TEAM: CCK-03

Team Leader: Md. Mohacel Hosen (193071002)

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Red Hat Enterprise Linux operating system

what is open-source software?

- Open-source software is computer software that allows anyone to use, study, change and distribute it for any purpose without additional cost.

What is Linux?

- Linux is an ***open-source operating system*** (OS). An operating system is the software that directly manages a system's hardware and resources, like CPU, memory, and storage. The OS sits between applications and hardware and makes the connections between all of your software and the physical resources that do the work.

what is red hat enterprise Linux operating system?

- Red Hat Enterprise Linux (RHEL) is a Linux-based operating system (OS) designed for enterprise-class environments. It is built on top of the open-source Linux kernel and includes a range of software tools and applications to support business operations.

- ⇨ RHEL provides a stable and secure platform for running mission-critical applications and services. It offers features such as advanced security controls, system management tools, and high availability options, which are critical for enterprise environments where downtime can have severe consequences.

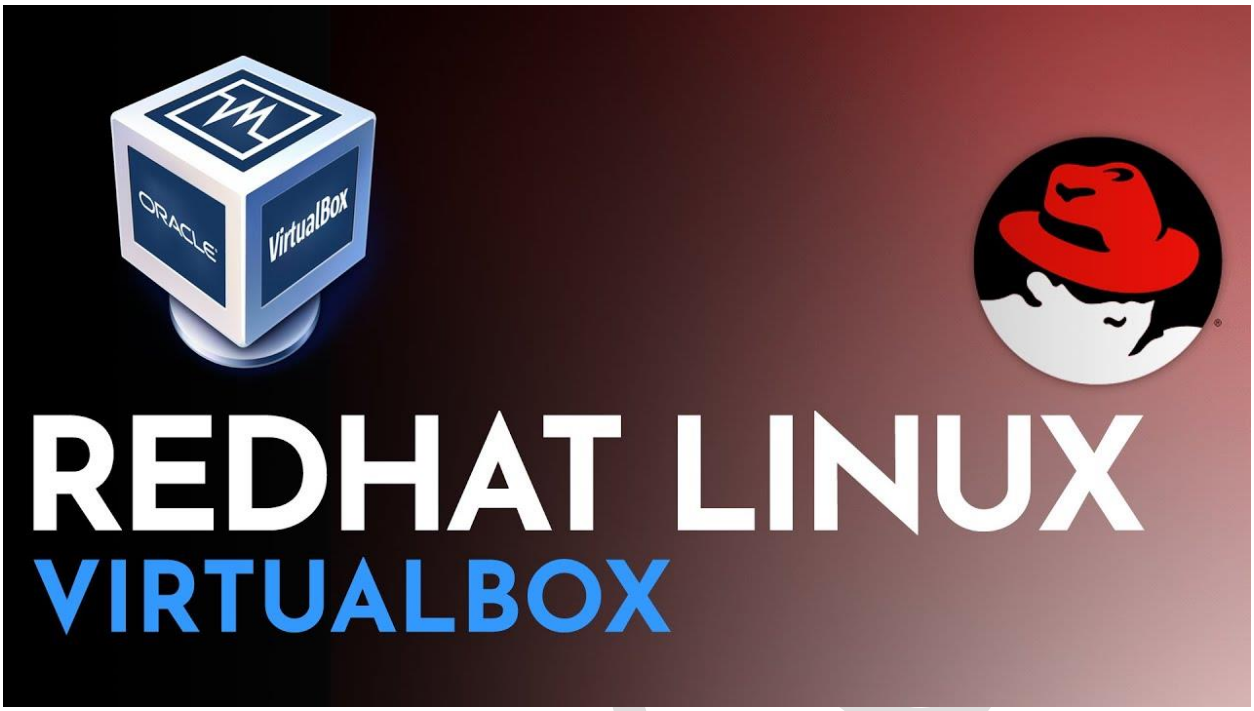
what is virtual box?

- ⇨ Oracle VM VirtualBox is a free and open-source virtualization platform that enables users to run multiple operating systems (OS) simultaneously on a single computer. It is a type 2 hypervisor, meaning it is installed on top of a host operating system and allows guest OS to be run in isolated virtual environments.

What is ISO file?

- ⇨ An ISO file (often called an ISO image) is an archive file that contains an identical copy (or image) of data found on an optical disc, like a CD or DVD.

- ⇨ The idea behind ISO images is that you can archive an exact digital copy of a disc, and then later use that image to burn a new disc that's in turn an exact copy of the original. Most operating systems (and many utilities) also allow you to mount an ISO image as a virtual disc, in which case all your apps treat it as if a real optical disc were inserted.



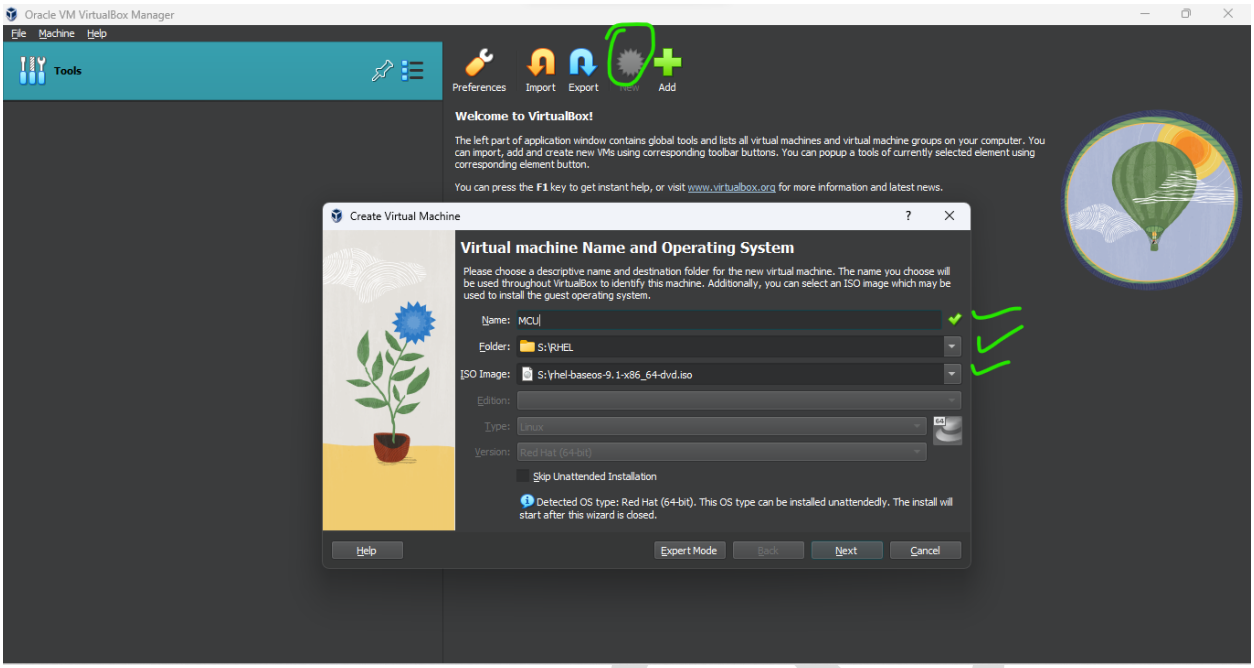
Step1: Download Virtual Box & Install it.

Oracle VM VirtualBox - Downloads | Oracle Technology Network | Oracle

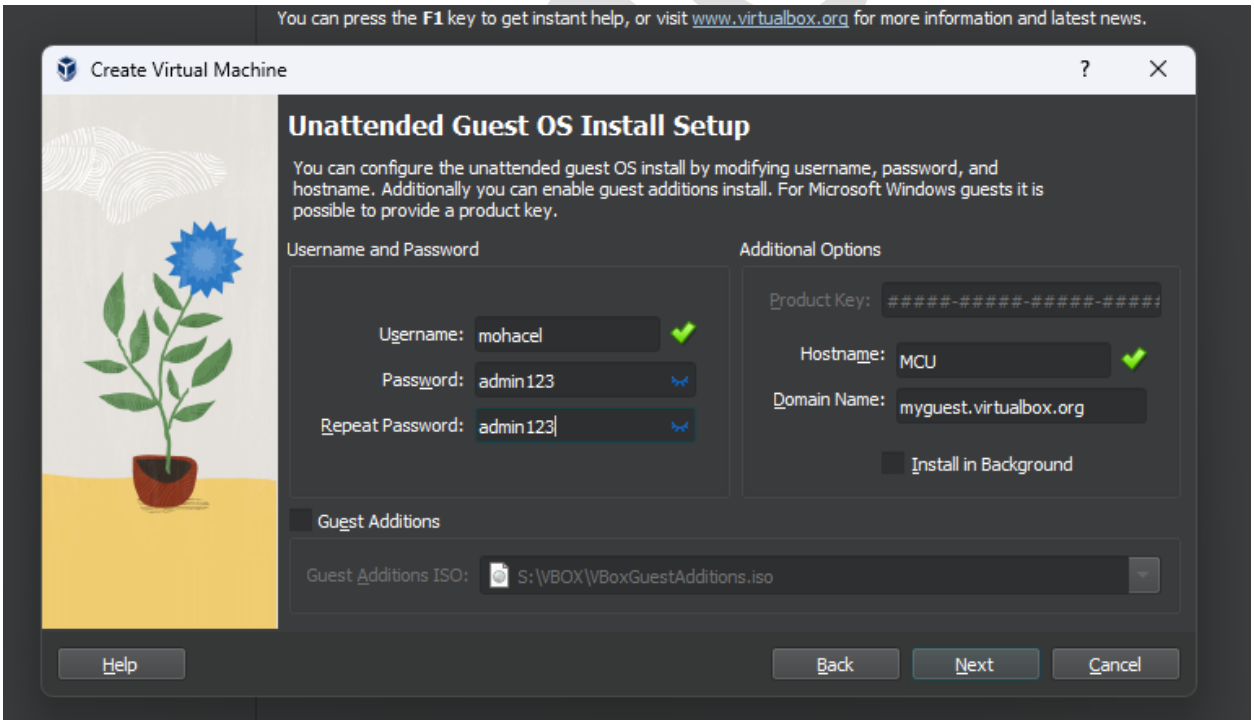
Step2: Download Red Hat Enterprise Linux ISO format.

Red Hat Enterprise Linux Download | Red Hat Developer

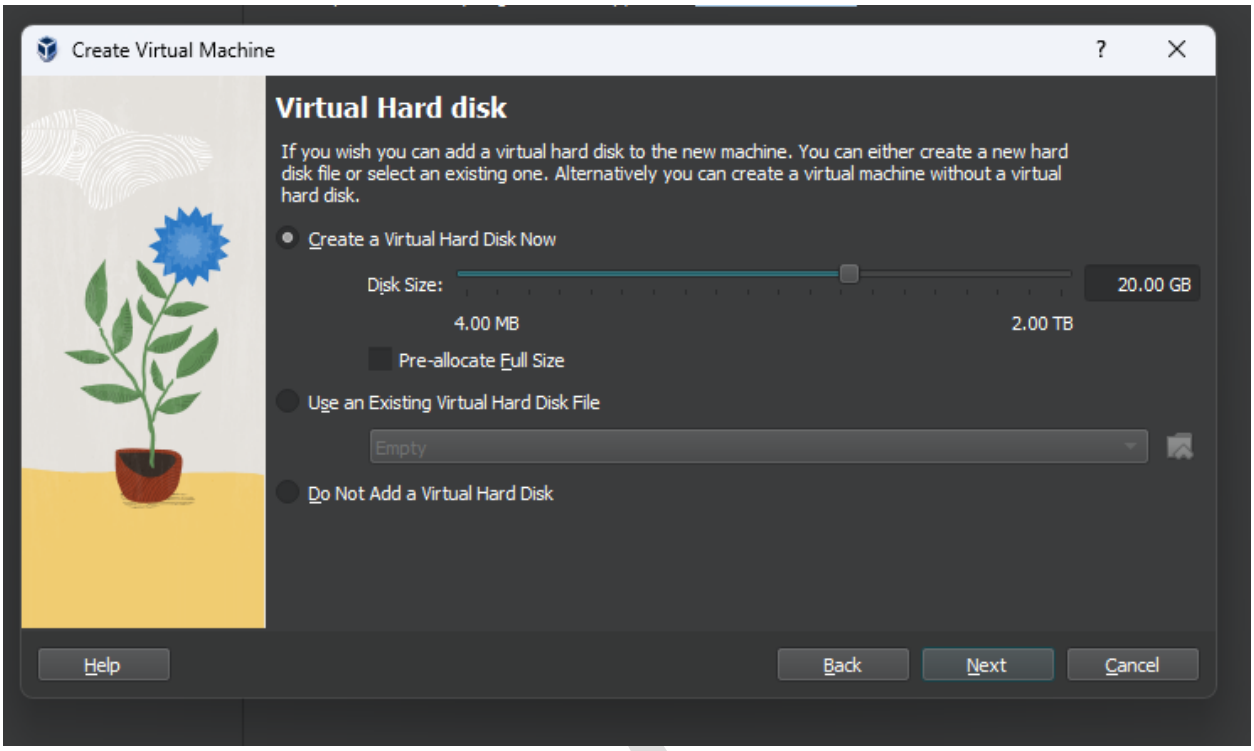
Step3.1: Open Virtual Box and click on “New”. Name your OS , select folder where you want to install and select iso file that you downloaded. Then click “Next.”

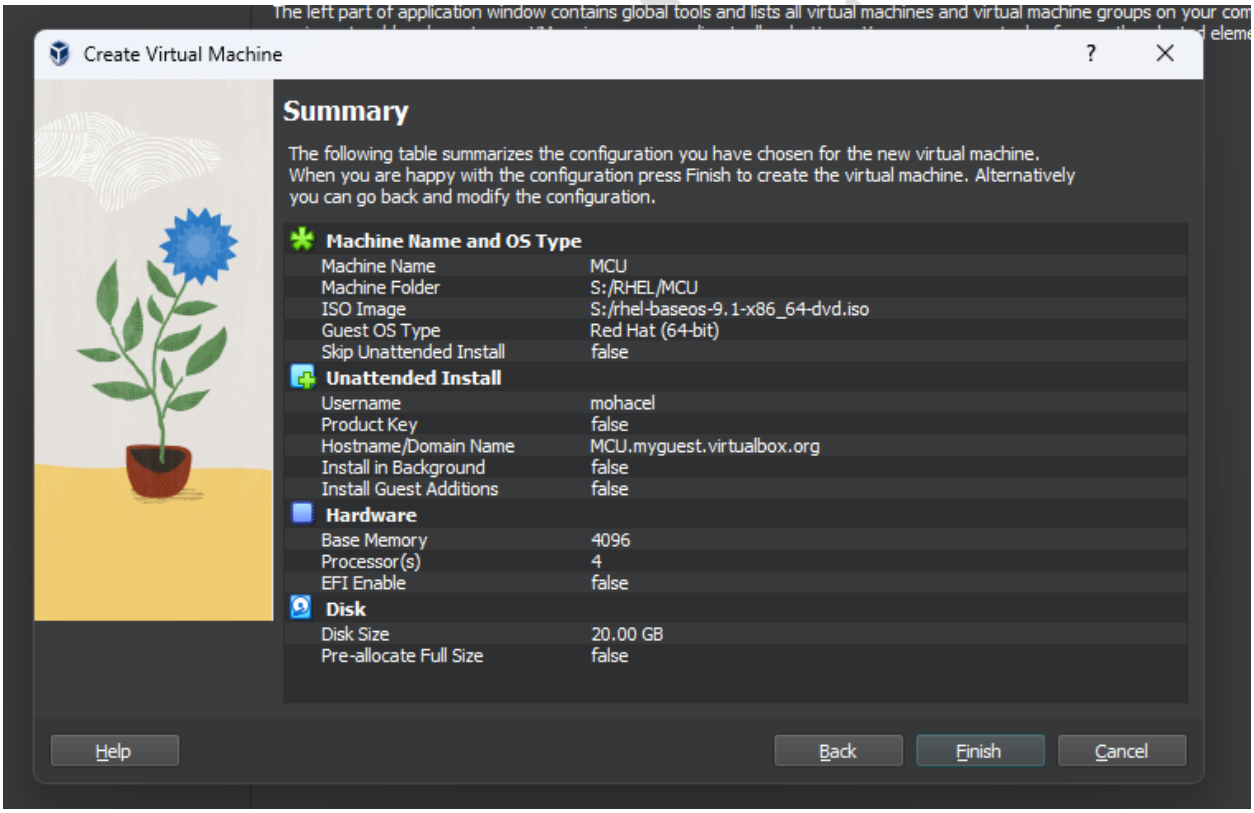


Step3.2: Set username and password then click “Next.”



