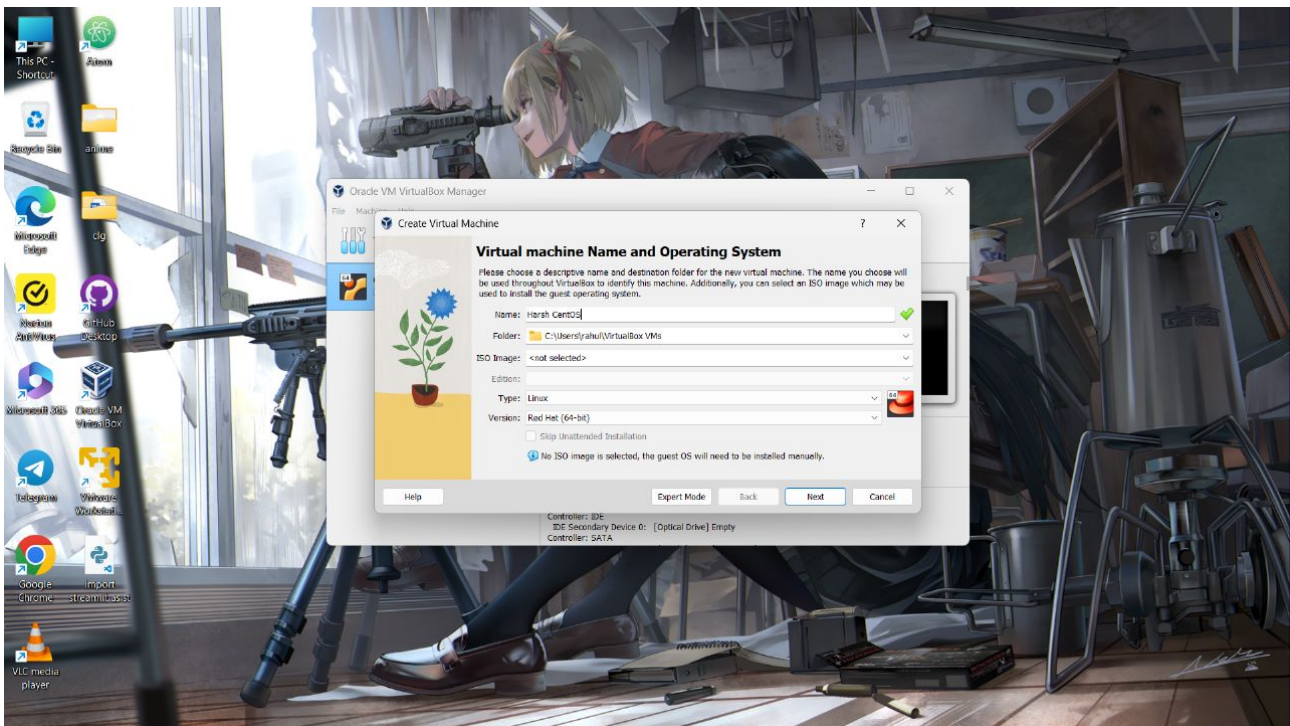


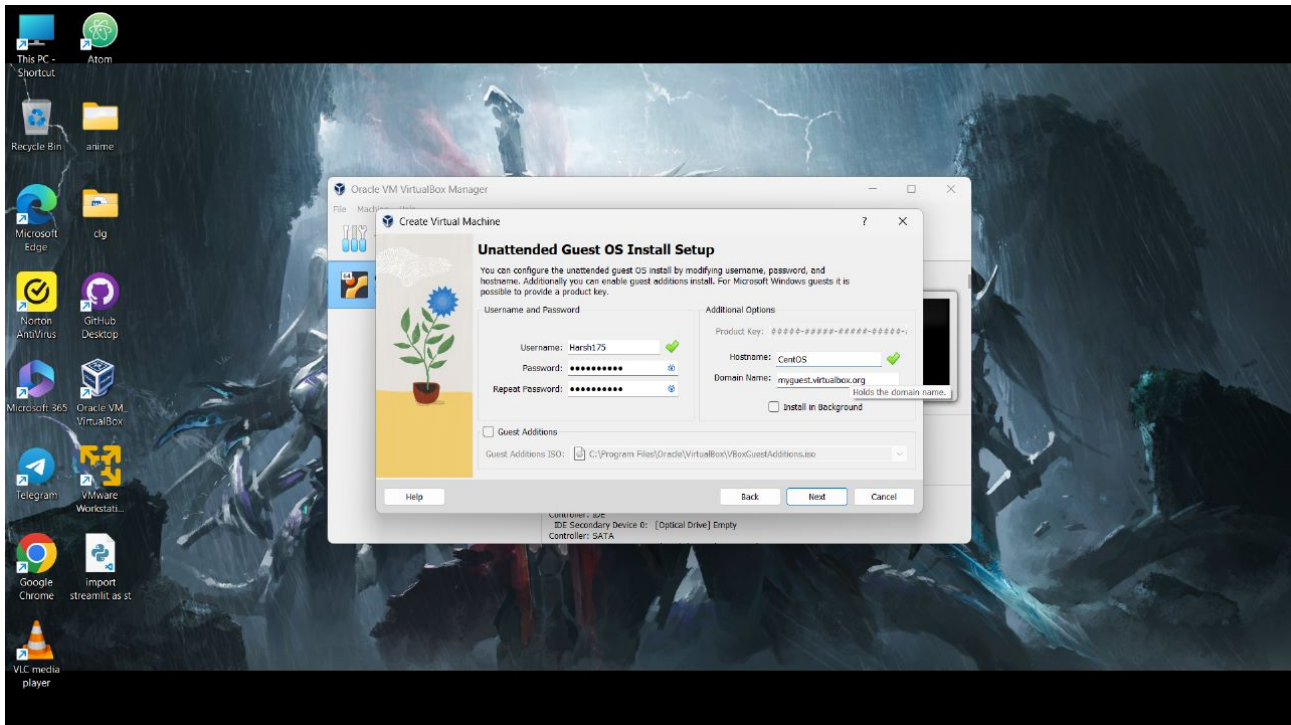
NAME:- Harsh Yadav  
SAP ID:- 500088021  
BATCH:- CCVT B4

