PART 1 - Setting Up Oracle Database

Step 1 – Installing VMware Player

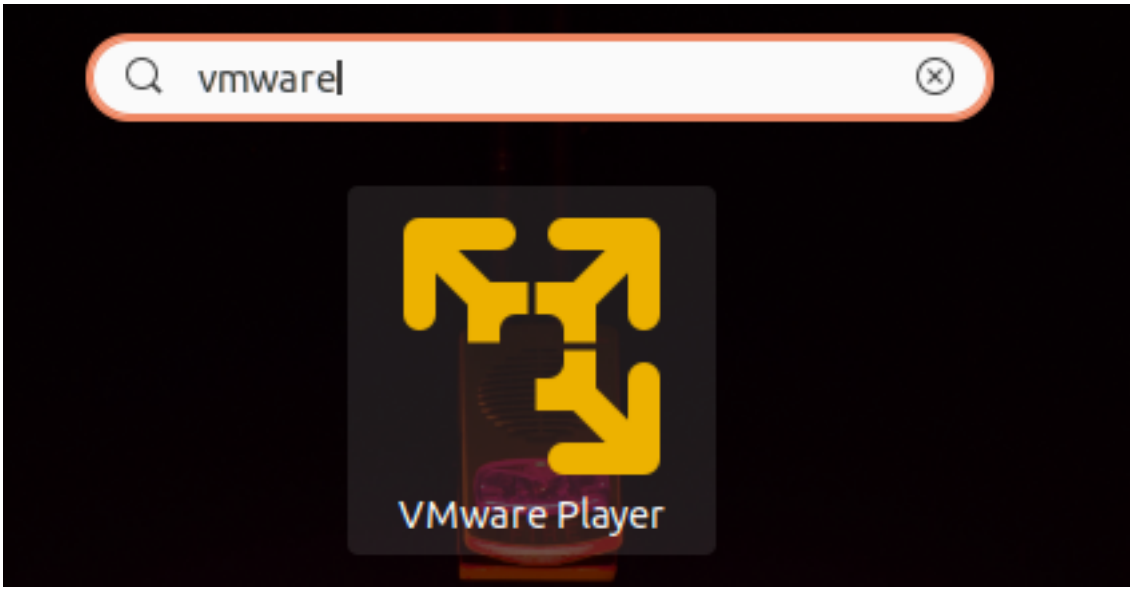
Open terminal and run following commands.

1. `sudo apt install`
2. `sudo apt install build-essential linux-headers-generic`
3. `wget --user-agent="Mozilla/5.0 (X11; Linux x86_64; rv:60.0) Gecko/20100101 Firefox/60.0" https://www.vmware.com/go/getplayer-linux`

   After you entered last command, you'll see a file named getplayer-linux in current directory. This is the file that is going to install vmware for us. Make it executable for current user and continue as follows:

4. `chmod +x getplayer-linux`
5. `sudo ./getplayer-linux --required --eulas-agreed`

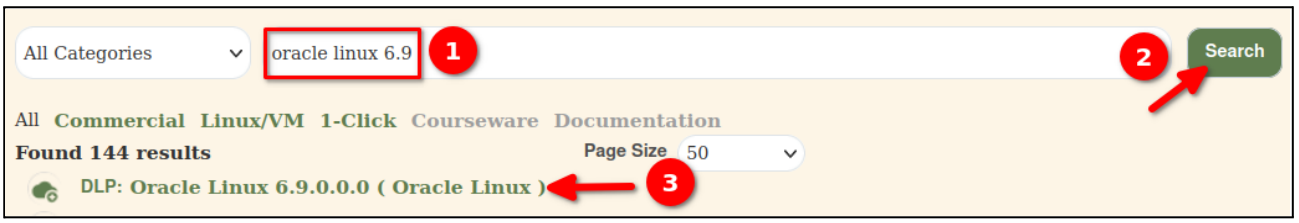
When you are done with installation, you should be able to see VMware player in your applications.

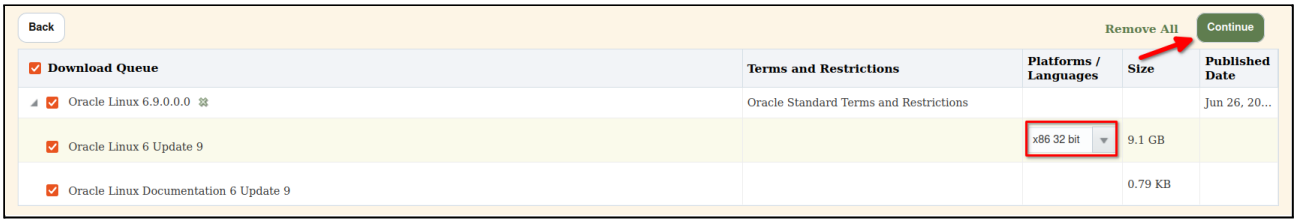


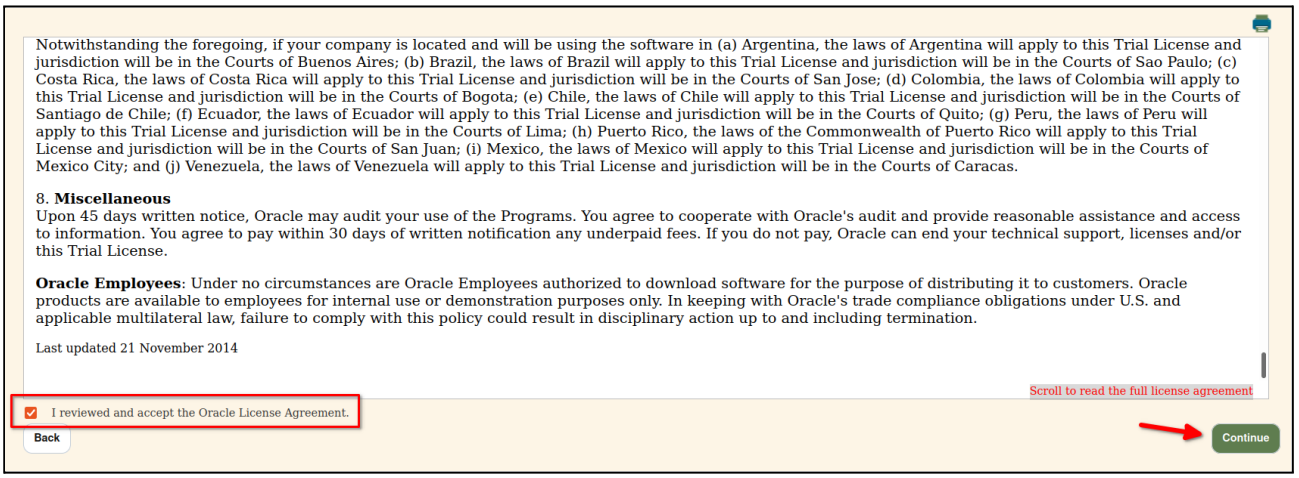
Step 2 – Downloading Oracle Linux image file

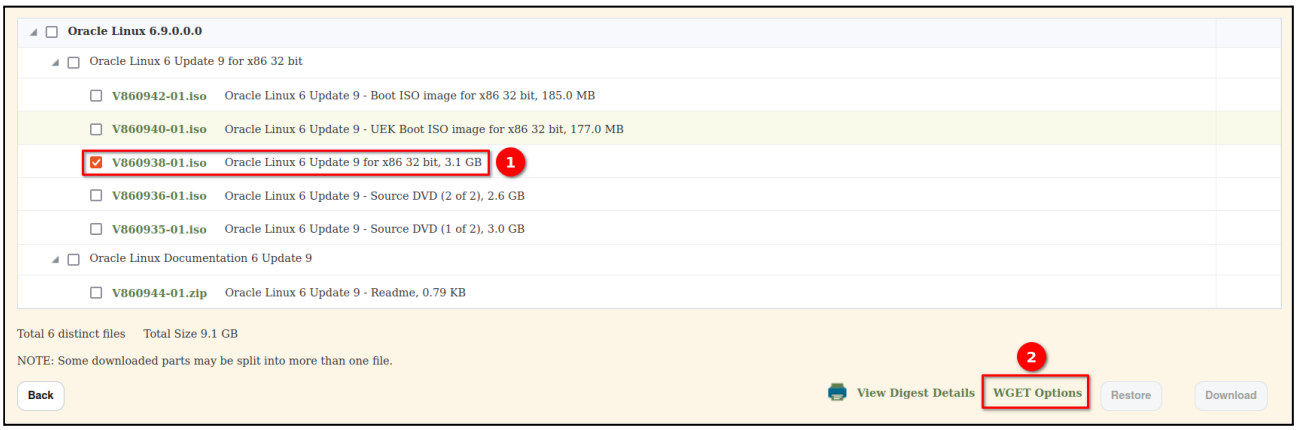
Click this link: https://edelivery.oracle.com/osdc/faces/SoftwareDelivery
Create a user to be able to download file.

Then proceed as showed in pictures below:









It'll download a **wget.sh** file to your Downloads directory. Execute following commands:

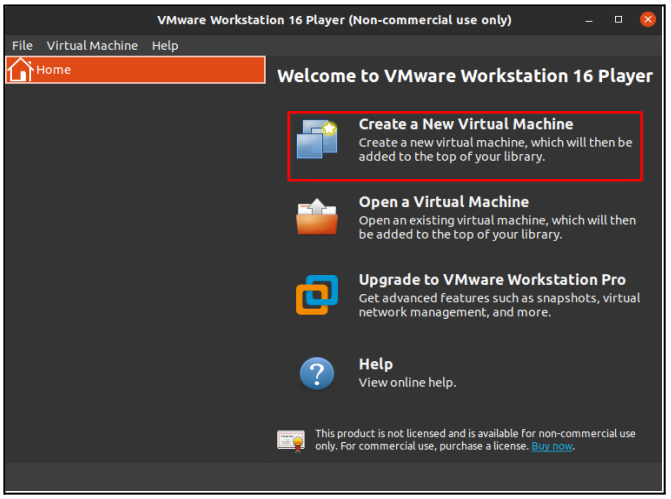
```
booruledie@lenovo:~/Downloads$ chmod +x wget.sh
booruledie@lenovo:~/Downloads$ ./wget.sh
SSO User  your email
Password: password
```

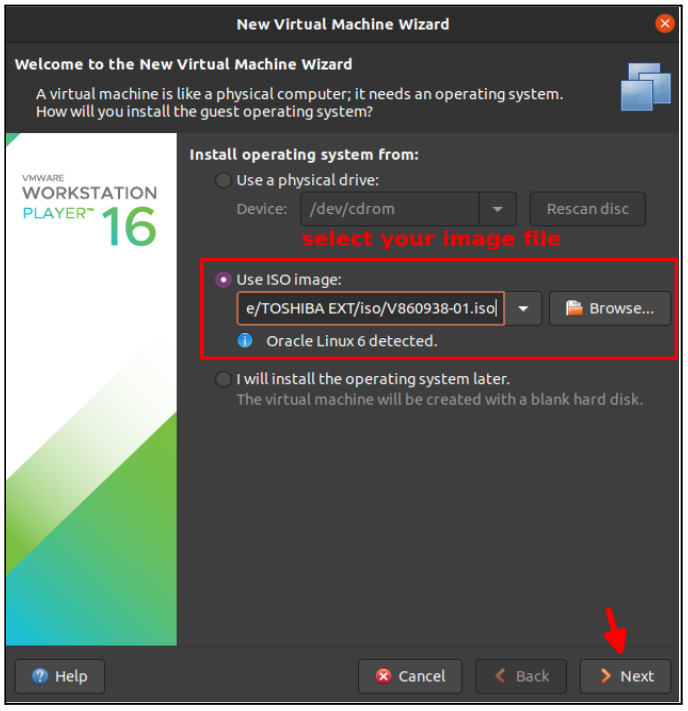
After that, you'll see the image file is downloading, wait until wget finished its job and get your command prompt back.

