TransNexus®

NexOSS Oracle Database Instructions

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Introduction

The following Oracle installation notes assume that NexOSS & Oracle will be installed under /home/ossadmin and that the user ossadmin will own both NexOSS + Oracle. These instructions also assume that the NexOSS application and java 1.6 will be installed separately on the same system

If you are installing remotely (not on the linux console), start an x-client like Reflection-X at the pc that you will be connecting from. Set your ssh client to do X11-Tunneling and then establish a connection to the linux system.

Login as user root

The following are the memory requirements for installing Oracle Database 11g Release 2 (11.2):

- At least 4 GB of RAM

  To determine the RAM size, enter the following command:

  ```
  # grep MemTotal /proc/meminfo
  ```

  If the size of the RAM is less than the required size, then you must install more memory before continuing.

- The following table describes the relationship between installed RAM and the configured swap space recommendation:

Available RAM	*Swap Space Required*
Between 4 GB and 8 GB	2 times the size of RAM
Between 8 GB and 32 GB	1.5 times the size of RAM
More than 32 GB	32 GB

The following are the disk space requirements for installing Oracle Database 11g Release 2 (11.2):

- At least 1 GB of disk space in the /tmp directory

  To determine the amount of disk space available in the /tmp directory, enter the following command:

  ```
  # df -h /tmp
  ```

  If there is less than 1 GB of free disk space available in the /tmp directory, then complete one of the following steps:

  - Delete unnecessary files from the /tmp directory to meet the disk space requirement.

- Set the TMP and TMPDIR environment variables when setting the ossadmin user's environment.
- Extend the file system that contains the /tmp directory. If necessary, contact the system administrator for information about extending file systems.

The following or later versions of the operating system are required for Oracle Database 11g Release 2 (11.2):

- Asianux Server 3 SP2
- Oracle Linux 4 Update 7
- Oracle Linux 5 Update 2
- Oracle Linux 5 Update 5 (only if using Oracle Unbreakable Enterprise Kernel)
- Red Hat Enterprise Linux 4 Update 7
- Red Hat Enterprise Linux 5 Update 2
- Red Hat Enterprise Linux 5 Update 5 (only if using Oracle Unbreakable Enterprise Kernel)
- SUSE Linux Enterprise Server 10 SP2
- SUSE Linux Enterprise Server 11

Starting with Oracle Database 11g Release 2 (11.2), the Security Enhanced Linux (SE Linux) feature is supported for Oracle Linux 4, Red Hat Enterprise Linux 4, Oracle Linux 5, and Red Hat Enterprise Linux 5.

Note:

For Asianux Server, Oracle Linux, and Red Hat Enterprise Linux, system requirements are identical by kernel version. Specifically:

- Oracle Linux 4 and Red Hat Enterprise Linux 4 requirements are the same.
- Asianux Server 3, Oracle Linux 5, and Red Hat Enterprise Linux 5 requirements are the same.
- Oracle Unbreakable Enterprise Kernel for Linux 5 Update 5 (2.6.32), available for x86-64 systems, contains several additional features and performance enhancements not available either with Oracle Linux or with other supported Linux distributions. This kernel can be installed on either Oracle Linux or Red Hat Enterprise Linux distributions. Before installing the Unbreakable Enterprise Kernel, you must have Oracle Linux 5 Update 5 or RHEL5 Update 5 installed on an x86-64 server.

Edit the /etc/hosts file to include the ip address and fully qualified domain name if it is not already set. This is important for the NexOSS license and the Oracle networking pre-requisite step.

```
# vi /etc/hosts
127.0.0.1        localhost.localdomain localhost
172.16.4.104      oss.transnexus.com   oss
```

Create group oinstall.

```
# groupadd oinstall
# groupadd dba
```

Create user ossadmin.

```
# useradd -g oinstall -G dba -d /home/ossadmin -m -s /bin/bash ossadmin
# passwd ossadmin
```

Login to the system as ossadmin.

Move to the directory /home/ossadmin where Oracle and NexOSS will be installed.

Create directories for Oracle and NexOSS.

```
$ mkdir ORA
$ mkdir OSS
```

Put the NexOSS software into the OSS directory for later configuration.

You can put the Oracle11g2 software files into the /tmp directory. Make sure that the software is owned by ossadmin:oinstall. Unzip both of the oracle software bundles starting with 1-of-2. This will create the /tmp/database directory.

```
[ossadmin@oss tmp]$ unzip linux.x64_11gR2_database_1of2.zip
[ossadmin@oss tmp]$ unzip linux.x64_11gR2_database_2of2.zip
```

Set up your environment in advance since you know where the software will be installed.

```
$ cd /home/ossadmin
$ vi .bash_profile

JAVA_HOME=/home/ossadmin/JAV/jdk1.6.0_45/
export JAVA_HOME

NexOSS_HOME=/home/ossadmin/OSS/nexoss
export NexOSS_HOME

ORACLE_HOME=/home/ossadmin/ORA/oracle/product/11.2.0/dbhome_1
export ORACLE_HOME

ORACLE_HOME_LISTNER=/home/ossadmin/ORA/oracle/product/11.2.0/dbho
me_1
export ORACLE_HOME_LISTNER
```

```
ORACLE_BASE=/home/ossadmin/ORA/oracle
export ORACLE_BASE

ORACLE_SID=txnxdb
export ORACLE_SID

ORACLE_OWNER=ossadmin
export ORACLE_OWNER

PATH=$PATH:$HOME/bin:$ORACLE_HOME/bin:$JAVA_HOME/bin
export PATH
```

To improve the performance of the software, you must increase the following shell limits for the oracle user, in this case ossadmin is the user:

For each installation software owner, check the resource limits for installation, using the following recommended ranges:

Resource Shell Limit	*Resource*	*Soft Limit*	*Hard Limit*
Open file descriptors	Nofile	At least 1024	At least 65536
Number of processes available to a single user	Nproc	At least 2047	At least 16384
Size of the stack segment of the process	Stack	At least 10240 KB	At least 10240 KB, and at most 32768 KB

To increase the shell limits, add the following lines in the /etc/security/limits.conf file:

```
ossadmin          soft    nproc   2047
ossadmin          hard    nproc   16384
ossadmin          soft    nofile  1024
ossadmin          hard    nofile  65536
ossadmin          soft    stack   10240
```

Login as root to install required software and to update the linux kernel parameters.

Use yum (if available) or the up2date utility to install the required software.

The following are the list of packages required for Oracle Database 11g Release 2 (11.2):

Note:

- Oracle recommends that you install your Linux operating system with the default software packages (RPMs), unless you specifically intend to perform a minimal installation, and follow the directions for performing such an installation to ensure that you have all required packages for Oracle software.
- Oracle recommends that you do not customize RPMs during a default operating system installation. A default installation includes most required packages, and will help you to limit manual checks of package dependencies.
- If you did not perform a default Linux installation, you intend to use LDAP, and you want to use the scripts odisrvreg, oidca, or schemasync, then install the Korn shell RPM for your Linux distribution.
- You must install the packages (or later versions) listed in the following table. Also, ensure that the list of RPMs and all the prerequisites for these RPMs are installed.
- If you are using Oracle Unbreakable Enterprise Kernel, then all required kernel packages are installed as part of the Oracle Unbreakable Enterprise Kernel installation.

IMPORTANT:

Starting with Oracle Database 11g Release 2 (11.2.0.2), all the 32-bit packages, except for gcc-32bit-4.3, listed in the following table are no longer required for installing a database on Linux x86-64. Only the 64-bit packages are required.

However, for any Oracle Database 11g release prior to 11.2.0.2, both the 32-bit and 64-bit packages listed in the following table are required.

The following or later version of packages for Oracle Linux 4 and Red Hat Enterprise Linux 4 should be installed:

- binutils-2.15.92.0.2
- compat-libstdc++-33-3.2.3
- compat-libstdc++-33-3.2.3 (32 bit)
- elfutils-libelf-0.97
- elfutils-libelf-devel-0.97
- expat-1.95.7
- gcc-3.4.6
- gcc-c++-3.4.6
- glibc-2.3.4-2.41
- glibc-2.3.4-2.41 (32 bit)
- glibc-common-2.3.4
- glibc-devel-2.3.4
- glibc-headers-2.3.4

- libaio-0.3.105
- libaio-0.3.105 (32 bit)
- libaio-devel-0.3.105
- libaio-devel-0.3.105 (32 bit)
- libgcc-3.4.6
- libgcc-3.4.6 (32-bit)
- libstdc++-3.4.6
- libstdc++-3.4.6 (32 bit)
- libstdc++-devel 3.4.6
- make-3.80
- numactl-0.6.4.x86_64
- pdksh-5.2.14
- sysstat-5.0.5

The following or later version of packages for Asianux 3, Oracle Linux 5, and Red Hat Enterprise Linux 5 should be installed:

- binutils-2.17.50.0.6
- compat-libstdc++-33-3.2.3
- compat-libstdc++-33-3.2.3 (32 bit)
- elfutils-libelf-0.125
- elfutils-libelf-devel-0.125
- gcc-4.1.2
- gcc-c++-4.1.2
- glibc-2.5-24
- glibc-2.5-24 (32 bit)
- glibc-common-2.5
- glibc-devel-2.5
- glibc-devel-2.5 (32 bit)
- glibc-headers-2.5
- ksh-20060214
- libaio-0.3.106
- libaio-0.3.106 (32 bit)
- libaio-devel-0.3.106
- libaio-devel-0.3.106 (32 bit)
- libgcc-4.1.2
- libgcc-4.1.2 (32 bit)
- libstdc++-4.1.2
- libstdc++-4.1.2 (32 bit)

- libstdc++-devel 4.1.2
- make-3.81
- numactl-devel-0.9.8.x86_64
- sysstat-7.0.2
- pdksh
- unixODBC

The following or later version of packages for Oracle Linux 6, and Red Hat Enterprise Linux 6 must be installed:

```
binutils-2.20.51.0.2-5.11.el6 (x86_64)
compat-libcap1-1.10-1 (x86_64)
compat-libstdc++-33-3.2.3-69.el6 (x86_64)
compat-libstdc++-33-3.2.3-69.el6.i686
gcc-4.4.4-13.el6 (x86_64)
gcc-c++-4.4.4-13.el6 (x86_64)
glibc-2.12-1.7.el6 (i686)
glibc-2.12-1.7.el6 (x86_64)
glibc-devel-2.12-1.7.el6 (x86_64)
glibc-devel-2.12-1.7.el6.i686
ksh
libgcc-4.4.4-13.el6 (i686)
libgcc-4.4.4-13.el6 (x86_64)
libstdc++-4.4.4-13.el6 (x86_64)
libstdc++-4.4.4-13.el6.i686
libstdc++-devel-4.4.4-13.el6 (x86_64)
libstdc++-devel-4.4.4-13.el6.i686
libaio-0.3.107-10.el6 (x86_64)
libaio-0.3.107-10.el6.i686
libaio-devel-0.3.107-10.el6 (x86_64)
libaio-devel-0.3.107-10.el6.i686
make-3.81-19.el6
sysstat-9.0.4-11.el6 (x86_64)
```

On Oracle Linux 6 and Red Hat Enterprise Linux 6:

- `unixODBC-2.2.14-11.el6 (x86_64) or later`
- `unixODBC-2.2.14-11.el6.i686 or later`
- `unixODBC-devel-2.2.14-11.el6 (x86_64) or later`
- `unixODBC-devel-2.2.14-11.el6.i686 or later`

To determine whether the required packages are installed, enter commands similar to the following:

```
# rpm -q package_name
or
# yum list | grep gcc
```

If a package is not installed, then install it from the Linux distribution media or download the required package version from the Linux vendor's Web site.

The kernel parameters will all be at their default values.

Issue the following command to get to the ">" prompt to edit the parameters.

```
# cat >> /etc/sysctl.conf <<EOF
```

Cut and paste the following commands while logged in as root at the ">" command prompt.

```
fs.aio-max-nr = 1048576
fs.file-max = 6815744
kernel.shmall = 2097152
kernel.shmmax = 536870912
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default = 262144
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048586
EOF

# /sbin/sysctl -p
```

Exit from root and go to the /tmp/database directory that was created from unzipping the Oracle software.

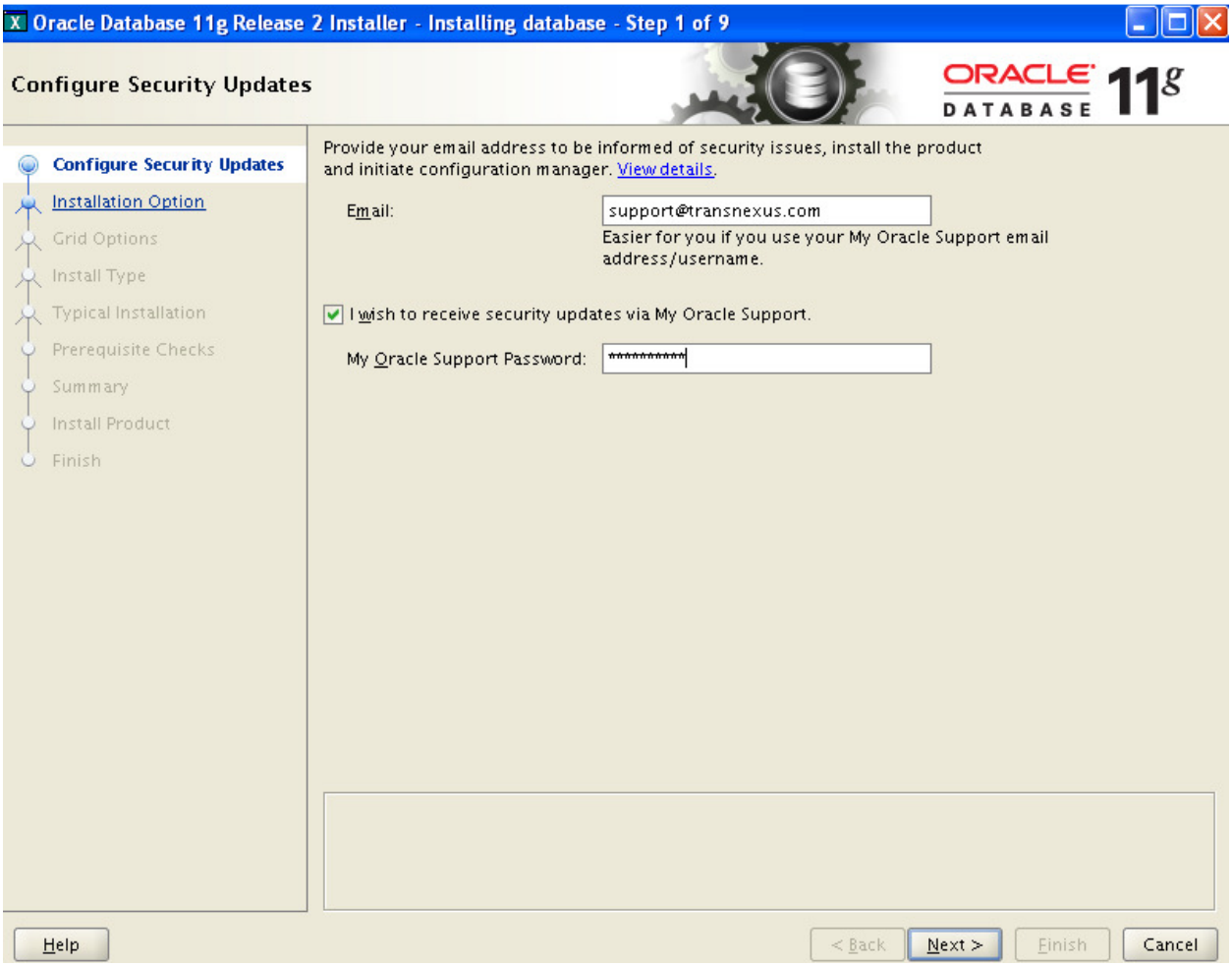
If you determined that the /tmp directory has less than 1 GB of free disk space, then identify a file system with at least 1 GB of free space and set the TMP and TMPDIR environment variables to specify a temporary directory on this file system:

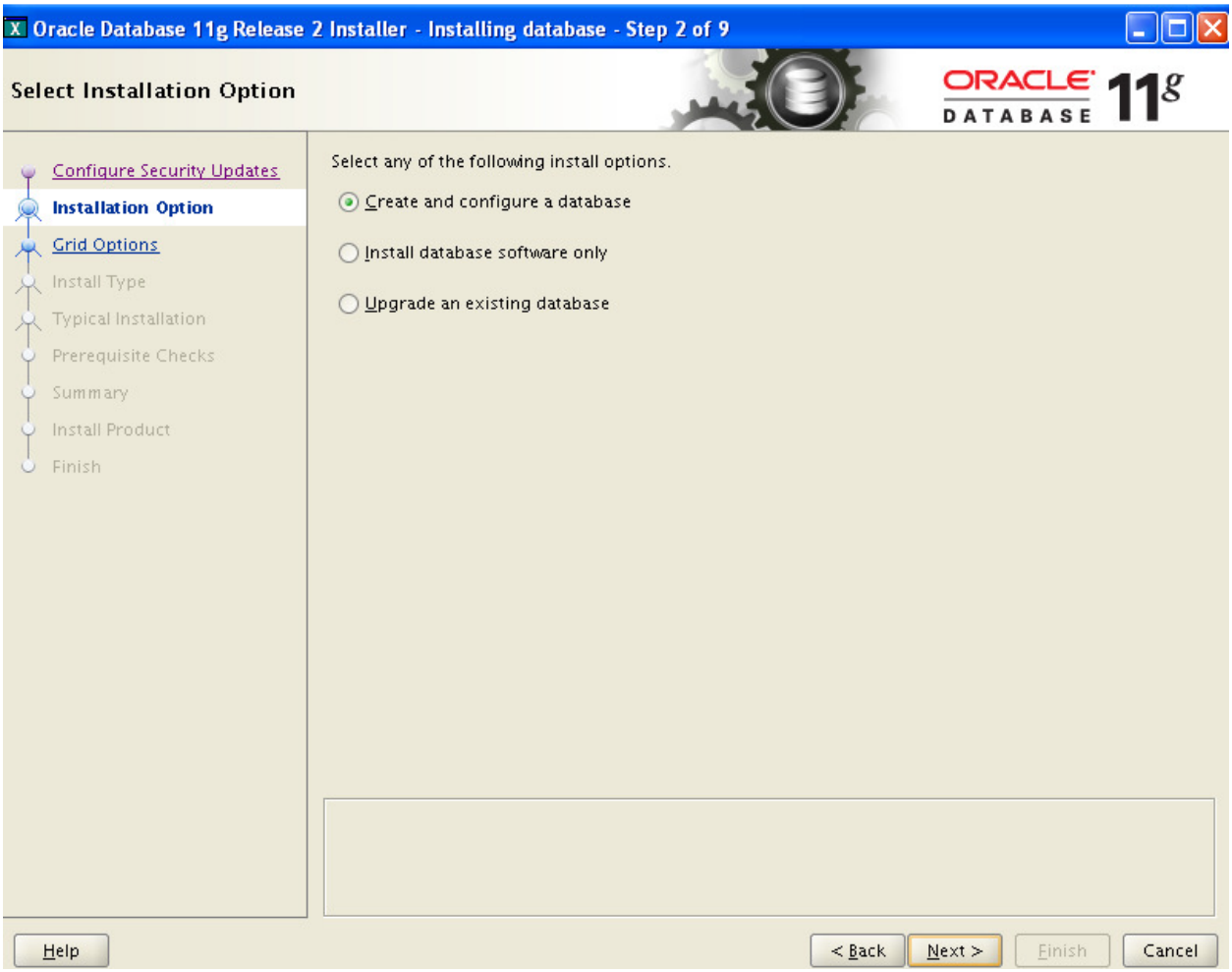
```
$ TMP=/mount_point/tmp (i.e. /home/ossadmin/tmp)
$ TMPDIR=/mount_point/tmp
$ export TMP TMPDIR
```

