TEAM: CCK-03

Team Leader: Md. Mohacel Hosen (193071002)

Name: Asadu Jaman

ID: 193071053

Name: Rizone Hasan

ID: 193071038

Name: Akash Mojumdar

ID: 193061008

Name: Md. Abir Hossain

ID: 193071019

Name: K M Tanvir Anjum

ID: 193071020

Name: Shuvo Ahmed Adi

ID: 193071033

Name: Prosenjit

ID: 193071024

Name: Umme Habiba

ID: 193071037

Name: Jamila Binta Khair

ID: 193071042

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 missioncritical 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.

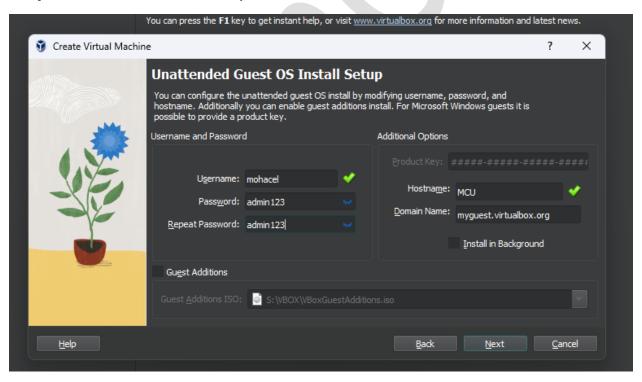
Red Hat Enterprise Linux Download | Red Hat Developer



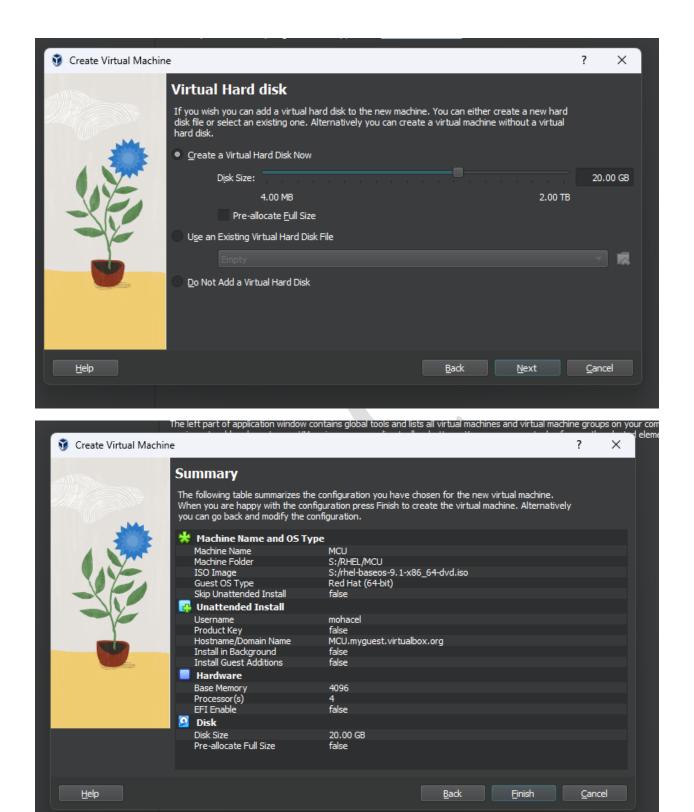
Step3.1: Open Virtual Box and click on "New". Name your OS, select folder where you want to install and select iso file that you downloaded. Then click "Next."



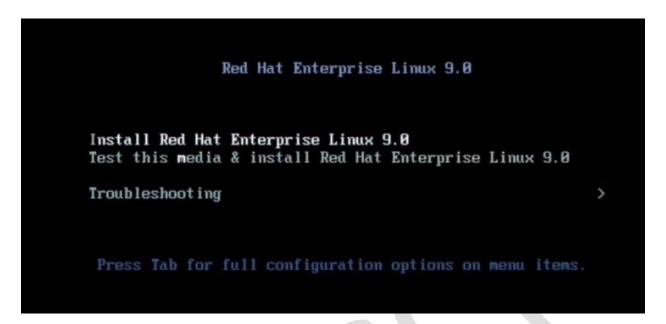
Step3.2: Set username and password then click "Next."