## CentOS-OpenStack-Packstack-Installation (Oracle VM virtualbox)

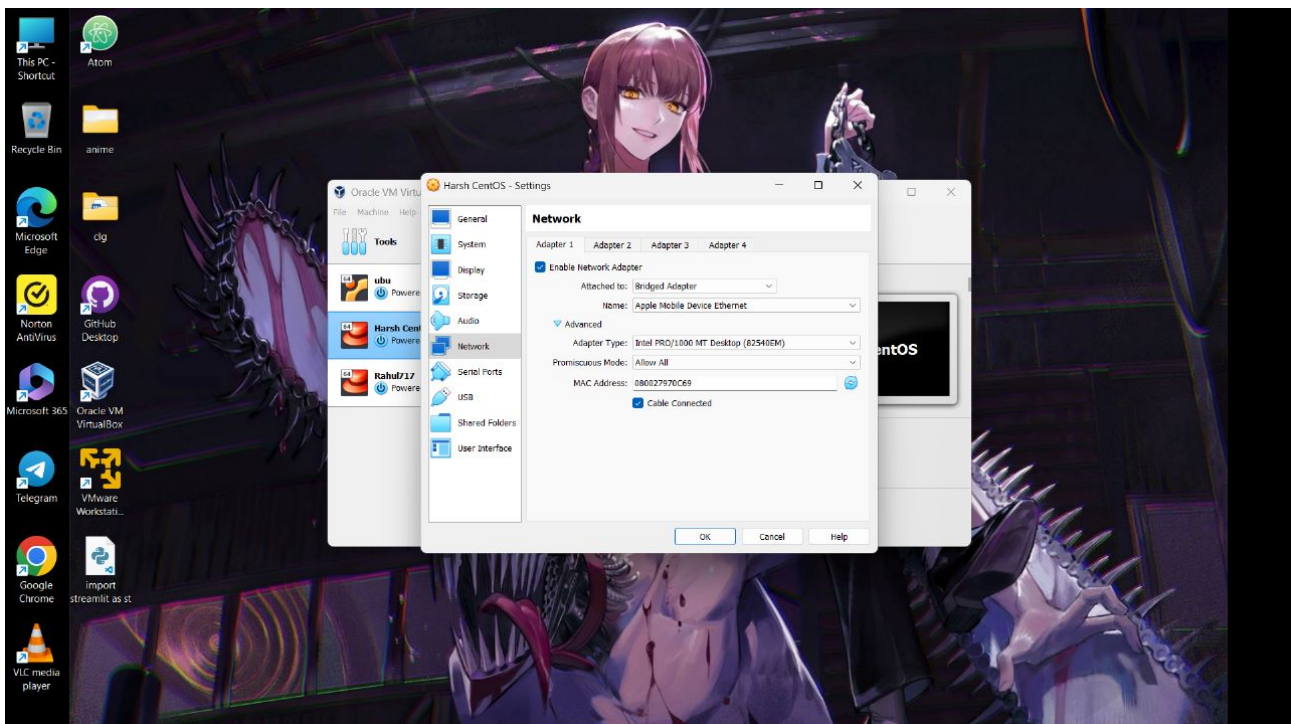


Firstly we have to download the iso file which was named as CentOS-7-x86\_64-Minimal-2207-02.iso which was download from the [centos.org](https://www.centos.org) website under the centos linux, x86\_64.

Then, open oracle VM virtualbox, create a new VM with the name of Centos. And browse the iso file and click on the next.