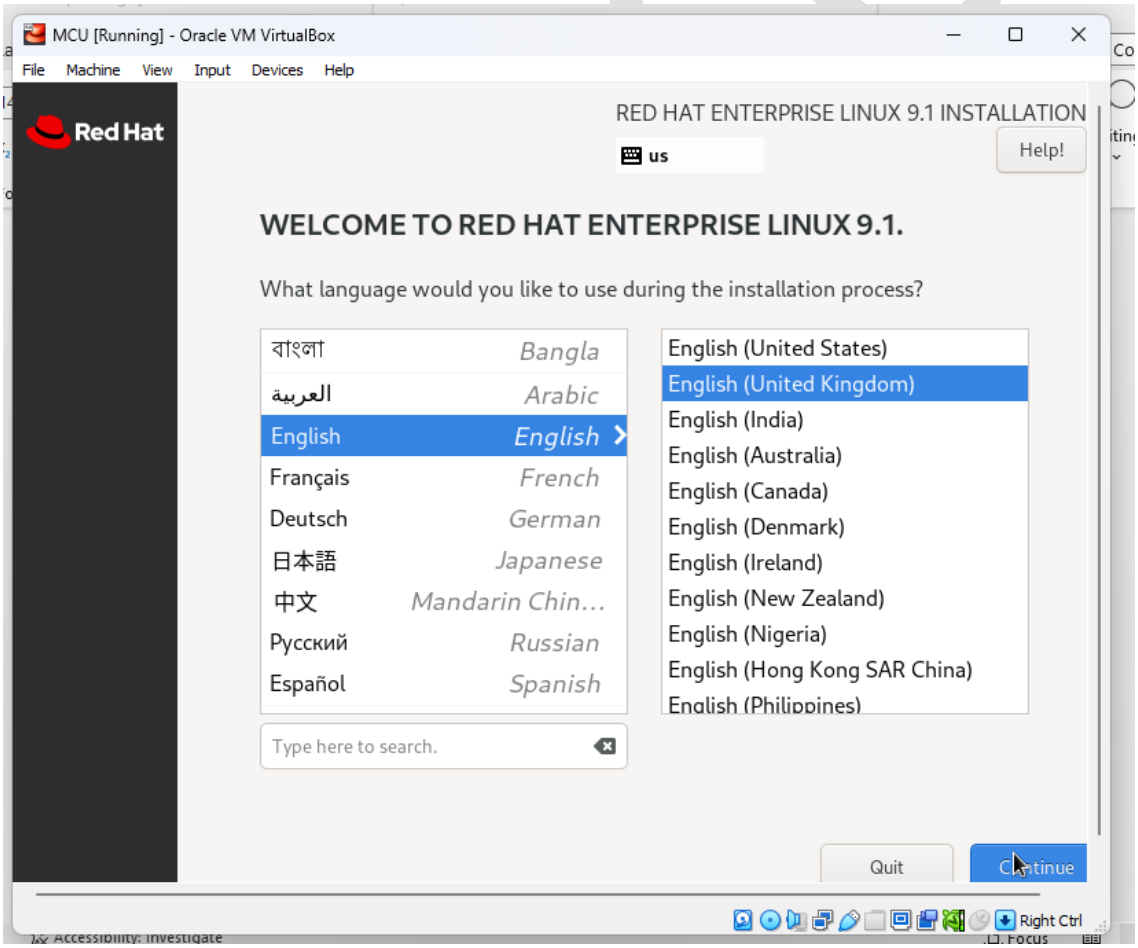
Step 3.3: Disk size Minimum 20 GB & processor 2/4



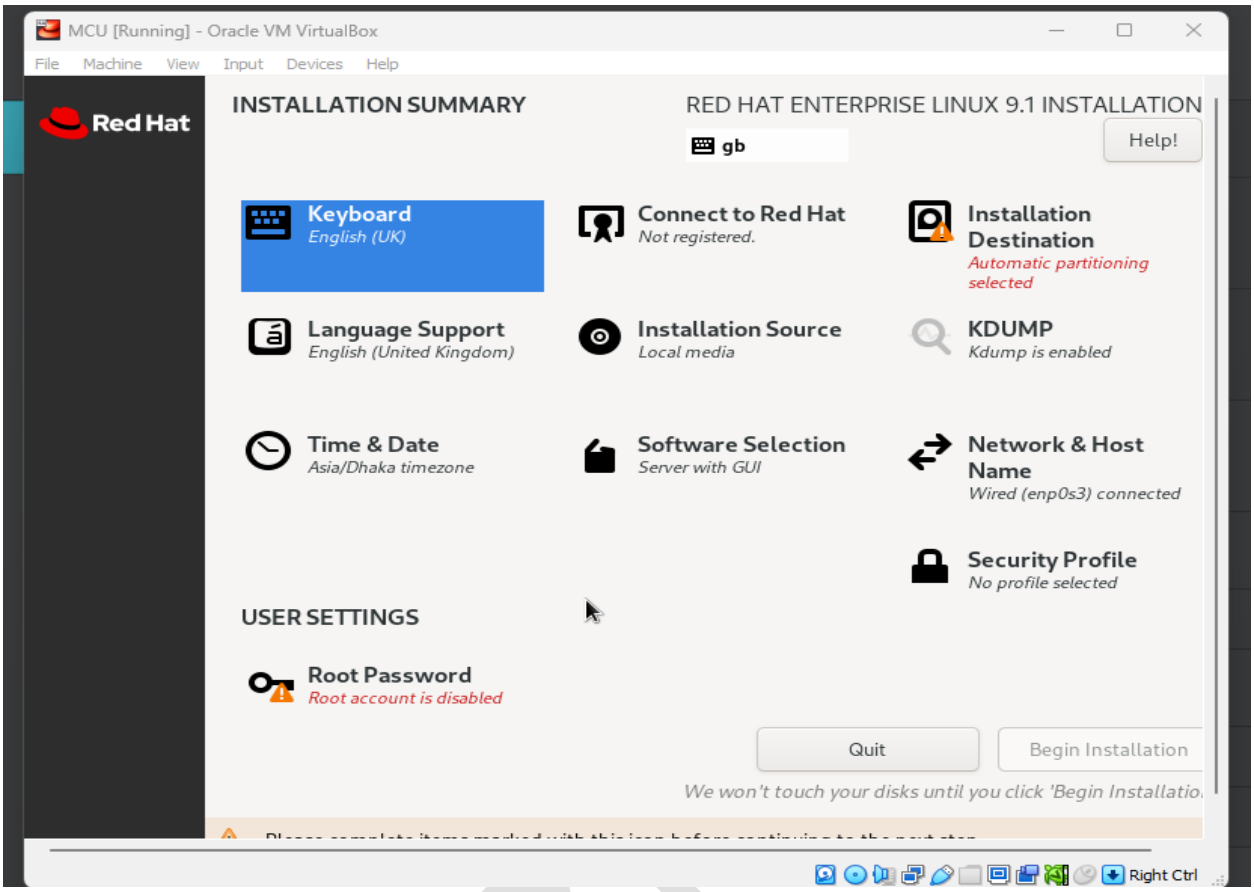


Step 4 : Select First one so that it starts install without media test.

Step 5 : Select language.

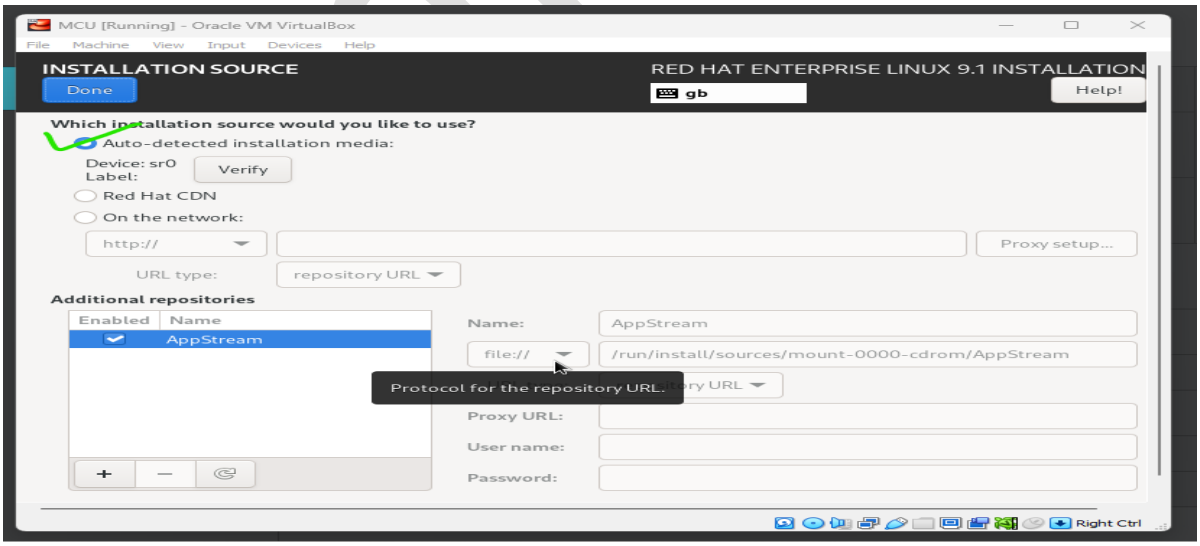


Step 6.1 : Set keyboard layout, language, and Date Time.



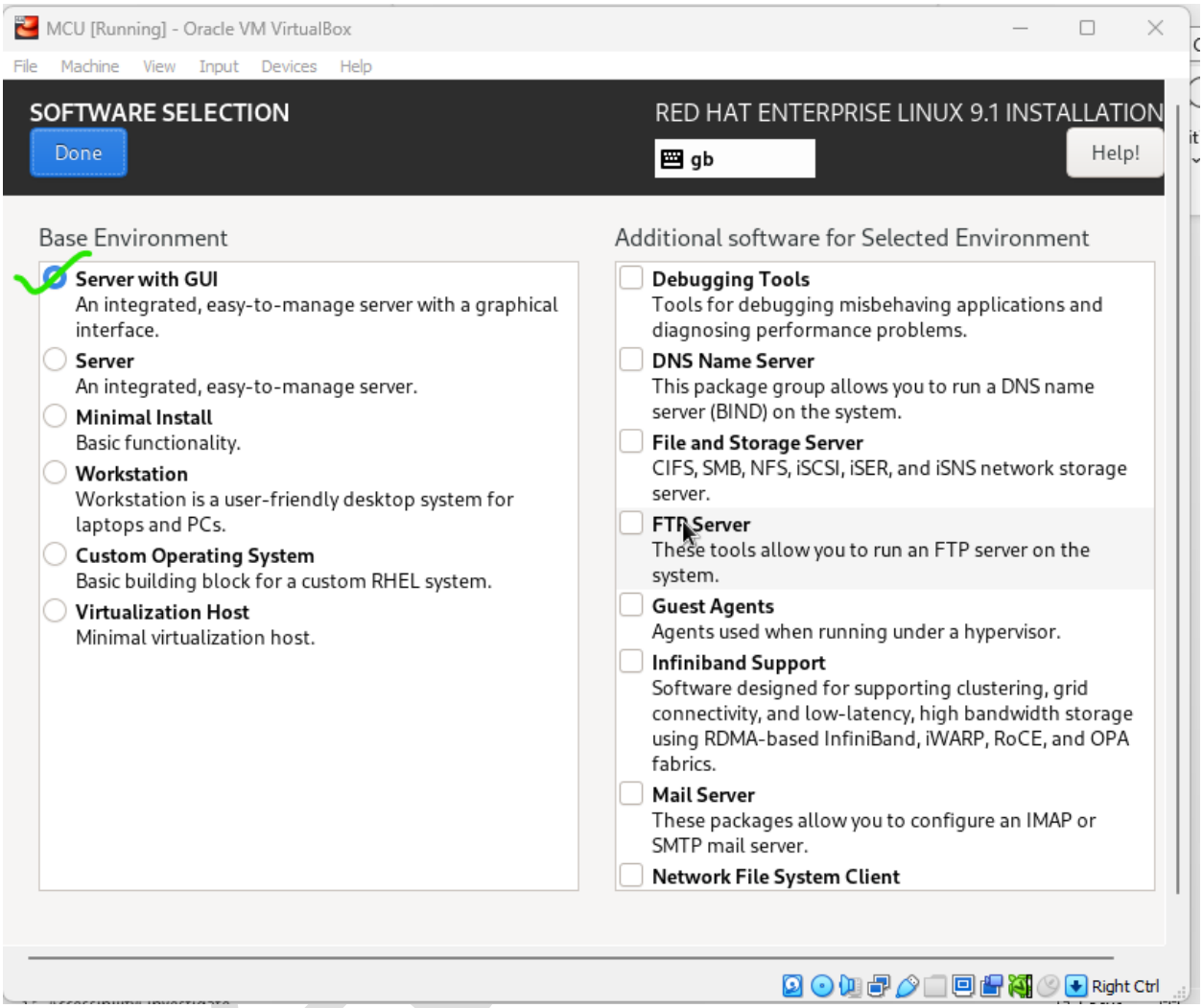
Step 6.2 : Installation source is “Auto” then click on “Done”

[we are installing from local iso]



Step 6.3 : Software Selection Server with GUI and then click on “Done”

[we are getting CLI+GUI]

