Configure Oracle 19c Grid Infrastructure in Clustered Servers Procedure

DBA Group

1. Prerequisite

* Have proper ASM LUNs available, for example,

/dev/oracleasm/disks/GEN\_PROD\_128\_DATA01

/dev/oracleasm/disks/GEN\_PROD\_128\_DATA02

/dev/oracleasm/disks/GEN\_PROD\_16\_FRA01

/dev/oracleasm/disks/GEN\_PROD\_16\_FRA02

/dev/oracleasm/disks/GEN\_PROD\_32\_TEMP01

/dev/oracleasm/disks/GEN\_PROD\_32\_TEMP02

* DBA who will do the work has granted with temporary root access (otherwise, may open a CO to have UNIX team to run the necessary root.sh scripts)

1. Setup ssh for oragrid among nodes

[In node1 and node2 …]

cd

. ./.profile

oragrid@usdfw23db18vcn1:NOSID>ssh-keygen -f ~/.ssh/id\_rsa -t rsa -N ''

Generating public/private rsa key pair.

Your identification has been saved in /home/oragrid/.ssh/id\_rsa.

Your public key has been saved in /home/oragrid/.ssh/id\_rsa.pub.

The key fingerprint is:

SHA256:7DeKagV4HmRa0tR2j76uL0t+3S4e6tpkl7RbeGMn7g0 oragrid@usdfw23db18vcn1

The key's randomart image is:

+---[RSA 2048]----+

| o.. |

| . = o . |

| B . . o |

| o + .. . |

| o o .S . |

| . .... + |

| .. +oO.E . |

| .o.=o=oO.\* |

| ...\*XB.o++ . |

+----[SHA256]-----+

oragrid@usdfw23db18vcn1:NOSID>

chmod 755 /home/oragrid

chmod 755 /home/oragrid/.ssh

mkdir /tmp/temp\_oragrid\_rsa

chmod 777 /tmp/temp\_oragrid\_rsa

cp /home/oragrid/.ssh/id\_rsa.pub /tmp/temp\_oragrid\_rsa

[In node1]

scp /home/oragrid/.ssh/id\_rsa.pub pwang@usdfw23db18vcn2:/tmp/temp\_oragrid\_rsa/usdfw23db18vcn1.id\_rsa.pub

cat /tmp/temp\_oragrid\_rsa/id\_rsa.pub > /home/oragrid/.ssh/authorized\_keys

cat /tmp/temp\_oragrid\_rsa/usdfw23db18vcn2.id\_rsa.pub >> /home/oragrid/.ssh/authorized\_keys

[in node2]

scp /home/oragrid/.ssh/id\_rsa.pub pwang@usdfw23db18vcn1:/tmp/temp\_oragrid\_rsa/usdfw23db18vcn2.id\_rsa.pub

cat /tmp/temp\_oragrid\_rsa/id\_rsa.pub > /home/oragrid/.ssh/authorized\_keys

cat /tmp/temp\_oragrid\_rsa/usdfw23db18vcn1.id\_rsa.pub >> /home/oragrid/.ssh/authorized\_keys

1. Setup ssh for oracle among nodes

cd

. ./.profile

ssh-keygen -f ~/.ssh/id\_rsa -t rsa -N ''

The key fingerprint is:

SHA256:epmej+4/Srq974h7JqiQGIT62KI/uCginVorTJ3wFco oracle@usdfw23db18vcn1

The key's randomart image is:

+---[RSA 2048]----+

| |

|. . |

|... . . |

|o. E . |

|o + o S |

|.B + . o |

|Oo+. .. = |

|O=+.. .Bo+. |

|O=+o =O@B=. |

+----[SHA256]-----+

oracle@usdfw23db18vcn1:NOSID>pwd

chmod 755 /home/oracle

chmod 755 /home/oracle/.ssh

cd /home/oracle

mkdir /tmp/temp\_oracle\_rsa

chmod 777 /tmp/temp\_oracle\_rsa

cp /home/oracle/.ssh/id\_rsa.pub /tmp/temp\_oracle\_rsa

[In node1]

scp /home/oracle/.ssh/id\_rsa.pub [pwang@usdfw23db18vcn2:/tmp/temp\_oracle\_rsa/usdfw23db18vcn1.id\_rsa.pub](mailto:pwang@usdfw23db18vcn2:/tmp/temp_oracle_rsa/usdfw23db18vcn1.id_rsa.pub)

1:NOSID>

oracle@iedub26db03vcn1:NOSID>scp /home/oracle/.ssh/id\_rsa.pub u1236852@iedub26db03vcn2:/tmp//usdfw23db18vcn1.id\_ora.pub

[in node2]

scp /home/oracle/.ssh/id\_rsa.pub pwang@usdfw23db18vcn1:/tmp/temp\_oracle\_rsa/usdfw23db18vcn2.id\_rsa.pub

[In node1]

cat /tmp/temp\_oracle\_rsa/id\_rsa.pub > /home/oracle/.ssh/authorized\_keys

cat /tmp/temp\_oracle\_rsa/usdfw23db18vcn2.id\_rsa.pub >> /home/oracle/.ssh/authorized\_keys

[in node2]

cat /tmp/temp\_oracle\_rsa/id\_rsa.pub > /home/oracle/.ssh/authorized\_keys

cat /tmp/temp\_oracle\_rsa/usdfw23db18vcn1.id\_rsa.pub >> /home/oracle/.ssh/authorized\_keys

1. Create /tmp/oracle using oracle on each node

cd /tmp

mkdir oracle

chmod 775 oracle

sudo as root

ln -s /usr/bin/ssh /usr/local/bin/ssh

1. De-install Grid Infrastructure software and DB software from non-primary node (typically 2nd node in our case)

5.1 Deinstall 19c Oragrid software from non-primary node (typically 2nd node in our case)

Sudo as oragrid

cd /opt/oragrid/product/19/grid

./deinstall

(

Checking for required files and bootstrapping ...

…

)

* 1. Deinstall 19c Oragrid software from non-primary node (typically 2nd node

Sudo as oracle

cd /opt/oracle/product/19/db

./deinstall

**From Node 1:**

As root

sudo mv /etc/oracle /etc/oracle.old

as Grid:

/opt/oragrid/product/19/grid/oui/bin/runInstaller -updateNodeList -silent ORACLE\_HOME=/opt/oragrid/product/19/grid -local CRS=false

mv /etc/oratab /etc/oratab.old

1. Grid Infrastructure Configuration

Start an X server process on the local machine. (xming is a good free product for this)

Log onto server using an individual id and copy the .Xauthority file to /tmp/<userid>.Xauthority (i.e. /tmp/pwang.Xauthority)

cp .Xauthority /tmp/<userid>.Xauthority

Change permissions on /tmp/<userid>.Xauthority to be 777

chmod 777 /tmp/<userid>.Xauthority

**Sudo to become the oragrid user** using the following command:

**sudo –u oragrid –i**

Copy the .Xauthority file from the tmp location to the oragrid home directory, i.e, /home/oragrid:

cd /home/oragrid

cp /tmp/<userid>.Xauthority .Xauthority

Set up the environment by executing the /opt/oragrid/base/asm/.+ASM\_env ASM envirionment file. (Ensure ORAGRID\_HOME and ORACLE\_HOME match the server’s directory structure.)

cd /home/oragrid

Run profile

. ./.profile (can copy usdfw23db16vcn1:/home/oragrid/.profile to the target DB server to be configured with 19c)

cd /opt/oragrid/product/19/grid/bin

**./gridSetup.sh**

(If no Xindow shows up for any reasons, may try to remove /home/oragrid/.Xauthority file, and re-login and repeat the above steps.)

