

ORACLE CRS INSTALLATION : INSTALLATION AND CONFIGURATION GUIDE

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INTRODUCTION

This document will give details of Oracle Clusterware installation on RHEL 4.

CRS INSTALLATION STEPS

1. Cluster Verification for Pre-Requisite.
2. Check the Environmental Variables
3. Launch OUI.
4. Verify CRS Integrity.

CLUSTER VERIFICATION BEFORE STARTING THE CRS INSTALLATION

VERIFYING ORACLE CLUSTERWARE REQUIREMENTS WITH CVU

```
$ ./runcluvfy.sh stage -pre crsinst -n db02pn -verbose
```

```
Performing pre-checks for cluster services setup
```

```
Checking node reachability...
```

```
...
```

```
...
```

```
System requirement passed for 'crs'
```

```
Pre-check for cluster services setup was successful.
```

```
$ ./runcluvfy.sh stage -pre crsinst -n db02pn
```

```
Performing pre-checks for cluster services setup
```

```
Checking node reachability...
```

```
Node reachability check passed from node "db02pn".
```

```
Checking user equivalence...
```

```
User equivalence check passed for user "oracle".
```

```
Checking administrative privileges...
```

```
User existence check passed for "oracle".
```

```
Group existence check passed for "oinstall".
```

```
Membership check for user "oracle" in group "oinstall" [as Primary] passed.
```

```
Administrative privileges check passed.
```

```
Checking node connectivity...
```

```
...
```

```
Node connectivity check passed.
```

```
Checking system requirements for 'crs'...
```

```
Total memory check passed.
```

```
Free disk space check passed.
```

```
Swap space check passed.
```

```
System architecture check passed.
```

```
Kernel version check passed.
```

```
Package existence check passed for "make-3.80".
```

```
Package existence check passed for "binutils-2.15.92.0.2".
```

```
Package existence check passed for "gcc-3.4.5".
```

```
Package existence check passed for "libaio-0.3.105".
```

```
Package existence check passed for "libaio-devel-0.3.105".
```

```
Package existence check passed for "libstdc++-3.4.5".
```

```
Package existence check passed for "elfutils-libelf-devel-0.97".
```

```
Package existence check passed for "sysstat-5.0.5".
```

```
Package existence check passed for "libgcc-3.4.5".
```

```
Package existence check passed for "libstdc++-devel-3.4.5".
```

```
Package existence check passed for "unixODBC-2.2.11".  
Package existence check passed for "unixODBC-devel-2.2.11".  
Package existence check passed for "glibc-2.3.4-2.19".  
Group existence check passed for "dba".  
Group existence check passed for "oinstall".  
User existence check passed for "nobody".
```

```
System requirement passed for 'crs'
```

```
Pre-check for cluster services setup was successful.
```

CHECK THE ENVIRONMENTAL VARIABLES

This will be done on First node only as then will be copied to all nodes selected in the installation

```
$ unset ORACLE_HOME  
$ unset ORA_CRS_HOME  
$ unset ORA_NLS10  
$ unset TNS_ADMIN
```

Identify all network interfaces eth0 or eth1 or like and make a note as which is Public or Private

LAUNCH THE ORACLE UNIVERSAL INSTALLER FROM THE CDROM/DVD

STEP 1: INVOKE OUI AS AN "ORACLE" USER

```
"/SOFTWARE/11g/clusterware"> ./runInstaller
```

```
total 32
-rw-r--r--  1 oracle oinstall 3824 Jul 12 20:49 welcome.html
-rwxr-xr-x  1 oracle oinstall 2990 Aug  3 13:29 runclufy.sh
drwxr-xr-x  2 oracle oinstall 4096 Aug  3 13:29 rpm
drwxr-xr-x 13 oracle oinstall 4096 Aug  3 13:30 stage
drwxr-xr-x  2 oracle oinstall 4096 Aug  3 13:30 upgrade
-rwxr-xr-x  1 oracle oinstall 2912 Aug  3 13:30 runInstaller
drwxr-xr-x  4 oracle oinstall 4096 Aug  3 13:30 install
drwxr-xr-x  8 oracle oinstall 4096 Aug  6 16:00 doc
```

```
[oracle@db02pn clusterware]$ ./runInstaller
```

Starting Oracle Universal Installer...

```
Checking Temp space: must be greater than 80 MB.   Actual 47491 MB   Passed
Checking swap space: must be greater than 150 MB.  Actual 2047 MB   Passed
Checking monitor: must be configured to display at least 256 colors.   Actual 256
Passed
```

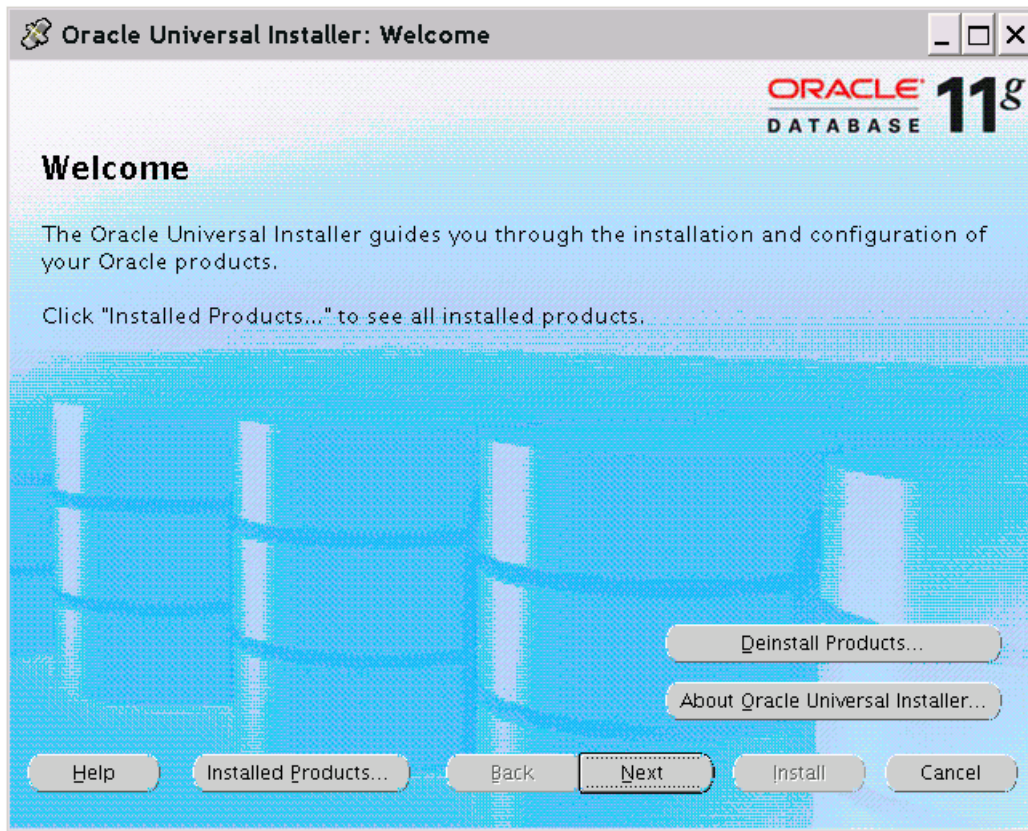
```
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2007-08-10_12-57-21PM. Please wait ...-bash-3.00$ Oracle Universal Installer, Version 11.1.0.6.0
```