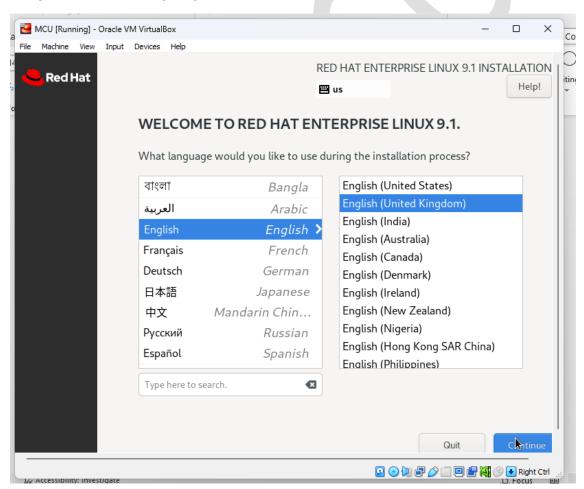
Step 3.3: Disk size Minimum 20 GB & processor 2/4



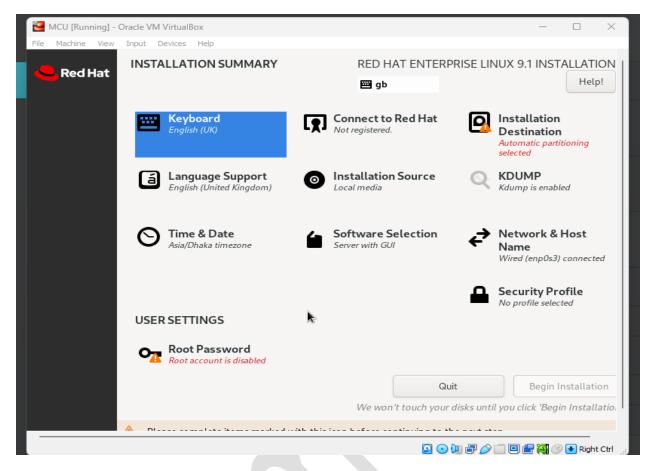
Step 4: Select First one so that it starts install without media test.



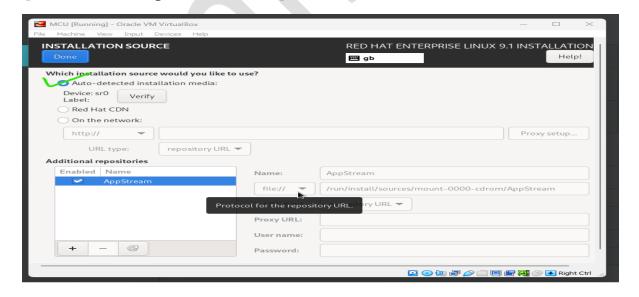
Step 5 : Select language.



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

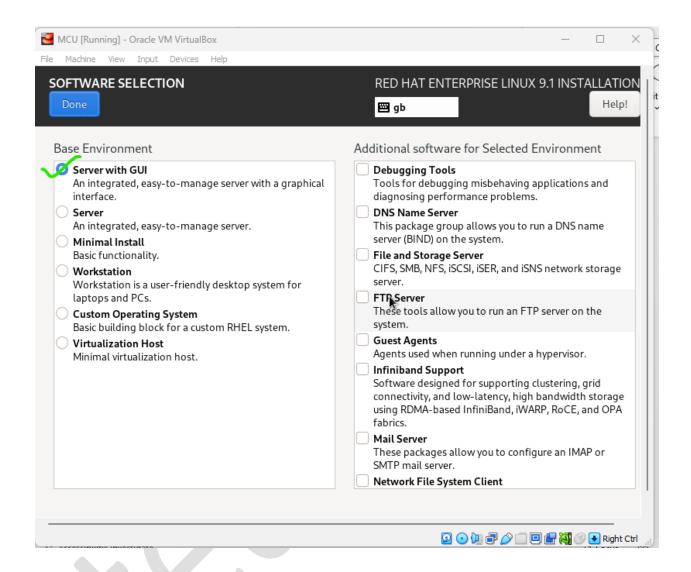


Step 6.2 : Installation source is "Auto" then click on "Done" [we are installing from local iso]



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

[we are getting CLI+GUI]

