

Oracle Database Server 11g Single Instance Installation on OEL5.10

Oracle Database Server 11g Single Instance Installation on
Oracle Enterprise Linux 5.10 using Virtual Box

Oracle Database 11g [11.2.0.4] Installation on Oracle Linux 5.10 – VirtualBox

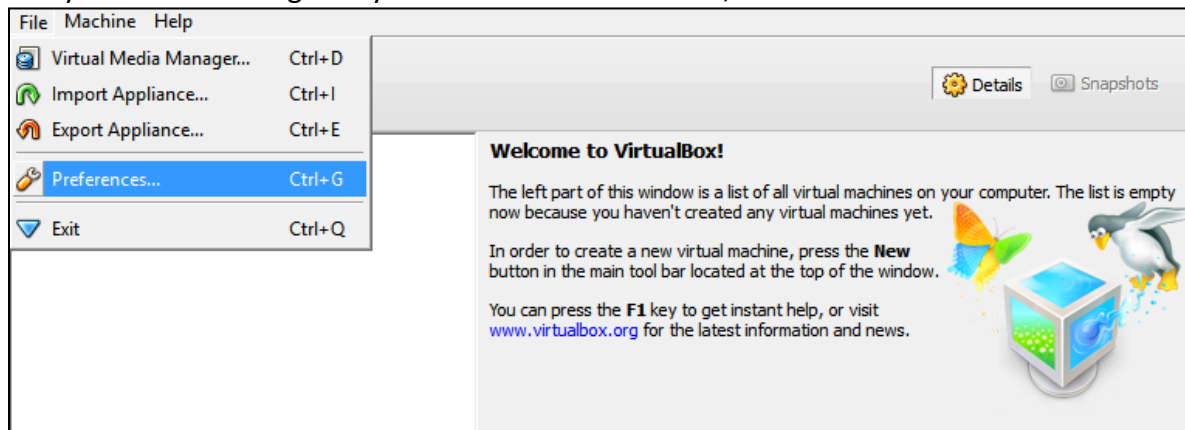
Required Software

Oracle Linux 5.10	V40139-01.iso
Oracle Database Software	p13390677_112040_Linux-x86-64_1of7.zip p13390677_112040_Linux-x86-64_2of7.zip
Putty	putty.exe
Xming	Xming-6-9-0-31-setup.exe

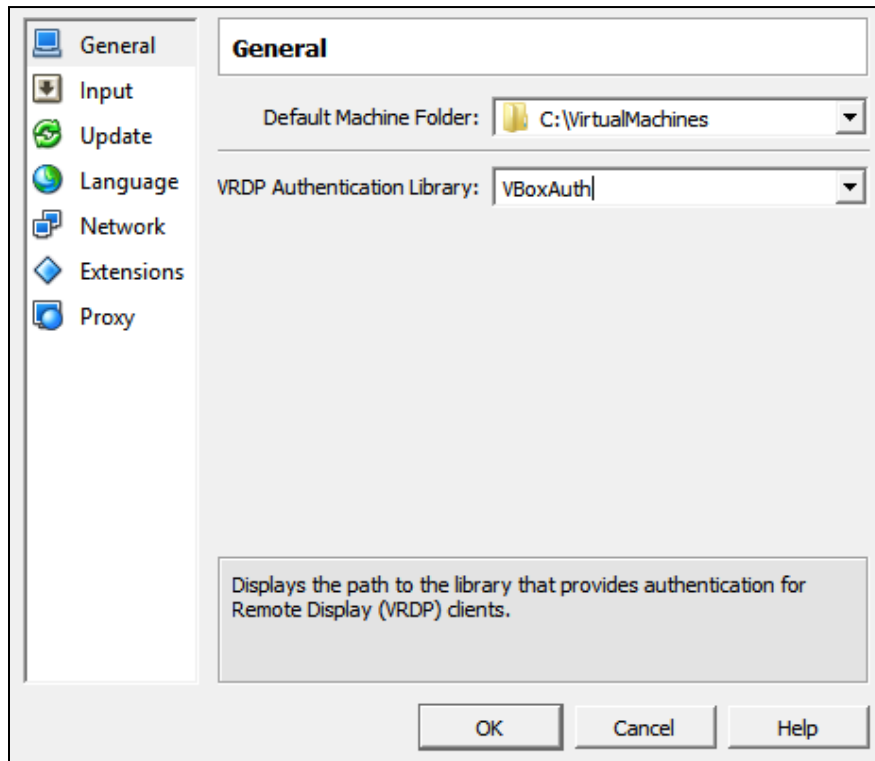
Note: We assume that; VirtualBox, Xming and Putty are already installed on the server, since their installation are straightforward.

Linux Installation

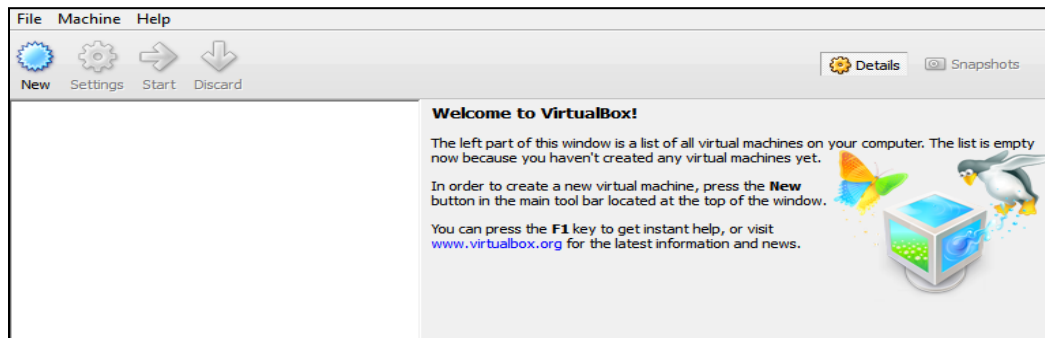
1. Download the Linux iso file and run the VirtualBox
2. If you haven't configured your virtual machine folder, do it now. Click File > Preferences



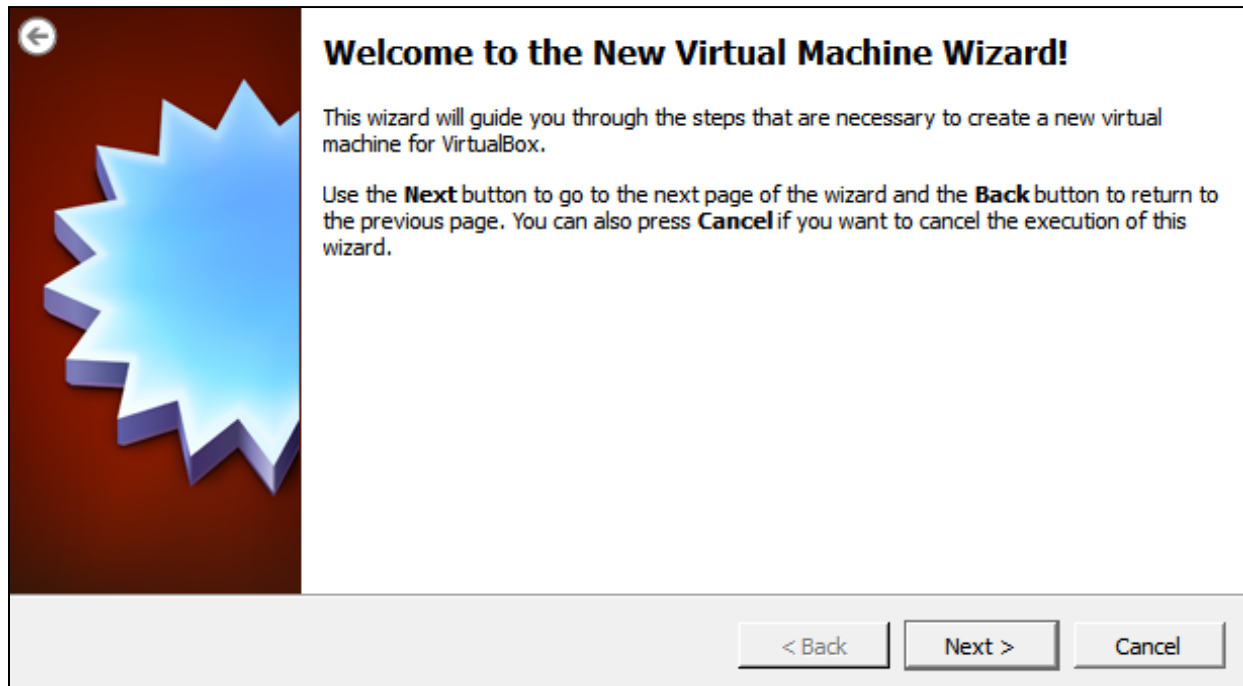
3. Select the folder for the virtual machines and click "OK"



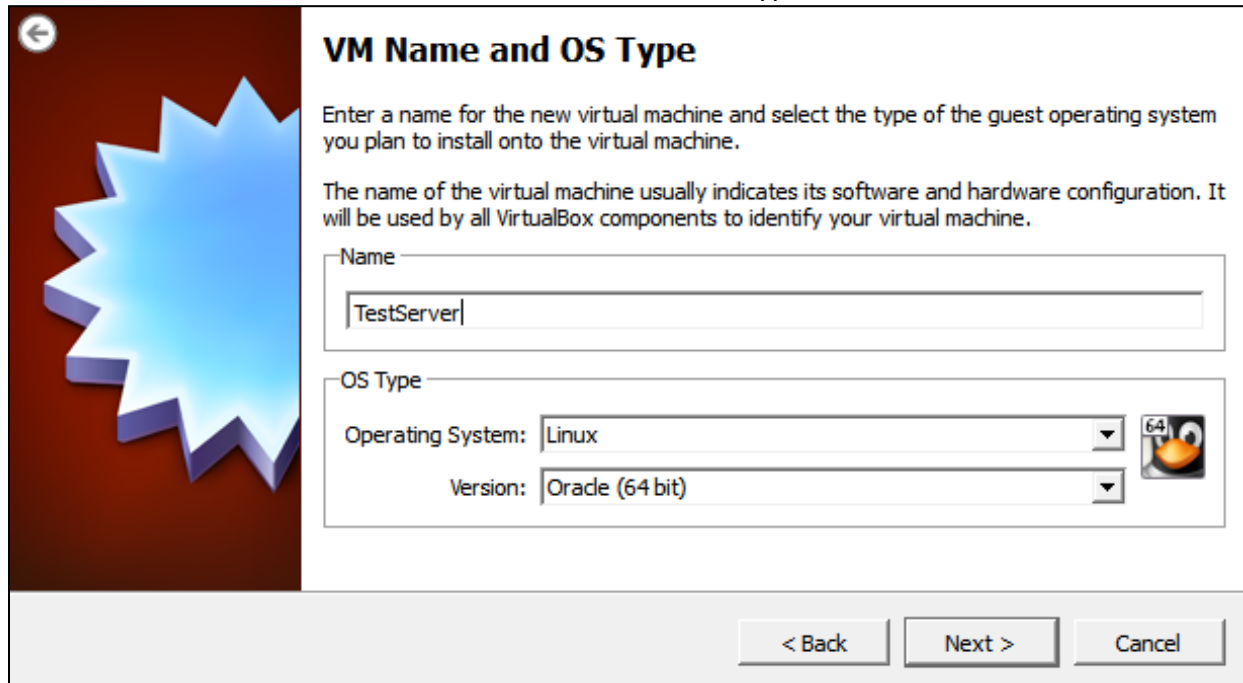
4. Click "New"



5. Click "Next"



6. Give a name to the virtual machine, and select the OS Type as follows:



7. Adjust the memory and click “Next” [since this is a test server 2GB is sufficient]

Memory

Select the amount of base memory (RAM) in megabytes to be allocated to the virtual machine.

The recommended base memory size is **512 MB**.

Base Memory Size

4 MB 2048 MB 16384 MB

< Back Next > Cancel

8. Choose “Create new hard disk” and click “Next”

Virtual Hard Disk

If you wish you can now add a start-up disk to the new machine. You can either create a new virtual disk or select one from the list or from another location using the folder icon.

If you need a more complex virtual disk setup you can skip this step and make the changes to the machine settings once the machine is created.

The recommended size of the start-up disk is **8.00 GB**.

Start-up Disk

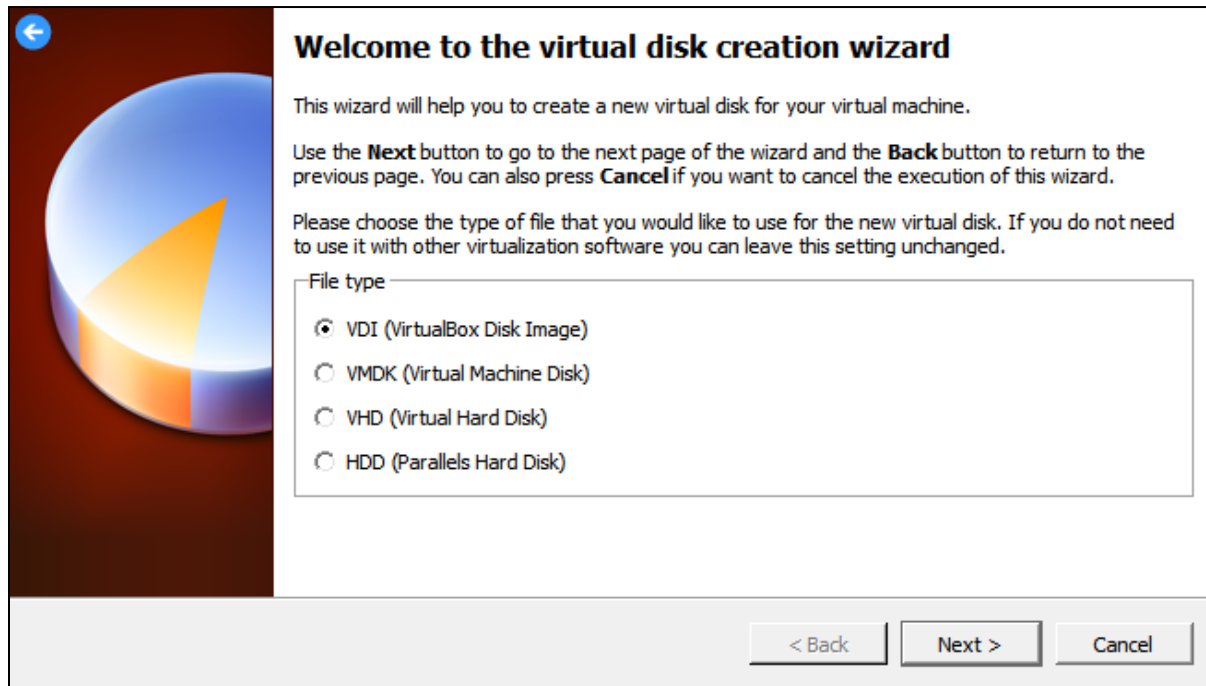
Create new hard disk

Use existing hard disk

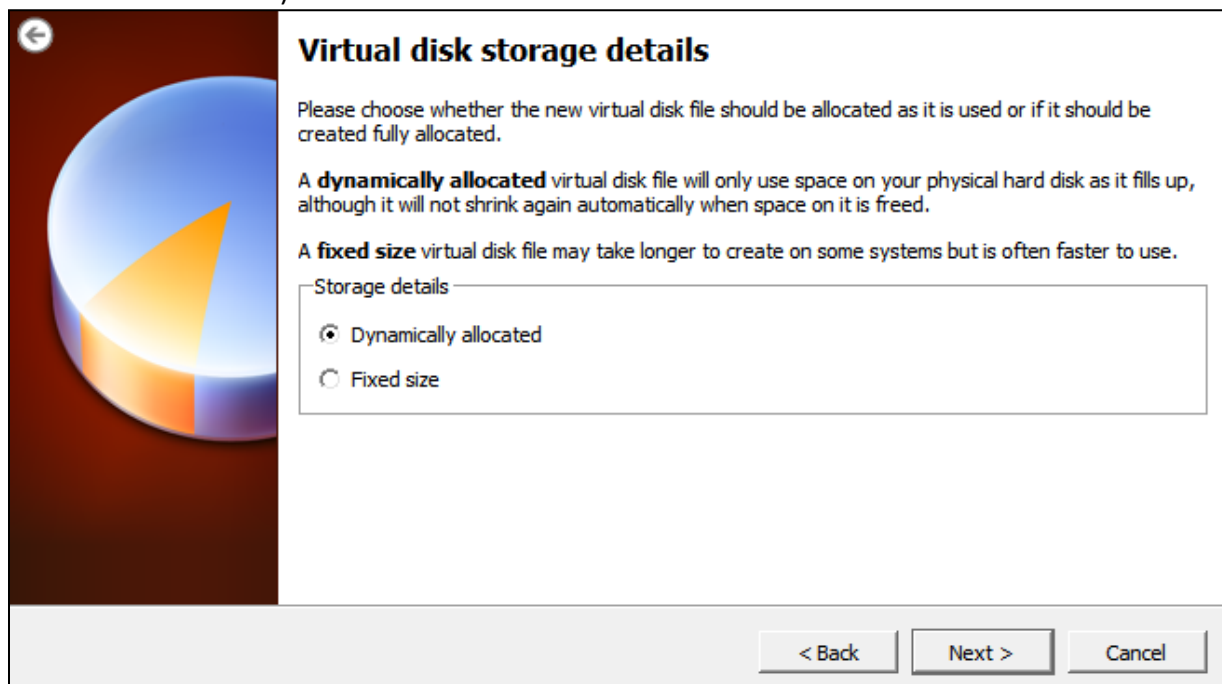
Empty

< Back Next > Cancel

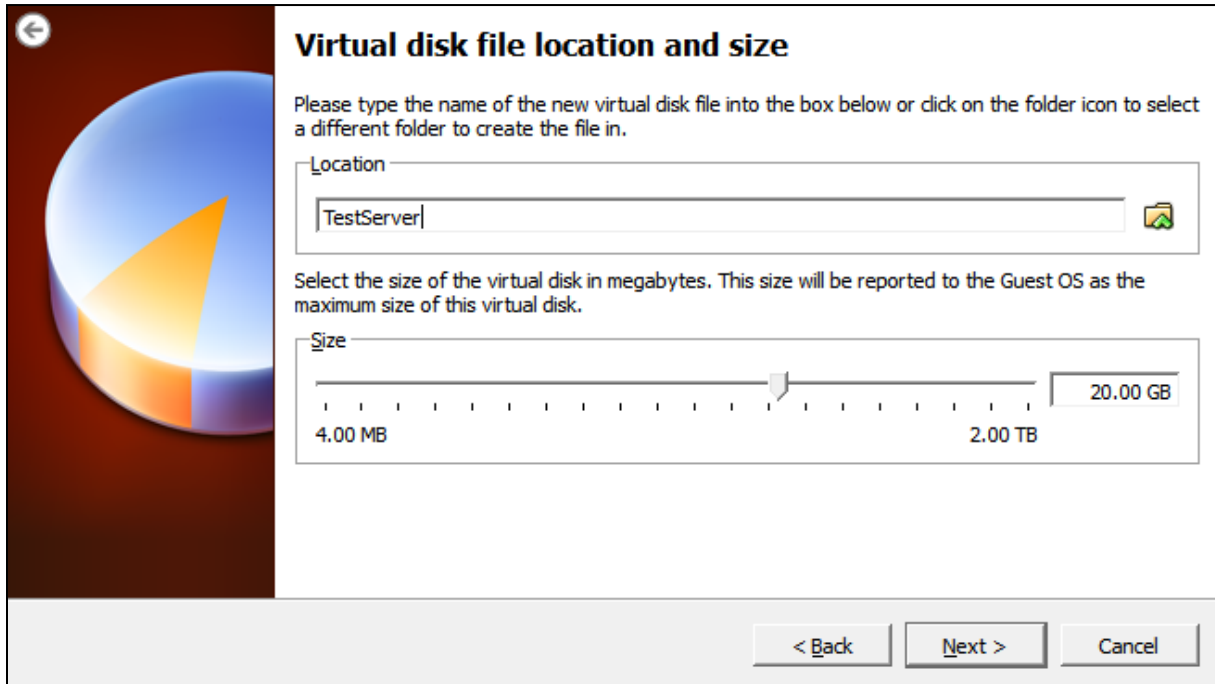
9. Choose "VDI" and click "Next"



