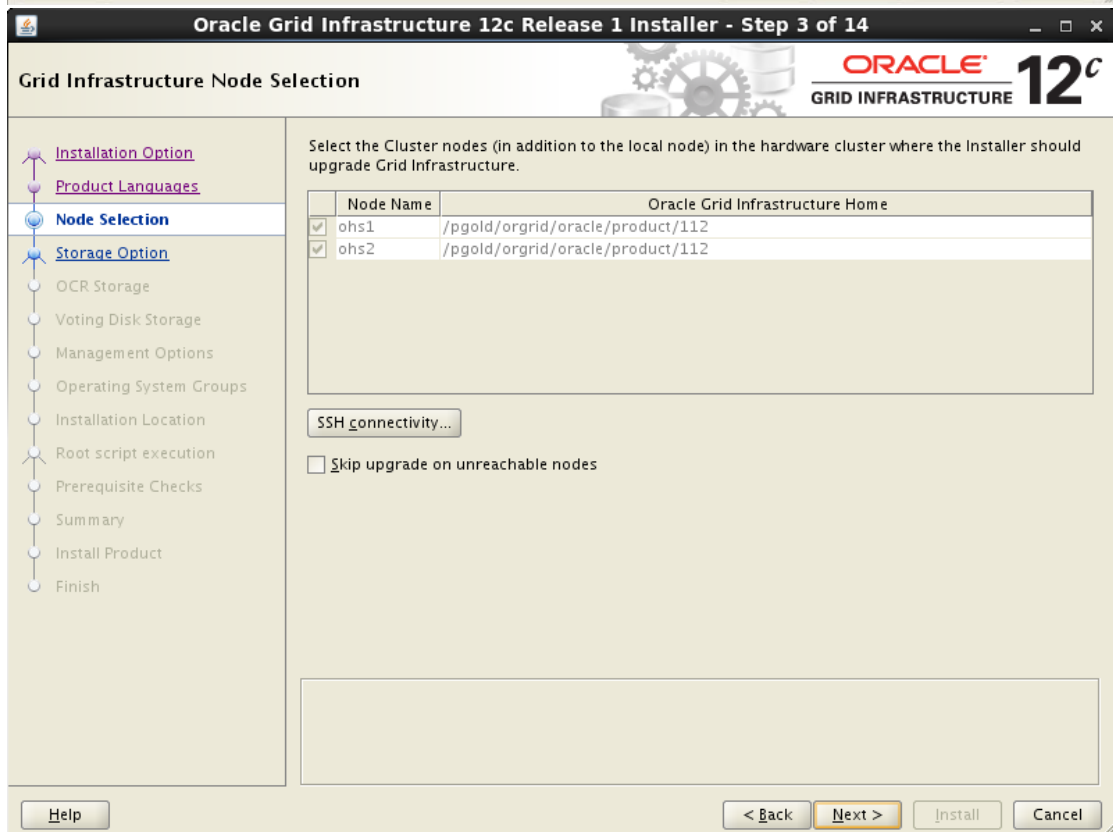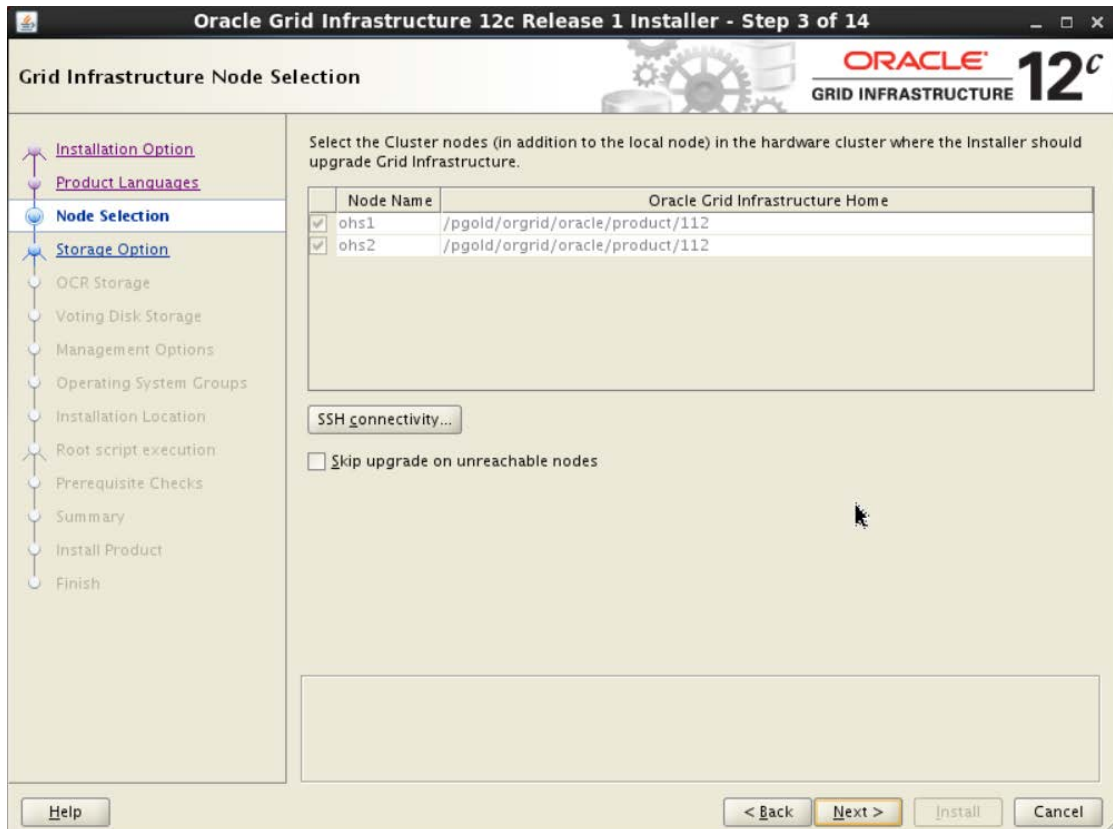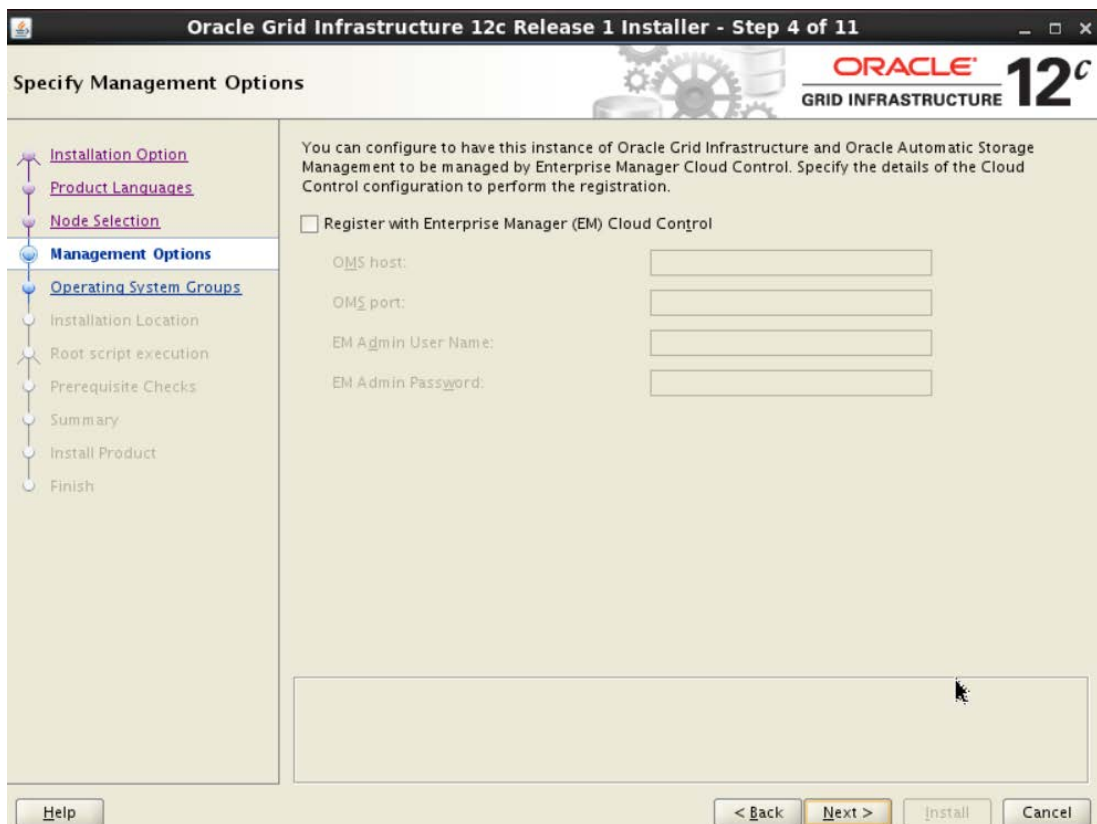