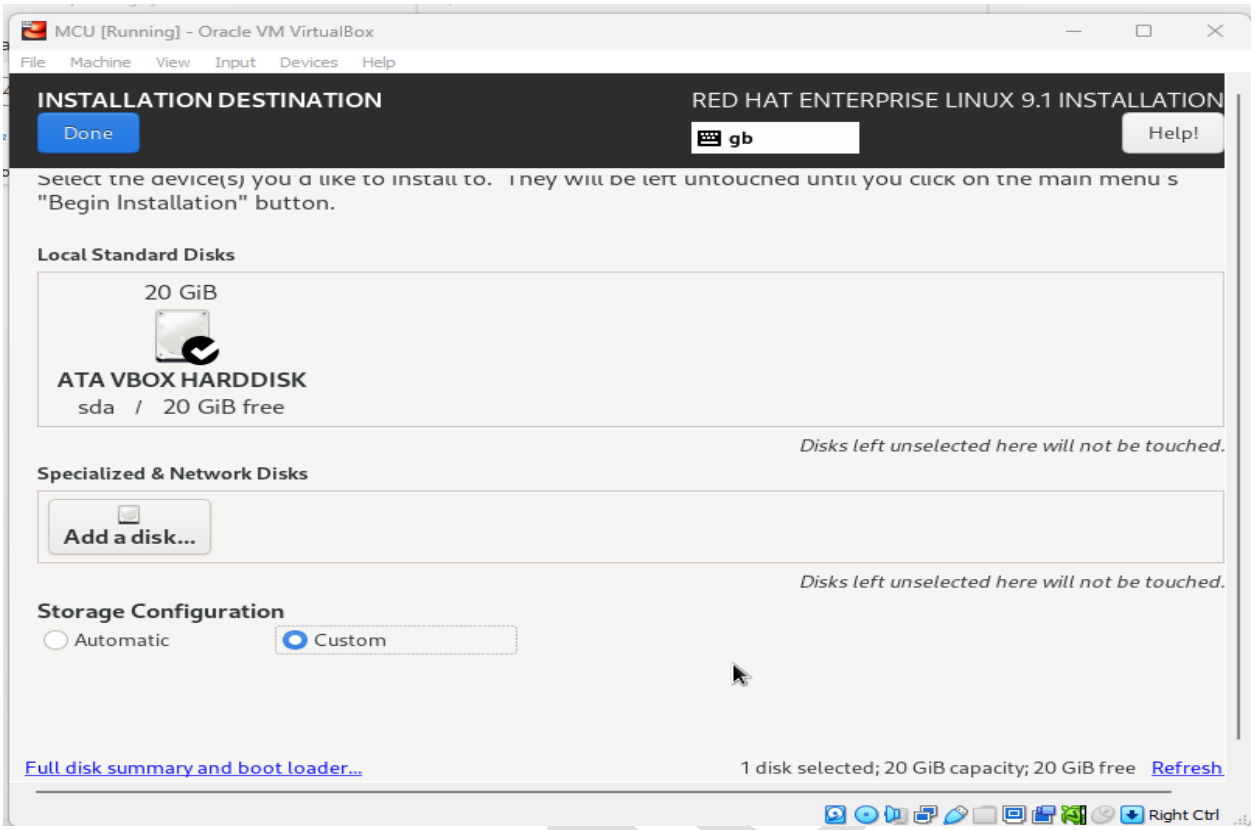


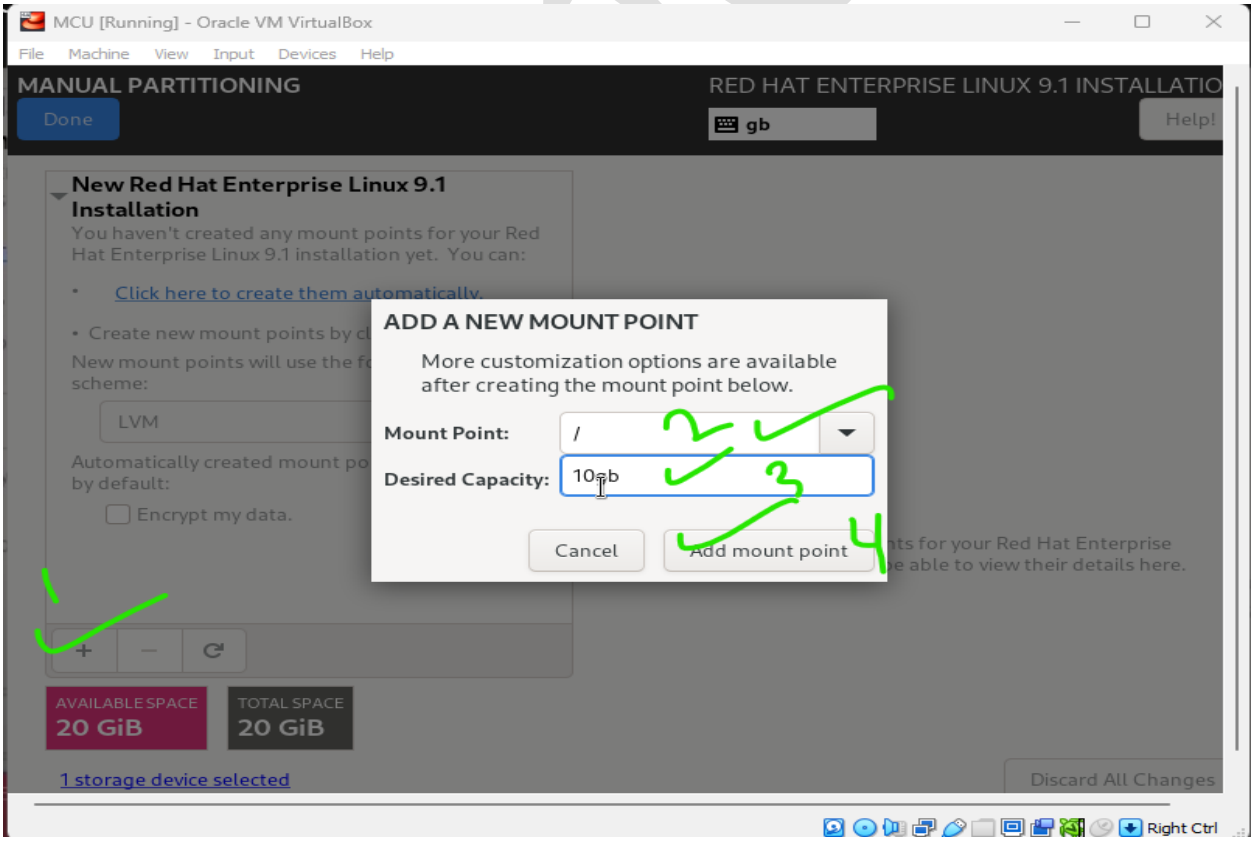
Step 6.4 : Installation Destination will be customs so that we can create our custom directory. Then click on “Done”.

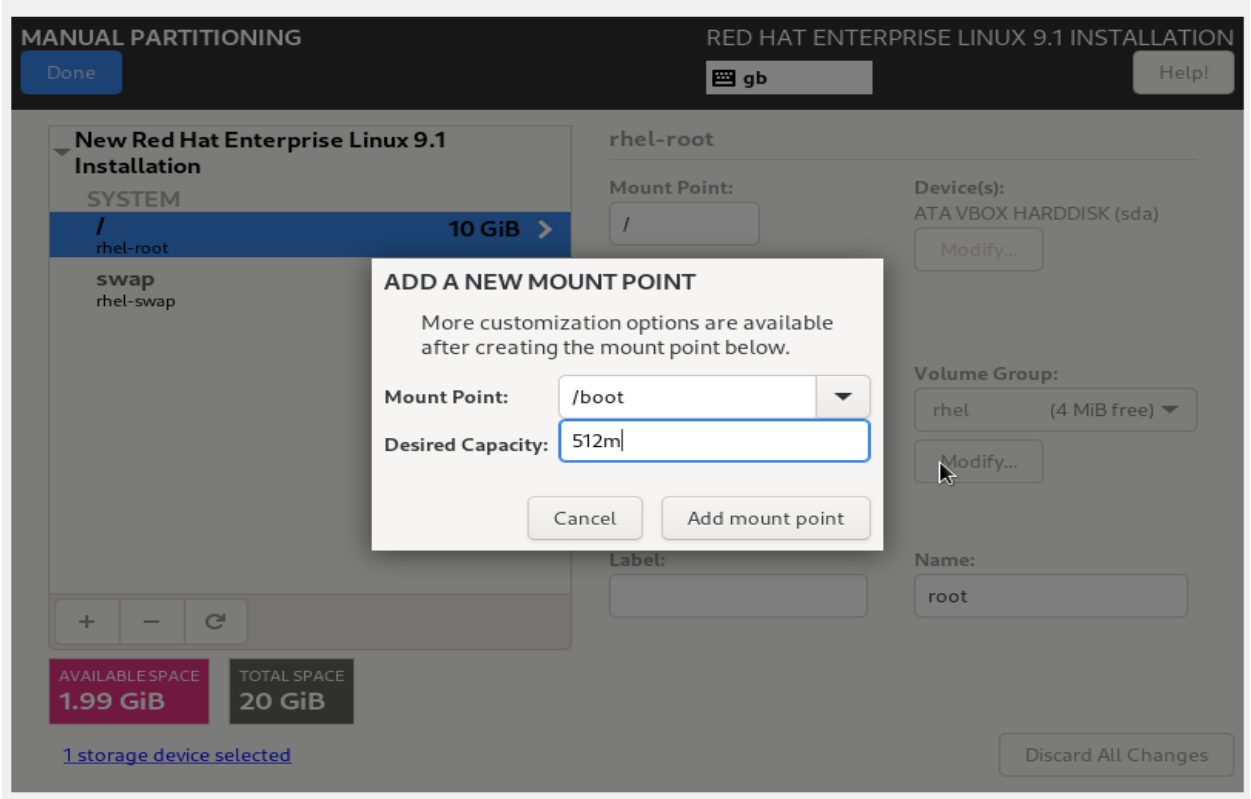
[/= root directory minimum 10GB;

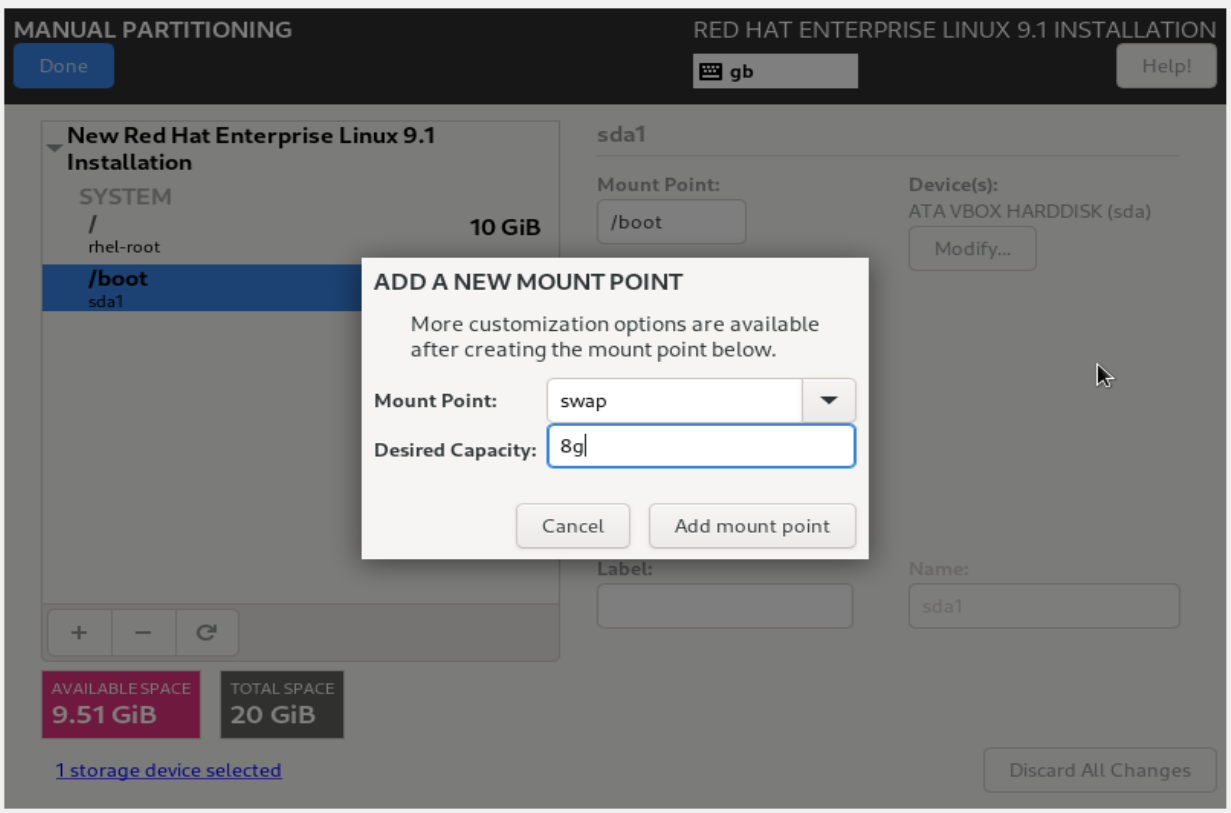
/boot=500mb;

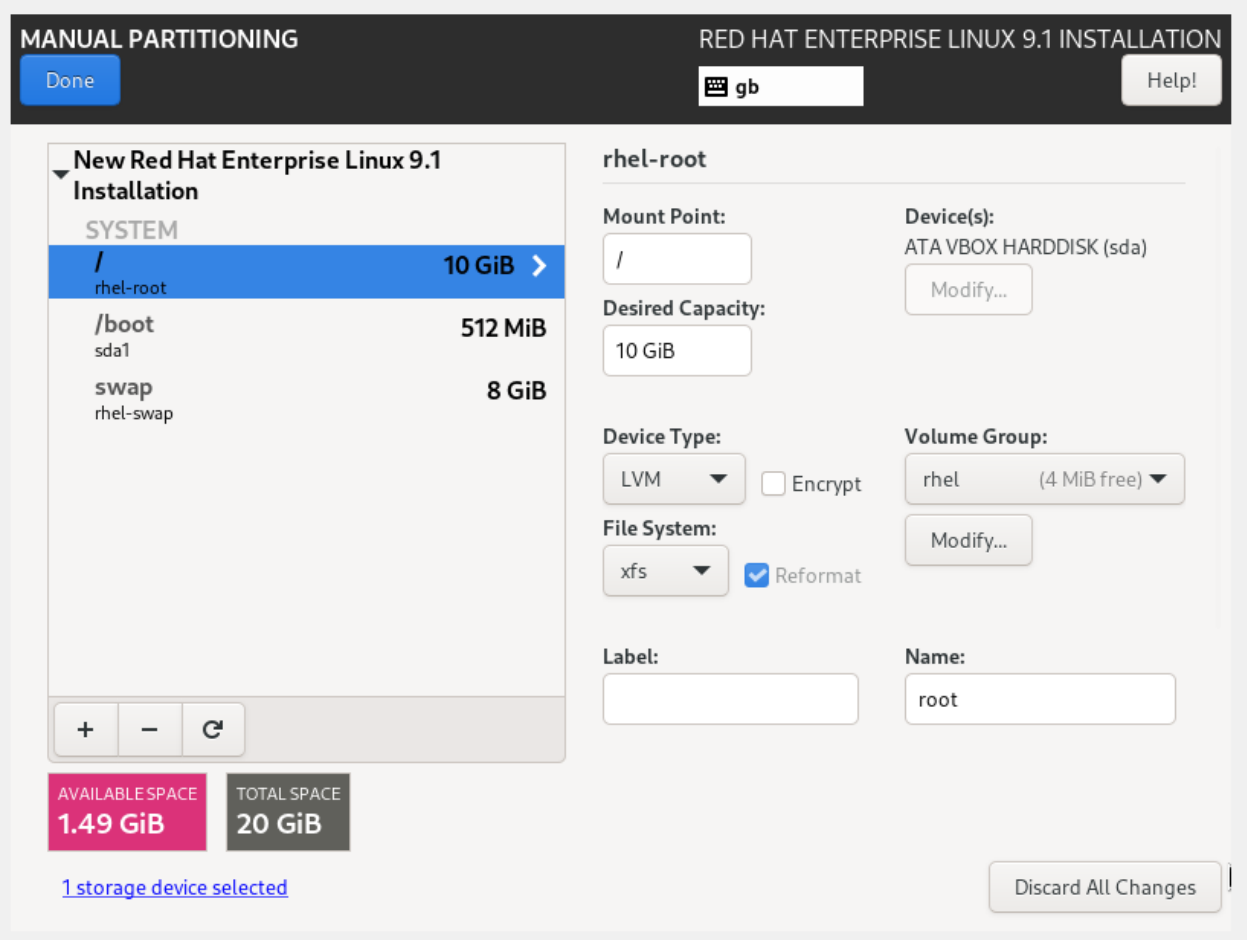
/swap=double of your RAM]

