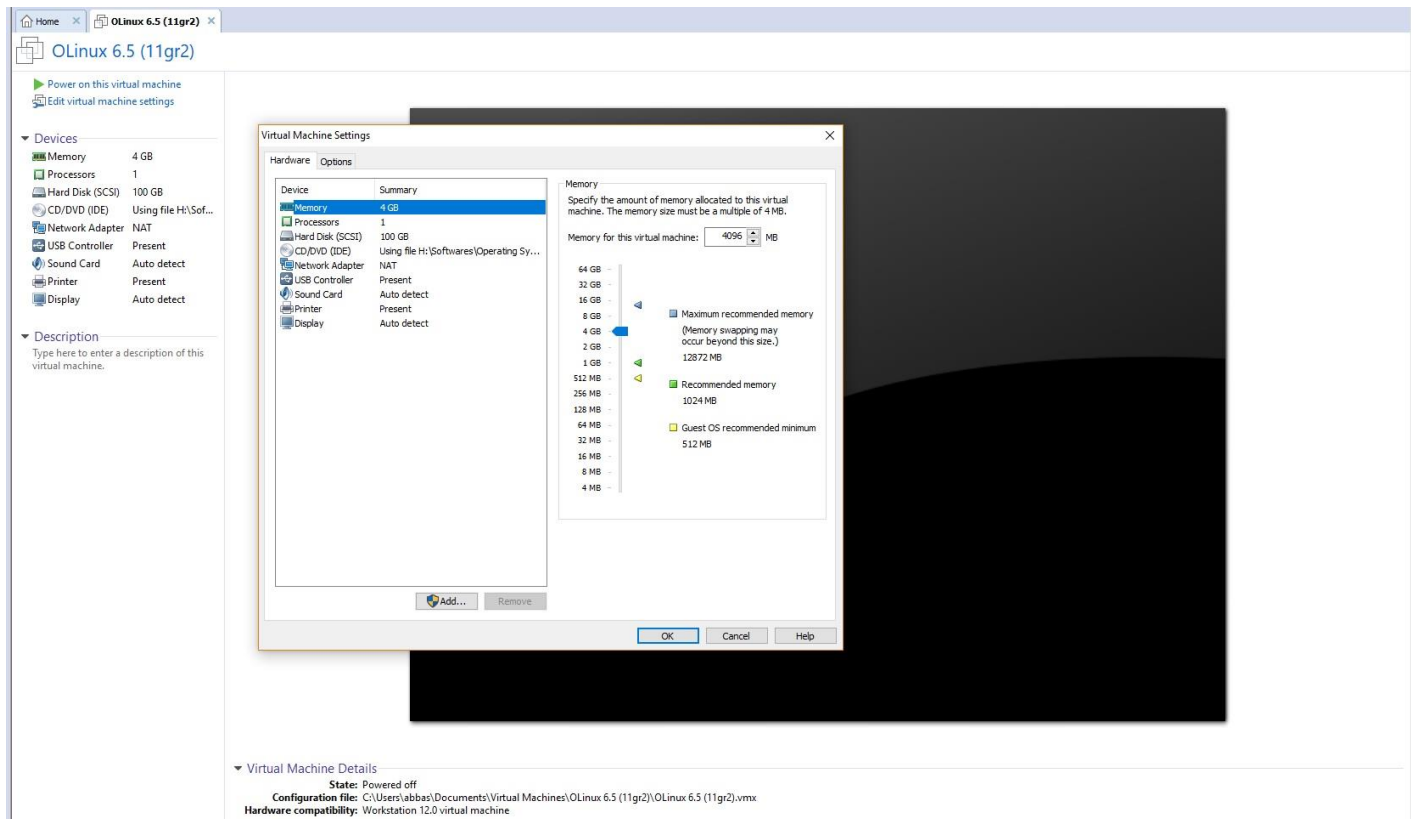## Install Oracle Linux on VMware Workstation/Esxi host/Physical Machine
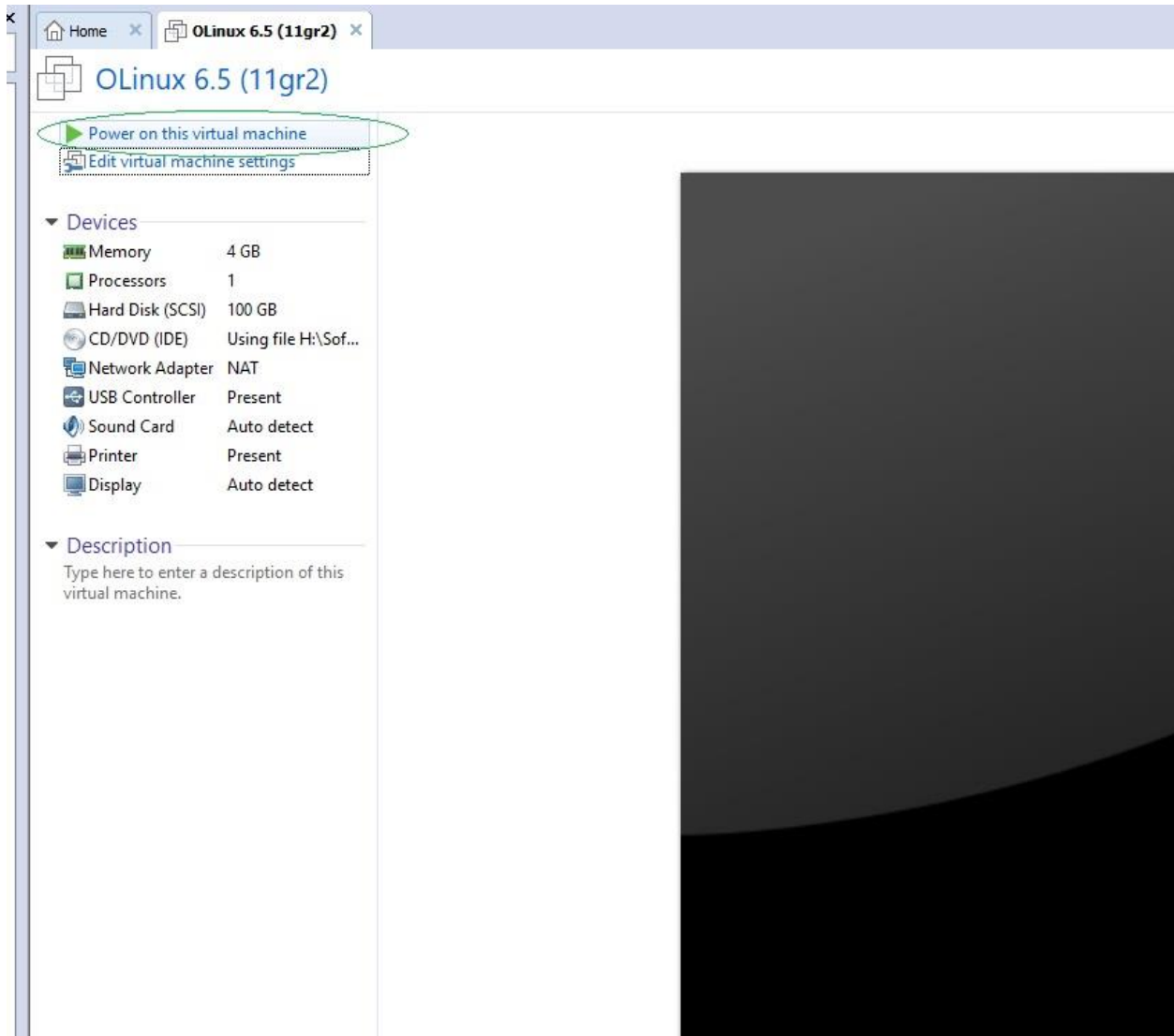
Same Method applies on physical machine and this document will help to install oracle Linux 5 and 6 all versions.