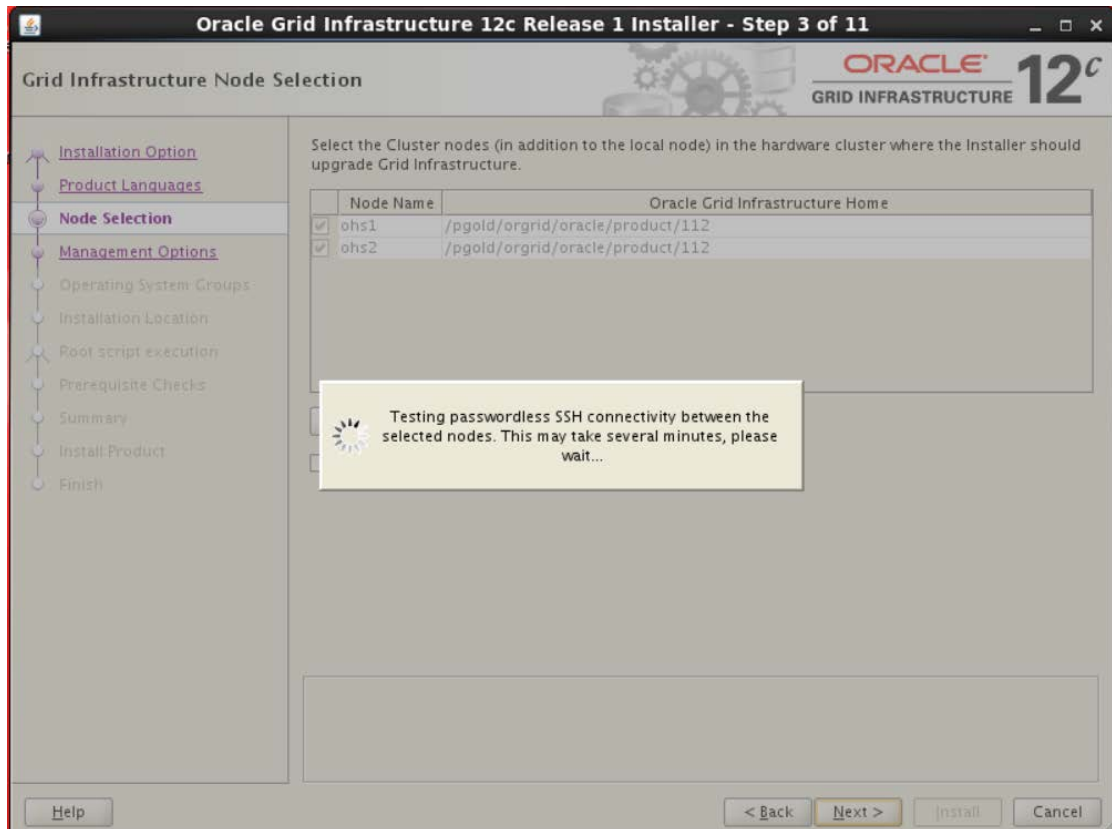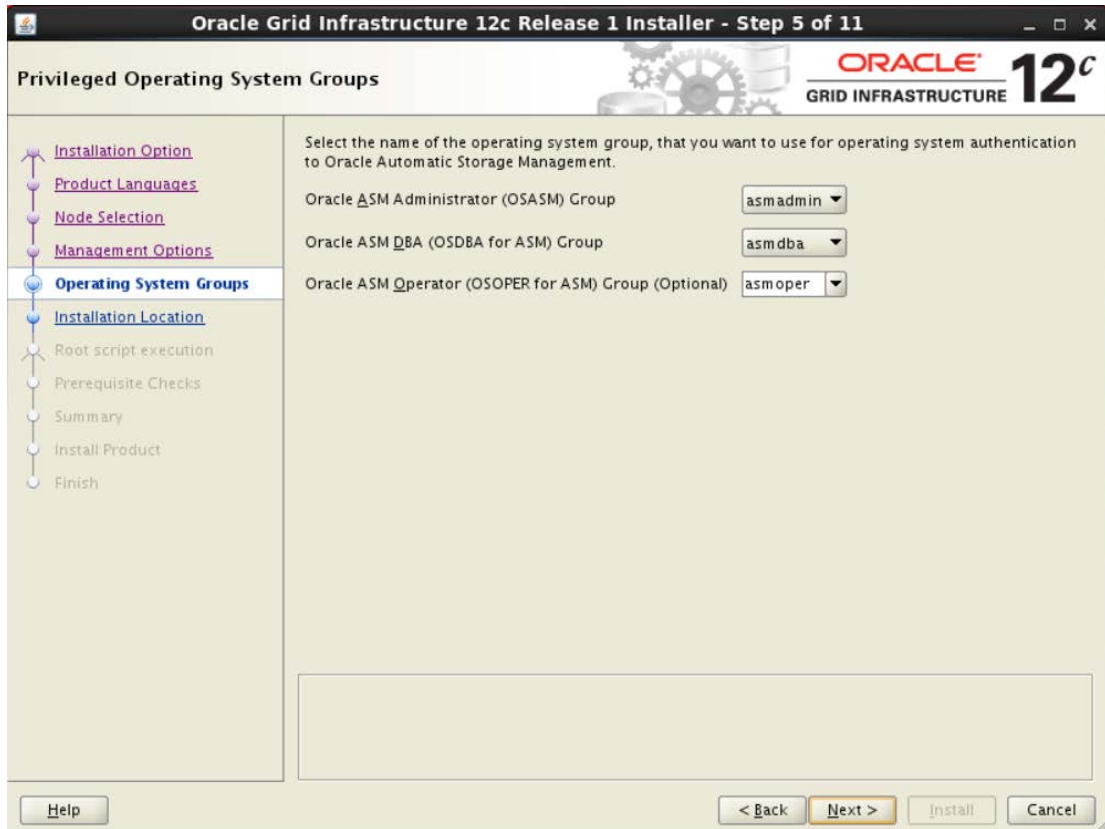[orgrid@ohs1 grid]$