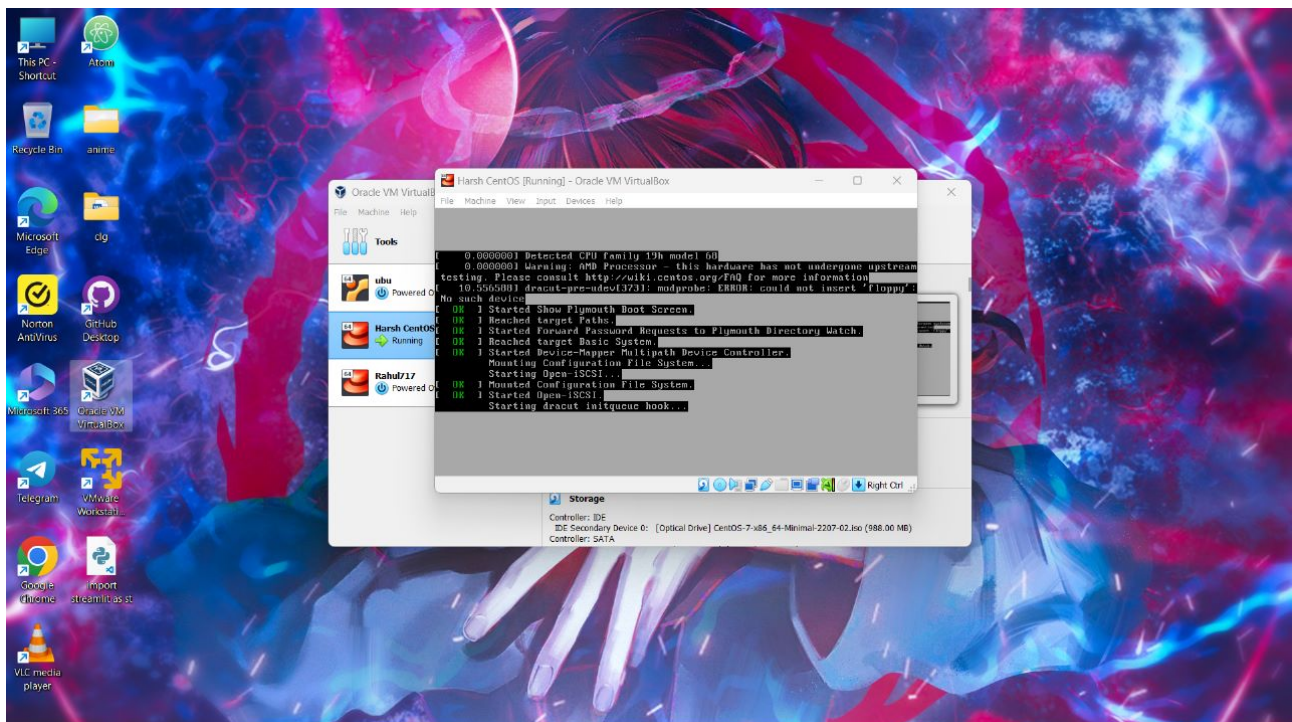
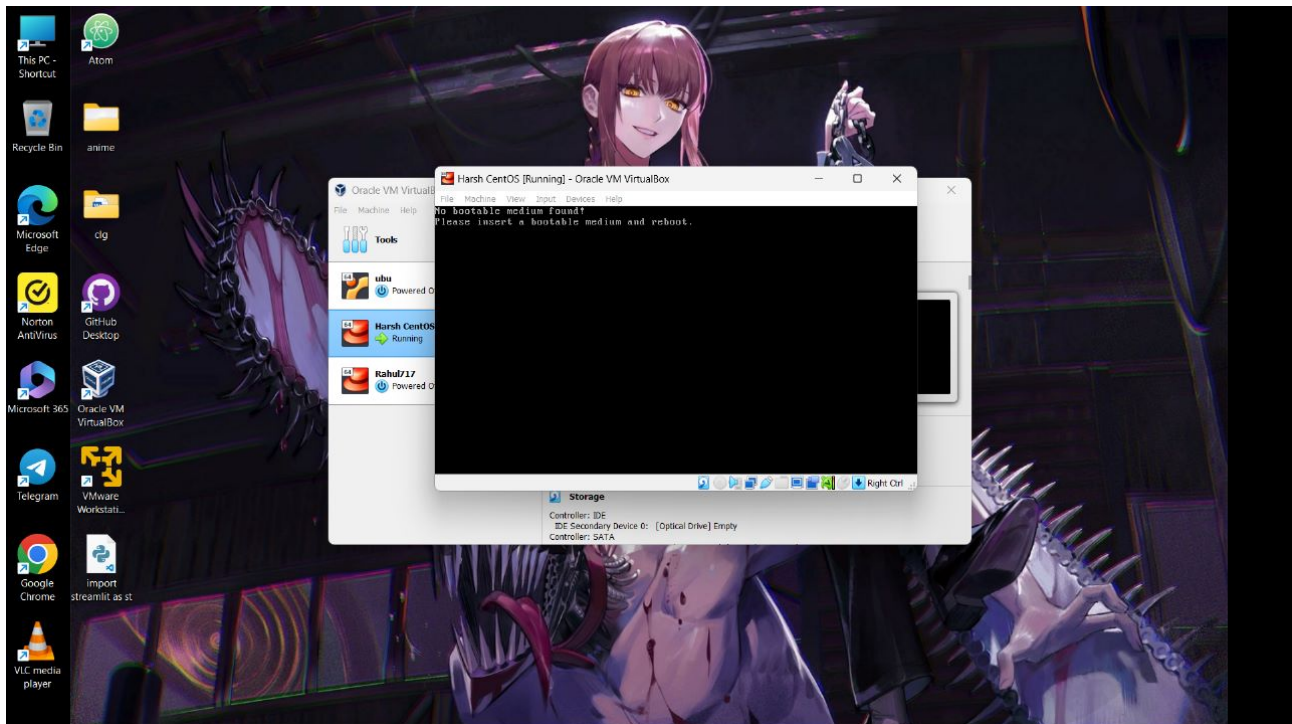


Create username and password and click on the next. When the VM is created Change the network setting under attached to, from NAT to Bridged Adapted and in advance selection change the promiscuous mode to Allow all. And save the settings.