10. Click "Dynamically allocated" not to waste any space on the guest host. (Performance is not what we need here...) Click "Next"



11. Adjust the hdd size and click "Next"



Virtual disk file location and size

Please type the name of the new virtual disk file into the box below or click on the folder icon to select a different folder to create the file in.

Location

TestServer

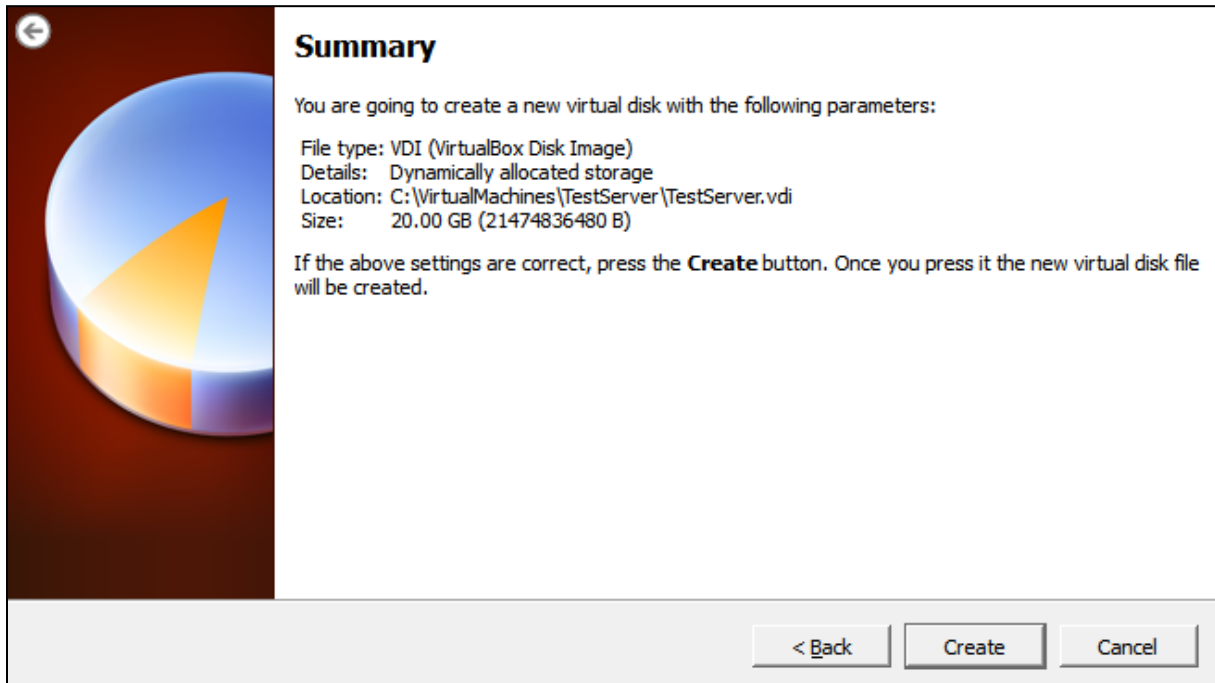
Select the size of the virtual disk in megabytes. This size will be reported to the Guest OS as the maximum size of this virtual disk.

Size

4.00 MB 20.00 GB 2.00 TB

< Back Next > Cancel

12. Click "Create"



Summary

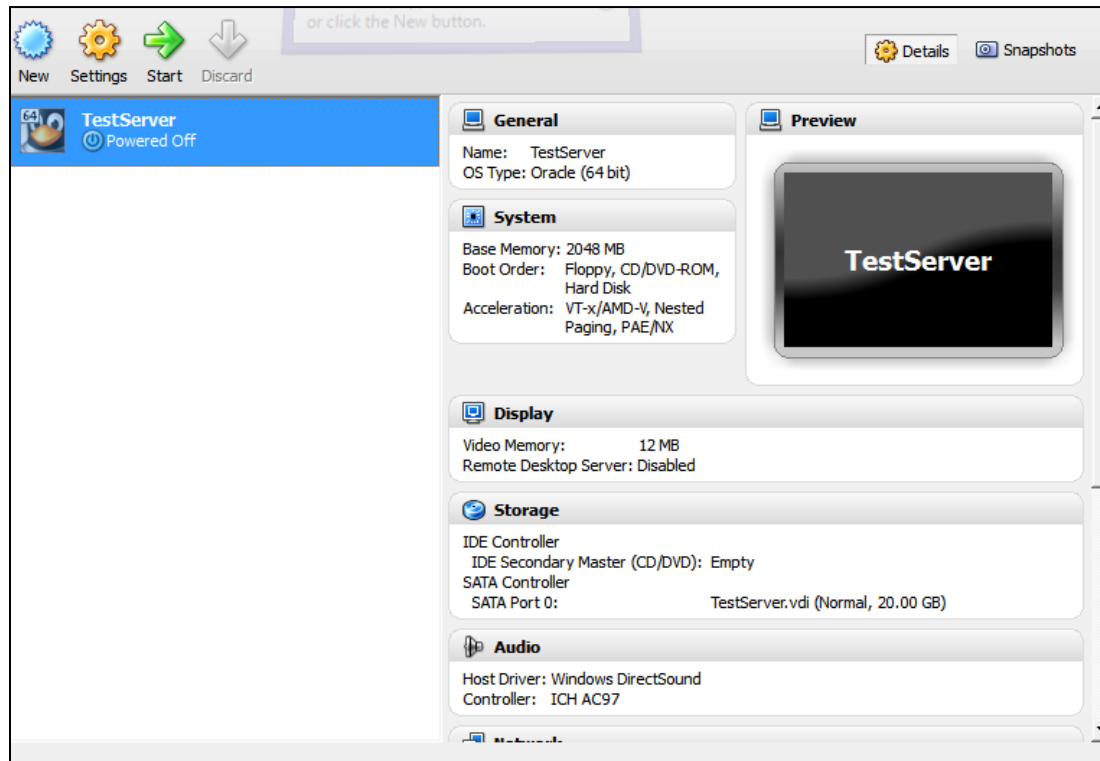
You are going to create a new virtual disk with the following parameters:

File type: VDI (VirtualBox Disk Image)
Details: Dynamically allocated storage
Location: C:\VirtualMachines\TestServer\TestServer.vdi
Size: 20.00 GB (21474836480 B)

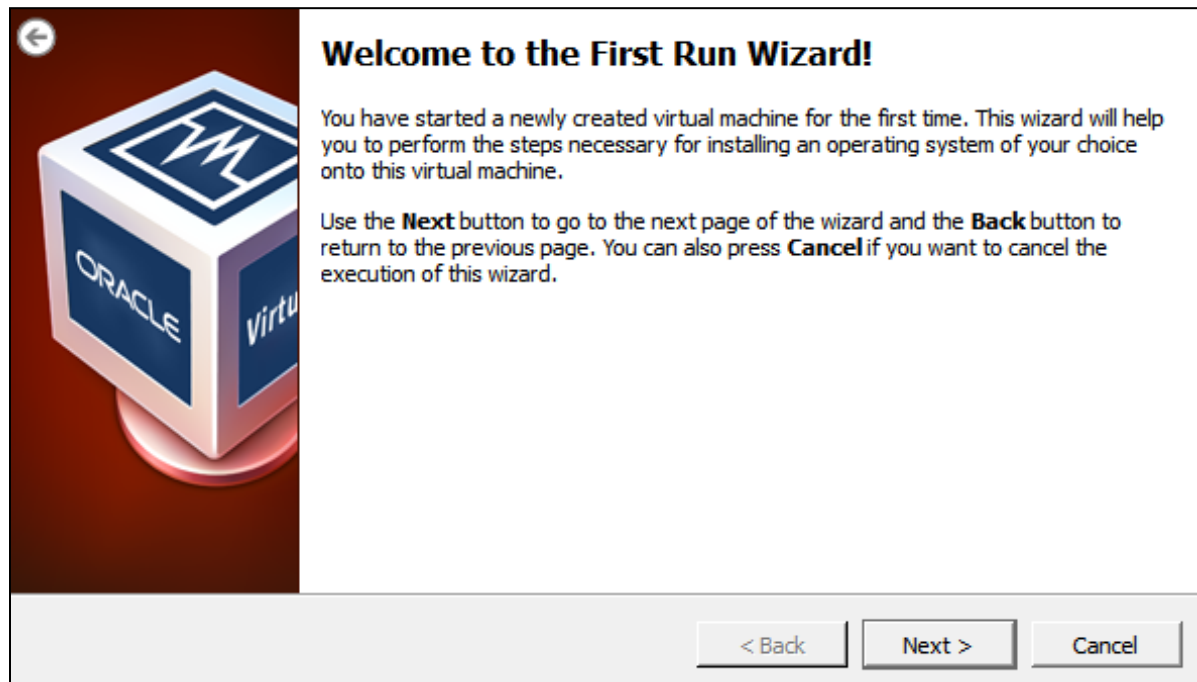
If the above settings are correct, press the **Create** button. Once you press it the new virtual disk file will be created.

< Back Create Cancel

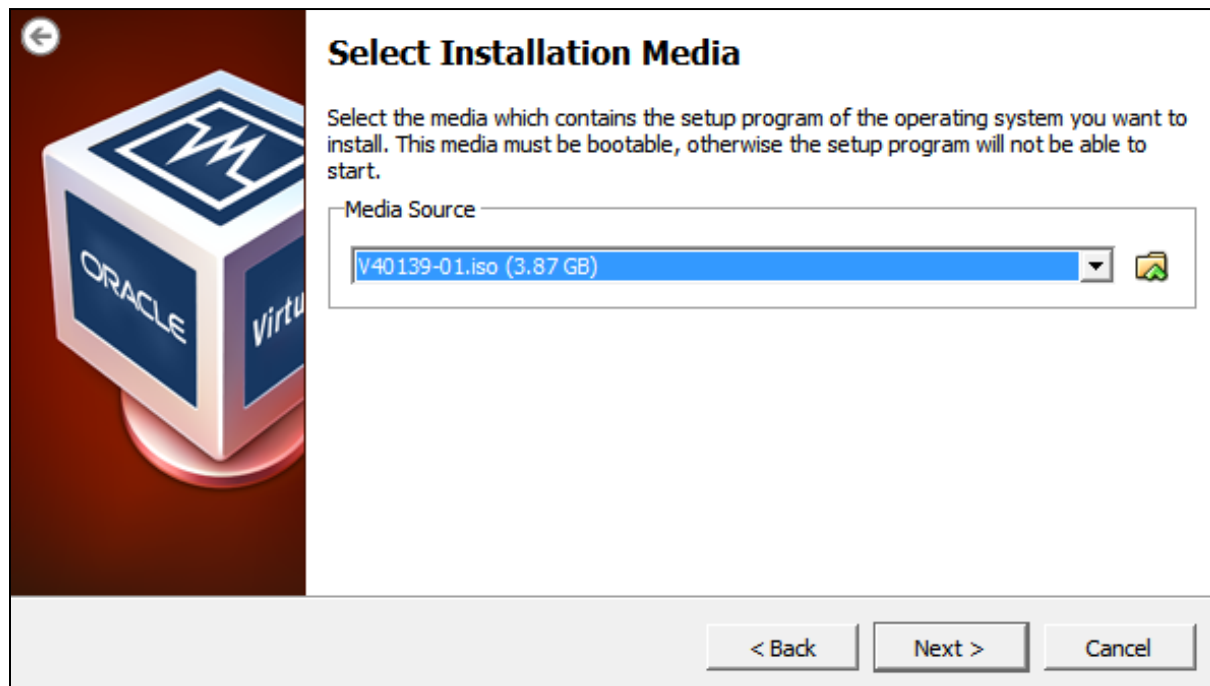
13. Click "Start"



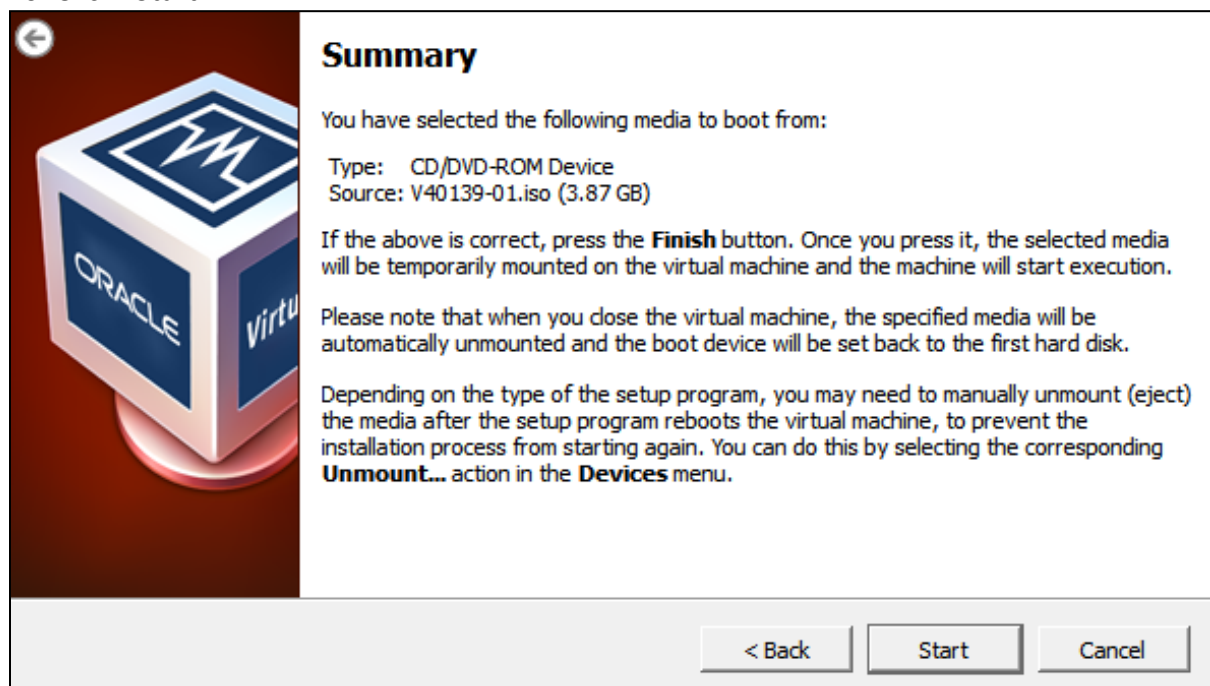
14. Click Next



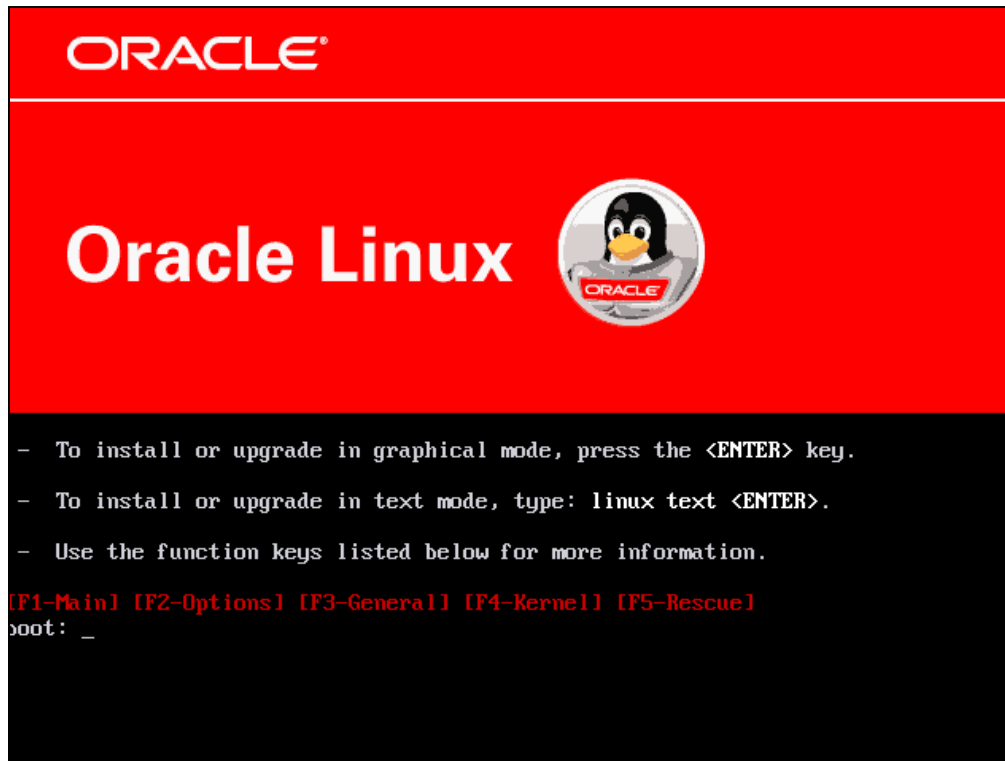
15. Select the media source -> V40139-01.iso and click "Next"