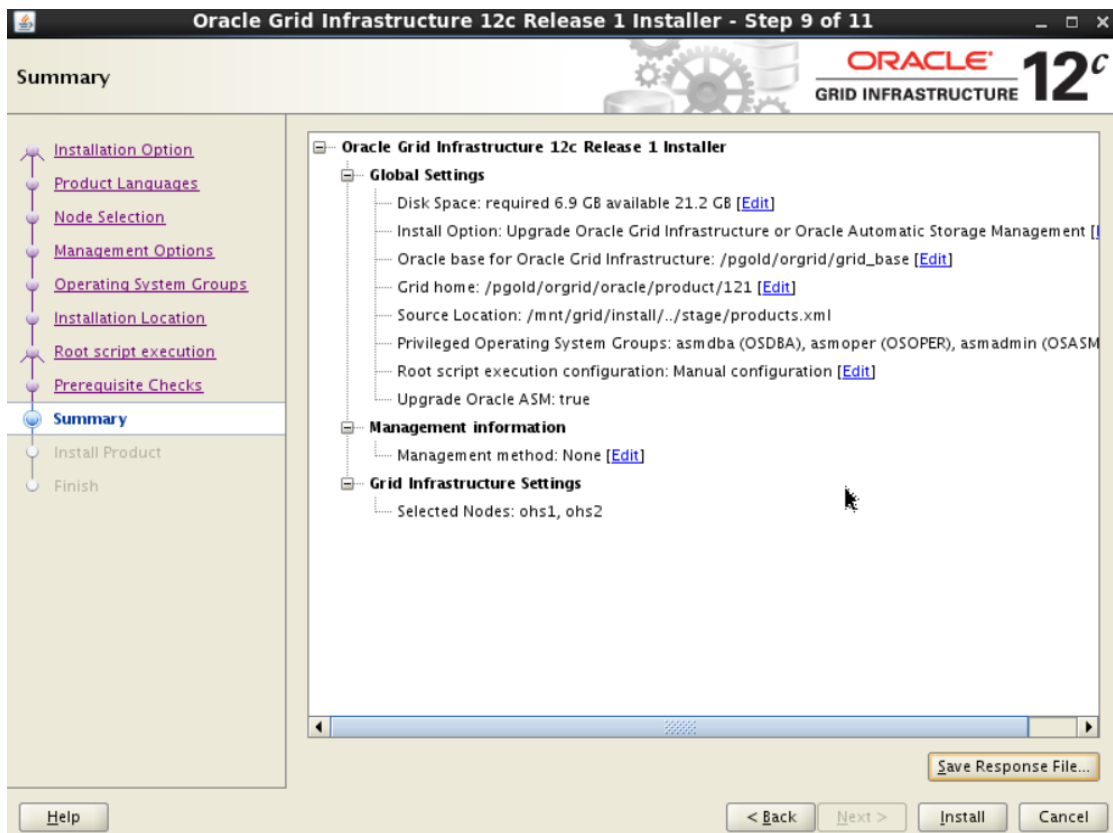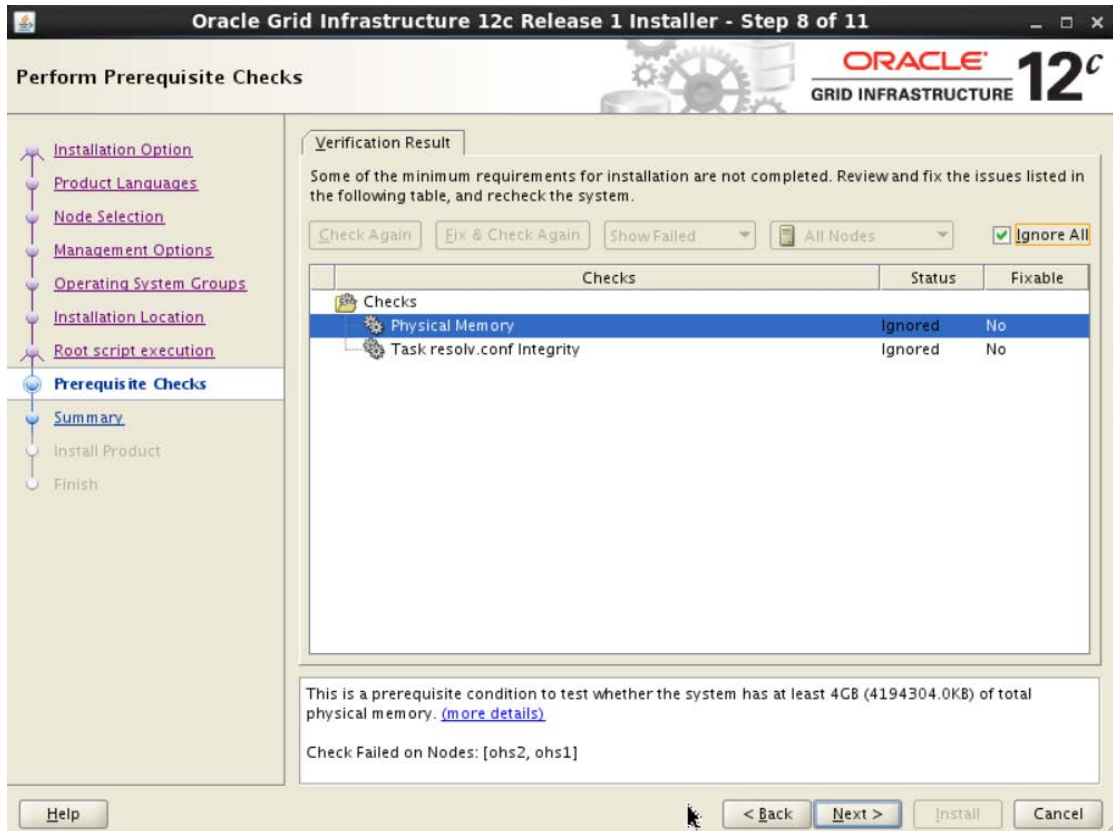Upgrade oracle grid infrastructure of oracle automatic storage management