Production

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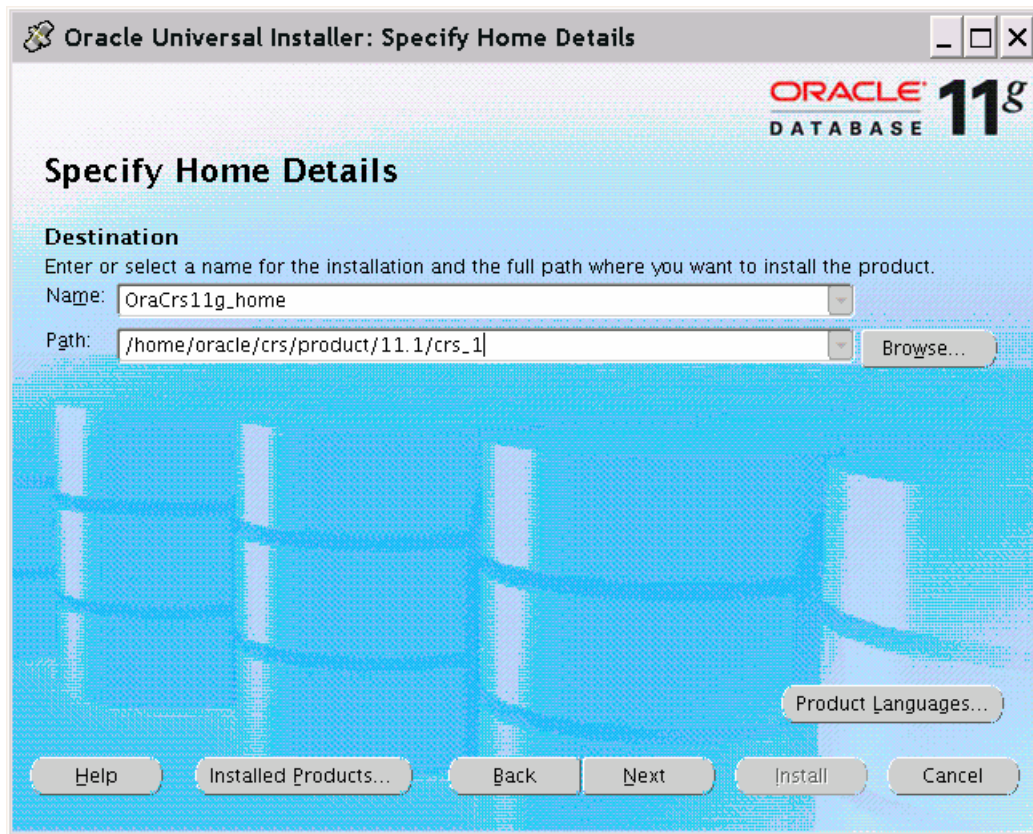
*STEP 2 : WELCOME SCREEN. CLICK **NEXT** TO CONTINUE*



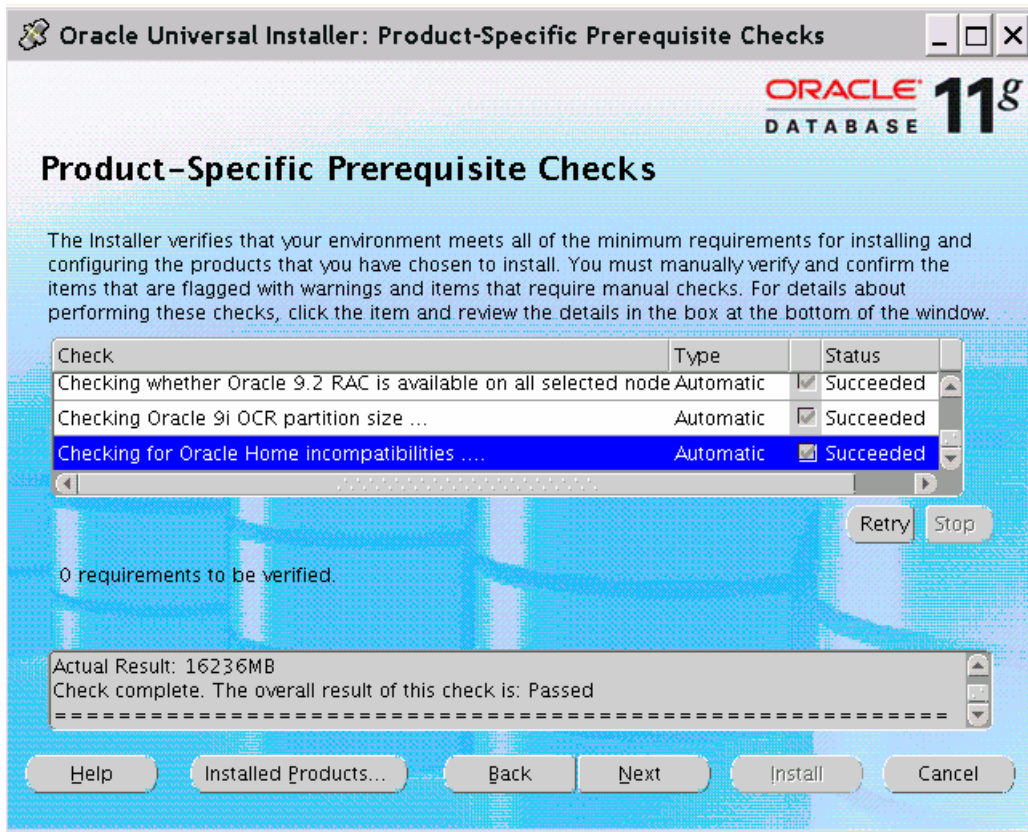
*STEP 3 : SPECIFY INVENTORY DIRECTORY AND CREDENTIALS. CLICK **NEXT** TO CONTINUE*



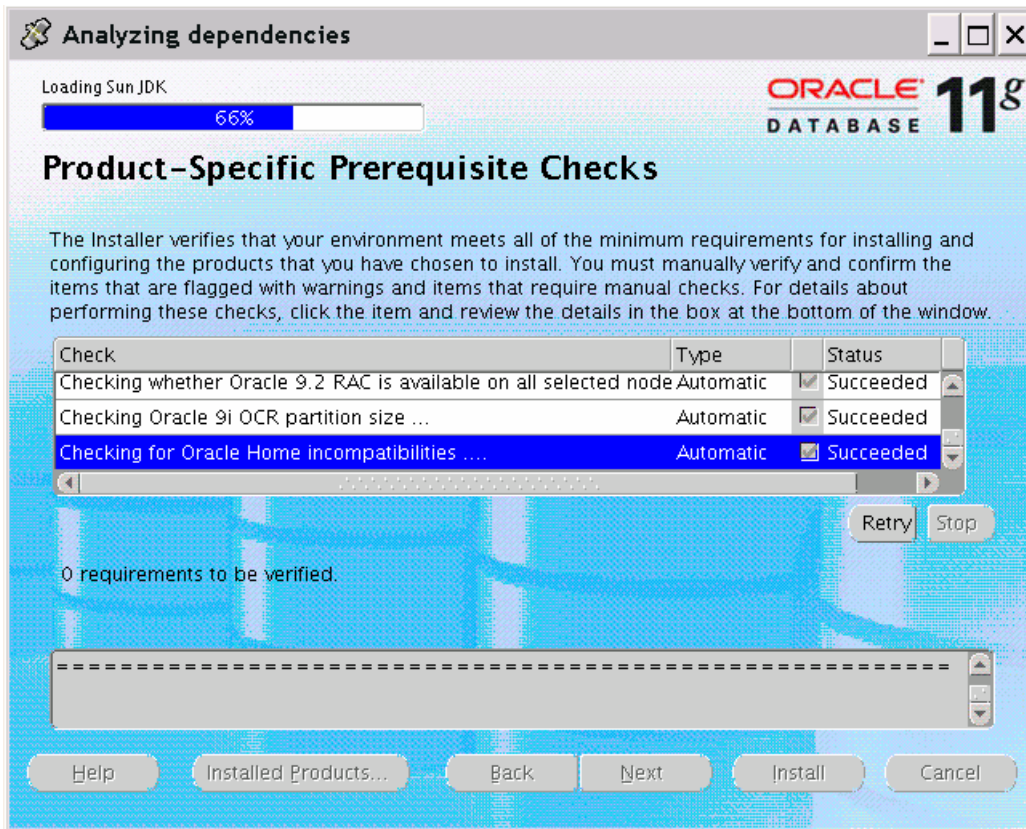
*STEP 4 : SPECIFY HOME DETAILS. CLICK **NEXT** TO CONTINUE*