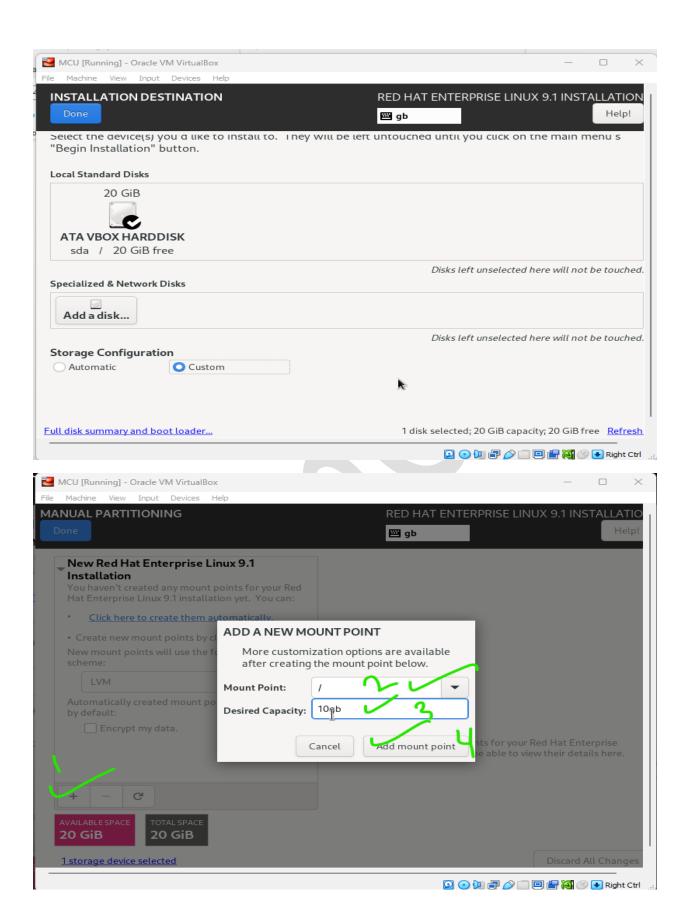


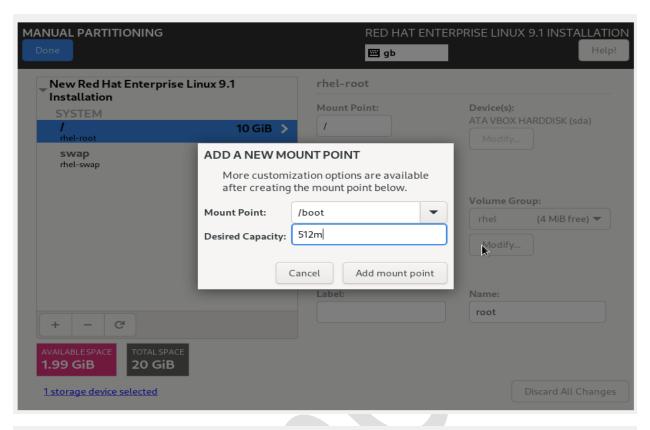
Step 6.4: Installation Destination will be customs so that we can create our custom directory. Then click on "Done".

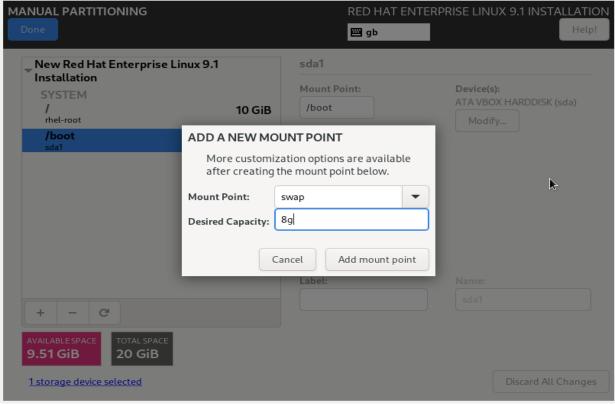
[/= root directory minimum 10GB;

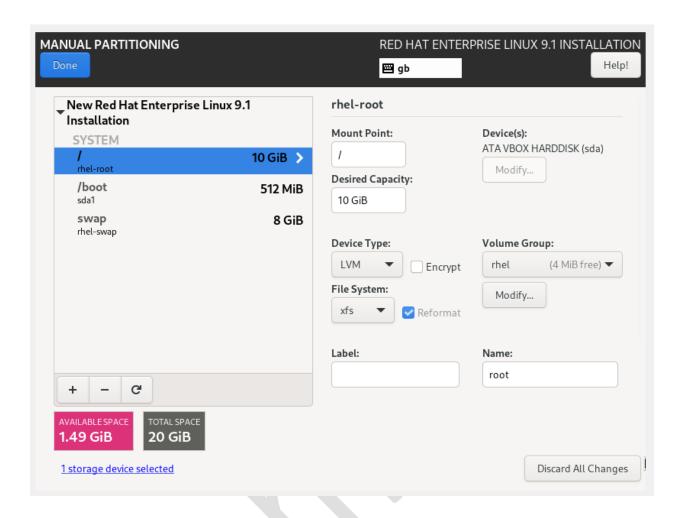
/boot=500mb;