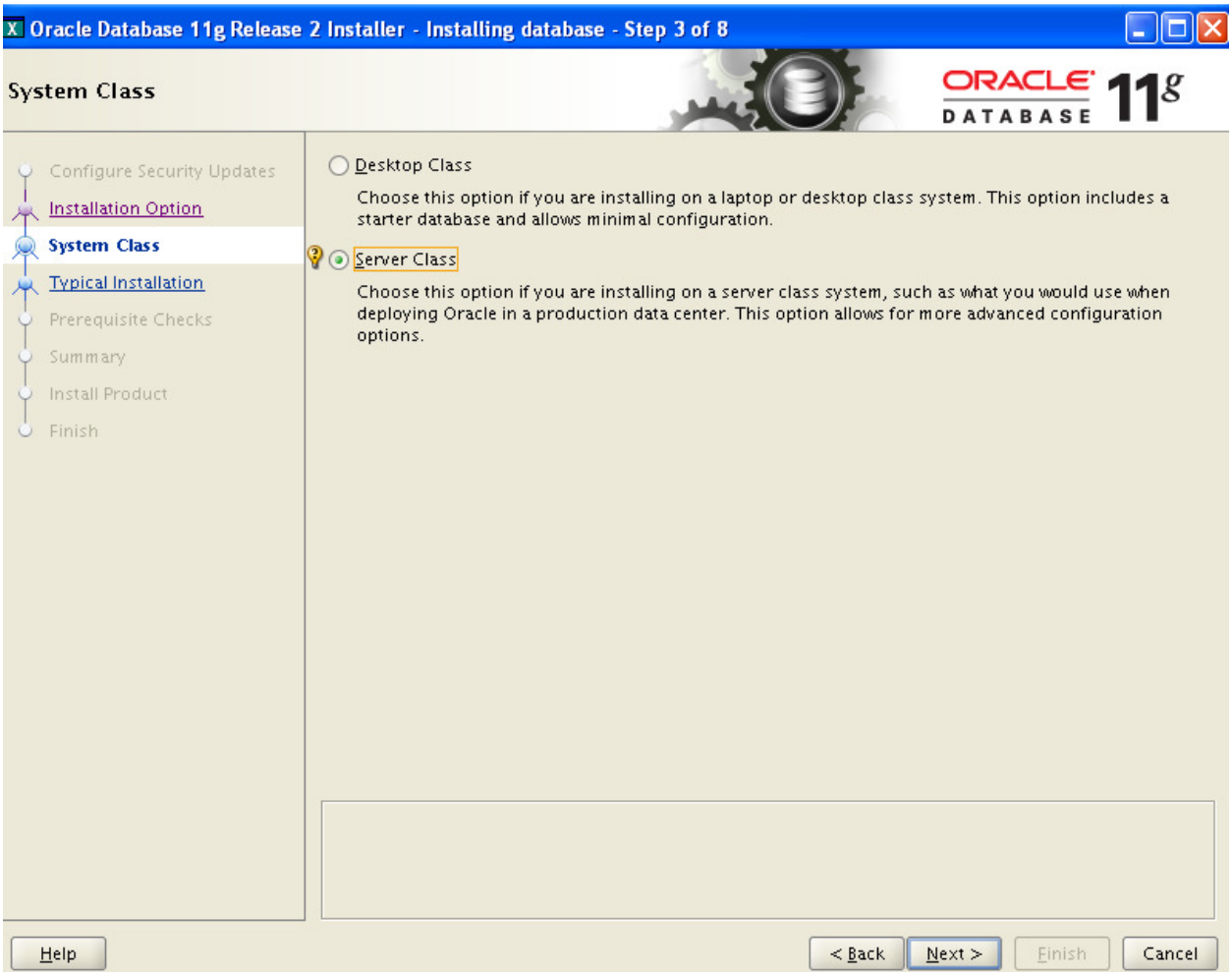
If you are connecting remotely, set your DISPLAY and then start the installer user interface.

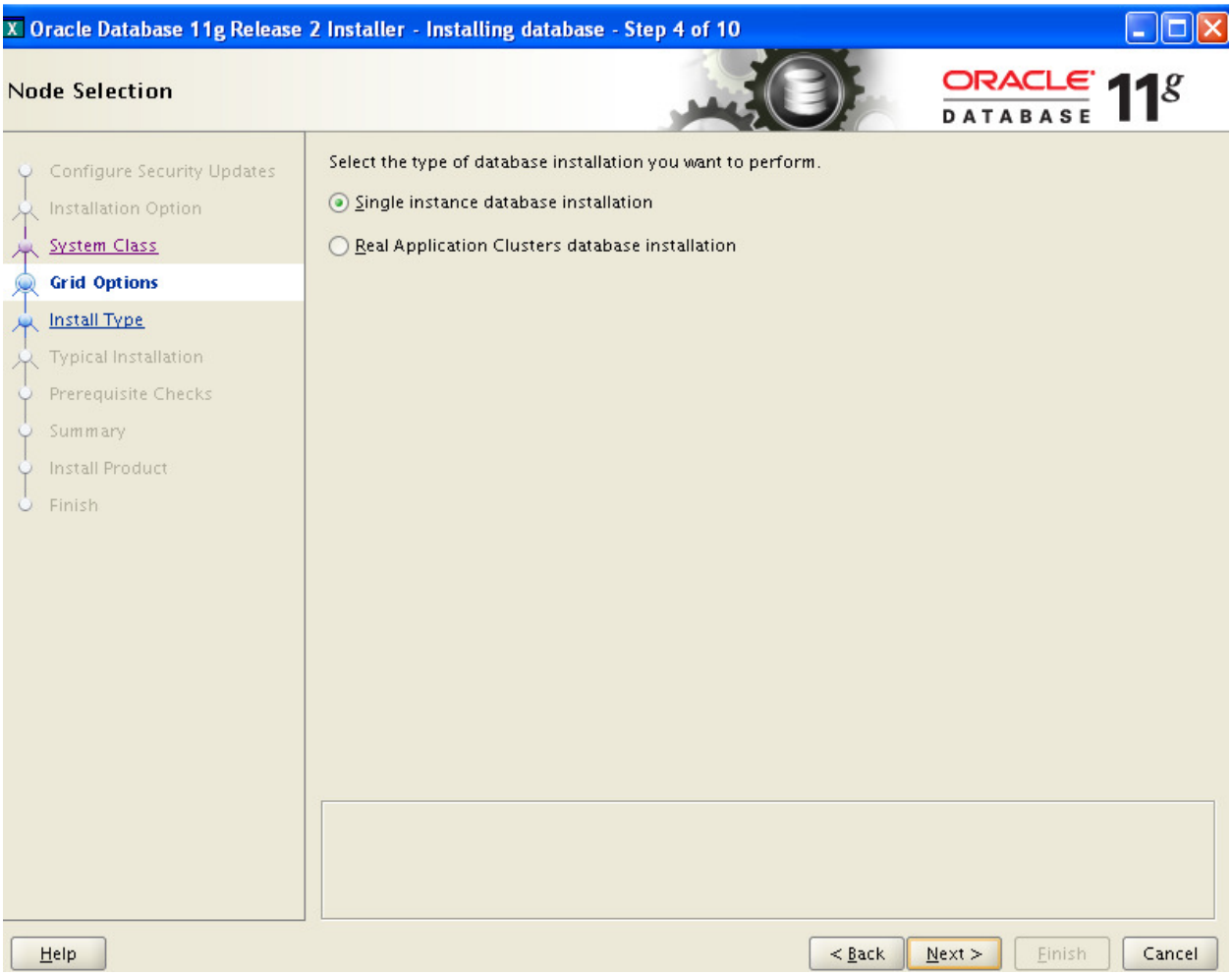
```
$ cd /tmp/database
$ export DISPLAY=localhost:0.0
$ ./runInstaller
```

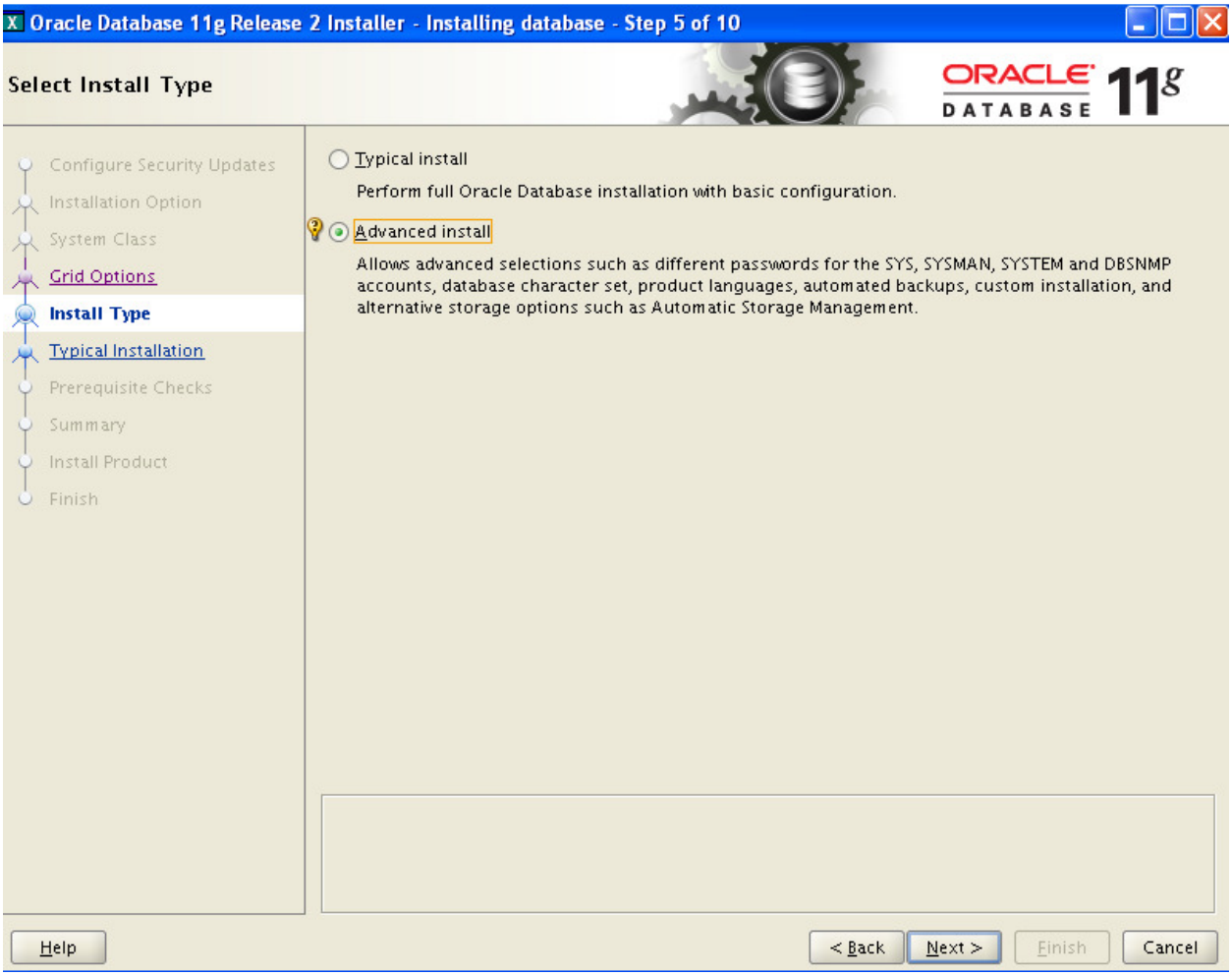
```
[ossadmin@old-server database]$ ./runInstaller
Starting Oracle Universal Installer...

Checking Temp space: must be greater than 120 MB.   Actual 7969 MB    Passed
Checking swap space: must be greater than 150 MB.   Actual 15135 MB    Passed
Checking monitor: must be configured to display at least 256 colors.    Actual 16777216    Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2011-04-01_02-56-42PM. Please wait ...
```