16. Click "Start"



17. Press "Enter"



18. Click "Skip"



19. Click "Next"



20. Click "Next"



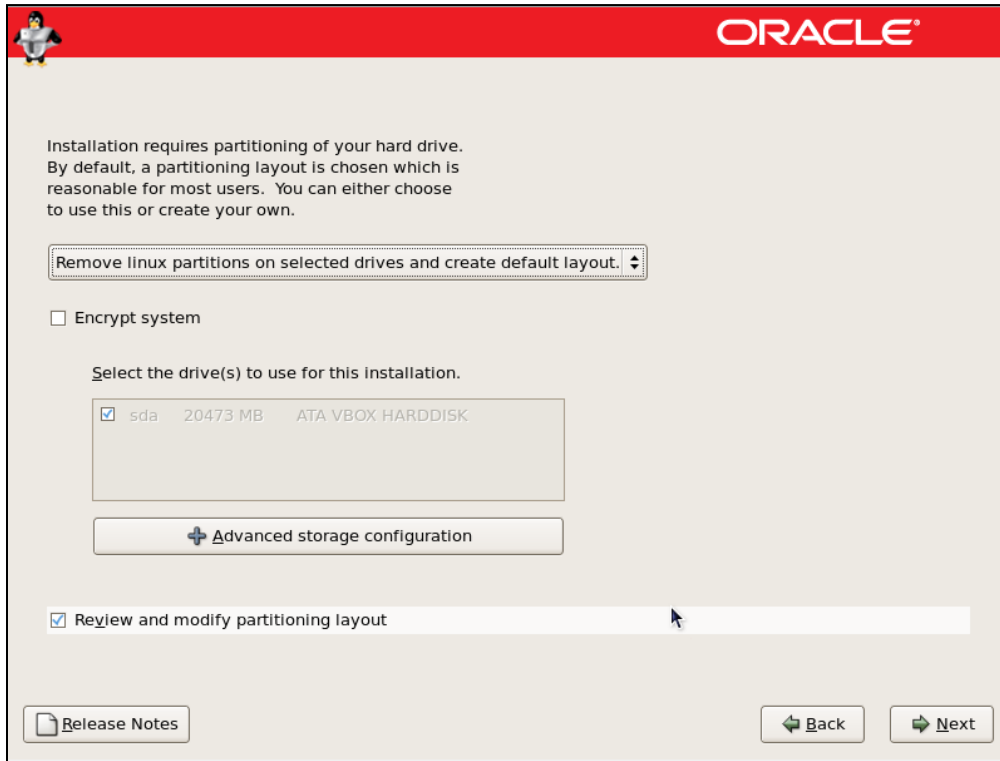
21. Choose appropriate keyboard and click "Next"



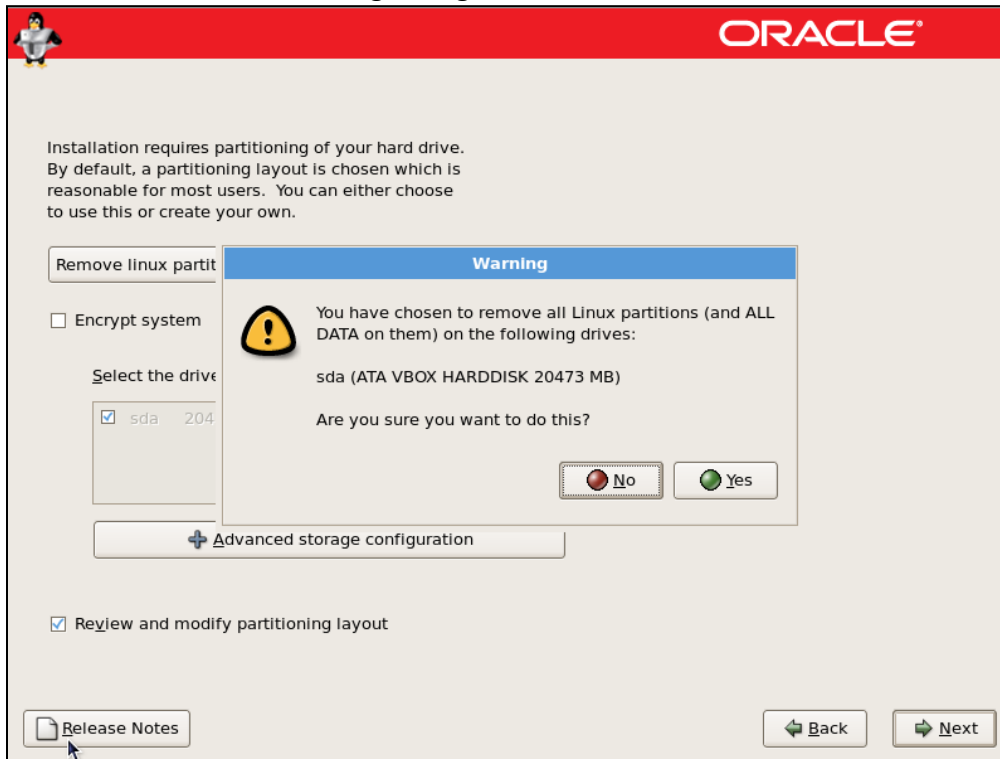
22. Click "Yes" in the warning dialog



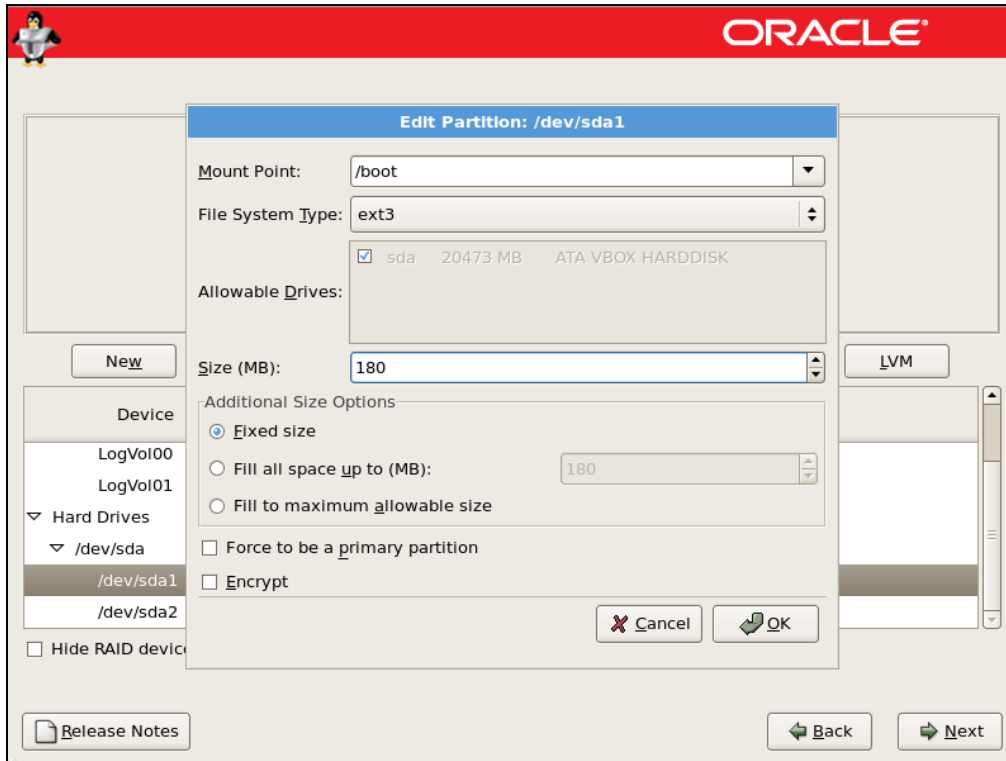
23. Check the "Review and modify partitioning layout" checkbox and click "Next"



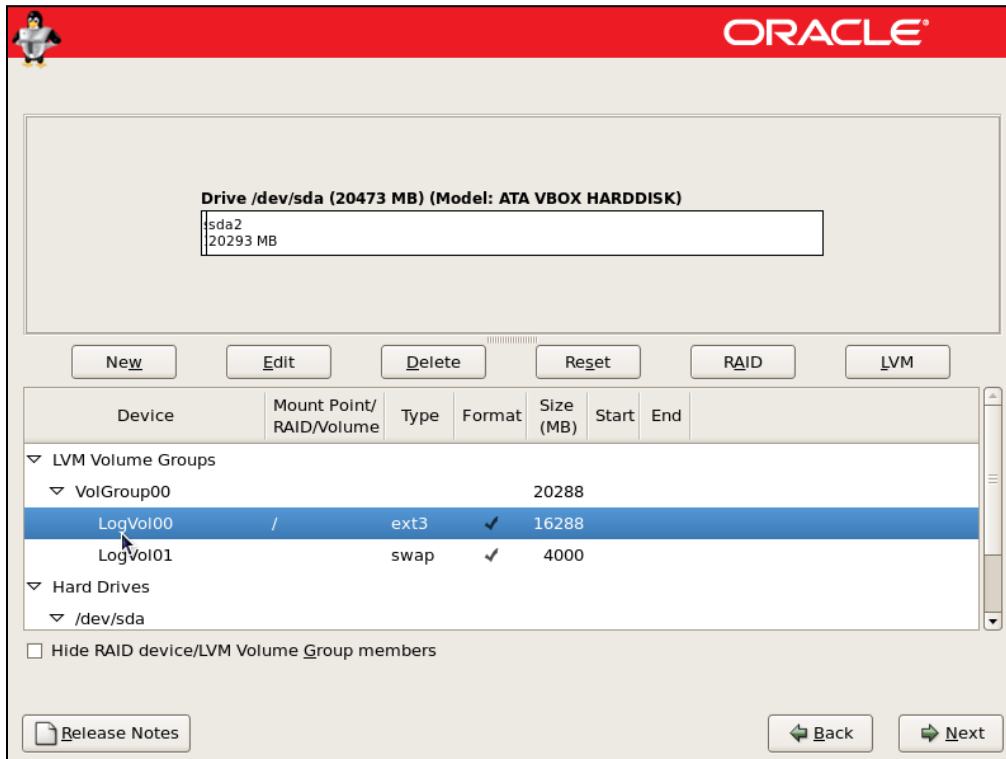
24. Click "Yes" in the warning dialog



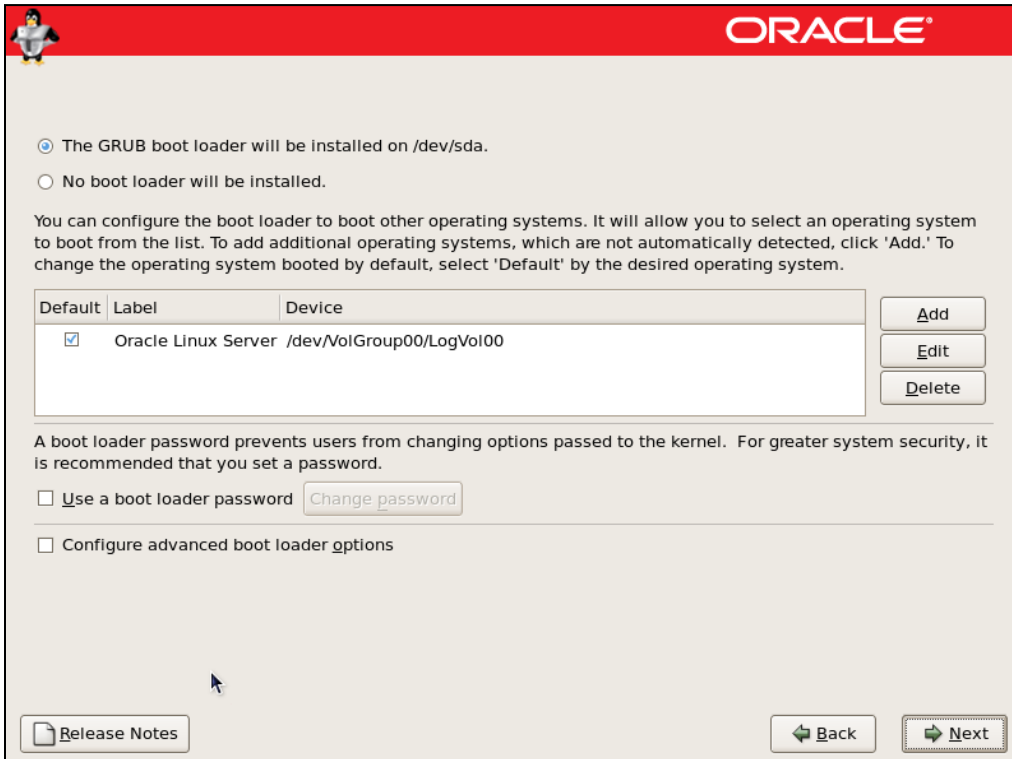
25. Edit the "/boot" partition, setting it to "180M" and "Fixed size", then click the "OK" button




26. Click "Next"



27. Click "Next"



 **ORACLE**

The GRUB boot loader will be installed on /dev/sda.
 No boot loader will be installed.

You can configure the boot loader to boot other operating systems. It will allow you to select an operating system to boot from the list. To add additional operating systems, which are not automatically detected, click 'Add.' To change the operating system booted by default, select 'Default' by the desired operating system.

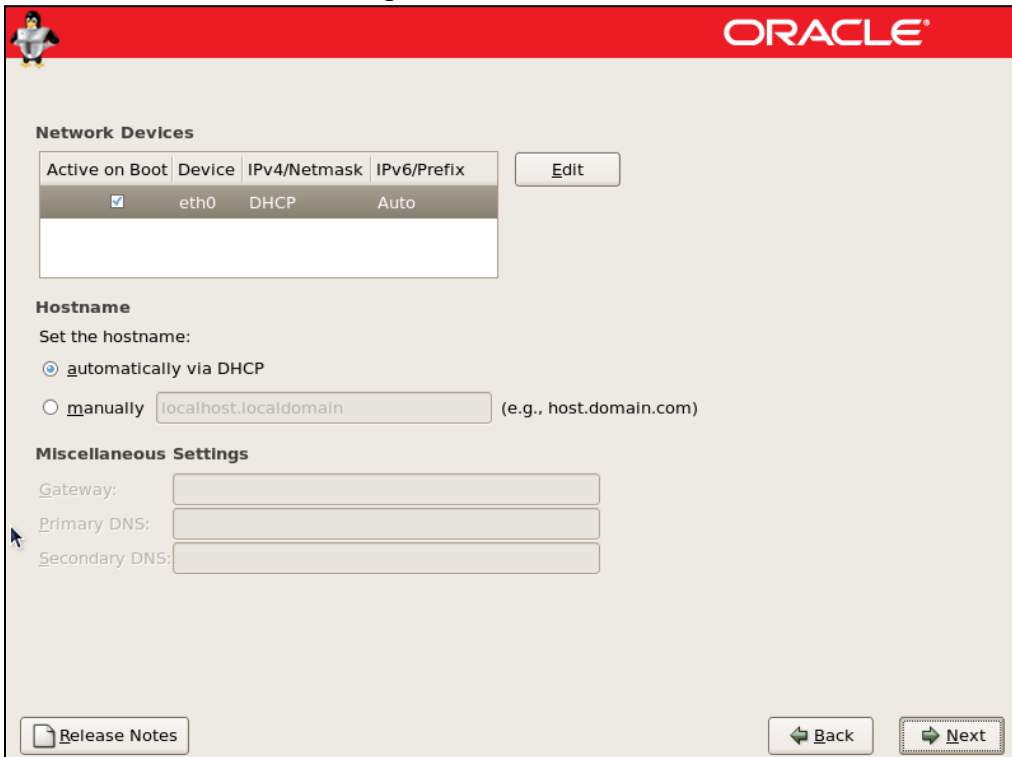
Default	Label	Device
<input checked="" type="checkbox"/>	Oracle Linux Server	/dev/VolGroup00/LogVol00


A boot loader password prevents users from changing options passed to the kernel. For greater system security, it is recommended that you set a password.