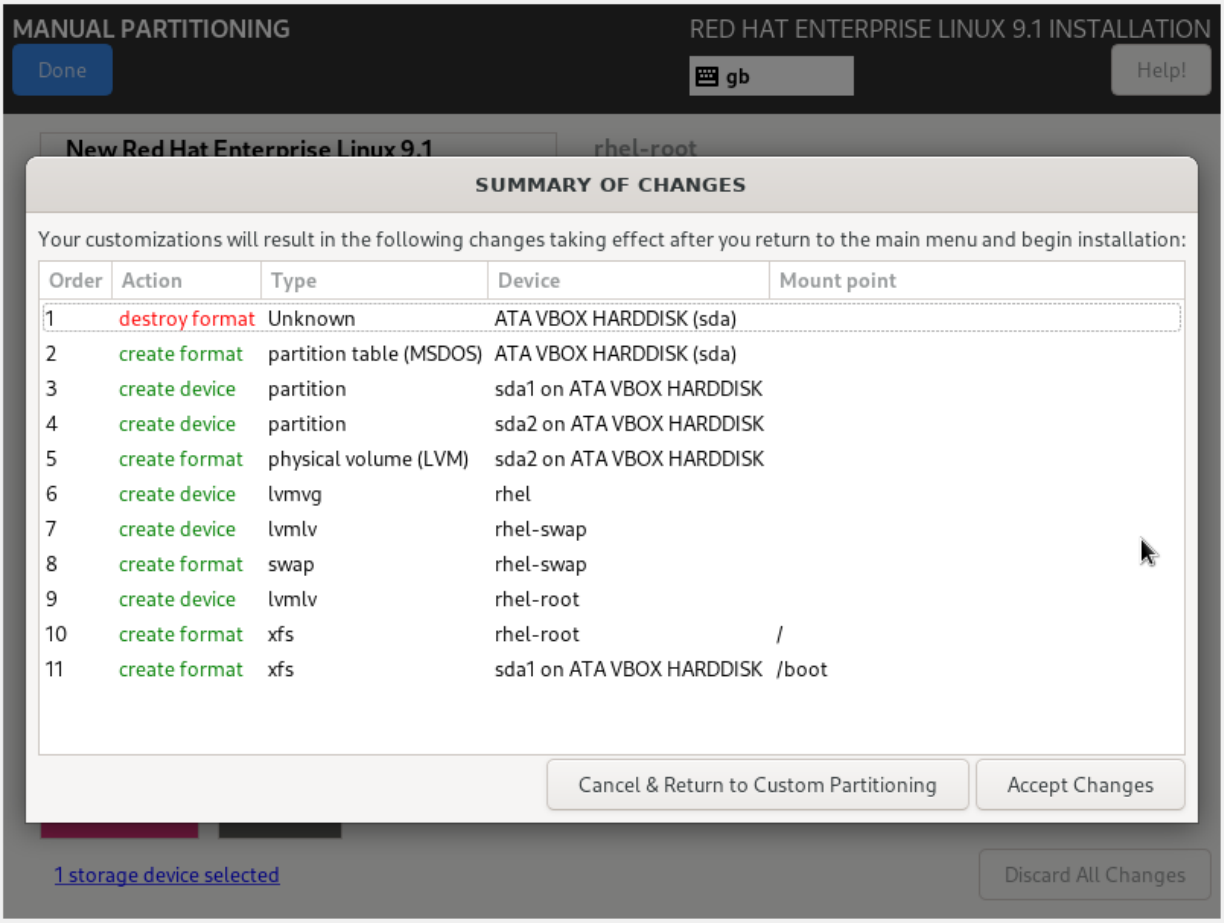

MCU [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
INSTALLATION DESTINATION
Done
RED HAT ENTERPRISE LINUX 9.1 INSTALLATION
gb
Help!
Select the device(s) you'd like to install to. They will be left untouched until you click on the main menu's "Begin Installation" button.
Local Standard Disks
20 GiB
ATA VBOX HARDDISK
sda / 20 GiB free
Disks left unselected here will not be touched.
Specialized & Network Disks
Add a disk...
Disks left unselected here will not be touched.
Storage Configuration
Automatic
Custom
Full disk summary and boot loader...
1 disk selected; 20 GiB capacity; 20 GiB free
Refresh
Right Ctrl


MCU [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
MANUAL PARTITIONING
Done
RED HAT ENTERPRISE LINUX 9.1 INSTALLATIO
gb
Help!
New Red Hat Enterprise Linux 9.1 Installation
You haven't created any mount points for your Red Hat Enterprise Linux 9.1 installation yet. You can:
Click here to create them automatically.
Create new mount points by cl
New mount points will use the fo scheme:
LVM
Automatically created mount po by default:
Encrypt my data.
ADD A NEW MOUNT POINT
More customization options are available after creating the mount point below.
Mount Point: /
Desired Capacity: 10gb
Cancel
Add mount point
ts for your Red Hat Enterprise
e able to view their details here.
AVAILABLE SPACE
20 GiB
TOTAL SPACE
20 GiB
1 storage device selected
Discard All Changes
Right Ctrl

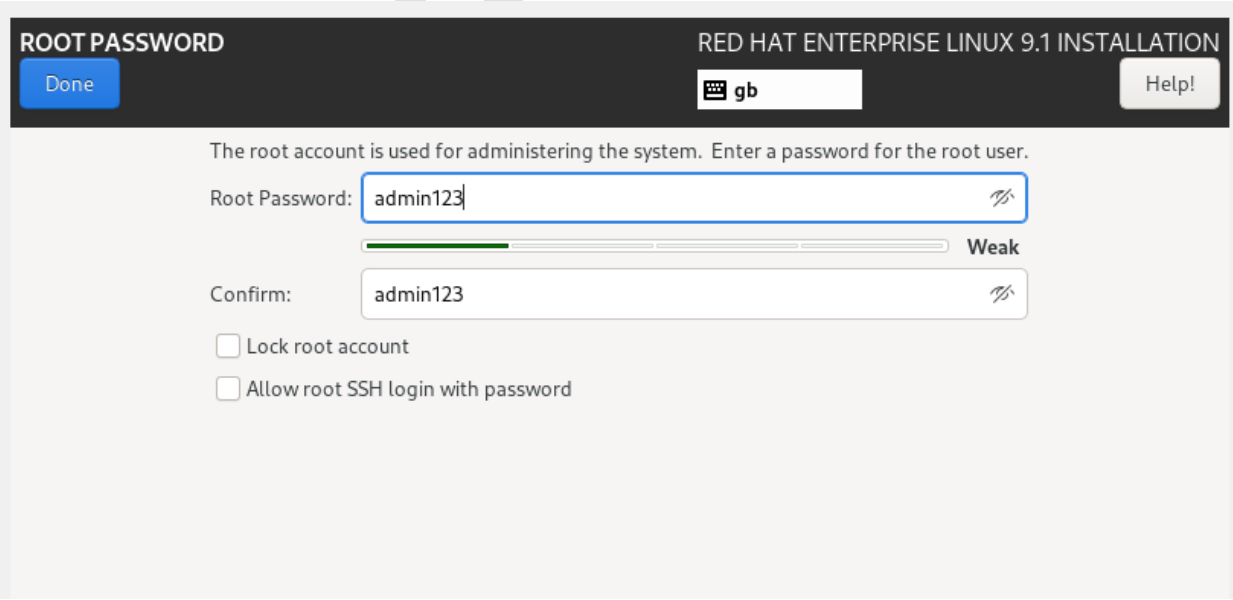

MANUAL PARTITIONING
Done
RED HAT ENTERPRISE LINUX 9.1 INSTALLATION
gb
Help!
New Red Hat Enterprise Linux 9.1 Installation
SYSTEM
/
rhel-root
10 GiB
swap
rhel-swap
rhel-root
Mount Point:
/
Device(s):
ATA VBOX HARDDISK (sda)
Modify...
ADD A NEW MOUNT POINT
More customization options are available after creating the mount point below.
Mount Point:
/boot
Desired Capacity:
512m
Cancel
Add mount point
Volume Group:
rhel
(4 MiB free)
Modify...
Label:
Name:
root
AVAILABLE SPACE
1.99 GiB
TOTAL SPACE
20 GiB
1 storage device selected
Discard All Changes

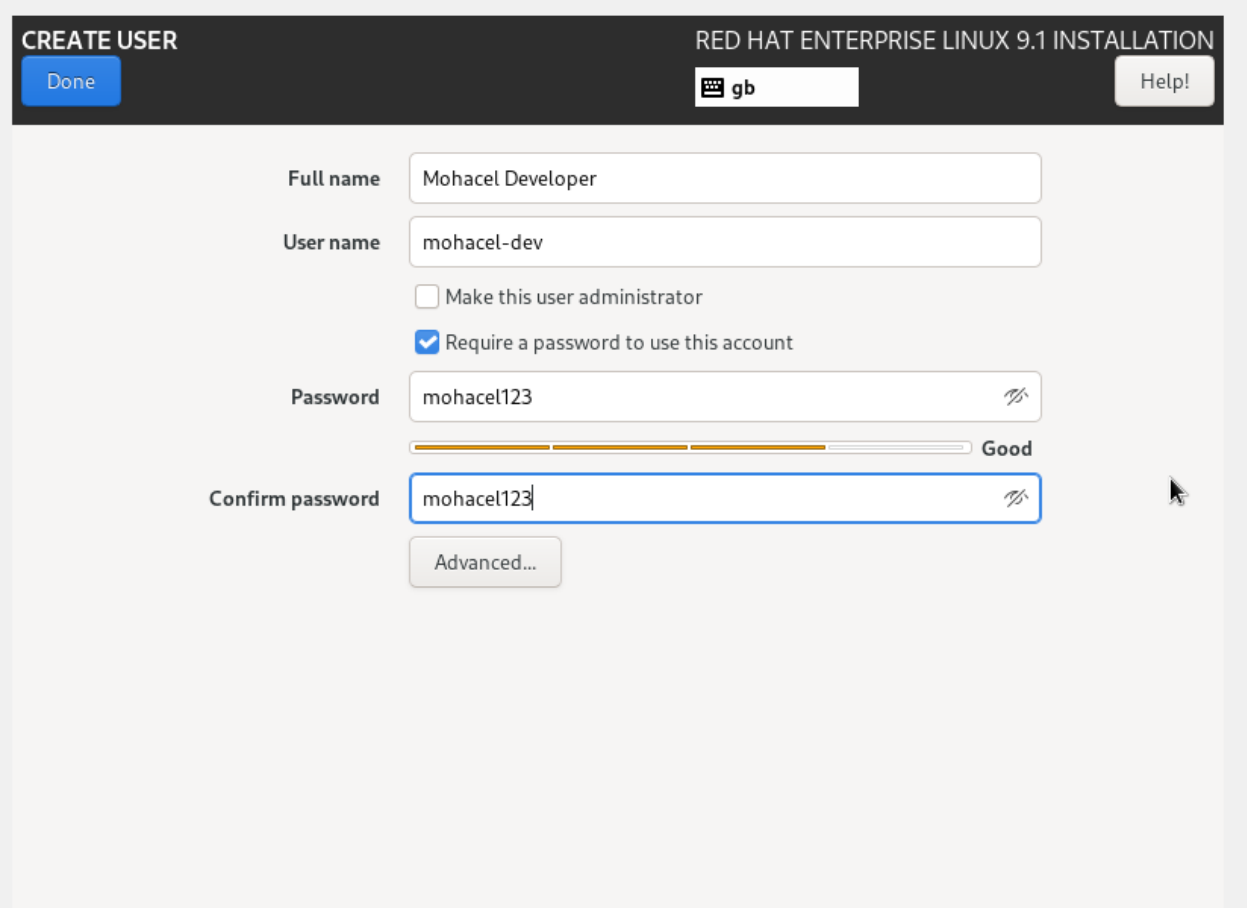

MANUAL PARTITIONING
Done
RED HAT ENTERPRISE LINUX 9.1 INSTALLATION
gb
Help!
New Red Hat Enterprise Linux 9.1 Installation
SYSTEM
/
rhel-root
10 GiB
/boot
sda1
sda1
Mount Point:
/boot
Device(s):
ATA VBOX HARDDISK (sda)
Modify...
ADD A NEW MOUNT POINT
More customization options are available after creating the mount point below.
Mount Point:
swap
Desired Capacity:
8g
Cancel
Add mount point
Label:
Name:
sda1
AVAILABLE SPACE
9.51 GiB
TOTAL SPACE
20 GiB
1 storage device selected
Discard All Changes

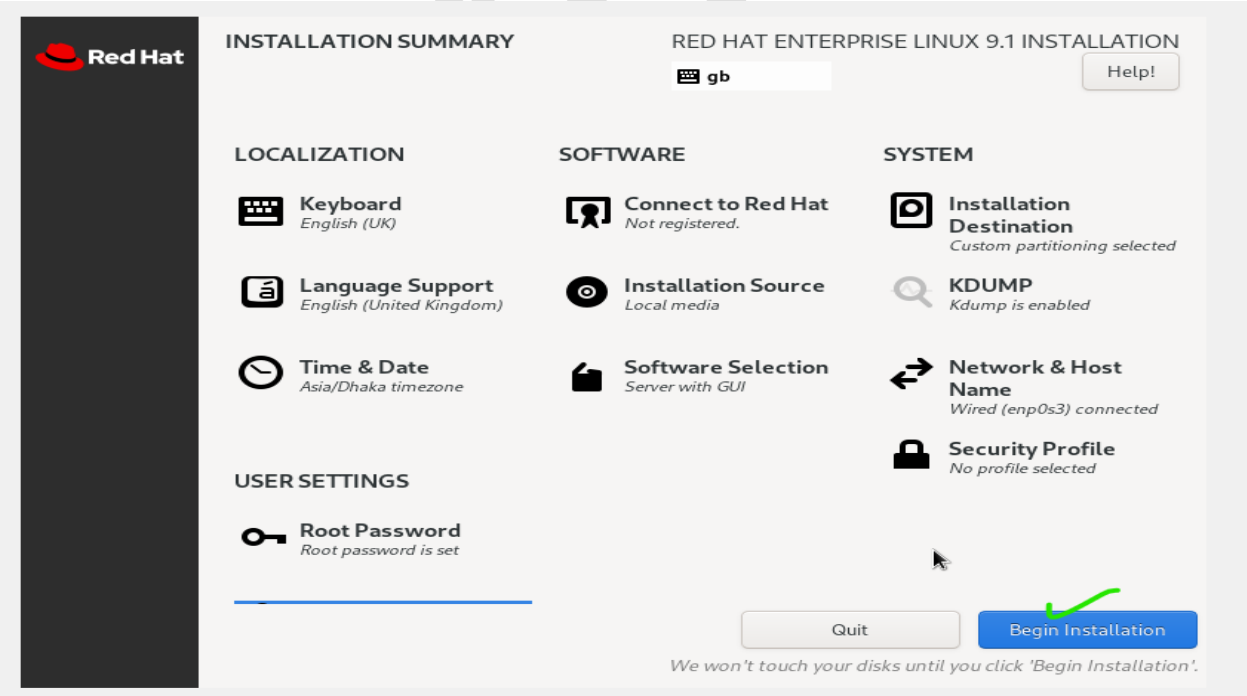

MANUAL PARTITIONING
Done
RED HAT ENTERPRISE LINUX 9.1 INSTALLATION
gb
Help!
New Red Hat Enterprise Linux 9.1 Installation
SYSTEM
/
rhel-root
10 GiB
/boot
sda1
512 MiB
swap
rhel-swap
8 GiB
AVAILABLE SPACE
1.49 GiB
TOTAL SPACE
20 GiB
1 storage device selected
rhel-root
Mount Point:
/
Desired Capacity:
10 GiB
Device(s):
ATA VBOX HARDDISK (sda)
Modify...
Device Type:
LVM
Encrypt
File System:
xfs
Reformat
Volume Group:
rhel
(4 MiB free)
Modify...
Label:
Name:
root
Discard All Changes



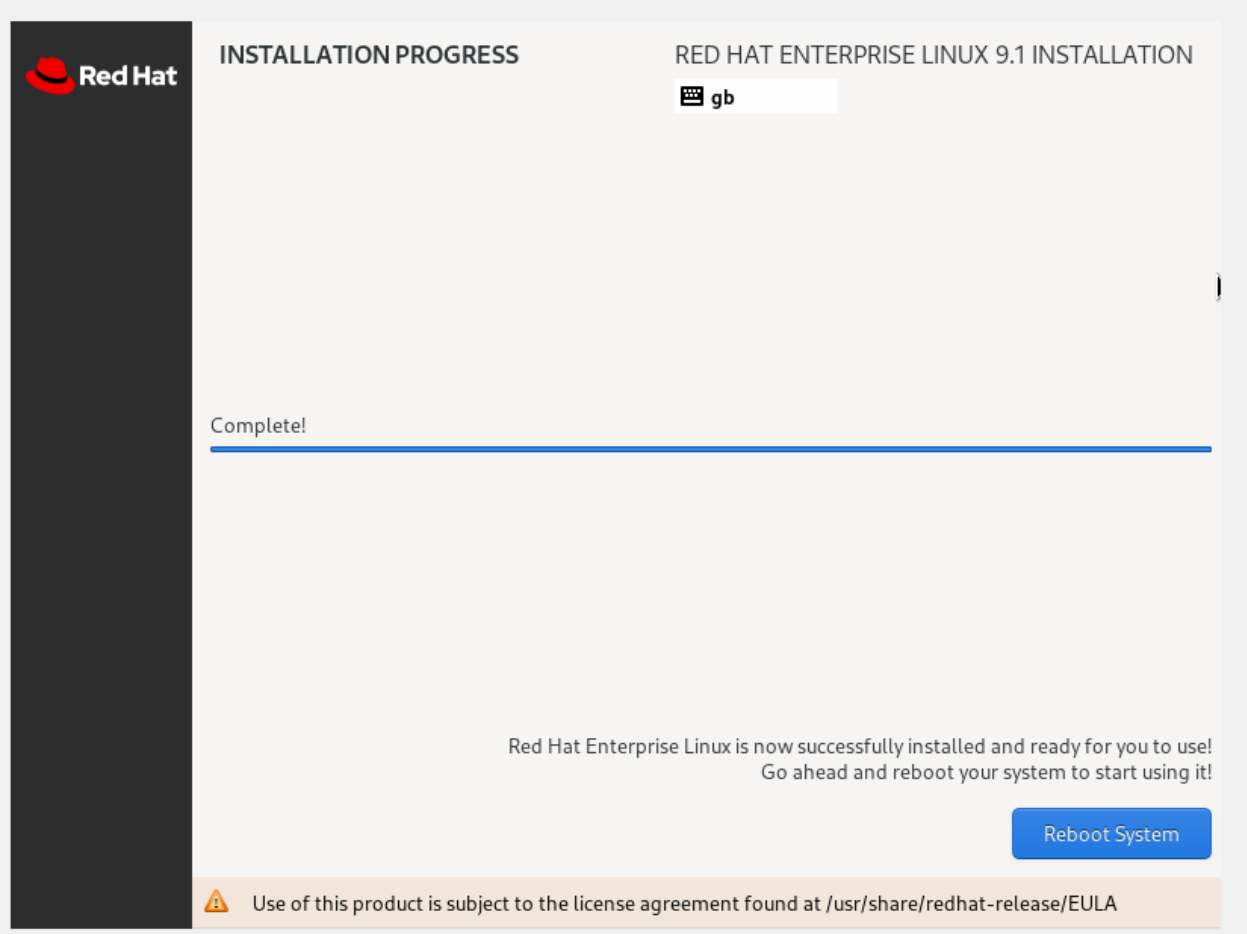
[KDUMP = Kernal Dump(in this log file tell us why kernel crash)]