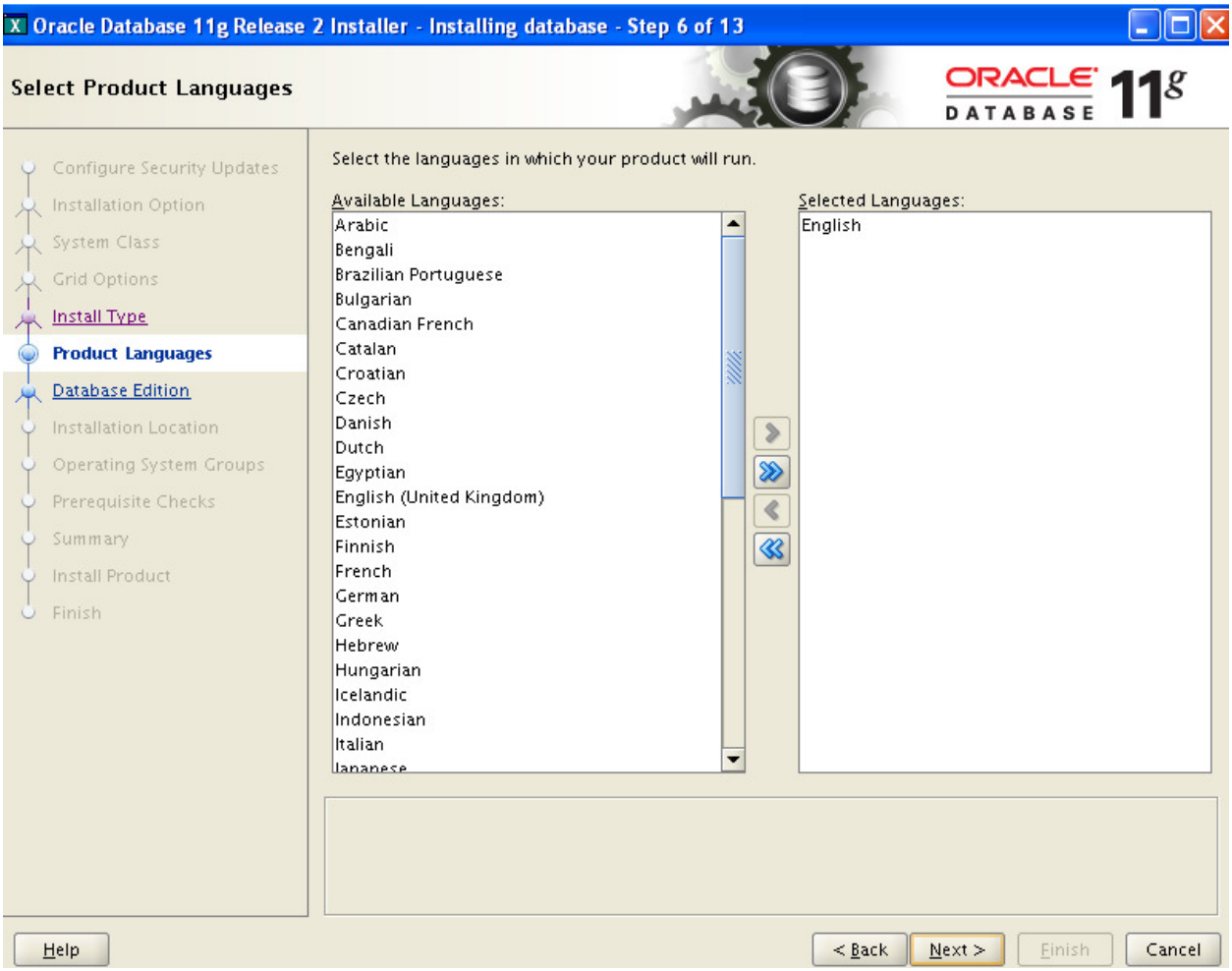


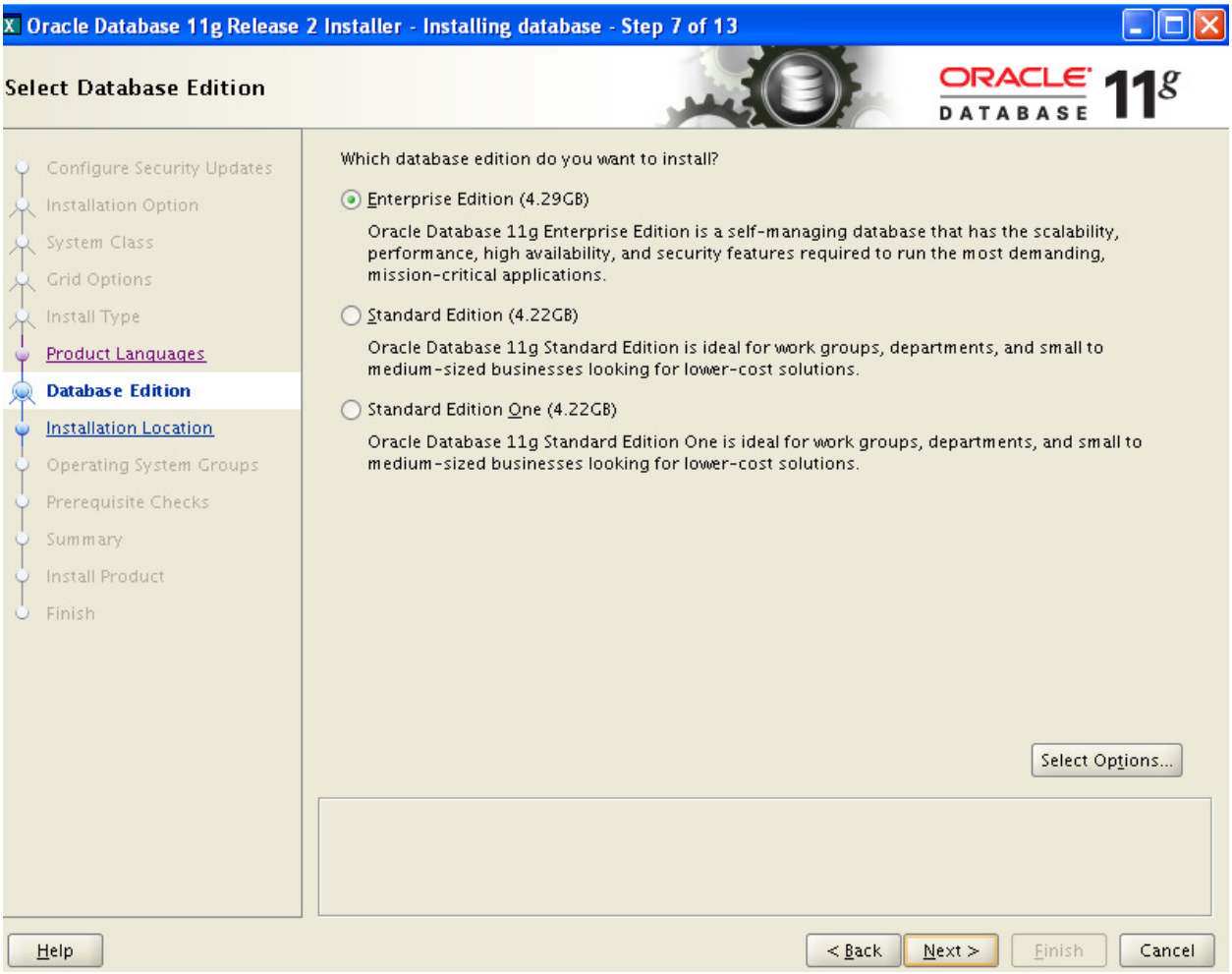


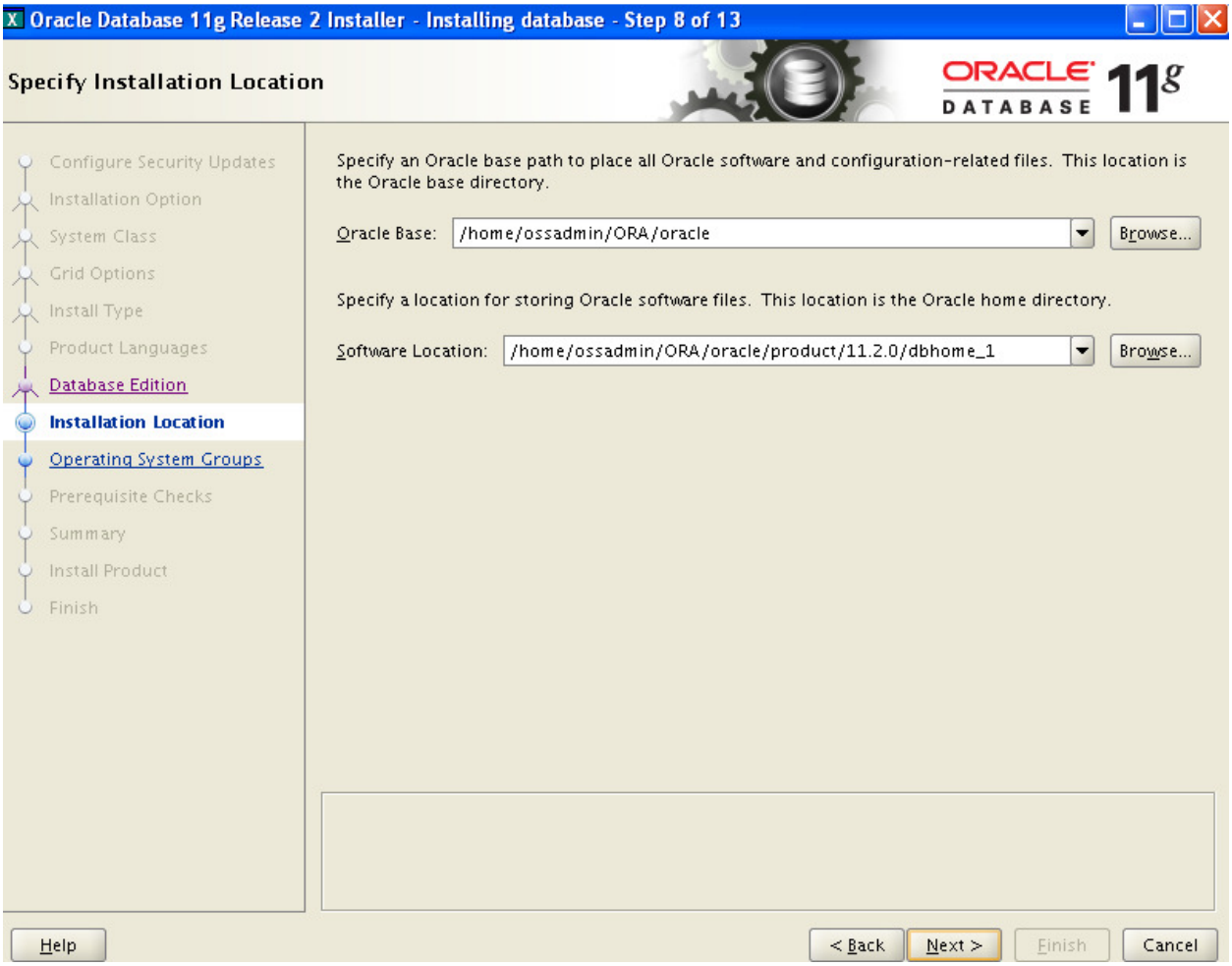


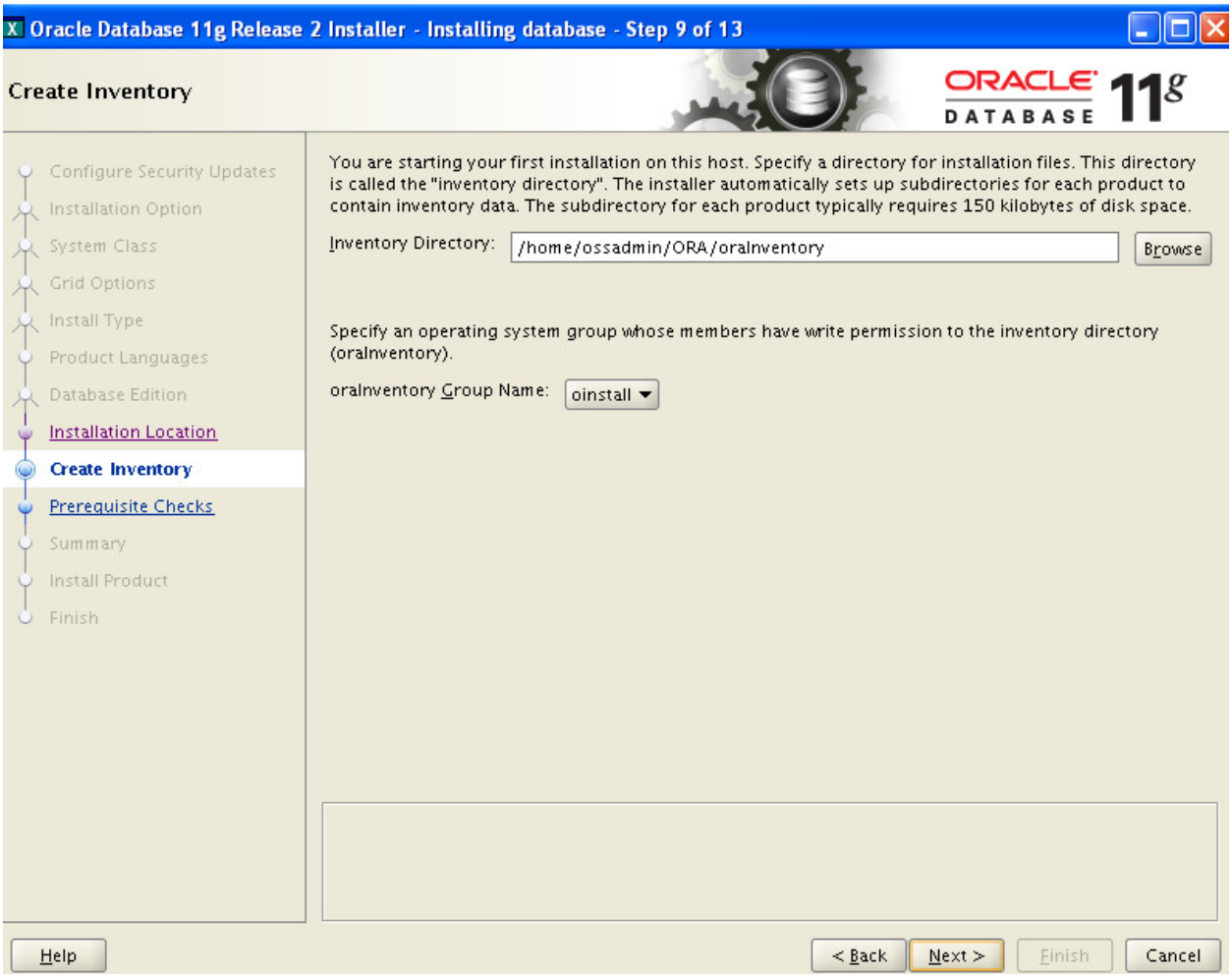


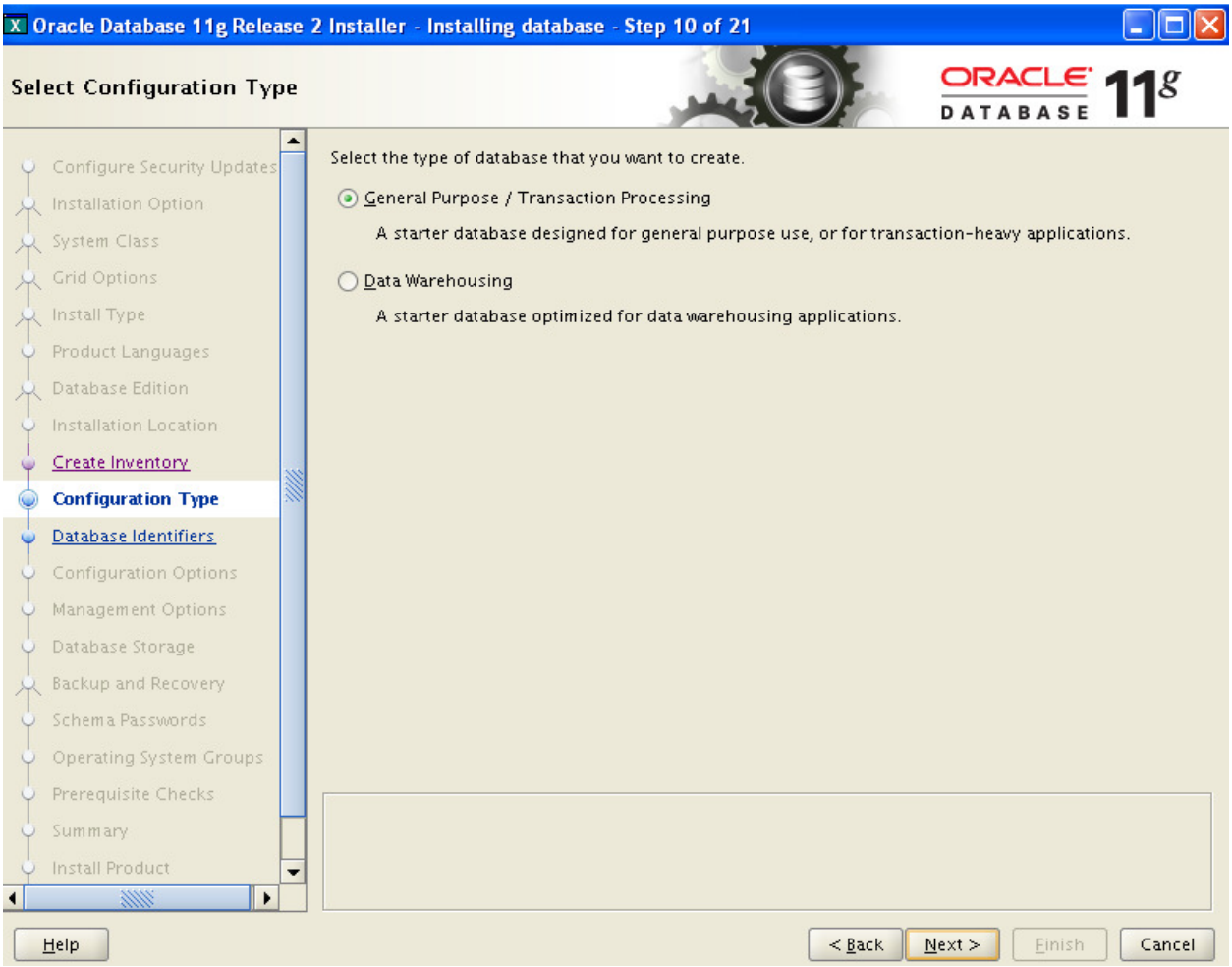


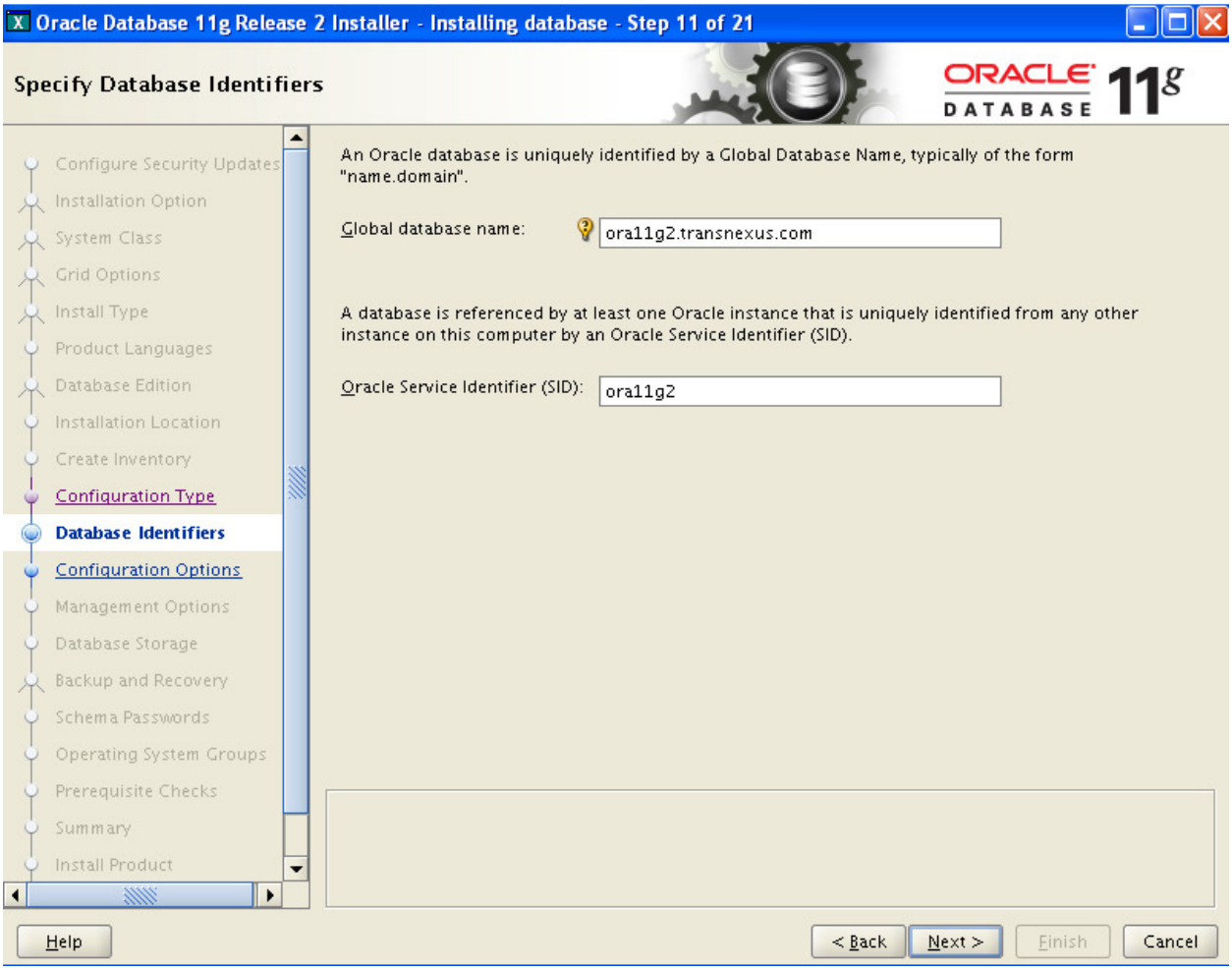


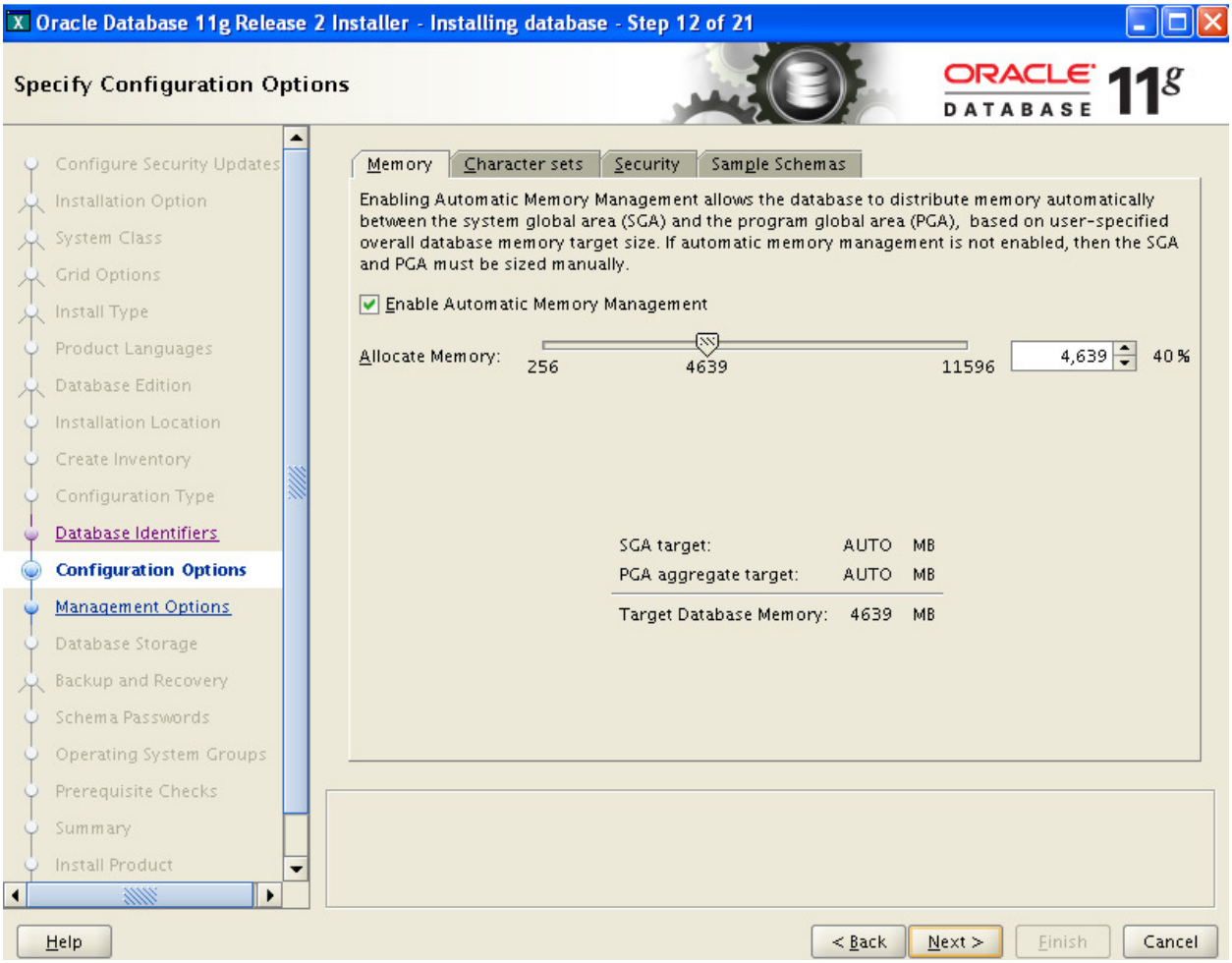


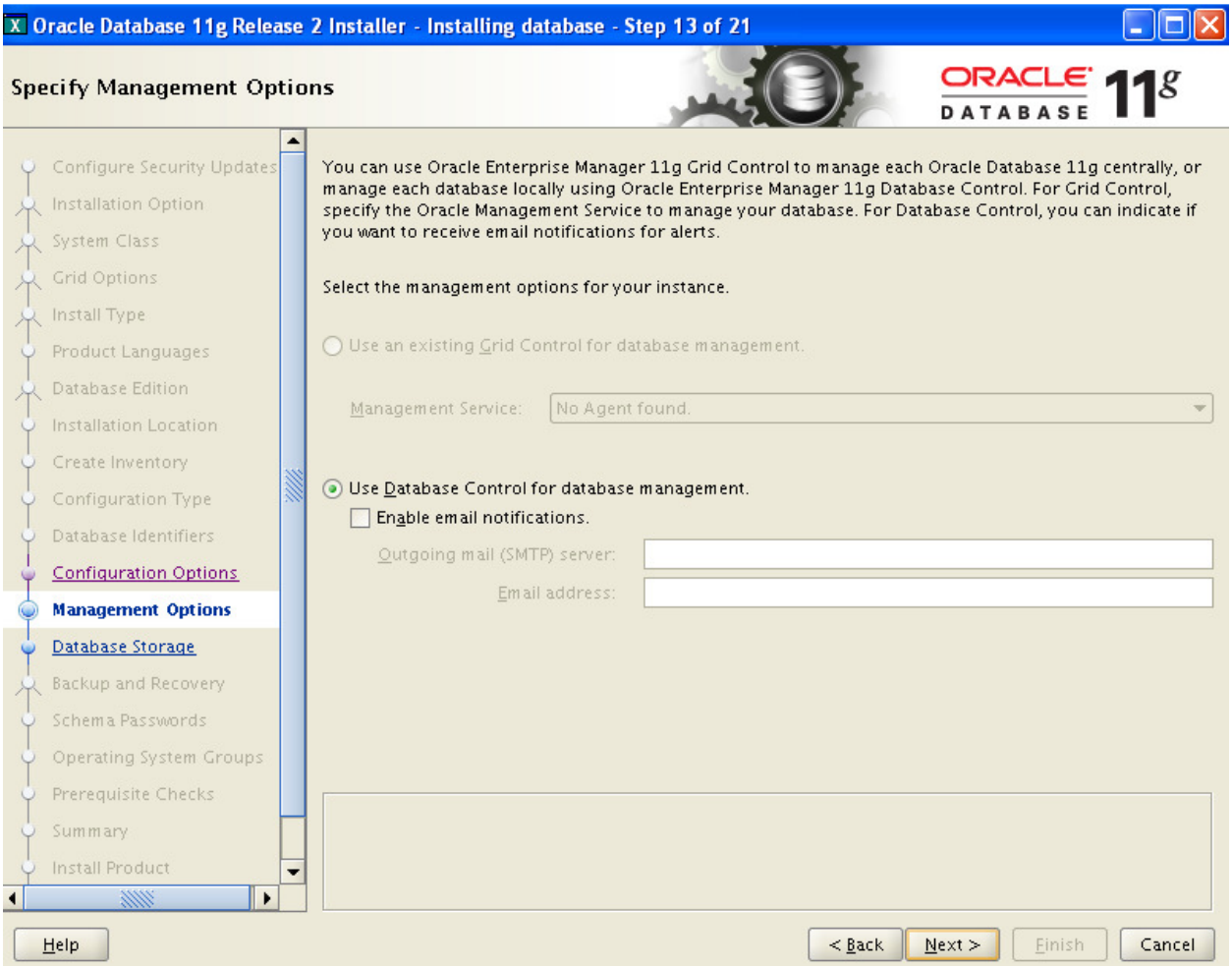


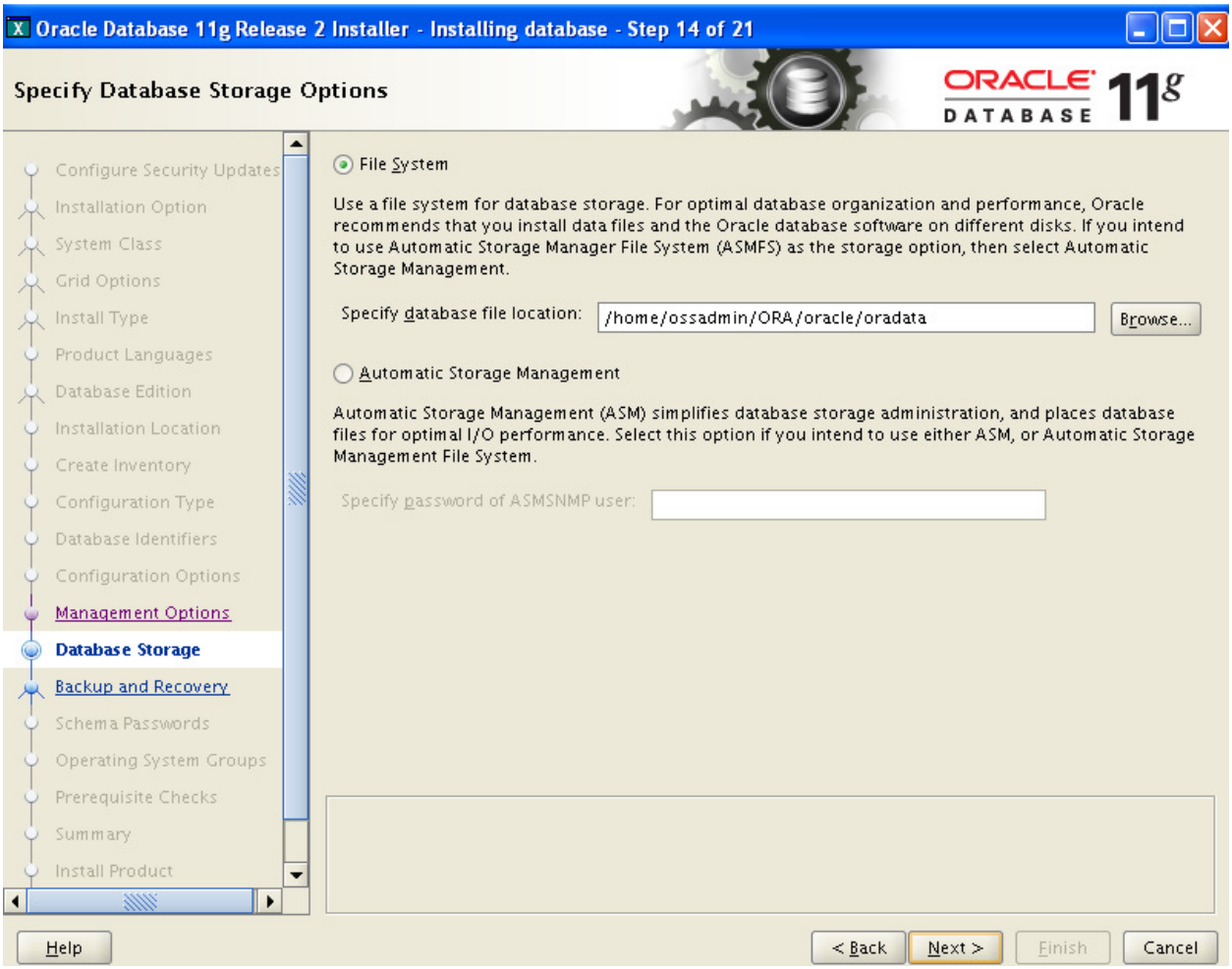