Use a boot loader password

Configure advanced boot loader options

28. Click "Next", we will configure this later



 **ORACLE**

Network Devices

Active on Boot	Device	IPv4/Netmask	IPv6/Prefix
<input checked="" type="checkbox"/>	eth0	DHCP	Auto

Hostname
Set the hostname:

automatically via DHCP
 manually (e.g., host.domain.com)

Miscellaneous Settings

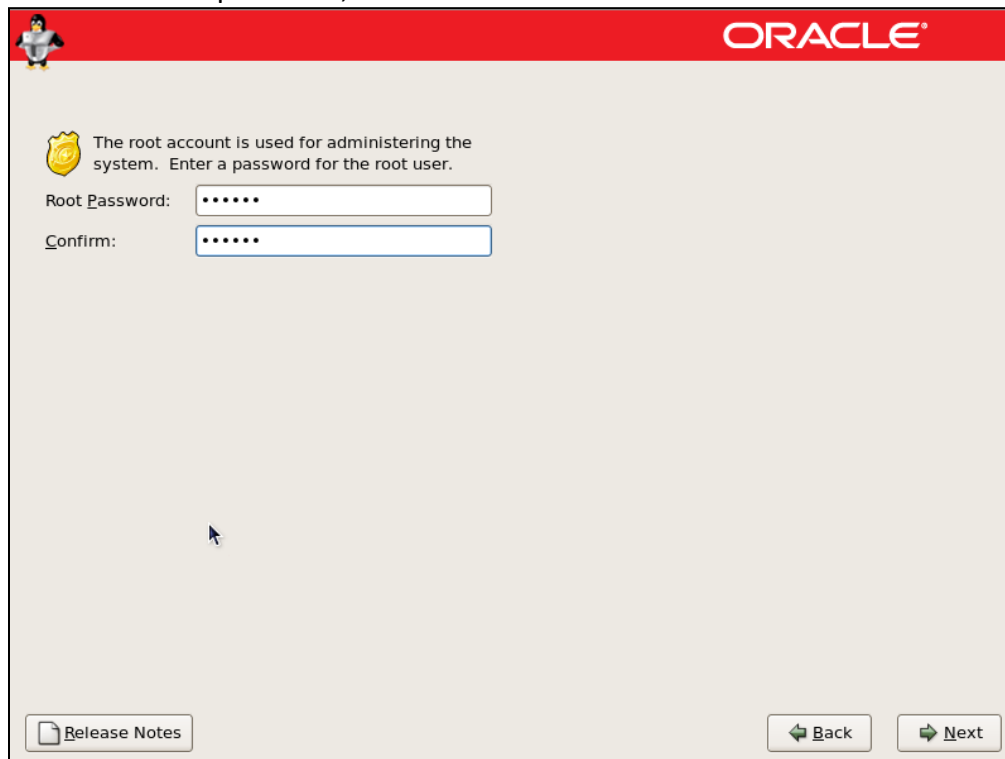
Gateway:
Primary DNS:
Secondary DNS:

29. Select your region/city and click "Next"



The screenshot shows the Oracle installation wizard's region selection screen. At the top, there is a red header with the Oracle logo and a small penguin icon. Below the header, the text "Please click into the map to choose a region:" is displayed. A world map is shown with numerous yellow dots indicating various regions. A dropdown menu below the map is currently set to "Europe/Istanbul". Below the dropdown, there is a checked checkbox labeled "System clock uses UTC". At the bottom of the screen, there are three buttons: "Release Notes" (with a document icon), "Back" (with a left arrow), and "Next" (with a right arrow).

30. Enter a root password, then click "Next"



The screenshot shows the Oracle installation wizard's root password entry screen. At the top, there is a red header with the Oracle logo and a small penguin icon. Below the header, there is a yellow shield icon and the text: "The root account is used for administering the system. Enter a password for the root user." Below this text, there are two input fields: "Root Password:" and "Confirm:", both containing six dots to indicate masked text. At the bottom of the screen, there are three buttons: "Release Notes" (with a document icon), "Back" (with a left arrow), and "Next" (with a right arrow).

31. Select “Customize now” and click “Next”



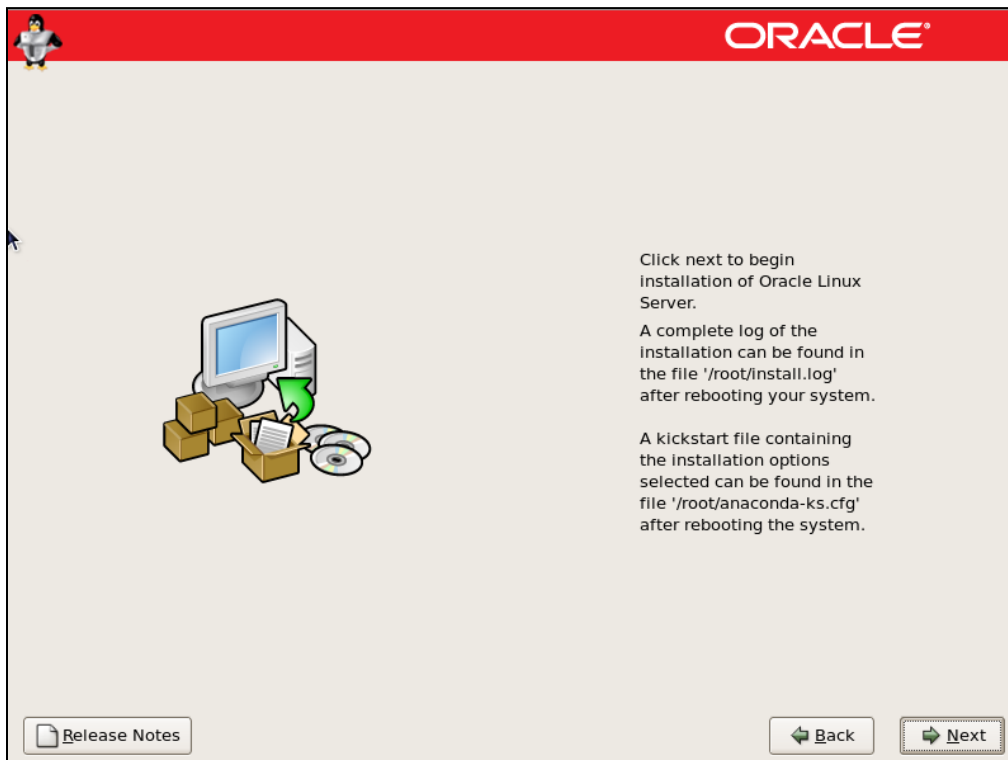
The screenshot shows the Oracle Linux Server installation software selection screen. At the top left is a penguin icon, and at the top right is the ORACLE logo. The main text asks: "The default installation of Oracle Linux Server includes a set of software applicable for general internet usage. What additional tasks would you like your system to include support for?" Below this is a list of software categories with checkboxes: Software Development, Web server, Virtualization, Clustering, and Storage Clustering. At the bottom, there is a note: "You can further customize the software selection now, or after install via the software management application." Below the note are two radio buttons: "Customize later" and "Customize now", with "Customize now" selected. At the bottom left is a "Release Notes" button, and at the bottom right are "Back" and "Next" buttons.

32. Enable the following package groups and click “Next”

- Desktop Environments > GNOME Desktop Environment
- Applications > Editors
- Applications > Graphical Internet
- Development > Development Libraries
- Development > Development Tools
- Servers > Server Configuration Tools
- Base System > Administration Tools
- Base System > Base
- Base System > System Tools
- Base System > X Window System



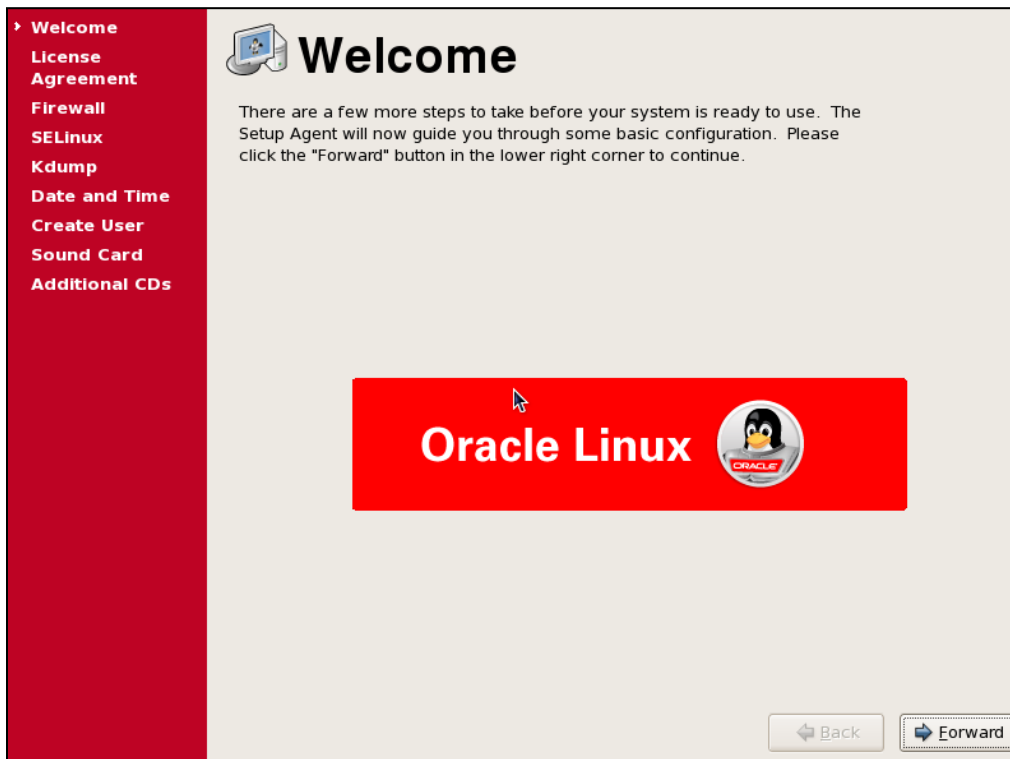
33. Click "Next"



34. Click "Reboot"



35. Click "Forward"



36. Click "Forward"

Welcome
License Agreement
Firewall
SELinux
Kdump
Date and Time
Create User
Sound Card
Additional CDs

License Agreement

ORACLE LINUX LICENSE AGREEMENT

We, us, our and Oracle refers to Oracle America, Inc. You and your refers to the individual o

We are willing to provide a copy of the Oracle Linux programs to you only upon the condition

1. Grant of Licenses to the Oracle Linux programs. Subject to the terms of this Agreement, O
2. Licenses to Additional Oracle Linux programs. Certain third-party technology (collectively
3. Ownership. The Oracle Linux programs and their components and the Additional Oracle Li
4. Trademark License. You are permitted to distribute unmodified Oracle Linux programs or u
5. Limited Warranty. THE ORACLE LINUX PROGRAMS AND ADDITIONAL ORACLE LINUX PROGF
6. Limitation of Liability. IN NO EVENT SHALL WE BE LIABLE FOR ANY INDIRECT, INCIDENTAL, S
7. No Technical Support. Our technical support organization will not provide technical suppor
8. Relationship Between the Parties. The relationship between you and us is that of licensee/li
9. Entire Agreement. You agree that this Agreement is the complete Agreement for the Orac

Yes, I agree to the License Agreement
 No, I do not agree

Back Forward

37. Disable firewall and click "Forward"

Welcome
License Agreement
Firewall
SELinux
Kdump
Date and Time
Create User
Sound Card
Additional CDs

Firewall

You can use a firewall to allow access to specific services on your computer from other computers and prevent unauthorized access from the outside world. Which services, if any, do you wish to allow access to?

Firewall: Disabled

Trusted services:

- FTP
- Mail (SMTP)
- NFS4
- SSH
- Samba
- Secure WWW (HTTPS)

Other ports

Back Forward

38. Disable "Selinux" and click "Forward"

Welcome
License Agreement
Firewall
▶ **SELinux**
Kdump
Date and Time
Create User
Sound Card
Additional CDs

SELinux

Security Enhanced Linux (SELinux) provides finer-grained security controls than those available in a traditional Linux system. It can be set up in a disabled state, a state which only warns about things which would be denied, or a fully active state. Most people should keep the default setting.

SELinux Setting:

[Back](#) [Forward](#)

39. Click “Forward”

Welcome
License Agreement
Firewall
SELinux
▶ **Kdump**
Date and Time
Create User
Sound Card
Additional CDs

Kdump

Kdump is a kernel crash dumping mechanism. In the event of a system crash, kdump will capture information from your system that can be invaluable in determining the cause of the crash. Note that kdump does require reserving a portion of system memory that will be unavailable for other uses.

Enable kdump?

Total System Memory (MB): 2006

Kdump Memory (MB):

Usable System Memory (MB): 1878

[Back](#) [Forward](#)

40. Click "Forward"

Welcome
License Agreement
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SELinux
Kdump
Date and Time
Create User
Sound Card
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Date and Time

Please set the date and time for the system.

Date & Time Network Time Protocol

Date

March 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

Time

Current Time : 21:51:43

Hour : 23

Minute : 51

Second : 35

Back Forward

41. Click "Forward" without creating user

Welcome
License Agreement
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SELinux
Kdump
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Create User
Sound Card
Additional CDs

Create User

It is recommended that you create a 'username' for regular (non-administrative) use of your system. To create a system 'username,' please provide the information requested below.

Username:

Full Name:

Password:

Confirm Password:

If you need to use network authentication, such as Kerberos or NIS, please click the Use Network Login button.

Use Network Login...

Back Forward

42. Click "Forward"

Welcome
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Date and Time
Create User
▶ Sound Card
Additional CDs

Sound Card

An audio device has been detected in your computer.

Click the "Play" button to hear a sample sound. You should hear a series of three sounds. The first sound will be in the right channel, the second sound will be in the left channel, and the third sound will be in the center.

The following audio device was detected.

Selected card

Vendor: Intel Corporation
Model: 82801AA AC'97 Audio Controller
Module: snd-intel8x0

Sound test

▶ ◻ ... Stopped ... ◻ Repeat

Volume settings

Device settings

PCM device Intel 82801AA-ICH

◀ Back Forward ▶

43. Click "Finish"

Welcome
License Agreement
Firewall
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Kdump
Date and Time
Create User
Sound Card
▶ Additional CDs

Additional CDs

Please insert any additional software install cds at this time.

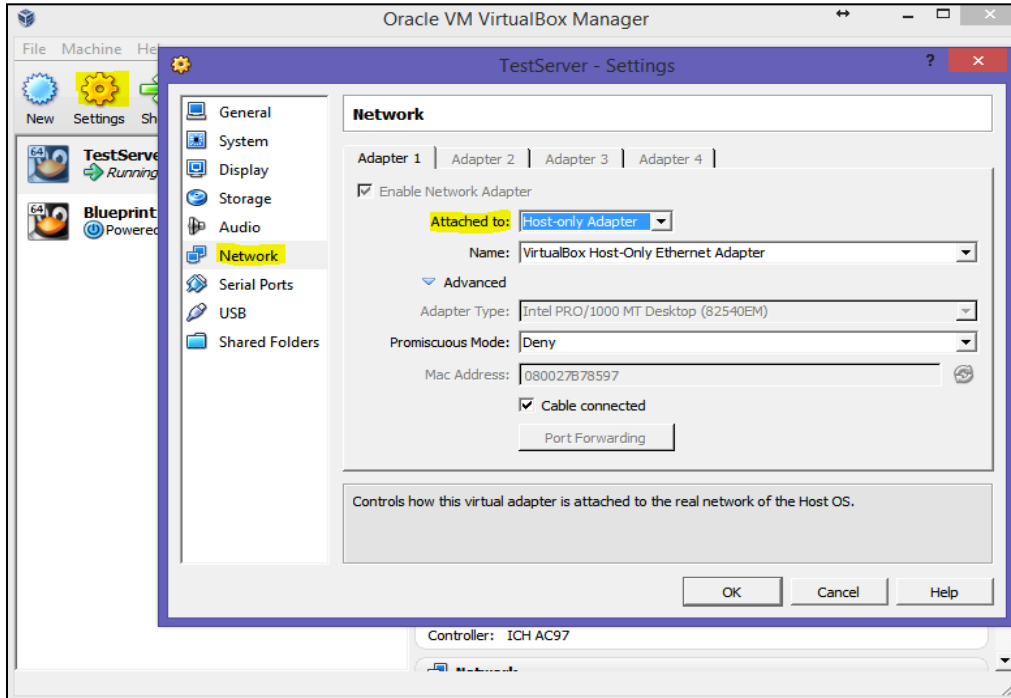
Additional CDs Install...