VM Configurations

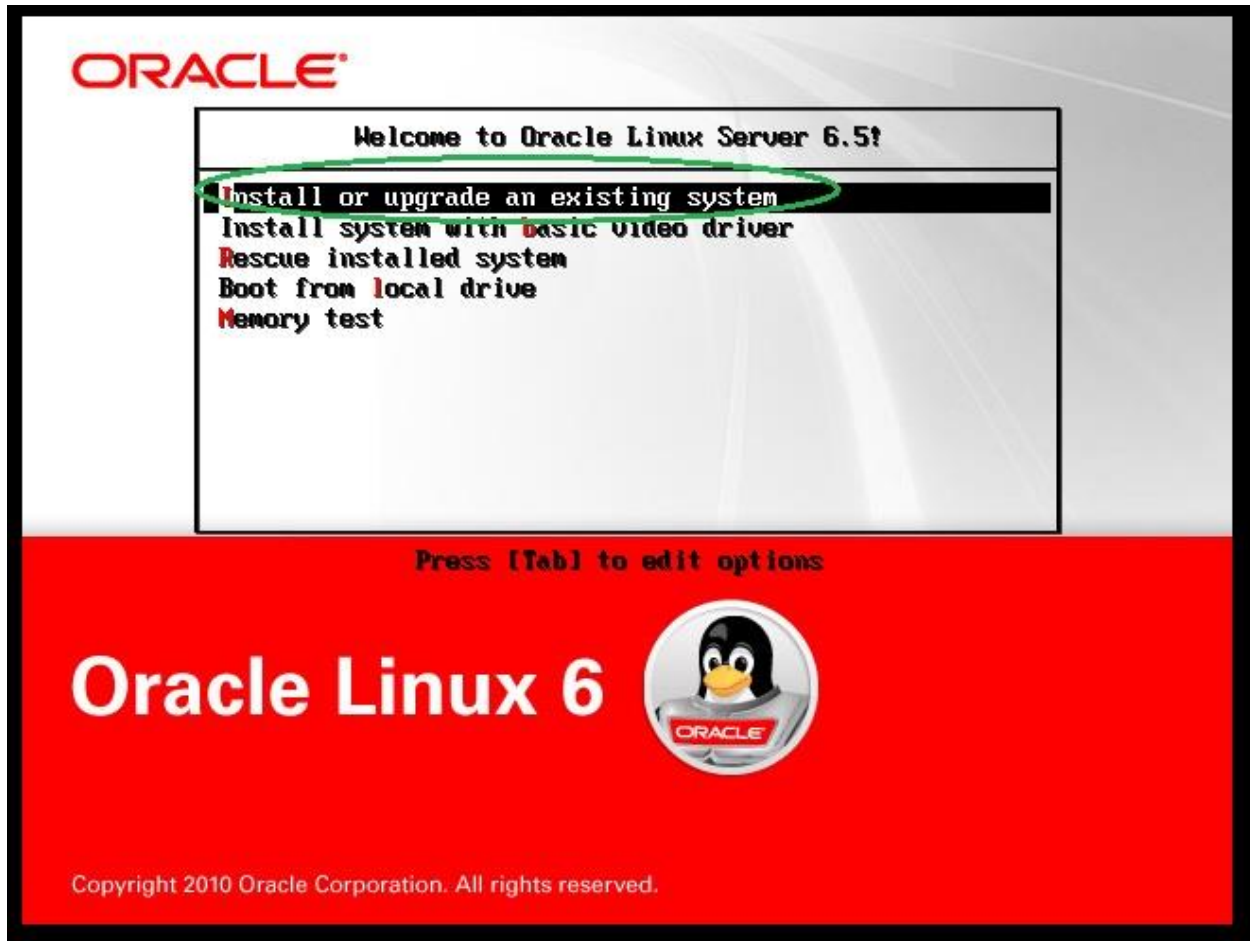RAM   =   4GB

Hard drive   =   100GB

CPU   =   One Socket and One CPU

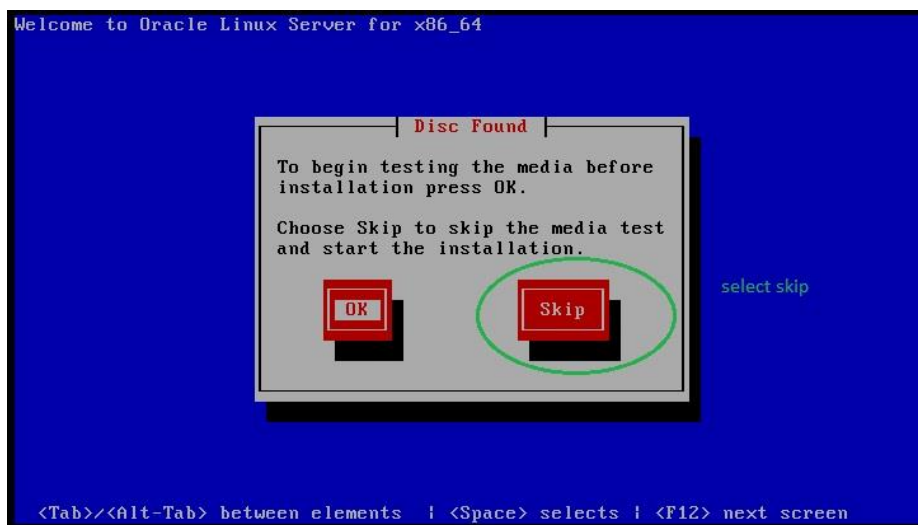Network Card   =   1   Virtual Adapter

Network Communication   =   NAT type

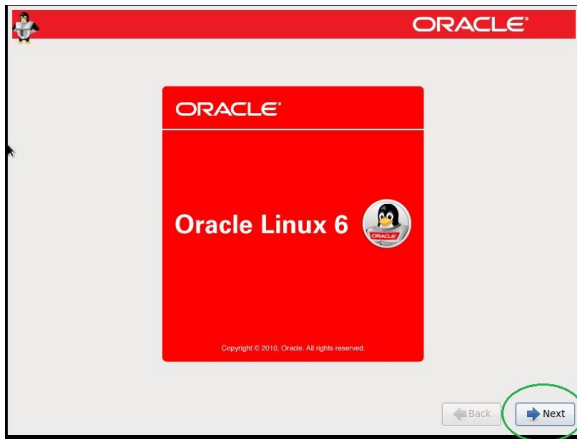ISO Image   =   Oracle Linux 6.5 ISO image

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1   Power on the Machine click <mark>power on</mark>