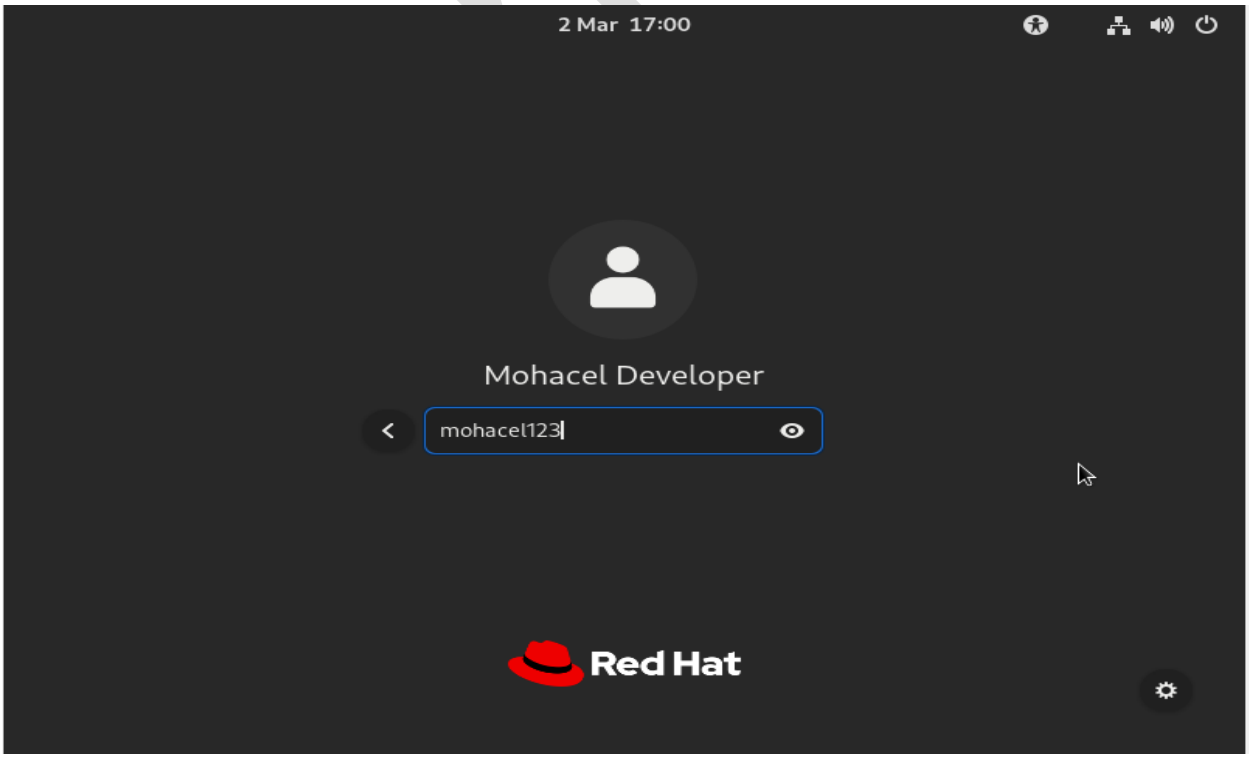


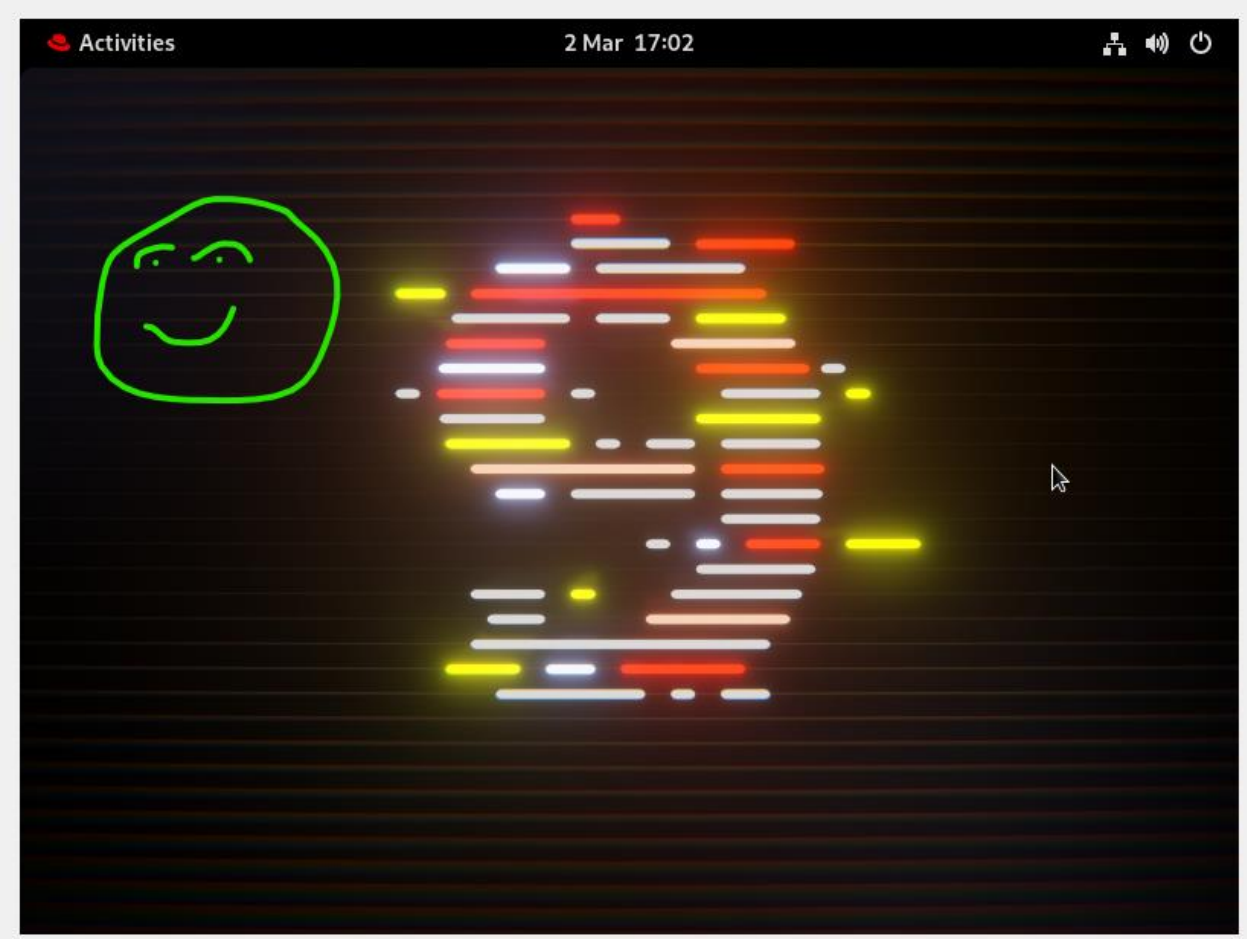


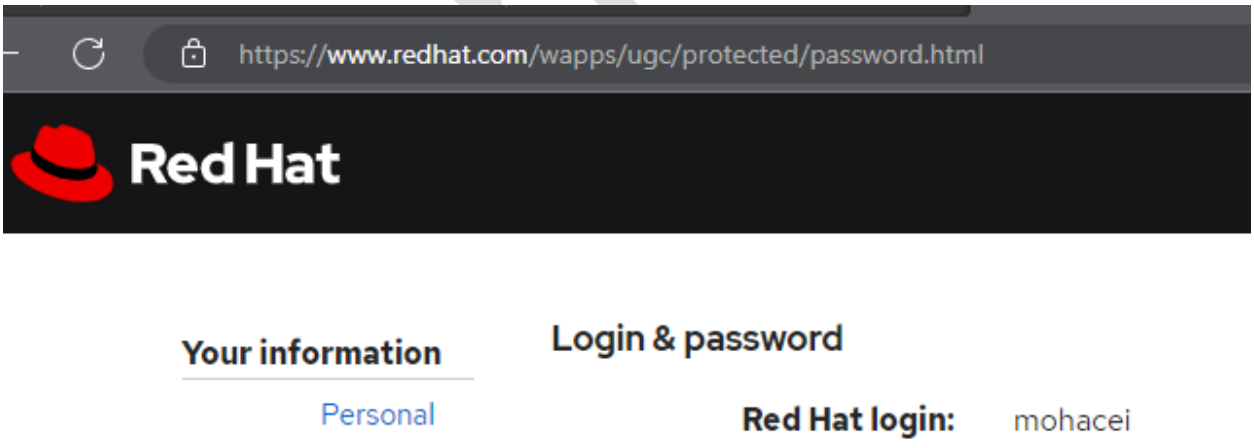


After a sometimes it will ask reboot , click on reboot.


Red Hat
INSTALLATION PROGRESS
RED HAT ENTERPRISE LINUX 9.1 INSTALLATION
gb
Complete!
Red Hat Enterprise Linux is now successfully installed and ready for you to use!
Go ahead and reboot your system to start using it!
Reboot System
Use of this product is subject to the license agreement found at /usr/share/redhat-release/EULA