◀ Back Finish ▶

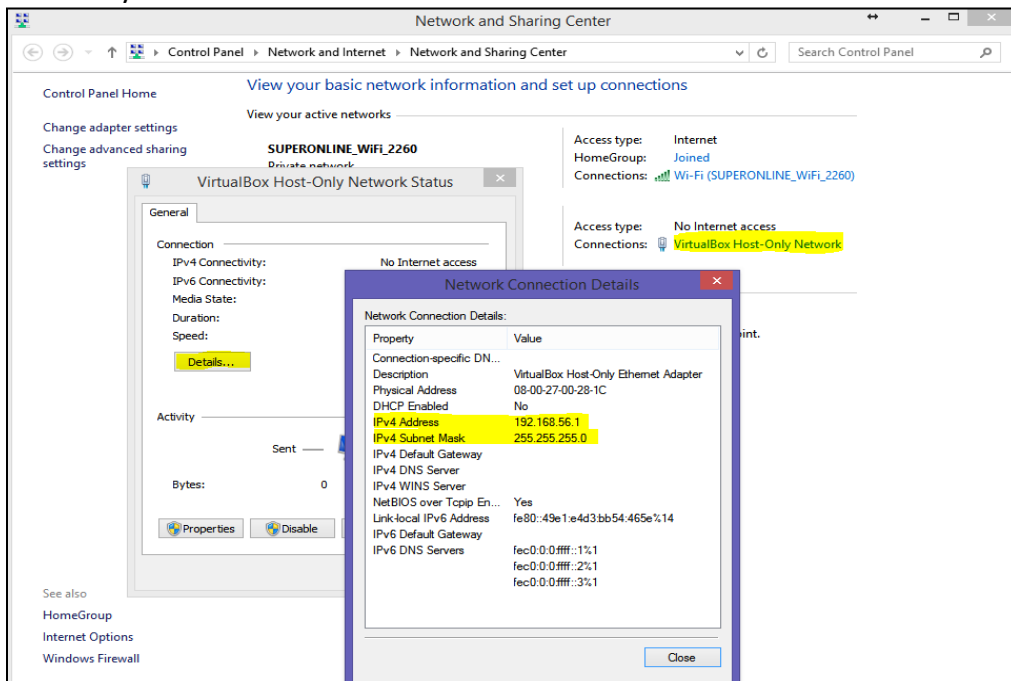
Oracle Database Software Installation

1. Configure the network to be able to use putty

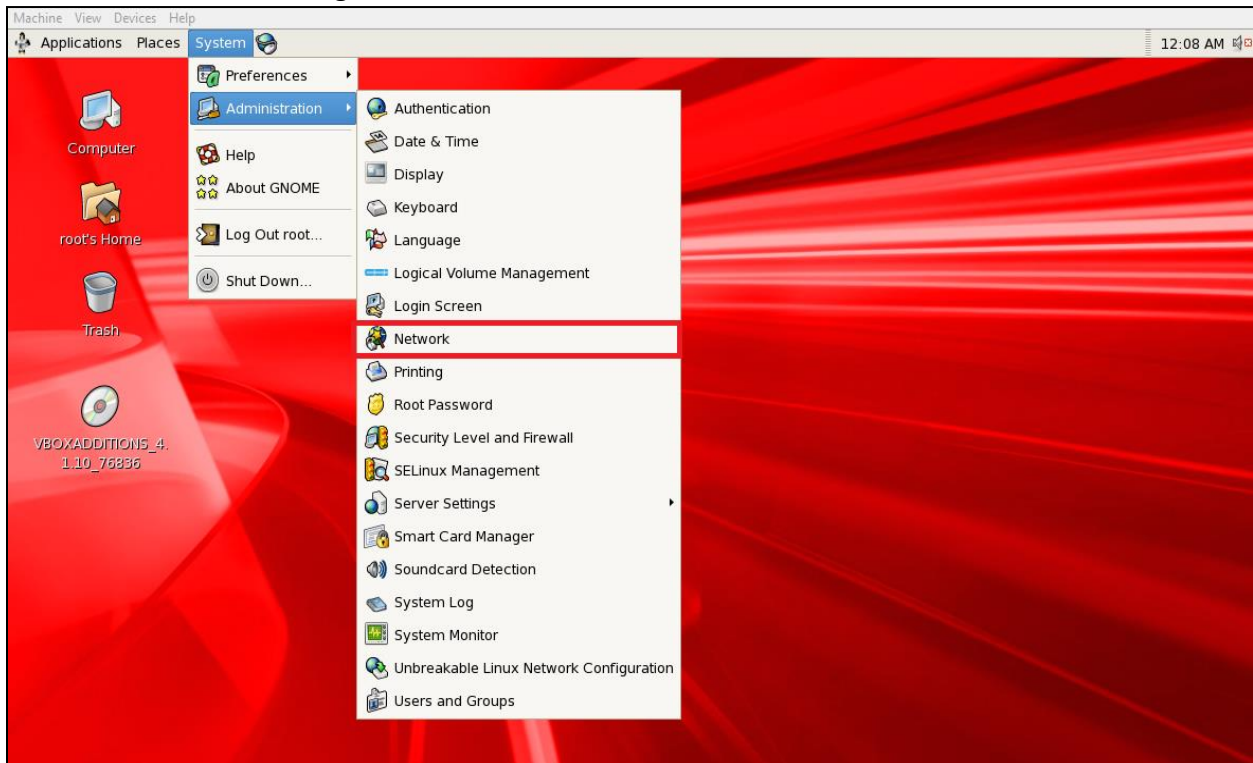
Enter the "Settings" screen of the virtual machine and change the network setting to "Host-only Adapter" as seen below. Click "OK" and reboot the Linux OS



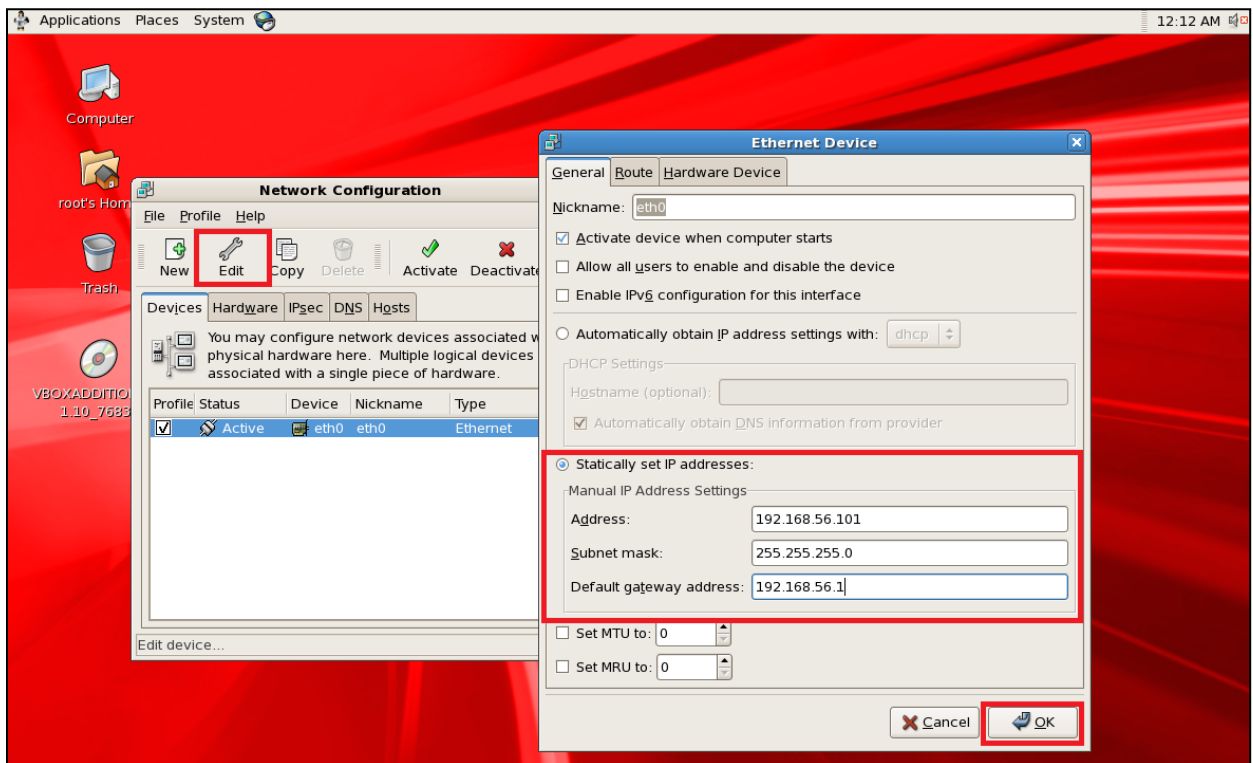
2. Open Network and Sharing Center of the host (Windows) Note down the details of the Virtual Host-Only Network



3. Edit the network settings of the Linux server:



Edit the network config. as shown below by considering the host gateway that was noted before. Click "OK" and then File > Save



4. Linux Settings

Edit `"/etc/sysctl.conf"` and add the following lines:

```
fs.suid_dumpable = 1
fs.aio-max-nr = 1048576
fs.file-max = 6815744
kernel.shmall = 2097152
kernel.shmmax = 2076276736
kernel.shmni = 4096
# semaphores: semmsl, semmns, semopm, semmni
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
```

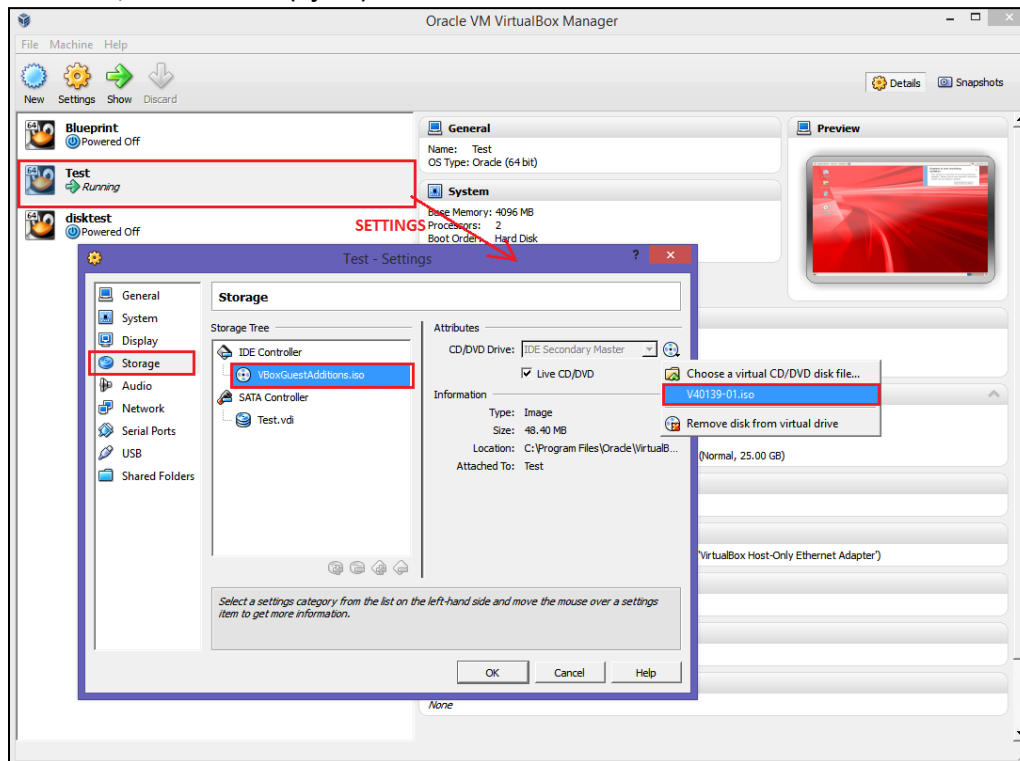
Then issue the following command:

```
/sbin/sysctl -p
```

Edit `"/etc/security/limits.conf"` and add the following lines:

oracle	soft	nproc	2047
oracle	hard	nproc	16384
oracle	soft	nofile	4096
oracle	hard	nofile	65536
oracle	soft	stack	10240

Mount the Linux installation iso as a CD-ROM device. If something is already mounted to the CD-ROM, unmount it (eject) first...



Install the following packages:

```
cd /media/OL5.10\ x86_64\ dvd\ 20131002/Server
```

```
rpm -Uvh binutils-2.*
rpm -Uvh compat-libstdc++-33*
rpm -Uvh compat-libstdc++-33*.i386.rpm
rpm -Uvh elfutils-libelf*
rpm -Uvh gcc-4.*
rpm -Uvh gcc-c++-4.*
rpm -Uvh glibc-2.*
rpm -Uvh glibc-common-2.*
rpm -Uvh glibc-devel-2.*
rpm -Uvh glibc-headers-2.*
rpm -Uvh ksh*
rpm -Uvh libaio-0.*
rpm -Uvh libaio-devel-0.*
rpm -Uvh libgomp-4.*
rpm -Uvh libgcc-4.*
rpm -Uvh libstdc++-4.*
rpm -Uvh libstdc++-devel-4.*
rpm -Uvh make-3.*
rpm -Uvh sysstat-7.*
rpm -Uvh unixODBC-libs-2.2.11-10.e15.*
rpm -Uvh unixODBC-2.*
rpm -Uvh unixODBC-devel-2.*
rpm -Uvh numactl-devel-*
```

Create oracle groups and user:

```
groupadd oinstall
groupadd dba

useradd -g oinstall -G dba oracle
```

Create paths:

```
mkdir -p /u01/app/oracle/product/11.2.0/dbhome
chown -R oracle:oinstall /u01
chmod -R 775 /u01
```

Edit /etc/hosts

```
127.0.0.1      localhost.localdomain    localhost
::1           localhost6.localdomain6 localhost6
192.168.56.101 testserver               testserver.taysi.com
```

Login as **oracle** user and edit the bash profile: vi .bash_profile -> add the following lines:

```
# Oracle Settings
TMP=/tmp; export TMP
TMPDIR=$TMP; export TMPDIR

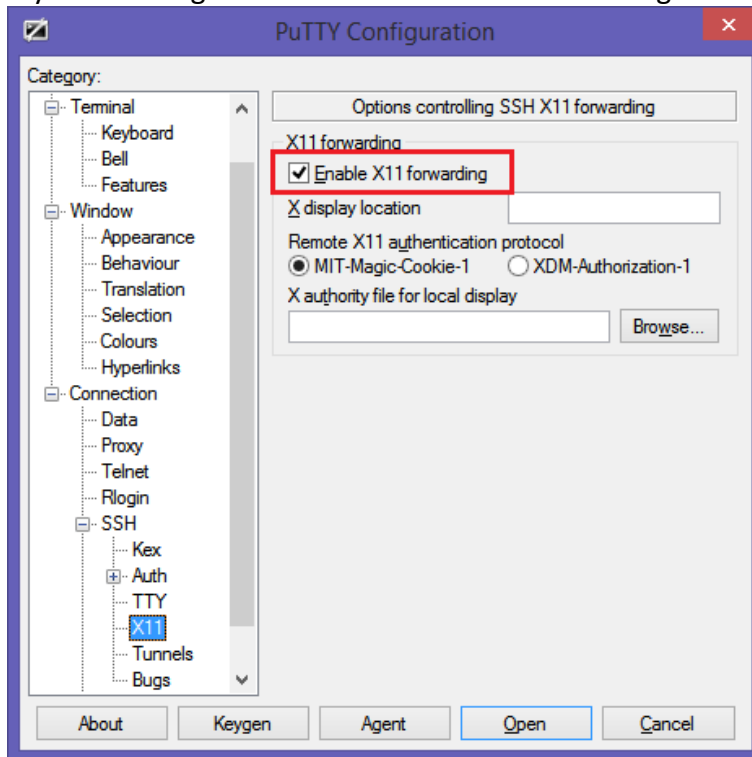
ORACLE_HOSTNAME=testserver.taysi.com; export ORACLE_HOSTNAME
ORACLE_UNQNAME=TESTDB; export ORACLE_UNQNAME
ORACLE_BASE=/u01/app/oracle; export ORACLE_BASE
ORACLE_HOME=$ORACLE_BASE/product/11.2.0/dbhome; export ORACLE_HOME
ORACLE_SID=TESTDB; export ORACLE_SID
PATH=/usr/sbin:$PATH; export PATH
PATH=$ORACLE_HOME/bin:$PATH; export PATH

LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib; export LD_LIBRARY_PATH
CLASSPATH=$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib; export CLASSPATH
```

Re-login with the oracle user for the bash_profile to take effect...

Installation

If you are using X emulation enable X11 forwarding of Putty as follows:



Run Xming server and export your display (tt with xclock)

```
export DISPLAY=127.0.0.1:10.0
```

Create a temp setup path and copy the database install files in here and unzip them.

```
mkdir -p /u01/setup
```

Run the installation:

```
./runInstaller.sh
```

Click "Next"

Oracle Database 11g Release 2 Installer - Installing database - Step 1 of 11

Configure Security Updates

Provide your email address to be informed of security issues, install the product and initiate configuration manager. [View details.](#)

Email:

Easier for you if you use your My Oracle Support email address/username.

I wish to receive security updates via My Oracle Support.

My Oracle Support Password:

Click "Next"

Oracle Database 11g Release 2 Installer - Installing database - Step 2 of 11

Download Software Updates

Download software updates for this installation. Software updates consist of recommended updates to the installer system requirement checks, PatchSet Updates (PSUs), and other recommended patches.