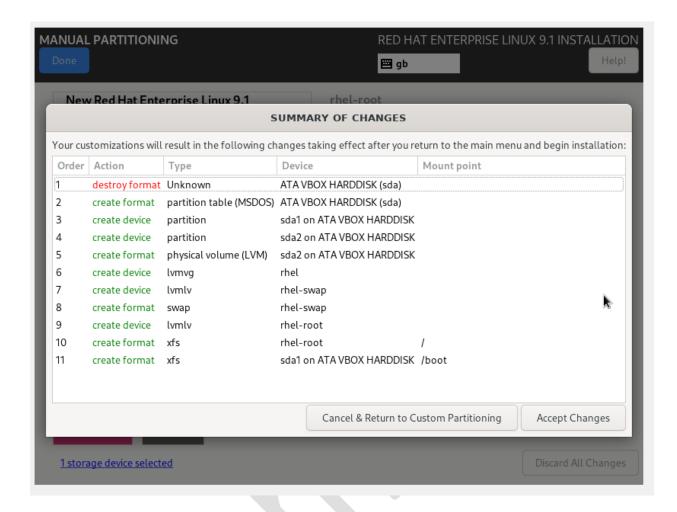
/swap=double of your RAM]



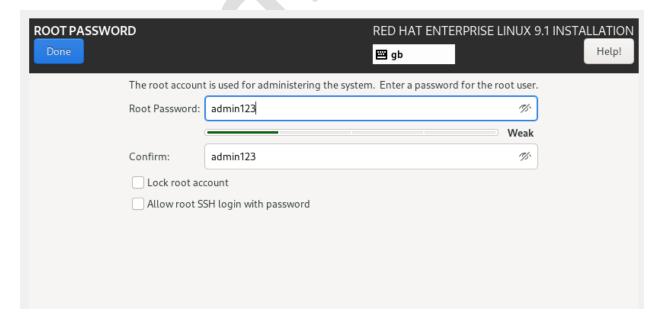


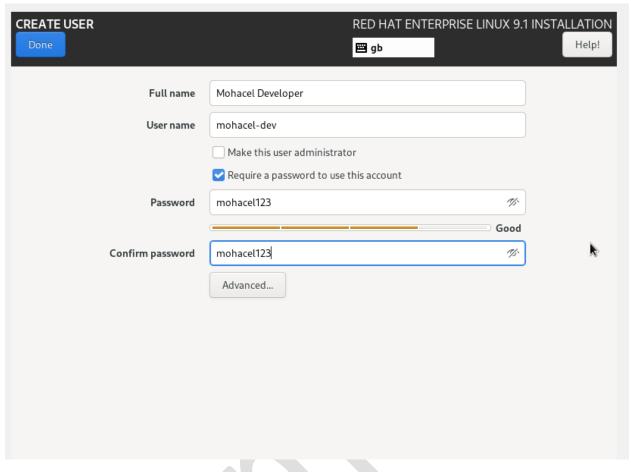


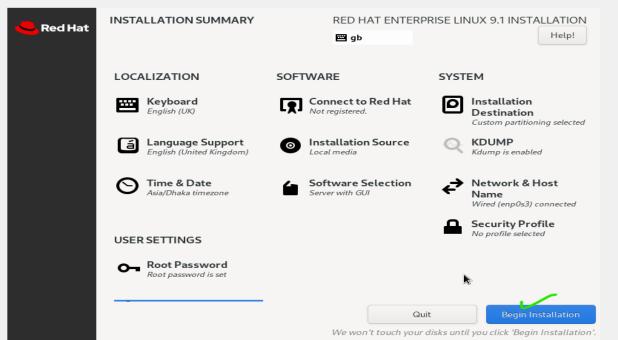




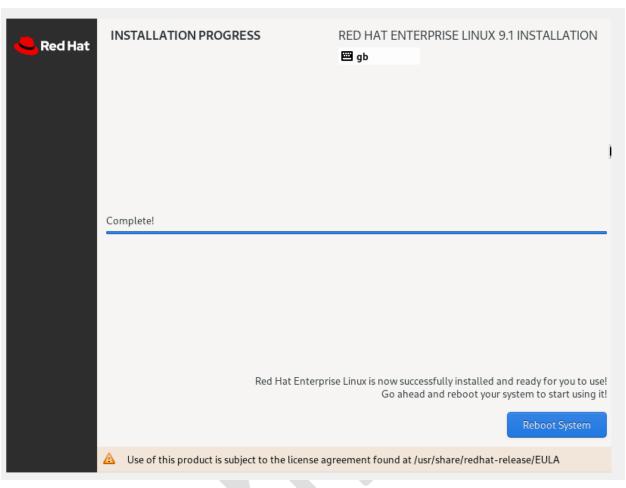
[KDUMP = Kernal Dump(in this log file tell us why kernel crash)]