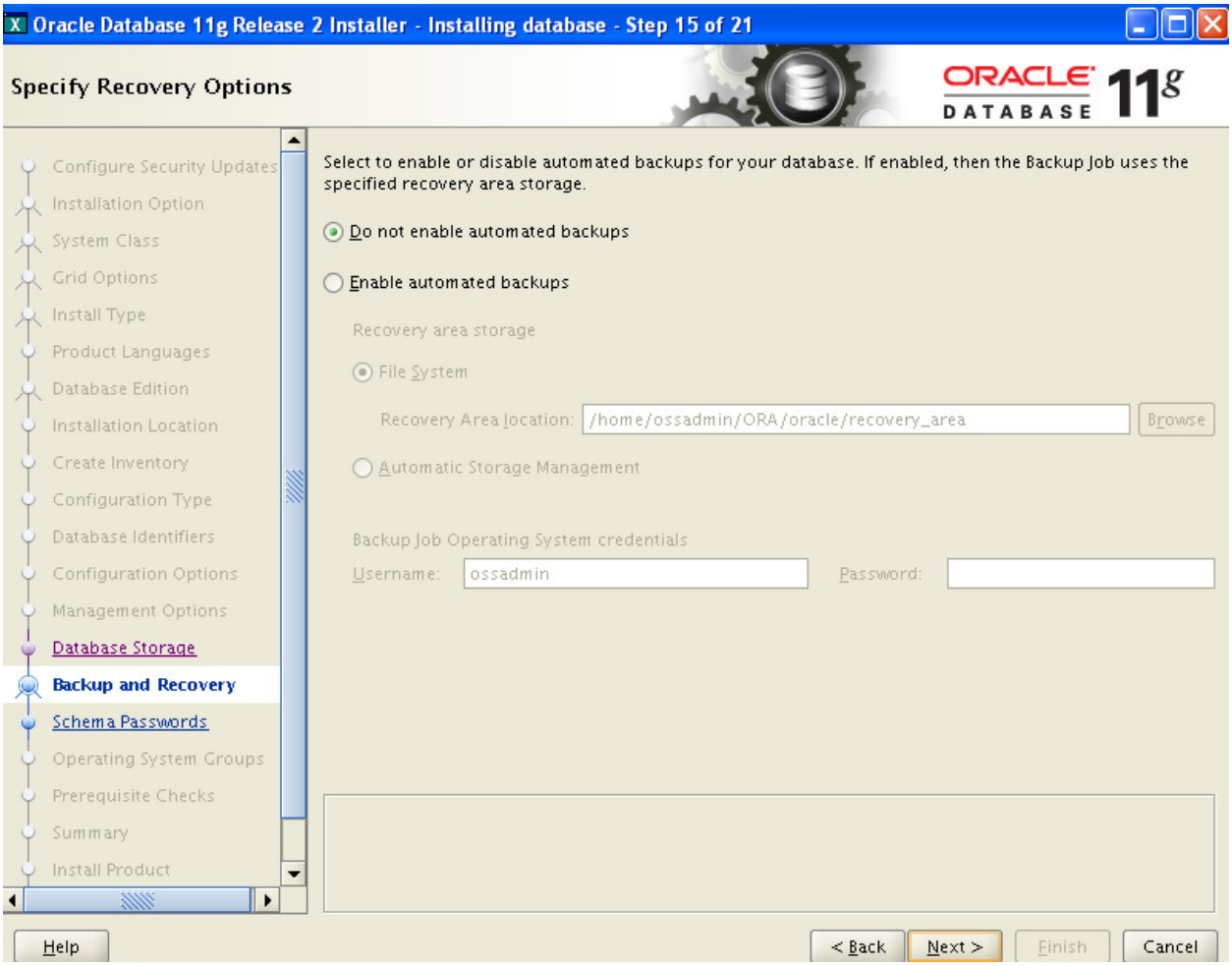




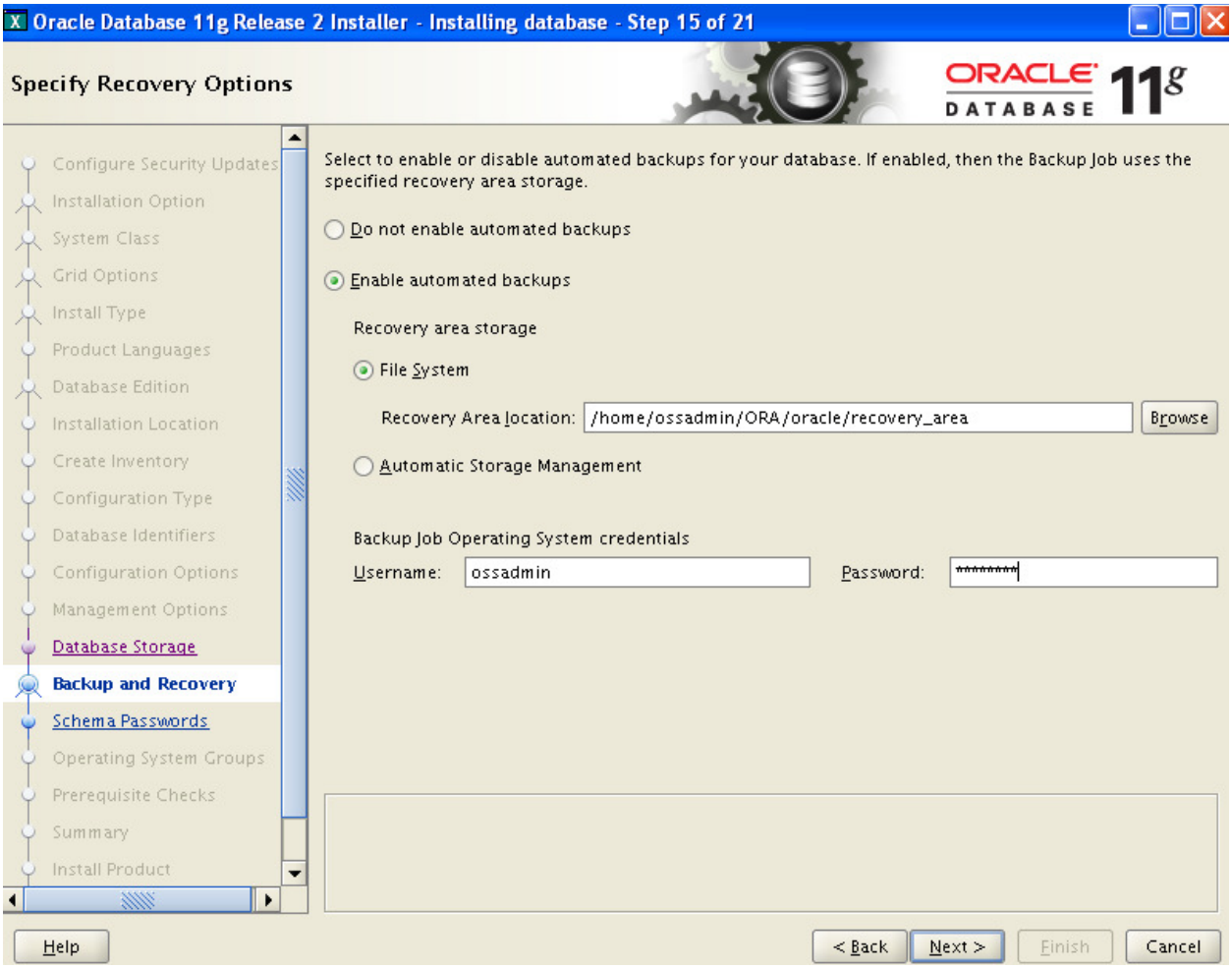


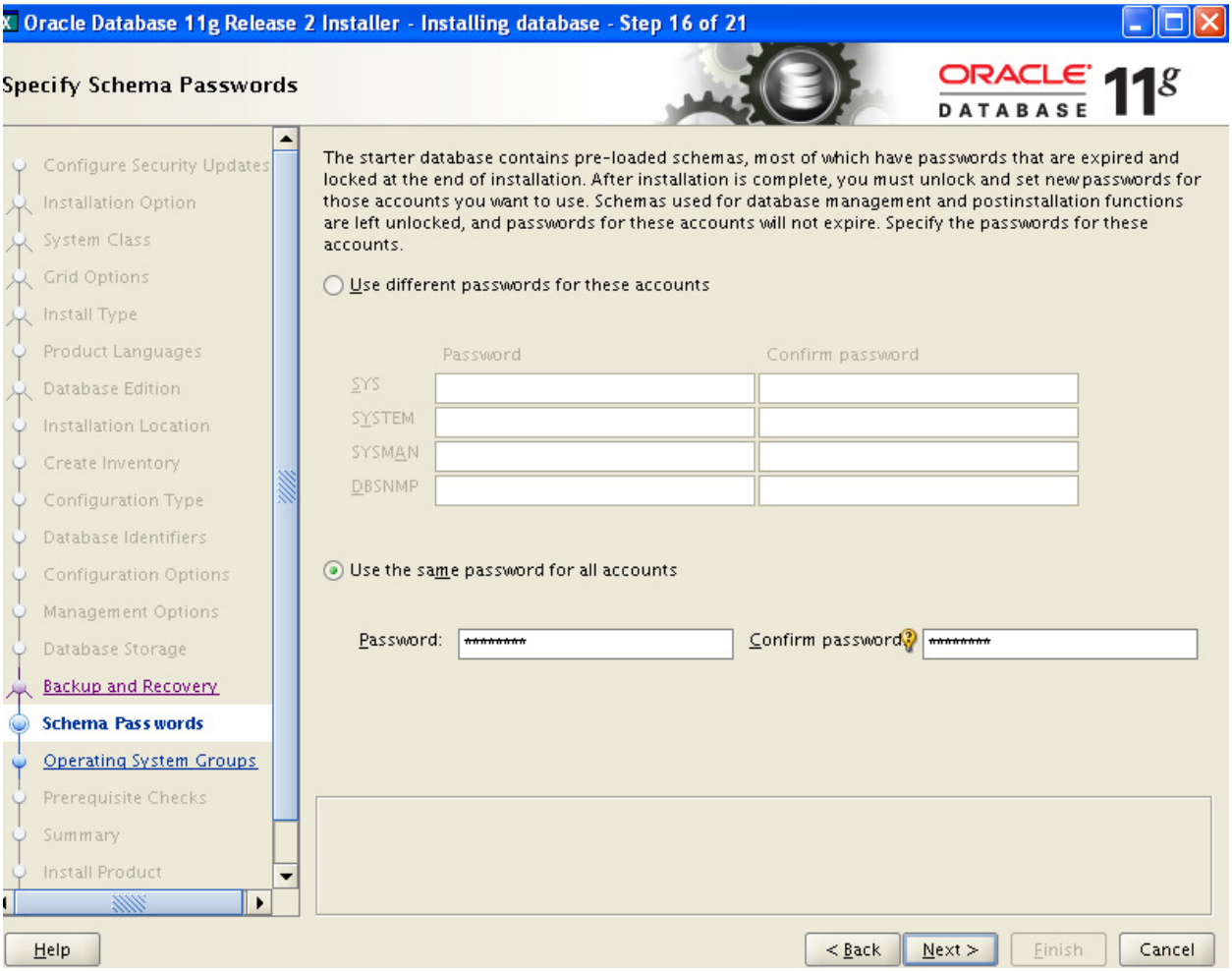


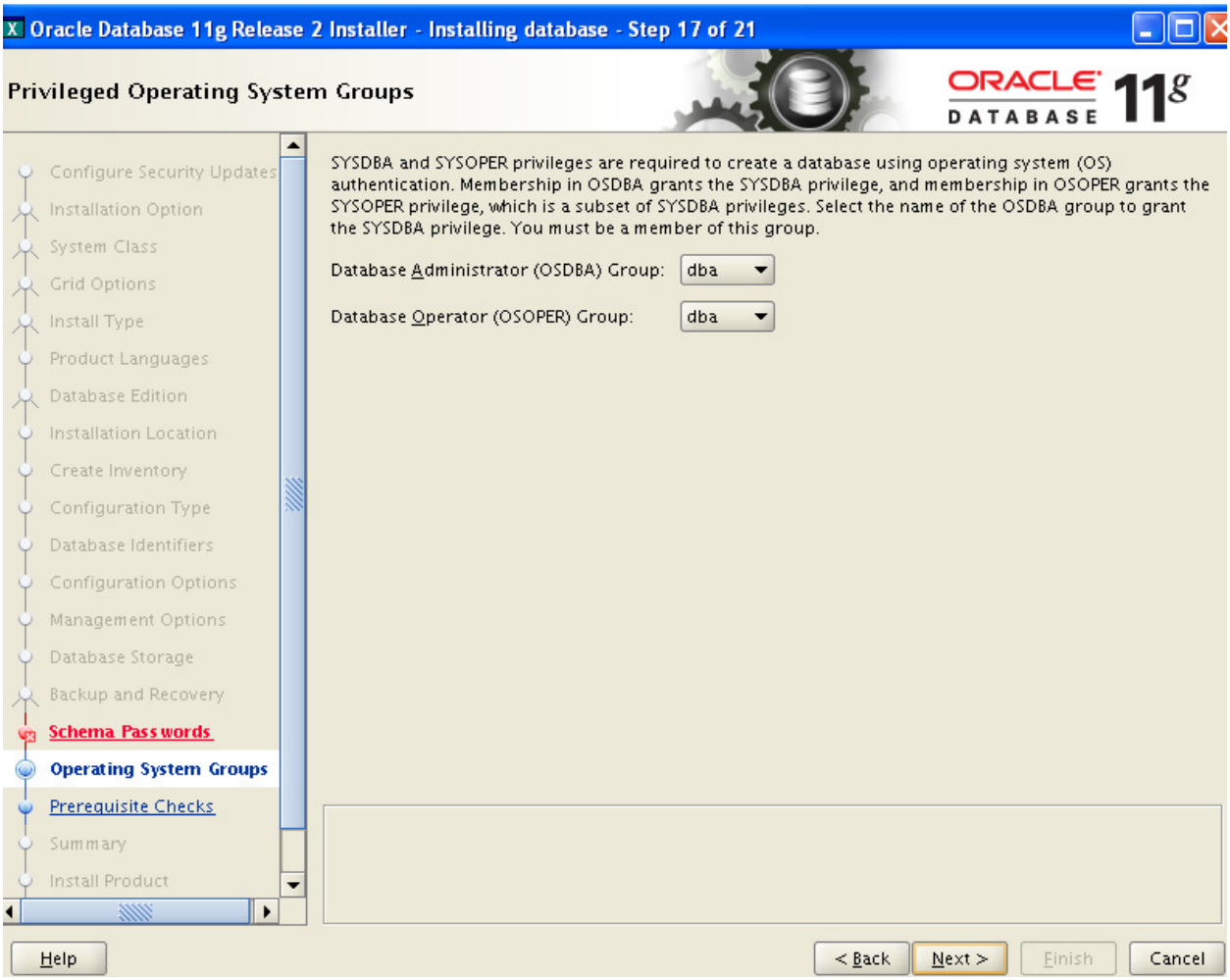
Option A

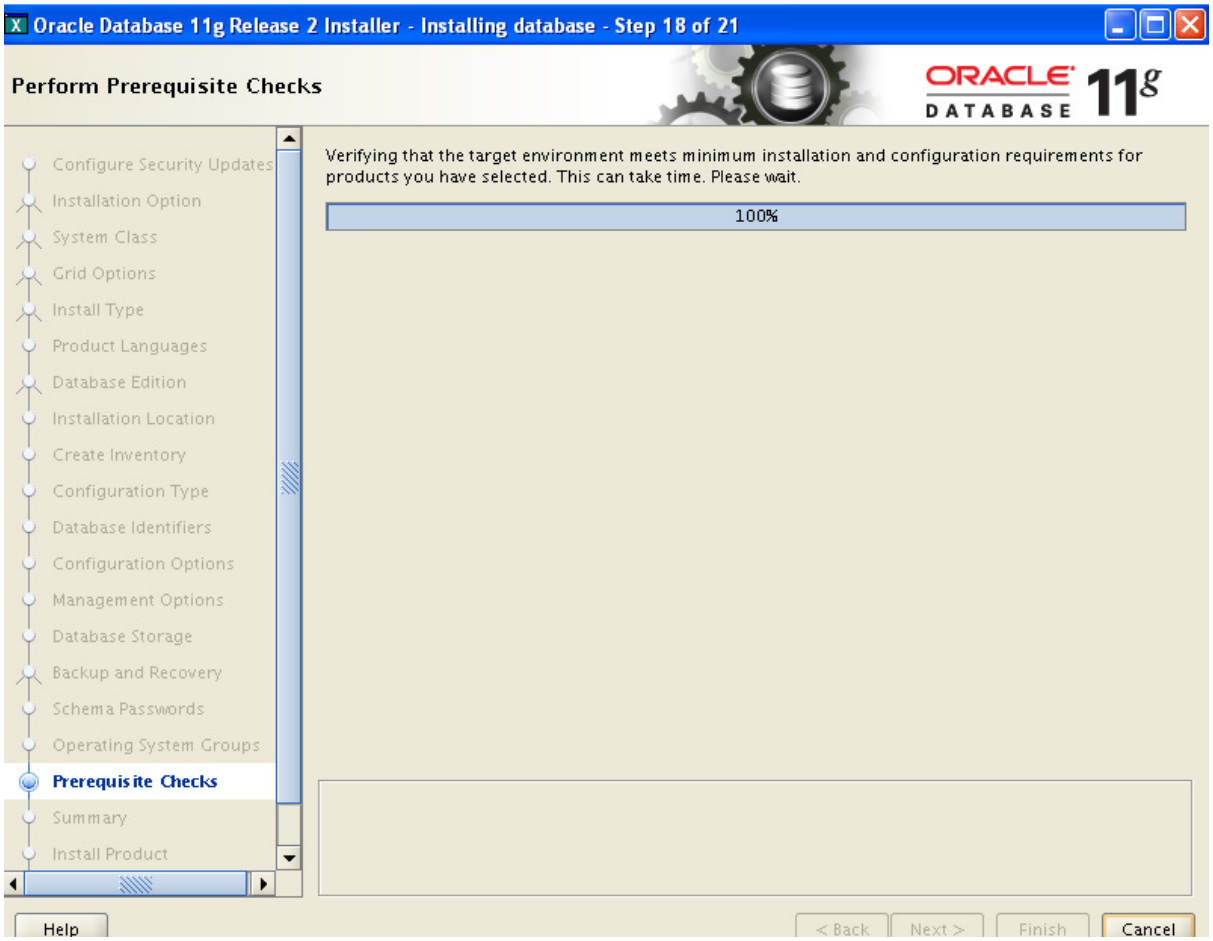


Option-B (this is an operator decision based on company policy)









k l qbW=***If the oracle prerequisite check gives a warning message indicating that there is not enough swap space on the system, do the following.=***