Type Oracle base and Oracle Home
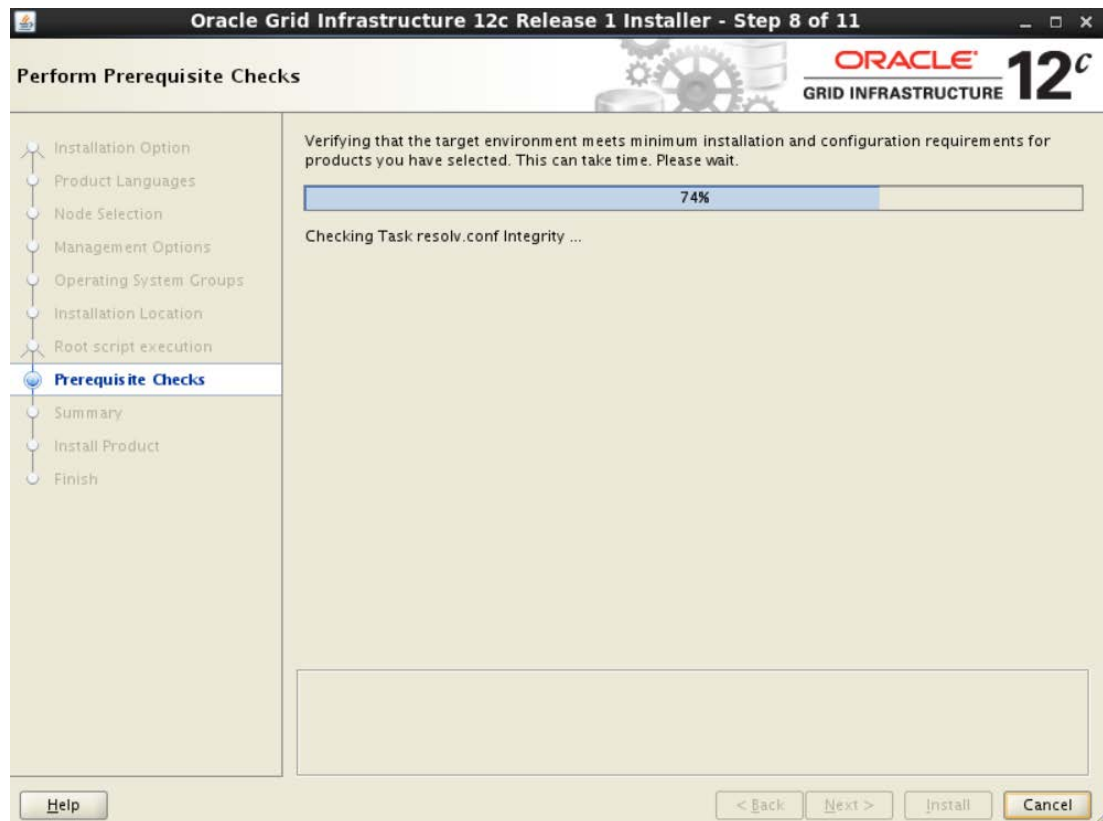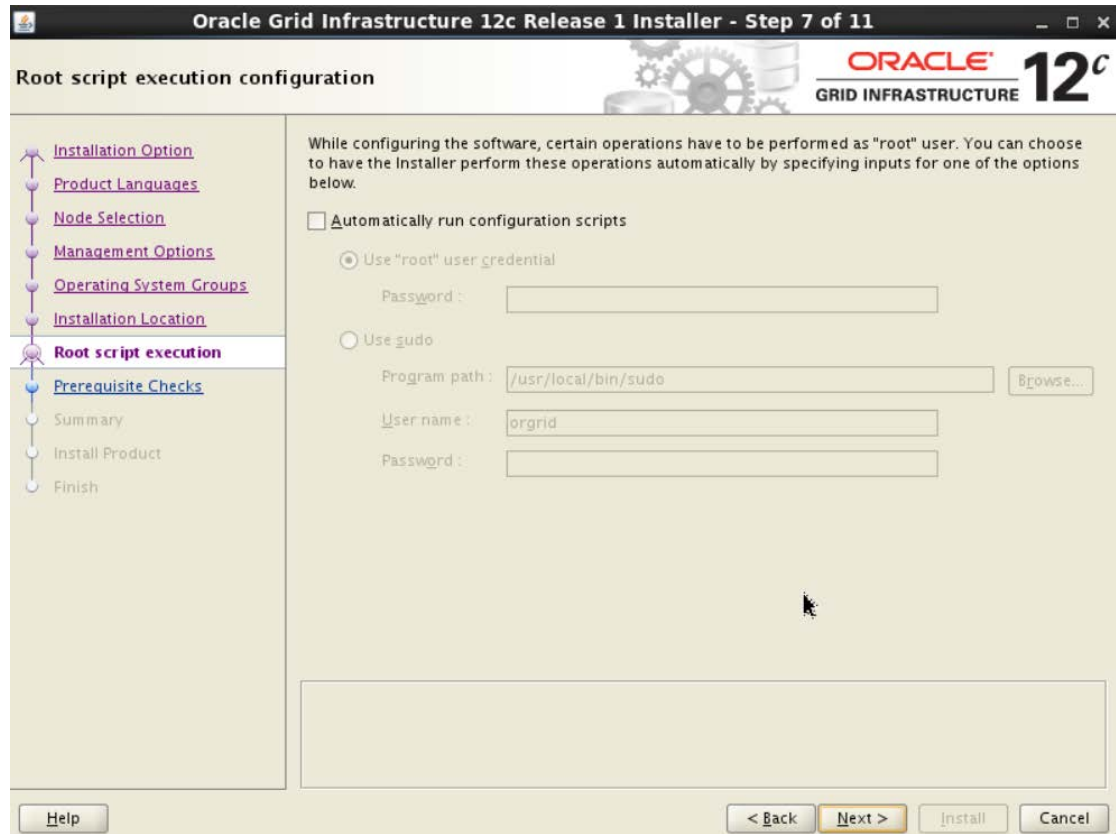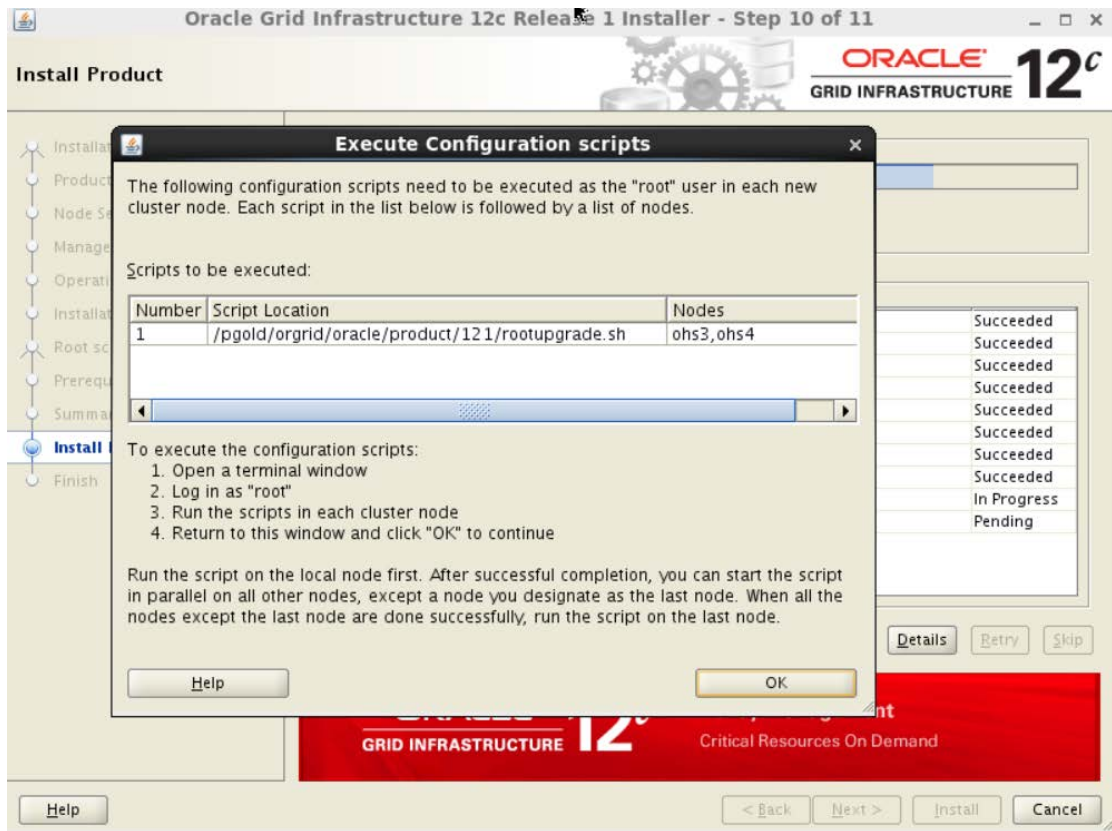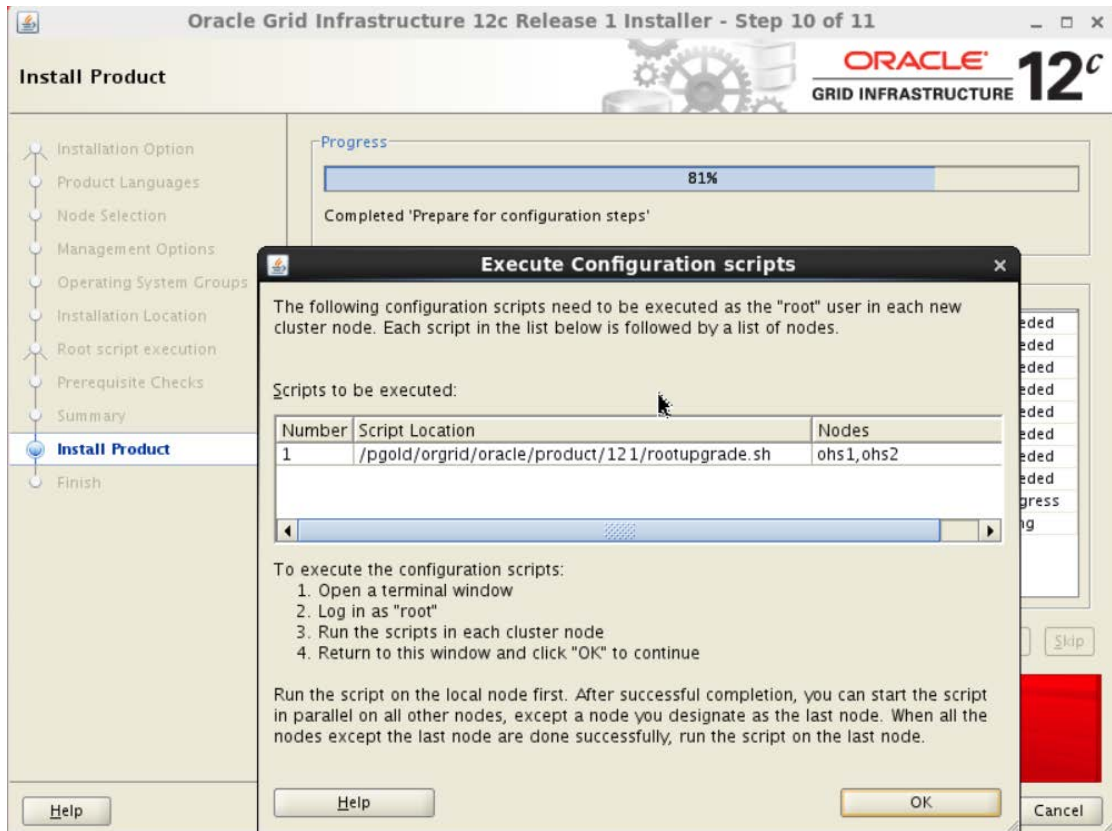
Run rootupgrade.sh on ohs1