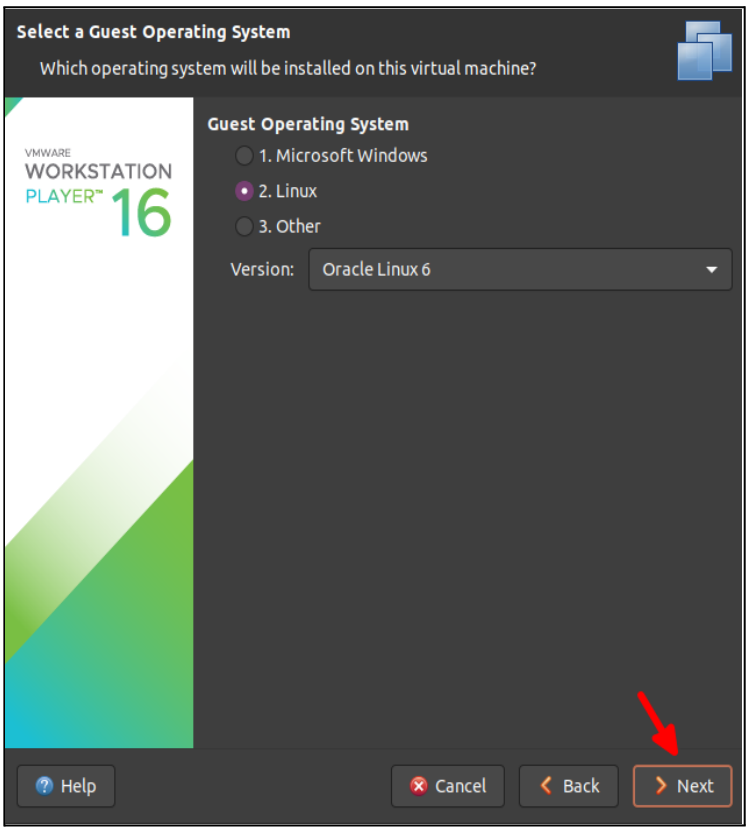
```
booruledie@lenovo:~/Downloads$ ls V860938-01.iso
V860938-01.iso
```

Step 3 – Setting Up Virtual Machine

Open VMware Player and follow as shown in pictures below:

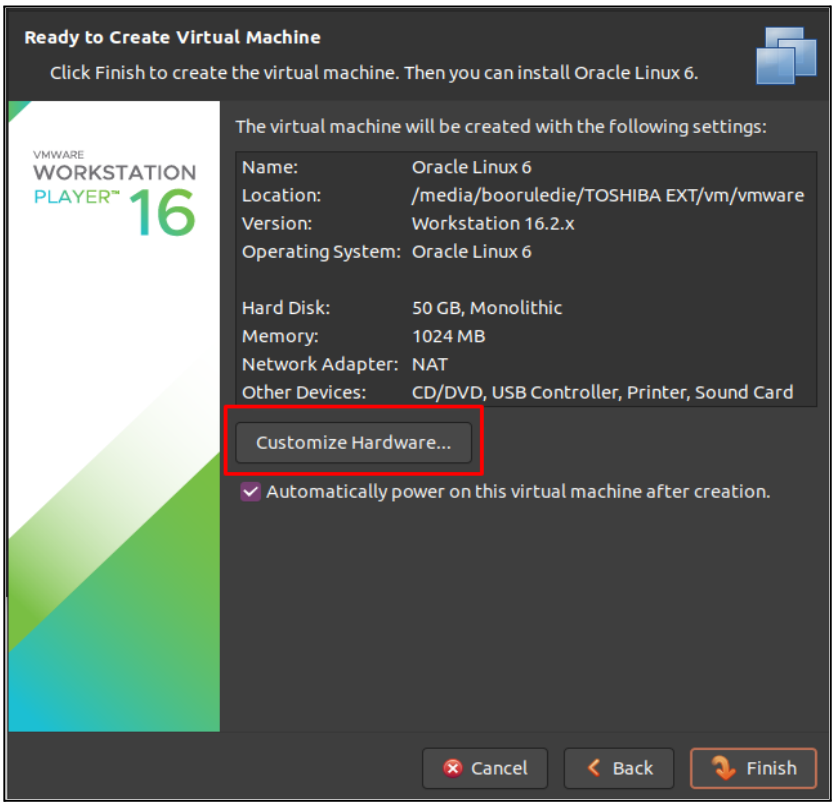




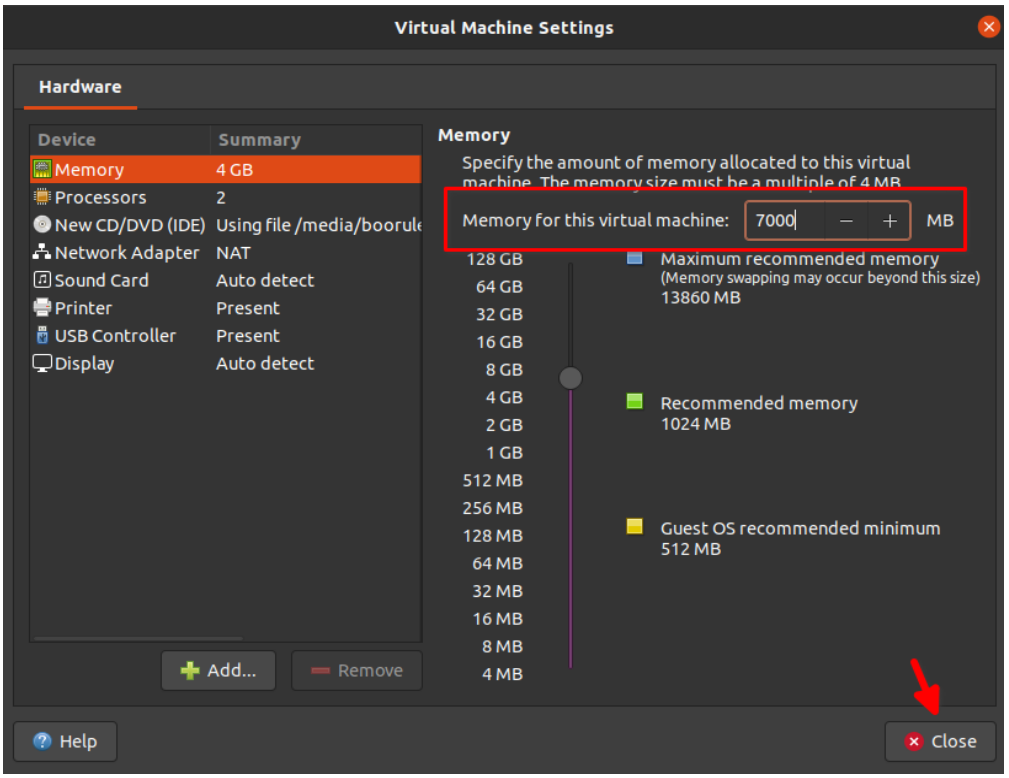

Select a Guest Operating System
Which operating system will be installed on this virtual machine?
VMWARE
WORKSTATION
PLAYER™ 16
Guest Operating System
1. Microsoft Windows
2. Linux
3. Other
Version: Oracle Linux 6
Help
Cancel
Back
Next


Name the Virtual Machine
What name would you like to use for this virtual machine?
VMWARE
WORKSTATION
PLAYER™ 16
Virtual Machine Name
Name: Oracle Linux 6
Location: uledie/TOSHIBA EXT/vm/vmware
Browse...
choose the path that your vmware files will be located
Cancel
Back
Next


Specify Disk Capacity
How large do you want this disk to be?
VMWARE
WORKSTATION
PLAYER™ 16
Disk Size
The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.
Maximum disk size (in GB): 50,000
Recommended size for Oracle Linux 6: 20 GB
Store virtual disk as a single file
Split virtual disk into multiple files
Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.
Help
Cancel
Back
Next

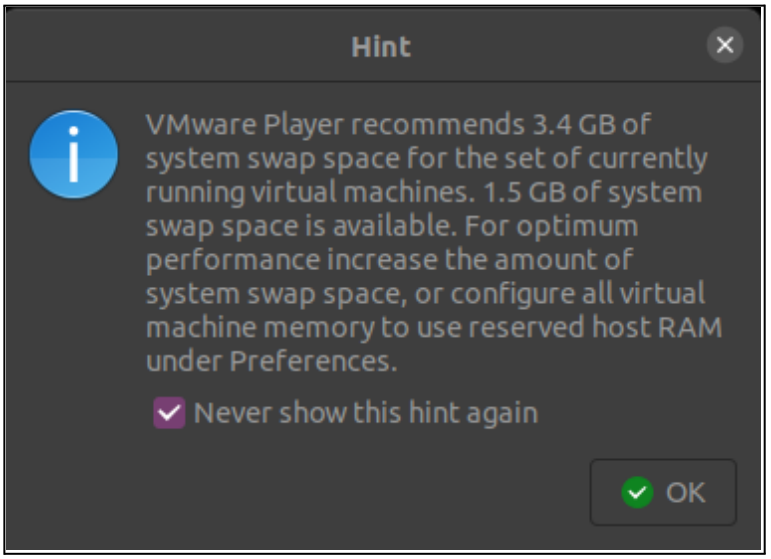

Ready to Create Virtual Machine
Click Finish to create the virtual machine. Then you can install Oracle Linux 6.
VMWARE
WORKSTATION
PLAYER™ 16
The virtual machine will be created with the following settings:
Name: Oracle Linux 6
Location: /media/booruledie/TOSHIBA EXT/vm/vmware
Version: Workstation 16.2.x
Operating System: Oracle Linux 6
Hard Disk: 50 GB, Monolithic
Memory: 1024 MB
Network Adapter: NAT
Other Devices: CD/DVD, USB Controller, Printer, Sound Card
Customize Hardware...
Automatically power on this virtual machine after creation.
Cancel
Back
Finish

Here we can do some changes about resources that is going to be used by this virtual machine. If you don’t have much resource to use only, changing memory to **2048 MB** will be enough.



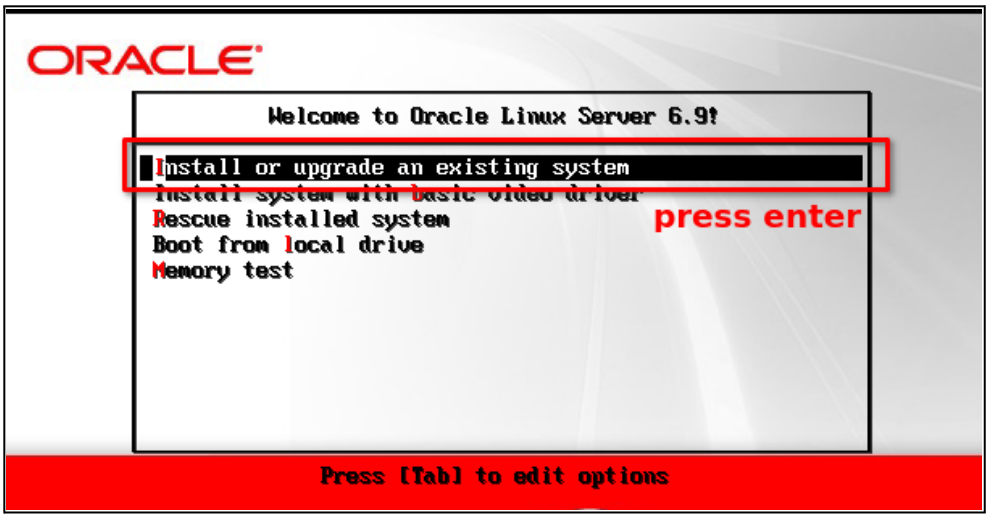
After that you can click **Finish**.