Calculate the space that you need by subtracting the Actual Value from the Expected Value that is shown on the runInstaller gui.

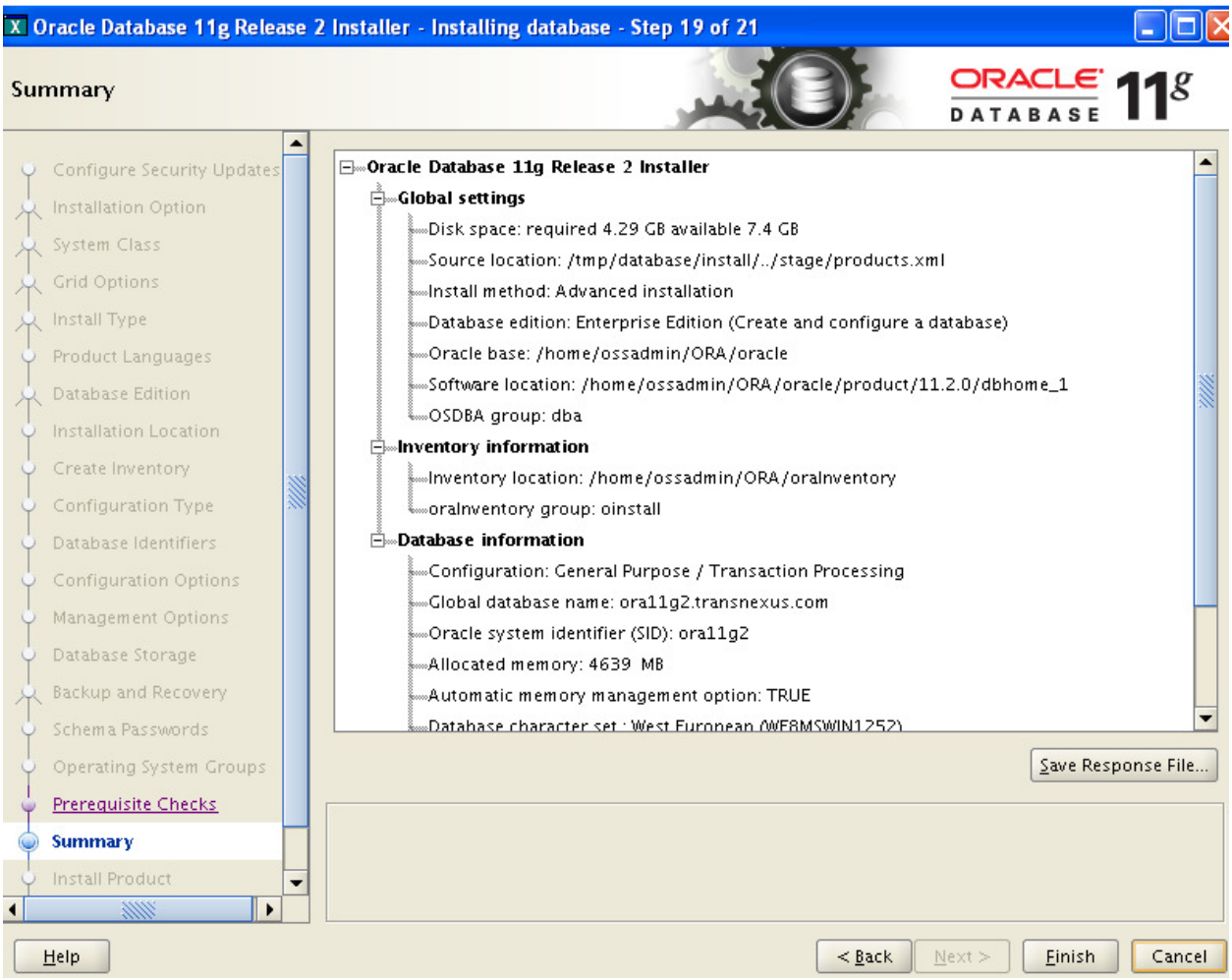
Login as root in another window and follow the example below. Replace 2048M with a value equal to or greater than the difference between the Actual Value and the Expected Value.

