[For Part-1 of this document, click here.]

How to upgrade 32-Bit 10g R2 (10.2.0.4) to 32-Bit 11g R2 (11.2.0.2) on RHEL4 Part-2

12) Copy utlu112i.sql from 11g ORACLE_HOME/rdbms/admin to /tmp directory
cp $ORACLE_BASE/product/11.2.0/db_1/rdbms/admin/**utlu112i.sql** /tmp/.

13) Login to 10g database
export ORACLE_SID=MoidDB
sqlplus / as sysdba
SQL> select status from v$instance; (Make sure database is up)
SQL > spool /tmp/upgrade.spl
SQL > @/tmp/utlu112i.sql
SQL > spool off
SQL> exit.

14) Check the script generated from above step

vi /tmp/upgrade.spl

```
SQL> @/tmp/utlu112i.sql
Oracle Database 11.2 Pre-Upgrade Information Tool 05-20-2011 01:49:02
Script Version: 11.2.0.2.0 Build: 001
.
**********************************************************************
Database:
**********************************************************************
--> name:          MOIDDB
--> version:       10.2.0.4.0
--> compatible:    10.2.0.3.0
--> blocksize:     8192
--> platform:      Linux IA (32-bit)
--> timezone file: V4
.
**********************************************************************
Tablespaces: [make adjustments in the current environment]
**********************************************************************
--> SYSTEM tablespace is adequate for the upgrade.
.... minimum required size: 735 MB
--> UNDOTBS1 tablespace is adequate for the upgrade.
.... minimum required size: 394 MB
--> SYSAUX tablespace is adequate for the upgrade.
.... minimum required size: 523 MB
--> TEMP tablespace is adequate for the upgrade.
.... minimum required size: 61 MB
.
**********************************************************************
Flashback: OFF
**********************************************************************
**********************************************************************
Update Parameters: [Update Oracle Database 11.2 init.ora or spfile]
Note: Pre-upgrade tool was run on a lower version 32-bit database.
**********************************************************************
--> If Target Oracle is 32-Bit, refer here for Update Parameters:
WARNING: --> "sga_target" needs to be increased to at least 412 MB
.

--> If Target Oracle is 64-Bit, refer here for Update Parameters:
WARNING: --> "sga_target" needs to be increased to at least 596 MB
.
**********************************************************************
Renamed Parameters: [Update Oracle Database 11.2 init.ora or spfile]
**********************************************************************
-- No renamed parameters found. No changes are required.
.
```

```
**********************************************************************
Obsolete/Deprecated Parameters: [Update Oracle Database 11.2 init.ora or spfile]
**********************************************************************
--> background_dump_dest         11.1       DEPRECATED   replaced by  "diagnostic_dest"
--> user_dump_dest               11.1       DEPRECATED   replaced by  "diagnostic_dest"
.

**********************************************************************
Components: [The following database components will be upgraded or installed]
**********************************************************************
--> Oracle Catalog Views         [upgrade]  VALID
--> Oracle Packages and Types    [upgrade]  VALID
--> JServer JAVA Virtual Machine [upgrade]  VALID
--> Oracle XDK for Java          [upgrade]  VALID
--> Oracle Workspace Manager     [upgrade]  VALID
--> OLAP Analytic Workspace      [upgrade]  VALID
--> OLAP Catalog                 [upgrade]  VALID
--> EM Repository                [upgrade]  VALID
--> Oracle Text                  [upgrade]  VALID
--> Oracle XML Database          [upgrade]  VALID
--> Oracle Java Packages         [upgrade]  VALID
--> Oracle interMedia            [upgrade]  VALID
--> Spatial                      [upgrade]  VALID
--> Data Mining                  [upgrade]  VALID
--> Expression Filter            [upgrade]  VALID
--> Rule Manager                 [upgrade]  VALID
--> Oracle OLAP API              [upgrade]  VALID
.
**********************************************************************
Miscellaneous Warnings
**********************************************************************
WARNING: --> Database is using a timezone file older than version 14.
.... After the release migration, it is recommended that DBMS_DST package
.... be used to upgrade the 10.2.0.4.0 database timezone version
.... to the latest version which comes with the new release.
WARNING: --> EM Database Control Repository exists in the database.
.... Direct downgrade of EM Database Control is not supported. Refer to the
.... Upgrade Guide for instructions to save the EM data prior to upgrade.
WARNING: --> Your recycle bin is turned on and currently contains no objects.
.... Because it is REQUIRED that the recycle bin be empty prior to upgrading
.... and your recycle bin is turned on, you may need to execute the command:
        PURGE DBA_RECYCLEBIN
.... prior to executing your upgrade to confirm the recycle bin is empty.
.
**********************************************************************
Recommendations
**********************************************************************
```

```
 93 Oracle recommends gathering dictionary statistics prior to
 94 upgrading the database.
 95 To gather dictionary statistics execute the following command
 96 while connected as SYSDBA:
 97
 98     EXECUTE dbms_stats.gather_dictionary_stats;
 99
100 ************************************************************************
101 Oracle recommends reviewing any defined events prior to upgrading.
102
103 To view existing non-default events execute the following commands
104 while connected AS SYSDBA:
105   Events:
106     SELECT (translate(value,chr(13)||chr(10),' ')) FROM sys.v$parameter2
107       WHERE  UPPER(name) ='EVENT' AND  isdefault='FALSE'
108
109   Trace Events:
110     SELECT (translate(value,chr(13)||chr(10),' ')) from sys.v$parameter2
111       WHERE UPPER(name) = '_TRACE_EVENTS' AND isdefault='FALSE'
112
113 Changes will need to be made in the init.ora or spfile.
114
115 ************************************************************************
116 SQL> spool off
```

15) Apply recommendation.

At this point, adjust any warnings shown by Pre-Upgrade Information tool above. I have marked my recommendation in RED and I will adjust them with the following parameters.