[root@ohs1 ~]# /pgold/orgrid/oracle/product/121/rootupgrade.sh
Performing root user operation.

The following environment variables are set as:
    ORACLE_OWNER= orgrid
    ORACLE_HOME=   /pgold/orgrid/oracle/product/121

Enter the full pathname of the local bin directory: [/usr/local/bin]:
The file "dbhome" already exists in /usr/local/bin.   Overwrite it? (y/n)
[n]: y
   Copying dbhome to /usr/local/bin …
The file "oraenv" already exists in /usr/local/bin.   Overwrite it? (y/n)
[n]: y
   Copying oraenv to /usr/local/bin …
The file "coraenv" already exists in /usr/local/bin.   Overwrite it? (y/n)
[n]: y
   Copying coraenv to /usr/local/bin …

Entries will be added to the /etc/oratab file as needed by
Database Configuration Assistant when a database is created
Finished running generic part of root script.
Now product-specific root actions will be performed.
Using   configuration   parameter   file:
/pgold/orgrid/oracle/product/121/crs/install/crsconfig_params
2016/12/01 11:32:21 CLSRSC-4015: Performing install or upgrade action for Oracle Trace
File Analyzer (TFA) Collector.

2016/12/01 11:32:55 CLSRSC-4003: Successfully patched Oracle Trace File Analyzer (TFA)
Collector.

2016/12/01 11:32:58 CLSRSC-464: Starting retrieval of the cluster configuration data

2016/12/01 11:33:06 CLSRSC-465: Retrieval of the cluster configuration data has
successfully completed.

2016/12/01 11:33:06 CLSRSC-363: User ignored prerequisites during installation

2016/12/01 11:33:17 CLSRSC-515: Starting OCR manual backup.

2016/12/01 11:33:19 CLSRSC-516: OCR manual backup successful.

2016/12/01 11:33:23 CLSRSC-468: Setting Oracle Clusterware and ASM to rolling migration mode

2016/12/01 11:33:23 CLSRSC-482: Running command: '/pgold/orgrid/oracle/product/121/bin/asmca -silent -upgradeNodeASM -nonRolling false -oldCRSHome /pgold/orgrid/oracle/product/112 -oldCRSVersion 11.2.0.4.0 -nodeNumber 1 -firstNode true -startRolling true'

ASM configuration upgraded in local node successfully.

2016/12/01 11:33:31 CLSRSC-469: Successfully set Oracle Clusterware and ASM to rolling migration mode

2016/12/01 11:33:31 CLSRSC-466: Starting shutdown of the current Oracle Grid Infrastructure stack

2016/12/01 11:34:14 CLSRSC-467: Shutdown of the current Oracle Grid Infrastructure stack has successfully completed.