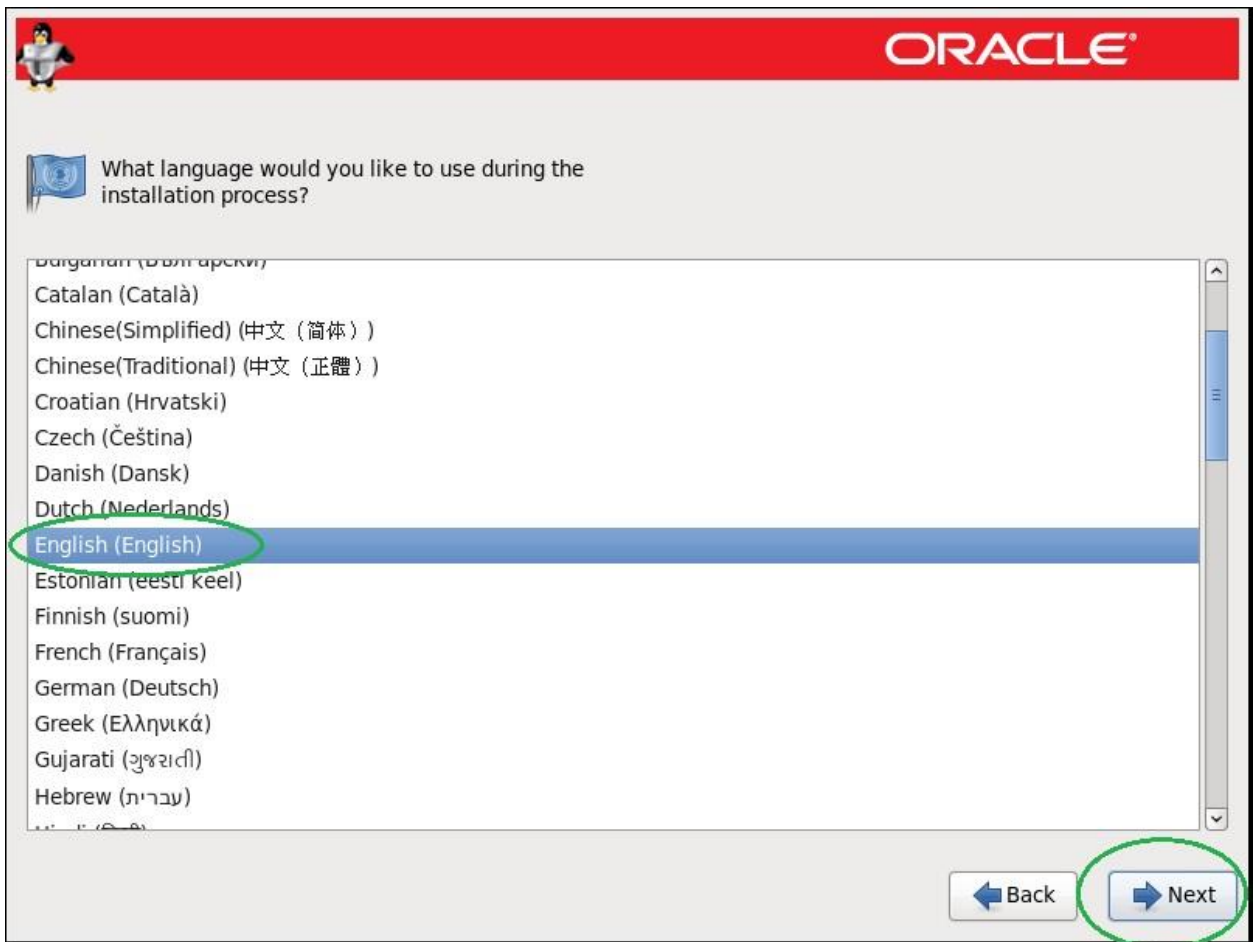2   1st screen after power on the VM Select Install or upgrade an existing system

3   The Next Screen will be for testing installation media CD/DVD/ ISO image, Select Skip

4   Next screen will appear here select next

5   In the below OS installation language select ENGLISH which is default or select which one is best for your environment.

6   The below screen is for keyboard input language selection here I will select again US. ENGLISH but if you wants to select any other option that can also be select.
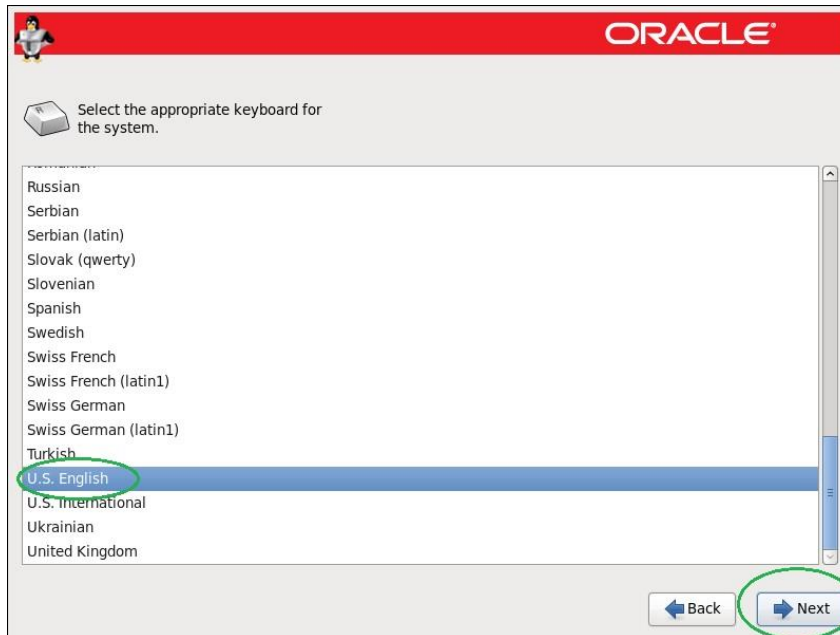
7   Here in the below screen you have option to select storage device on which installation will begin so in my case I will select the Basic storage devices but if you have NAS/SAN or other advance storage devices then you can select Specialized storage devices.

8 The step 8 is much important, here you have two option yes discard any data and the No, keep any data. Here I have select discard any data because I am assuming you are going to install the OS on a new system or you have new hard drive then go for second option as highlighted.
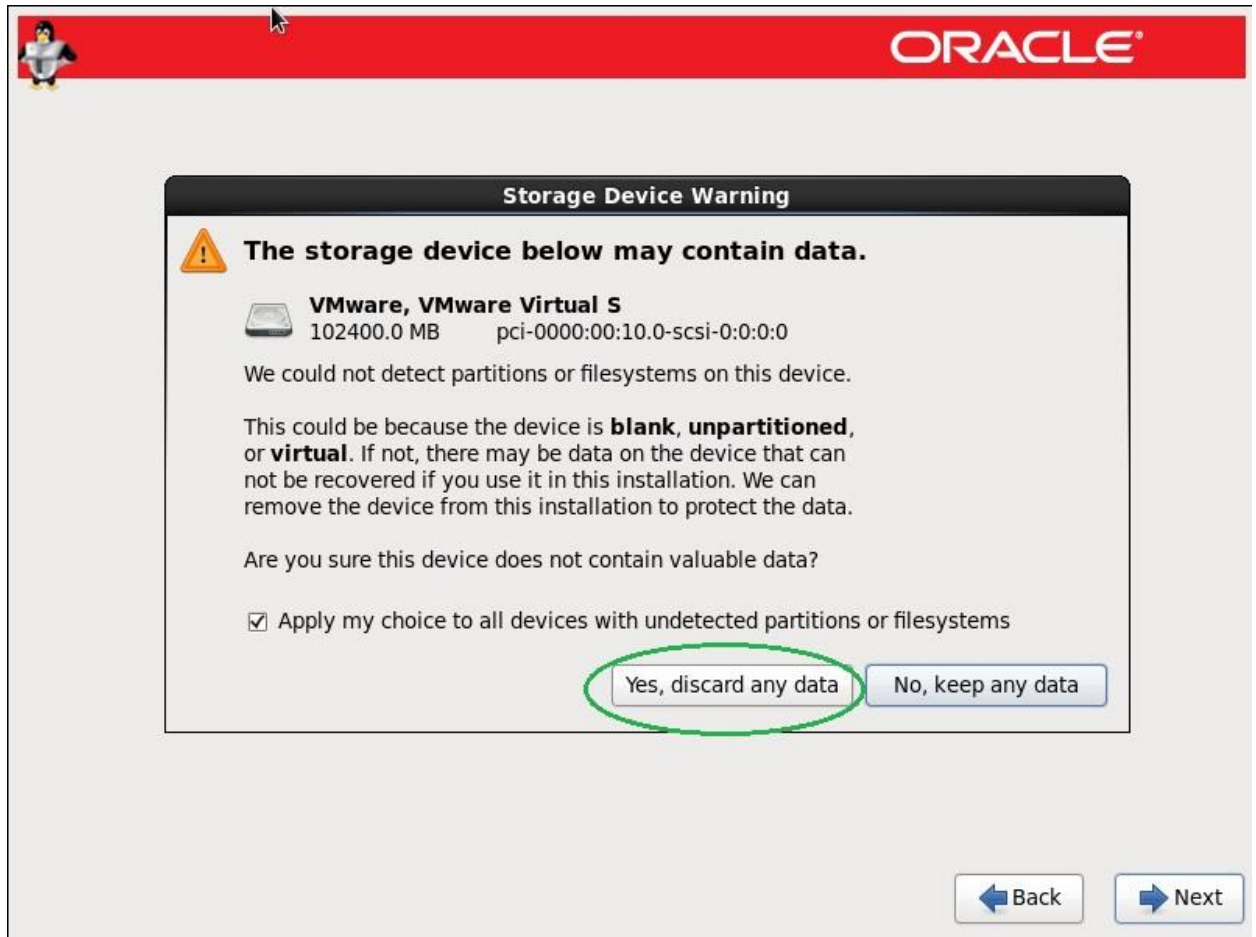