Line # 35 "sga_target" needs to be increased to at least 412 MB
Solution:
alter system set SGA_MAX_SIZE=450M scope=spfile;
alter system set SGA_TARGET=412M scope=spfile

Line # 87 PURGE DBA_RECYCLEBIN
SQL> PURGE DBA_RECYCLEBIN;

Line # 98 Gather dictionary statistics
SQL> EXECUTE dbms_stats.gather_dictionary_stats;

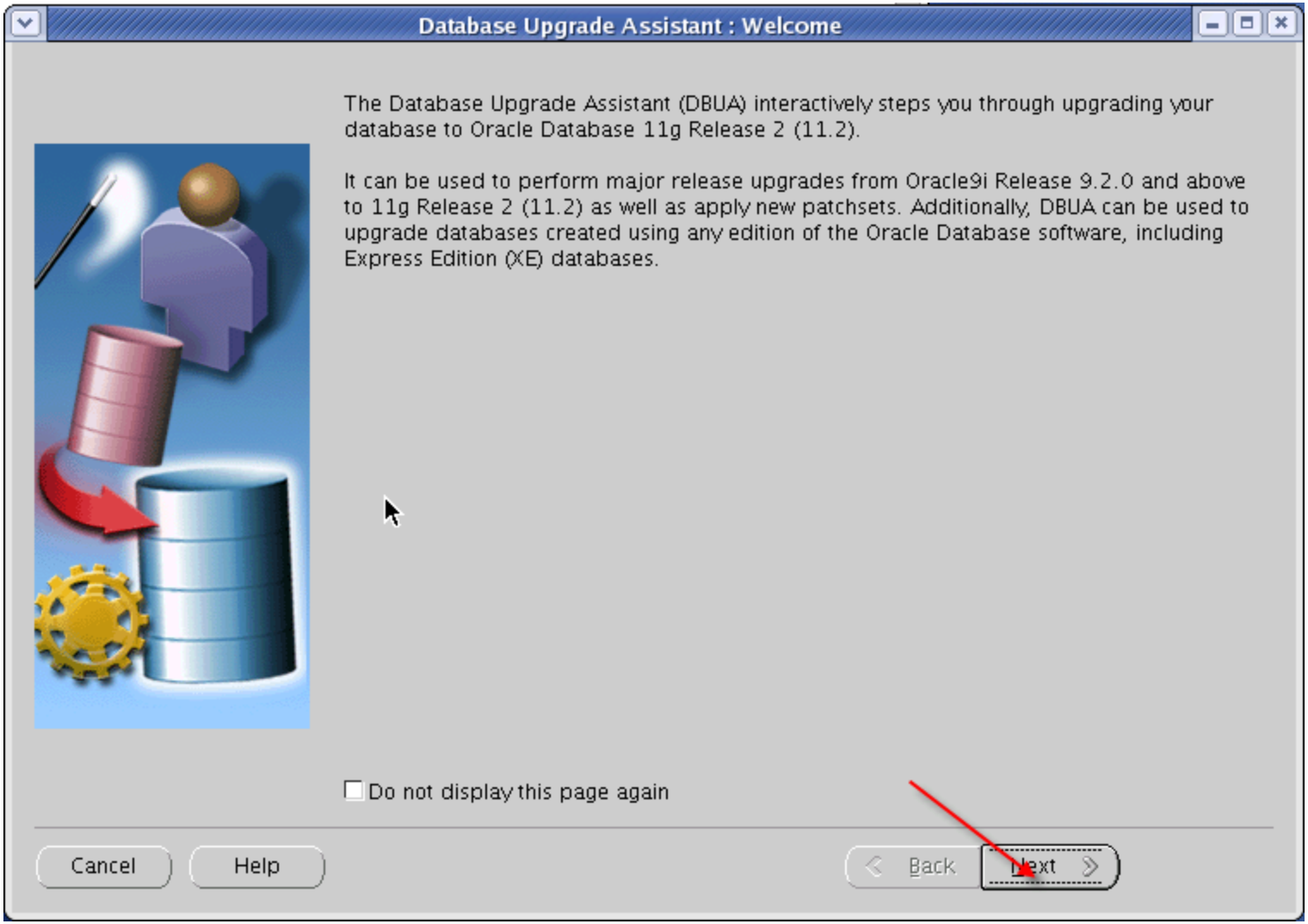
16) Restart your database.
SQL > shutdown force;
SQL> startup;

17) Update .bash_profile
At this point, the .bash_profile will need to change to reflect ORACLE_HOME as **/u01/app/oracle/product/11.2.0/db_1** instead of **/u01/app/oracle/product/10.2.0/db_1.**
You can do that manually or simply copy a .bash_profile for 11g database from 223 server.
cp ~/.bash_profile ~/.bash_profile/.
scp 192.168.0.223:/u99/software/BASH_PROFILES/11g/.bash_profile_11gR2 ~/.bash_profile