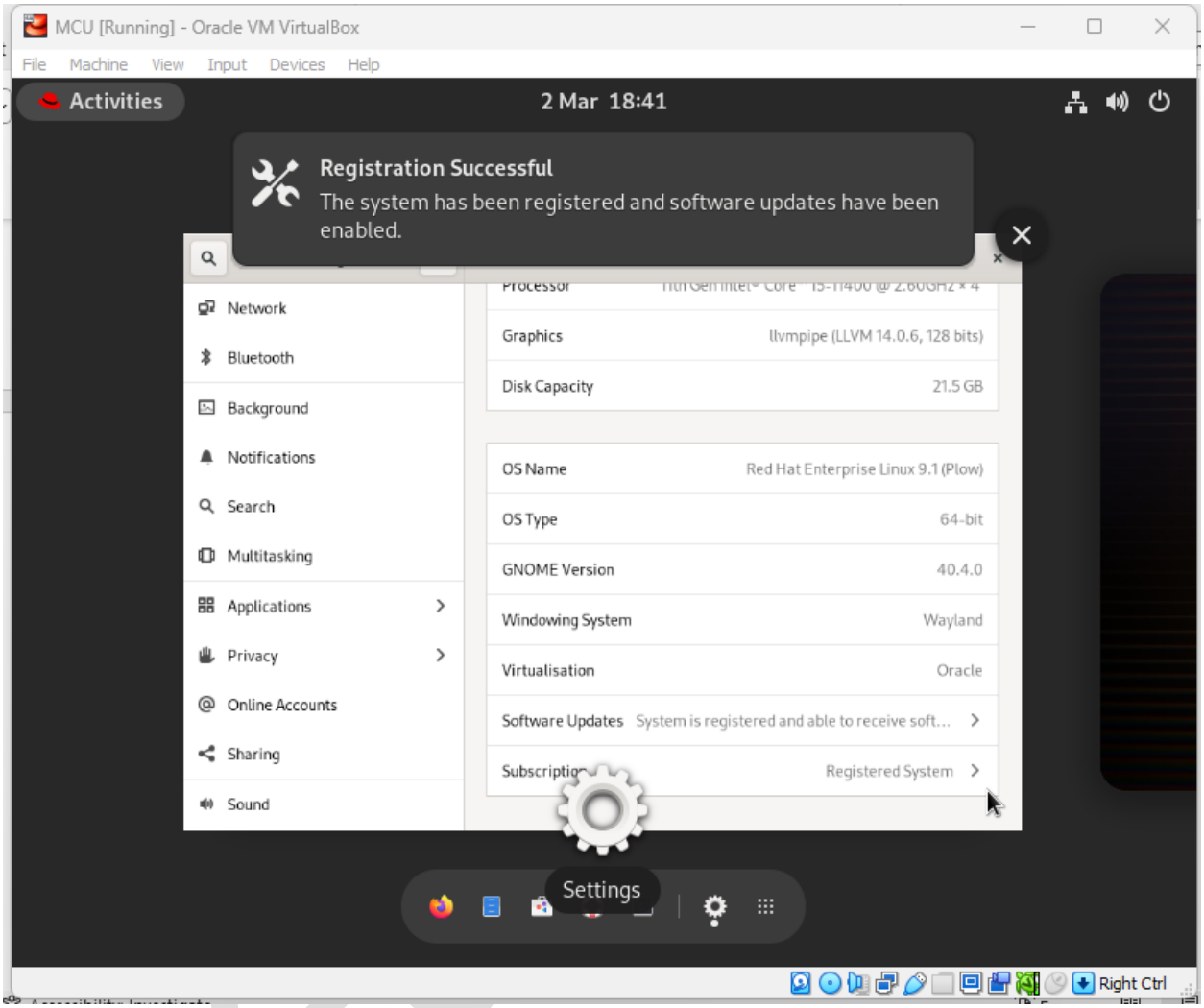

2 Mar 17:00
Mohacel Developer
mohacel123
Red Hat

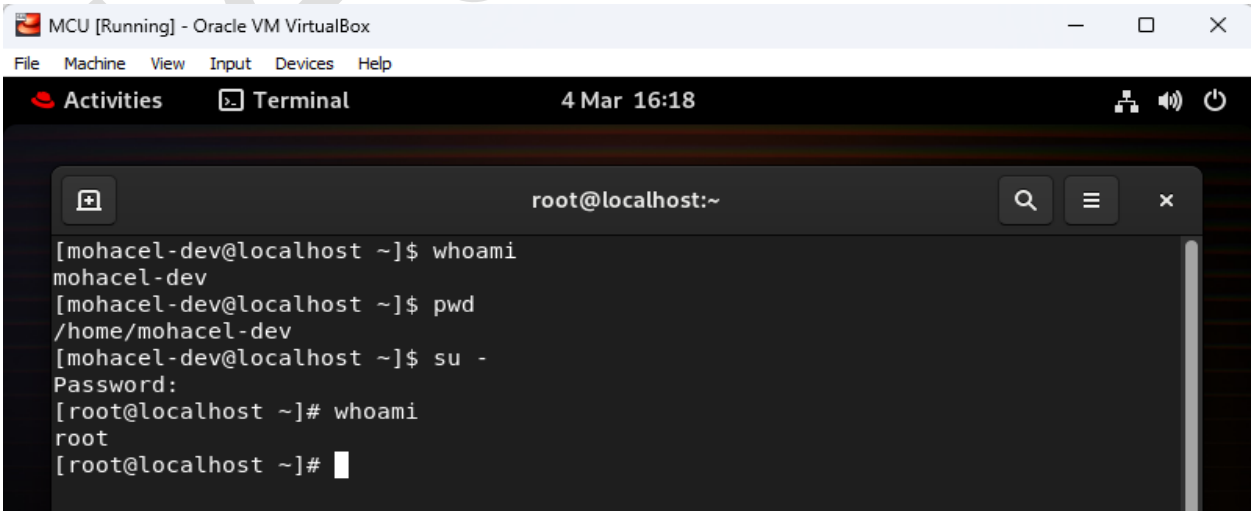


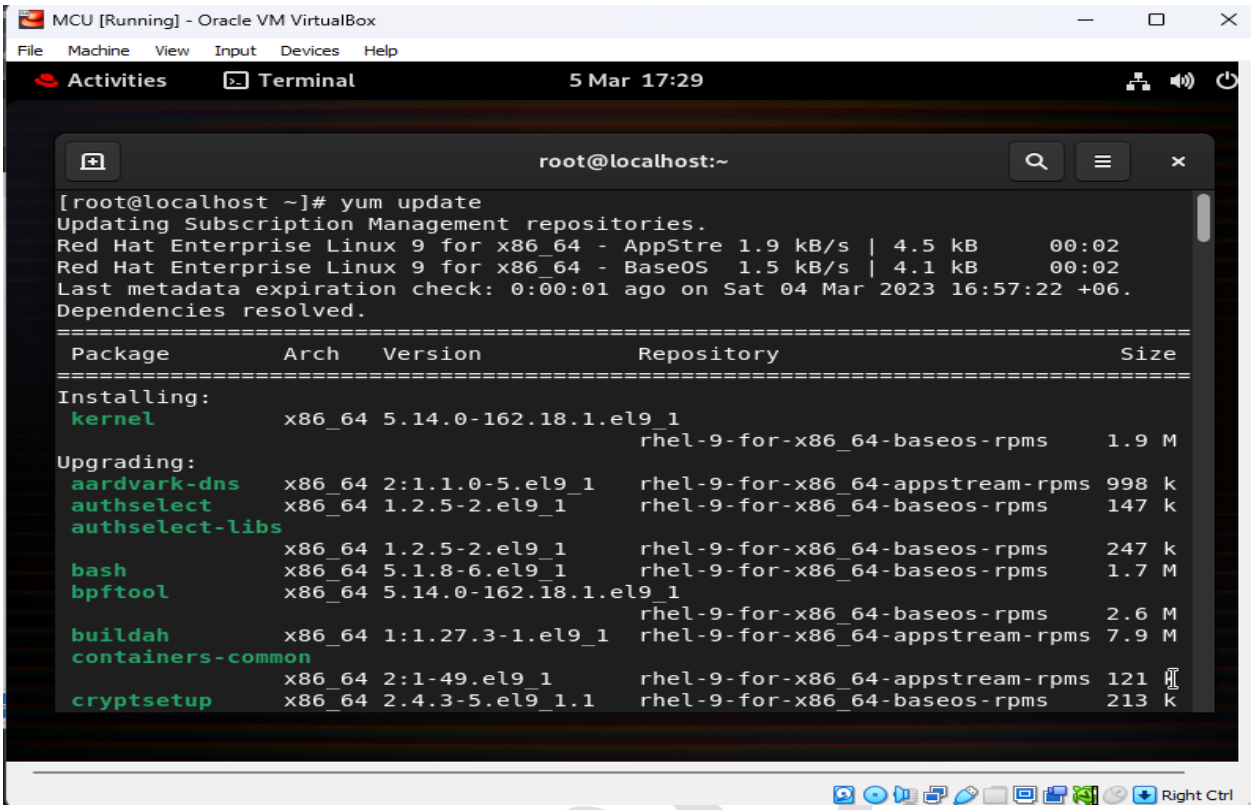


Go to setting then About and then Subscription “use your red hat developer account ”username & password” then click on register. It will ask you root password of Red hat Linux.

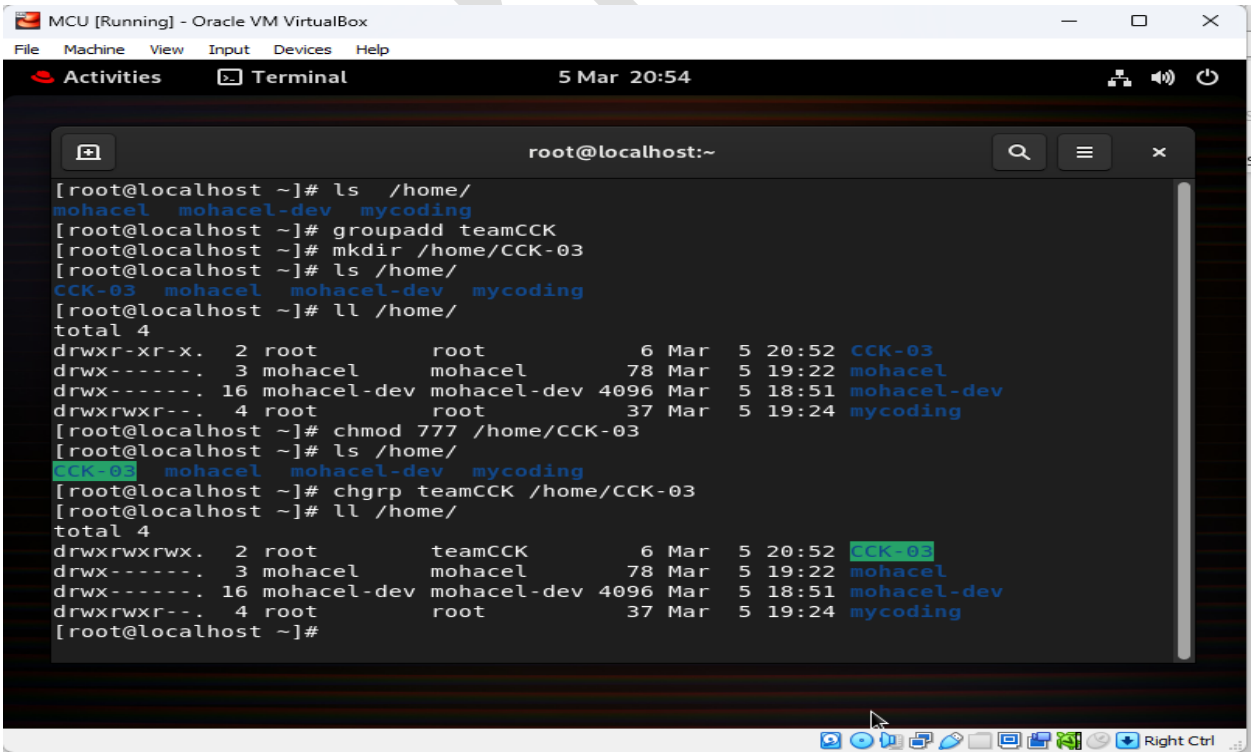
Root Password: admin123


MCU [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
2 Mar 18:41
Registration Successful
The system has been registered and software updates have been enabled.
Network
Bluetooth
Background
Notifications
Search
Multitasking
Applications
Privacy
Online Accounts
Sharing
Sound
Graphics
llvmpipe (LLVM 14.0.6, 128 bits)
Disk Capacity
21.5 GB
OS Name
Red Hat Enterprise Linux 9.1 (Plow)
OS Type
64-bit
GNOME Version
40.4.0
Windowing System
Wayland
Virtualisation
Oracle
Software Updates
System is registered and able to receive soft...
Registered System
Settings
Right Ctrl

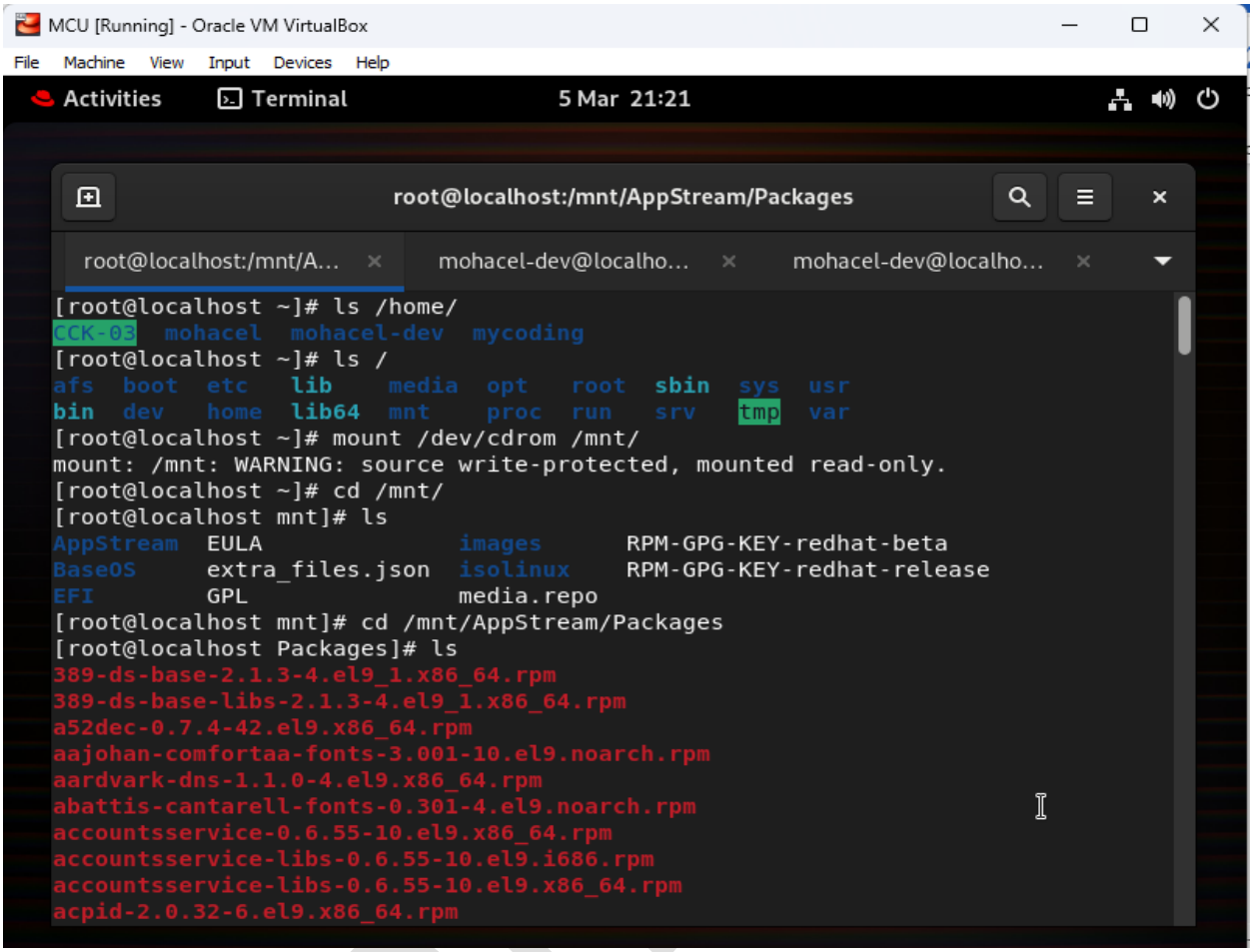

MCU [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Terminal
4 Mar 16:18
root@localhost:~
[mohacel-dev@localhost ~]$ whoami
mohacel-dev
[mohacel-dev@localhost ~]$ pwd
/home/mohacel-dev
[mohacel-dev@localhost ~]$ su -
Password:
[root@localhost ~]# whoami
root
[root@localhost ~]#



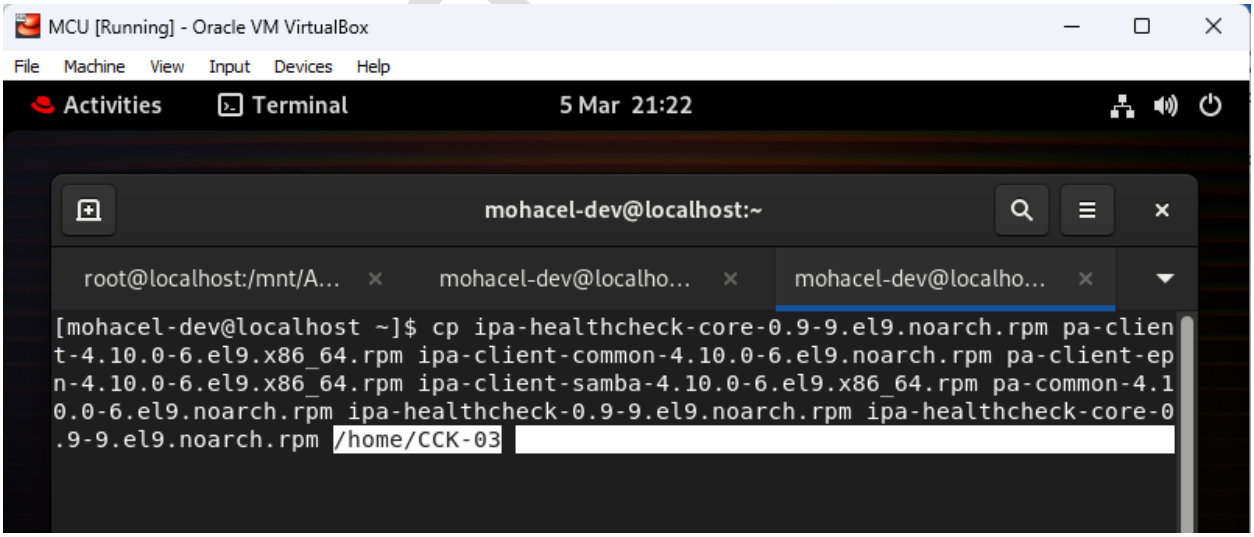
Step-1: Create a folder , give the permission for group & add the group.