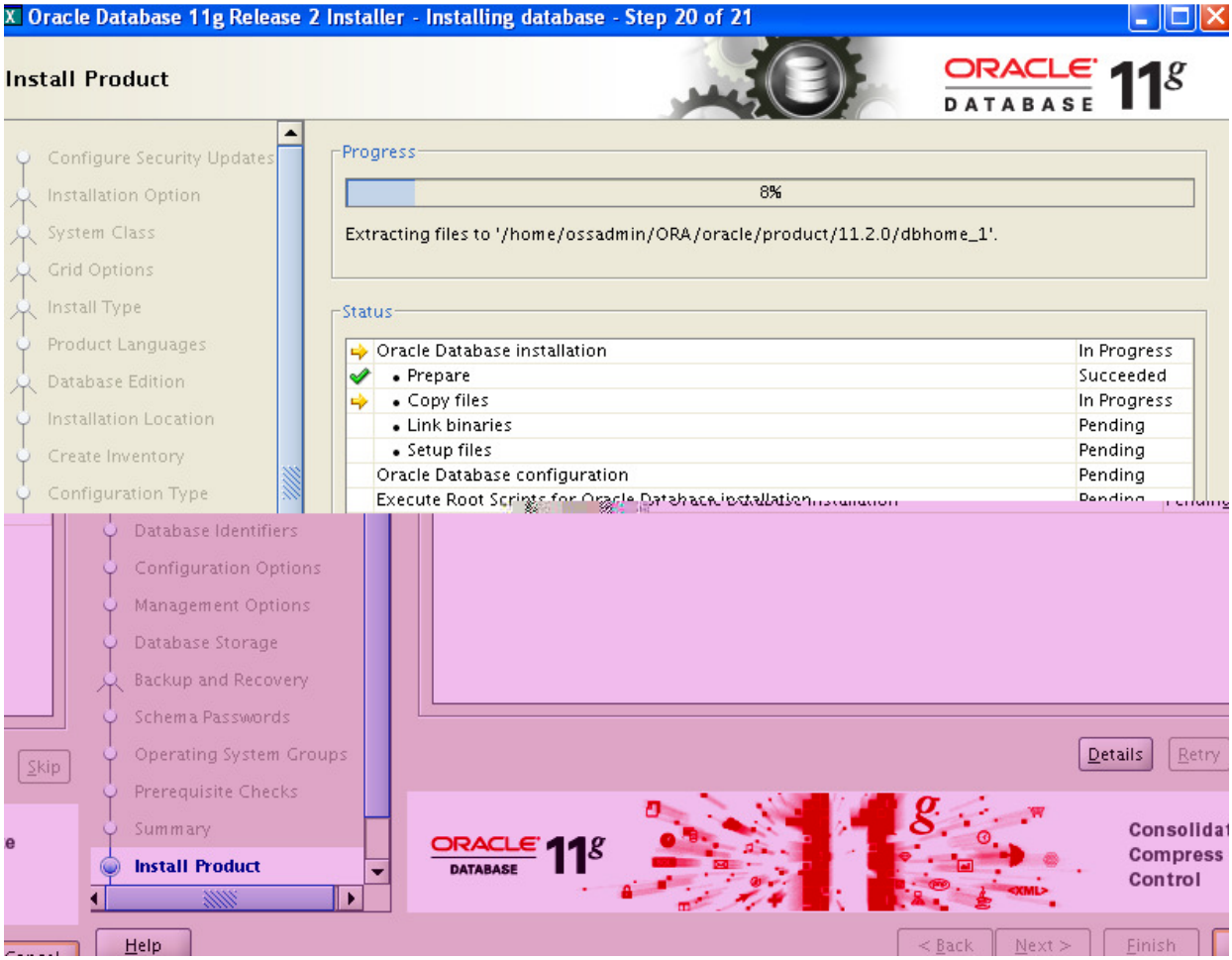
```
# cd /
# dd if=/dev/zero of=extraswap bs=2048M count=1
# /sbin/mkswap /extraswap
# /sbin/swapon /extraswap
```

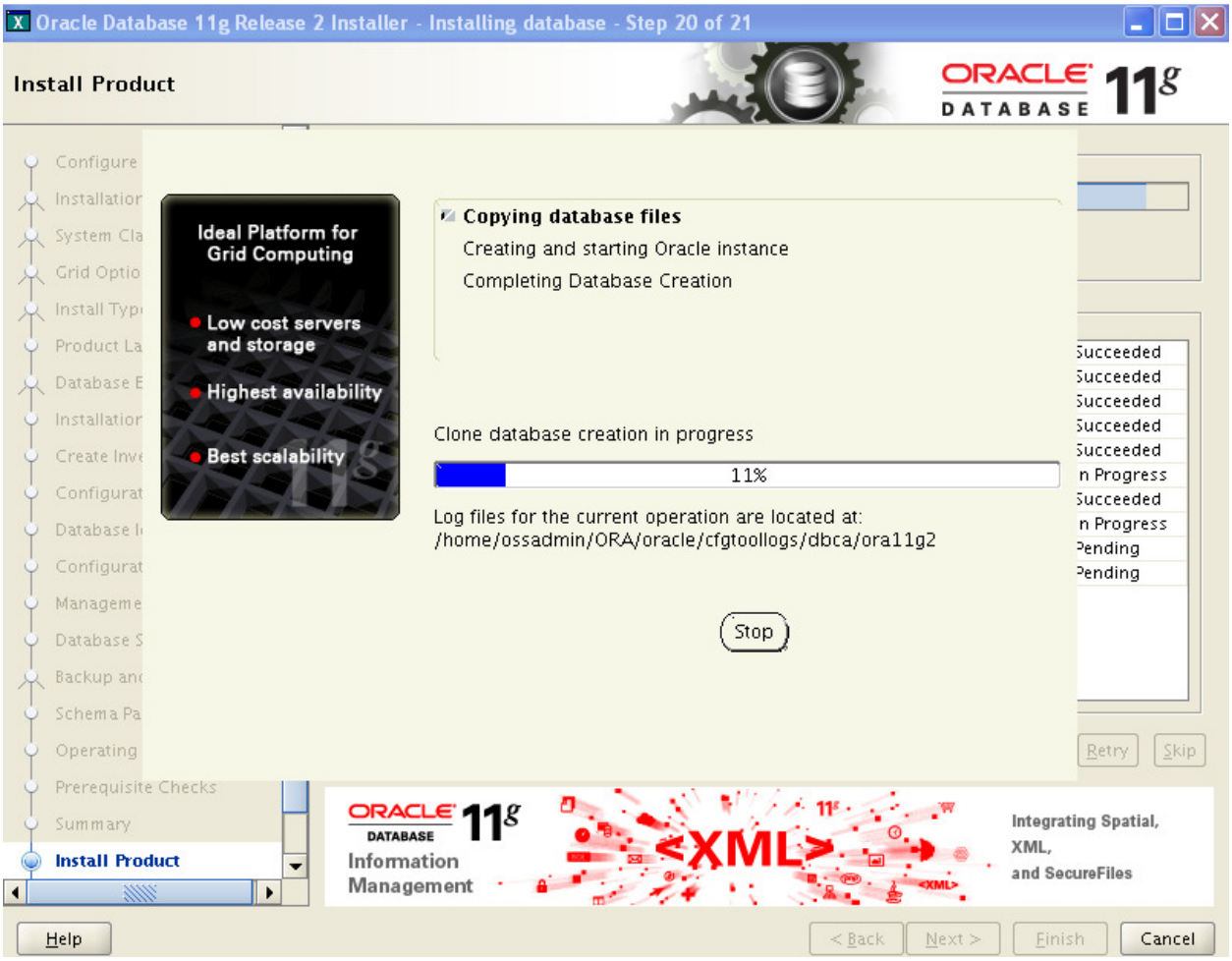
Edit the /etc/fstab to include the new swapfile named /extraswap.

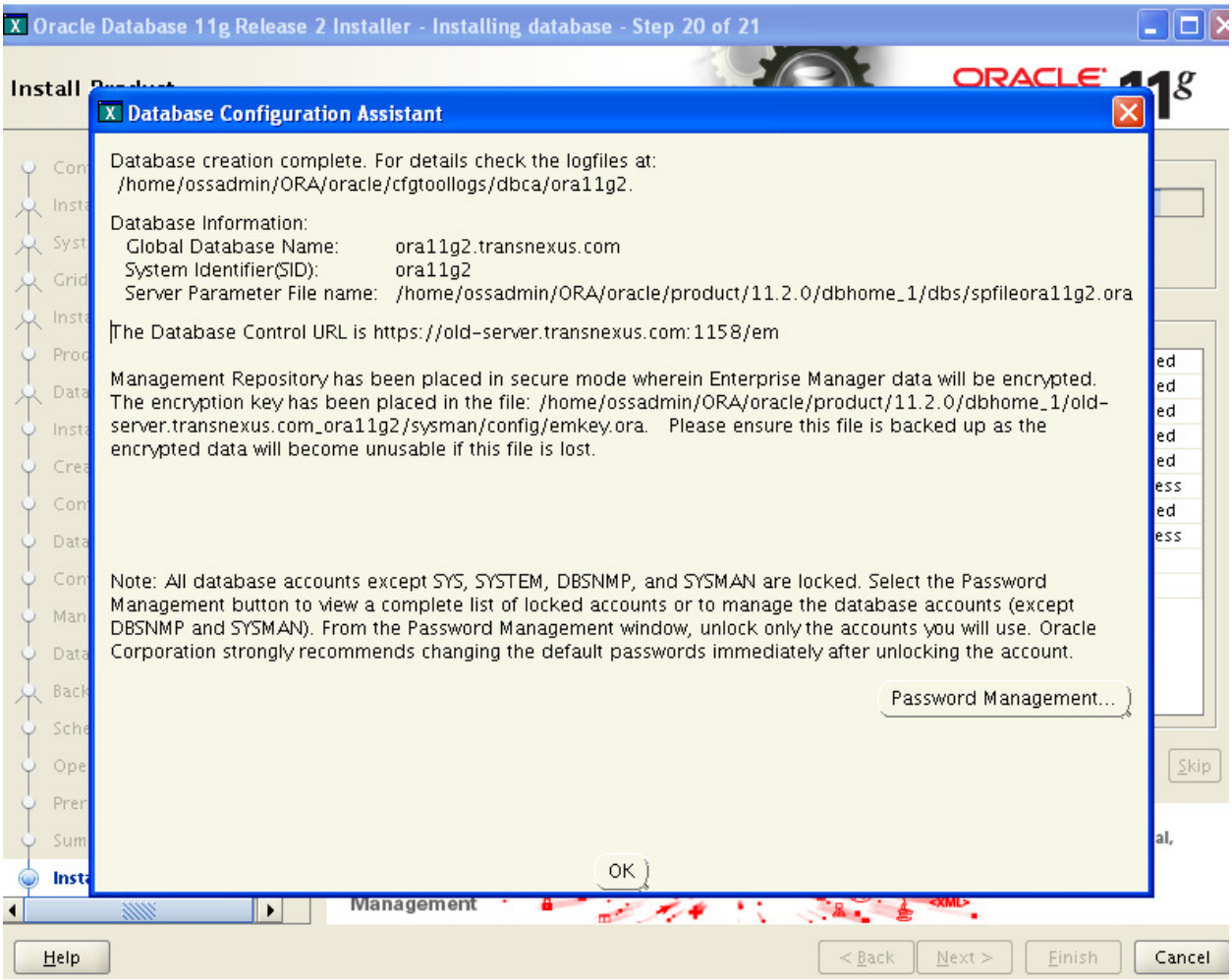
```
# vi /etc/fstab
```

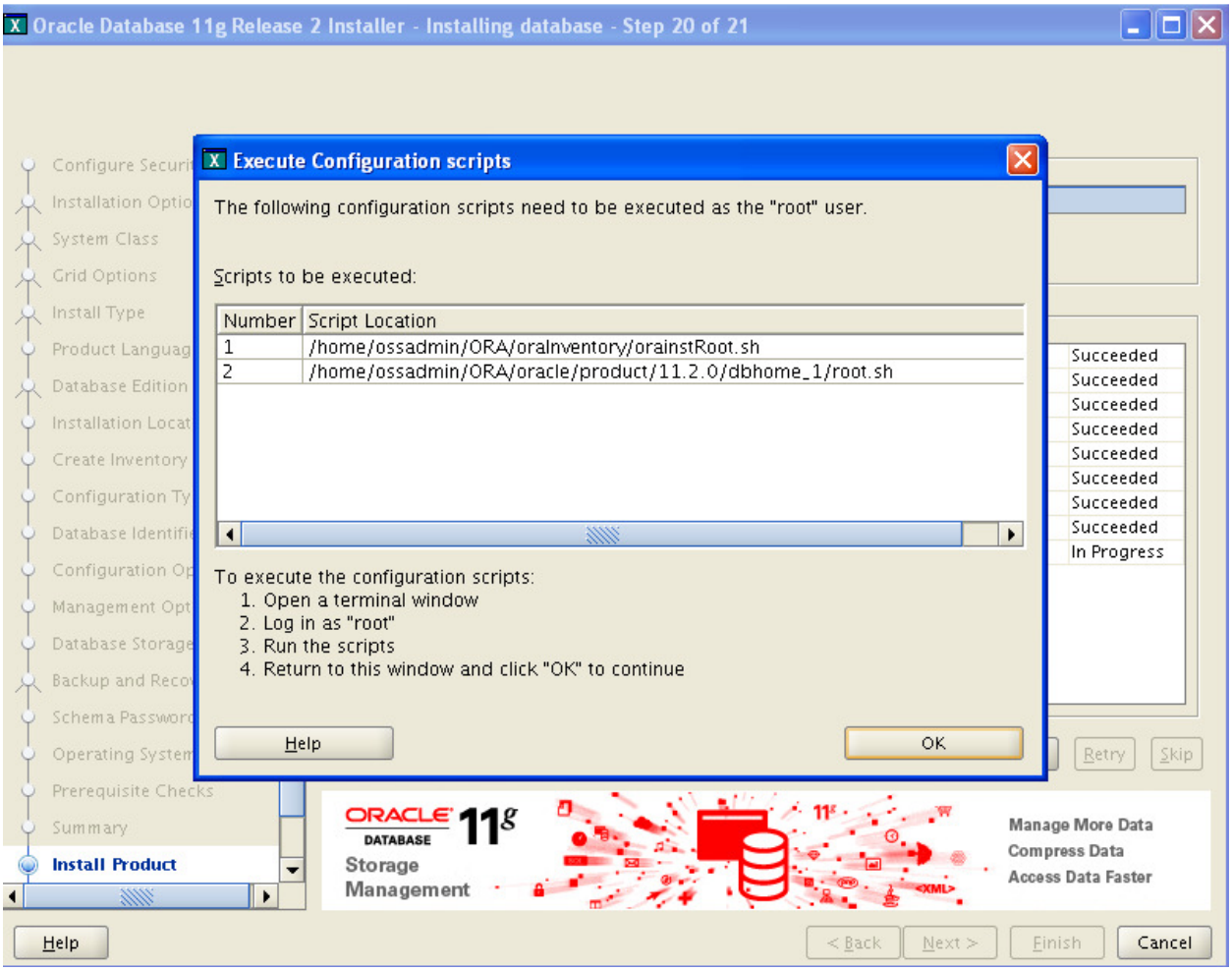
```
/dev/VolGroup_ID_25103/LogVol0     swap     swap     defaults     0 0
/extraswap     swap     swap     defaults     0 0
```



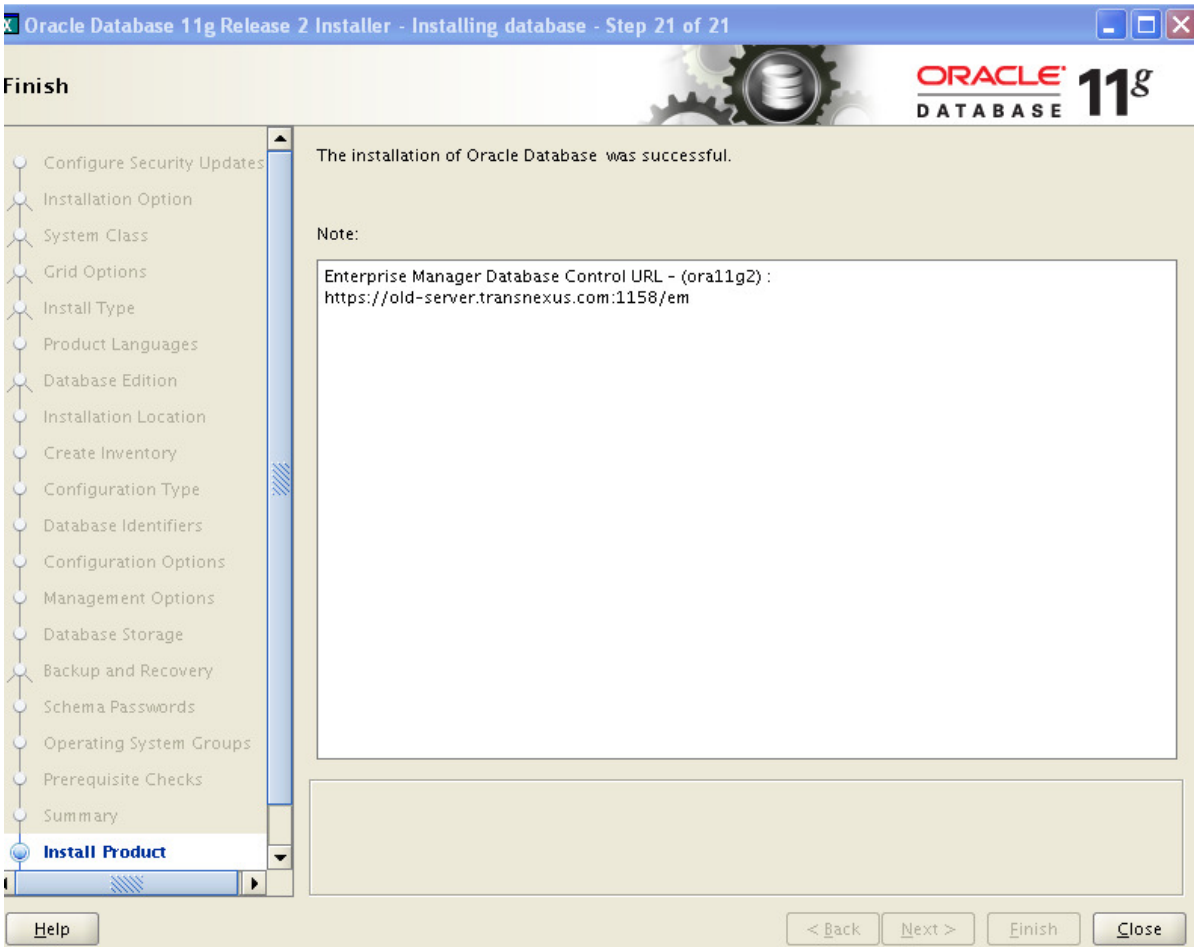








```
[root@old-server ossadmin]#
[root@old-server ossadmin]# /home/ossadmin/ORA/oraInventory/orainstRoot.sh
Changing permissions of /home/ossadmin/ORA/oraInventory.
Adding read,write permissions for group.
Removing read,write,execute permissions for world.

Changing groupname of /home/ossadmin/ORA/oraInventory to oinstall.
The execution of the script is complete.
[root@old-server ossadmin]#
[root@old-server ossadmin]# /home/ossadmin/ORA/oracle/product/11.2.0/dbhome_1/root.sh
Running Oracle 11g root.sh script...

The following environment variables are set as:
    ORACLE_OWNER= ossadmin
    ORACLE_HOME=  /home/ossadmin/ORA/oracle/product/11.2.0/dbhome_1

Enter the full pathname of the local bin directory: [/usr/local/bin]:
   Copying dbhome to /usr/local/bin ...
   Copying oraenv to /usr/local/bin ...
   Copying coraenv to /usr/local/bin ...


Creating /etc/oratab file...
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.sh script.
Now product-specific root actions will be performed.
Finished product-specific root actions.
[root@old-server ossadmin]#
```



Go back to the CLI after installation window closes and edit oratab as user ossadmin.