Before starting do below

cp /usr/bin/scp /usr/bin/scp.bkp

mv /usr/bin/scp

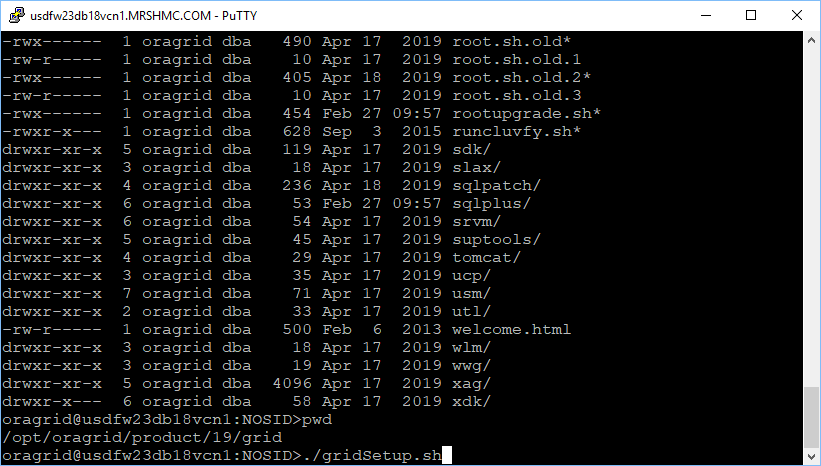
echo "/usr/bin/scp.orig -T \$\*" > /usr/bin/scp

chmod 555 /usr/bin/scp

cp /usr/share/centrifydc/libexec/scp /usr/share/centrifydc/libexec/scp.orig

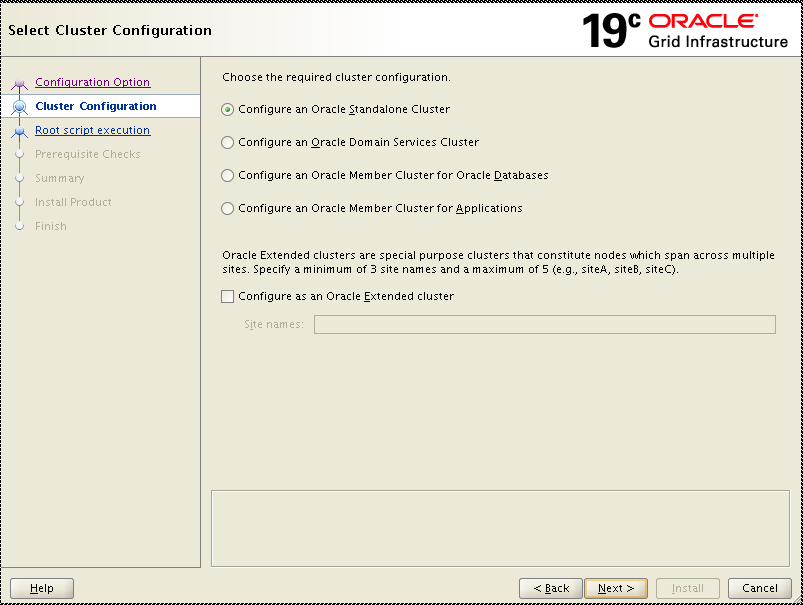
“#cp /usr/bin/scp /usr/bin/scp.bkp  
#mv /usr/bin/scp /usr/bin/scp.orig  
#echo "/usr/bin/scp.orig -T \$\*" > /usr/bin/scp  
#chmod 555 /usr/bin/scp  
#cp /usr/share/centrifydc/libexec/scp /usr/share/centrifydc/libexec/scp.orig  
#mv /usr/bin/scp.bkp /usr/bin/scp  
#rm /usr/share/centrifydc/libexec/scp.orig  
#rm /usr/bin/scp.orig

“

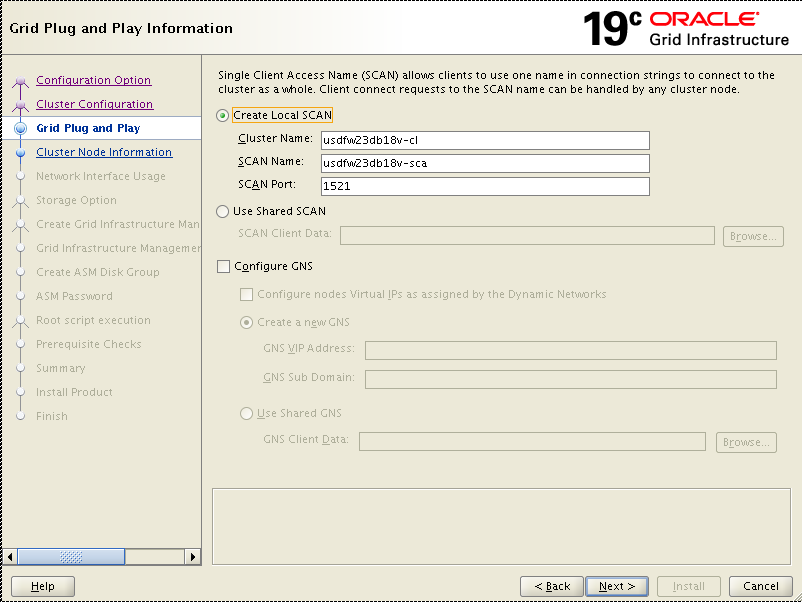




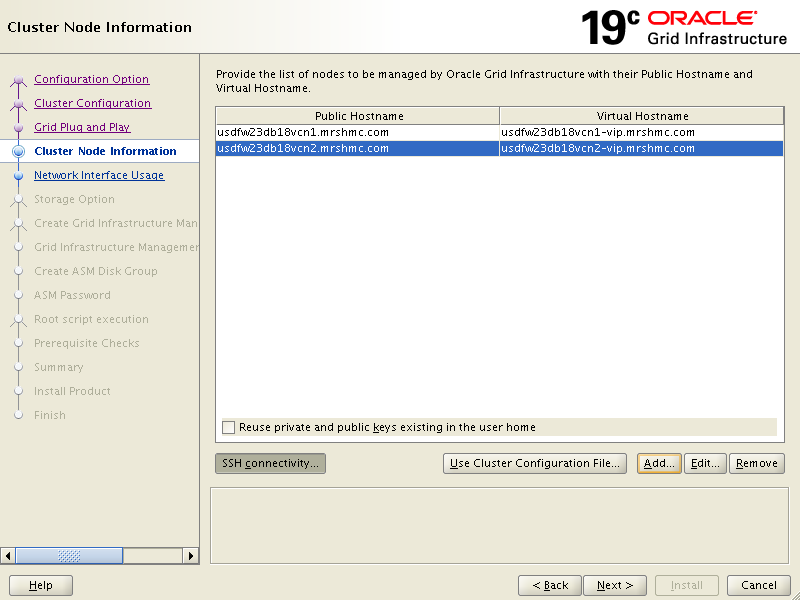
On the first screen select “Configure Oracle Grid Infrastructure for a New Cluster” as shown below and click on the “Next” button.