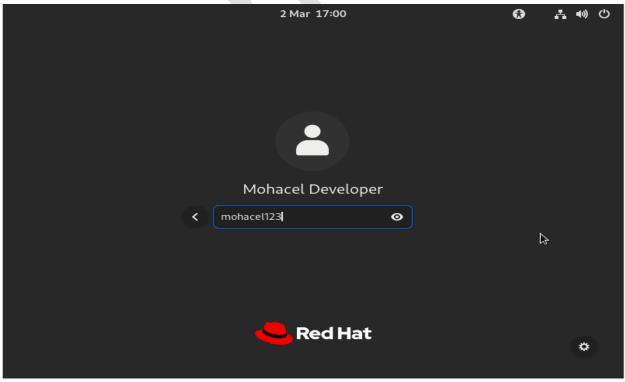


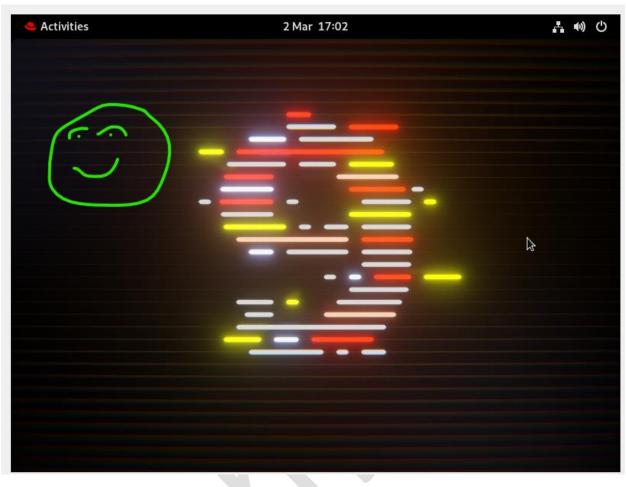


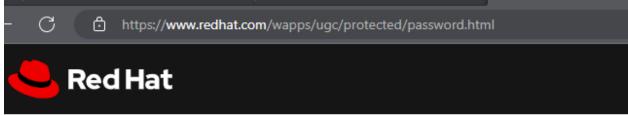


After a sometimes it will ask reboot, click on reboot.