NOTE: If you have no partition before and using new hard drive then the No, keep any data option will not work, You have to forcefully select the 1st option yes, discard any data.

9   At step 9 you will window regarding System name and Network settings we have choice
    we can set system and network at here otherwise it can after OS installation. I will leave
    this as <mark>default</mark> and will set network and name settings after OS installation. But you
    wants to configure you can configure here.
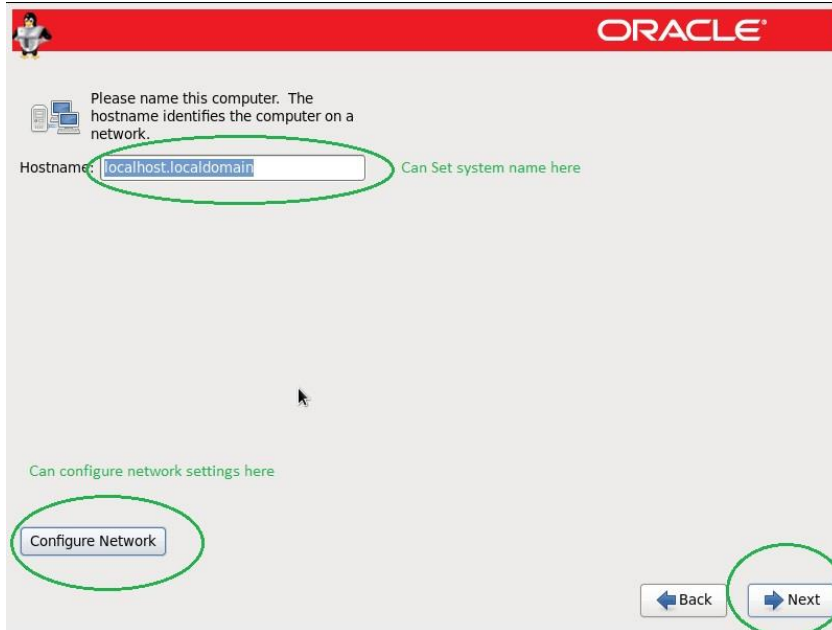
10 At this number we have next windows for region time zone selection I have selected
    <mark>ASIA/KARACHI</mark> but you can which one is your area.
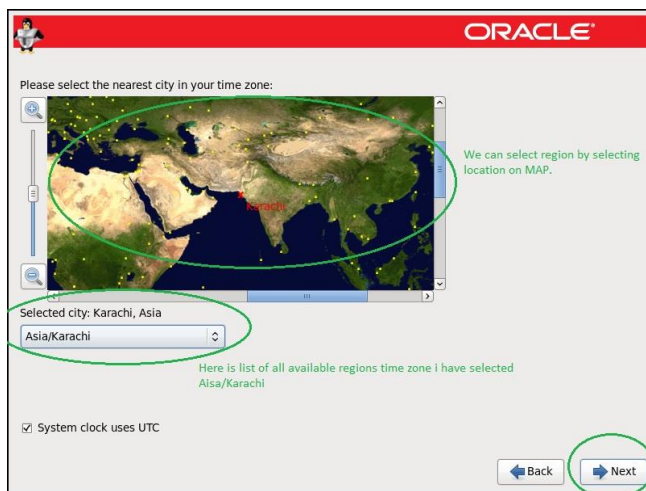
NOTE: The Default is America/New York
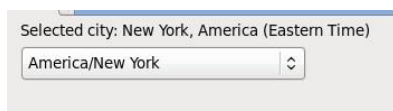
11 Now we have windows regarding root password I have set my own password but you choice what you wants to set but keep remember this password because this one is the administrator accounts of the system.
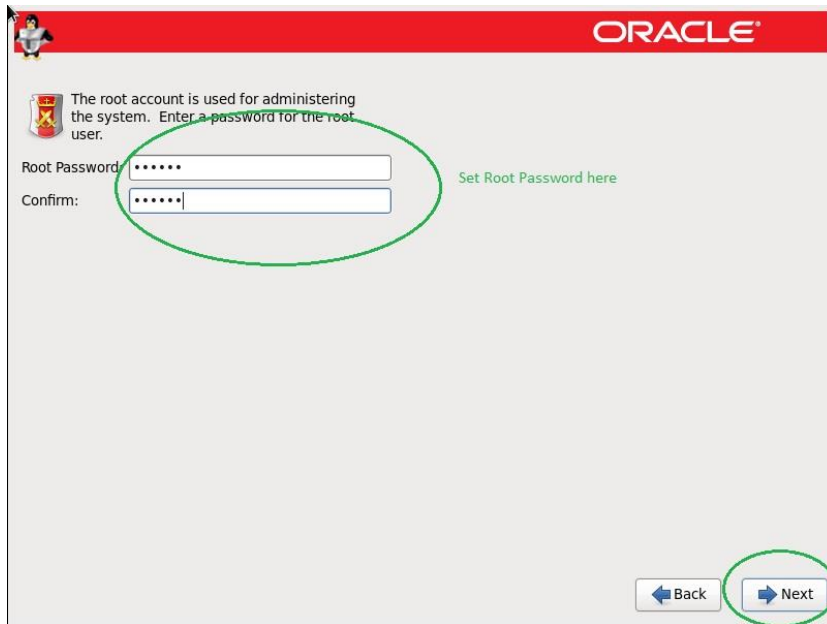
NOTE: If you try to set simple which is not recommended by OS then you will receive the below message upon next button press option. Eg Oracle Linux recommends a strong password should be set like ' A12**cdd;" , I have set simple password like ' oracle' so I am getting the message.

Here I have select use anyway and as I press use any one I will have next window.