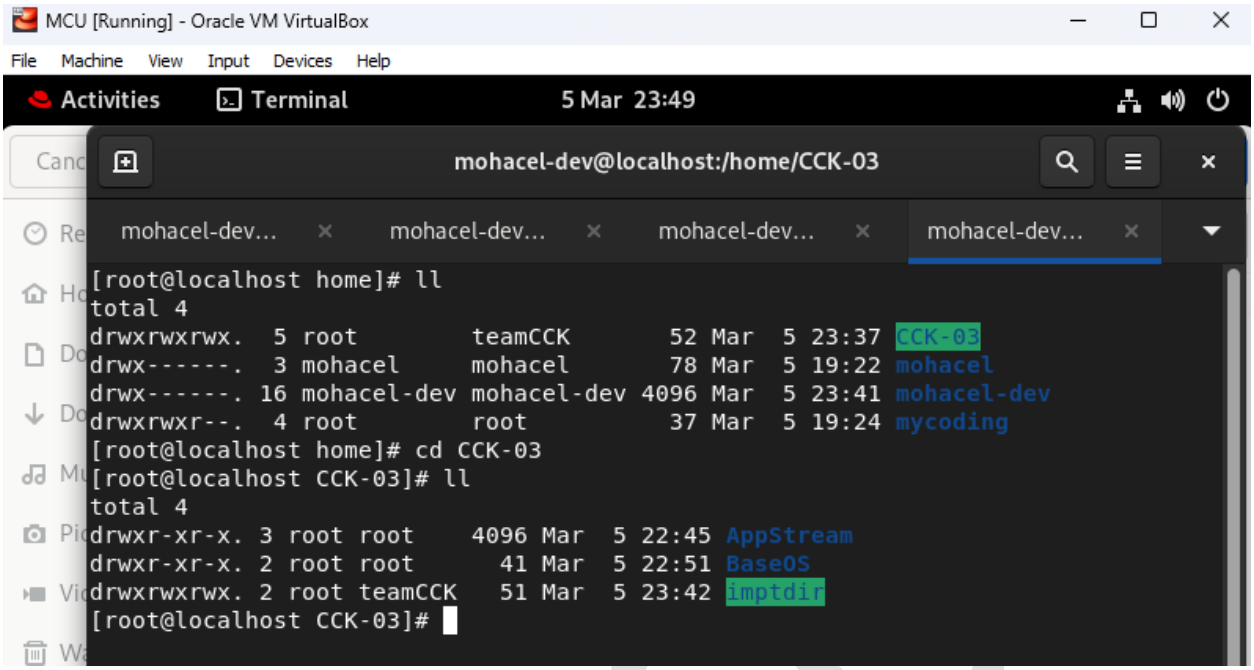


Step2: Add RHEL iso and mount it into /mnt/



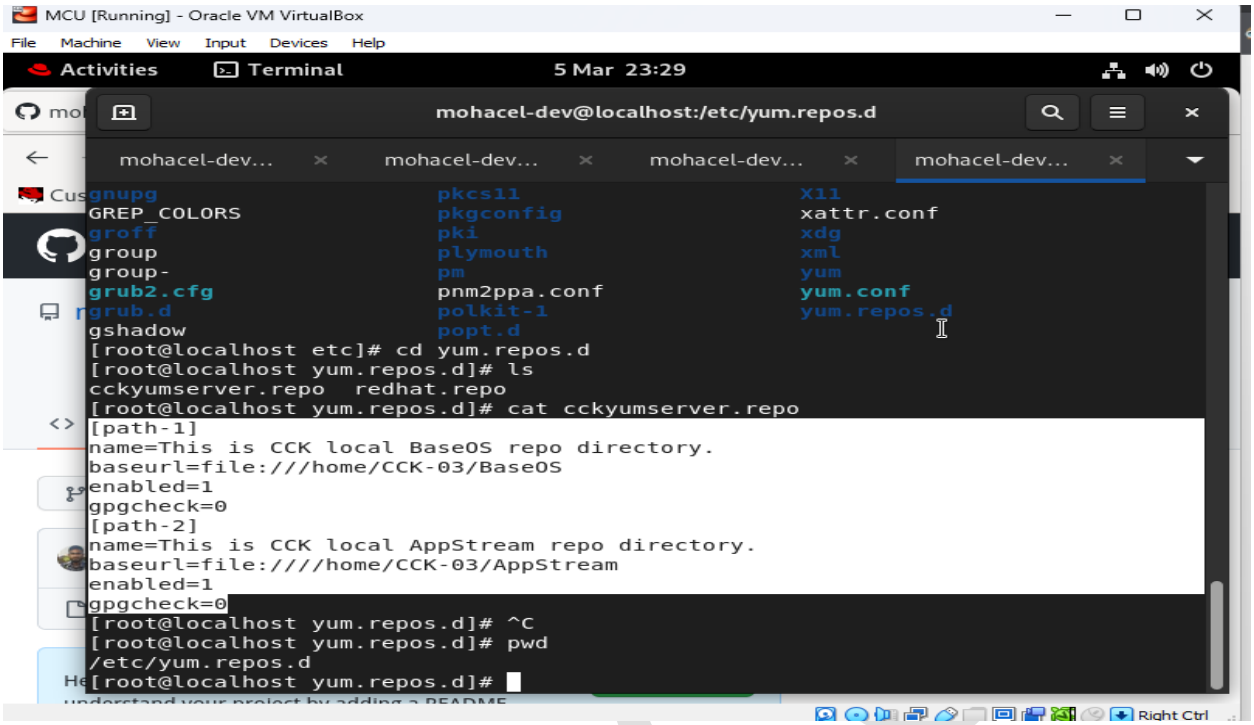
Step3: Copy AppStream and BaseOS to your created directory.

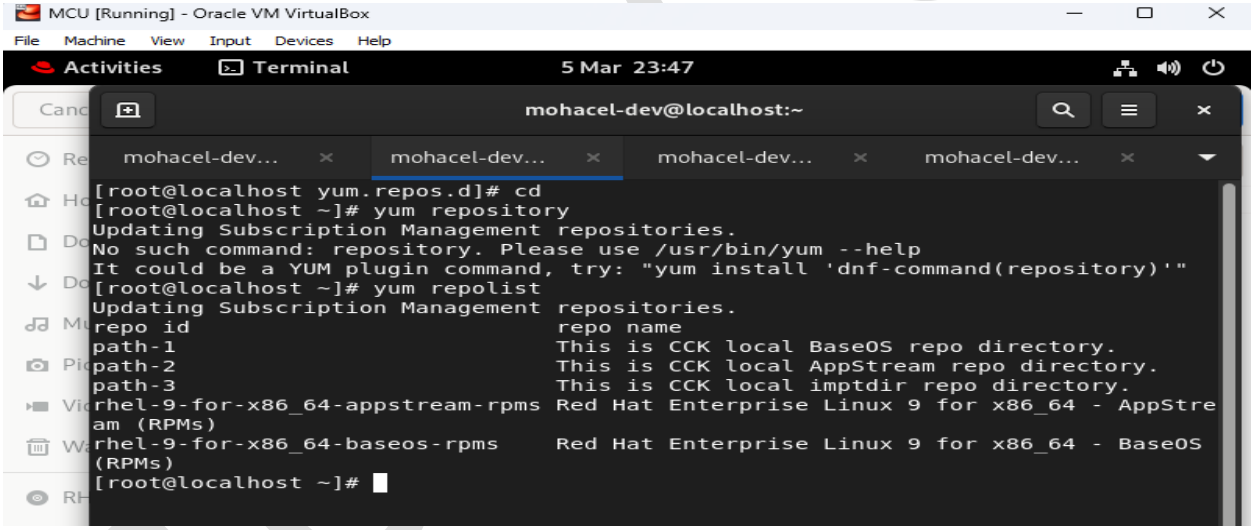


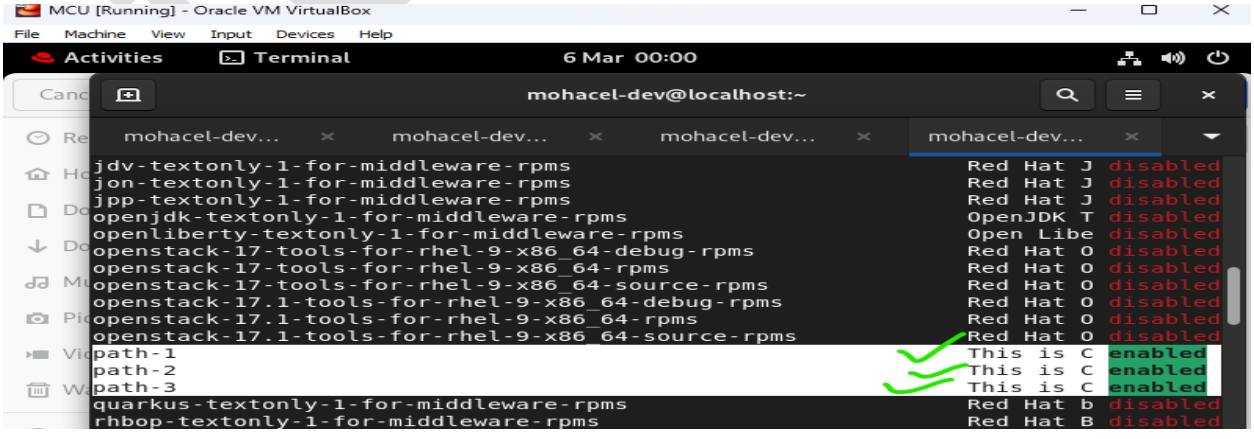


Step4: Create a repo file inside the /etc/yum.repos.d/ user_favorite_name.repo and chage the code according to base url

```
[path-1]
name=This is CCK local BaseOS repo directory.
baseurl=file:///home/CCK-03/BaseOS
enabled=1
gpgcheck=0
[path-2]
name=This is CCK local AppStream repo directory.
baseurl=file:////home/CCK-03/AppStream
enabled=1
gpgcheck=0
```

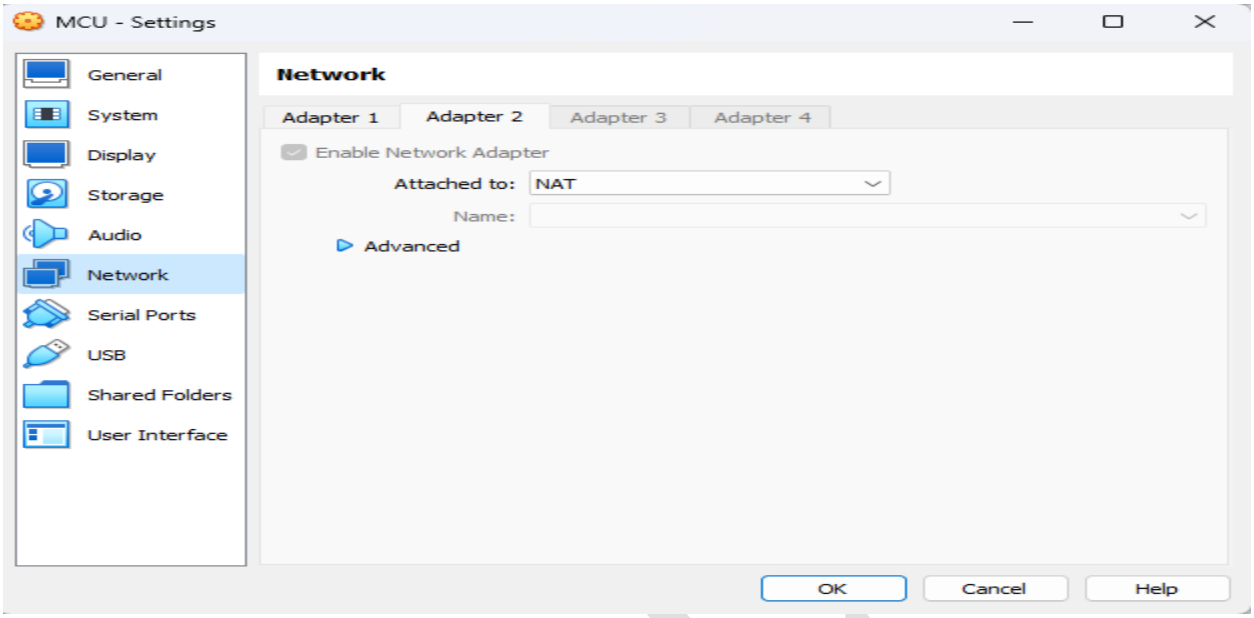

MCU [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal 5 Mar 23:29
mohacel-dev@localhost:/etc/yum.repos.d
mohacel-dev... mohacel-dev... mohacel-dev... mohacel-dev...
gnupg pkcs11 X11
GREP_COLORS pkgconfig xattr.conf
groff pki xdg
group plymouth xml
group- pm yum
grub2.cfg pnm2ppa.conf yum.conf
grub.d polkit-1 yum.repos.d
gshadow popt.d
[root@localhost etc]# cd yum.repos.d
[root@localhost yum.repos.d]# ls
cckyumserver.repo redhat.repo
[root@localhost yum.repos.d]# cat cckyumserver.repo
[path-1]
name=This is CCK local BaseOS repo directory.
baseurl=file:///home/CCK-03/BaseOS
enabled=1
gpgcheck=0
[path-2]
name=This is CCK local AppStream repo directory.
baseurl=file:////home/CCK-03/AppStream
enabled=1
gpgcheck=0
[root@localhost yum.repos.d]# ^C
[root@localhost yum.repos.d]# pwd
/etc/yum.repos.d
[root@localhost yum.repos.d]#
Right Ctrl


MCU [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal 5 Mar 23:47
mohacel-dev@localhost:~
mohacel-dev... mohacel-dev... mohacel-dev... mohacel-dev...
[root@localhost yum.repos.d]# cd
[root@localhost ~]# yum repository
Updating Subscription Management repositories.
No such command: repository. Please use /usr/bin/yum --help
It could be a YUM plugin command, try: "yum install 'dnf-command(repository)'"
[root@localhost ~]# yum repolist
Updating Subscription Management repositories.
repo id repo name
path-1 This is CCK local BaseOS repo directory.
path-2 This is CCK local AppStream repo directory.
path-3 This is CCK local imptdir repo directory.
rhel-9-for-x86_64-appstream-rpms Red Hat Enterprise Linux 9 for x86_64 - AppStream (RPMs)
rhel-9-for-x86_64-baseos-rpms Red Hat Enterprise Linux 9 for x86_64 - BaseOS (RPMs)
[root@localhost ~]#

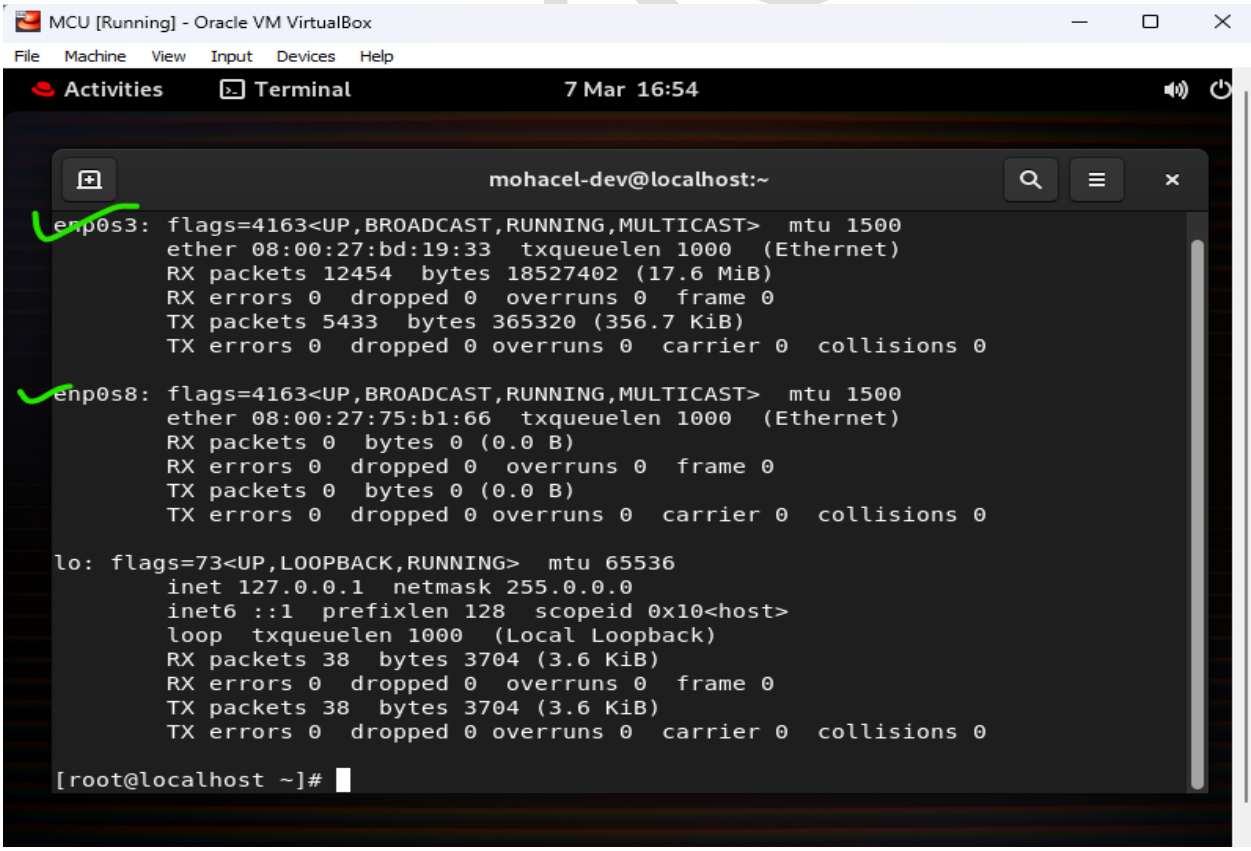

MCU [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal 6 Mar 00:00
mohacel-dev@localhost:~
mohacel-dev... mohacel-dev... mohacel-dev... mohacel-dev...
jdv-textonly-1-for-middleware-rpms Red Hat J disabled
jon-textonly-1-for-middleware-rpms Red Hat J disabled
jpp-textonly-1-for-middleware-rpms Red Hat J disabled
openjdk-textonly-1-for-middleware-rpms OpenJDK T disabled
openliberty-textonly-1-for-middleware-rpms Open Libe disabled
openstack-17-tools-for-rhel-9-x86_64-debug-rpms Red Hat O disabled
openstack-17-tools-for-rhel-9-x86_64-rpms Red Hat O disabled
openstack-17-tools-for-rhel-9-x86_64-source-rpms Red Hat O disabled
openstack-17.1-tools-for-rhel-9-x86_64-debug-rpms Red Hat O disabled
openstack-17.1-tools-for-rhel-9-x86_64-rpms Red Hat O disabled
openstack-17.1-tools-for-rhel-9-x86_64-source-rpms Red Hat O disabled
path-1 This is C enabled
path-2 This is C enabled
path-3 This is C enabled
quarkus-textonly-1-for-middleware-rpms Red Hat b disabled
rhbop-textonly-1-for-middleware-rpms Red Hat B disabled