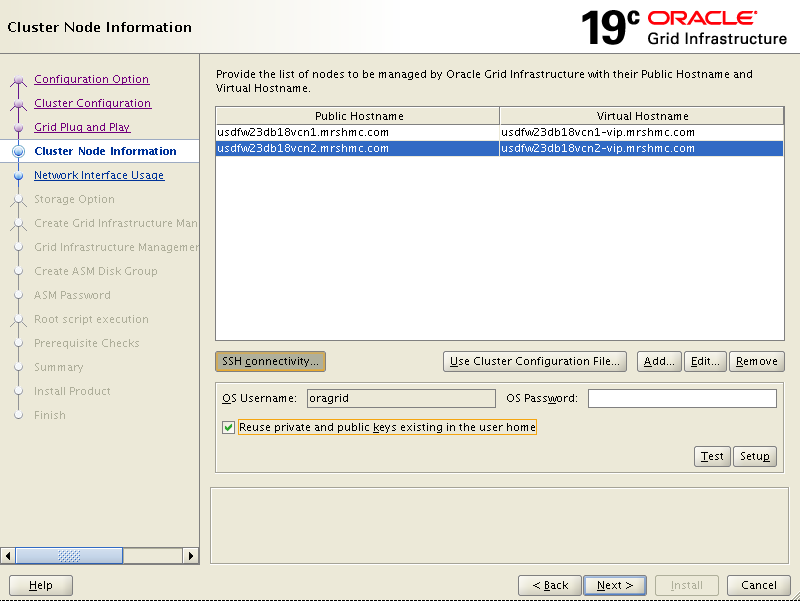
On the next screen leaves the “Configure an Oracle Standalone Cluster” radio button selected and click on the “Next” button.



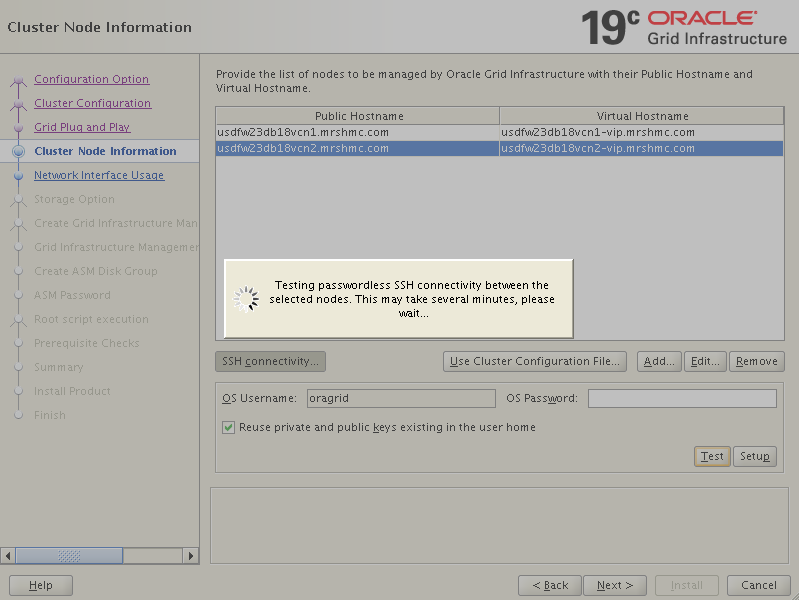
On this screen deselect the checkbox for “Configure Local SCAN” and ensure that the proper SCAN name and cluster name are entered in the boxes. The SCAN port will be left at 1521. Click on the “Next” button.

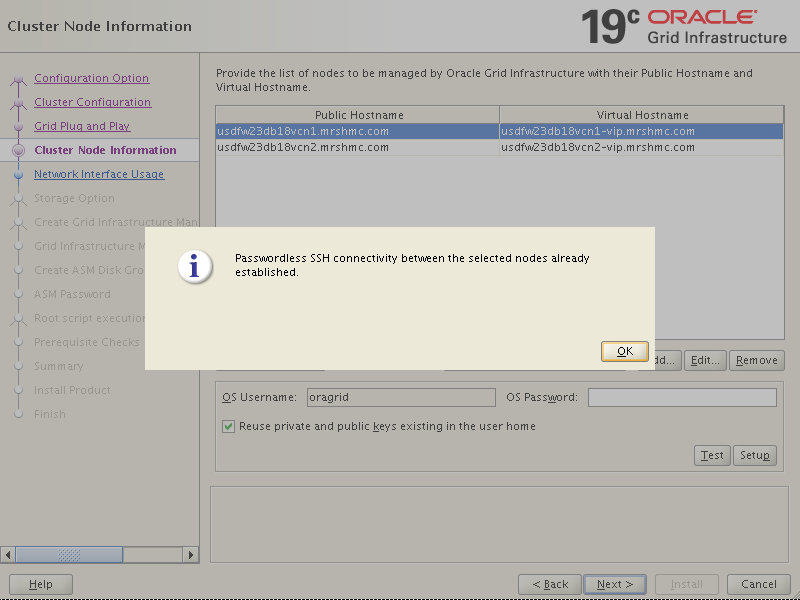


Click “SSH connectivity …”



Click “Reuse private and public keys…” and click “Test”.





Click “OK” and “Next”.

If you will get :

Go to Node 2

NS-32402] The Installer has detected that the inventory location /opt/oracle/oraInventory is not empty in following remote nodes: [iedub24db01vcn2].

Check /etc/oraInst.loc and update

[root@iedub24db01vcn1 etc]# cat /etc/oraInst.loc

inventory\_loc=/opt/oragrid/oraInventory

inst\_group=dba

[root@iedub24db01vcn1 etc]# mkdir -p /opt/oragrid/oraInventory

[root@iedub24db01vcn1 etc]# ls -ltd /opt/oragrid/oraInventory

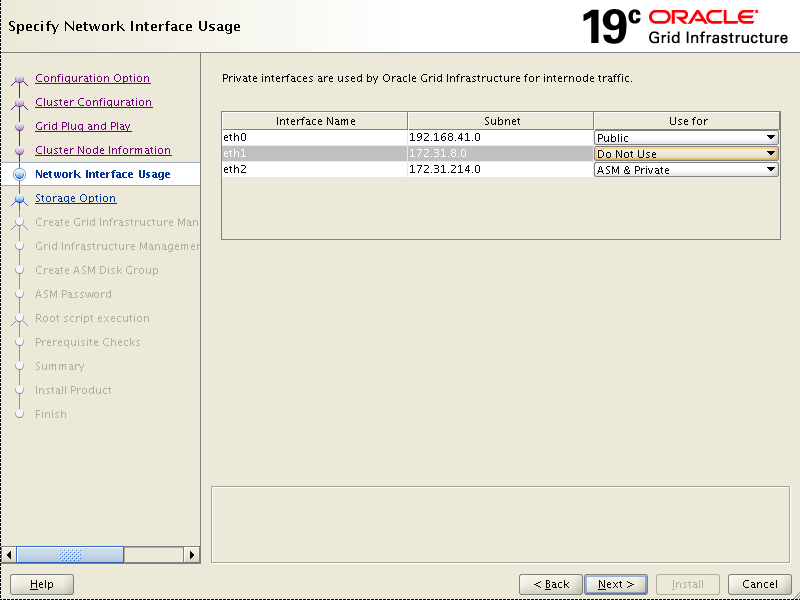
drwxr-xr-x 2 root root 6 May 12 17:56 /opt/oragrid/oraInventory