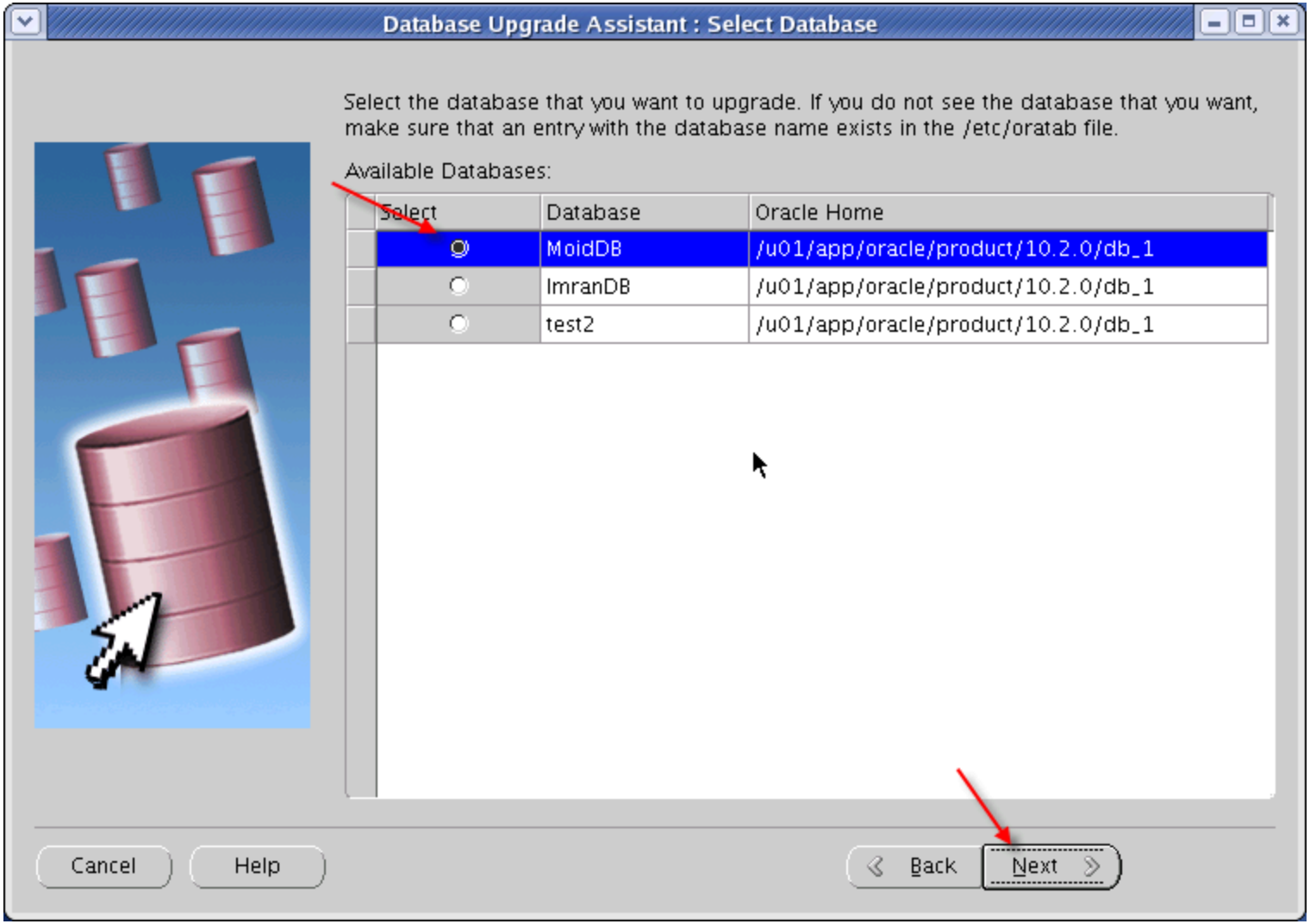
18) Re-execute .bash_profile
. ~/.bash_profile
Note: Change ORACLE_SID to your own ORACLE_SID in bash_profile.

19) Execute dbua from 11g home (*from RealVNC*).
. ~/.bash_profile
cd $ORACLE_HOME/bin
./dbua

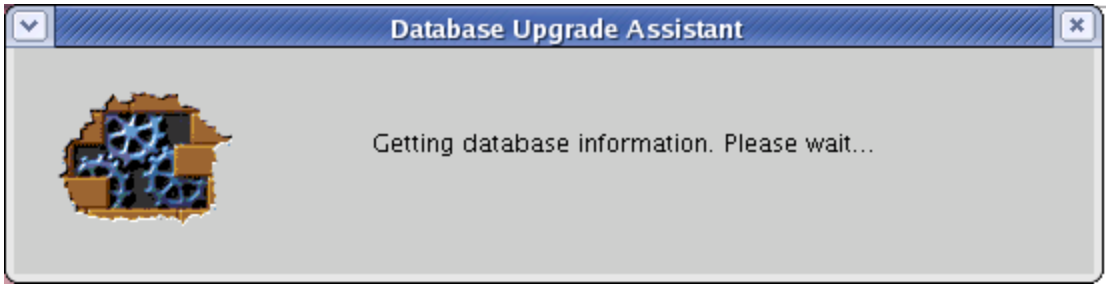
Click “Next”


Database Upgrade Assistant : Welcome
The Database Upgrade Assistant (DBUA) interactively steps you through upgrading your database to Oracle Database 11g Release 2 (11.2).
It can be used to perform major release upgrades from Oracle9i Release 9.2.0 and above to 11g Release 2 (11.2) as well as apply new patchsets. Additionally, DBUA can be used to upgrade databases created using any edition of the Oracle Database software, including Express Edition (XE) databases.
Do not display this page again
Cancel
Help
Back
Next

Select your database and click next.
Note: If you don't see your database, it is most probably you created database manually and forgot to add the database entry in /etc/oratab. Add the entry and /etc/oratab and re-execute dbua again.