OLR initialization - successful
2016/12/01 11:36:54 CLSRSC-329: Replacing Clusterware entries in file 'oracle-ohasd.conf'

CRS-4133: Oracle High Availability Services has been stopped.
CRS-4123: Oracle High Availability Services has been started.
2016/12/01 11:39:41 CLSRSC-472: Attempting to export the OCR

2016/12/01 11:39:41 CLSRSC-482: Running command: 'ocrconfig -upgrade orgrid oinstall'

2016/12/01 11:39:48 CLSRSC-473: Successfully exported the OCR

2016/12/01 11:39:54 CLSRSC-486:
 At this stage of upgrade, the OCR has changed.
 Any attempt to downgrade the cluster after this point will require a complete cluster outage to restore the OCR.

2016/12/01 11:39:54 CLSRSC-541:
 To downgrade the cluster:
 1. All nodes that have been upgraded must be downgraded.

2016/12/01 11:39:54 CLSRSC-542:
 2. Before downgrading the last node, the Grid Infrastructure stack on all other cluster nodes must be down.

2016/12/01 11:39:54 CLSRSC-543:

  3. The downgrade command must be run on the node ohs1 with the '-lastnode' option to restore global configuration data.

2016/12/01 11:40:20 CLSRSC-343: Successfully started Oracle Clusterware stack

clscfg: EXISTING configuration version 5 detected.
clscfg: version 5 is 11g Release 2.
Successfully taken the backup of node specific configuration in OCR.
Successfully accumulated necessary OCR keys.
Creating OCR keys for user 'root', privgrp 'root'..
Operation successful.
2016/12/01 11:40:40 CLSRSC-474: Initiating upgrade of resource types

2016/12/01 11:40:57 CLSRSC-482: Running command: 'upgrade model -s 11.2.0.4.0 -d 12.1.0.2.0 -p first'

2016/12/01 11:40:57 CLSRSC-475: Upgrade of resource types successfully initiated.

2016/12/01 11:41:02 CLSRSC-325: Configure Oracle Grid Infrastructure for a Cluster ... succeeded

[root@ohs1 ~]#

```
ASM configuration upgraded in local node successfully.
2016/12/01 11:33:31 CLSRSC-469: Successfully set Oracle Clusterware and ASM to rolling migration mode
2016/12/01 11:33:31 CLSRSC-466: Starting shutdown of the current Oracle Grid Infrastructure stack
2016/12/01 11:34:14 CLSRSC-467: Shutdown of the current Oracle Grid Infrastructure stack has successfully completed.
OLR initialization - successful
2016/12/01 11:36:54 CLSRSC-329: Replacing Clusterware entries in file 'oracle-ohasd.conf'
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CRS-4123: Oracle High Availability Services has been started.
2016/12/01 11:39:41 CLSRSC-472: Attempting to export the OCR

2016/12/01 11:39:41 CLSRSC-482: Running command: 'ocrconfig -upgrade orgrid oinstall'

2016/12/01 11:39:48 CLSRSC-473: Successfully exported the OCR

2016/12/01 11:39:54 CLSRSC-486:
 At this stage of upgrade, the OCR has changed.
 Any attempt to downgrade the cluster after this point will require a complete cluster outage to restore the OCR.

2016/12/01 11:39:54 CLSRSC-541:
 To downgrade the cluster:
 1. All nodes that have been upgraded must be downgraded.

2016/12/01 11:39:54 CLSRSC-542:
 2. Before downgrading the last node, the Grid Infrastructure stack on all other cluster nodes must be down.

2016/12/01 11:39:54 CLSRSC-543:
 3. The downgrade command must be run on the node ohs1 with the '-lastnode' option to restore global configuration data.

2016/12/01 11:40:20 CLSRSC-343: Successfully started Oracle Clusterware stack

clscfg: EXISTING configuration version 5 detected.
clscfg: version 5 is 11g Release 2.
Successfully taken the backup of node specific configuration in OCR.
Successfully accumulated necessary OCR keys.
Creating OCR keys for user 'root', privgrp 'root'..
Operation successful.
2016/12/01 11:40:40 CLSRSC-474: Initiating upgrade of resource types

2016/12/01 11:40:57 CLSRSC-482: Running command: 'upgrade model  -s 11.2.0.4.0 -d 12.1.0.2.0 -p first'

2016/12/01 11:40:57 CLSRSC-475: Upgrade of resource types successfully initiated.

2016/12/01 11:41:02 CLSRSC-325: Configure Oracle Grid Infrastructure for a Cluster ... succeeded

[root@ohs1 ~]#
```

Run rootupgrade.sh on ohs2

[root@ohs2 ~]# /pgold/orgrid/oracle/product/121/rootupgrade.sh
Performing root user operation.

The following environment variables are set as:
    ORACLE_OWNER= orgrid
    ORACLE_HOME= /pgold/orgrid/oracle/product/121

Enter the full pathname of the local bin directory: [/usr/local/bin]:
The file "dbhome" already exists in /usr/local/bin. Overwrite it? (y/n)
[n]: y
   Copying dbhome to /usr/local/bin …
The file "oraenv" already exists in /usr/local/bin. Overwrite it? (y/n)
[n]: y
   Copying oraenv to /usr/local/bin …
The file "coraenv" already exists in /usr/local/bin. Overwrite it? (y/n)
[n]: y
   Copying coraenv to /usr/local/bin …

Entries will be added to the /etc/oratab file as needed by
Database Configuration Assistant when a database is created
Finished running generic part of root script.
Now product-specific root actions will be performed.
Using   configuration   parameter   file:
/pgold/orgrid/oracle/product/121/crs/install/crsconfig_params
2016/12/01 11:43:14 CLSRSC-4015: Performing install or upgrade action for Oracle Trace File Analyzer (TFA) Collector.

2016/12/01 11:43:47 CLSRSC-4003: Successfully patched Oracle Trace File Analyzer (TFA) Collector.

2016/12/01 11:43:48 CLSRSC-464: Starting retrieval of the cluster configuration data

2016/12/01 11:43:53 CLSRSC-465: Retrieval of the cluster configuration data has successfully completed.

2016/12/01 11:43:53 CLSRSC-363: User ignored prerequisites during installation

ASM configuration upgraded in local node successfully.

2016/12/01 11:44:05 CLSRSC-466: Starting shutdown of the current Oracle Grid

Infrastructure stack

2016/12/01 11:44:34 CLSRSC-467: Shutdown of the current Oracle Grid Infrastructure stack has successfully completed.