[root@iedub24db01vcn1 etc]# chown oragrid:dba /opt/oragrid/oraInventory

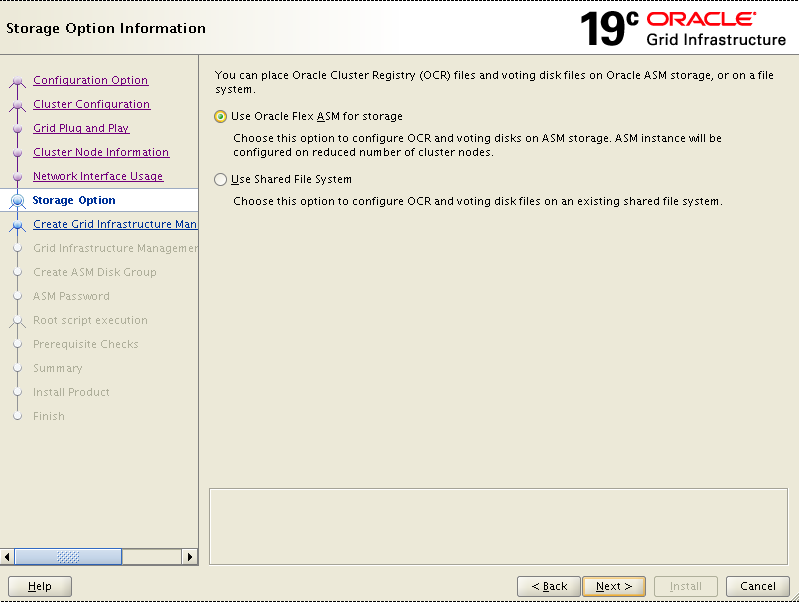
[root@iedub24db01vcn1 etc]# timed out waiting for input: auto-logout

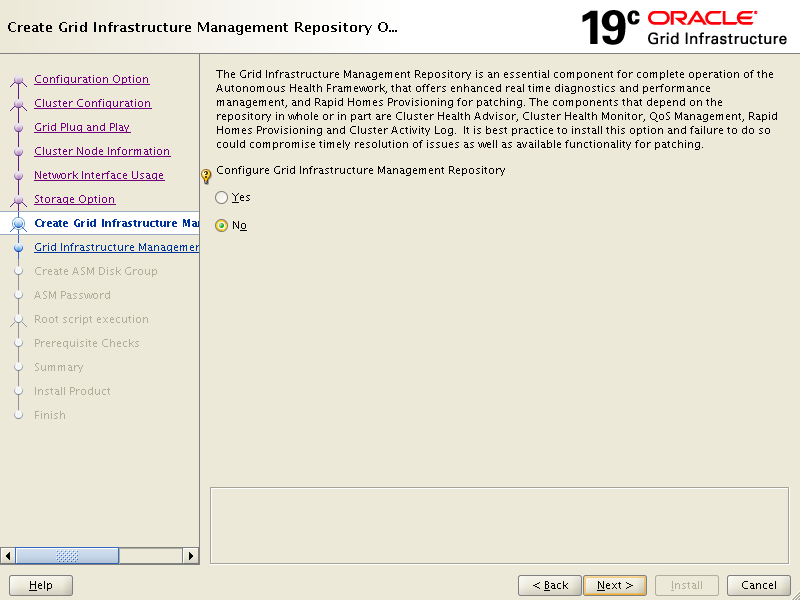
[test@iedub24db01vcn1 etc]$

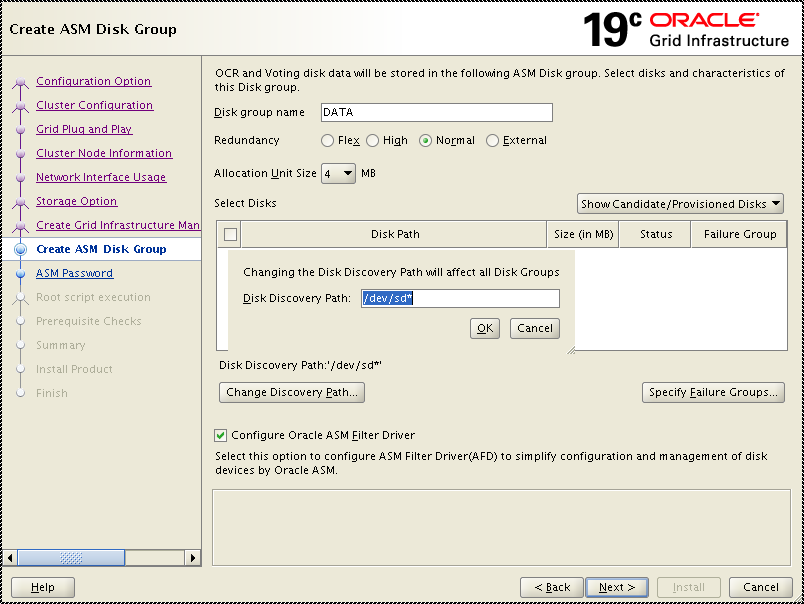
Select eth1 >ASM &Private



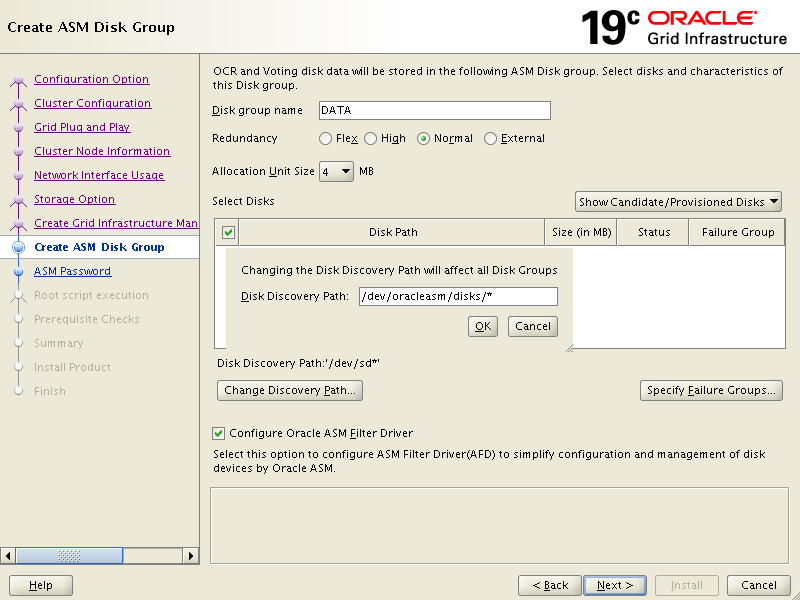
Click “Next”