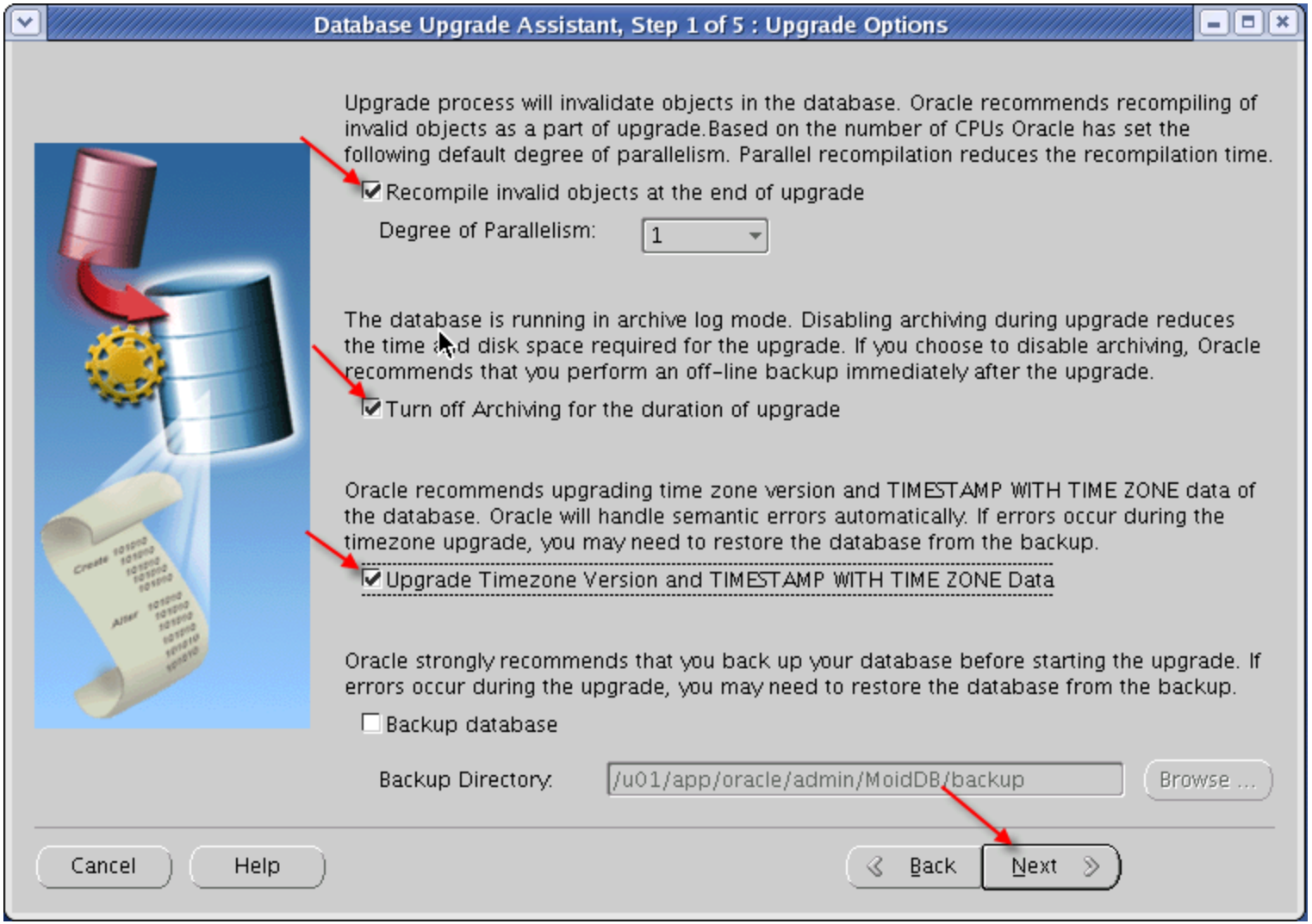


You will see the following screen until the database information is gathered by DBUA.

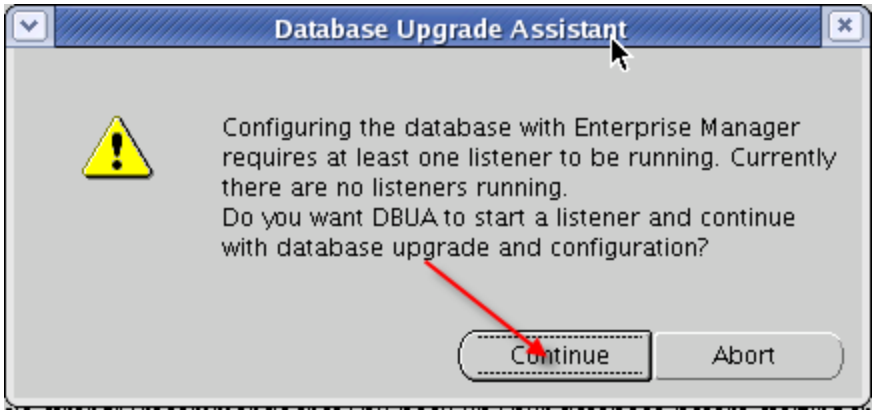


You may see a warning similar to this. I just chose to ignore it.

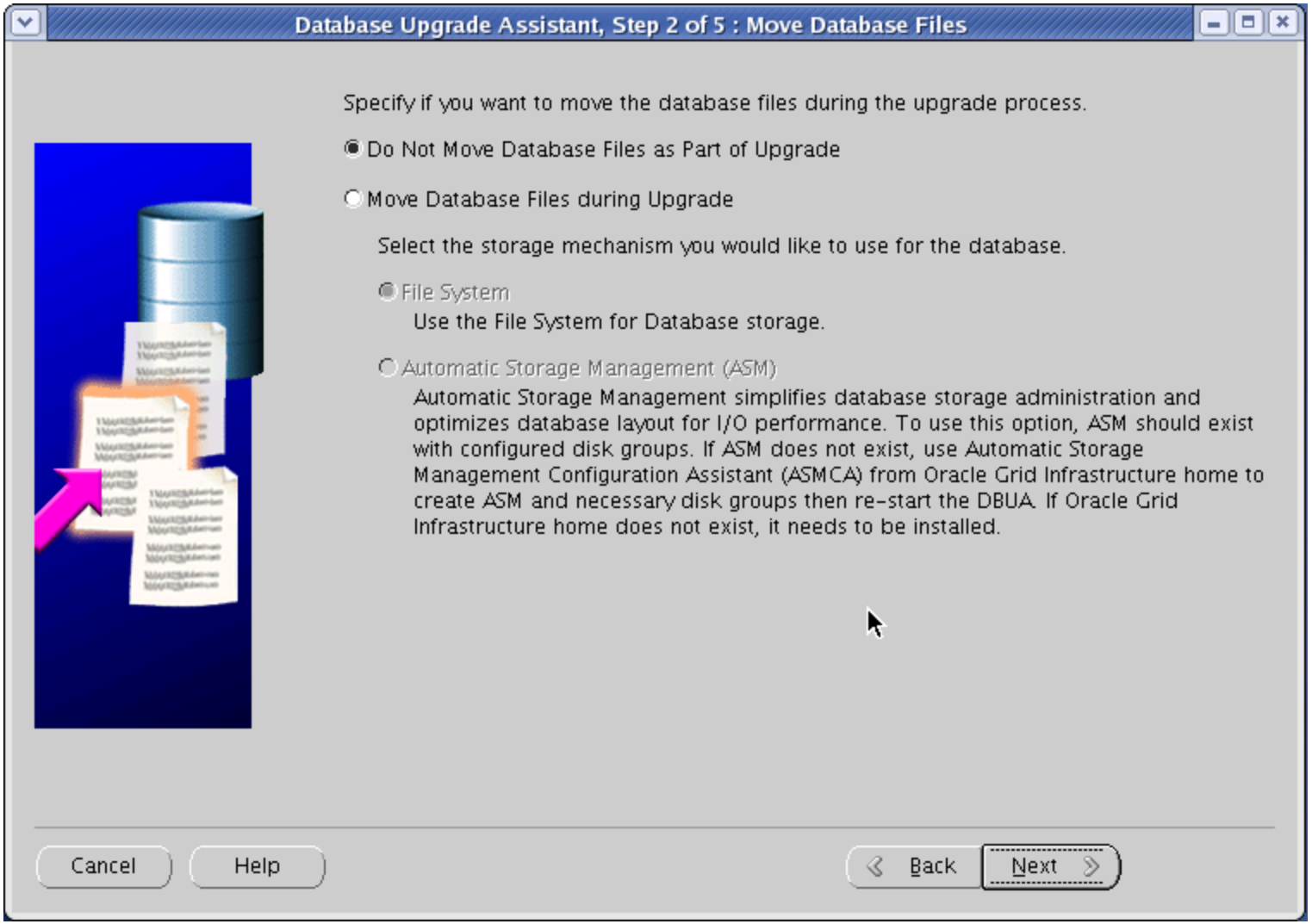
Since we already backed up our database, I clicked the first three recommendations and clicked “Next”.