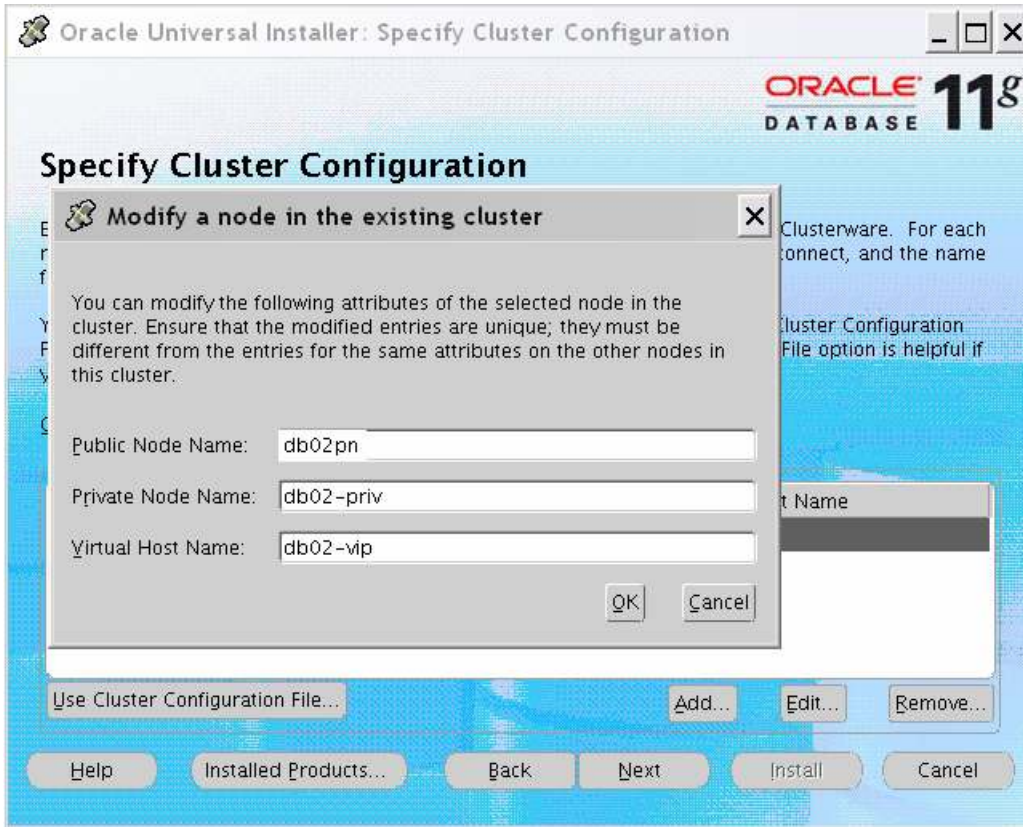
*STEP 5(t) : PRODUCT-SPECIFIC PREREQUISITE CHECKS. MAKE SURE ALL ARE **SUCCEEDED***



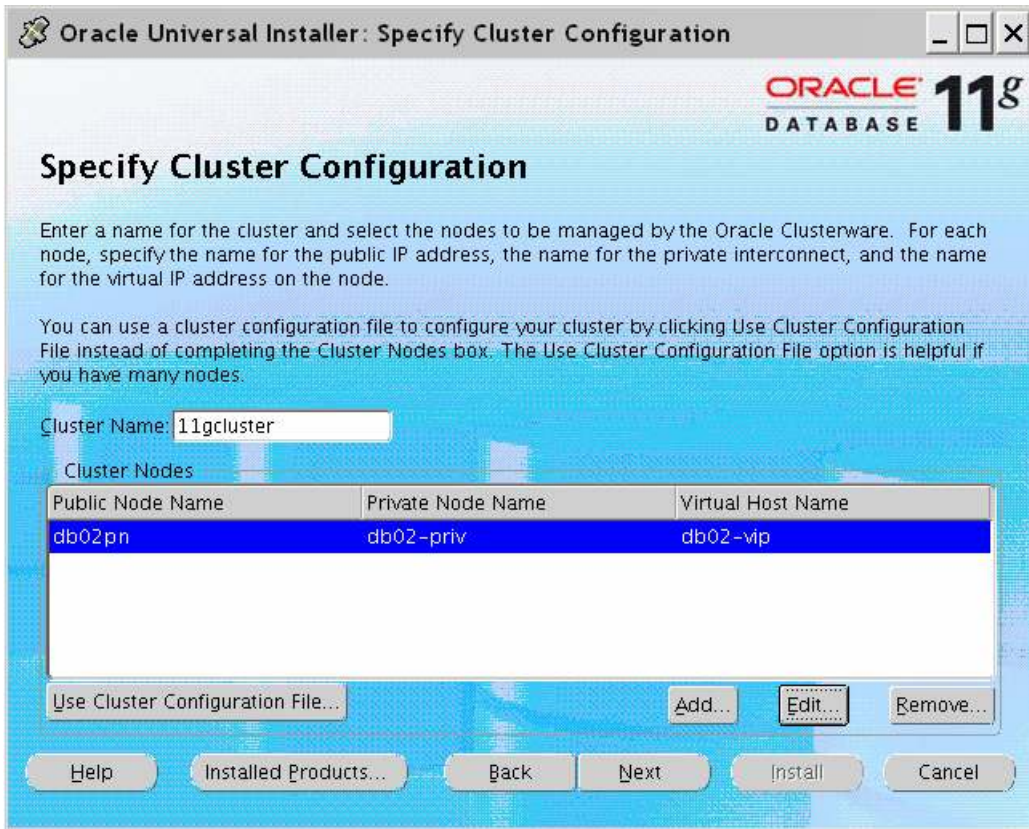
*STEP 5(II) : PRODUCT-SPECIFIC PREREQUISITE CHECKS. CLICK **NEXT** TO CONTINUE*



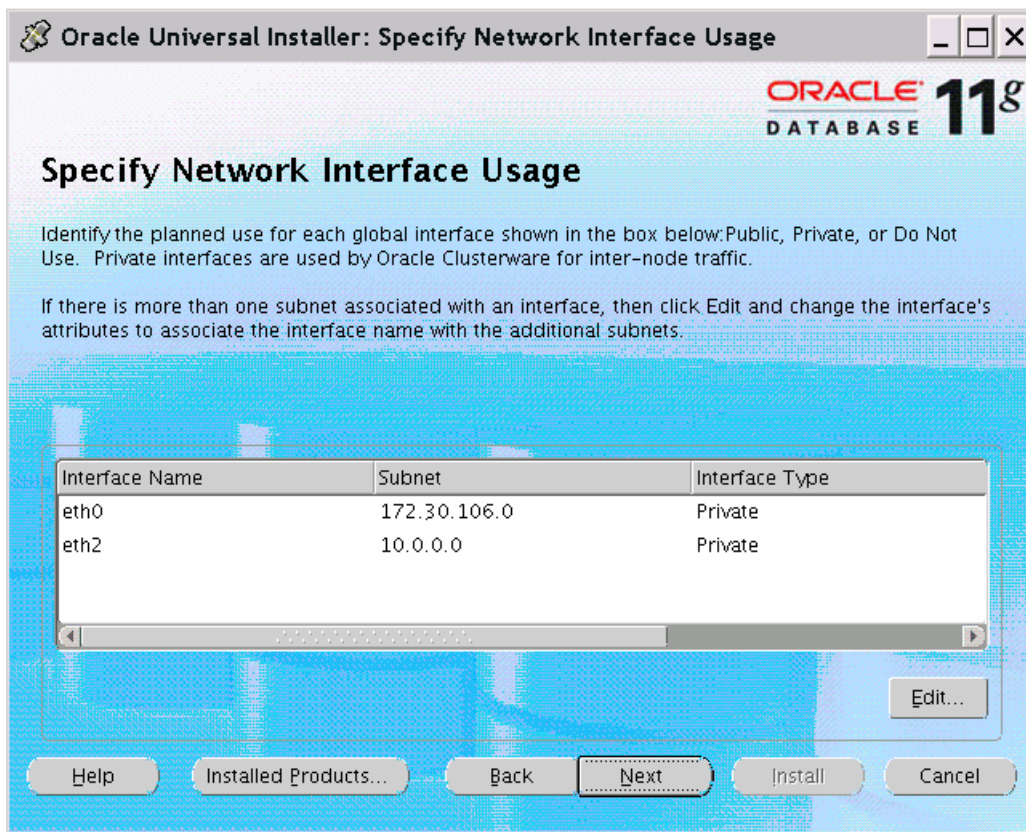
*STEP 6(i) : SPECIFY CLUSTER CONFIGURATION- YOU WILL SEE AUTOMATICALLY NODE ON WHICH OUI WAS INVOKED AND YOU NEED TO SPECIFY ALL OTHER NODE BY **CLICKING ADD***