12 Now we have windows where our storage will need to be partition according to the requirements. And we have 6 options I will write little detail regarding every option here for further details you can call me at given number or email me.

12.1   use all space

It will remove all the previous partitions including data and create new partition layout using LVM (logical volume manager) this option is best for new users who don't have much knowledge about partitioning in Linux. But due to automatic partitioning system you cannot change or create any partition according to the requirement, for changing the layout you can do that after OS installation, LVM is more flexible system so you have also options to expand or shrink or add more space into partitions using LVM.

NOTE: Select all space and proceed will automatically create LVM partitioning and ask you in another windows Write changes to disk select that and you will next window or you can go back by pressing go back to previous window.

12.2   Replace existing Linux System(s)

This option is best if you have already installed Linux system and now wants to upgrade the existing system or wants to replace the OS, It will remove all the partitions which were using with OS and leave all the data partitions. For new user I will recommend don't use this if have not good knowledge about Linux partitions.

12.3   Shrink current system

If already Linux installed and need to create some free space from existing partitioning then this option is ok otherwise no need to select this one.

12.4   Use free space

Best option for dual boot, for example you have windows PC already just create un-partitioned space, Select this option and create or install Linux on un-partitioned space.

12.5   Create custom layout

For standard/Clean installation this option is best all the way.so will select this option for my installation as below window.

13   In below window we can see hard disk which is available in the VM and I have mentioned in start of this document.
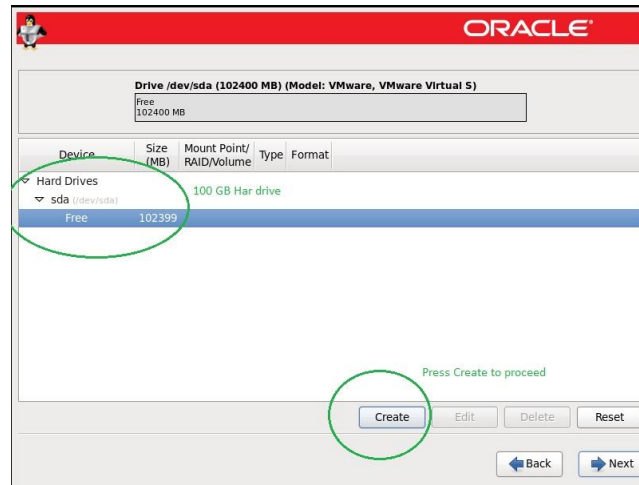
14   After pressing create from previous windows now we have multiple methods to create partition during installation.

14.1   Standard Partition

The legacy for common method to create standard partitions, A good way for beginners to create partitions from here I will also use this method to create partitions during this installation.

14.2   Create Software Raid

This method is applies for advance users and if we have already physical raid card then we have no need to create partitions by this method. It is good way to secure the data and to keep redundancy or create group of multiple hard disk as per RAID levels.

14.3   Create LVM

A very best option same work as I have mentioned in 12.1 use all space but here we have choice to create as per desire volume groups and then logical partitions from that groups but it is for advance users.

What is LVM and how to create it, a deep detailed video lectures is also available in Urdu/Hindi, Anyone need can contact to me.
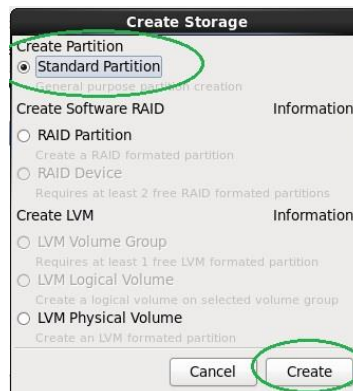
15 In below windows we needs to select options lets describe each of them
    15.1   Mount Point (Mount the partitions some of partitions already have mounts like root, /temp, /, /boot, /usr, /home. etc. We can create our own mount points which will be your partitions.
    15.2   File System
           File system is way to organize the data on the storage. There are many file system for this purpose we will use ext4 which is recommended in Linux 6.
    15.3   Force to be Primary partition
           Here we need to select /boot partition as primary partition and in other let it unchecked.
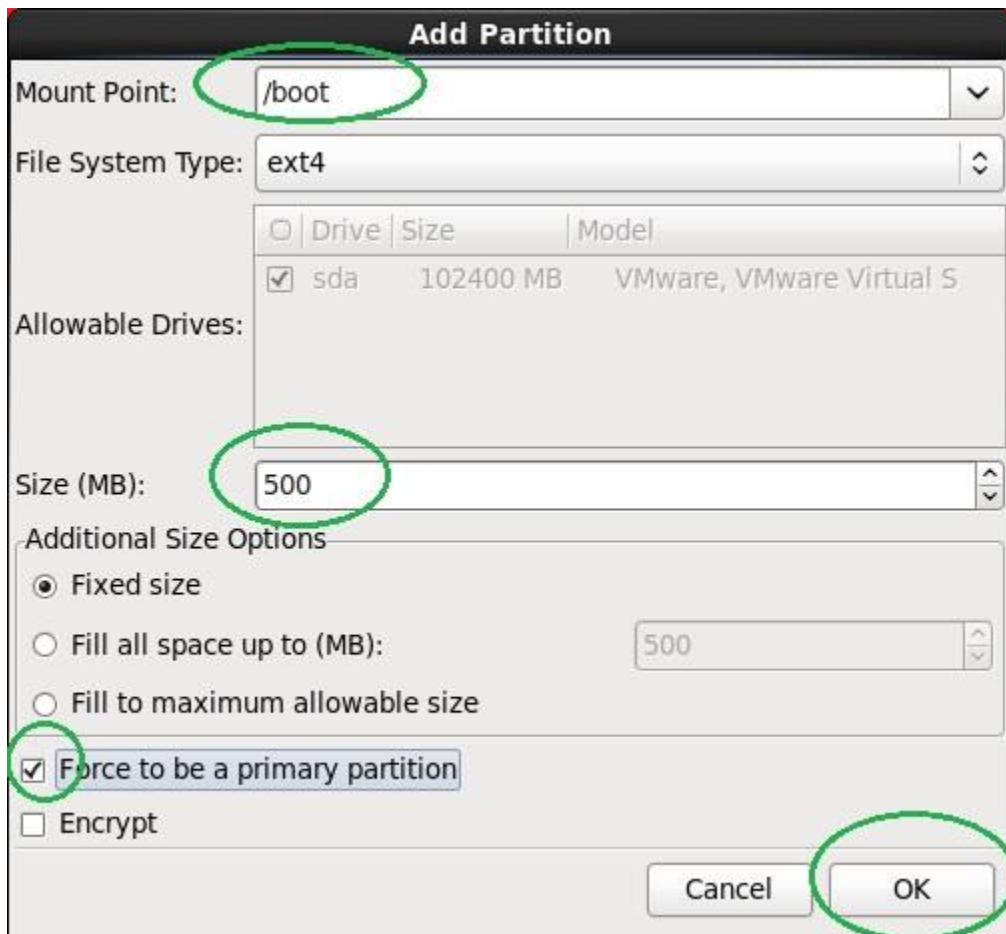   15.4   Additional Size options
           Fix Size (Can fix the size) we can set Partition size
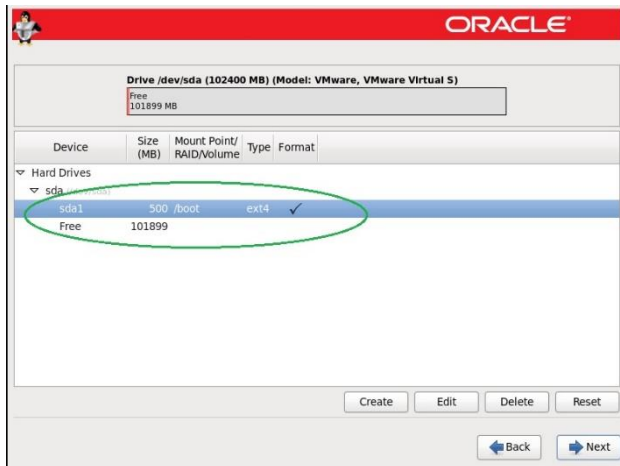   Maximum Allowable (If we wants to assign all remaining disk size to the selected partition then select this one.