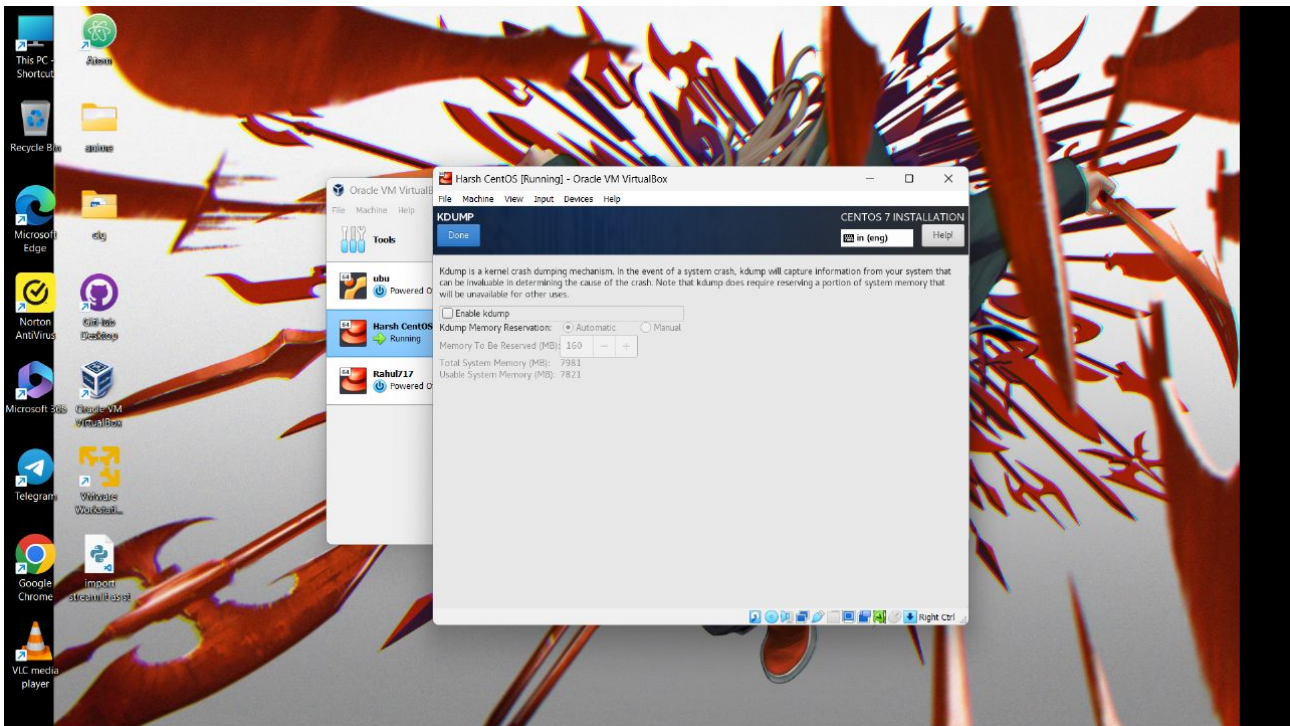




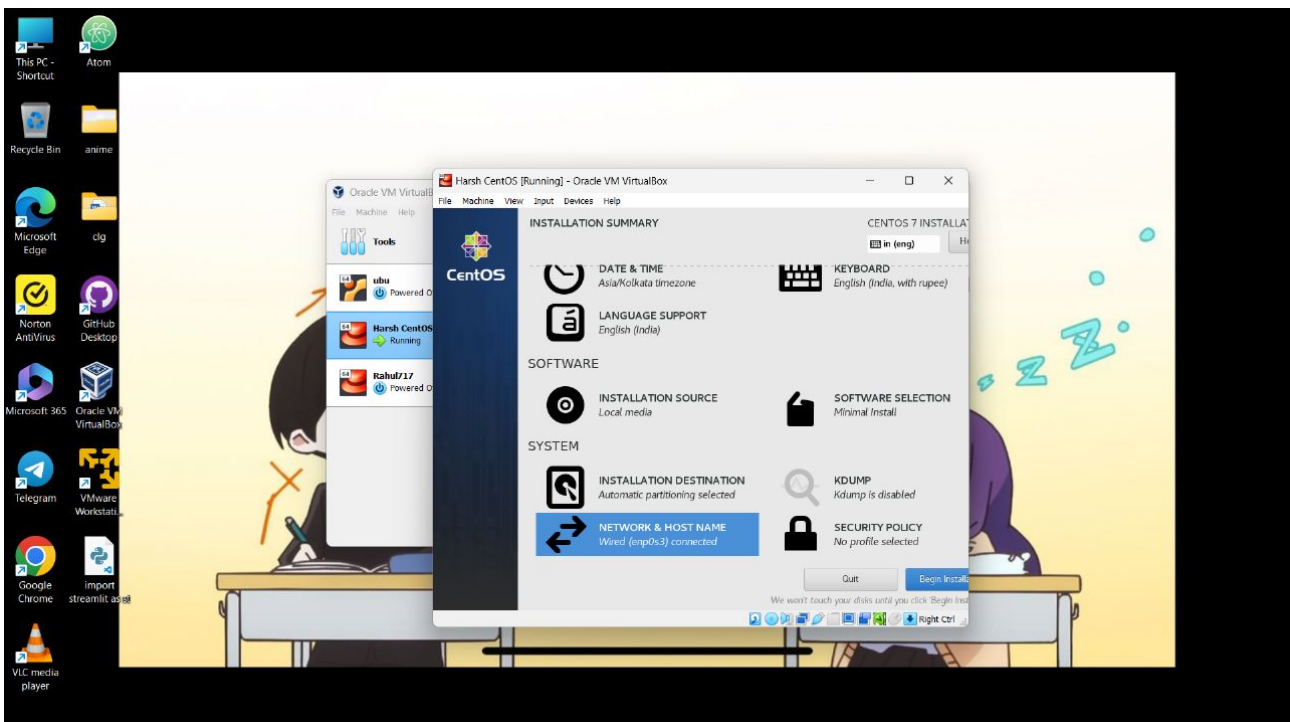
Now, power on the VM after selecting the DVD file.