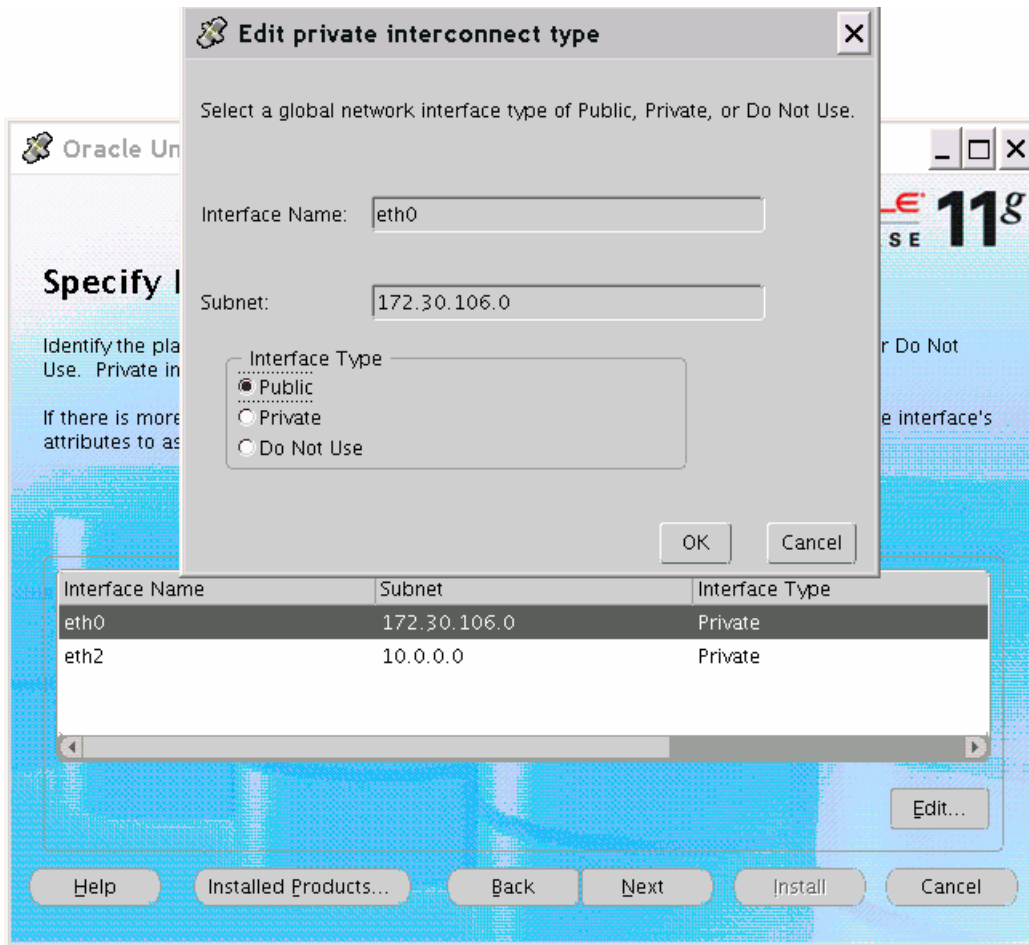


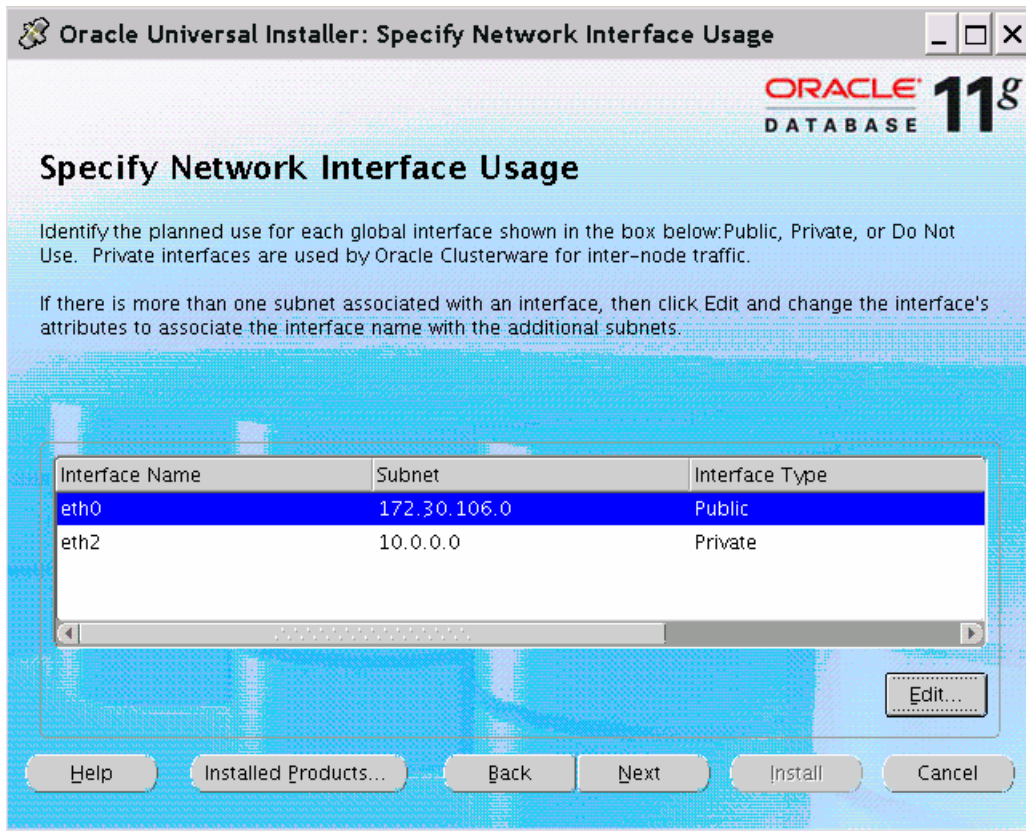
*STEP 6(II) : SPECIFY CLUSTER CONFIGURATION. CLICK **NEXT** TO CONTINUE*



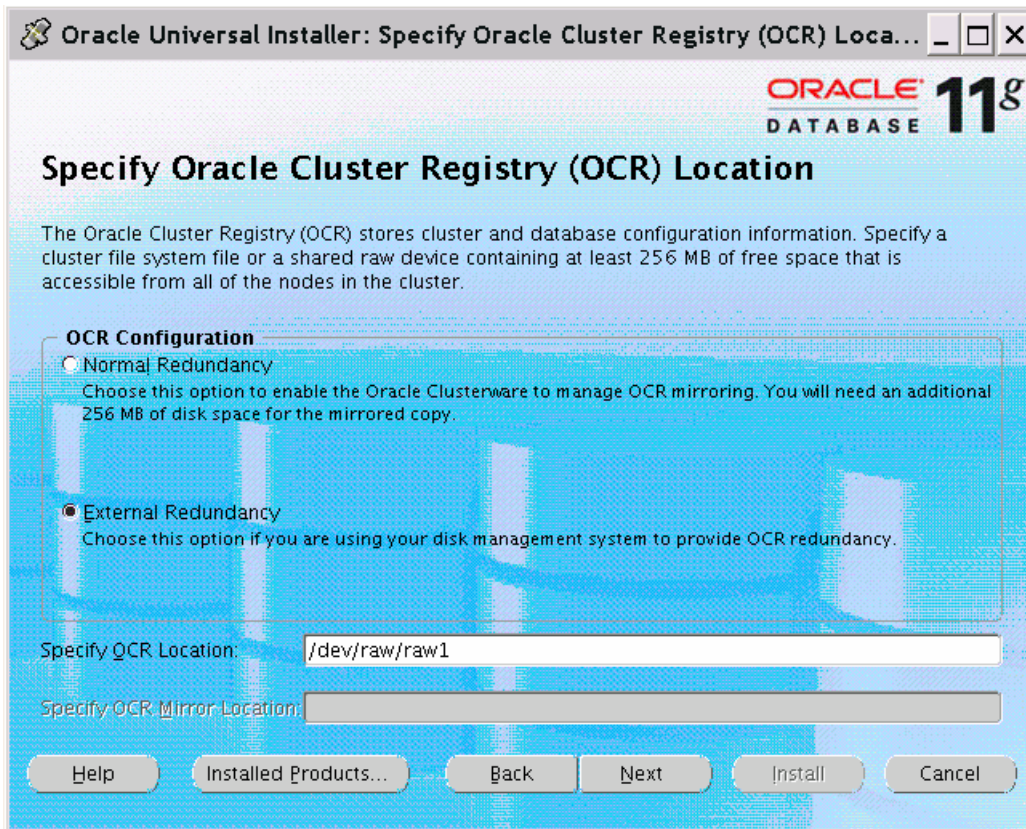
*STEP 7 : SPECIFY NETWORK INTERFACE USAGE. IF SUBNET ARE OK THEN CLICK **NEXT** TO CONTINUE*