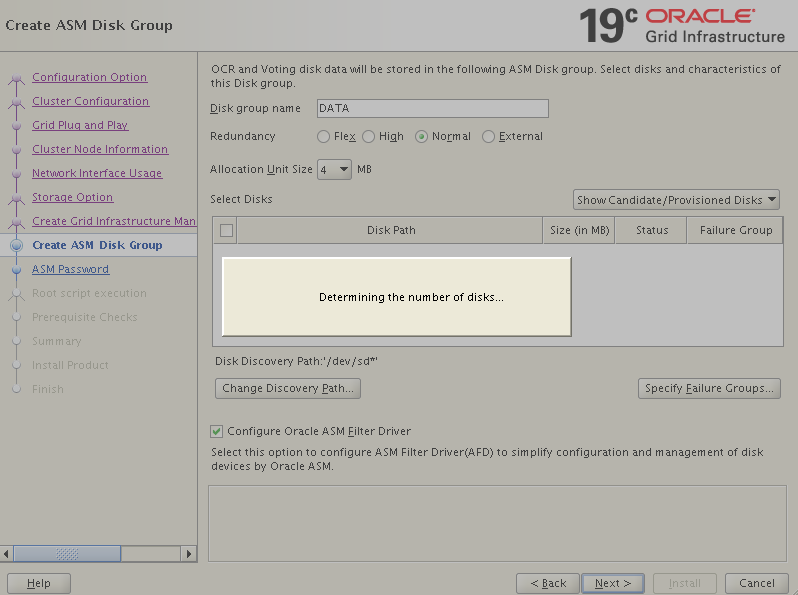


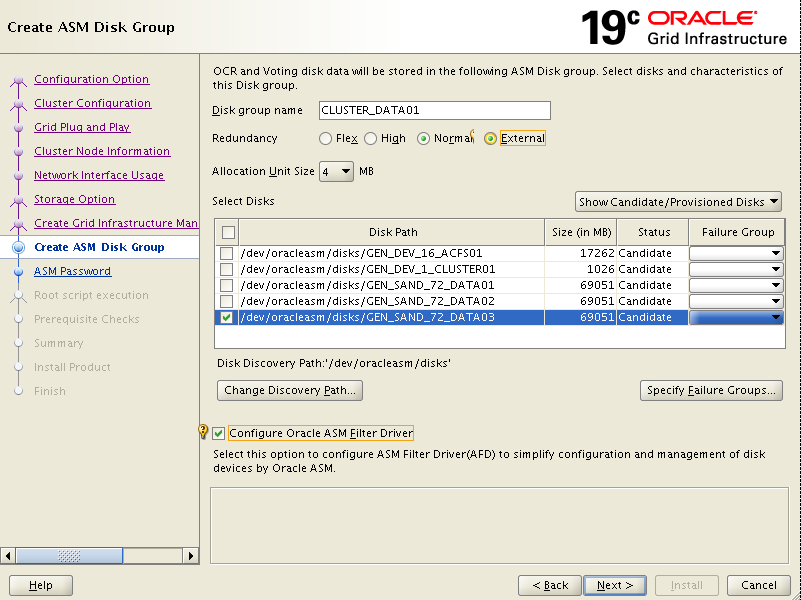


Click “Change Discovery Path”



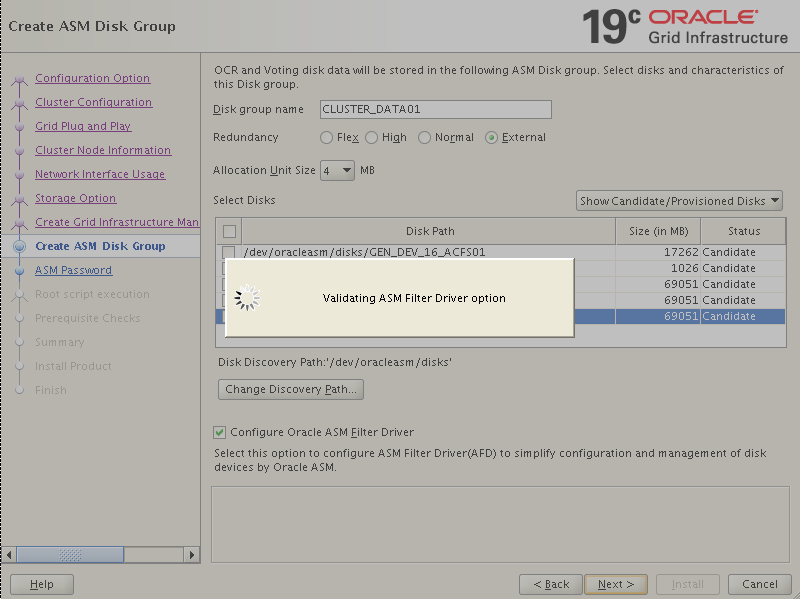
Click “Change Discovery Path” button and input “/dev/oracleasm/disks”. Click “OK”

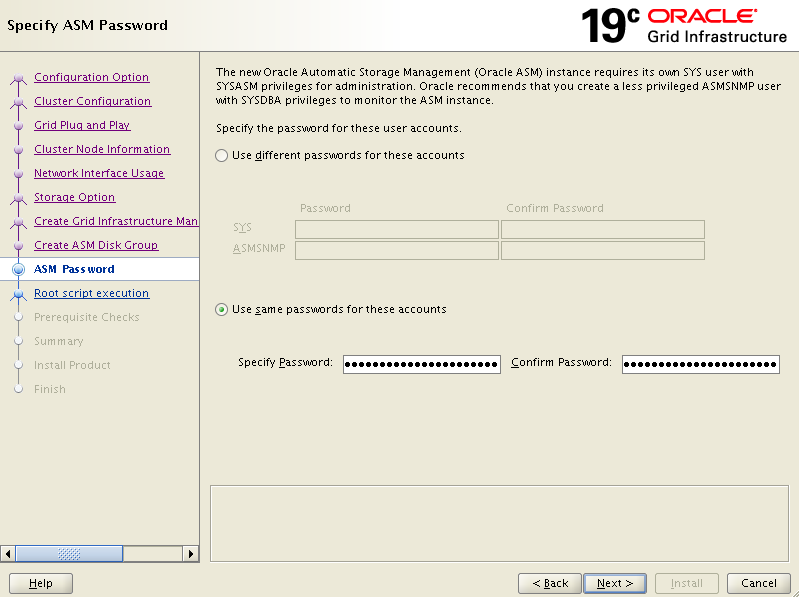




Select “External” redundancy.

Should select “…CLUSTER” related disks. (During my test, I temporarily select “…DATA03” ASM LUNS due to “…CLUSTER01” LUN is not big enough in Sandbox.