In below windows I am creating partition /boot partition you can create remaining partition like that method.
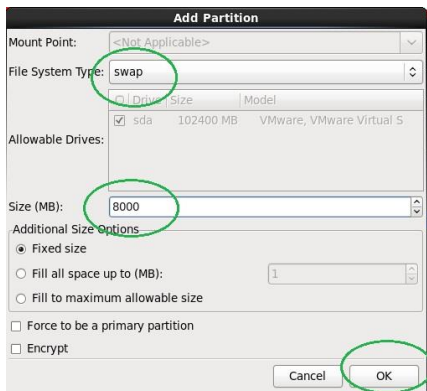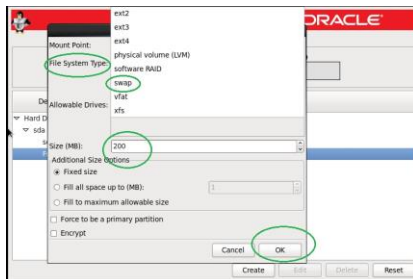
Create boot Partition which is must.

In below windows you can /boot partition has created.

The second important partition is SWAP Partition let see below.

The SWAP Partition does not require any mount point so from file system tab we will select SWAP and assign the size of the partition.

How to mention size of SWAP, below is calculated value.it depends upon the size of ram.

If RAM 2 GB (SWAP = 4GB), If RAM 4 GB (SWAP = 8 GB or 4 GB is also acceptable)

If RAM 8 GB (SWAP = 8 GB), If RAM 16 GB (SWAP = 8 GB or 16 GB)

If RAM 32 or up (SWAP = 8 GB) for details check OS or Application requirements.

I have fixed 8 GB size for my 4 GB system in this document while you can choose according to your load of applications and RAM.

Now we have created two partitions till this time how much partition we must need to create for OS installation

1	/boot
2	SWAP
3	/	(also called root)

We can install by creating three partition but to store data separately or according to the need of the application, we may need to create more partitions.
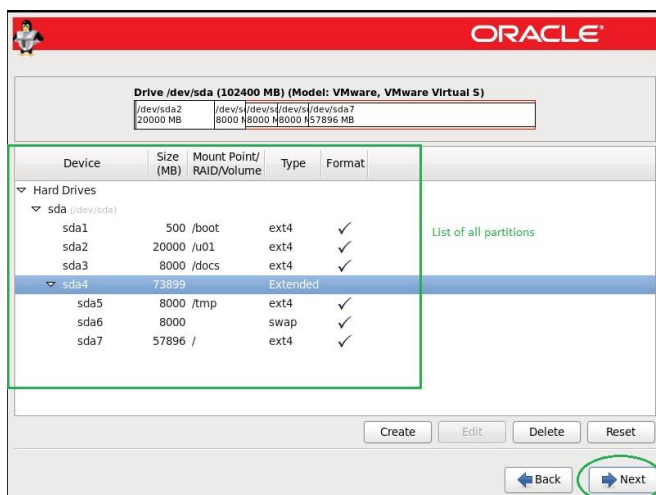
For Example

Oracle strongly recommends that a separate partition should be created to install Oracle database.

Oracle also recommends that /tmp partition also have at least one GB free space when installing oracle database.

I am listing my partitions which fulfill my requirements you can choose your own style.

/boot   (Required as primary partition to boot the OS)

Swap   (Required) for fast processing when system have low ram area.
/   (Required) all the partition comes under root so it is necessary to create

/u01   (Optional) I will install my oracle DB on this partition

/tmp   (optional) I am just creating for oracle DB

/mydocs   (Optional) to store personal documents in case of OS loss my drive should save.

Drive /dev/sda (102400 MB) (Model: VMware, VMware Virtual S)

Device	Size (MB)	Mount Point/ RAID/Volume	Type	Format
▽ Hard Drives				
▽ sda (/dev/sda)				
sda1	500	/boot	ext4	✓
sda2	20000	/u01	ext4	✓
sda3	8000	/docs	ext4	✓
▽ sda4	73899		Extended	
sda5	8000	/tmp	ext4	✓
sda6	8000		swap	✓
sda7	57896	/	ext4	✓

List of all partitions

16 As partitions created and Press <mark>Next</mark> to Process further we have below windows to confirm and write changes to disk.
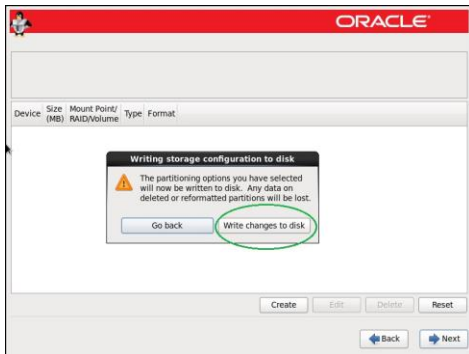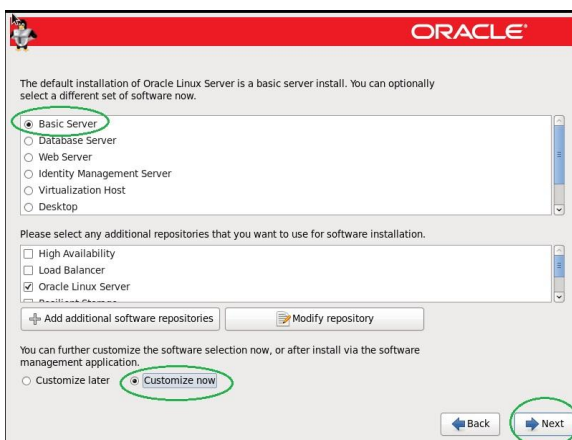

17 Next Window for boot loader location and password leave that default and press next.
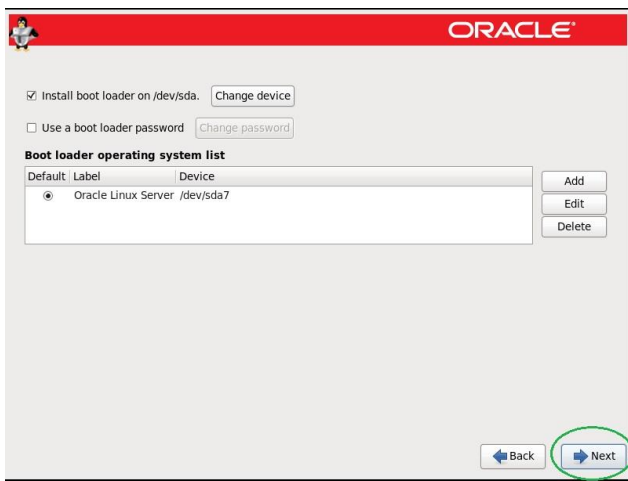
18 After press from boot loader screen you will Installation package collections window.