If you get any message as shown in below while system is booting up, just ignore it and continue.

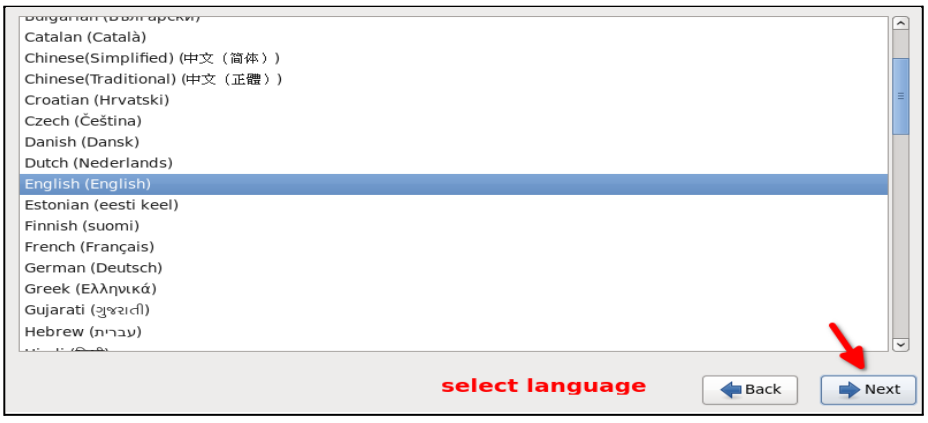


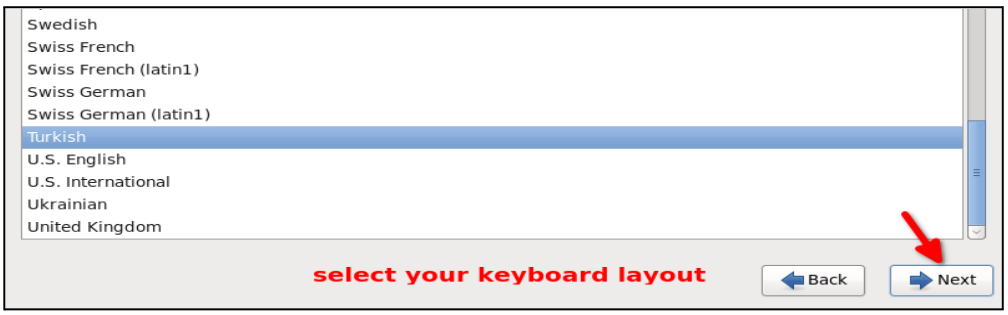
Step 4 – Oracle Linux Installation

Note: **After you click on virtual machine you won't be able to use your mouse anymore out of vmware. In order to gain access press `CTRL + ALT`.**

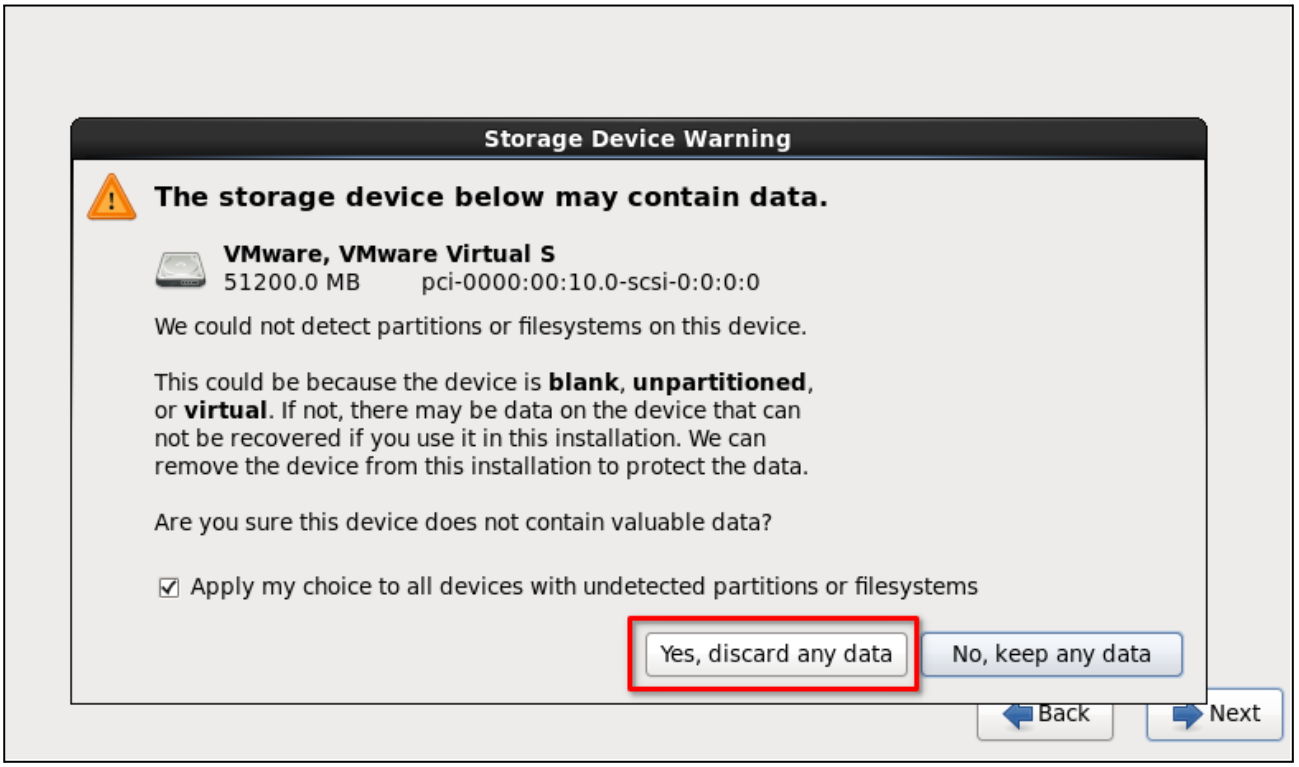


After you saw Oracle Linux 6 page, click **Next**.



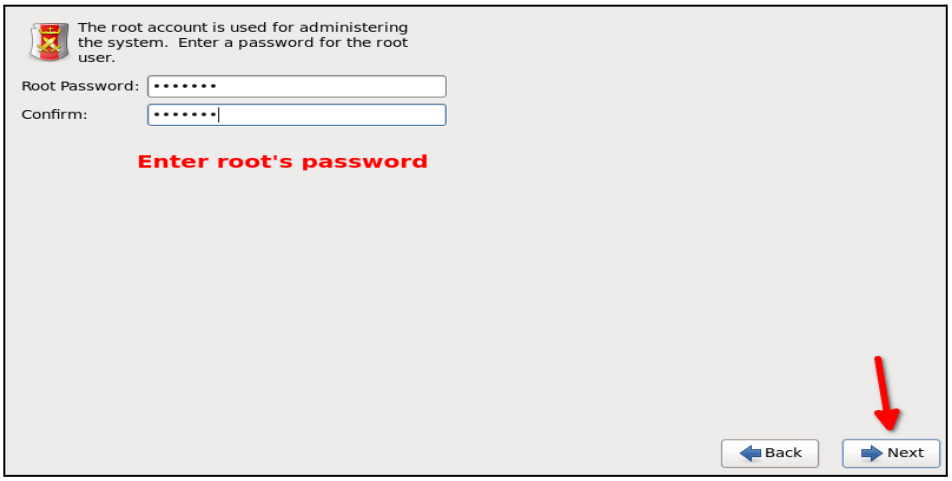

Swedish
Swiss French
Swiss French (latin1)
Swiss German
Swiss German (latin1)
Turkish
U.S. English
U.S. International
Ukrainian
United Kingdom
select your keyboard layout
Back
Next

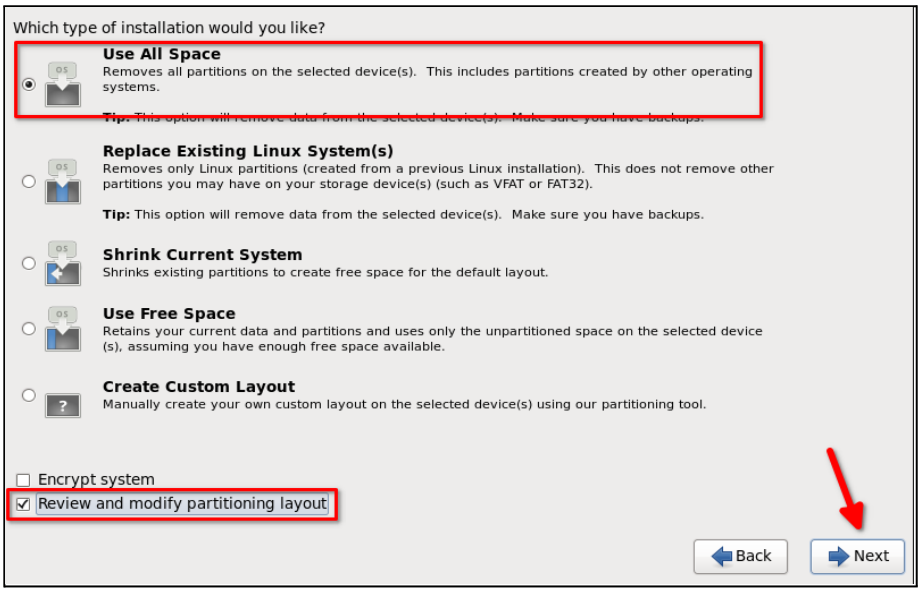

What type of devices will your installation involve?
Basic Storage Devices
Installs or upgrades to typical types of storage devices. If you're not sure which option is right for you, this is probably it.
Specialized Storage Devices
Installs or upgrades to enterprise devices such as Storage Area Networks (SANs). This option will allow you to add FCoE / iSCSI / zFCP disks and to filter out devices the installer should ignore.
Back
Next

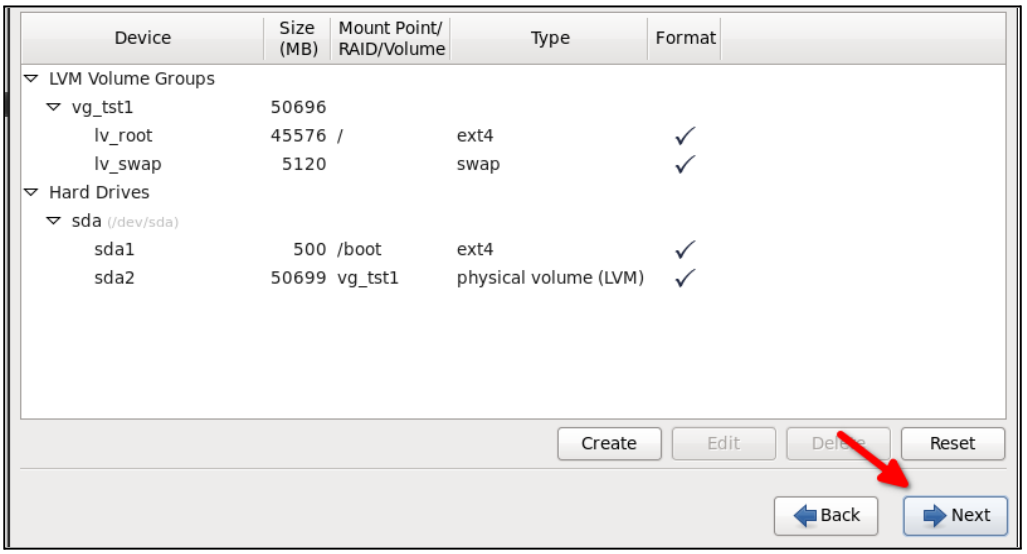

Storage Device Warning
The storage device below may contain data.
VMware, VMware Virtual S
51200.0 MB pci-0000:00:10.0-scsi-0:0:0:0
We could not detect partitions or filesystems on this device.
This could be because the device is blank, unpartitioned, or virtual. If not, there may be data on the device that can not be recovered if you use it in this installation. We can remove the device from this installation to protect the data.
Are you sure this device does not contain valuable data?
Apply my choice to all devices with undetected partitions or filesystems
Yes, discard any data
No, keep any data
Back
Next