Password: oracle2021

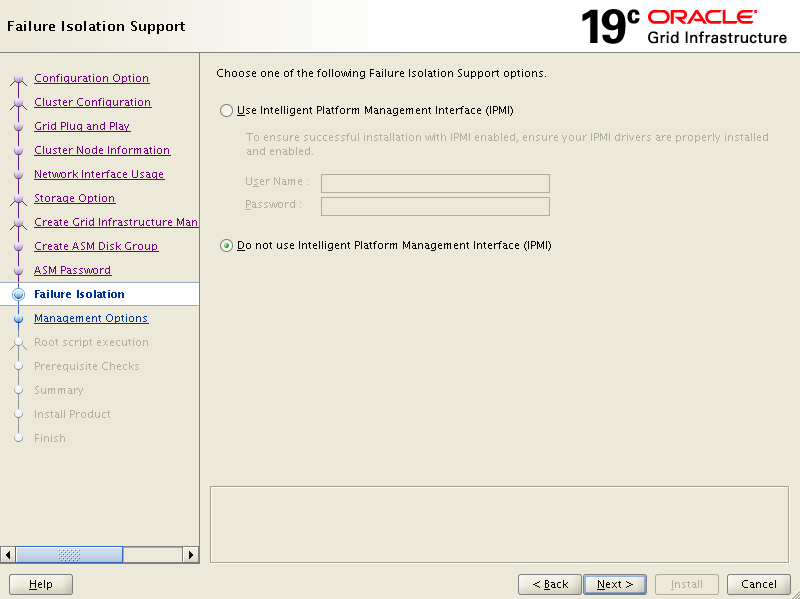
Grid\_Infrastructure\_<year>

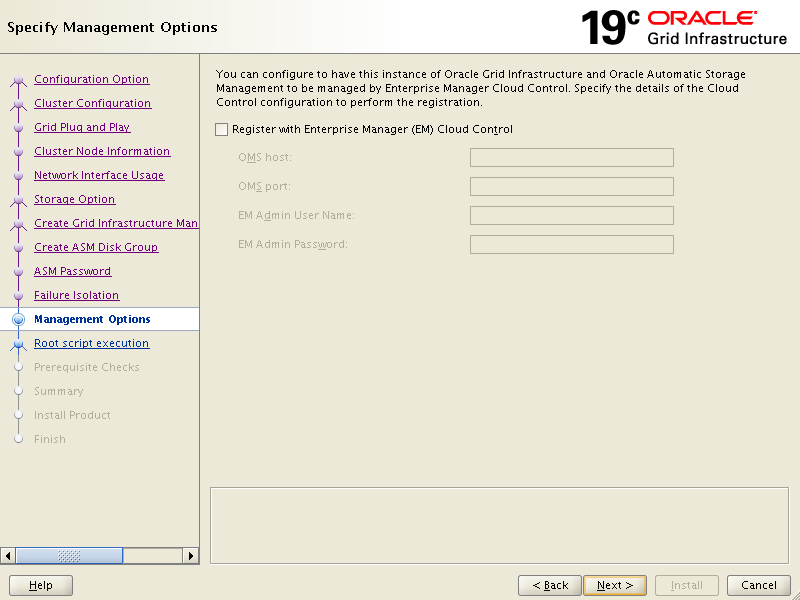
Unlick check box on an ASM LUN and check box “Configure Oracle ASM Filter Driver”, and click “Next”.