Replace N with Y in the oratab file.

```
$ cd $ORACLE_HOME
$ pwd
/home/ossadmin/ORA/oracle/product/11.2.0/dbhome_1

$ cd install
$ vi oratab

     voxeodb11g:/home/ossadmin/ORA/oracle/product/11.2.0/db_1:Y
```

Login as root and edit /etc/oratab. Replace N with Y.

```
# cd /etc
# vi oratab
```

```
txnxdb:/home/ossadmin/ORA/oracle/product/11.1.0/dbhome_1:Y
```

Logout as root and then login to sqlplus as user SYSTEM to set password lifetime to UNLIMITED for the default Profile. This can also be done using Oracle's dbconsole user interface.

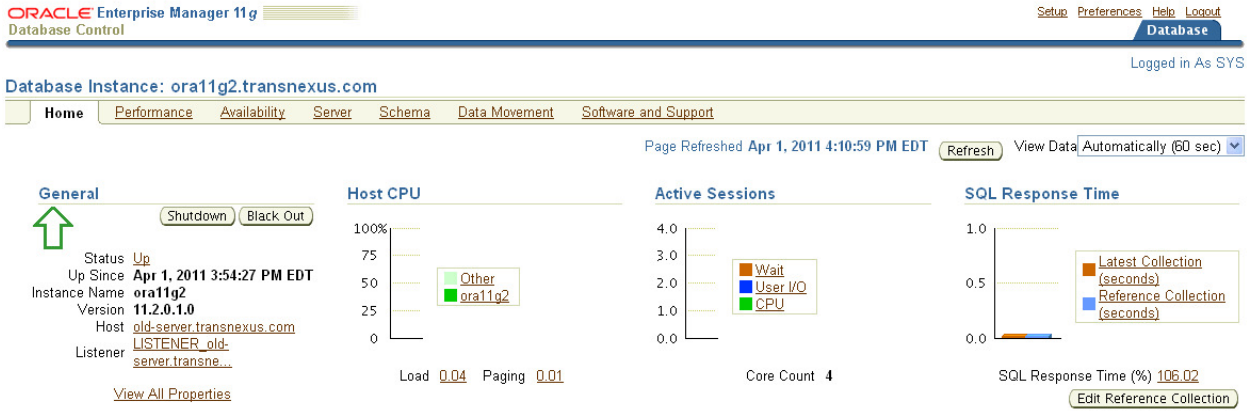
```
$ sqlplus system/*******@SID

SQL*Plus: Release 11.1.0.6.0 - Production on Mon Apr 27 13:58:24
2009

Copyright (c) 1982, 2007, Oracle.  All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.6.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> ALTER PROFILE DEFAULT LIMIT
  2  PASSWORD_LIFE_TIME UNLIMITED;

Profile altered.
```

Open an internet browser and connect to Oracles dbconsole.

https://ora11g2.transnexus.com.com:1158/em

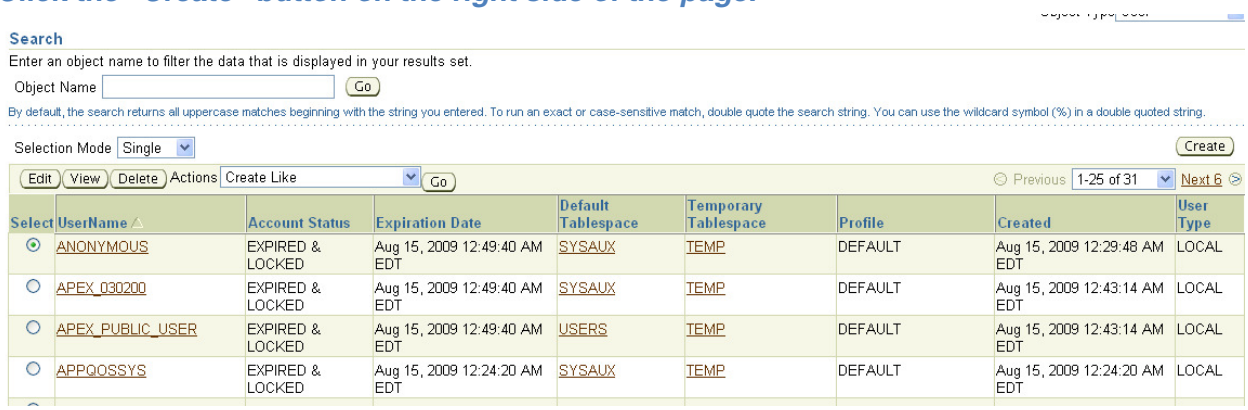
Login as the SYS user and connect as SYSDBA to create a database user that will own the tablespace for the NexOSS application.

Click on the "Server" button.



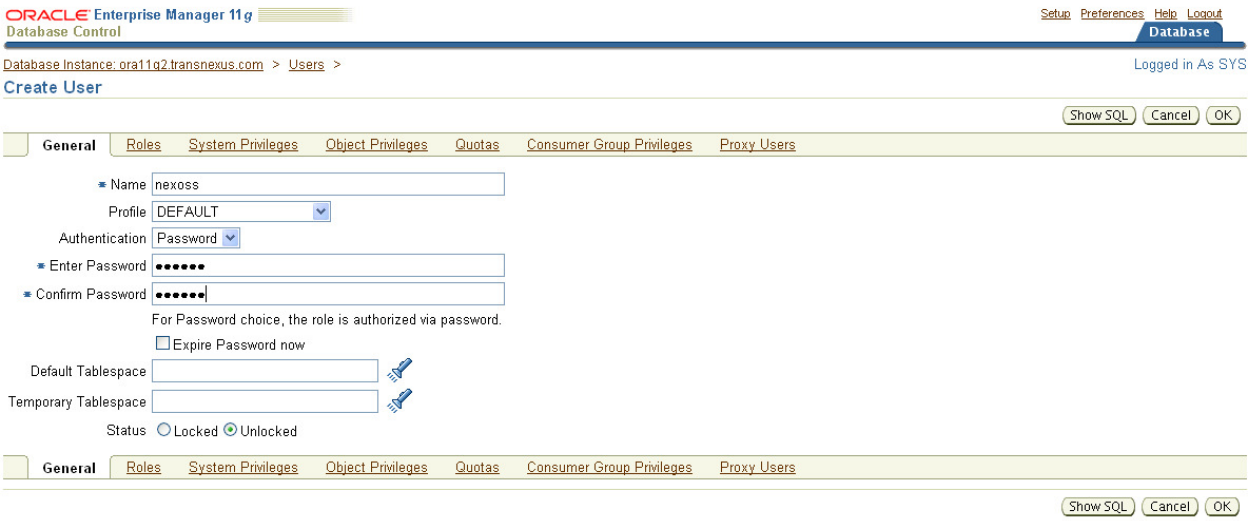
Click the "Users" button in the "Security" section.

Click the "Create" button on the right side of the page.

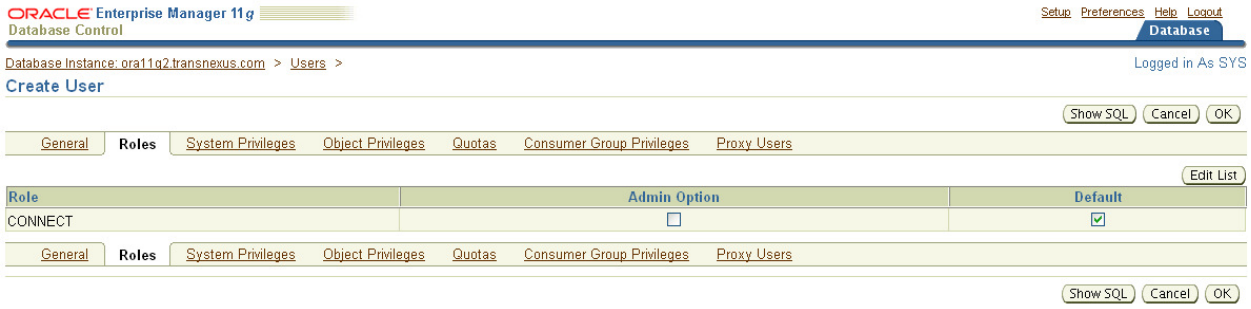


Add a database user name in the "Name" box.

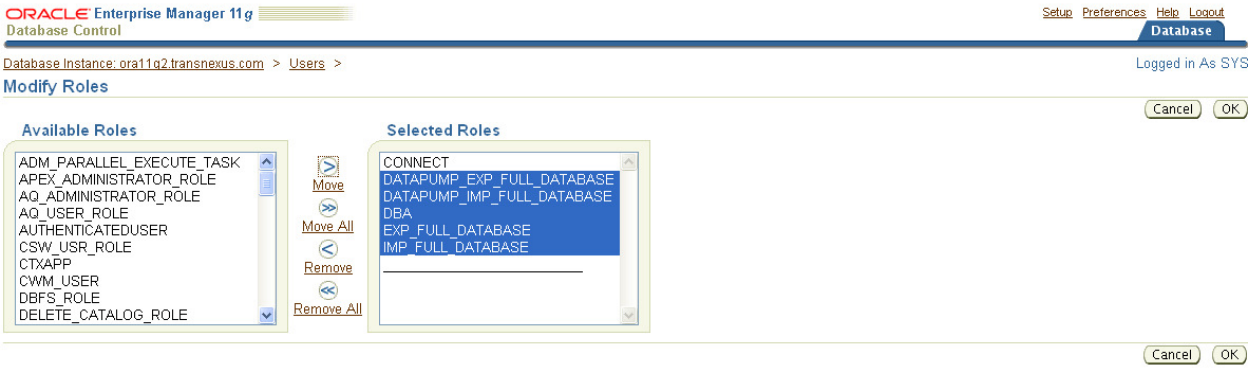
Enter and Confirm Password for the User.



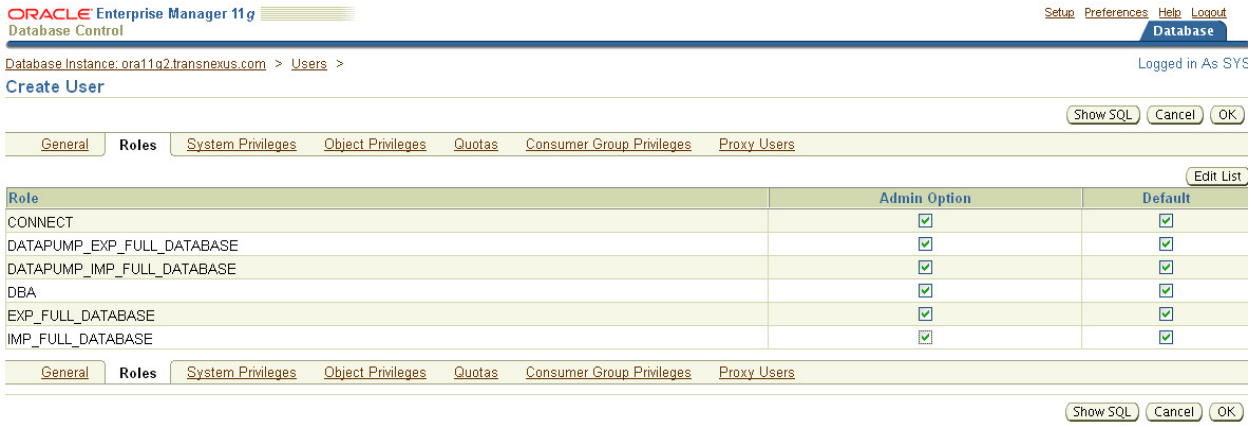
Click the "Roles" button.



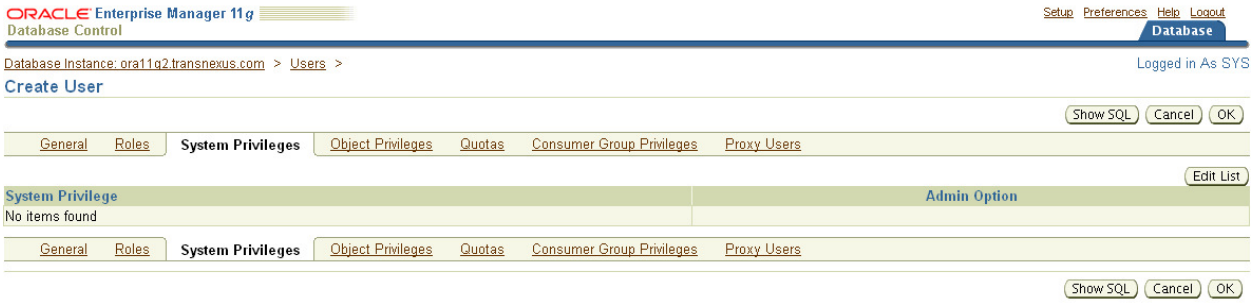
Move the "Available Roles" shown below to the "Selected Roles" panel, then click "OK."



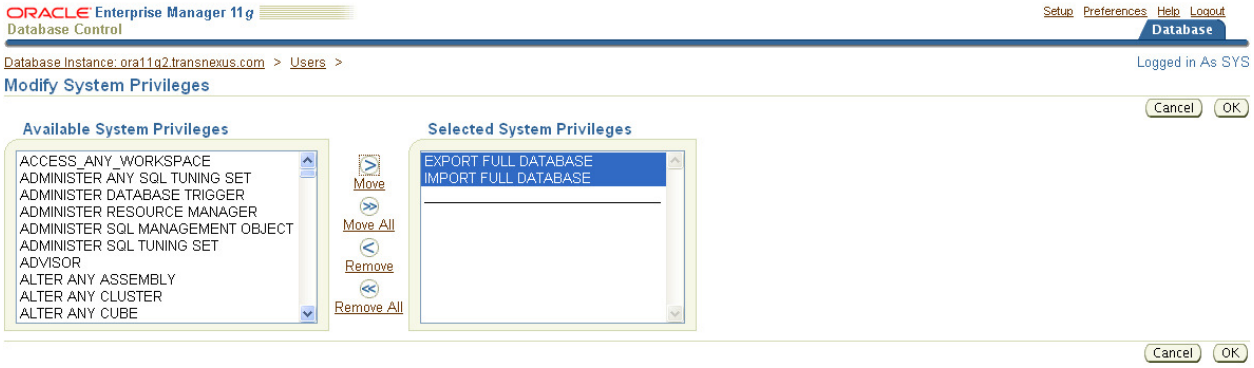
Check the "Admin Option" for each Role, and then click the "OK" button.



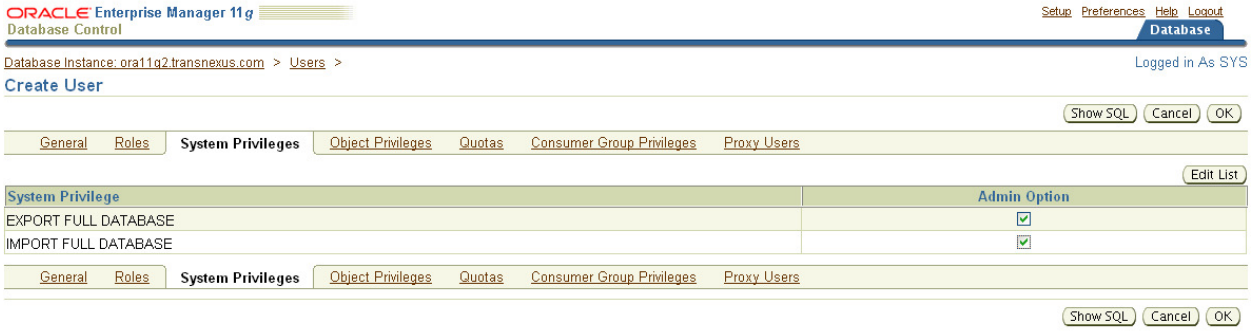
Click the "System Privileges" button.



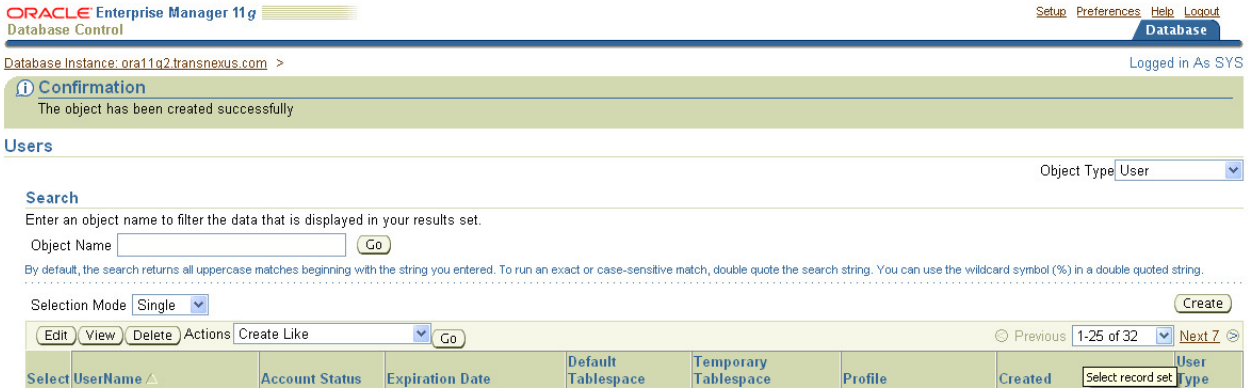
Move the "Available System Privileges" shown below to the "Selected System Privileges" panel, then click the "OK" button.



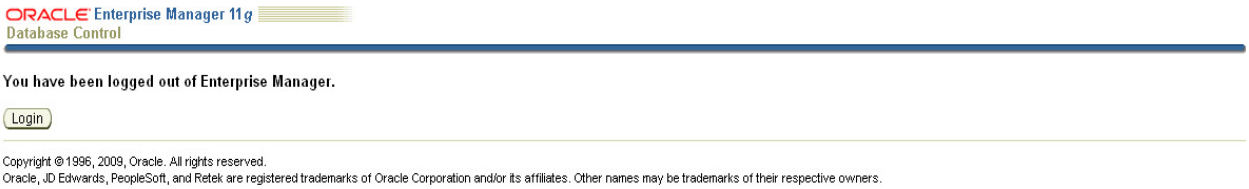
Check the "Admin Option" for the each selected "System Privilege", then click the "OK" button.