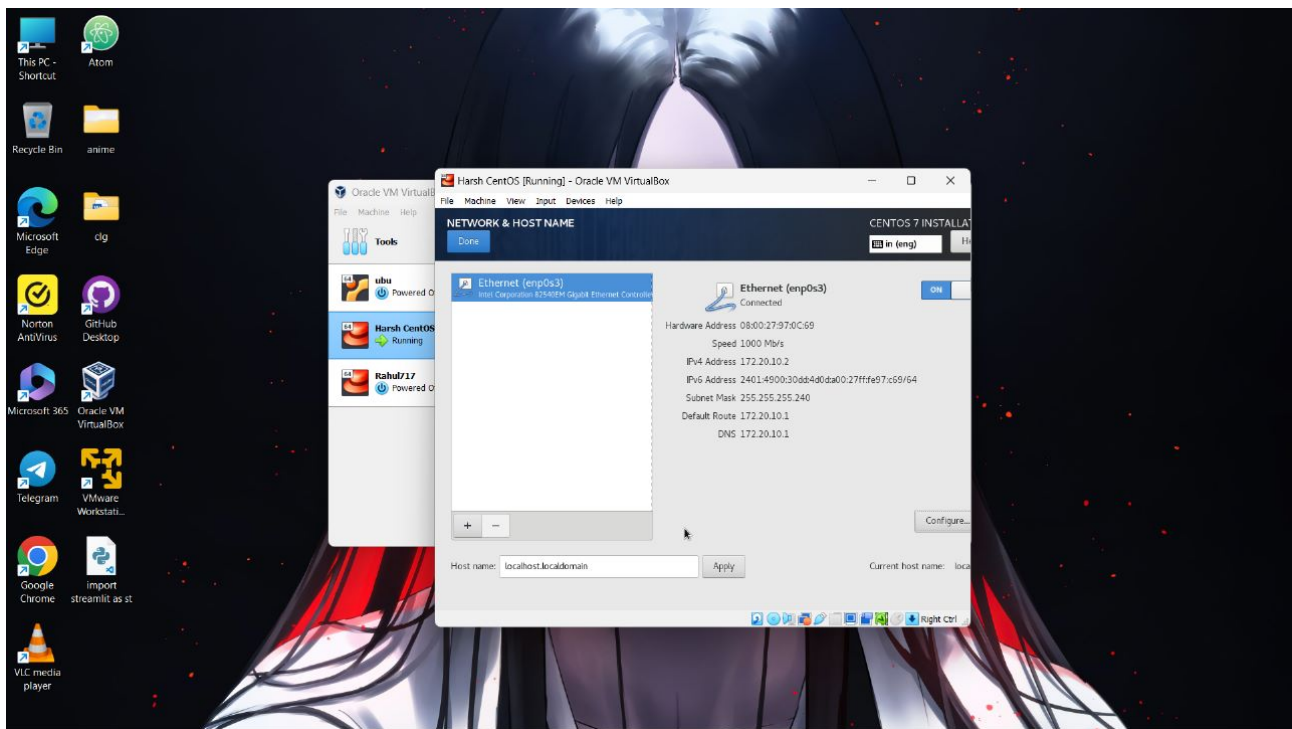
Before finishing the setup part, change the KDUMP setting to untick the enable KDUMP option.