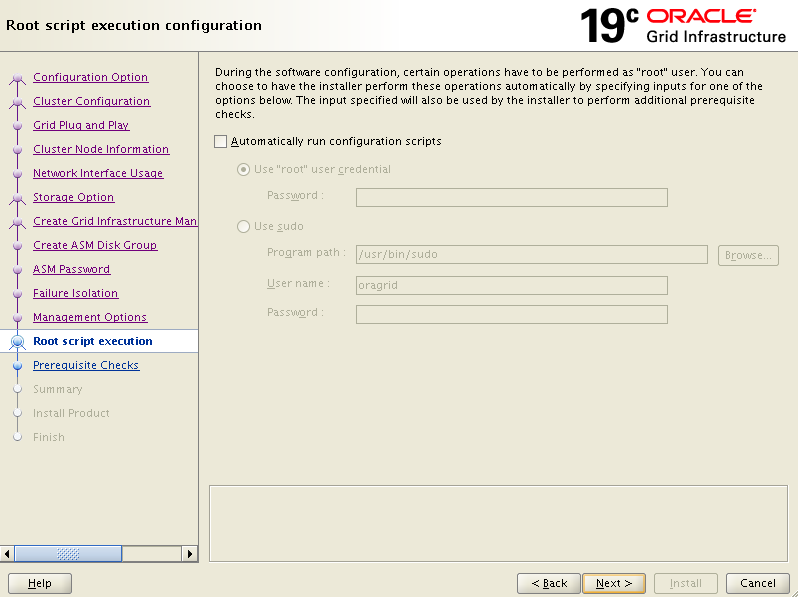
ASMCFS\_ADMIN

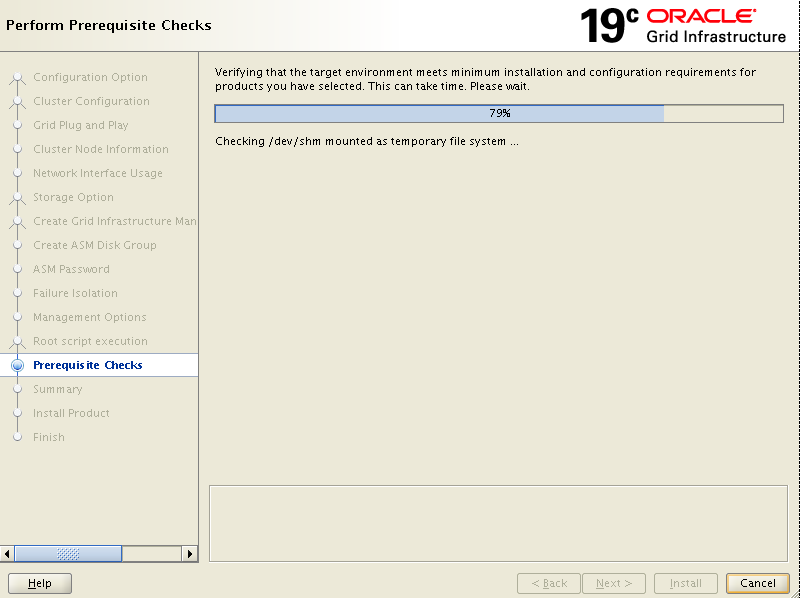
CLUSTER\_DATA01

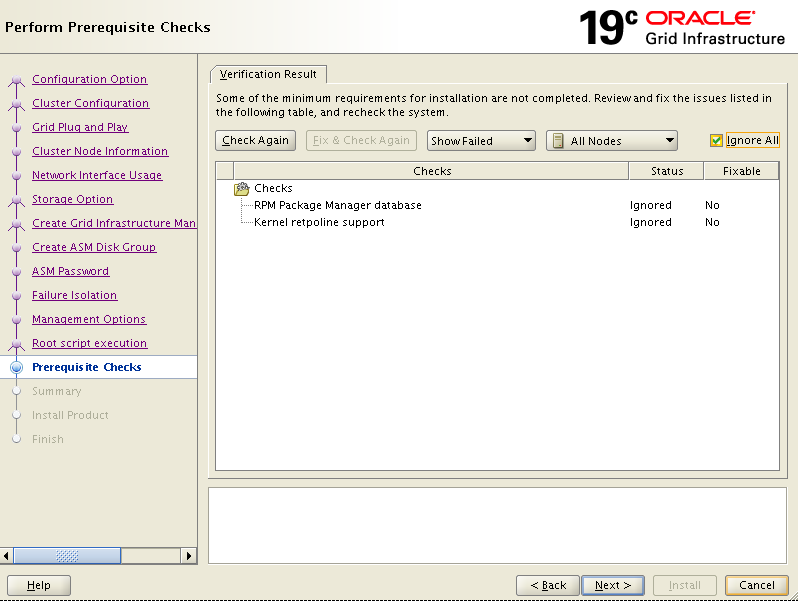
GEN\_DEV\_DATA01



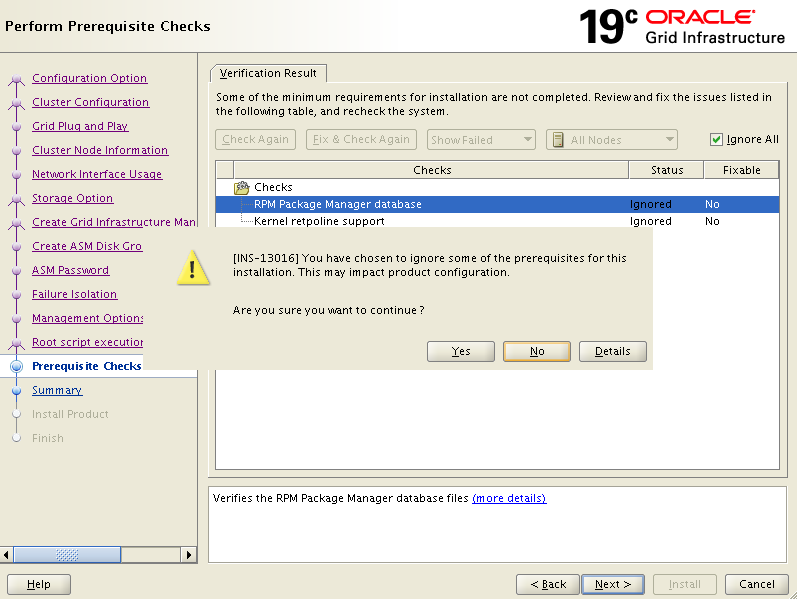




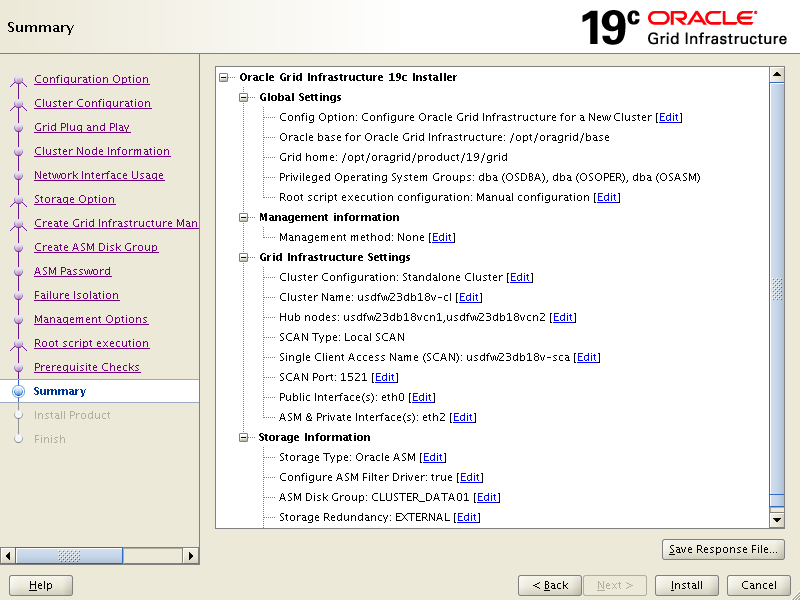


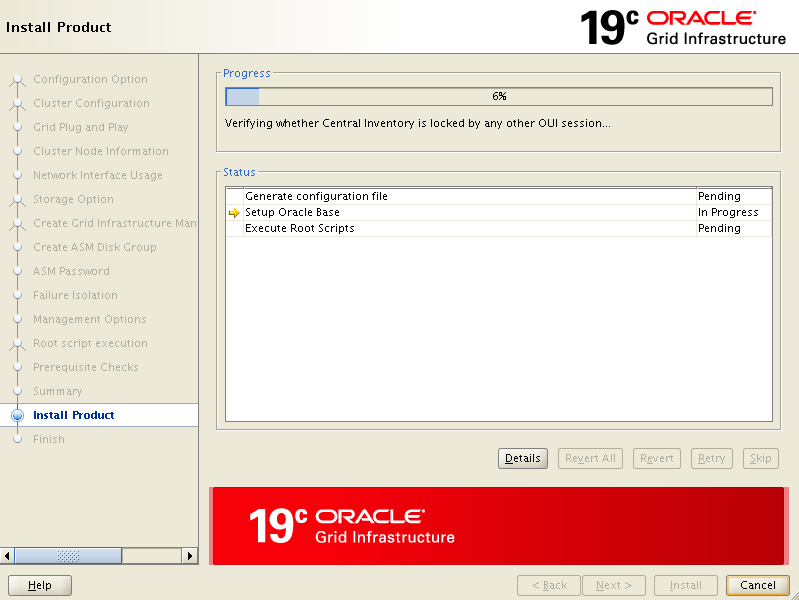


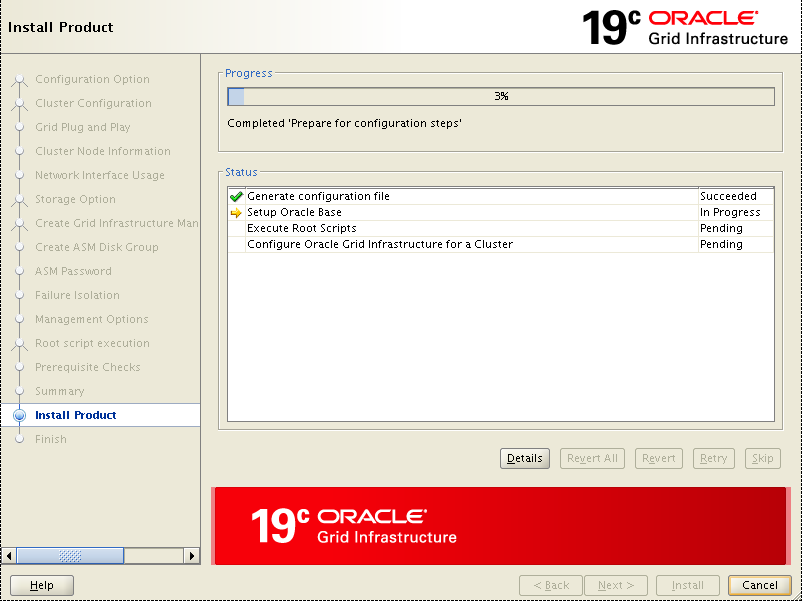
Click “Ignore All” for the time being as they all show “Fixable: No”.