Select one of the following options:

Use My Oracle Support credentials for download

My Oracle Support user name:

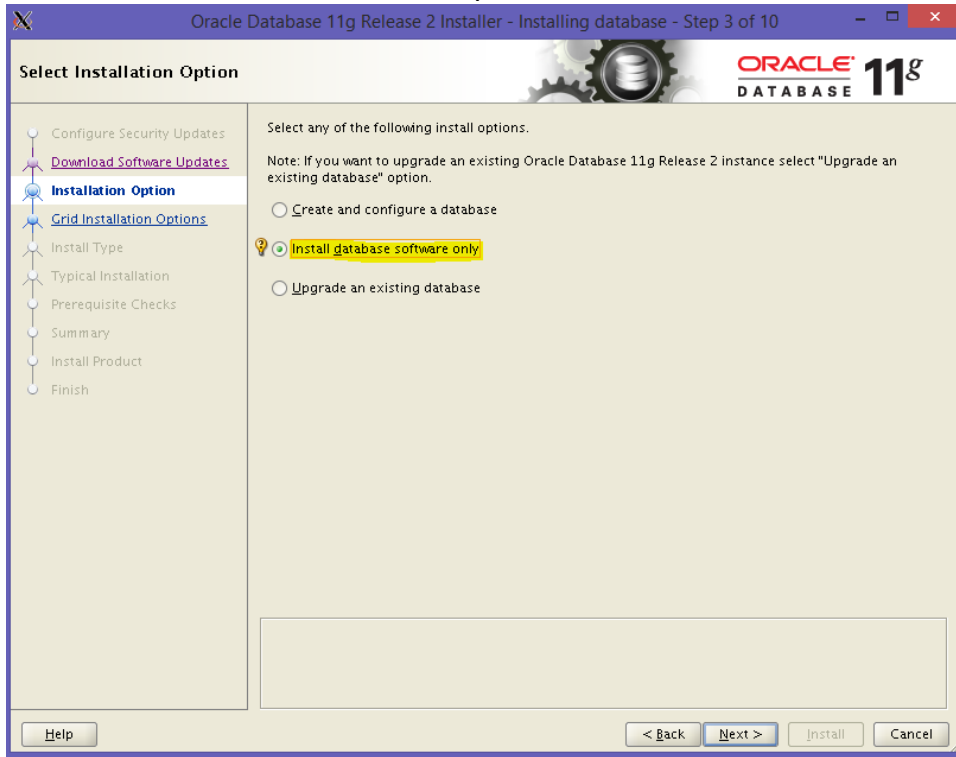
My Oracle Support password:

Use pre-downloaded software updates

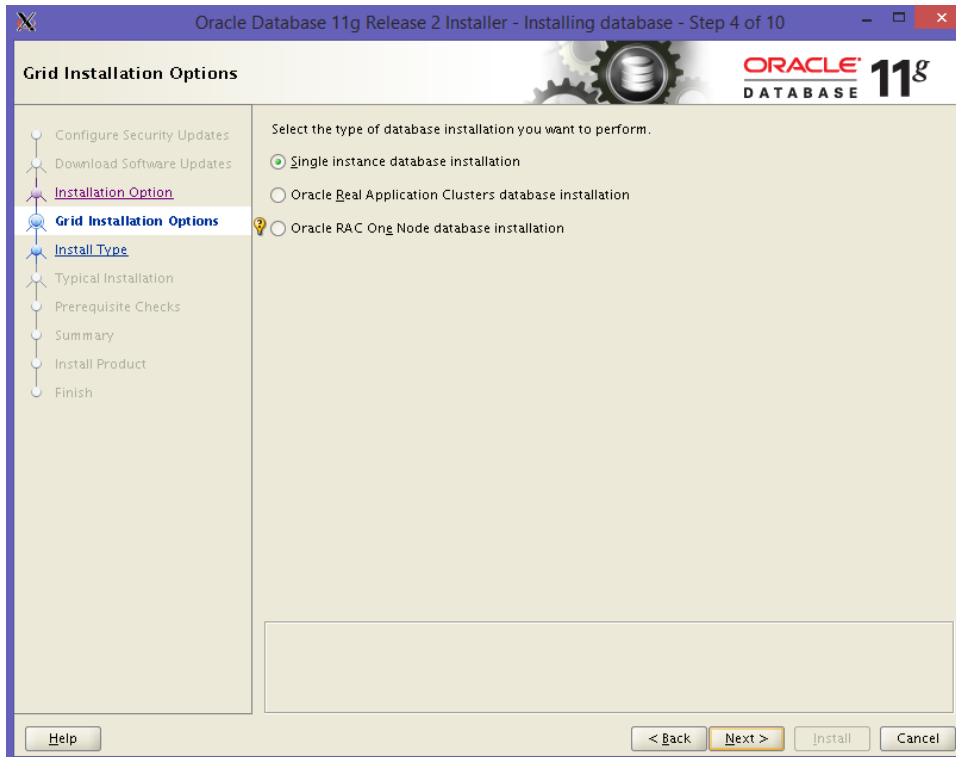
Location:

Skip software updates

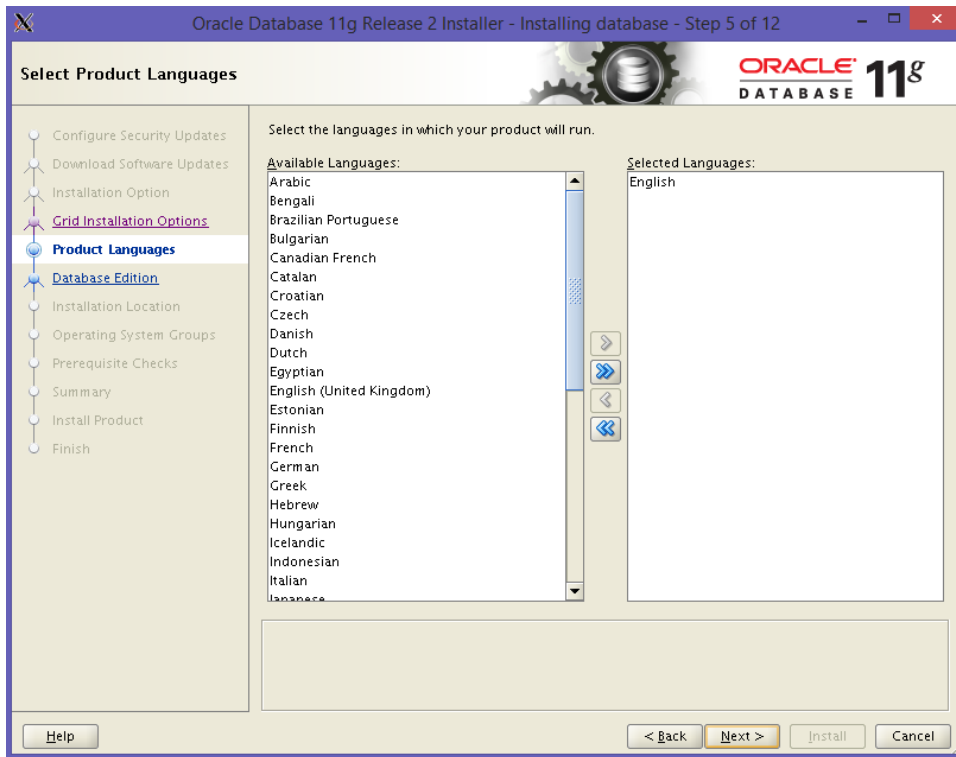
Select "Instal database software only" Click "Next"



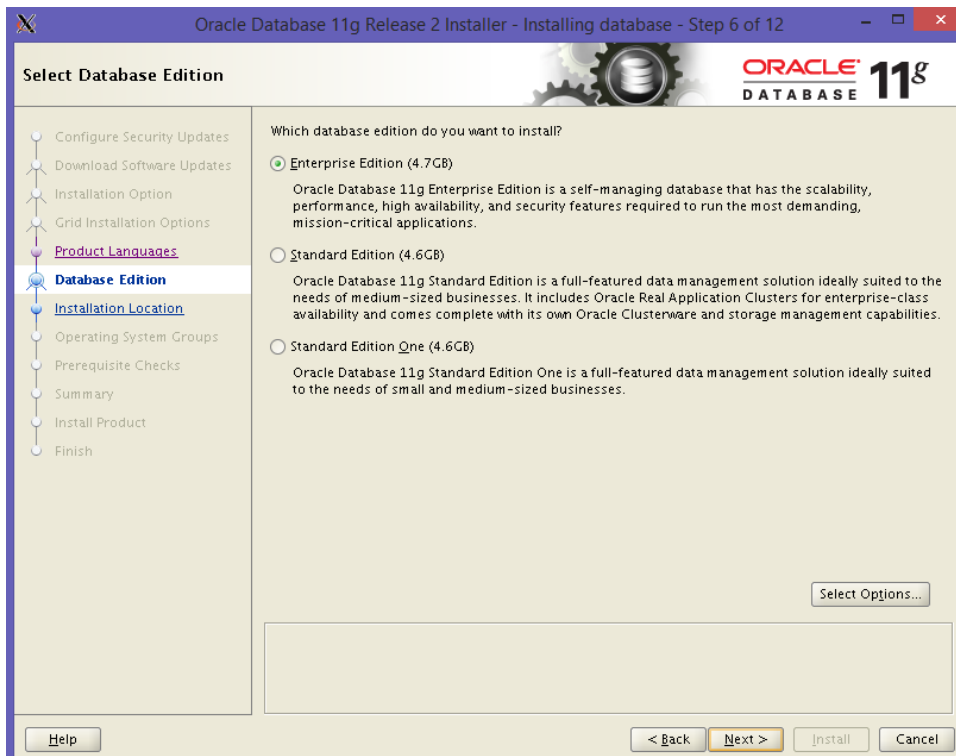
Click "Next"



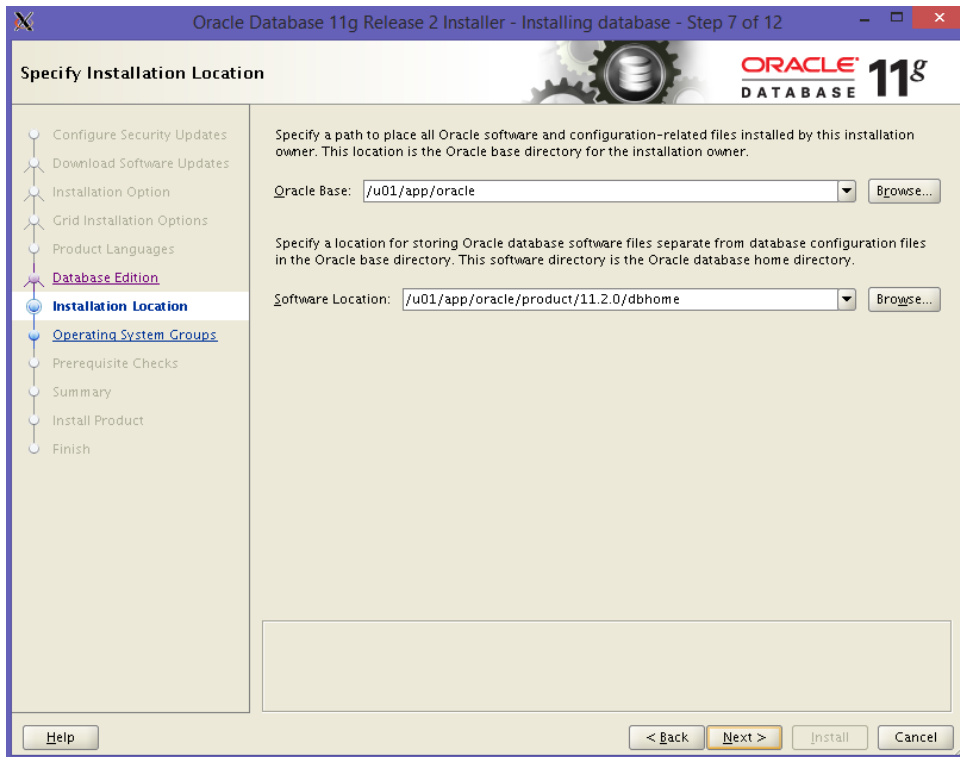
Click "Next"



Click "Next"



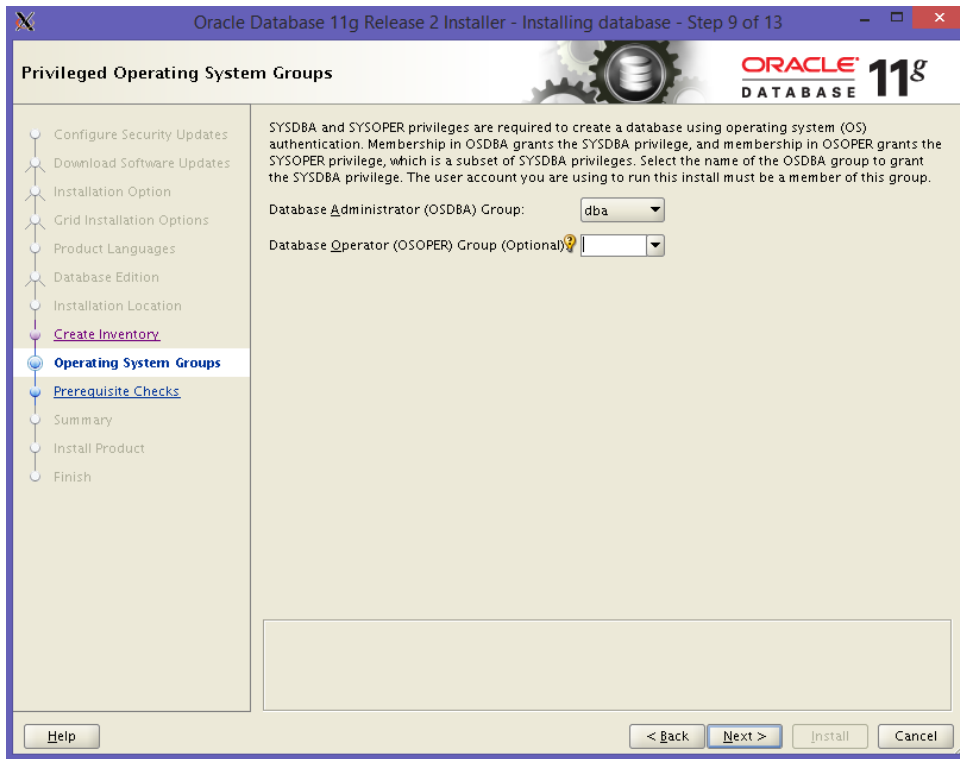
Click "Next"



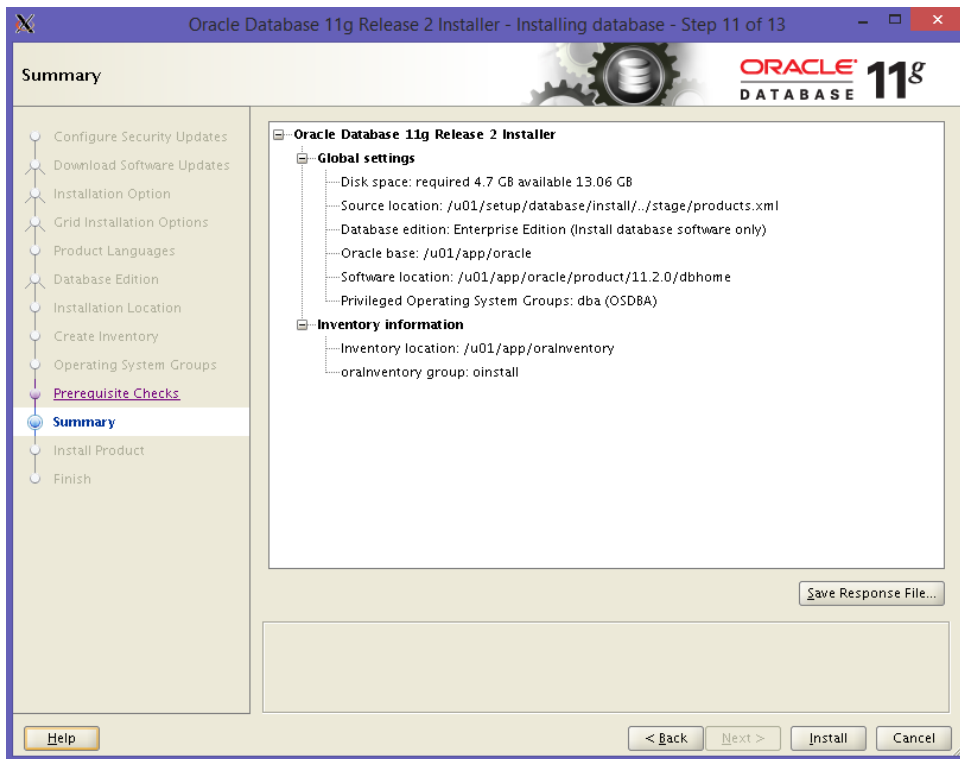
Click "Next"



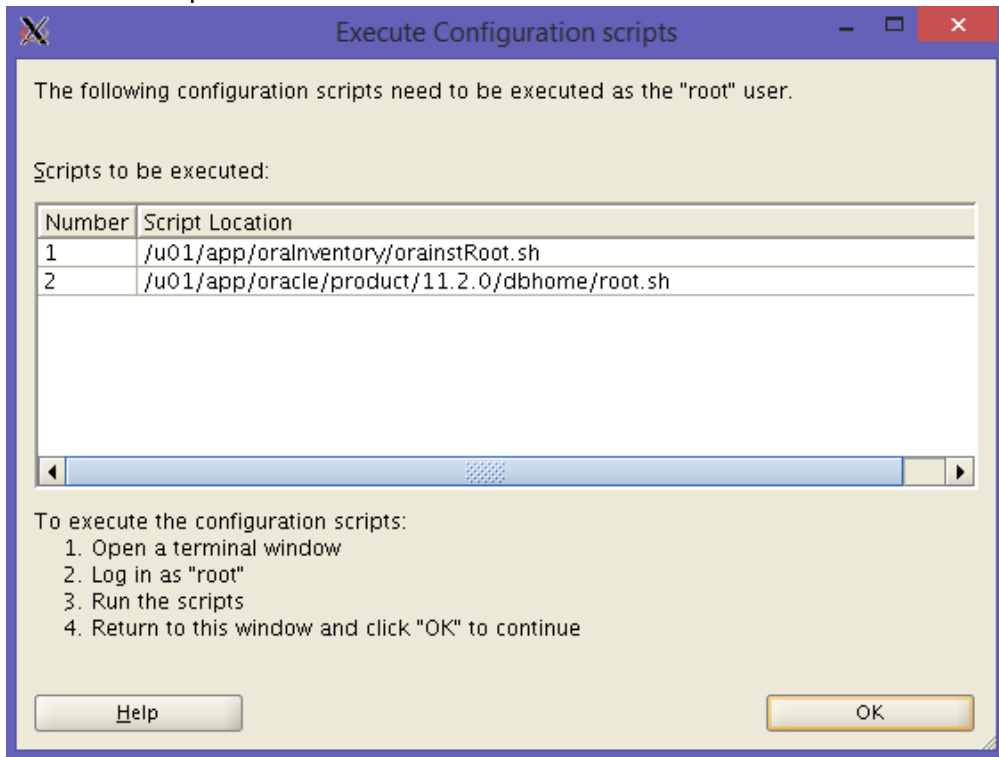
Click "Next"



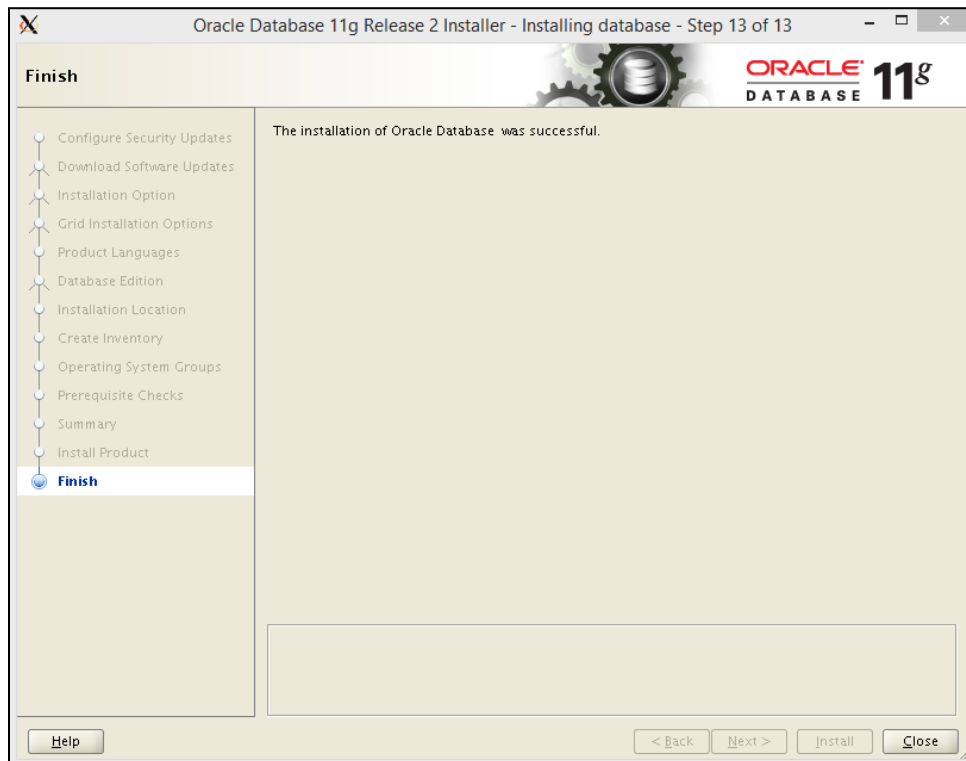
Click "Install"



Run those scripts as root user then click "OK"



Software installation is done.