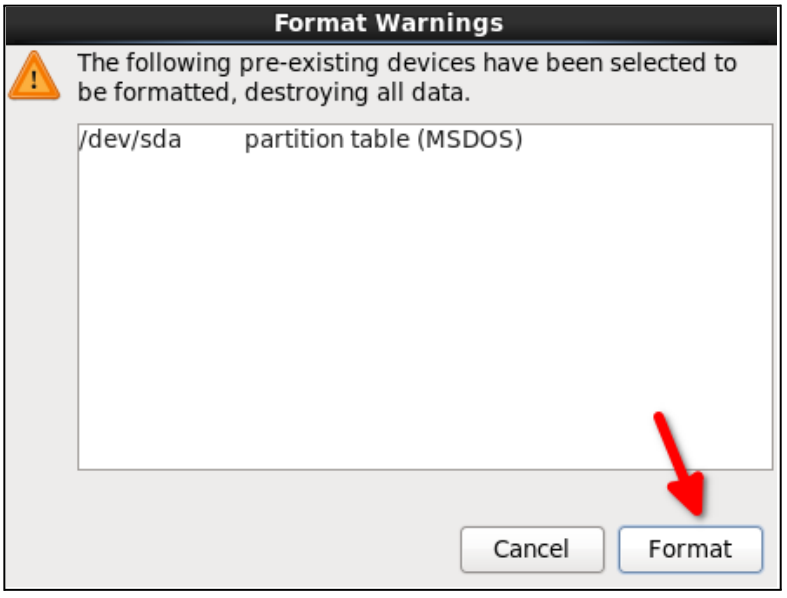

Please name this computer. The hostname identifies the computer on a network.
Hostname:
localhost.localdomain
Change localhost with a new name like tst1
(tst1.localdomain)
Configure Network
Back
Next

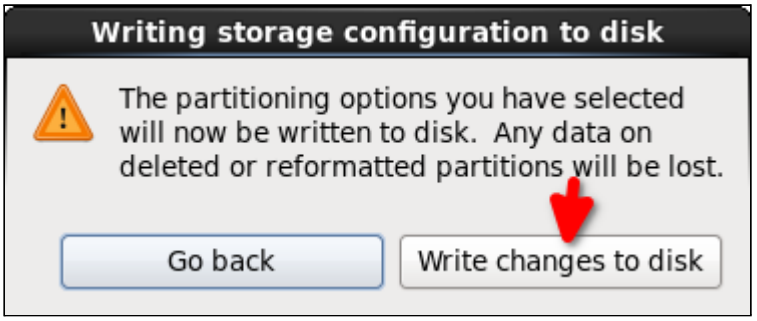

Please select the nearest city in your time zone:
Istanbul
Selected city: Istanbul, Europe
Europe/Istanbul
System clock uses UTC
Back
Next

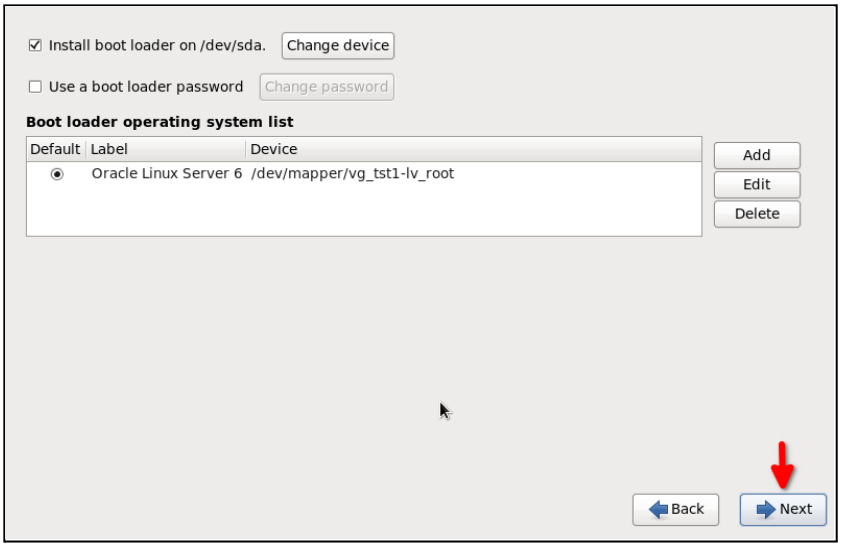

The root account is used for administering the system. Enter a password for the root user.
Root Password:
Confirm:
Enter root's password
Back
Next

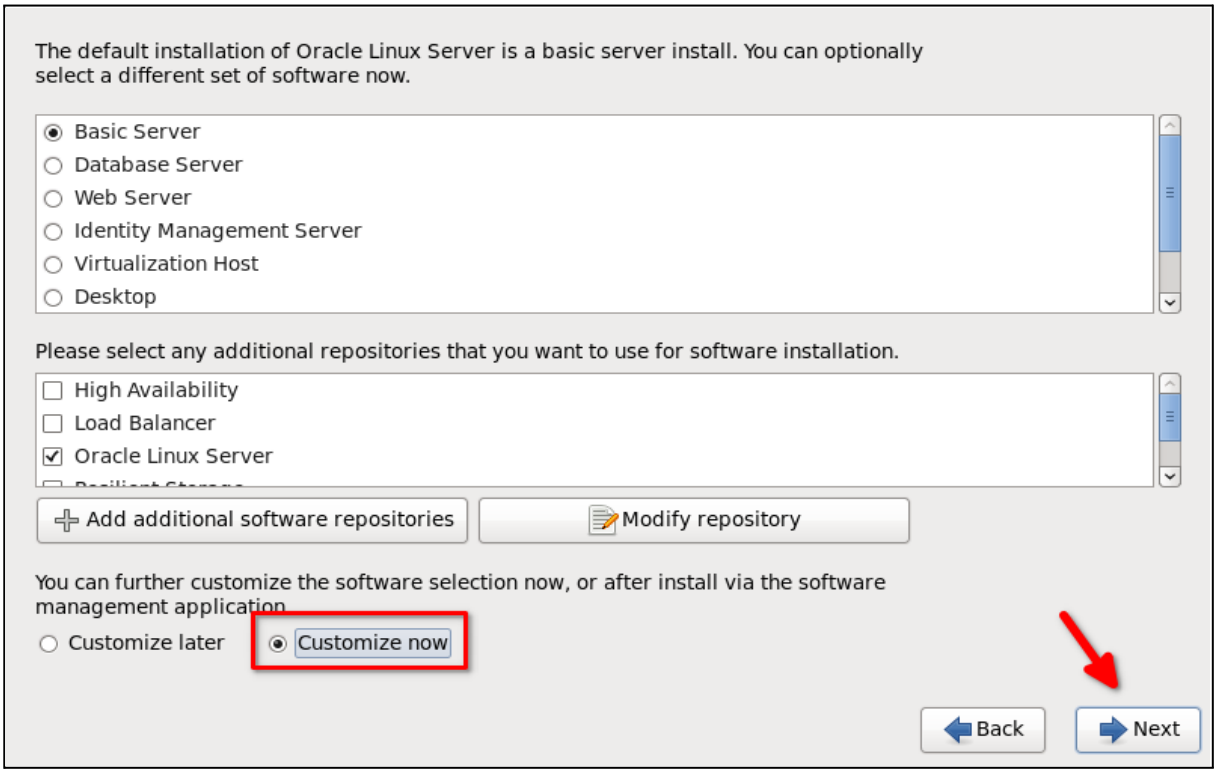

Which type of installation would you like?
Use All Space
Removes all partitions on the selected device(s). This includes partitions created by other operating systems.
Replace Existing Linux System(s)
Removes only Linux partitions (created from a previous Linux installation). This does not remove other partitions you may have on your storage device(s) (such as VFAT or FAT32).
Tip: This option will remove data from the selected device(s). Make sure you have backups.
Shrink Current System
Shrinks existing partitions to create free space for the default layout.
Use Free Space
Retains your current data and partitions and uses only the unpartitioned space on the selected device (s), assuming you have enough free space available.
Create Custom Layout
Manually create your own custom layout on the selected device(s) using our partitioning tool.
Encrypt system
Review and modify partitioning layout
Back
Next

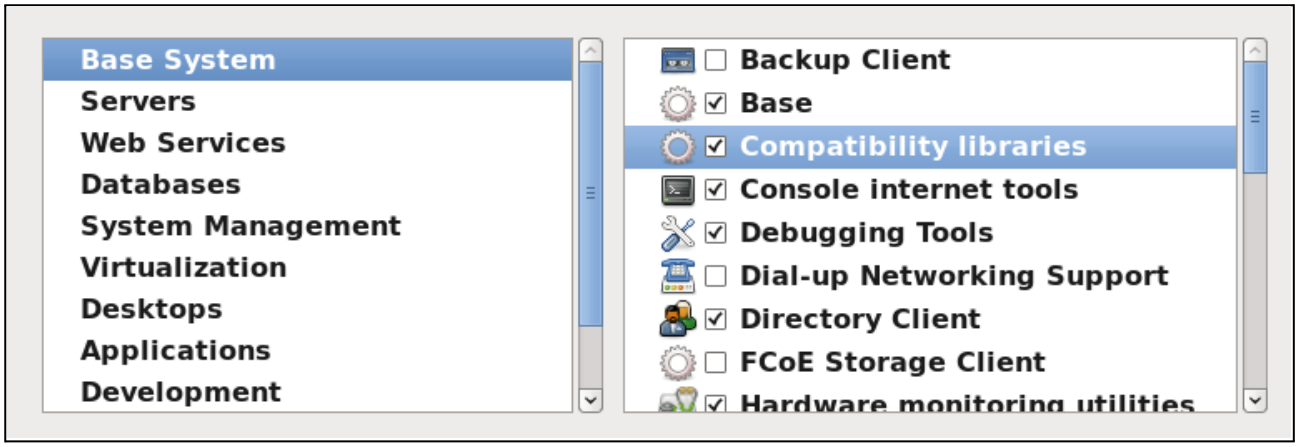

Device
Size (MB)
Mount Point/ RAID/Volume
Type
Format
LVM Volume Groups
vg_tst1 50696
lv_root 45576 / ext4
lv_swap 5120 swap
Hard Drives
sda (/dev/sda)
sda1 500 /boot ext4
sda2 50699 vg_tst1 physical volume (LVM)
Create
Edit
Reset
Back
Next

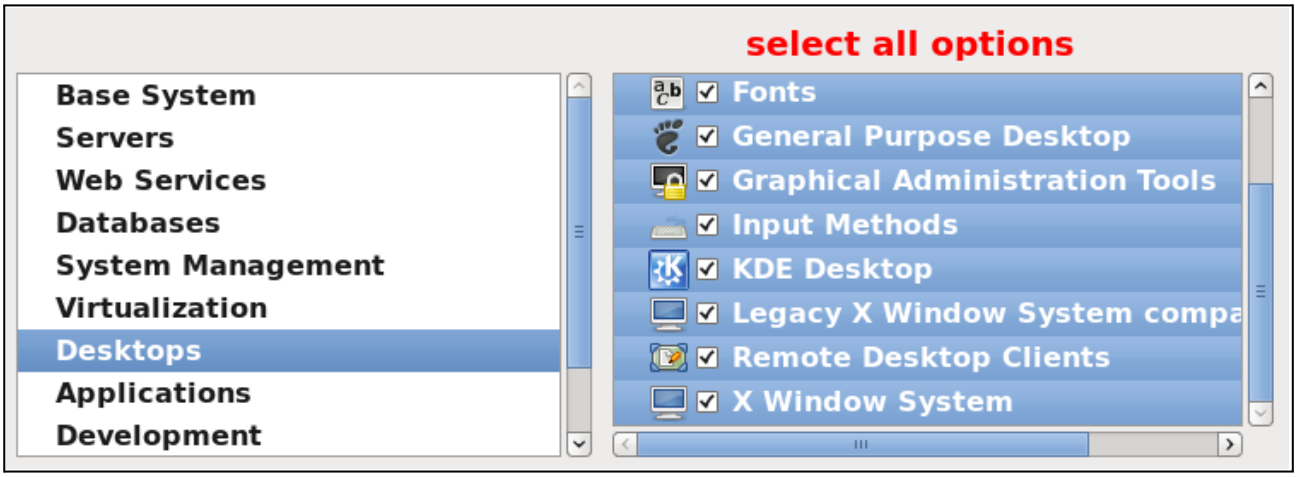

Format Warnings
The following pre-existing devices have been selected to be formatted, destroying all data.
/dev/sda partition table (MSDOS)
Cancel
Format