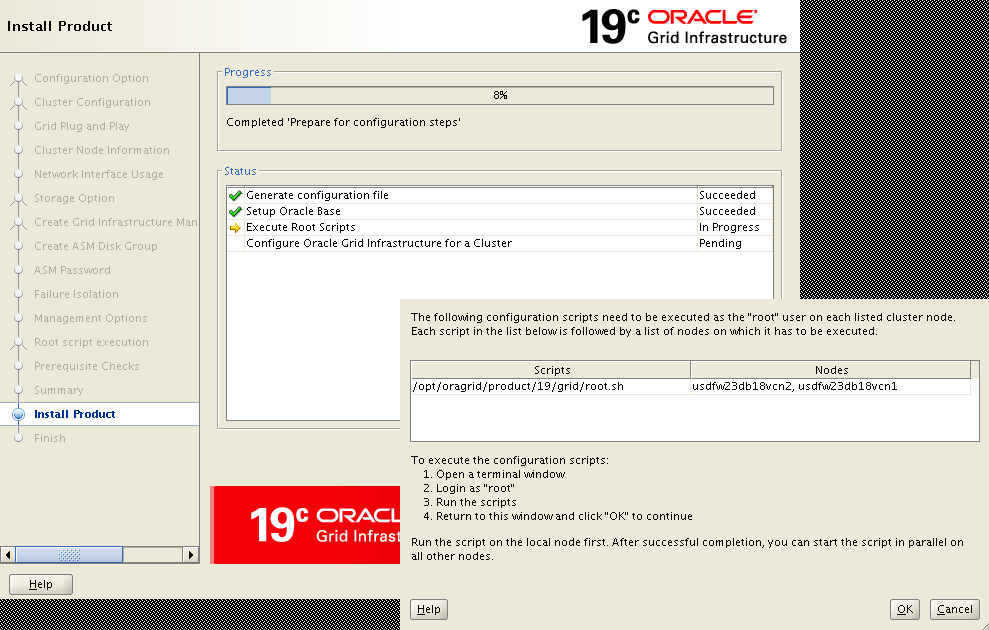


Click “Yes” as it shows No for “Fixable” in this case.









Run root.sh on node1

Read carefull for all errors and fix:

2021/05/12 18:51:27 CLSRSC-594: Executing installation step 7 of 19: 'SetupLocalGPNP'.

2021/05/12 18:51:39 CLSRSC-594: Executing installation step 8 of 19: 'CreateRootCert'.

oracle.ops.mgmt.cluster.ClusterException: iedub24db01vcn2 : This system is for the use by authorized users only. All data containedon all systems is owned by the company and may be monitored, intercepted,recorded, read, copied, or captured in any manner and

Generally, all error related to permission:

After completion, then run root.sh on node 2.

Issue 2:

oragrid@iedub24db01vcn1:NOSID>crsctl status res ora.chad

NAME=ora.chad

TYPE=ora.chad.type

TARGET=ONLINE

STATE=OFFLINE

oragrid@iedub24db01vcn1:NOSID>srvctl start cha

oragrid@iedub24db01vcn1:NOSID>crsctl status res ora.chad

NAME=ora.chad

TYPE=ora.chad.type

TARGET=ONLINE

STATE=ONLINE on iedub24db01vcn1

oragrid@iedub24db01vcn1:NOSID>

Restart root.sh again

[root@iedub24db01vcn1 grid]# root.sh

bash: root.sh: command not found

[root@iedub24db01vcn1 grid]# ./root.sh

Performing root user operation.

The following environment variables are set as:

ORACLE\_OWNER= oragrid

ORACLE\_HOME= /opt/oragrid/product/19/grid

Enter the full pathname of the local bin directory: [/usr/local/bin]:

The contents of "dbhome" have not changed. No need to overwrite.

The contents of "oraenv" have not changed. No need to overwrite.

The contents of "coraenv" have not changed. No need to overwrite.

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.

Relinking oracle with rac\_on option

Using configuration parameter file: /opt/oragrid/product/19/grid/crs/install/crsconfig\_params

The log of current session can be found at:

/opt/oragrid/base/crsdata/iedub24db01vcn1/crsconfig/rootcrs\_iedub24db01vcn1\_2021-05-12\_09-10-11PM.log

2021/05/12 21:10:16 CLSRSC-594: Executing installation step 1 of 19: 'SetupTFA'.

2021/05/12 21:10:16 CLSRSC-594: Executing installation step 2 of 19: 'ValidateEnv'.

2021/05/12 21:10:16 CLSRSC-363: User ignored prerequisites during installation

2021/05/12 21:10:16 CLSRSC-594: Executing installation step 3 of 19: 'CheckFirstNode'.

2021/05/12 21:10:16 CLSRSC-4002: Successfully installed Oracle Trace File Analyzer (TFA) Collector.

2021/05/12 21:10:18 CLSRSC-594: Executing installation step 4 of 19: 'GenSiteGUIDs'.

2021/05/12 21:10:18 CLSRSC-594: Executing installation step 5 of 19: 'SetupOSD'.

2021/05/12 21:10:18 CLSRSC-594: Executing installation step 6 of 19: 'CheckCRSConfig'.

2021/05/12 21:10:19 CLSRSC-594: Executing installation step 7 of 19: 'SetupLocalGPNP'.

2021/05/12 21:10:20 CLSRSC-594: Executing installation step 8 of 19: 'CreateRootCert'.

2021/05/12 21:10:23 CLSRSC-594: Executing installation step 9 of 19: 'ConfigOLR'.

2021/05/12 21:10:24 CLSRSC-594: Executing installation step 10 of 19: 'ConfigCHMOS'.

2021/05/12 21:10:24 CLSRSC-594: Executing installation step 11 of 19: 'CreateOHASD'.

2021/05/12 21:10:25 CLSRSC-594: Executing installation step 12 of 19: 'ConfigOHASD'.

2021/05/12 21:10:27 CLSRSC-594: Executing installation step 13 of 19: 'InstallAFD'.

2021/05/12 21:10:28 CLSRSC-594: Executing installation step 14 of 19: 'InstallACFS'.

2021/05/12 21:10:29 CLSRSC-594: Executing installation step 15 of 19: 'InstallKA'.

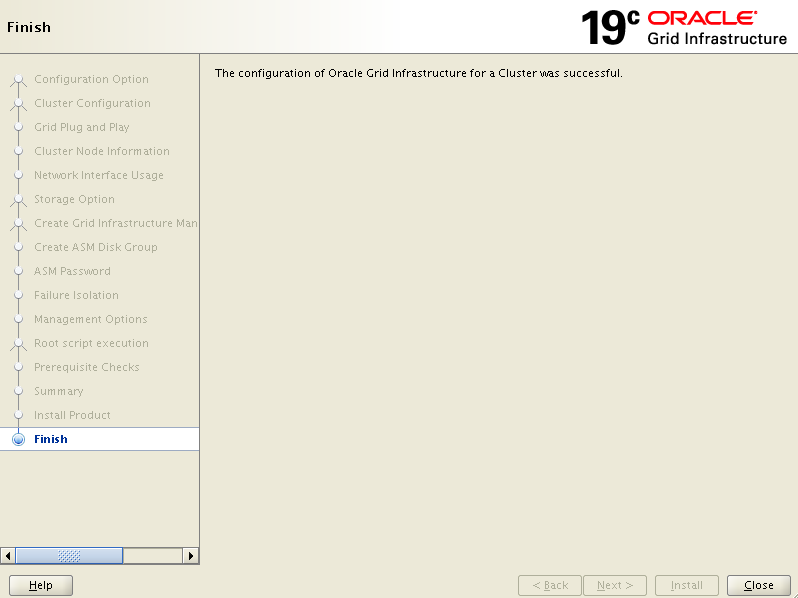
2021/05/12 21:10:32 CLSRSC-594: Executing installation step 16 of 19: 'InitConfig'.

2021/05/12 21:11:07 CLSRSC-594: Executing installation step 17 of 19: 'StartCluster'.

2021/05/12 21:12:32 CLSRSC-343: Successfully started Oracle Clusterware stack

2021/05/12 21:12:32 CLSRSC-594: Executing installation step 18 of 19: 'ConfigNode'.

2021/05/12 21:13:11 CLSRSC-594: Executing installation step 19 of 19: 'PostConfig'.



Click “Close”