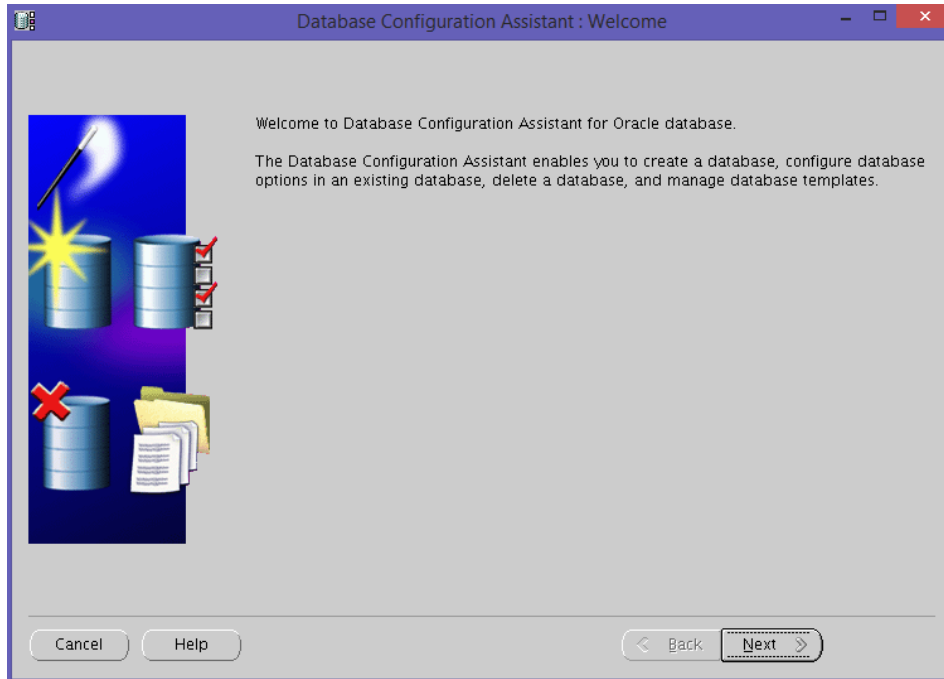


Configure a Database

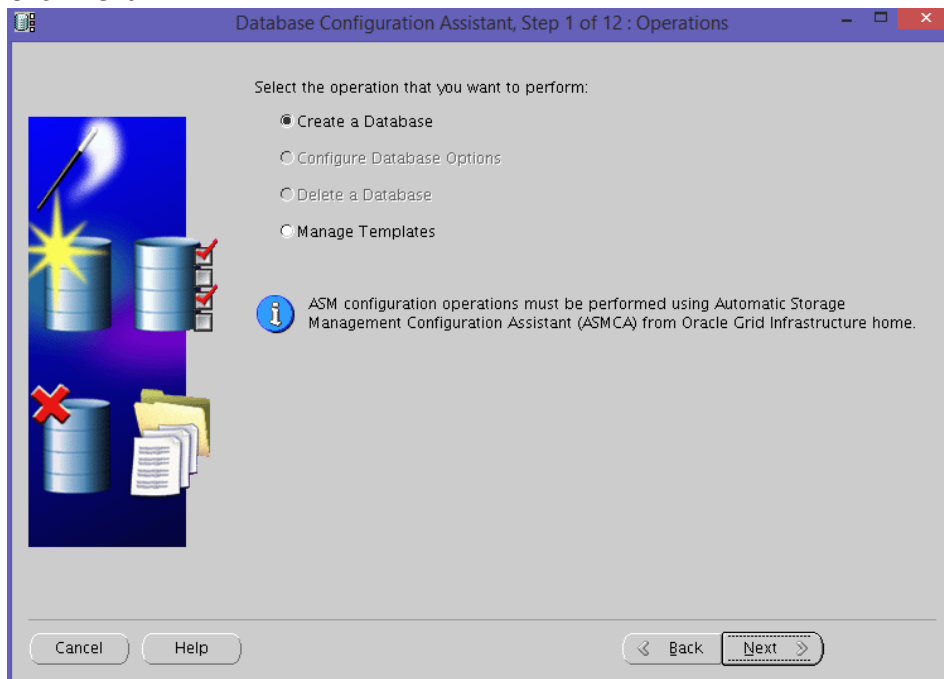
1. Run DBCA with oracle user

```
$> dbca
```

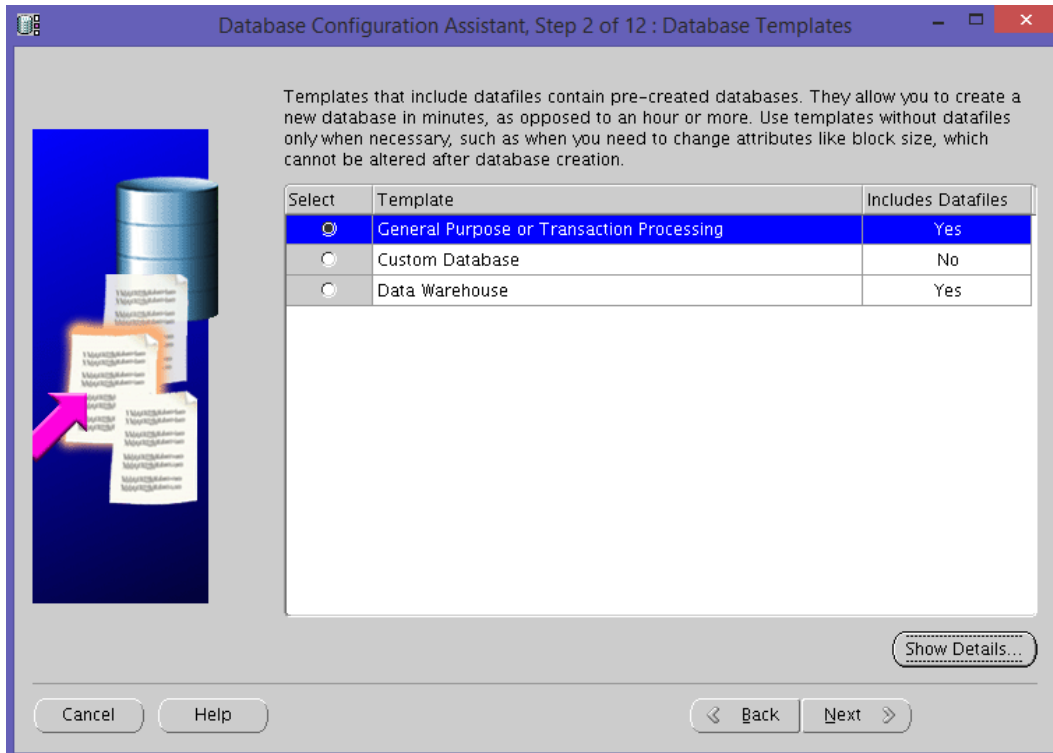
Click Next



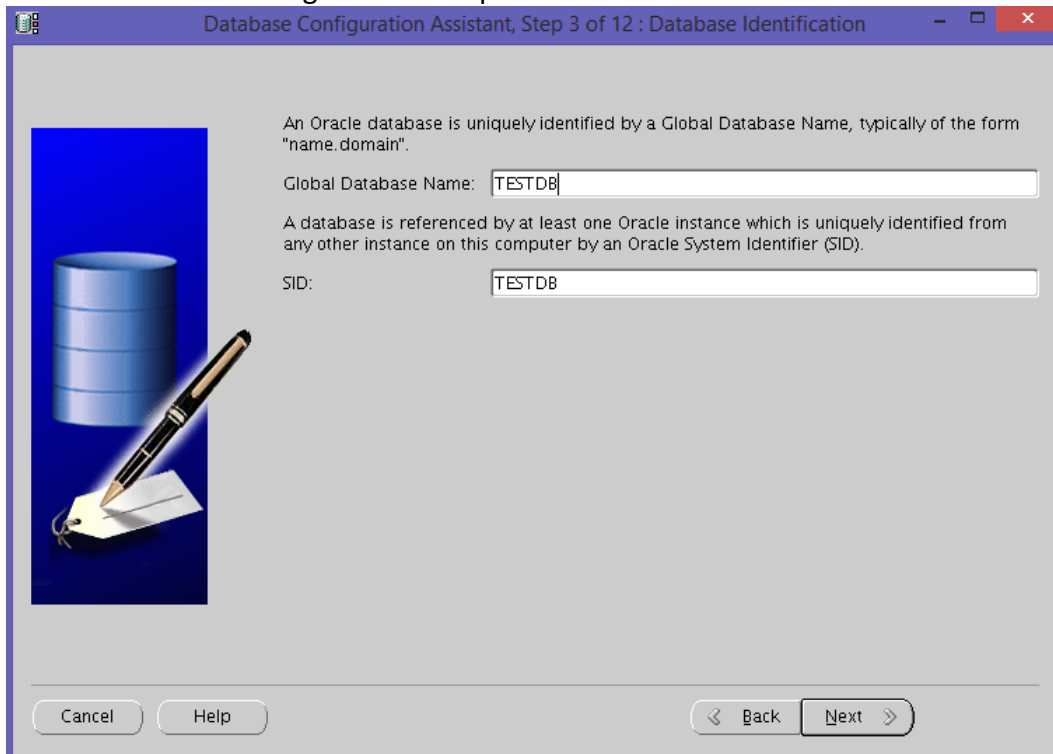
Click Next



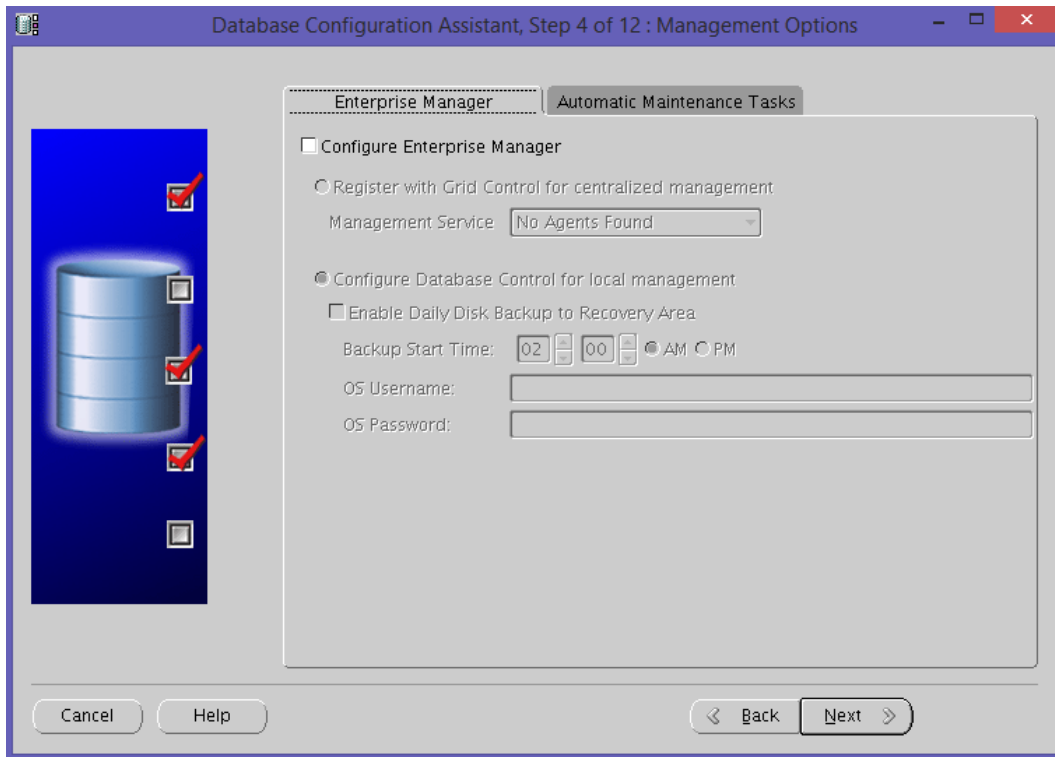
Click Next



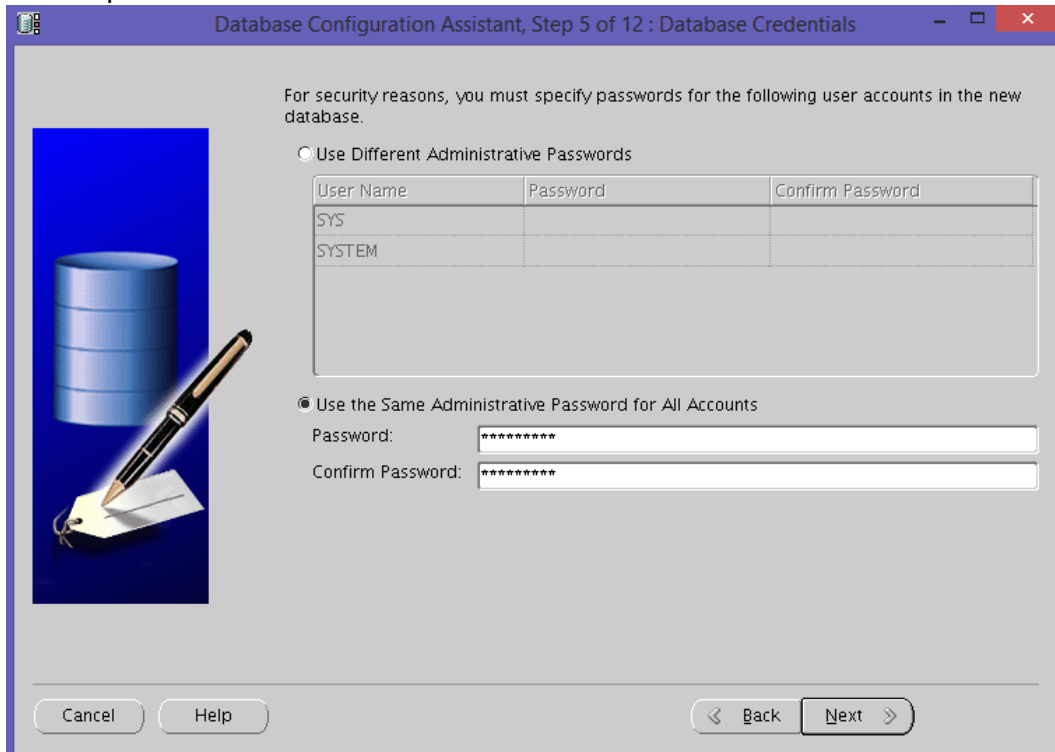
Enter the SID that was given in bash profile and click Next



I disable the EM because I use Cloud Control... Click Next



Enter a password and click Next



We did not configure grid and ASM so select file system... Multiplexing redo and controlfiles can be done later so skip...

Click Next

Database Configuration Assistant, Step 6 of 12 : Database File Locations

Specify storage type and locations for database files.

Storage Type: File System

Storage Locations:

Use Database File Locations from Template

Use Common Location for All Database Files

Database Files Location: Browse...

Use Oracle-Managed Files

Database Area: Browse...

Multiplex Redo Logs and Control Files...

i If you want to specify different locations for any database files, pick any of the above options except Oracle-Managed Files and use the Storage page later to customize each file location. If you use Oracle-Managed Files, Oracle automatically generates the names for database files, which can not be changed on the Storage page.

File Location Variables...

Cancel Help Back Next Finish

I also do not setup FRA, this also can be done later...

Archiving is important but I usually configure those stuff after the installation...

Click Next

Database Configuration Assistant, Step 7 of 12 : Recovery Configuration

Choose the recovery options for the database:

Specify Fast Recovery Area

This is used as the default for all disk based backup and recovery operations, and is also required for automatic disk based backup using Enterprise Manager. Oracle recommends that the database files and recovery files be located on physically different disks for data protection and performance.

Fast Recovery Area: {ORACLE_BASE}/fast_recovery_a Browse...