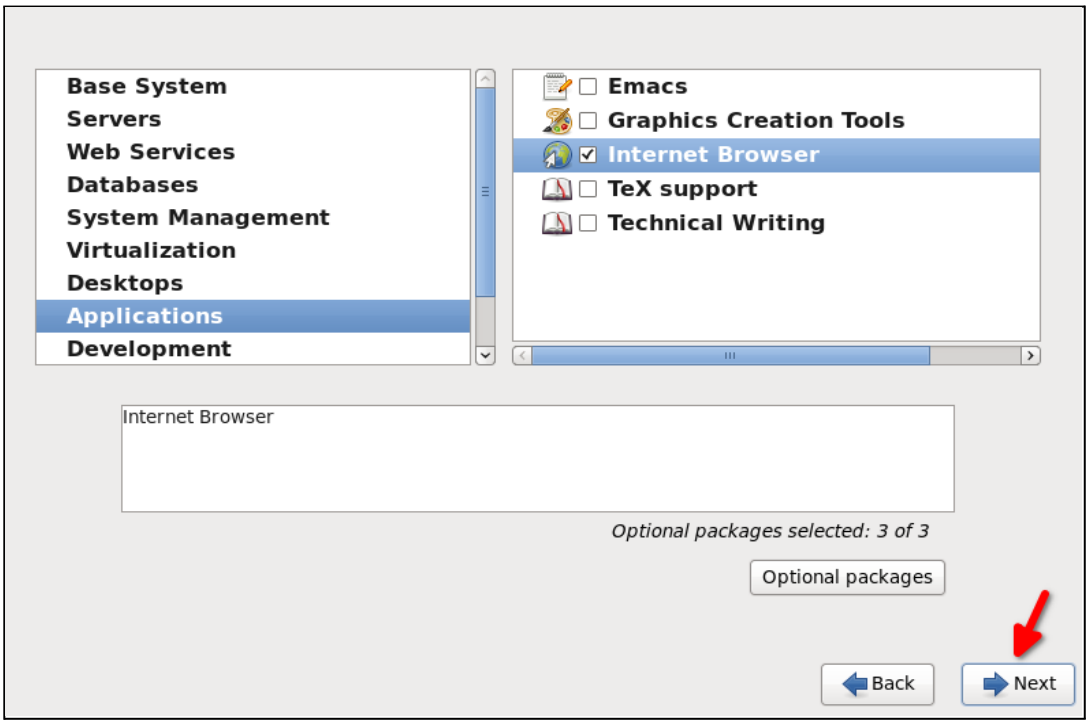

Writing storage configuration to disk
The partitioning options you have selected will now be written to disk. Any data on deleted or reformatted partitions will be lost.
Go back
Write changes to disk


Install boot loader on /dev/sda.
Change device
Use a boot loader password
Change password
Boot loader operating system list
Default
Label
Device
Oracle Linux Server 6
/dev/mapper/vg_tst1-lv_root
Add
Edit
Delete
Back
Next

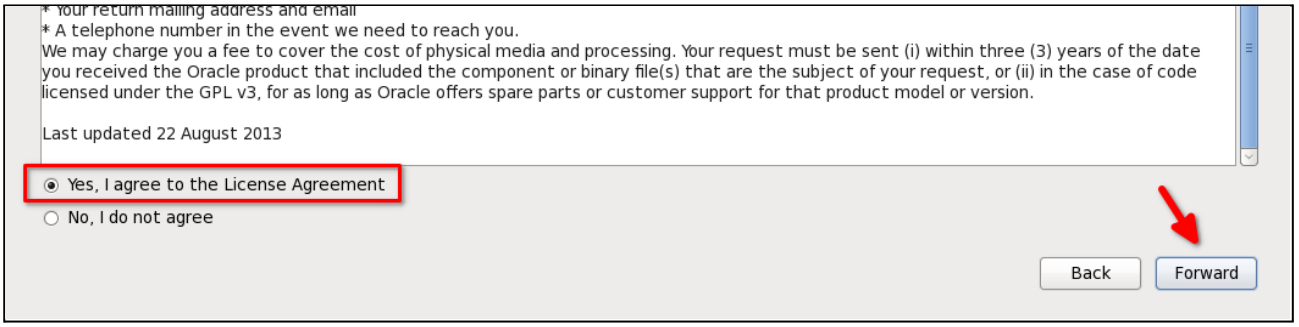

The default installation of Oracle Linux Server is a basic server install. You can optionally select a different set of software now.
Basic Server
Database Server
Web Server
Identity Management Server
Virtualization Host
Desktop
Please select any additional repositories that you want to use for software installation.
High Availability
Load Balancer
Oracle Linux Server
Add additional software repositories
Modify repository
You can further customize the software selection now, or after install via the software management application.
Customize later
Customize now
Back
Next

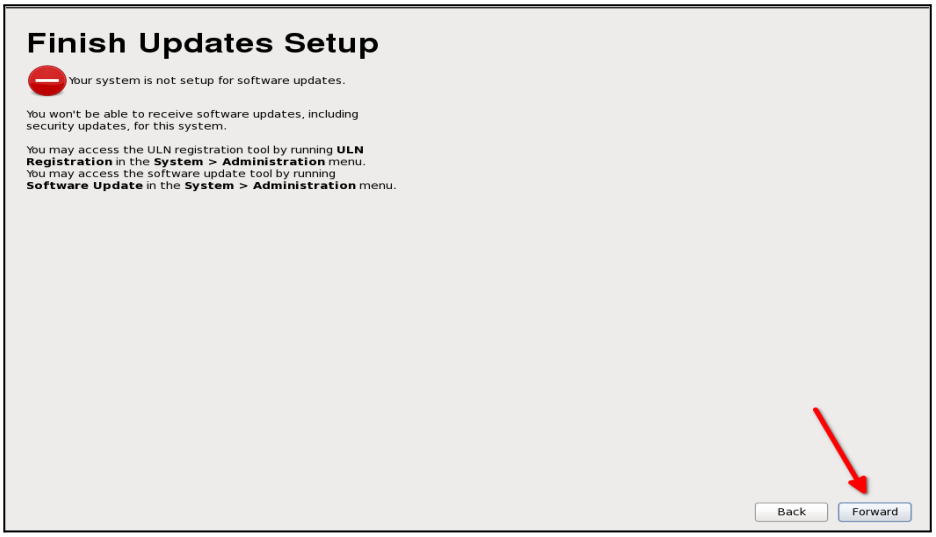

Base System
Servers
Web Services
Databases
System Management
Virtualization
Desktops
Applications
Development
Backup Client
Base
Compatibility libraries
Console internet tools
Debugging Tools
Dial-up Networking Support
Directory Client
FCoE Storage Client
Hardware monitoring utilities

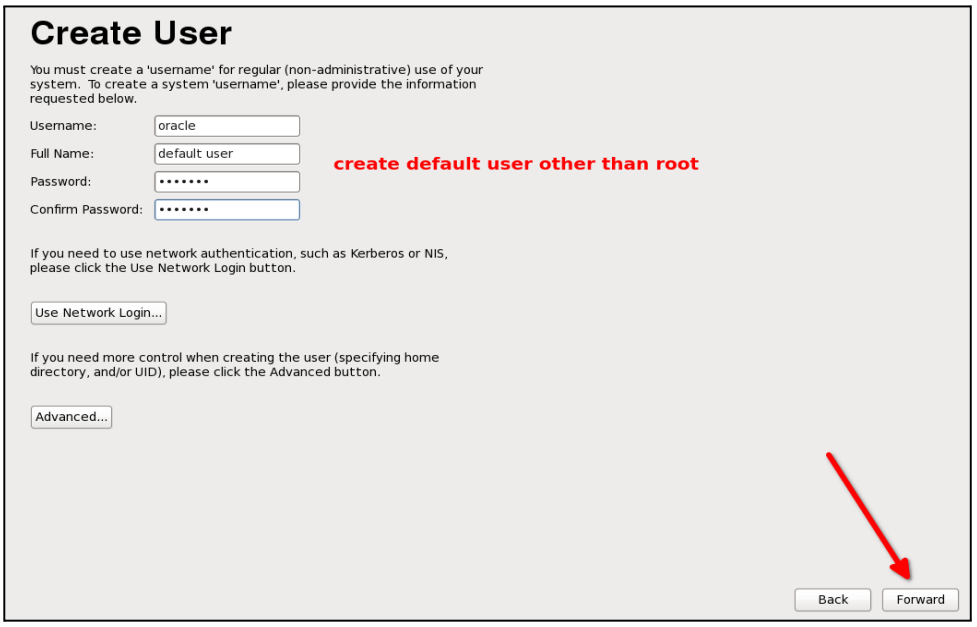

select all options
Base System
Servers
Web Services
Databases
System Management
Virtualization
Desktops
Applications
Development
Fonts
General Purpose Desktop
Graphical Administration Tools
Input Methods
KDE Desktop
Legacy X Window System compa
Remote Desktop Clients
X Window System

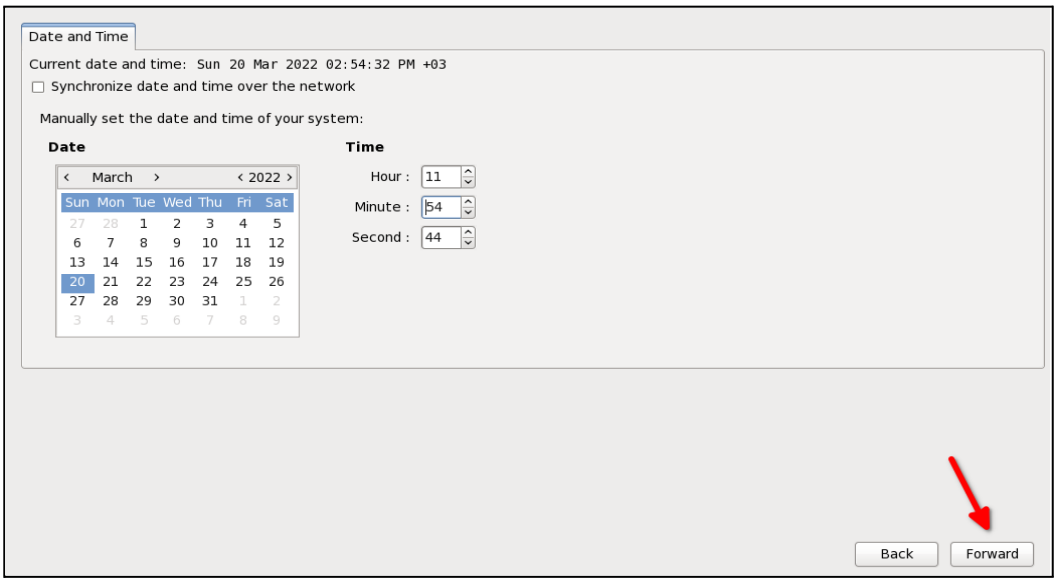

Base System
Servers
Web Services
Databases
System Management
Virtualization
Desktops
Applications
Development
Emacs
Graphics Creation Tools
Internet Browser
TeX support
Technical Writing
Internet Browser
Optional packages selected: 3 of 3
Optional packages
Back
Next