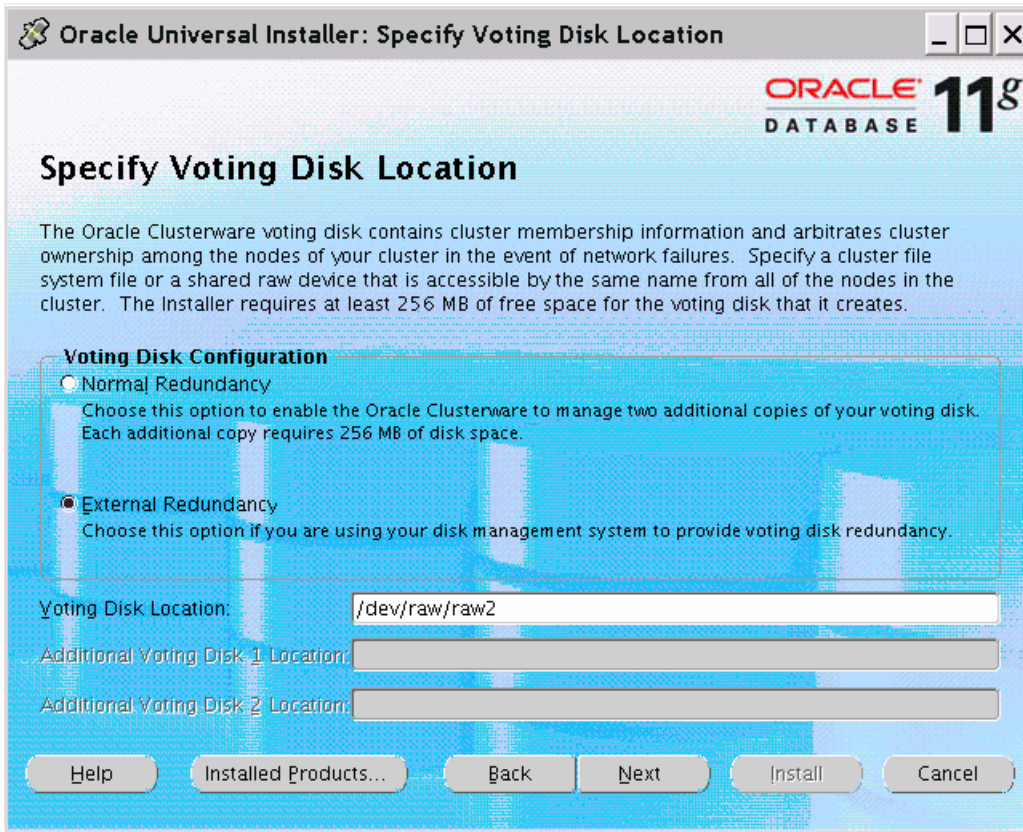




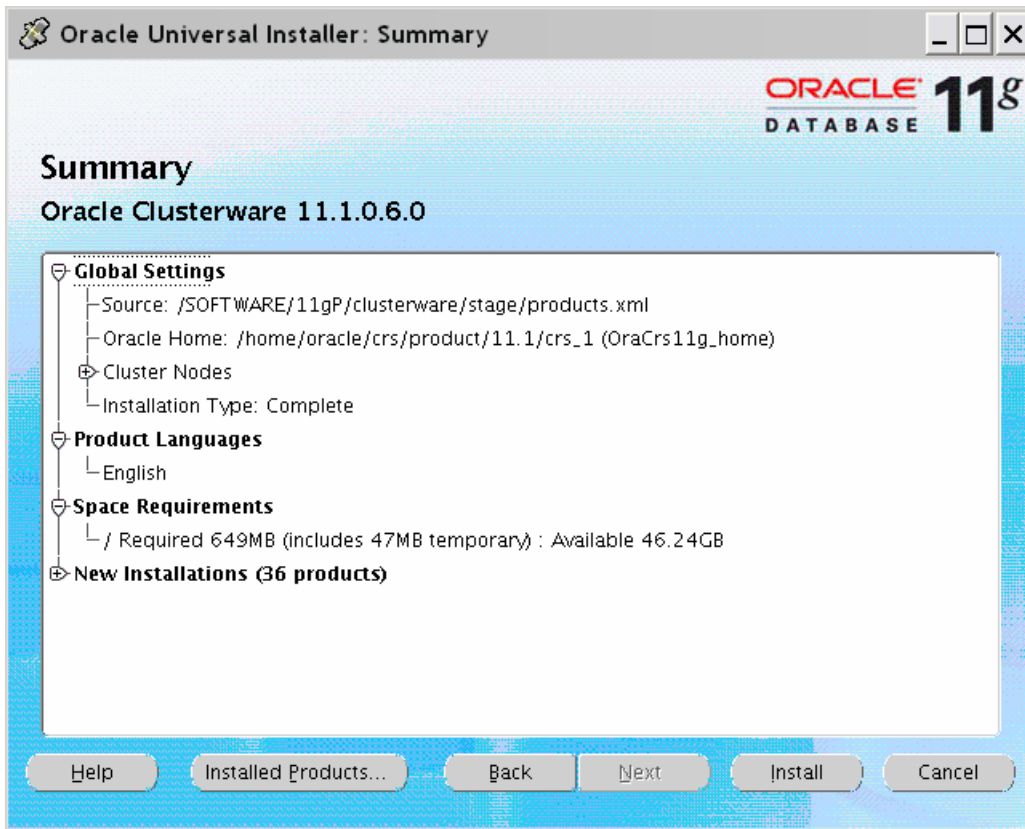
STEP 8 : SPECIFY ORACLE CLUSTER REGISTRY (OCR) LOCATION. YOU CAN USE EXTERNAL REDUNDANCY AND ADD ONLY ONE LOCATION OR USE NORMAL REDUNDANCY TO SPECIFY TWO PATH. **CLICK NEXT TO CONTINUE**