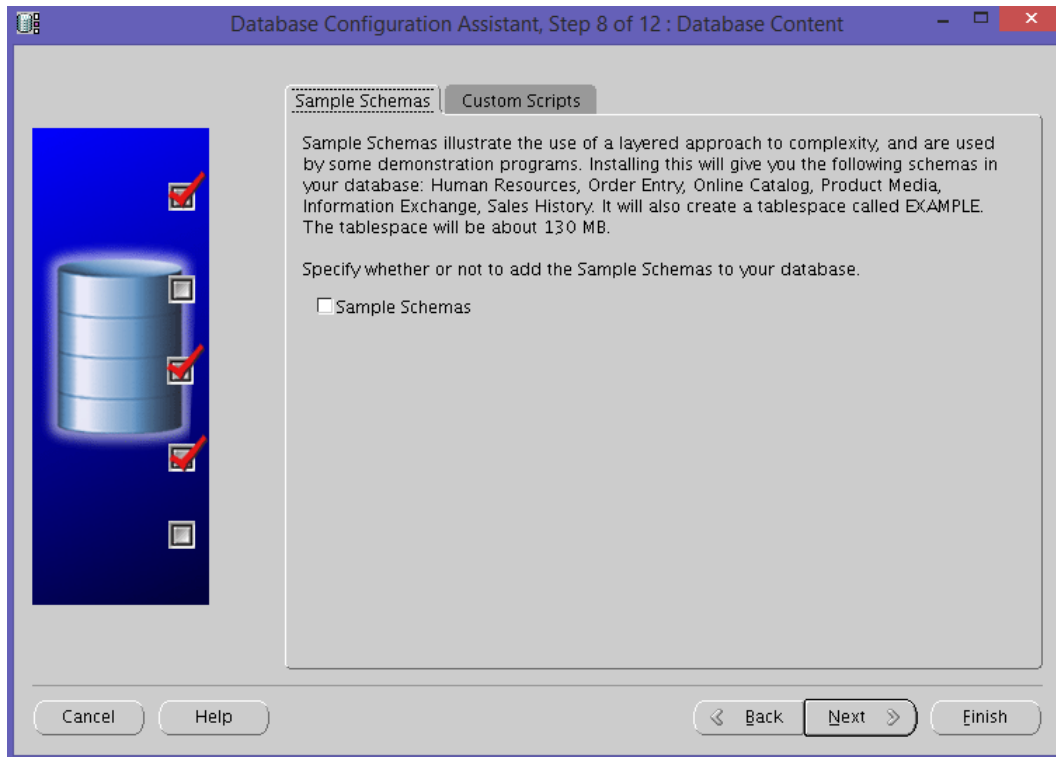
Fast Recovery Area Size: 4182 Browse... M.Bytes

Enable Archiving Edit Archive Mode Parameters...

File Location Variables...

Cancel Help Back Next Finish

Click Next

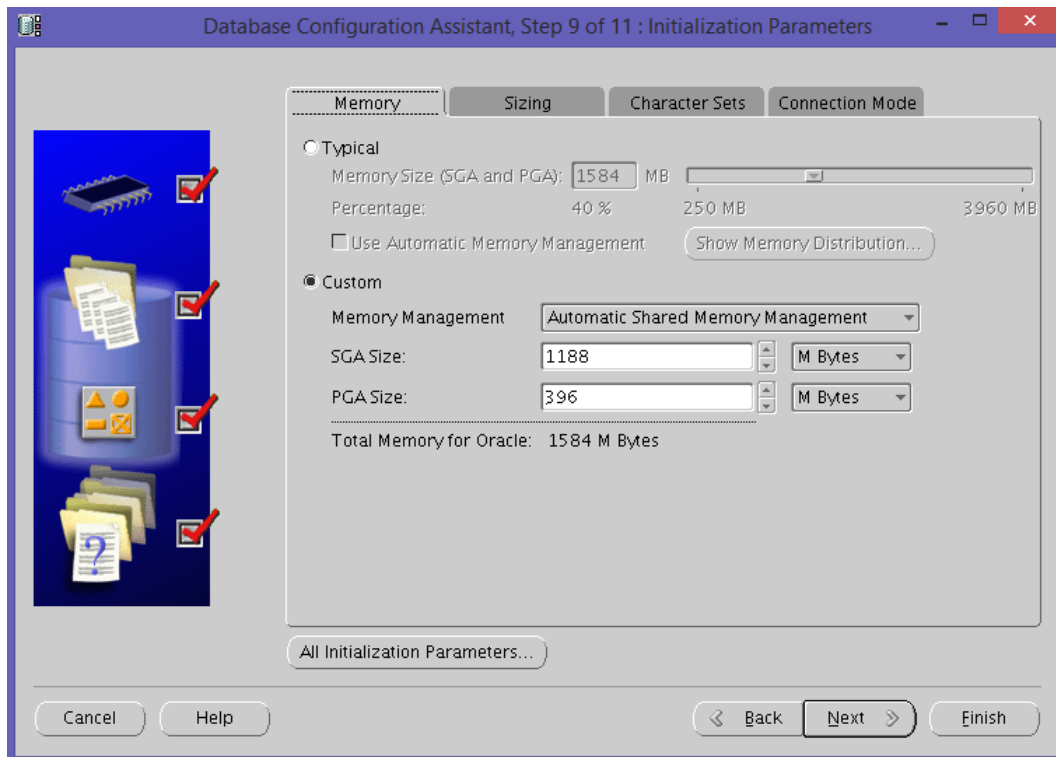


This part is important. Of course this is not an enterprise installation so the values will reflect a typical personal test environment.

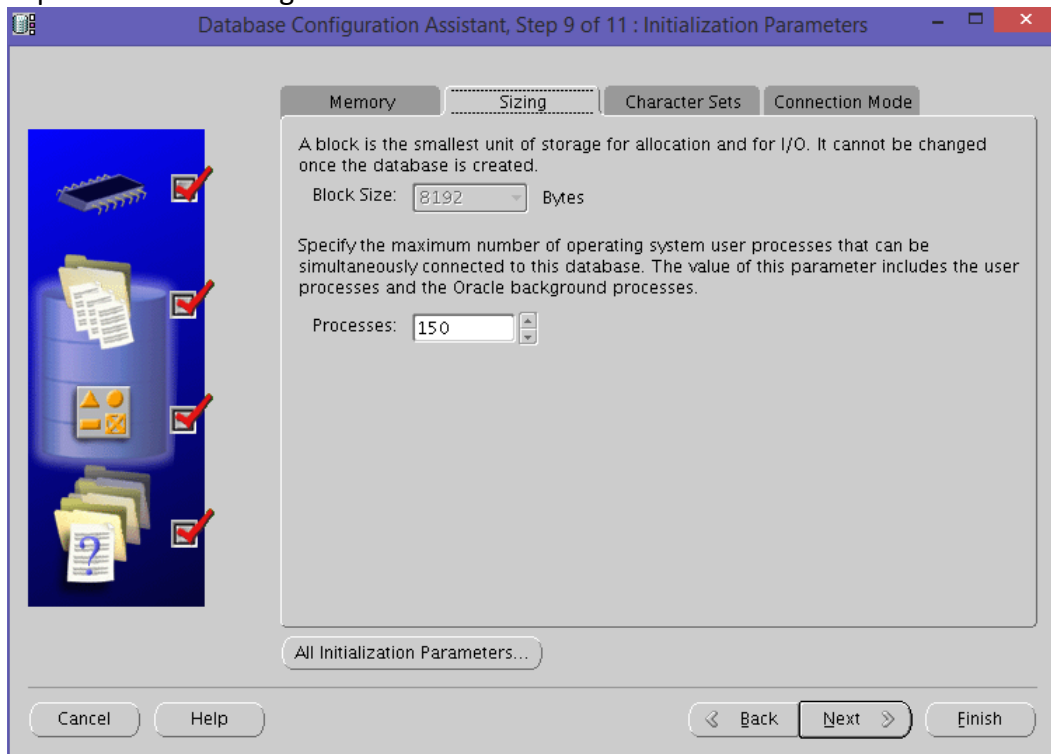
Those all can also be changed later, except the character set. It may cause you some trouble, so select it accordingly.

Since we've selected general purpose template, we are not allowed to change the block size, which is also not possible to change later on...

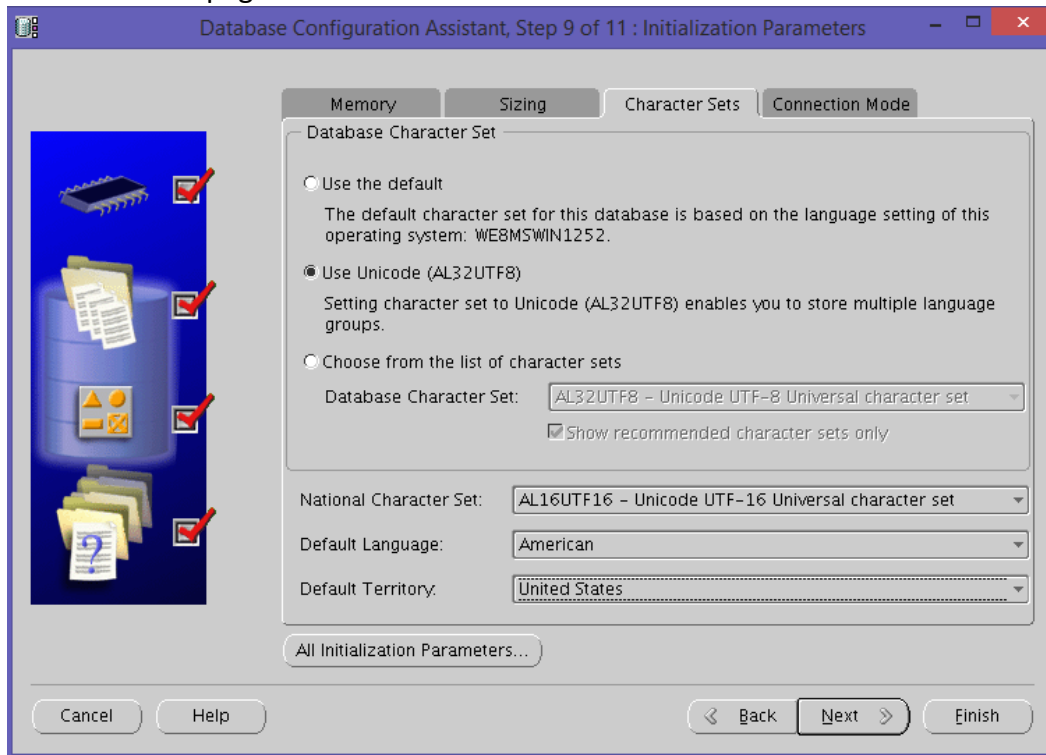
One last thing to note, if you are planning to use HUGE PAGES of the Linux OS, you should not select Automatic Memory Management (AMM) which is Incompatible with huge pages... Select ASMM instead as follows:



You may also want to change the process count according to your concurrent session count you expect. I do not change...



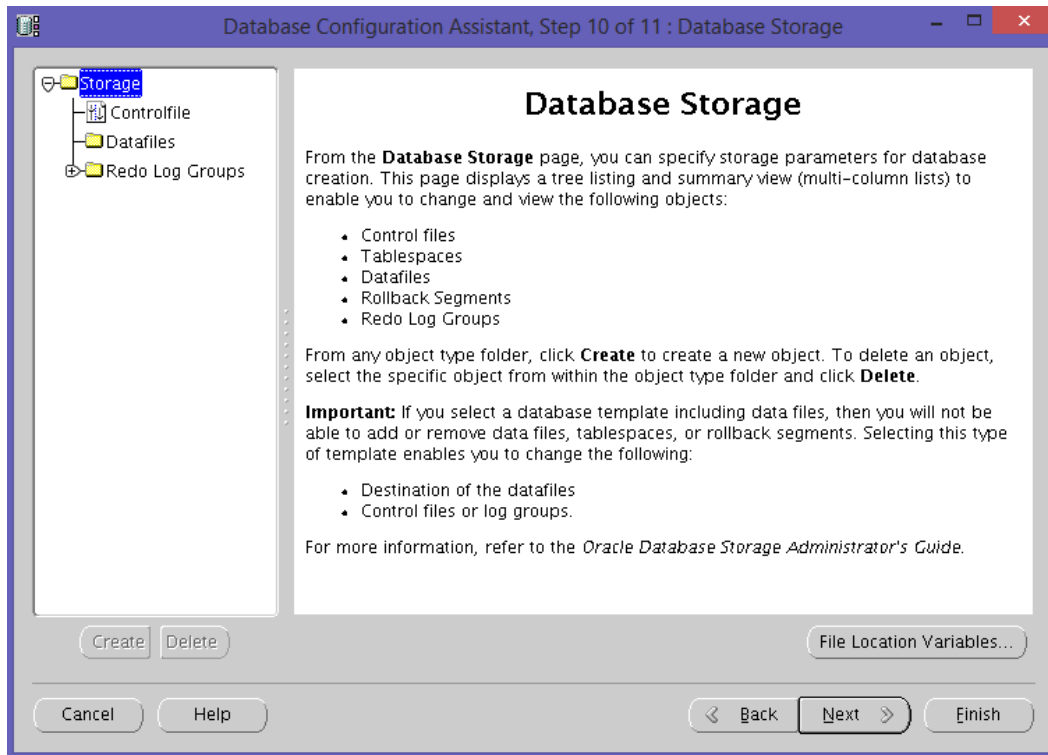
Select the codepage



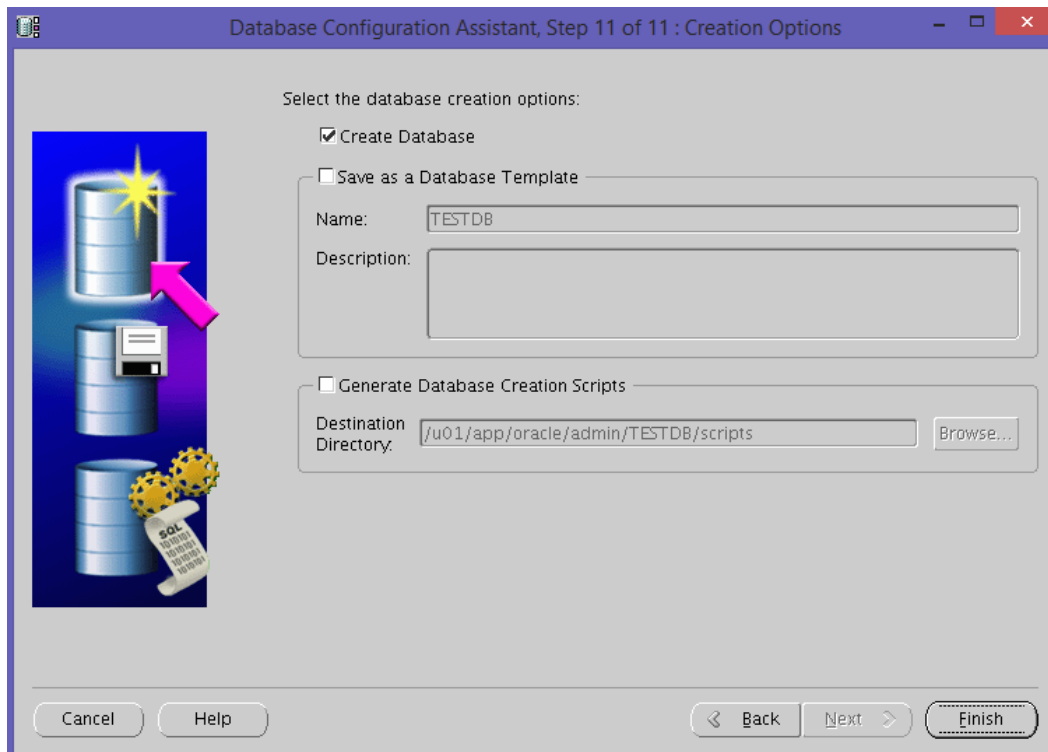
Dedicated mode is ok, click Next



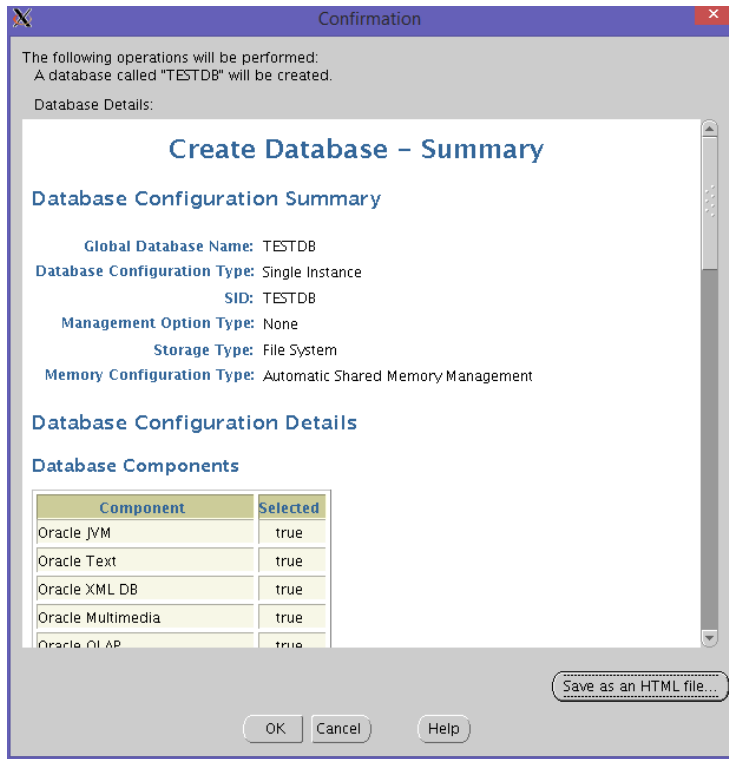
Click Next



Click Finish



Click OK



Installation is DONE...