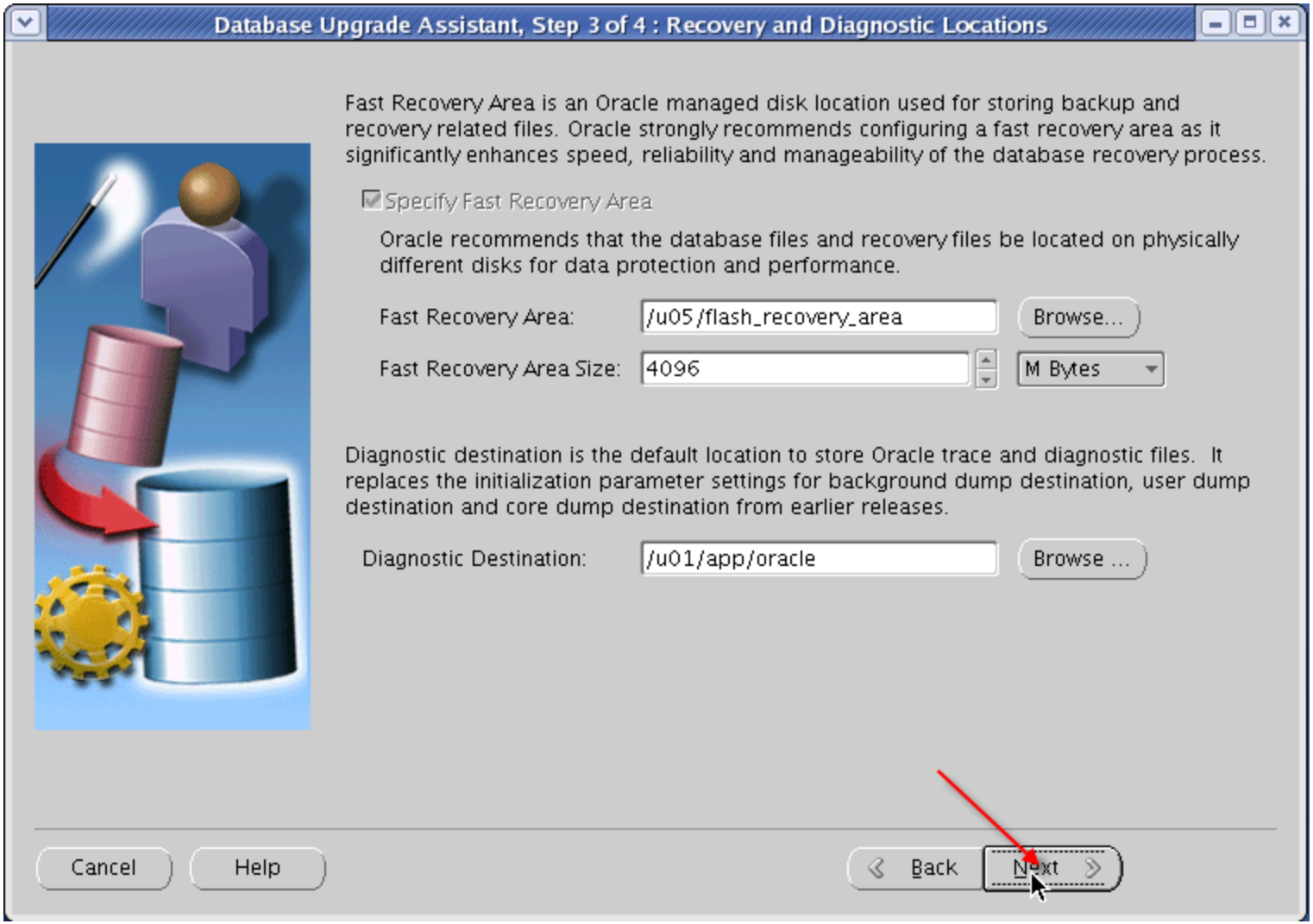
If listener is not up, you may see a warning like this. Click “Continue” so that DBUA can start the listener on your behalf.