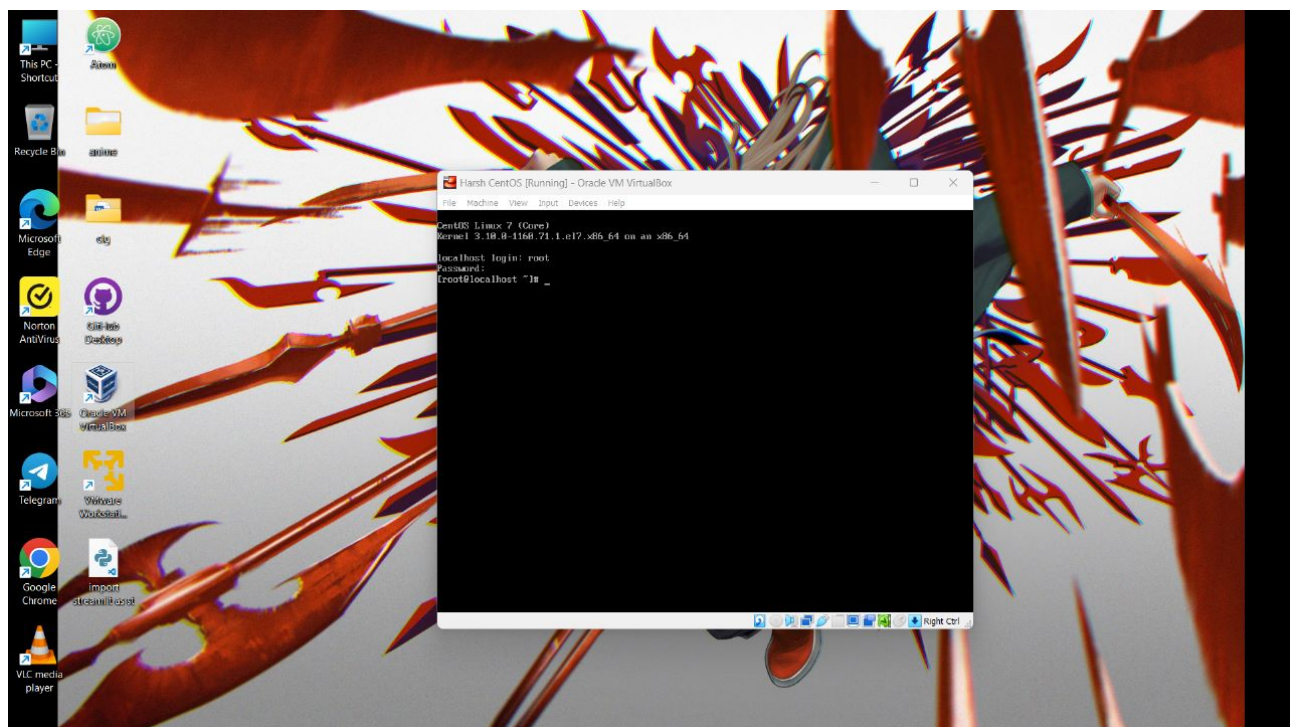
Also, change the network and host Name settings. Click on the config button on the right lower side and change the IPv6 setting to ignore.