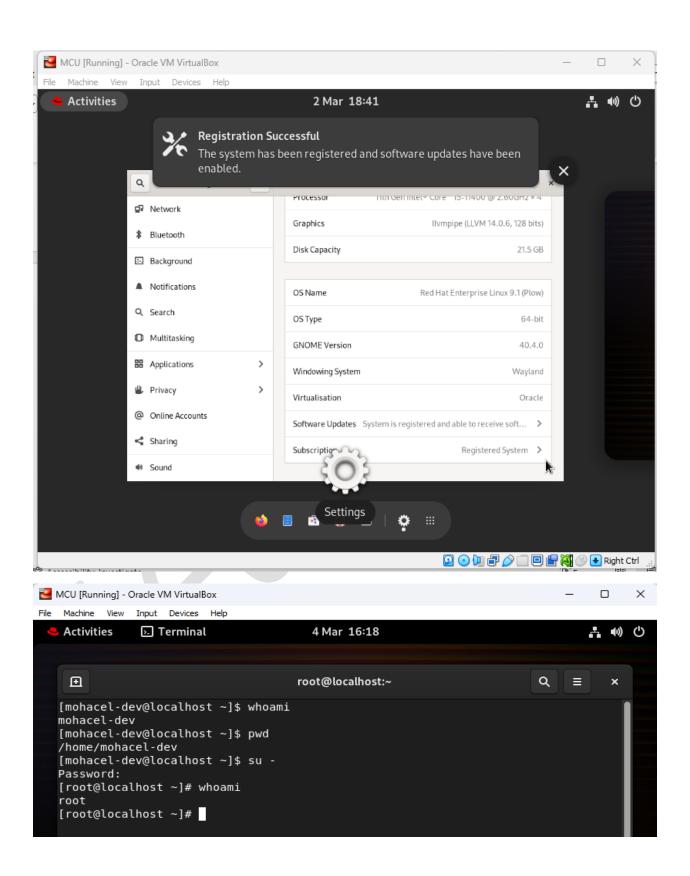


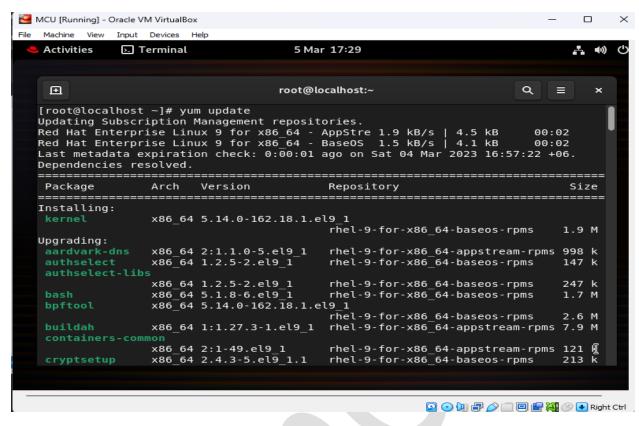
Your information Login & password

Personal Red Hat login: mohacei

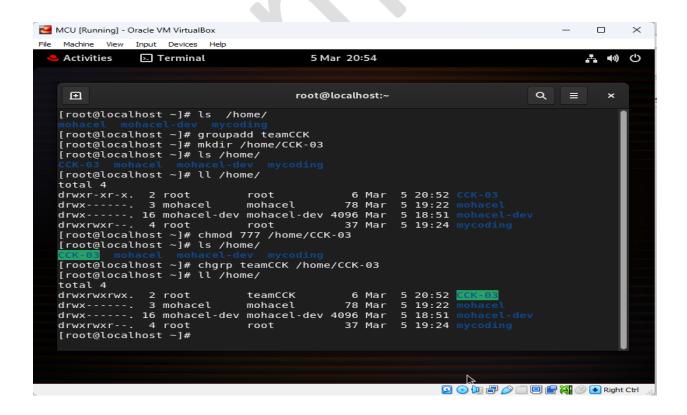
Go to setting then About and then Subscription "use your red hat developer account "username & password" then click on register. It will ask you root password of Red hat Linux.

Root Password: admin123

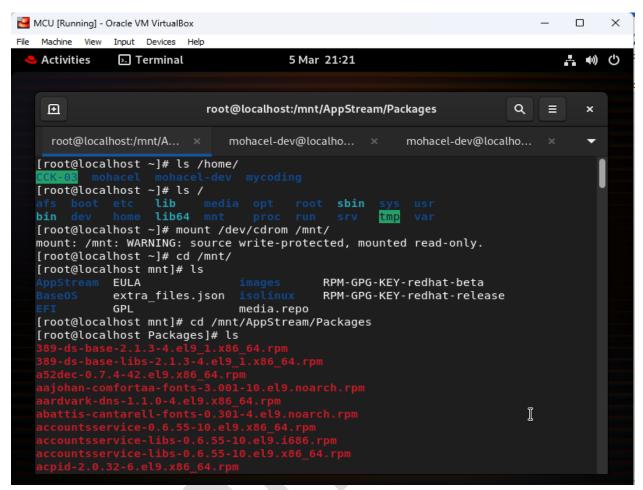




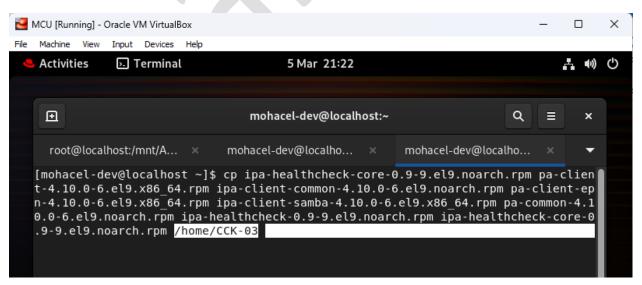
Step-1: Create a folder, give the permission for group & add the group.