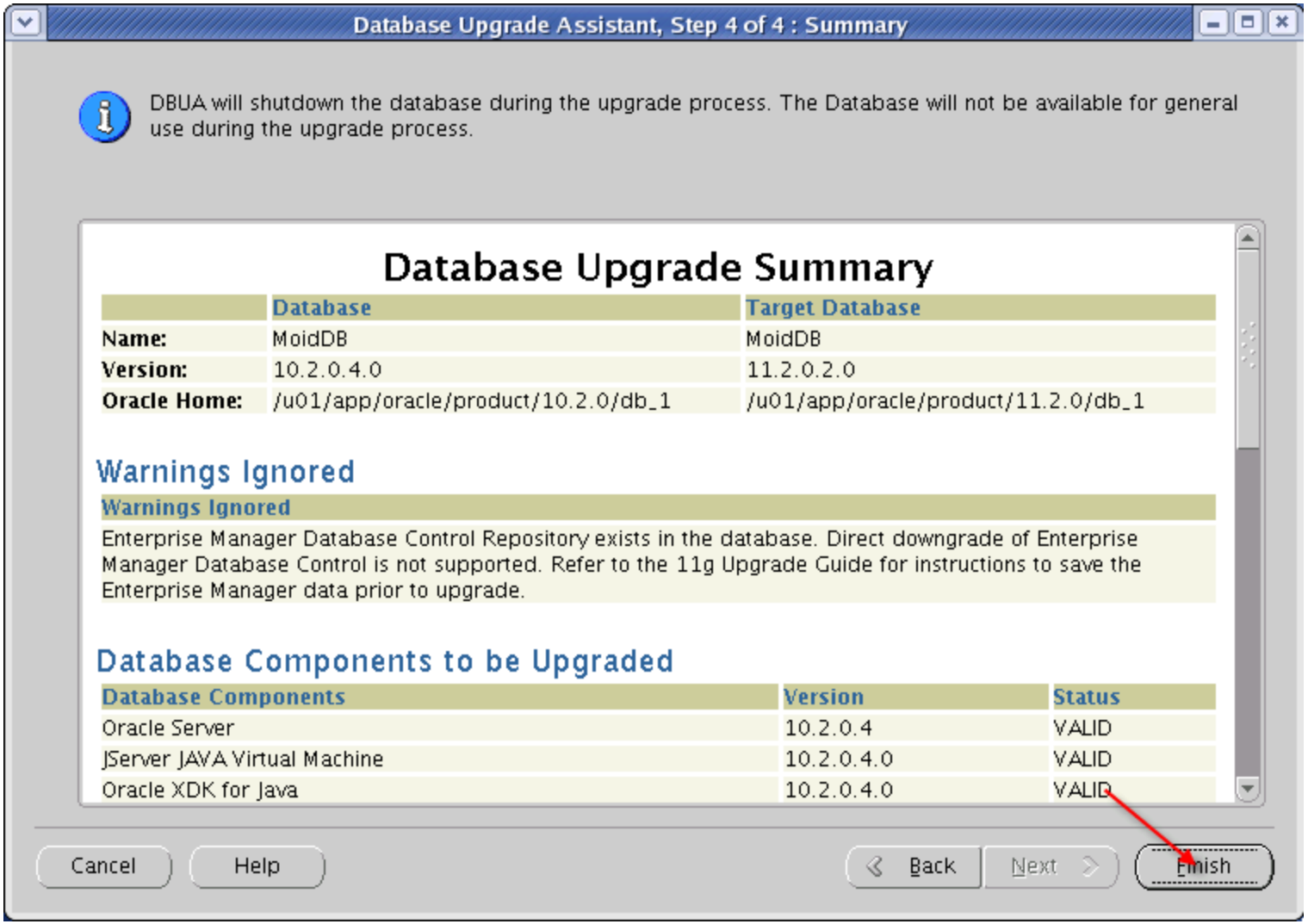
Since I do not want to move any datafiles as part of upgrade, I just clicked “Next” to proceed.



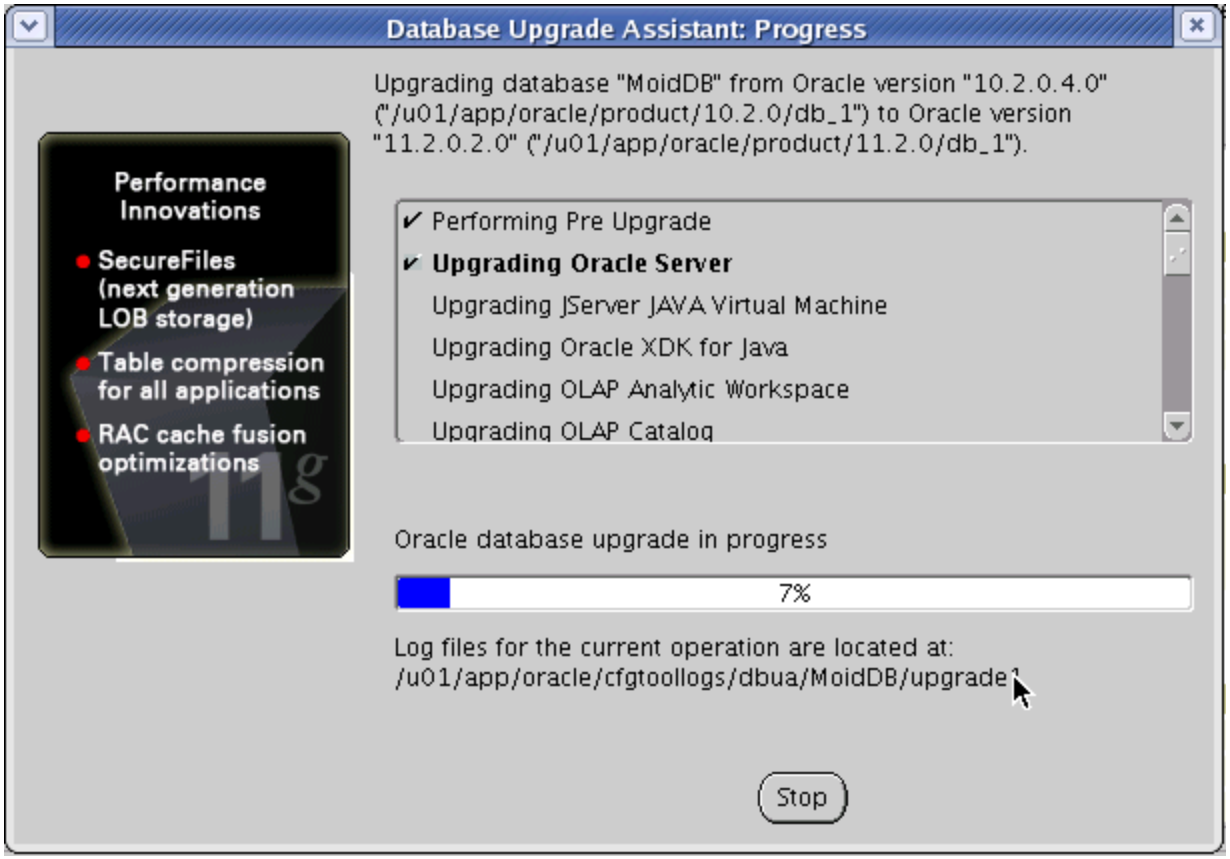
Click “Next”