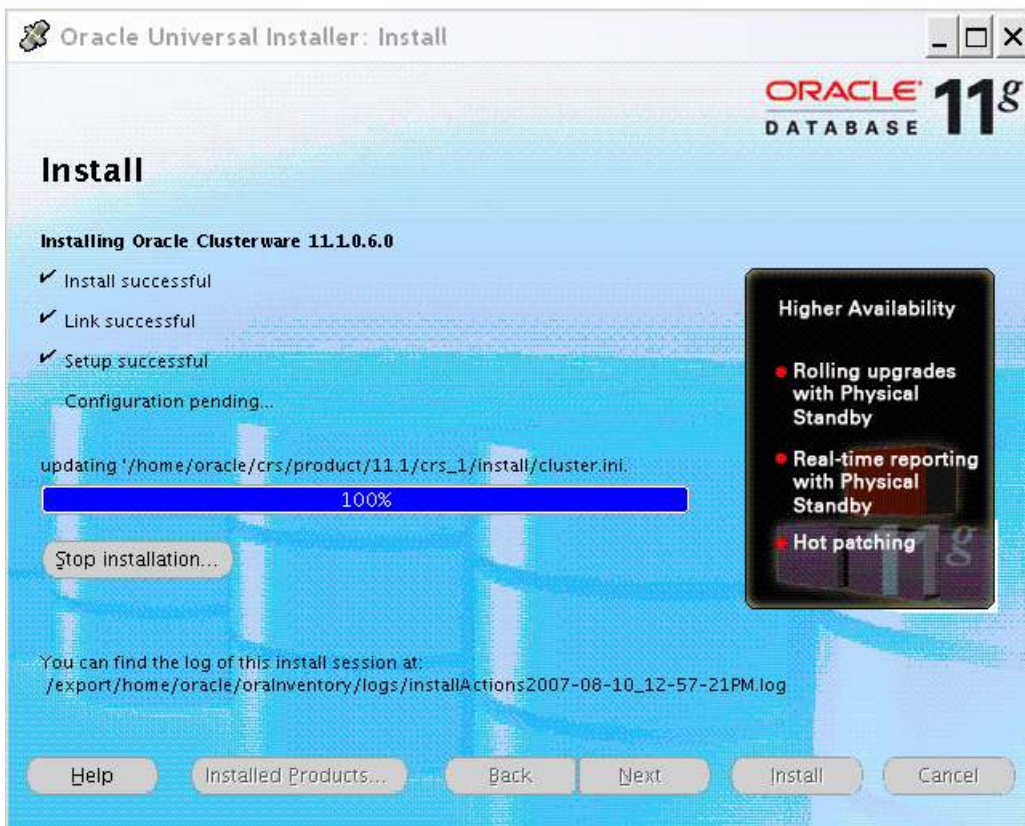
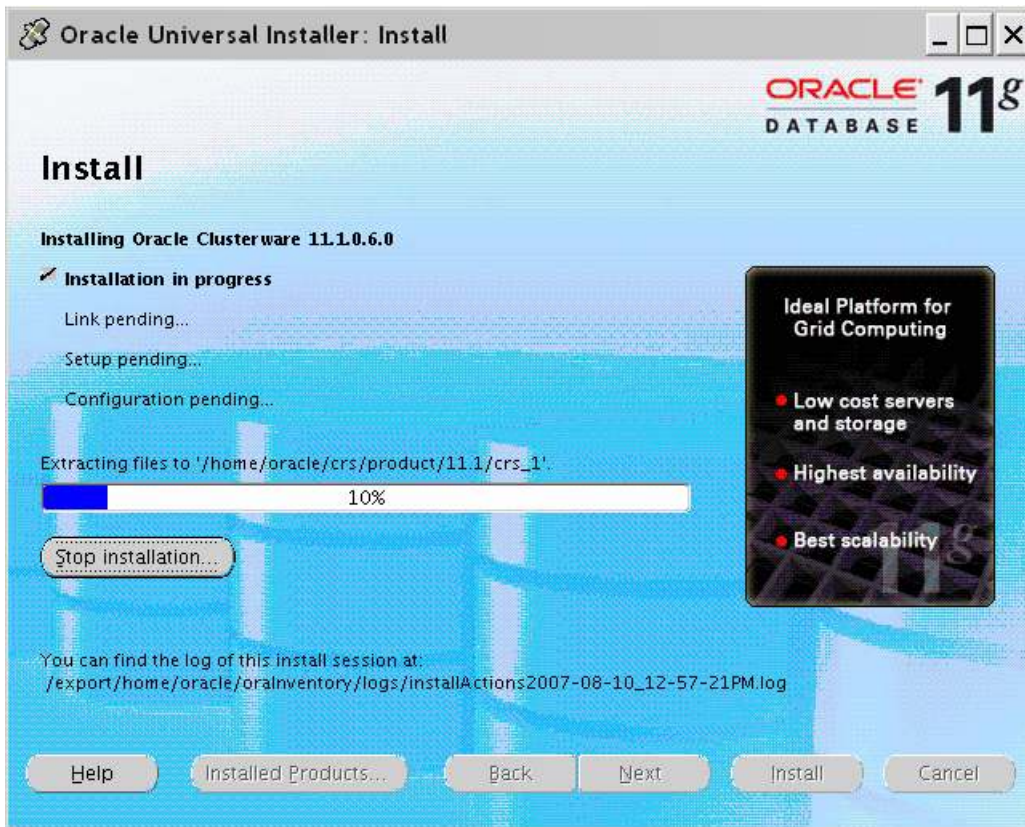


STEP 9: SPECIFY VOTING DISK LOCATION. YOU CAN USE EXTERNAL REDUNDANCY AND ADD ONLY ONE LOCATION OR USE NORMAL REDUNDANCY TO SPECIFY THREE PATH. **CLICK NEXT TO CONTINUE**

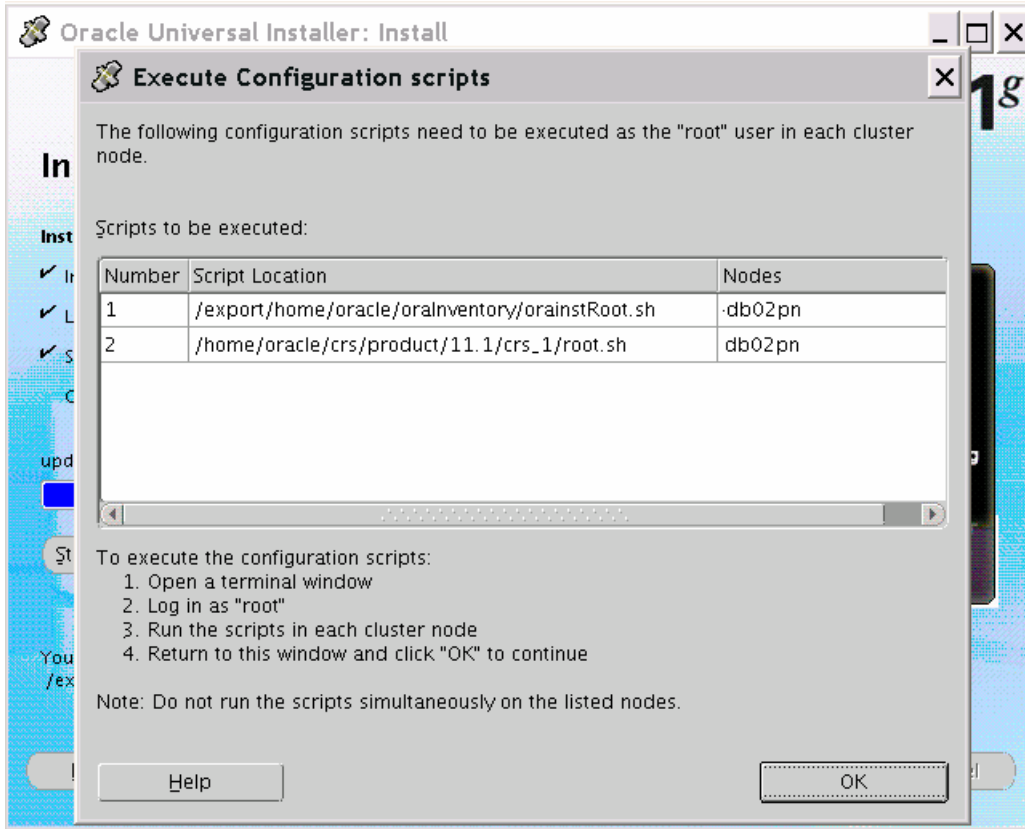


*STEP 10 : SUMMARY. CLICK **INSTALL** TO CONTINUE THE INSTALLATION*





STEP 11 : EXECUTE CONFIGURATION SCRIPTS ON ALL NODES ONE BY ONE. FIRST EXECUTE ORAINSTROOT.SH ON ALL NODES AND THEN EXECUTE ROOT.SH.