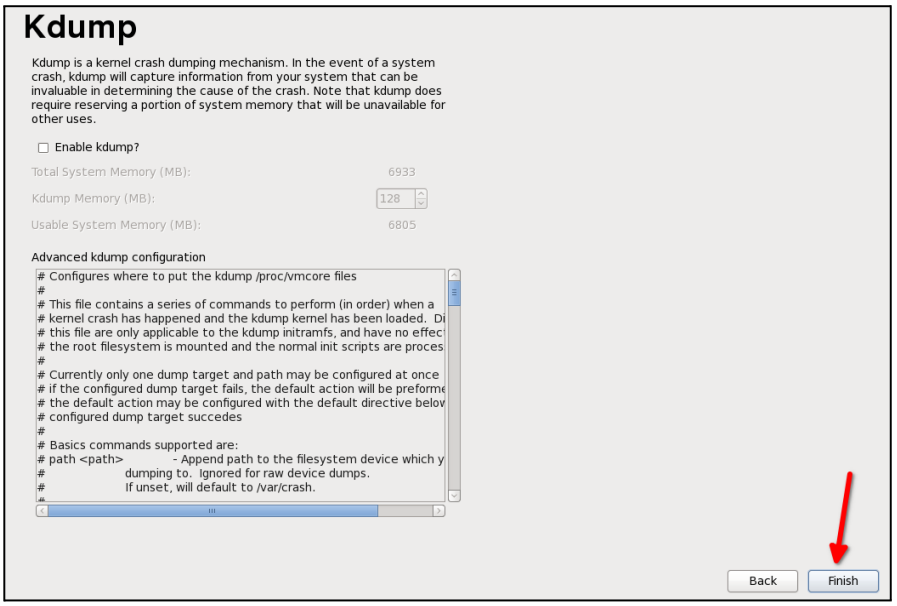
When welcome page opened, click **Forward**.

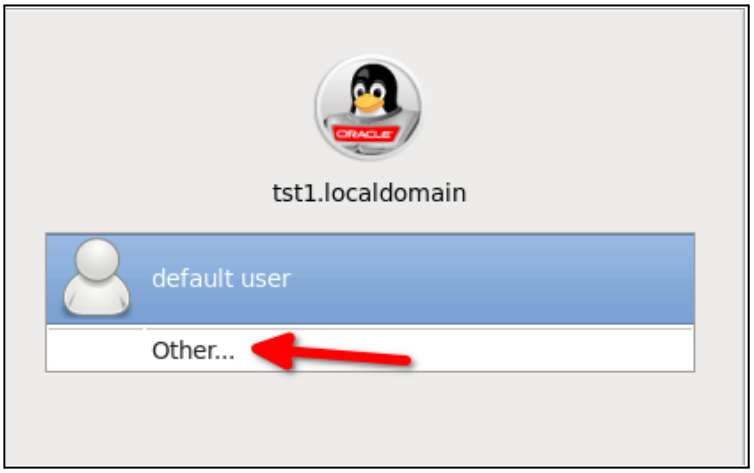


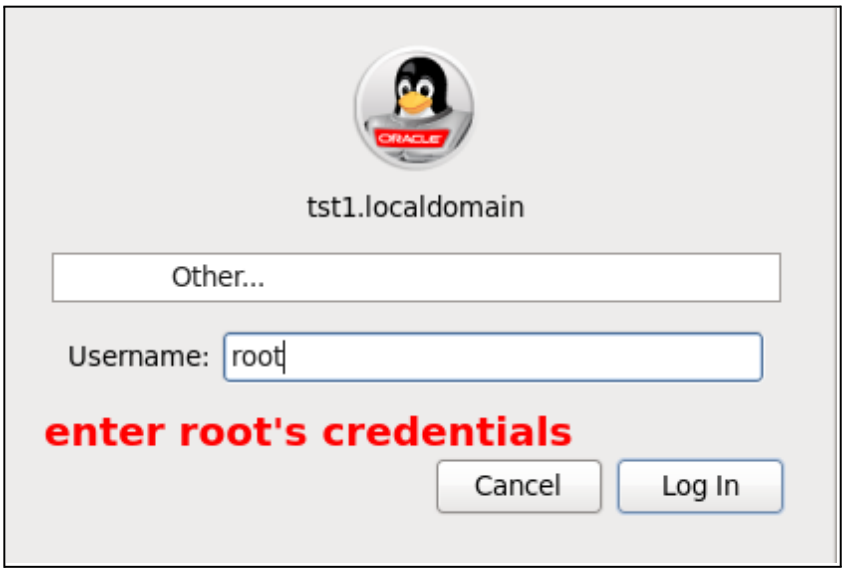

Finish Updates Setup
Your system is not setup for software updates.
You won't be able to receive software updates, including security updates, for this system.
You may access the ULN registration tool by running ULN Registration in the System > Administration menu.
You may access the software update tool by running Software Update in the System > Administration menu.
Back
Forward


Create User
You must create a 'username' for regular (non-administrative) use of your system. To create a system 'username', please provide the information requested below.
Username: oracle
Full Name: default user
Password:
Confirm Password:
create default user other than root
If you need to use network authentication, such as Kerberos or NIS, please click the Use Network Login button.
Use Network Login...
If you need more control when creating the user (specifying home directory, and/or UID), please click the Advanced button.
Advanced...
Back
Forward


Date and Time
Current date and time: Sun 20 Mar 2022 02:54:32 PM +03
Synchronize date and time over the network
Manually set the date and time of your system:
Date
March
2022
Sun Mon Tue Wed Thu Fri Sat
Time
Hour : 11
Minute : 54
Second : 44
Back
Forward

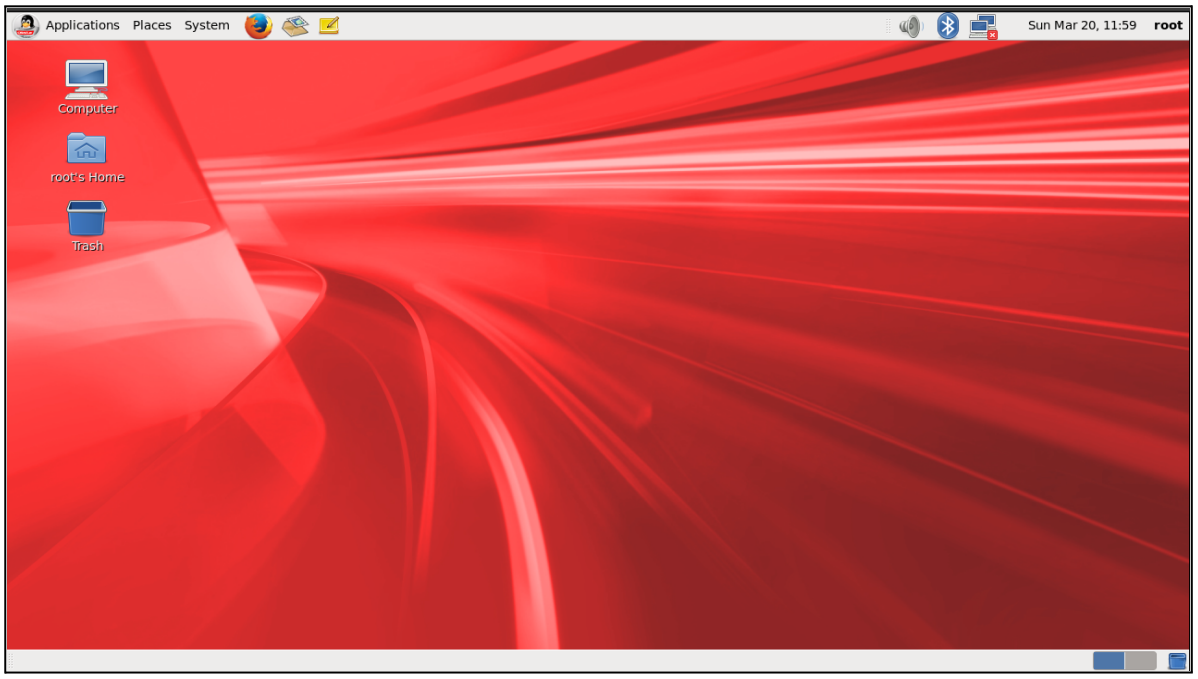

Kdump
Kdump is a kernel crash dumping mechanism. In the event of a system crash, kdump will capture information from your system that can be invaluable in determining the cause of the crash. Note that kdump does require reserving a portion of system memory that will be unavailable for other uses.
Enable kdump?
Total System Memory (MB): 6933
Kdump Memory (MB): 128
Usable System Memory (MB): 6805
Advanced kdump configuration
Configures where to put the kdump /proc/vmcore files
#
This file contains a series of commands to perform (in order) when a
kernel crash has happened and the kdump kernel has been loaded. Di
this file are only applicable to the kdump initramfs, and have no effec
the root filesystem is mounted and the normal init scripts are proces
#
Currently only one dump target and path may be configured at once
if the configured dump target fails, the default action will be preforme
the default action may be configured with the default directive belov
configured dump target succedes
#
Basics commands supported are:
path <path> - Append path to the filesystem device which y
dumping to. Ignored for raw device dumps.
If unset, will default to /var/crash.
Back
Finish


tst1.localdomain
default user
Other...


tst1.localdomain
Other...
Username: root
enter root's credentials
Cancel
Log In

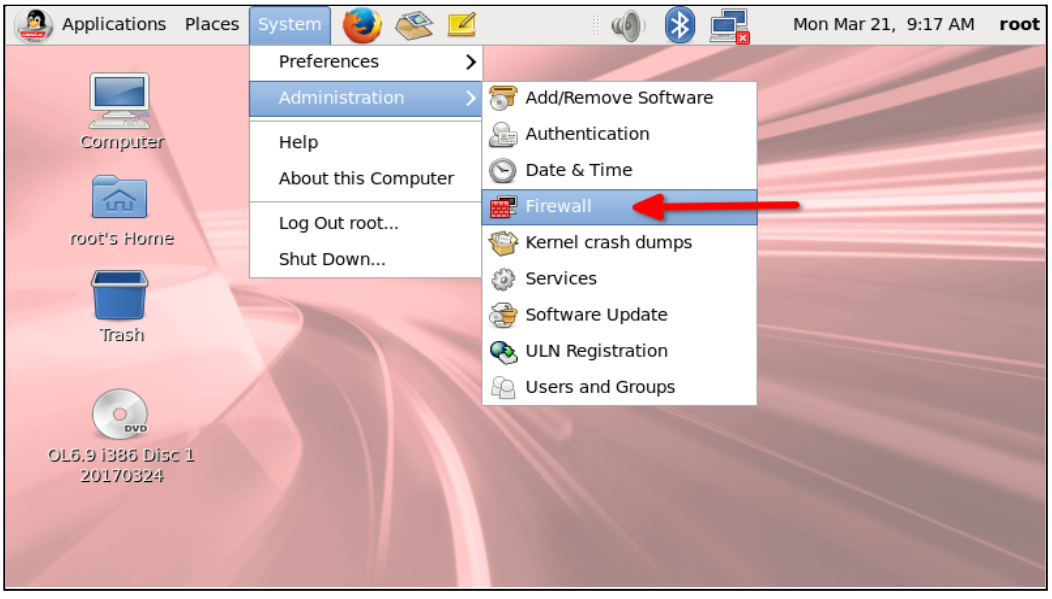
If you get any disclaimer about **authenticating as root user,** you can also ignore them.