Database Upgrade Assistant, Step 3 of 4 : Recovery and Diagnostic Locations
Fast Recovery Area is an Oracle managed disk location used for storing backup and recovery related files. Oracle strongly recommends configuring a fast recovery area as it significantly enhances speed, reliability and manageability of the database recovery process.
Specify Fast Recovery Area
Oracle recommends that the database files and recovery files be located on physically different disks for data protection and performance.
Fast Recovery Area:
/u05/flash_recovery_area
Browse...
Fast Recovery Area Size:
4096
M Bytes
Diagnostic destination is the default location to store Oracle trace and diagnostic files. It replaces the initialization parameter settings for background dump destination, user dump destination and core dump destination from earlier releases.
Diagnostic Destination:
/u01/app/oracle
Browse ...
Cancel
Help
Back
Next

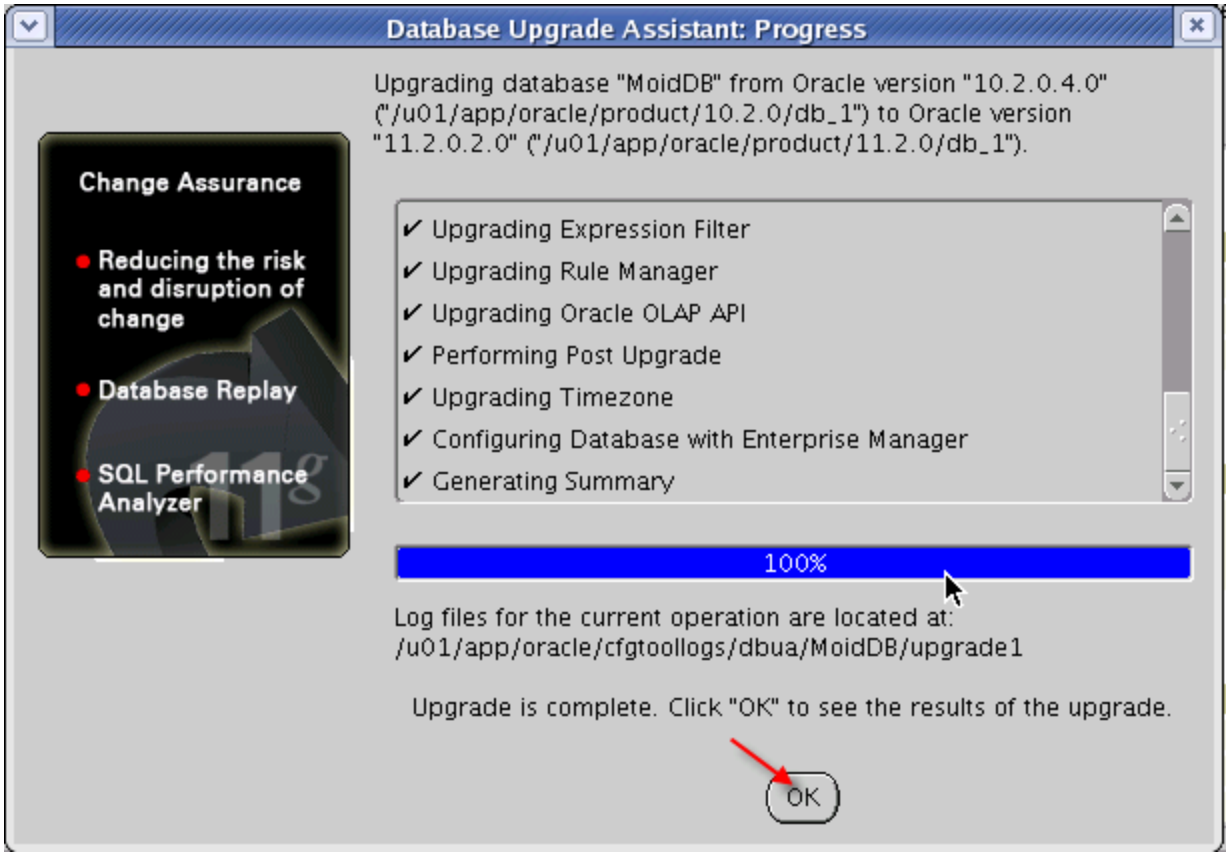
Click “Finish” to proceed.