OUTPUT FROM ./ORAINSTROOT.SH ON NODE FROM WHERE OUI WAS STARTED

```

[root@db02pn ~]# /export/home/oracle/oraInventory/orainstRoot.sh
Changing permissions of /export/home/oracle/oraInventory to 770.
Changing groupname of /export/home/oracle/oraInventory to oinstall.
The execution of the script is complete

[root@db02pn ~]# /home/oracle/crs/product/11.1/crs_1/root.sh
WARNING: directory '/home/oracle/crs/product/11.1' is not owned by root
WARNING: directory '/home/oracle/crs/product' is not owned by root
WARNING: directory '/home/oracle/crs' is not owned by root
WARNING: directory '/home/oracle' is not owned by root
Checking to see if Oracle CRS stack is already configured
/etc/oracle does not exist. Creating it now.

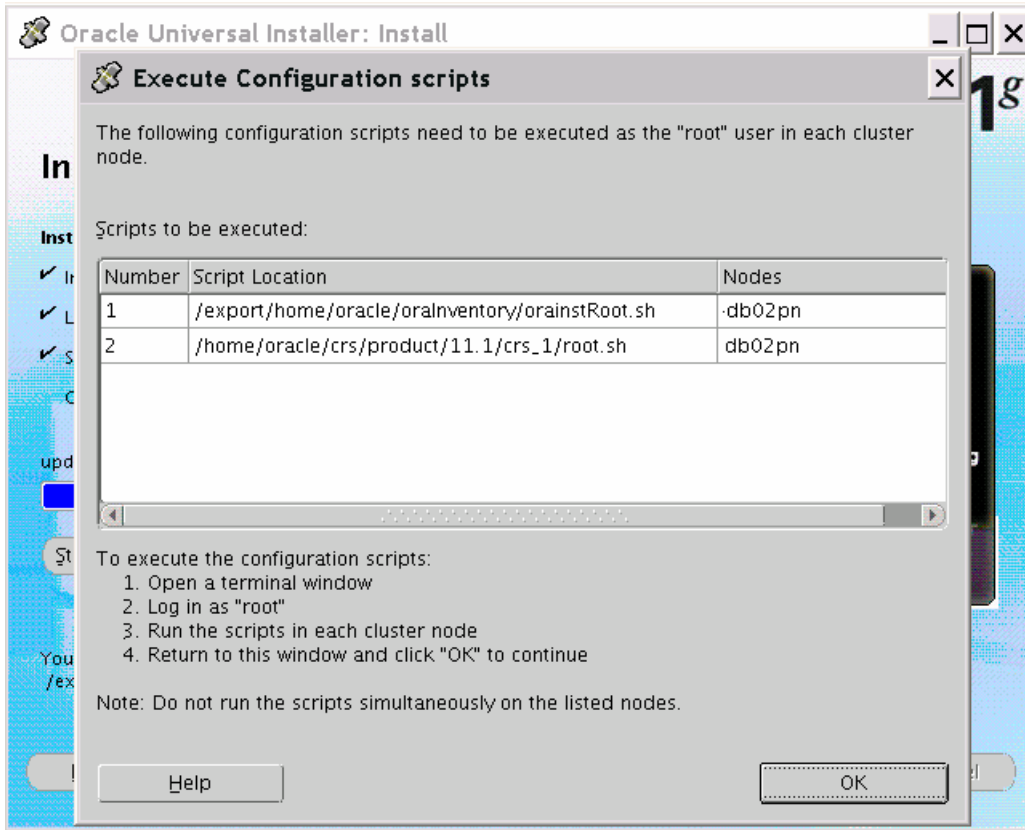
Setting the permissions on OCR backup directory
Setting up NS directories
Oracle Cluster Registry configuration upgraded successfully
The directory '/home/oracle/crs/product/11.1' is not owned by root. Changing owner to root
The directory '/home/oracle/crs/product' is not owned by root. Changing owner to root
The directory '/home/oracle/crs' is not owned by root. Changing owner to root
The directory '/home/oracle' is not owned by root. Changing owner to root
Successfully accumulated necessary OCR keys.
Using ports: CSS=49895 CRS=49896 EVMC=49898 and EVMR=49897.
node <nodenumber>: <nodename> <private interconnect name> <hostname>
node 1: db02pn db02-priv db02pn
Creating OCR keys for user 'root', privgrp 'root'..
Operation successful.
Now formatting voting device: /dev/raw/raw2
Format of 1 voting devices complete.
Startup will be queued to init within 30 seconds.
Adding daemons to inittab
Expecting the CRS daemons to be up within 600 seconds.
Cluster Synchronization Services is active on these nodes.
    db02pn
Cluster Synchronization Services is active on all the nodes.
Waiting for the Oracle CRSD and EVMD to start
Oracle CRS stack installed and running under init(1M)
Running vipca(silent) for configuring nodeapps

Creating VIP application resource on (1) nodes..
Creating GSD application resource on (1) nodes..
Creating ONS application resource on (1) nodes..
Starting VIP application resource on (1) nodes..
Starting GSD application resource on (1) nodes..
Starting ONS application resource on (1) nodes..

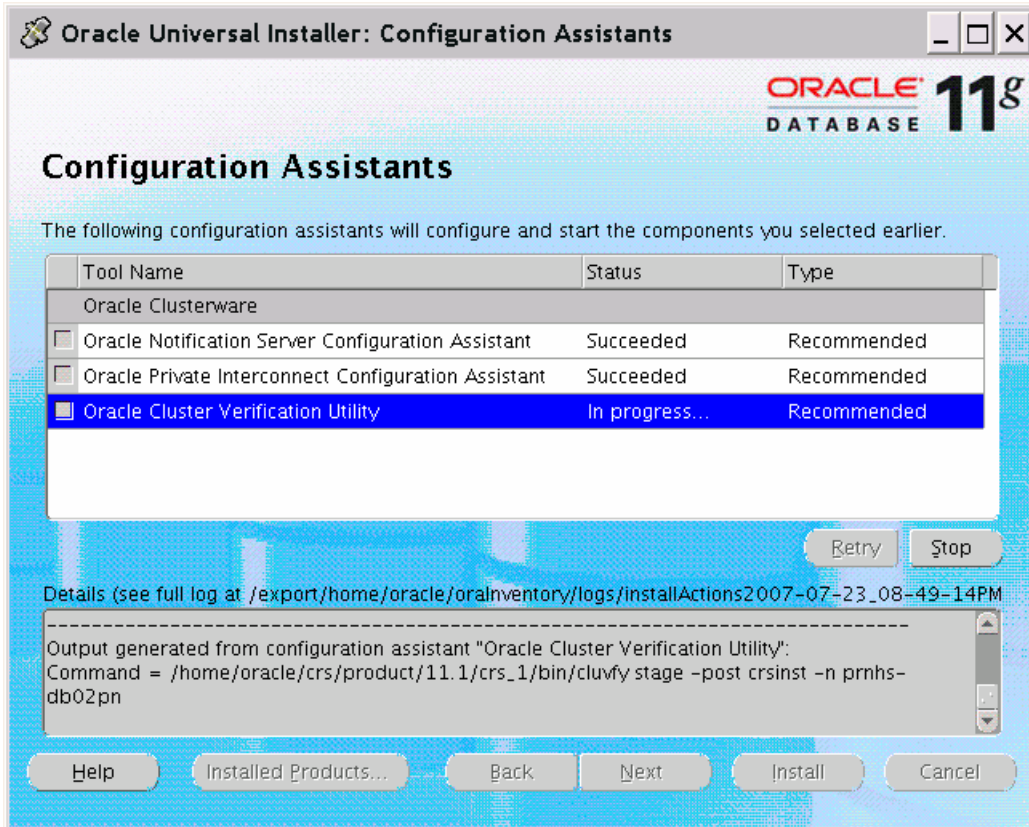
Done.