If you see a screen shown in below, that means you've successfully installed oracle linux 6.9

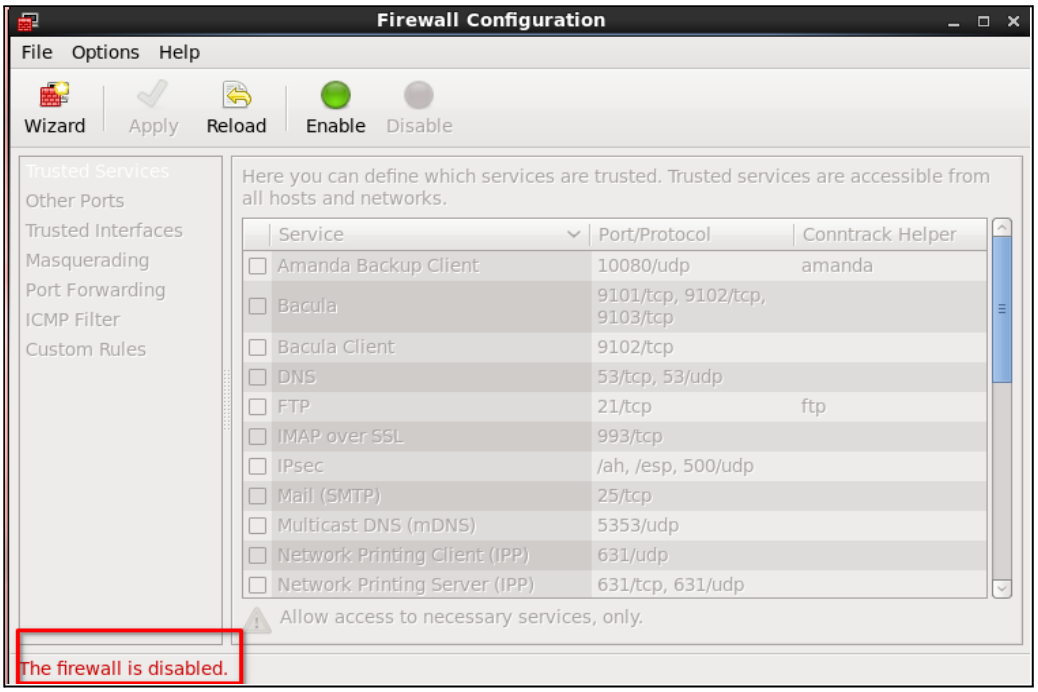


Step 5 – Configurations

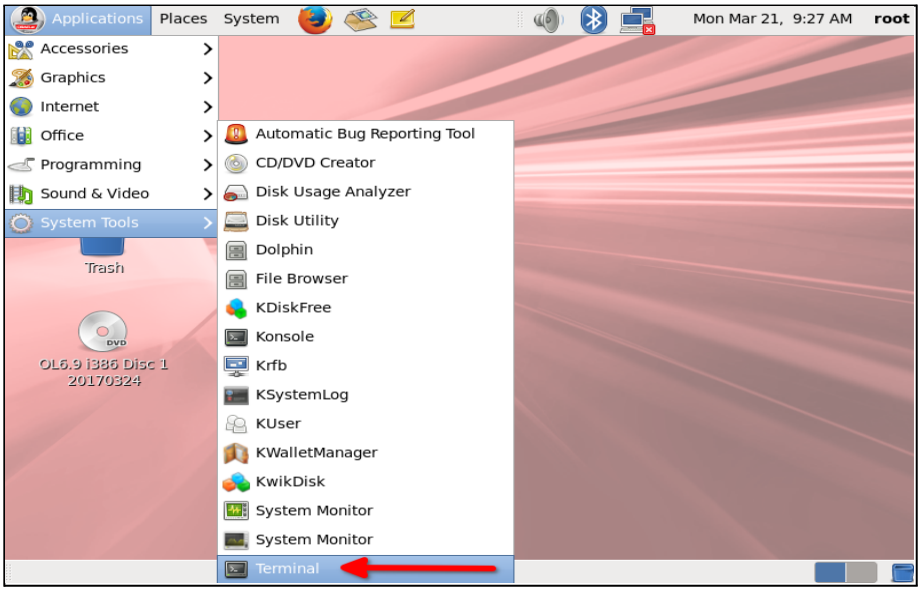
Here, we are going to disable firewall. We can do it easily with the help of GUI.

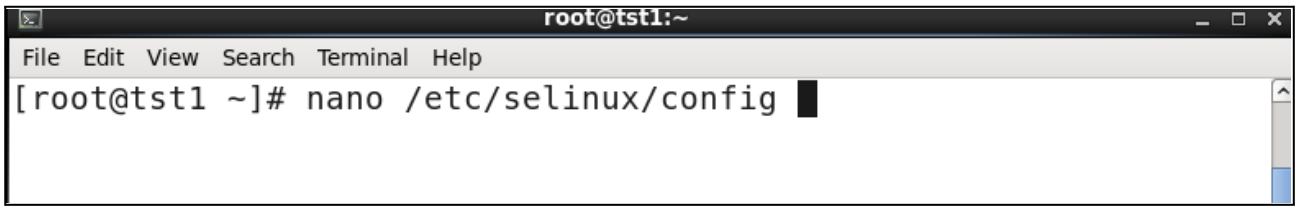


In firewall window, first click **Disable**, then **Apply**. After that you'll see the **"firewall disabled"** in the bottom left of the window. If you get any disclaimer, just click yes and continue.



Secondly we are going to edit a configuration file where is **/etc/selinux/config**. Open file with any text editor. I'll use nano.





Change **SELINUX=enforcing** as **SELINUX=permissive**.

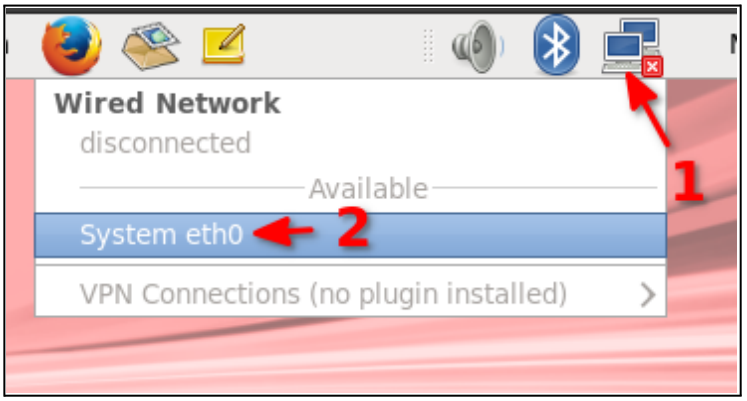
```
  GNU nano 2.0.9     File: /etc/selinux/config        Modified

# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#     enforcing - SELinux security policy is enforced.
#     permissive - SELinux prints warnings instead of enforcing.
#     disabled - No SELinux policy is loaded.
SELINUX=permissive
# SELINUXTYPE= can take one of these two values:
#     targeted - Targeted processes are protected,
#     mls - Multi Level Security protection.
SELINUXTYPE=targeted
```

To save changes, do as following:

1. **CTRL + X**
2. **y**
3. **ENTER**

After that type **"init 6"** and press **ENTER** in your terminal. It'll restart machine and make the configuration we've just made, valid.

Lastly we are going to do some oracle installation and finish documentation.
First if your network interface is not enabled, make sure it's enabled because we are going to install some packages.



Run following commands in terminal:

1. **cd /etc/yum.repos.d**
2. **wget http://yum.oracle.com/public-yum-ol6-repo**
3. **yum install oracle-rdbms-server-11gR2-preinstall**

After last command, you should see packets started downloading like so:

```
public_ol6_UEK_latest/primary_db                          |  56 MB     01:33
public_ol6_latest                                         | 2.7 kB     00:00
public_ol6_latest/primary 26% [===-          ] 463 kB/s | 6.1 MB     00:38 ETA
```

```
Installing for dependencies:
 cloog-ppl                      i686 0.15.7-1.2.el6      public_ol6_latest  93 k
 cpp                            i686 4.4.7-23.0.1.el6    public_ol6_latest 3.4 M
 gcc                            i686 4.4.7-23.0.1.el6    public_ol6_latest 8.3 M
 gcc-c++                        i686 4.4.7-23.0.1.el6    public_ol6_latest 4.3 M
 ksh                            i686 20120801-38.el6_10  public_ol6_latest 758 k
 libaio-devel                   i686 0.3.107-10.el6      public_ol6_latest  13 k
 libstdc++-devel                i686 4.4.7-23.0.1.el6    public_ol6_latest 1.6 M
 mpfr                           i686 2.4.1-6.el6         public_ol6_latest 153 k
 ppl                            i686 0.10.2-11.el6       public_ol6_latest 1.3 M
Updating for dependencies:
 libgcc                         i686 4.4.7-23.0.1.el6    public_ol6_latest 115 k
 libgomp                        i686 4.4.7-23.0.1.el6    public_ol6_latest 137 k
 libstdc++                      i686 4.4.7-23.0.1.el6    public_ol6_latest 304 k

Transaction Summary
================================================================================
Install      10 Package(s)
Upgrade       3 Package(s)

Total download size: 20 M
Is this ok [y/N]: y
```

type 'y' and press ENTER

```
Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-oracle
Importing GPG key 0xEC551F03:
 Userid : Oracle OSS group (Open Source Software group) <build@oss.oracle.com>
 Package: 6:oraclelinux-release-6Server-9.0.3.i686 (@anaconda-OracleLinuxServer-
201703241431.i386/6.9)
 From   : /etc/pki/rpm-gpg/RPM-GPG-KEY-oracle
Is this ok [y/N]: y
```

same

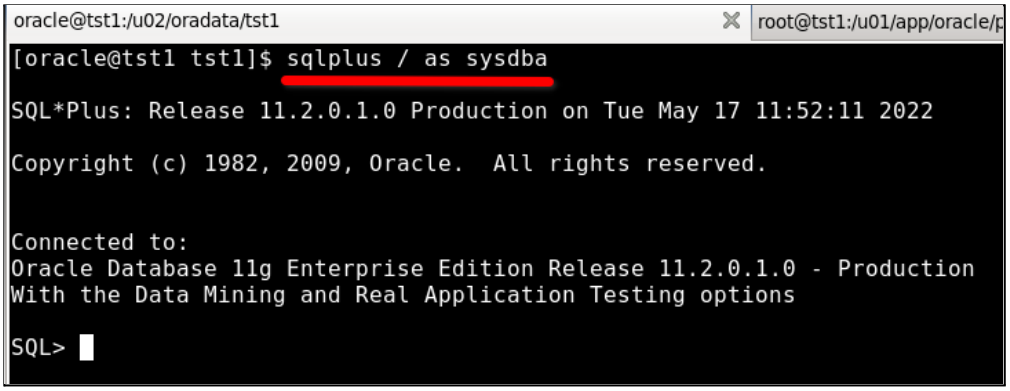
At the very end of installation process you should see a **complete** message. That means you've successfully done everything.

```
Installed:
  oracle-rdbms-server-11gR2-preinstall.i686 0:1.0-15.el6

Dependency Installed:
  cloog-ppl.i686 0:0.15.7-1.2.el6           cpp.i686 0:4.4.7-23.0.1.el6
  gcc.i686 0:4.4.7-23.0.1.el6               gcc-c++.i686 0:4.4.7-23.0.1.el6
  ksh.i686 0:20120801-38.el6_10             libaio-devel.i686 0:0.3.107-10.el
  libstdc++-devel.i686 0:4.4.7-23.0.1.el6   mpfr.i686 0:2.4.1-6.el6
  ppl.i686 0:0.10.2-11.el6

Dependency Updated:
  libgcc.i686 0:4.4.7-23.0.1.el6          libgomp.i686 0:4.4.7-23.0.1.el6
  libstdc++.i686 0:4.4.7-23.0.1.el6

Complete!
[root@tst1 yum.repos.d]#
```

PART 2 - Completing Tasks

Hints

After started oracle database, we can execute our querries within oracle via sqlplus. Let's connect as sysdba and execute following commands.