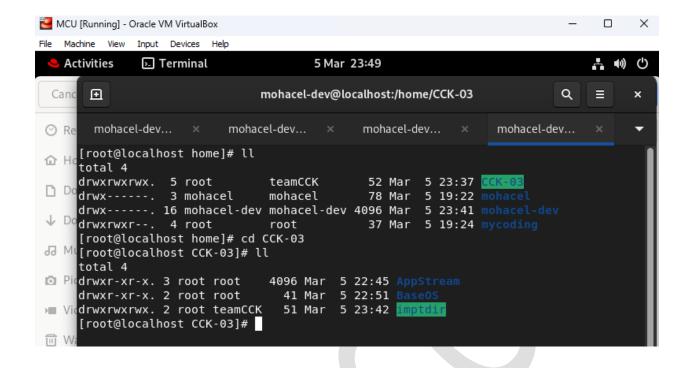


Step2: Add RHEL iso and mount it into /mnt/



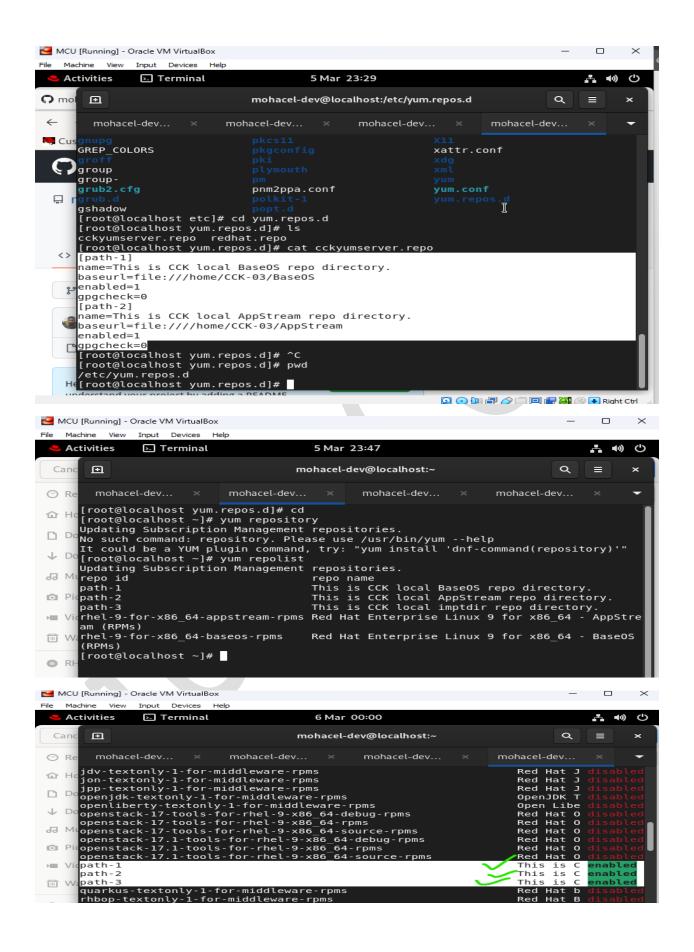
Step3: Copy AppStream and BaseOS to your created directory.





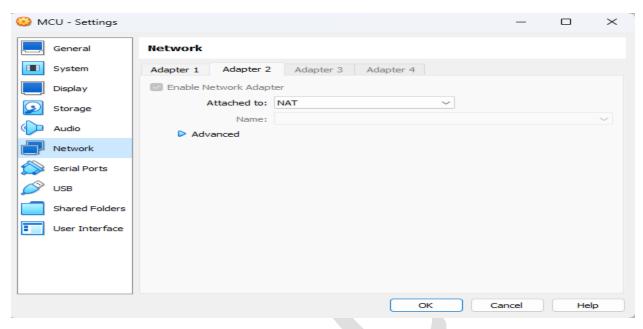
Step4: Create a repo file inside the /etc/yum.repos.d/ user_favorite_name.repo and chage the code according to base url

```
[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
```

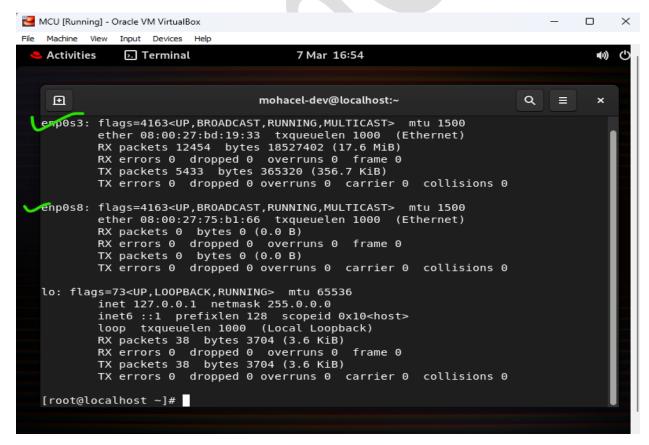


NIC Teaming in Linux

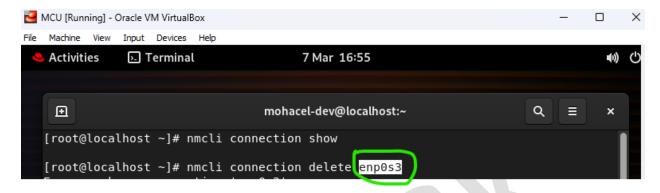
Step1: Active the network interface card