There are some built-in category define by oracle Linux as user need or infrastructure. We will select default <mark>basic server</mark> and also select <mark>customize now</mark> and press <mark>next</mark>.

19 In below window we can select which we need to select type of installation packages we need. As per recommendation but you do which one is your need.

Listed packages should be selected
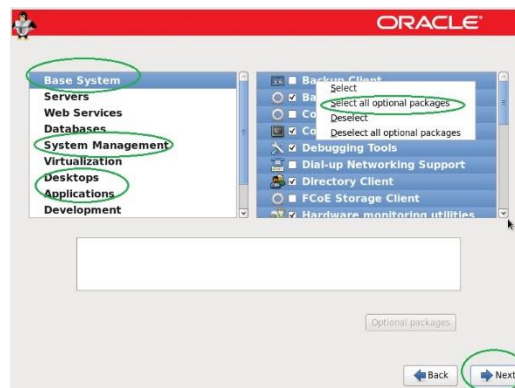
Base system   (All packages)
Servers   (all packages)
System Management   (All packages)
Desktop   (All packages)
Applications   (All packages)

Rest packages can be selected upon the requirement.

In this lab I will select all the packages and select to next.
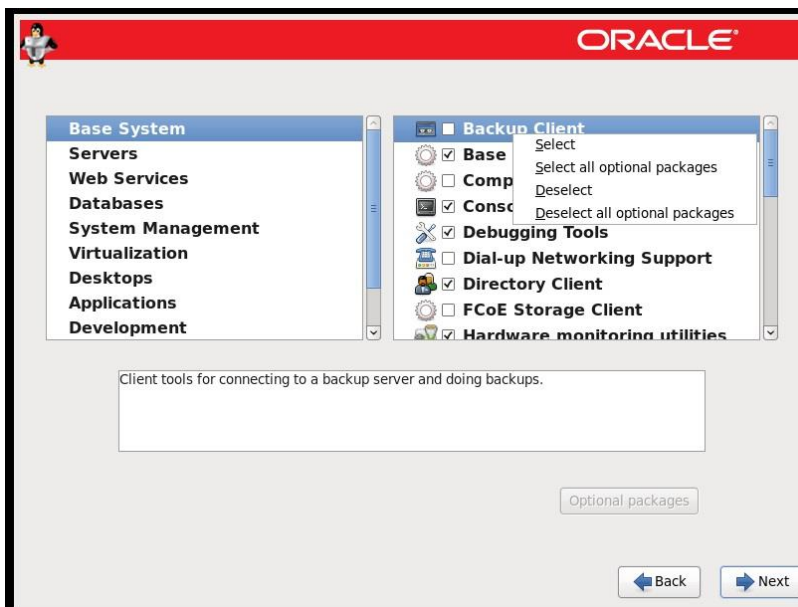
Select the main Head like Base system and in 2nd windows press ctrl+a it will select all installation packages in one go.

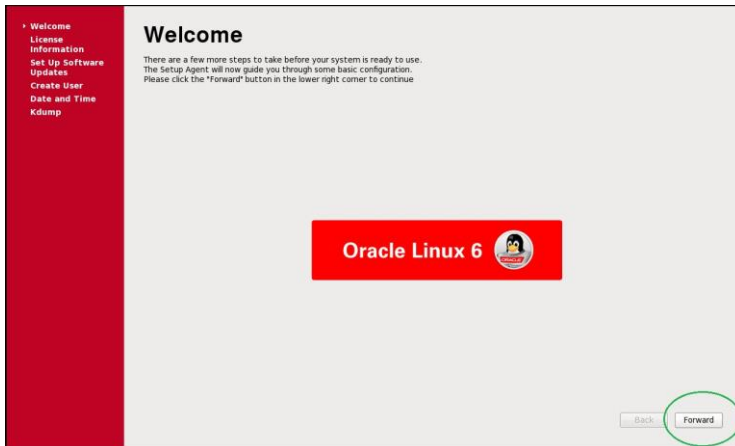20 Now installation has started you can see installation progress in below window.

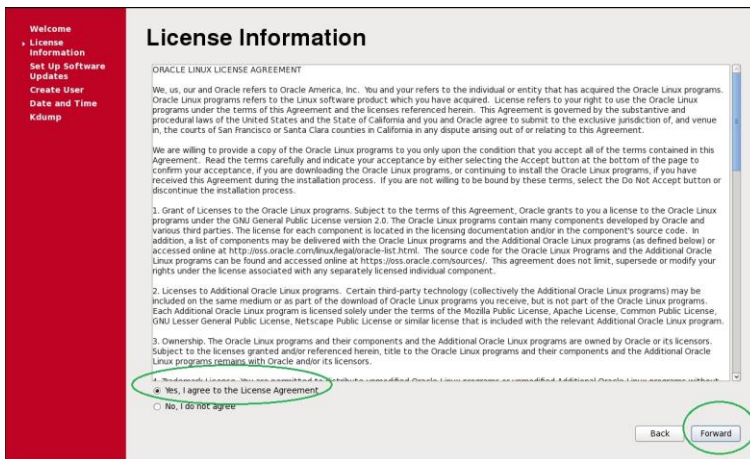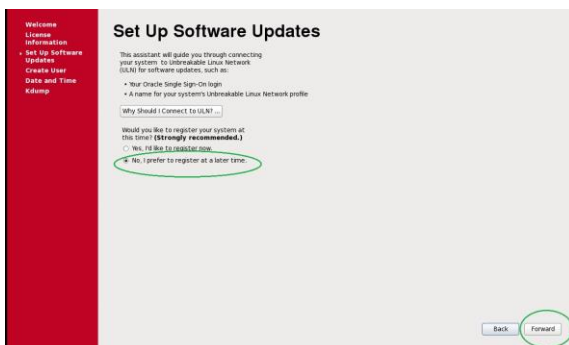21 Finished Installation process.

Reboot Now

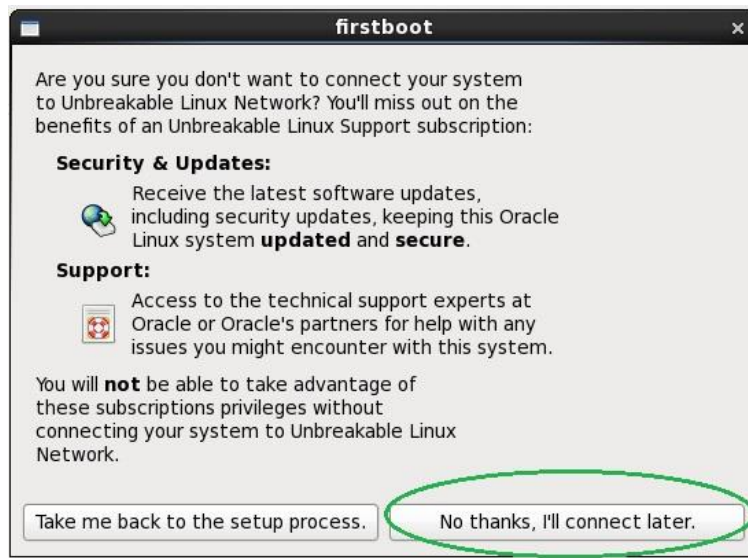22 after 1st reboot the below window will appear

23 Now we have to accept license agreement as in below window and press forward

24 ULN (Unbreakable Linux Network) Registration and sign in, In my case I have not that
So I will select register later and Forward.