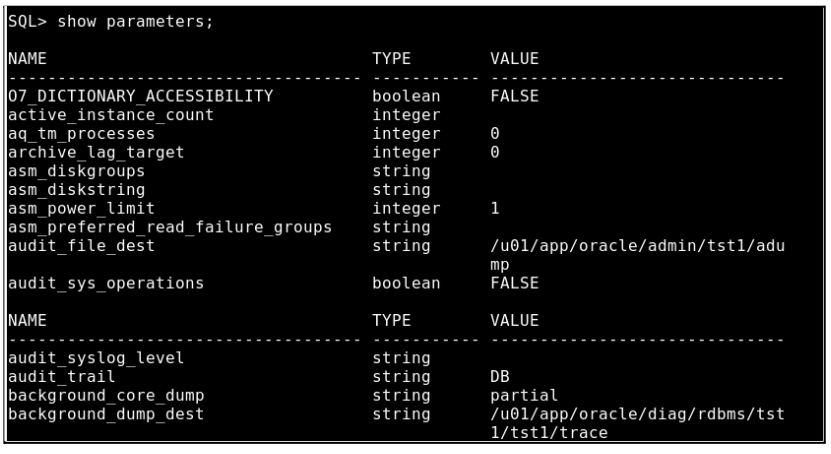


- **querry**: `select file_name from dba_data_files;`

  Shows dbf files in system.

- **querry**: `show parameters;`

  Displays settings of initialization parameters



- **querry**: `show parameter spfile;`

  We can also specify a specific parameter to display. In this case it's spfile.

```
SQL> show parameter spfile;

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
spfile                               string      /u01/app/oracle/product/11.2.0
                                                 /dbhome_1/dbs/spfiletst1.ora
SQL>
```

- **querry**: **create pfile from spfile;**

  Creates a copy of spfile. New file's name will be in following form:

  `init<SID>.ora`

```
SQL> create pfile from spfile;

File created.

SQL>
```

Task List

- **Create a tar (offline backup) of your Oracle installation.**

  Before creating tar file, we need to shutdown database via sqlplus.

```
SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL>
```

Then we need to backup our **dbf files**, **ORACLE_HOME** and **redo log files**. Since **/u01** and **/u02** include all of them, taking a back-up of these two directories will be enough.

```
[oracle@tst1 tst1]$ echo $ORACLE_HOME; ls /u02/oradata/tst1/*
/u01/app/oracle/product/11.2.0/dbhome_1
/u02/oradata/tst1/control01.ctl  /u02/oradata/tst1/redo03.log    /u02/oradata/tst1/temp01.dbf
/u02/oradata/tst1/redo01.log     /u02/oradata/tst1/sysaux01.dbf  /u02/oradata/tst1/undotbs01.dbf
/u02/oradata/tst1/redo02.log     /u02/oradata/tst1/system01.dbf  /u02/oradata/tst1/users01.dbf
[oracle@tst1 tst1]$
```

Following command will create backup-file named **offlinebackup.tar.gz**.

```
[oracle@tst1 ~]$ tar -czvf offlinebackup.tar.gz $ORACLE_HOME/.. /u02/oradata/
```

After seeing lots of STDOUT, we can see our tar.gz file in current directory.

```
[oracle@tst1 ~]$ ls -lh offlinebackup.tar.gz
-rw-rw-r--. 1 oracle oracle 2.2G May 17 13:47 offlinebackup.tar.gz
[oracle@tst1 ~]$
```

- **Create a new tablespace under the current data files location, called as ACM.**

  In order to execute queries we need to turn database on via **`STARTUP`** command.

```
SQL> STARTUP
ORACLE instance started.

Total System Global Area 1607008256 bytes
Fixed Size                  1336820 bytes
Variable Size             419432972 bytes
Database Buffers         1174405120 bytes
Redo Buffers               11833344 bytes
Database mounted.
Database opened.
```

  Then, we can create our tablespace with following query:

```
SQL> create tablespace ACM datafile '/u02/oradata/tst1/acm.dbf' size 50m;

Tablespace created.

SQL>
```

  After we're done, we can see the tablespace in the specified directory.

```
[oracle@tst1 tst1]$ ls -lh
total 1.5G
-rw-rw----. 1 oracle oracle  51M May 18 11:00 acm.dbf
-rw-r-----. 1 oracle oracle 9.3M May 18 11:01 control01.ctl
-rw-r-----. 1 oracle oracle  51M May 18 10:57 redo01.log
-rw-r-----. 1 oracle oracle  51M May 18 11:01 redo02.log
-rw-r-----. 1 oracle oracle  51M May 18 10:57 redo03.log
-rw-r-----. 1 oracle oracle 501M May 18 10:57 sysaux01.dbf
-rw-r-----. 1 oracle oracle 681M May 18 10:57 system01.dbf
-rw-r-----. 1 oracle oracle  30M May 18 10:58 temp01.dbf
-rw-r-----. 1 oracle oracle  91M May 18 10:57 undotbs01.dbf
-rw-r-----. 1 oracle oracle 5.1M May 18 10:57 users01.dbf
[oracle@tst1 tst1]$
```

- **Create a new archive log directory other than your data files location.**

First, we need to create a directory, in my case I created /u03 in my root directory. And changed its ownership as oracle.

```
[root@tst1 /]# ls -lh | grep -E "u0[123]"
drwxr-xr-x.   4 oracle dba  4.0K Apr 24 23:58 u01
drwxr-xr-x.   3 oracle dba  4.0K Apr 25 00:13 u02
drwxr-xr-x.   2 oracle dba  4.0K May 18 12:16 u03
[root@tst1 /]#
```

Then issued following command in sqlplus:

```
SQL> alter system set log_archive_dest_1 = 'location=/u03';

System altered.

SQL>
```

- **Alter your database to archivelog mode.**

In order to enable archivelog mode, we need to execute following commands:

```
SQL> shutdown immediate;                    1
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL> startup mount;
ORACLE instance started.

Total System Global Area 1607008256 bytes
Fixed Size                  1336820 bytes
Variable Size             419432972 bytes
Database Buffers         1174405120 bytes
Redo Buffers               11833344 bytes
Database mounted.
SQL> alter database archivelog;             2

Database altered.

SQL> alter database open;                   3

Database altered.

SQL>
```

Then, we can see that archivelog mode is enabled.

```
SQL> archive log list;
Database log mode              Archive Mode
Automatic archival             Enabled
Archive destination            /u03
Oldest online log sequence     6
Next log sequence to archive   8
Current log sequence           8
SQL>
```

- **Goto directory flash_recovery_area check the files under this directory.**

  Let's get location of the **`flash_recovery_area`** first.

```
NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
db_recovery_file_dest                string      /u01/app/oracle/flash_recovery
                                                 _area
db_recovery_file_dest_size           big integer 3852M
SQL>
```

In **`flash_recovery_area`** there was nothing but two directories. In one of directory there was a control file, and other one was empty.

```
[oracle@tst1 oracle]$ cd /u01/app/oracle/flash_recovery_area/
[oracle@tst1 flash_recovery_area]$ ls -R
.:
tst1  TST1

./tst1:
control02.ctl

./TST1:
onlinelog

./TST1/onlinelog:
[oracle@tst1 flash_recovery_area]$
```

- **Run "alter system switch logfile;" command and check again flash_recovery_area.**

```
SQL> alter system switch logfile;

System altered.

SQL>
```

I did exactly what's said however I couldn't see any changes in **`flash_recovery_area`** directory.

```
[oracle@tst1 flash_recovery_area]$ ls -Ra
.:
.  ..  tst1  TST1

./tst1:
.  ..  control02.ctl

./TST1:
.  ..  onlinelog

./TST1/onlinelog:
.  ..
[oracle@tst1 flash_recovery_area]$
```

- **Create a new control file on different location.**

First we need to shutdown the database via **`shutdown immediate`** command. Then, we can copy and paste a control file to any destination we want.

```
[oracle@tst1 tst1]$ ls
control02.ctl
[oracle@tst1 tst1]$ cp control02.ctl /u03/
[oracle@tst1 tst1]$ ls /u03/
1_10_1102898269.dbf  1_9_1102898269.dbf
1_8_1102898269.dbf   control02.ctl
[oracle@tst1 tst1]$
```

After that we can change its name as control03.ctl with following command:

`cd /u03 ; mv control02.ctl control03.ctl`

Also we need to edit **`control_files`** parameter, in order to do that we'll open database in nomount mode and issue following command:

```
SQL> show parameter control_files;

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
---------
control_files                        string      /u02/oradata/tst1/con
trol01.ct
                                                 l, /u01/app/oracle/fl
ash_recov
                                                 ery_area/tst1/control
02.ctl
SQL> alter system set control_files='/u02/oradata/tst1/control01.ctl', '/u01
/app/oracle/flash_recovery_area/tst1/control02.ctl', '/u03/control03.ctl' sc
ope=SPFILE;

System altered.
```

Now, we can open database and check if changes that we did, took effect.

```
SQL> show parameter control_files;

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------
---
control_files                        string      /u02/oradata/tst1/control01
.ct
                                                 l, /u01/app/oracle/flash_re
cov
                                                 ery_area/tst1/control02.ctl
, /
                                                 u03/control03.ctl
SQL>
```

- **Increase the size of recovery destination to 5GB. Consider the difference between spfile and pfile.**

```
SQL> alter system set db_recovery_file_dest_size = 5G;

System altered.

SQL> show parameter db_recovery_file_dest_size;

NAME                                 TYPE        VALUE
------------------------------------ ----------- --------
-----
db_recovery_file_dest_size           big integer 5G
```

I successfully changed the size of the parameter however I couldn't see any difference between after and before the operation

```
[oracle@tst1 dbs]$ ls -lh
total 28K
-rw-rw----. 1 oracle oracle 1.6K May 19 10:08 hc_tst1.dat
-rw-r--r--. 1 oracle oracle 2.8K May 15  2009 init.ora
-rw-rw-r--. 1 oracle oracle  948 May 17 12:06 inittst1.ora
-rw-r-----. 1 oracle oracle   24 Apr 25 00:37 lkTST1
-rw-r-----. 1 oracle oracle 1.5K Apr 25 01:24 orapwtst1
drwx------. 2 oracle oracle 4.0K Apr 25 00:37 peshm_tst1_0
-rw-r-----. 1 oracle oracle 3.5K May 19 10:09 spfiletst1.ora
[oracle@tst1 dbs]$
```

.

- **Create a full database backup with RMAN.**

First, we need to connect our database in the RMAN prompt.

```
[oracle@tst1 dbs]$ rman target /
```

Then, we can issue the following command to take full backup.

```
RMAN> backup as backupset database plus archivelog;
```

After seeing a few output, you should be able to see this message at the very end.

```
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:01
Finished backup at 19-MAY-22

RMAN>
```

- **Check where those RMAN backups are created.**

  RMAN created these backup files in **`flash_recovery_area`** directory.

```
[oracle@tst1 flash_recovery_area]$ ls -Ra
.:
.  ..  tst1  TST1

./tst1:
.  ..  control02.ctl

./TST1:
.  ..  backupset  onlinelog

./TST1/backupset:
.  ..  2022_05_19

./TST1/backupset/2022_05_19:
.  ..
o1_mf_annnn_TAG20220519T101821_k8cvsxnh_.bkp
o1_mf_annnn_TAG20220519T101952_k8cvwr20_.bkp
o1_mf_ncsnf_TAG20220519T101822_k8cvwpwm_.bkp
o1_mf_nnndf_TAG20220519T101822_k8cvsytg_.bkp

./TST1/onlinelog:
.  ..
[oracle@tst1 flash_recovery_area]$
```