OLR initialization - successful
2016/12/01 11:44:57 CLSRSC-329: Replacing Clusterware entries in file 'oracle-ohasd.conf'

CRS-4133: Oracle High Availability Services has been stopped.
CRS-4123: Oracle High Availability Services has been started.
2016/12/01 11:46:54 CLSRSC-343: Successfully started Oracle Clusterware stack

clscfg: EXISTING configuration version 5 detected.
clscfg: version 5 is 12c Release 1.
Successfully taken the backup of node specific configuration in OCR.
Successfully accumulated necessary OCR keys.
Creating OCR keys for user 'root', privgrp 'root'..
Operation successful.
Start upgrade invoked..
2016/12/01 11:47:13 CLSRSC-478: Setting Oracle Clusterware active version on the last node to be upgraded

2016/12/01 11:47:13 CLSRSC-482: Running command: '/pgold/orgrid/oracle/product/121/bin/crsctl set crs activeversion'

Started to upgrade the Oracle Clusterware. This operation may take a few minutes.
Started to upgrade the OCR.
Started to upgrade the CSS.
The CSS was successfully upgraded.
Started to upgrade the CRS.
The CRS was successfully upgraded.
Successfully upgraded the Oracle Clusterware.
Oracle Clusterware operating version was successfully set to 12.1.0.2.0
2016/12/01 11:48:42 CLSRSC-479: Successfully set Oracle Clusterware active version

2016/12/01 11:48:46 CLSRSC-476: Finishing upgrade of resource types

2016/12/01 11:49:06 CLSRSC-482: Running command: 'upgrade model -s 11.2.0.4.0 -d 12.1.0.2.0 -p last'

2016/12/01 11:49:06 CLSRSC-477: Successfully completed upgrade of resource types

2016/12/01 11:49:33 CLSRSC-325: Configure Oracle Grid Infrastructure for a Cluster ... succeeded

[root@ohs2 ~]#

```
2016/12/01 11:43:47 CLSRSC-4003: Successfully patched Oracle Trace File Analyzer (TFA) Collector.

2016/12/01 11:43:48 CLSRSC-464: Starting retrieval of the cluster configuration data

2016/12/01 11:43:53 CLSRSC-465: Retrieval of the cluster configuration data has successfully completed.

2016/12/01 11:43:53 CLSRSC-363: User ignored prerequisites during installation


ASM configuration upgraded in local node successfully.

2016/12/01 11:44:05 CLSRSC-466: Starting shutdown of the current Oracle Grid Infrastructure stack

2016/12/01 11:44:34 CLSRSC-467: Shutdown of the current Oracle Grid Infrastructure stack has successfully completed.

OLR initialization - successful
2016/12/01 11:44:57 CLSRSC-329: Replacing Clusterware entries in file 'oracle-ohasd.conf'

CRS-4133: Oracle High Availability Services has been stopped.
CRS-4123: Oracle High Availability Services has been started.
2016/12/01 11:46:54 CLSRSC-343: Successfully started Oracle Clusterware stack

clscfg: EXISTING configuration version 5 detected.
clscfg: version 5 is 12c Release 1.
Successfully taken the backup of node specific configuration in OCR.
Successfully accumulated necessary OCR keys.
Creating OCR keys for user 'root', privgrp 'root'..
Operation successful.
Start upgrade invoked..
2016/12/01 11:47:13 CLSRSC-478: Setting Oracle Clusterware active version on the last node to be upgraded

2016/12/01 11:47:13 CLSRSC-482: Running command: '/pgold/orgrid/oracle/product/121/bin/crsctl set crs activeversion'

Started to upgrade the Oracle Clusterware. This operation may take a few minutes.
Started to upgrade the OCR.
Started to upgrade the CSS.
The CSS was successfully upgraded.
Started to upgrade the CRS.
The CRS was successfully upgraded.
Successfully upgraded the Oracle Clusterware.
Oracle Clusterware operating version was successfully set to 12.1.0.2.0
2016/12/01 11:48:42 CLSRSC-479: Successfully set Oracle Clusterware active version

2016/12/01 11:48:46 CLSRSC-476: Finishing upgrade of resource types

2016/12/01 11:49:06 CLSRSC-482: Running command: 'upgrade model  -s 11.2.0.4.0 -d 12.1.0.2.0 -p last'

2016/12/01 11:49:06 CLSRSC-477: Successfully completed upgrade of resource types

2016/12/01 11:49:33 CLSRSC-325: Configure Oracle Grid Infrastructure for a Cluster ... succeeded
```

[root@ohs2 ~]#

The upgrade of Oracle Grid Infrastructure for a Cluster was successful.

Post upgrade check

[orgrid@ohs1 ~]$ crsctl stat res -t

Name	Target	State	Server	State details

Local Resources
----

ora.DATA_PROD.dg

	ONLINE	ONLINE	ohs1	STABLE
	ONLINE	ONLINE	ohs2	STABLE

ora.FRA_PROD.dg

	ONLINE	ONLINE	ohs1	STABLE
	ONLINE	ONLINE	ohs2	STABLE

ora.LISTENER.lsnr

	ONLINE	ONLINE	ohs1	STABLE
	ONLINE	ONLINE	ohs2	STABLE

ora.SYSTEMDG.dg

	ONLINE	ONLINE	ohs1	STABLE
	ONLINE	ONLINE	ohs2	STABLE

```
ora.asm
                ONLINE  ONLINE      ohs1                    Started,STABLE
                ONLINE  ONLINE      ohs2                    Started,STABLE
ora.net1.network
                ONLINE  ONLINE      ohs1                    STABLE
                ONLINE  ONLINE      ohs2                    STABLE
ora.ons
                ONLINE  ONLINE      ohs1                    STABLE
                ONLINE  ONLINE      ohs2                    STABLE
--------------------------------------------------------------------------------
Cluster Resources
--------------------------------------------------------------------------------
ora.LISTENER_SCAN1.lsnr
      1         ONLINE  ONLINE      ohs2                    STABLE
ora.LISTENER_SCAN2.lsnr
      1         ONLINE  ONLINE      ohs1                    STABLE
ora.LISTENER_SCAN3.lsnr
      1         ONLINE  ONLINE      ohs1                    STABLE
ora.MGMTLSNR
      1         ONLINE  ONLINE      ohs1                    169.254.237.80 172.1
                                                           6.0.21,STABLE
ora.cvu
      1         ONLINE  ONLINE      ohs2                    STABLE
ora.mgmtdb
      1         ONLINE  ONLINE      ohs1                    Open,STABLE
ora.oc4j
      1         ONLINE  ONLINE      ohs2                    STABLE
ora.ohs1.vip
      1         ONLINE  ONLINE      ohs1                    STABLE
ora.ohs2.vip
      1         ONLINE  ONLINE      ohs2                    STABLE
ora.prod.db
      1         ONLINE  ONLINE      ohs1                    Open,STABLE
      2         ONLINE  ONLINE      ohs2                    Open,STABLE
ora.scan1.vip
      1         ONLINE  ONLINE      ohs2                    STABLE
ora.scan2.vip
      1         ONLINE  ONLINE      ohs1                    STABLE
ora.scan3.vip
      1         ONLINE  ONLINE      ohs1                    STABLE
--------------------------------------------------------------------------------
[orgrid@ohs1 ~]$

[orgrid@ohs1 ~]$ crsctl query crs releaseversion
```

Oracle High Availability Services release version on the local node is [12.1.0.2.0]

[orgrid@ohs1 ~]$ crsctl check cluster -all

****

ohs1:

CRS-4537: Cluster Ready Services is online

CRS-4529: Cluster Synchronization Services is online

CRS-4533: Event Manager is online

****

ohs2:

CRS-4537: Cluster Ready Services is online

CRS-4529: Cluster Synchronization Services is online

CRS-4533: Event Manager is online

****

[orgrid@ohs1 ~]$ crsctl query crs activeversion -f

Oracle Clusterware active version on the cluster is [12.1.0.2.0]. The cluster upgrade state is [NORMAL]. The cluster active patch level is [0].