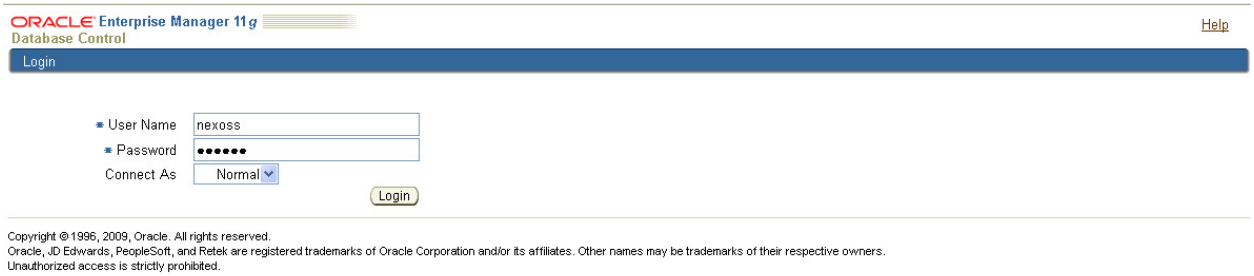
Logout as user SYS by clicking the "Logout" button in the top right corner of the page.



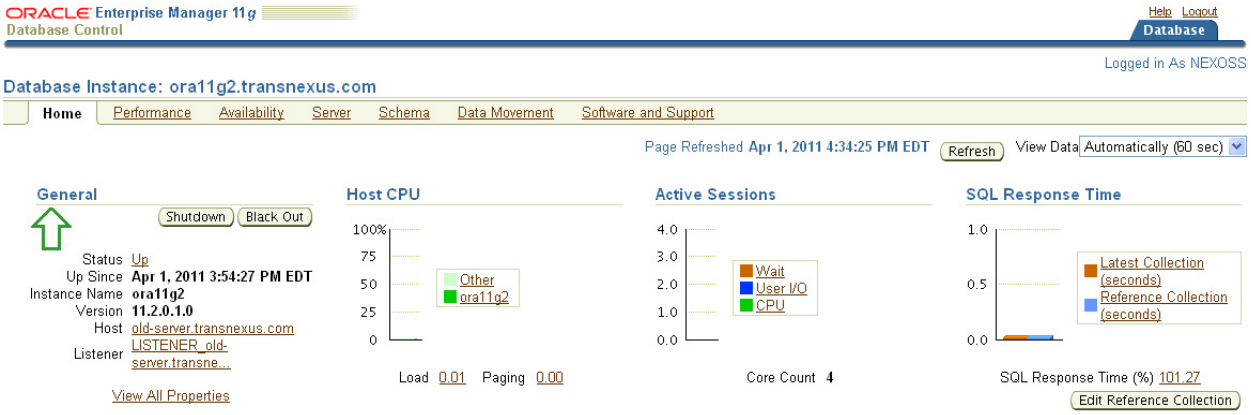
Click the "Login" button.



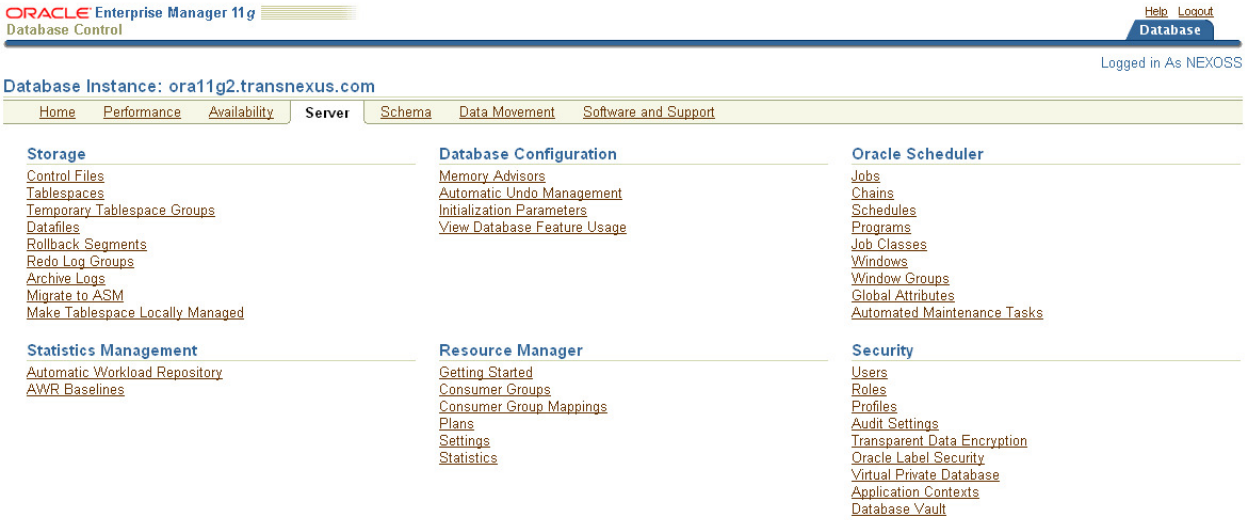
Login as the database user that you just created in the previous steps.



Click the "Server" button.



Click the "Tablespaces" button in the "Storage" section.



Click the "Create" button on the right side of the page.

ORACLE Enterprise Manager 11g
Database Control

Help Logout
Database

Database Instance: ora11g2.transnexus.com >

Logged in As NEXOSS

Tablespaces

Object Type Tablespace

Search

Enter an object name to filter the data that is displayed in your results set.

Object Name Go

By default, the search returns all uppercase matches beginning with the string you entered. To run an exact or case-sensitive match, double quote the search string. You can use the wildcard symbol (%) in a double quoted string.

Selection Mode Single

Create

Edit View Delete Actions Add Datafile Go

Select	Name	Allocated Size(MB)	Space Used(MB)	Allocated Space Used(%)	Auto Extend	Allocated Free Space(MB)	Status	Datafiles	Type	Extent Management	Segment Management
◉	SYSAUX	490.0	461.8	94.2	YES	28.2	✓	1	PERMANENT	LOCAL	AUTO
○	SYSTEM	670.0	665.9	99.4	YES	4.1	✓	1	PERMANENT	LOCAL	MANUAL
○	TEMP	20.0	0.0	0.0	YES	20.0	✓	1	TEMPORARY	LOCAL	MANUAL
○	UNDOTBS1	50.0	9.7	19.4	YES	40.3	✓	1	UNDO	LOCAL	MANUAL
○	USERS	5.0	1.3	26.2	YES	3.7	✓	1	PERMANENT	LOCAL	AUTO

Total Allocated Size (GB) **1.21**
Total Used (GB) **1.11**
Total Allocated Free Space (GB) **0.09**

✓ Online ✗ Offline Read Only

Database | Help | Logout

Add a tablespace name in the "Name" box.

Check the "Set as default permanent tablespace" box in the "Type" section.

Click the "Add" button in the "Datafiles" section.

ORACLE Enterprise Manager 11g
Database Control

Help Logout
Database

Database Instance: ora11g2.transnexus.com > Tablespaces >

Logged in As NEXOSS

Create Tablespace

Show SQL Cancel OK

General Storage

* Name nexoss

Extent Management

◉ Locally Managed
○ Dictionary Managed

Type

◉ Permanent
☑ Set as default permanent tablespace
☐ Encryption Encryption Options
○ Temporary
☐ Set as default temporary tablespace
○ Undo
Undo Retention Guarantee ○ Yes ◉ No

Status

◉ Read Write
○ Read Only
○ Offline

Datafiles

☐ Use bigfile tablespace
Tablespace can have only one datafile with no practical size limit.

Add

Select	Name	Directory	Size (MB)
	No items found		

General Storage

Show SQL Cancel OK

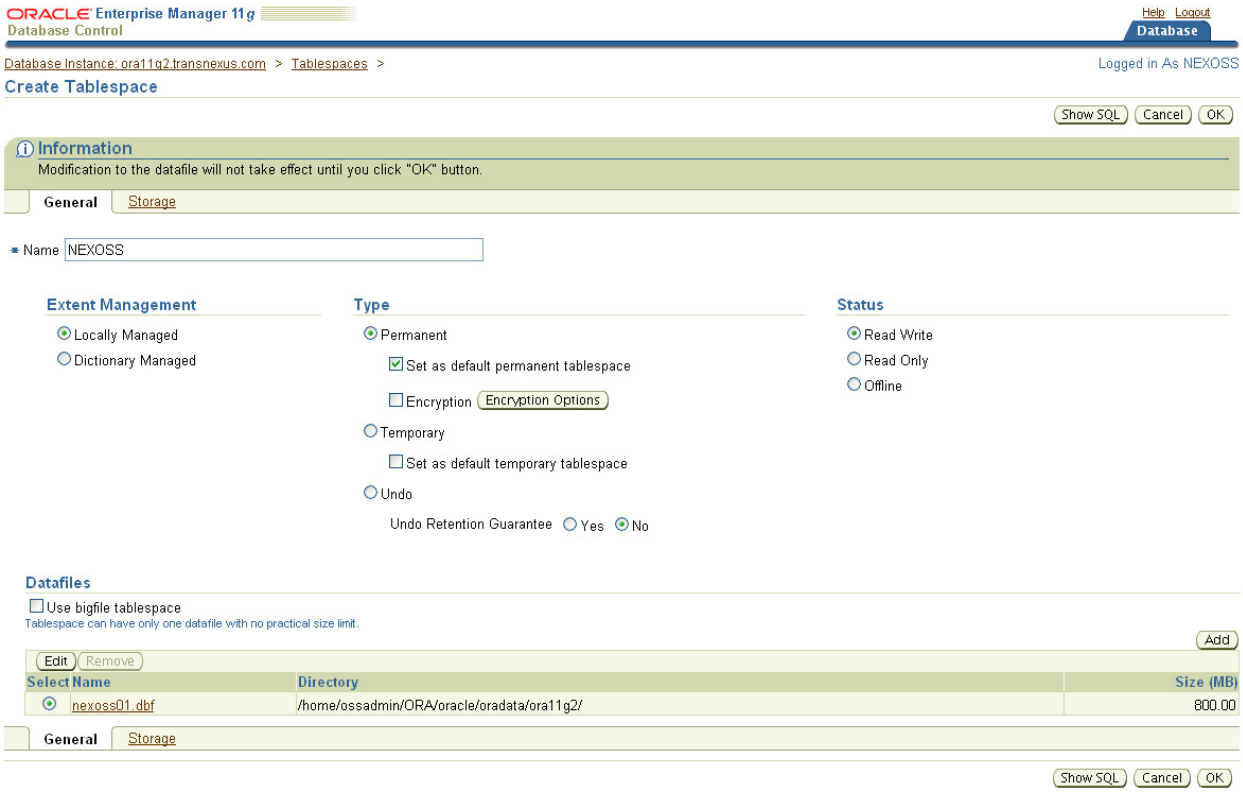
Add a datafile name to the "File Name" box.

Add a "File Size".

Check "AUTOEXTEND" option and add and "Increment" value.

Click the "Continue" button.

Click the "OK" button in the bottom right corner of the page.



After the object has been successfully created, click the "Database" button at the bottom of the page.

ORACLE Enterprise Manager 11g
Database Control

Help Logout
Database

Database Instance: ora11g2.transnexus.com >

Logged in As NEXOSS

Confirmation
The object has been created successfully

Tablespaces

Object Type Tablespace

Search
Enter an object name to filter the data that is displayed in your results set.
Object Name Go
By default, the search returns all uppercase matches beginning with the string you entered. To run an exact or case-sensitive match, double quote the search string. You can use the wildcard symbol (%) in a double quoted string.

Selection Mode Single Create

Edit View Delete Actions Add Datafile Go

Select	Name	Allocated Size(MB)	Space Used(MB)	Allocated Space Used(%)	Auto Extend	Allocated Free Space(MB)	Status	Datafiles	Type	Extent Management	Segment Management
◉	NEXOSS	800.0	1.0	0.1	YES	799.0	✓	1	PERMANENT	LOCAL	AUTO
○	SYSAUX	490.0	461.8	94.2	YES	28.2	✓	1	PERMANENT	LOCAL	AUTO
○	SYSTEM	670.0	665.9	99.4	YES	4.1	✓	1	PERMANENT	LOCAL	MANUAL
○	TEMP	20.0	0.0	0.0	YES	20.0	✓	1	TEMPORARY	LOCAL	MANUAL
○	UNDOTBS1	50.0	9.7	19.4	YES	40.3	✓	1	UNDO	LOCAL	MANUAL
○	USERS	5.0	1.3	26.2	YES	3.7	✓	1	PERMANENT	LOCAL	AUTO

Total Allocated Size (GB) **1.99**
Total Used (GB) **1.11**
Total Allocated Free Space (GB) **0.87**

✓ Online ✗ Offline Read Only

Database | Help | Logout

You can now logout. Database user and tablespace creation is complete.

ORACLE Enterprise Manager 11g
Database Control

Help Logout
Database

Logged in As NEXOSS

Database Instance: ora11g2.transnexus.com

Home | Performance | Availability | Server | Schema | Data Movement | Software and Support

Page Refreshed **Apr 1, 2011 4:44:35 PM EDT** Refresh View Data Automatically (60 sec)

General
Shutdown Black Out

Status Up
Up Since **Apr 1, 2011 3:54:27 PM EDT**
Instance Name **ora11g2**
Version **11.2.0.1.0**
Host old-server.transnexus.com
Listener LISTENER_old-server.transne...

View All Properties

Host CPU
100% 75 50 25 0
Other
ora11g2
Load 0.05 Paging 0.00

Active Sessions
4.0 3.0 2.0 1.0 0.0
Wait
User I/O
CPU
Core Count 4

SQL Response Time
1.0 0.5 0.0
Latest Collection (seconds)
Reference Collection (seconds)
SQL Response Time (%) 103.00
Edit Reference Collection

Now try to login via CLI with SQLPLUS using the new username/password that you just created with the dbconsole.

```
[ossadmin@old-server ~]$ sqlplus nexoss/nexoss

SQL*Plus: Release 11.2.0.1.0 Production on Fri Apr 1 16:45:12 2011

Copyright (c) 1982, 2009, Oracle.  All rights reserved.


Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL>
```

Note:

If you get an error similar to the following, then follow the resolution steps below that follow the error message.

```
sqlplus: error while loading shared libraries:
/oss/ORA/oracle/product/11.1.0/db_1/lib/libnnz11.so: cannot restore segment prot after
reloc: Permission denied
```

Resolution:

```
chcon -t textrel_shlib_t $ORACLE_HOME/lib/libnnz11.so
chcon -t textrel_shlib_t $ORACLE_HOME/lib/libclntsh.so.11.1
chcon -t textrel_shlib_t $ORACLE_HOME/lib/libnque11.so
chcon -t textrel_shlib_t $ORACLE_HOME/lib/libsqlplus.so
chcon -t textrel_shlib_t $ORACLE_HOME/lib/libons.so
```

This error is due to SE Linux running in **Enforce mode**.

If the error persists then the best way to avoid this is – make the SE Linux in **Permissive mode**.

Edit the /etc/sysconfig/selinux by disabling SELINUX and rebooting the system. (See sample auto-start script instructions further below before rebooting.)

```
# vi /etc/sysconfig/selinux

    #SELINUX=enforcing
    SELINUX=disabled
```

You should be able to login using sqlplus once the system comes back up.

Appendix:

Sample oracle auto-start script.

```
# touch /etc/init.d/dbora
# chmod 755 /etc/init.d/dbora
# vi  /etc/init.d/dbora
```

(insert date below into the dbora auto-start file)

```
#!/bin/sh
      ORA_HOME=/home/ossadmin/ORA/oracle/product/11.2.0/dbhome_1/
      ORA_OWNER=ossadmin
      if [ ! -f $ORA_HOME/bin/dbstart ]
      then
        echo "Oracle startup: cannot start"
        exit
      fi
      case "$1" in
         'start') # Start the Oracle databases and listeners
                  su - $ORA_OWNER -c "$ORA_HOME/bin/dbstart"
                  su - $ORA_OWNER -c "$ORA_HOME/bin/emctl start dbconsole"

        touch /var/lock/subsys/dbora
                  ;;
         'stop')  # Stop the Oracle databases and listeners
                  su - $ORA_OWNER -c "$ORA_HOME/bin/emctl stop dbconsole"
                  su - $ORA_OWNER -c "$ORA_HOME/bin/dbshut"

        rm -f /var/lock/subsys/dbora
                  ;;
      esac

# wq!
# cd /etc/rc3.d
# ln -s ../init.d/dbora S50dbora
# cd /etc/rc0.d
# ln -s ../init.d/dbora K55dbora
# cd /etc/rc6.d
# ln -s ../init.d/dbora K55dbora
```

##

Sample ossadmin crontab schedule for the NexOSS application –

```
59 23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/delete_old_report_files.sh
59 23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/delete_old_rate_files.sh
30 0 * * 0 . ./.bash_profile ; $NexOSS_HOME/unix/utils/delete_old_log_files.sh
59 23 * * 0 . ./.bash_profile ; sqlplus dbuser/dbpass@db
@$NexOSS_HOME/unix/utils/delete_old_database_records
59 23 * * 0 . ./.bash_profile ; $NexOSS_HOME/unix/utils/delete_old_cdr_files.sh
15 0 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/delete_old_backup_files.sh
59 23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/compress_report_files.sh
59 23 * * 0 . ./.bash_profile ; $NexOSS_HOME/unix/utils/compress_rate_files.sh
59 12,23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/compress_log_files.sh
59 0-23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/compress_backup_files.sh
59 0-23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/compress_archived_cdr_files.sh
59 0-23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/compress_invoices_by_account.sh
59 23 * * 6 . ./.bash_profile ; $NexOSS_HOME/unix/utils/delete_old_invoices_by_account.sh
59 23 * * 5 . ./.bash_profile ; $NexOSS_HOME/unix/utils/delete_old_cdrs_archived_by_account.sh
59 0-23 * * * . ./.bash_profile ; $NexOSS_HOME/unix/utils/compress_cdrs_archived_by_account.sh
```