25 In below window select <mark>No Thanks, I will connect later</mark>

25 After Processing first boot window we have another windows to <mark>forward.</mark>

26 Here oracle Linux Strongly recommends that at least we should have one <mark>standard account</mark> to use for working while <mark>ROOT</mark> user should only be login by <mark>shell</mark> for administrative work. Here we can create one user otherwise we can forward to login by root user , here I am going to create one standard user with name " <mark>Abbas</mark>" and password is "<mark>abbas</mark>" and press forward for login screen.
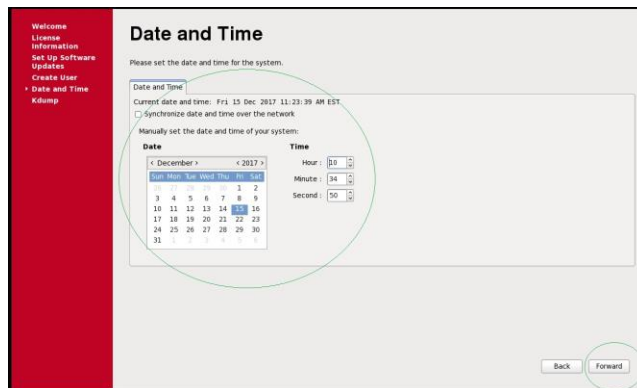
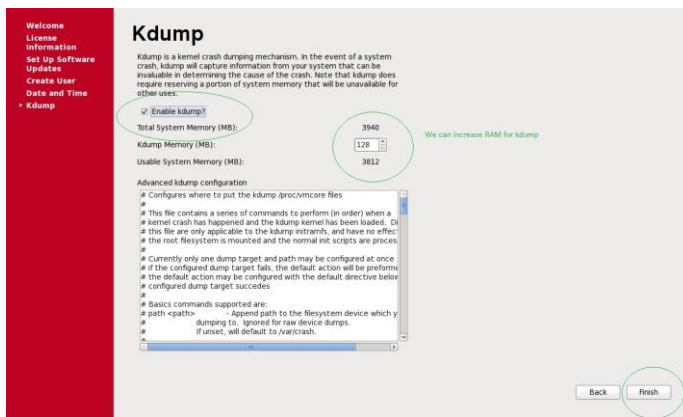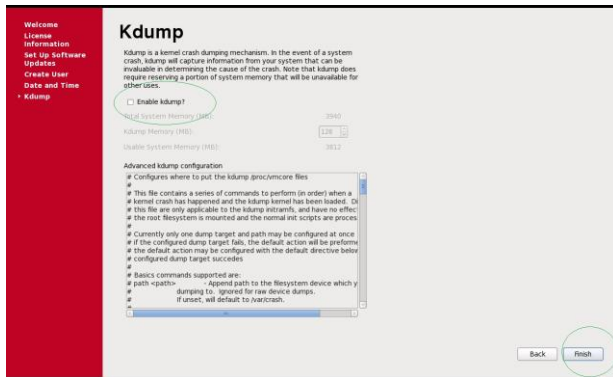Now as upper screen on that same screen I have put information regarding my account.

26 Press forward and weak password for user " abbas "message windows will appear. Press yes
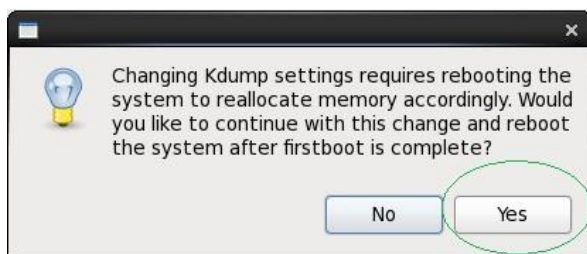

27 Set or Verify Date and time and press again forward

28 Set K-Dump (K-dump is save system state information while crashing the OS its up to us wants to enable or leave. Default is unchecked.

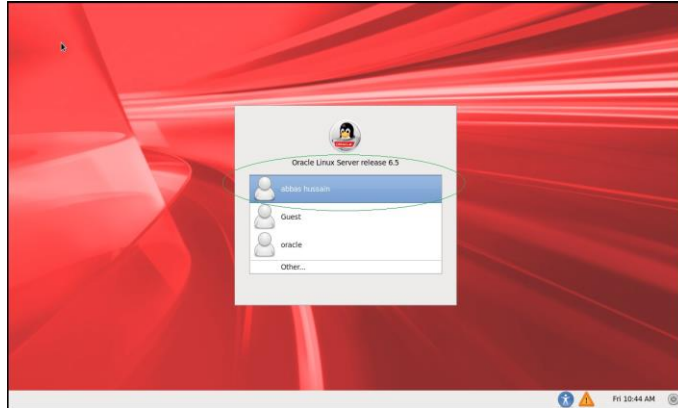

Here you will receive restart system for kdump

Here you will receive another window with ok message take effect for Kdump Press ok.

29 The login screen appears in below window we can select user Abbas for login.
    The below guest ad oracle user are in lock state they can be unlocked by root user
    through shell prompt.

30 In the below window enter the password for the user and press login button
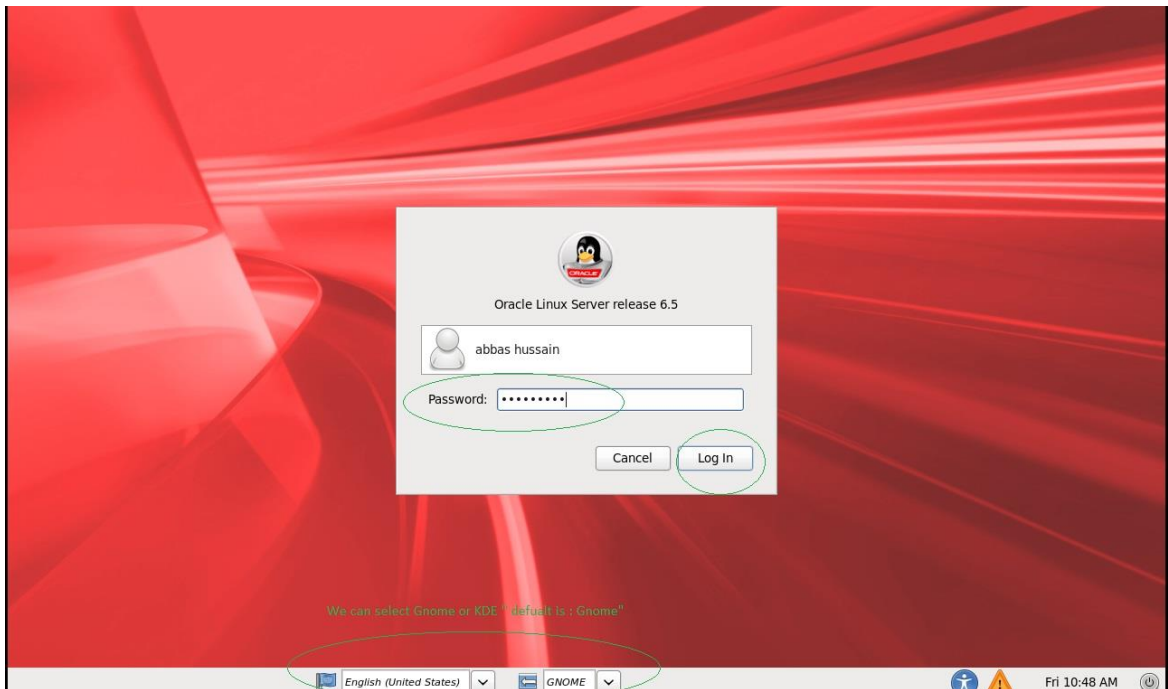
31 Finally we have ready installed PC.