NIC Teaming in Linux

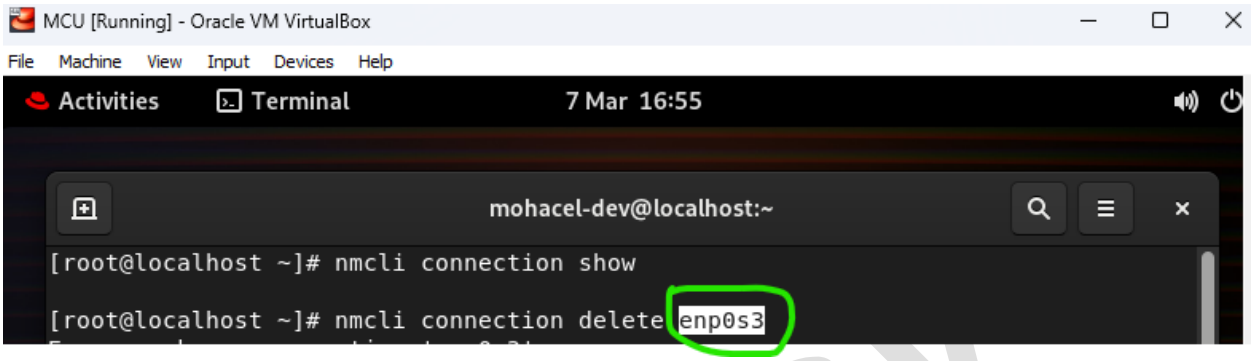
Step1: Active the network interface card



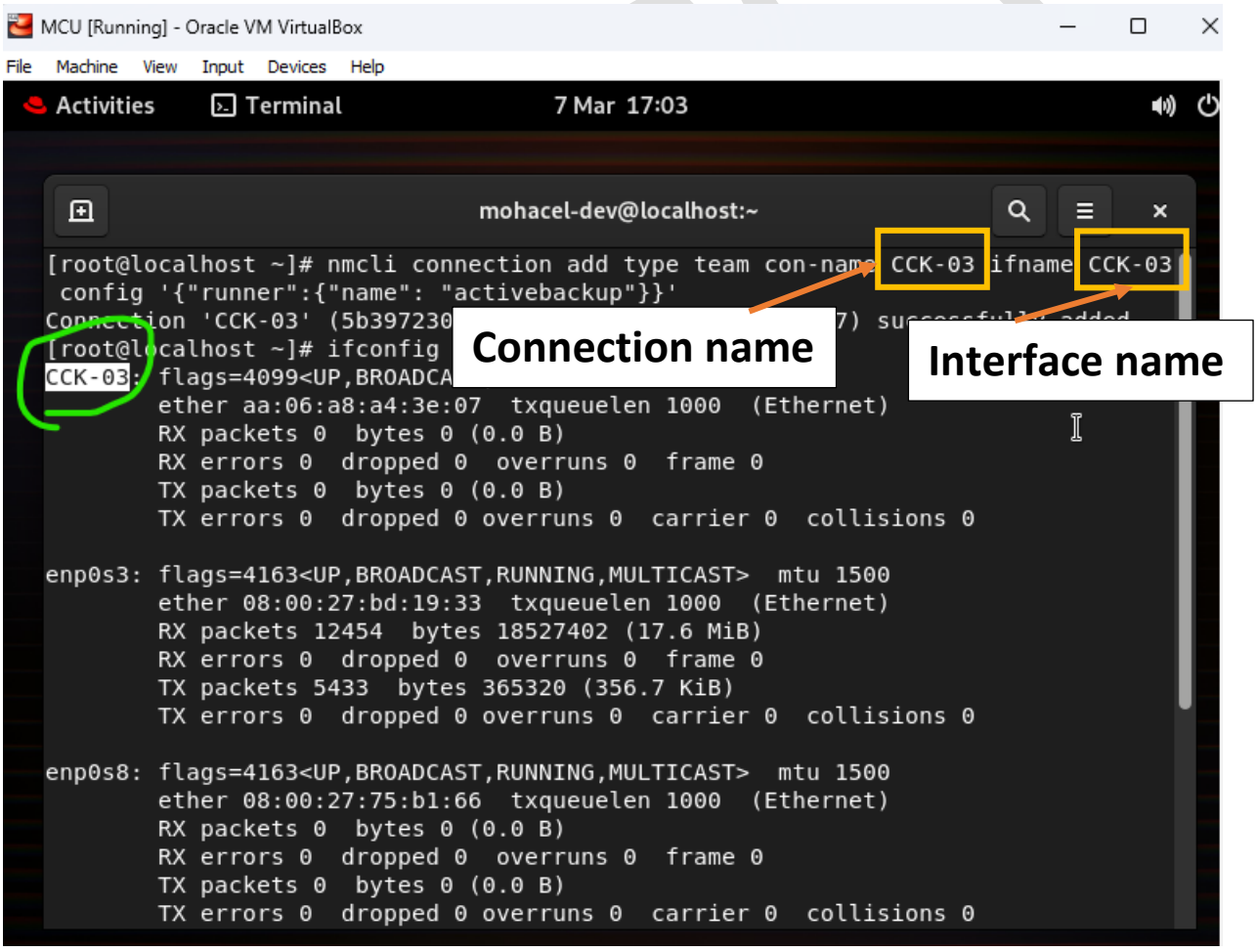
Step2: check the IP information "ifconfig"



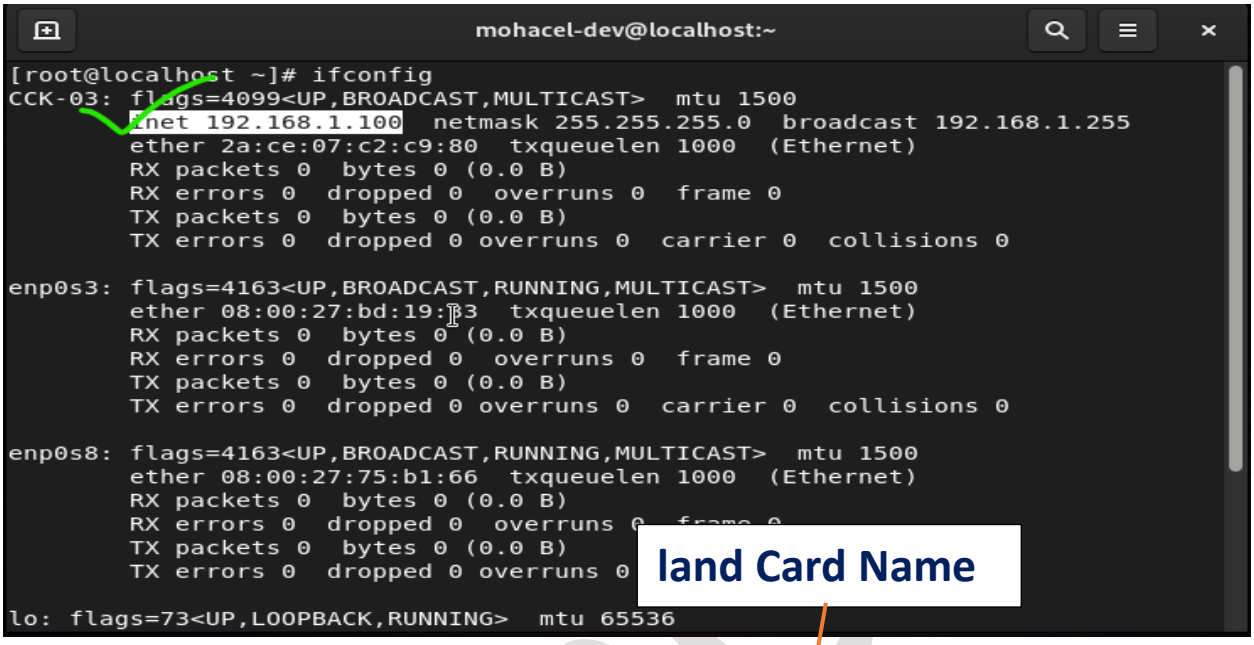
Step3: check the connection "nmcli connection show" . If there have any connection delete it.



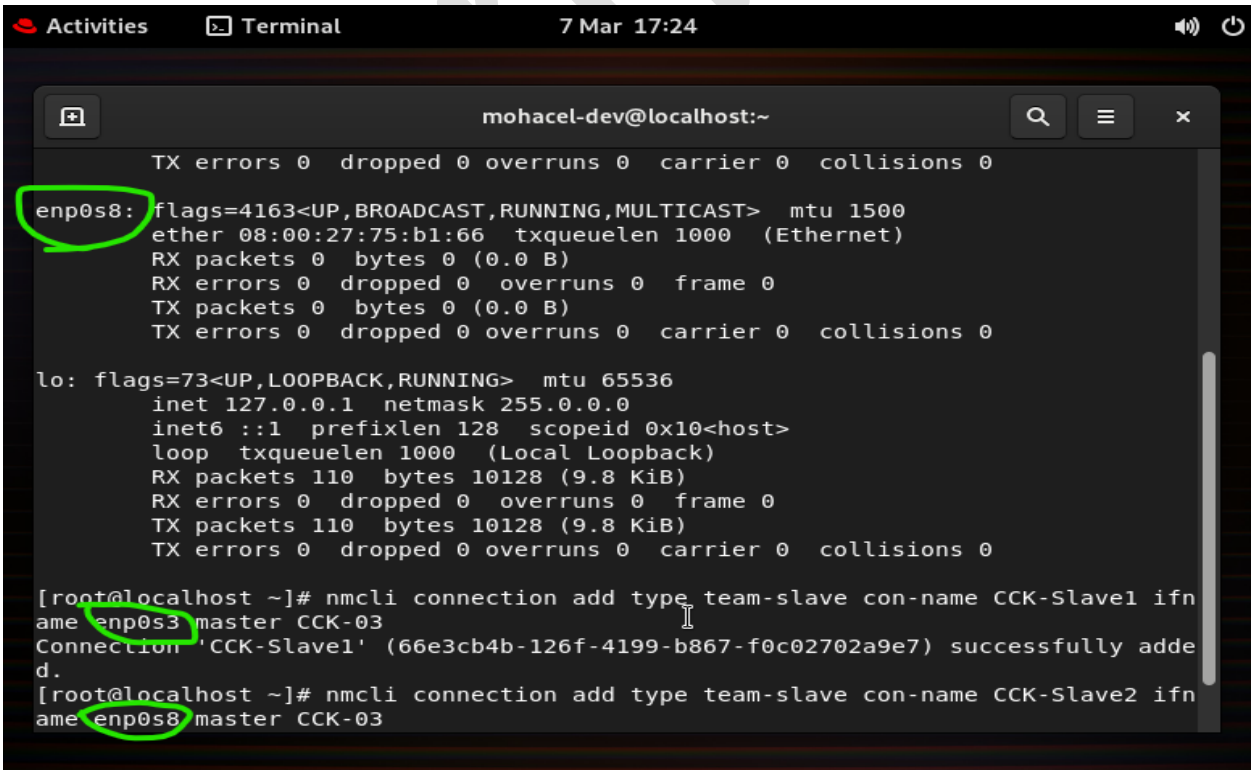
Step4: nmcli connection add type team con-name CCK-03 ifname CCK-03 config '{"runner": {"name": "activebackup"}}'



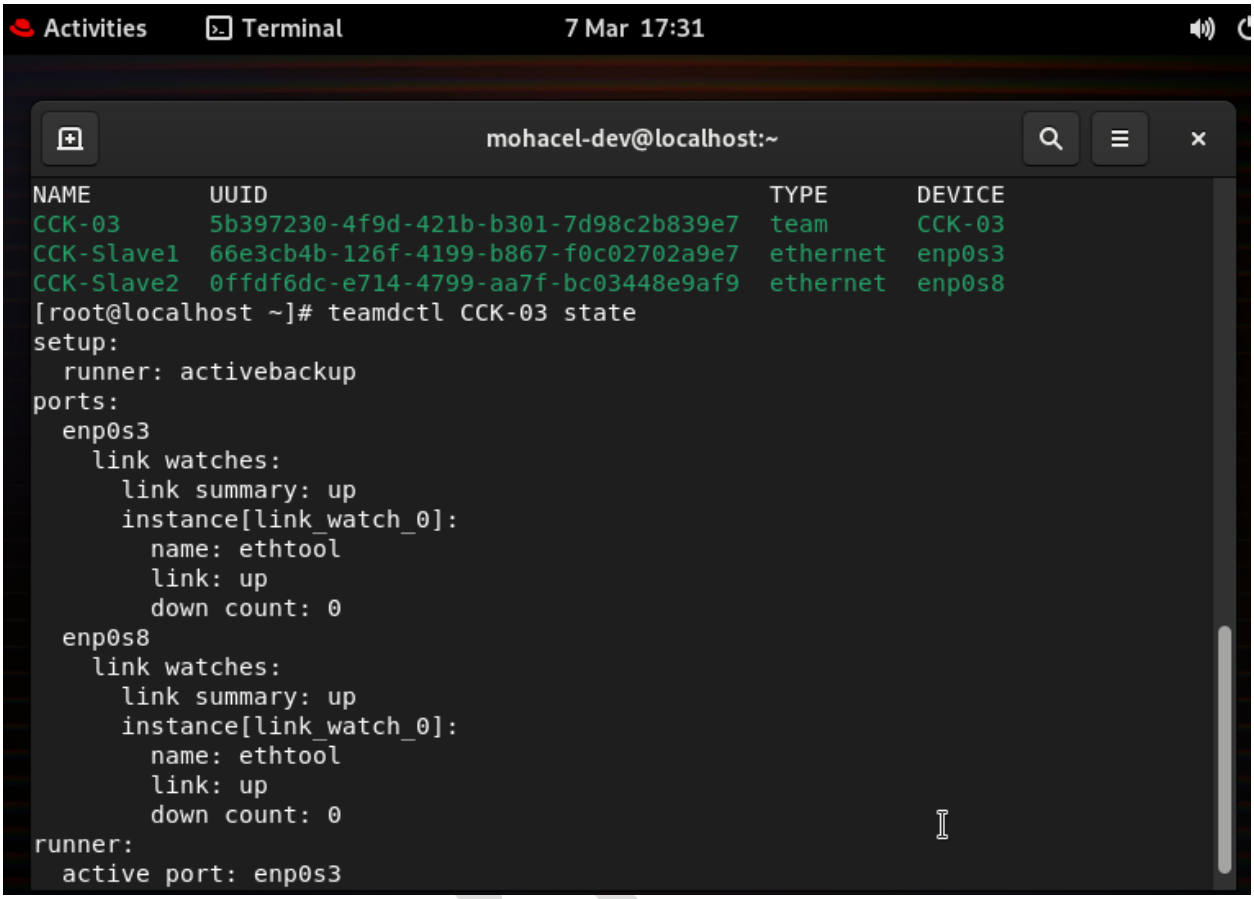
Step5: update an ip of your team "nmcli connection modify CCK-03 ipv4.addresses '192.168.1.100/24' ipv4.method manual" and restart the system.



Step5: add this cmd for master-slave connection "nmcli connection add type team-slave con-name cck-slave1 ifname enp0s3 master CCK-03"



Step6: check status "teamdctl connection_name state"



step1: Active the network interface card
step2: check the ip information "ifconfig"
step2.1: check the connection "nmcli connection show"
step3: delete existing connection "nmcli connection delete connection_name"
step3.1: check again the connection "nmcli connection show"
step4: nmcli connection add type team con-name CCK-03 ifname CCK-03 config '{"runner": {"name": "activebackup"}}'
step5: to check team "ifconfig"
step6: update an ip of your team "nmcli connection modify connection_name ipv4.addresses '192.168.1.100/24' ipv4.method manual
step7: "ifdown connection_name
step8:ifup connection_name
step9: check whether ip update or not
step10: nmcli connection add type team-slave con-name cck-slave1 ifname landCardName(enp0s3) master connection_name
step11: nmcli connection add type team-slave con-name cck-slave2 ifname landCardName(enp0s8) master connection_name
step12: check master-slave connection "nmcli connection show"
Final Step: check status "teamdctl connection_name state"