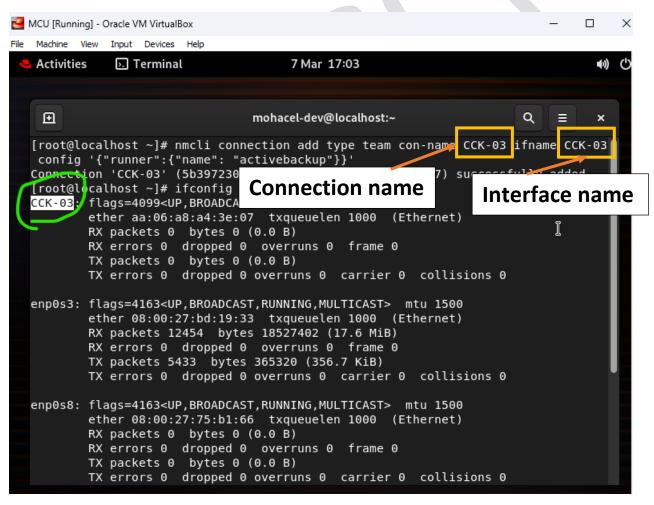
Step2: check the IP information "ifconfig"



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



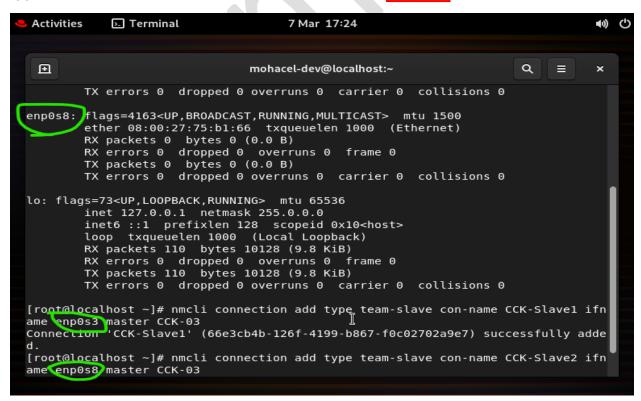
Step4: nmcli connection add type team con-name CCK-03 ifname CCK-03 config '{"runner": {"name": "activebackup"}}'



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.

```
ⅎ
                                                                       Q
                                mohacel-dev@localhost:~
                                                                            \equiv
[root@localhost ~]# ifconfig
CCK-03: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
        net 192.168.1.100 netmask 255.255.255.0 broadcast 192.168.1.255
        ether 2a:ce:07:c2:c9:80 txqueuelen 1000 (Ethernet)
        RX packets 0 bytes 0 (0.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 0 bytes 0 (0.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        ether 08:00:27:bd:19:3 txqueuelen 1000 (Ethernet) RX packets 0 bytes 0 (0.0 B)
        RX errors 0 dropped 0 overruns 0
                                            frame 0
        TX packets 0 bytes 0 (0.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        ether 08:00:27:75:b1:66 txqueuelen 1000 (Ethernet) RX packets 0 bytes 0 (0.0 B)
        RX errors 0 dropped 0 overruns 0
        TX packets 0 bytes 0 (0.0 B)
                                            land Card Name
        TX errors 0 dropped 0 overruns 0
lo: flags=73<UP,L00PBACK,RUNNING> mtu 65536
```

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"

```
Activities

    Terminal

                                       7 Mar 17:31
                                                                                      1
 ⅎ
                                 mohacel-dev@localhost:~
                                                                           Q
                                                                                      ×
NAME
             UUID
                                                      TYPE
                                                                  DEVICE
[root@localhost ~]# teamdctl CCK-03 state
  runner: activebackup
ports:
  enp0s3
    link watches:
      link summary: up
      instance[link watch 0]:
        name: ethtool
        link: up
        down count: 0
  enp0s8
    link watches:
      link summary: up
      instance[link watch 0]:
        name: ethtool
        link: up
        down count: 0
                                                                   \mathbb{I}
runner:
  active port: enp0s3
```

```
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"
```