[orgrid@ohs1 ~]$ ps -ef|grep d.bin

root   2578   1   1   11:38   ?   00:00:16
/pgold/orgrid/oracle/product/121/bin/ohasd.bin exclusive

orgrid   3320   1   1   11:38   ?   00:00:17
/pgold/orgrid/oracle/product/121/bin/evmd.bin

orgrid   3351   1   0   11:38   ?   00:00:02
/pgold/orgrid/oracle/product/121/bin/mdnsd.bin

orgrid   3373   1   0   11:38   ?   00:00:02
/pgold/orgrid/oracle/product/121/bin/gpnpd.bin

orgrid   3514   1   1   11:38   ?   00:00:23
/pgold/orgrid/oracle/product/121/bin/gipcd.bin

orgrid   3557   1   0   11:38   ?   00:00:12
/pgold/orgrid/oracle/product/121/bin/ocssd.bin

root   3668   1   1   11:39   ?   00:00:16
/pgold/orgrid/oracle/product/121/bin/octssd.bin reboot

root   3689   1   0   11:39   ?   00:00:09
/pgold/orgrid/oracle/product/121/bin/osysmond.bin

root   8753   1   1   11:47   ?   00:00:12
/pgold/orgrid/oracle/product/121/bin/crsd.bin reboot

orgrid   28304 27892   0 12:05 pts/0   00:00:00 grep d.bin

[orgrid@ohs1 ~]$ ps -ef|grep pmon

orgrid   7130   1   0 11:44 ?   00:00:00 asm_pmon_+ASM1

oracle   7482   1   0 11:45 ?   00:00:00 ora_pmon_prod1

orgrid   18386   1   0 11:57 ?   00:00:00 mdb_pmon_-MGMTDB

orgrid   28320 27892   0 12:06 pts/0   00:00:00 grep pmon

[orgrid@ohs1 ~]$ oclumon manage -get reppath

CHM   Repository   Path   =

+SYSTEMDG/_MGMTDB/FD9B43BF6A646F8CE043B6A9E80A2815/DATAFILE/sysmgmtdata.
269.929447857

[orgrid@ohs1 ~]$ srvctl status mgmtdb -verbose

Database is enabled

Instance -MGMTDB is running on node ohs1. Instance status: Open.

[orgrid@ohs1 ~]$ srvctl config mgmtdb

Database unique name: _mgmtdb

Database name:

Oracle home: <CRS home>

Oracle user: orgrid

Spfile: +SYSTEMDG/_MGMTDB/PARAMETERFILE/spfile.268.929447741

Password file:

Domain:

Start options: open

Stop options: immediate

Database role: PRIMARY

Management policy: AUTOMATIC

Type: Management

PDB name: prod_cluster

PDB service: prod_cluster

Cluster name: prod-cluster

Database instance: -MGMTDB

ASMCMD> lsct -g data_prod

Instance_ID	DB_Name	Status	Software_Version	Compatible_version	Instance_Name	Disk_Group
1	+ASM	CONNECTED	12.1.0.2.0	12.1.0.2.0	+ASM1	DATA_PROD
2	+ASM	CONNECTED	12.1.0.2.0	12.1.0.2.0	+ASM2	DATA_PROD
1	prod	CONNECTED	11.2.0.4.0	11.2.0.4.0	prod1	DATA_PROD
2	prod	CONNECTED	11.2.0.4.0	11.2.0.4.0	prod2	DATA_PROD

ASMCMD> showversion

ASM version   : 12.1.0.2.0

ASMCMD>

[root@ohs1 ~]# su - orgrid

[orgrid@ohs1 ~]$ cat .bash_profile

.bash_profile

Get the aliases and functions

if [-f ~/.bashrc]; then

        . ~/.bashrc

fi

User specific environment and startup programs

PATH=$PATH:$HOME/bin

export PATH
export ORACLE_SID=+ASM1
export ORACLE_HOME=/pgold/orgrid/oracle/product/121
export PATH=$ORACLE_HOME/bin:$PATH
[orgrid@ohs1 ~]$ srvctl config listener
Name: LISTENER
Type: Database Listener
Network: 1, Owner: orgrid
Home: <CRS home>
End points: TCP:1521
Listener is enabled.
Listener is individually enabled on nodes:
Listener is individually disabled on nodes:
[orgrid@ohs1 ~]$ srvctl config scan_listener
SCAN Listener LISTENER_SCAN1 exists. Port: TCP:10010
Registration invited nodes:
Registration invited subnets:
SCAN Listener is enabled.
SCAN Listener is individually enabled on nodes:
SCAN Listener is individually disabled on nodes:
SCAN Listener LISTENER_SCAN2 exists. Port: TCP:10010
Registration invited nodes:
Registration invited subnets:
SCAN Listener is enabled.
SCAN Listener is individually enabled on nodes:
SCAN Listener is individually disabled on nodes:
SCAN Listener LISTENER_SCAN3 exists. Port: TCP:10010
Registration invited nodes:
Registration invited subnets:
SCAN Listener is enabled.
SCAN Listener is individually enabled on nodes:
SCAN Listener is individually disabled on nodes:
[orgrid@ohs1 ~]$ srvctl config database -d prod
PRCD-1229 : An attempt to access configuration of database prod was rejected because its version 11.2.0.4.0 differs from the program version 12.1.0.2.0. Instead run the program from /pgold/ordb/oracle/product/112.
[orgrid@ohs1 ~]$ lsnrctl status

LSNRCTL for Linux: Version 12.1.0.2.0 - Production on 06-DEC-2016 16:27:02

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Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=IPC)(KEY=LISTENER)))
STATUS of the LISTENER

Alias   LISTENER
Version   TNSLSNR for Linux: Version 12.1.0.2.0 - Production
Start Date   06-DEC-2016 16:18:12
Uptime   0 days 0 hr. 8 min. 50 sec
Trace Level   off
Security   ON: Local OS Authentication
SNMP   OFF
Listener Parameter File   /pgold/orgrid/oracle/product/121/network/admin/listener.ora
Listener Log File   /pgold/orgrid/grid_base/diag/tnslsnr/ohs1/listener/alert/log.xml
Listening Endpoints Summary...
   (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(KEY=LISTENER)))
   (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=10.0.2.21)(PORT=1521)))
   (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=10.0.2.31)(PORT=1521)))
Services Summary...
Service "+ASM" has 1 instance(s).
   Instance "+ASM1", status READY, has 1 handler(s) for this service...
Service "-MGMTDBXDB" has 1 instance(s).
   Instance "-MGMTDB", status READY, has 1 handler(s) for this service...
Service "_mgmtdb" has 1 instance(s).
   Instance "-MGMTDB", status READY, has 1 handler(s) for this service...
Service "prod1" has 1 instance(s).
   Instance "prod1", status UNKNOWN, has 1 handler(s) for this service...
Service "prod_cluster" has 1 instance(s).
   Instance "-MGMTDB", status READY, has 1 handler(s) for this service...
The command completed successfully
[orgrid@ohs1 ~]$