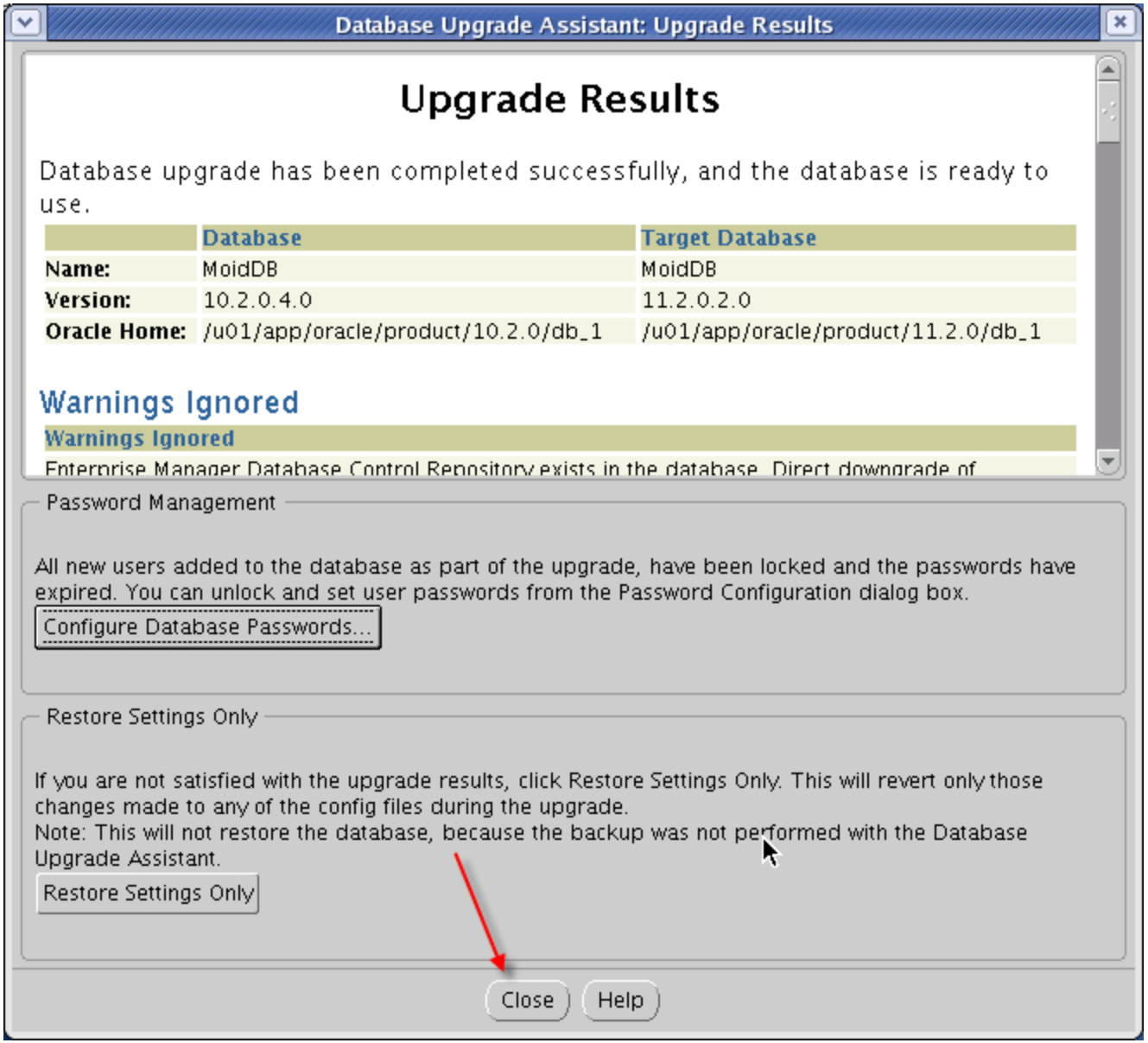
Installation will start and runs for few minutes (depending on your database size).



Once done, click “OK”.



Click "Close"



20) Upgrade other datbases which are still in 10g ORACLE_HOME

Do the same thing for all the other databases still in 10g ORACLE_HOME. Once all the database are upgraded to 11g, we need to move the tnsnames.ora and listener.ora file from 10g ORACLE_HOME to 11g ORACLE_HOME.

21) Copy listener.ora tnsnames.ora sqlnet.ora to 11g ORACLE_HOME

```
cp /u01/app/oracle/product/10.2.0/db_1/network/admin/*.ora /u01/app/oracle/product/11.2.0/db_1/network/admin/.
```

22) Verify the files are copied to 11g ORACLE_HOME

```
ls -ltrh /u01/app/oracle/product/11.2.0/db_1/network/admin
```

```
Linux-VM-240:(MoidDB)$ ls -ltrh /u01/app/oracle/product/11.2.0/db_1/network/admin
total 16K
drwxr-xr-x  2 oracle oinstall 4.0K May 20 01:35 samples
-rw-r--r--  1 oracle oinstall  172 May 20 09:56 shrept.lst
-rw-r--r--  1 oracle oinstall  953 May 20 09:57 tnsnames.ora
-rw-r--r--  1 oracle oinstall  508 May 20 09:57 listener.ora
```

23) Edit ORACLE_HOME in listener.ora file to reflect 11g ORACLE_HOME.

Edit database entries in listener.ora file to reflect 11g ORACLE_HOME.

Before:

```
# listener.ora Network Configuration File: /u01/app/oracle/product/10.2.0/db_1/ne
# Generated by Oracle configuration tools.

SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = PLSExtProc)
      (ORACLE_HOME = /u01/app/oracle/product/10.2.0/db_1)
      (PROGRAM = extproc)
    )
  )

LISTENER =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = Linux-VM-240)(PORT = 1521))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC0))
    )
  )

~
```

After:

```
# listener.ora Network Configuration File: /u01/app/oracle/product/10.2.0/db_1/ne
# Generated by Oracle configuration tools.

SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = PLSExtProc)
      (ORACLE_HOME = /u01/app/oracle/product/11.2.0/db_1)
      (PROGRAM = extproc)
    )
  )

LISTENER =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = Linux-VM-240)(PORT = 1521))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC0))
    )
  )
```

24) Start the listener.

```
lsnrct start listener.
```

25) Verify listener is up.

```
ps –ef |grep lsnr
lsnrctl status listener
```

In part-3 of this series, I will work on manual upgrade (instead of DBUA) to upgrade my 10g database to 11g.

--Moid Muhammad
11/10/2011