```

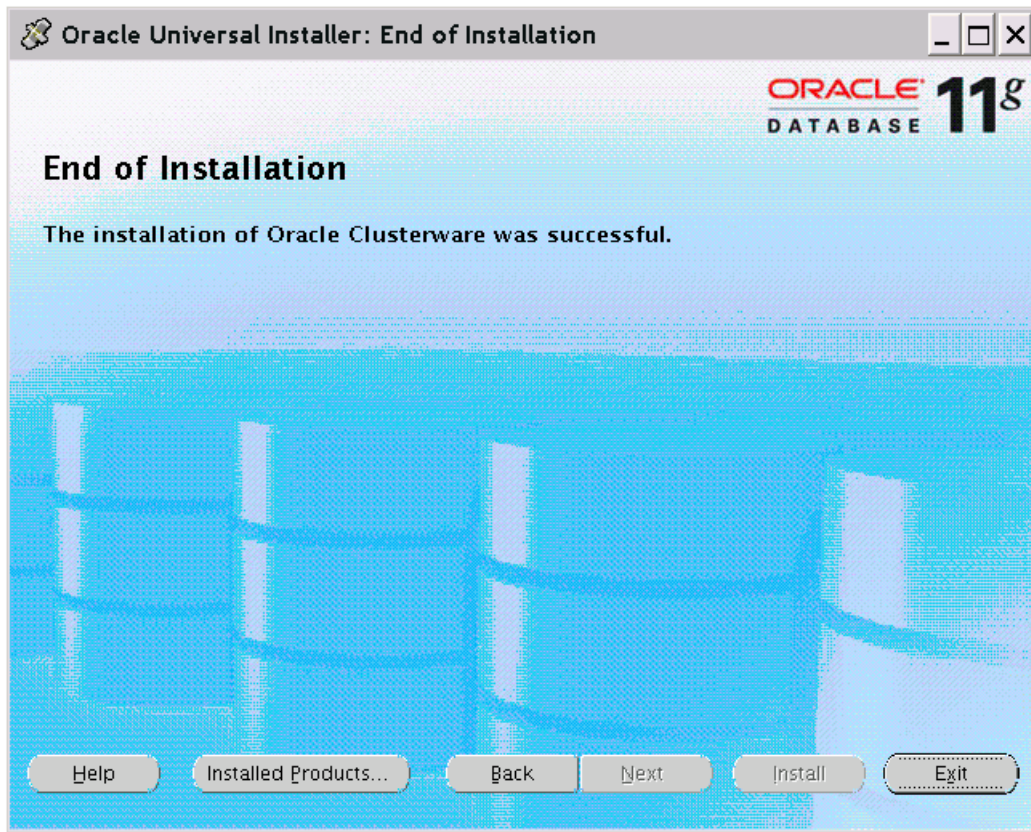
*STEP 12 : EXECUTE CONFIGURATION SCRIPTS ON ALL NODES ONE BY ONE. WHEN DONE ON ALL NODES CLICK **OK** TO CONTINUE*

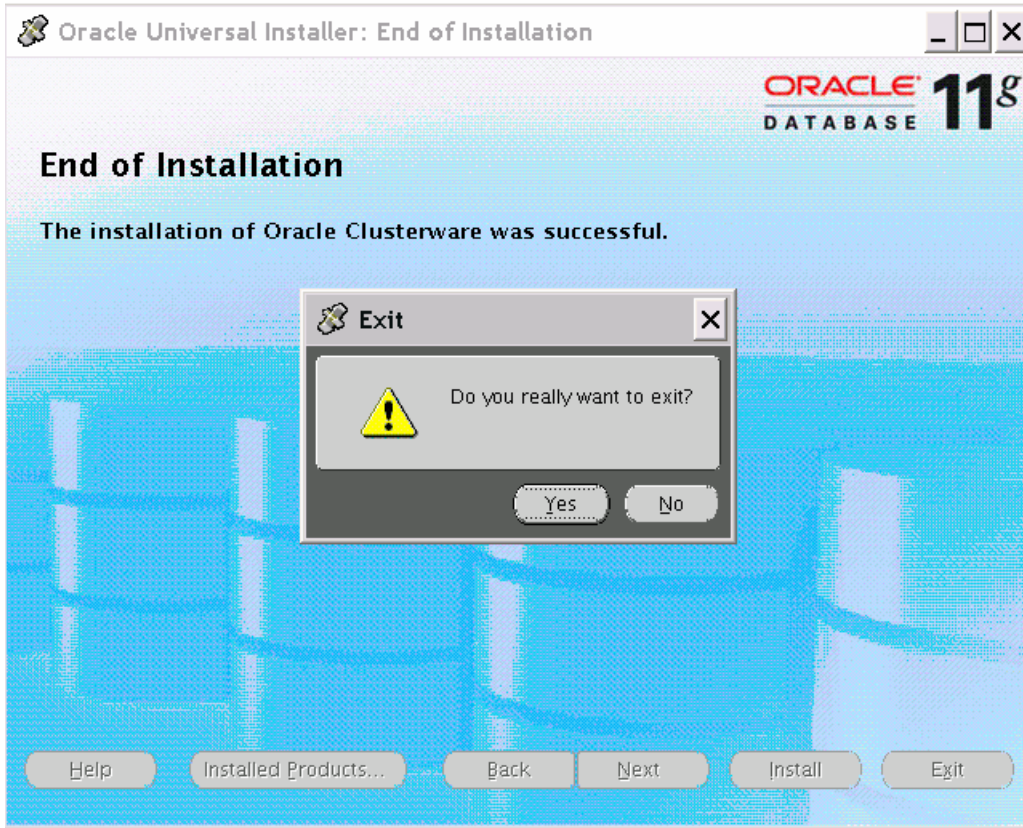


STEP 13 : CONFIGURATION ASSISTANTS. MAKE SURE ALL STATUS ARE SUCCEEDED



STEP 15 : END OF INSTALLATION





```
[oracle@db02]$ ./runcluvfy.sh stage -post crsinst -n db02pn
```

```
Performing post-checks for cluster services setup
```

```
Checking node reachability...
```

```
Node reachability check passed from node "db01pn".
```

```
...
```

```
...
```

```
Post-check for cluster services setup was successful.
```

```
[oracle@db21pn]$ ./runcluvfy.sh stage -post crsinst -n db02pn -verbose
```

```
Performing post-checks for cluster services setup
```

```
Checking node reachability...
```

```
...
```

```
...
```

```
Post-check for cluster services setup was successful.
```

```
[oracle@db21pn]$ ifconfig -a
eth0      Link encap:Ethernet  HWaddr 00:04:23:C9:08:22
          inet addr:172.xx.xx.34  Bcast:172.xx.xx.255  Mask:255.255.255.0
          inet6 addr: fe80::204:23ff:fec9:822/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:108344 errors:0 dropped:0 overruns:0 frame:0
          TX packets:133195 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:17275567 (16.4 MiB)  TX bytes:33990637 (32.4 MiB)
          Base address:0x6cc0 Memory:dece0000-ded00000

eth0:1    Link encap:Ethernet  HWaddr 00:04:23:C9:08:22
          inet addr:172.xx.xx.42  Bcast:172.xx.xx.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          Base address:0x6cc0 Memory:dece0000-ded00000

eth2      Link encap:Ethernet  HWaddr 00:13:72:40:89:70
          inet addr:10.0.0.2  Bcast:10.0.0.255  Mask:255.255.255.0
          inet6 addr: fe80::213:72ff:fe40:8970/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:8 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 b)  TX bytes:590 (590.0 b)
          Interrupt:209
```

```
[oracle@db21pn]$ ps -fu oracle
  UID      PID  PPID  C  STIME TTY          TIME CMD
  oracle   9586  9584  0  19:12 ?           00:00:00 sshd: oracle@pts/1
  oracle   9587  9586  0  19:12 pts/1      00:00:00 -bash
  oracle  11472 11470  0  20:13 ?           00:00:04 sshd: oracle@pts/0
  oracle  11473 11472  0  20:13 pts/0      00:00:00 /bin/bash
  oracle  11968 11473  0  20:42 ?           00:00:00 /usr/bin/ssh-agent /bin/bash
  oracle  14225 14219  0  20:59 ?           00:00:00 /home/oracle/crs/product/11.1/crs_1/bin/evmd.bin
  oracle  14666 14662  0  20:59 ?           00:00:00 /bin/sh -c cd
  /home/oracle/crs/product/11.1/crs_1/log/db02pn/cssd/oclsomon; ulimit
  oracle  14698 14666  0  20:59 ?           00:00:00 /home/oracle/crs/product/11.1/crs_1/bin/oclsomon.bin
  oracle  14743 14346  0  20:59 ?           00:00:00 /home/oracle/crs/product/11.1/crs_1/bin/ocssd.bin
  oracle  14893 14225  0  20:59 ?           00:00:00 /home/oracle/crs/product/11.1/crs_1/bin/evmlogger.bin -o
  /home/oracle/crs/product/11.1/c
  oracle  15256 1 0 20:59 ?           00:00:00 /home/oracle/crs/product/11.1/crs_1/opmn/bin/ons -d
  oracle  15257 15256  0  20:59 ?           00:00:00 /home/oracle/crs/product/11.1/crs_1/opmn/bin/ons -d
```

```
[oracle@db21pn]$ $ORA_CRS_HOME/bin/crs_stat -t
Name                Type          Target    State    Host
-----
ora...2pn.gsd application ONLINE    ONLINE  db02pn
ora...2pn.ons application ONLINE    ONLINE  db02pn
ora...2pn.vip application ONLINE    ONLINE  db02pn
```