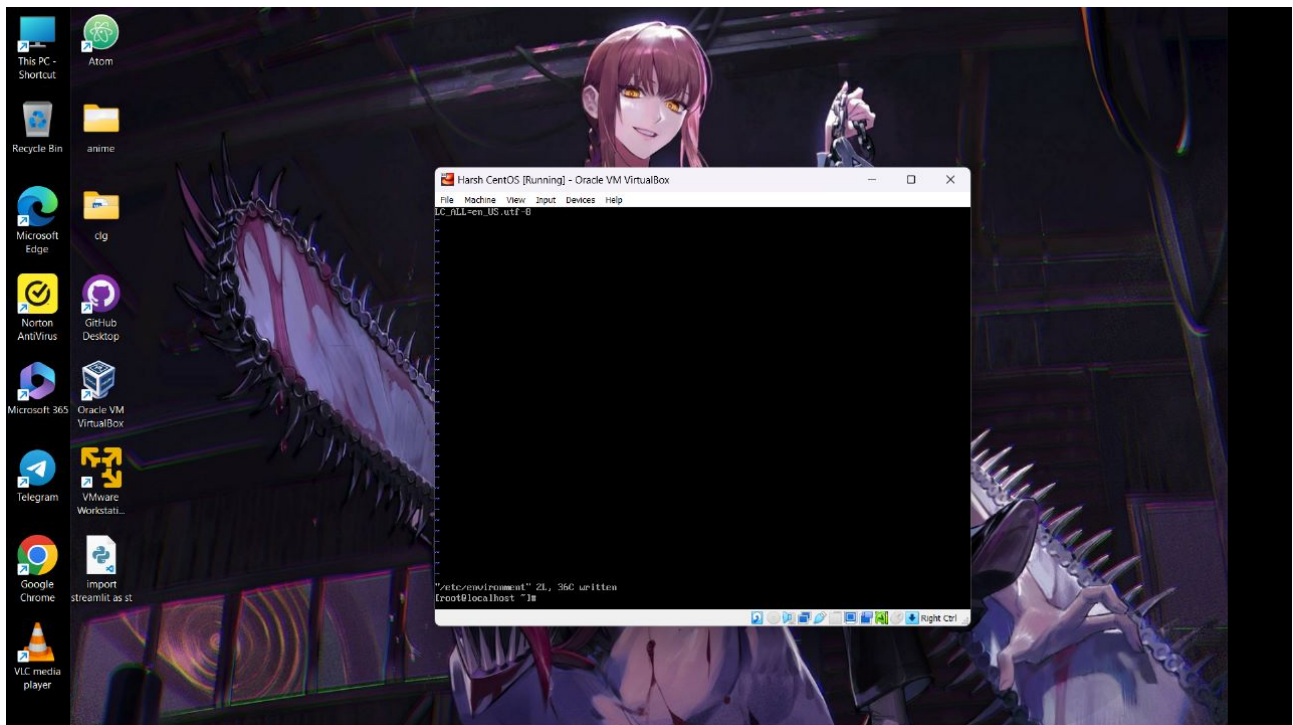


After it, setup will be completed now you are logged in inside the VM.  
Log in into the localhost using root and password which was set earlier.



Perform the `cat /etc/redhat-release`

The “`cat /etc/redhat-release`” command is used to display the version information of a Red Hat-based Linux distribution, such as CentOS. This file contains the release version number, product name, and build information.

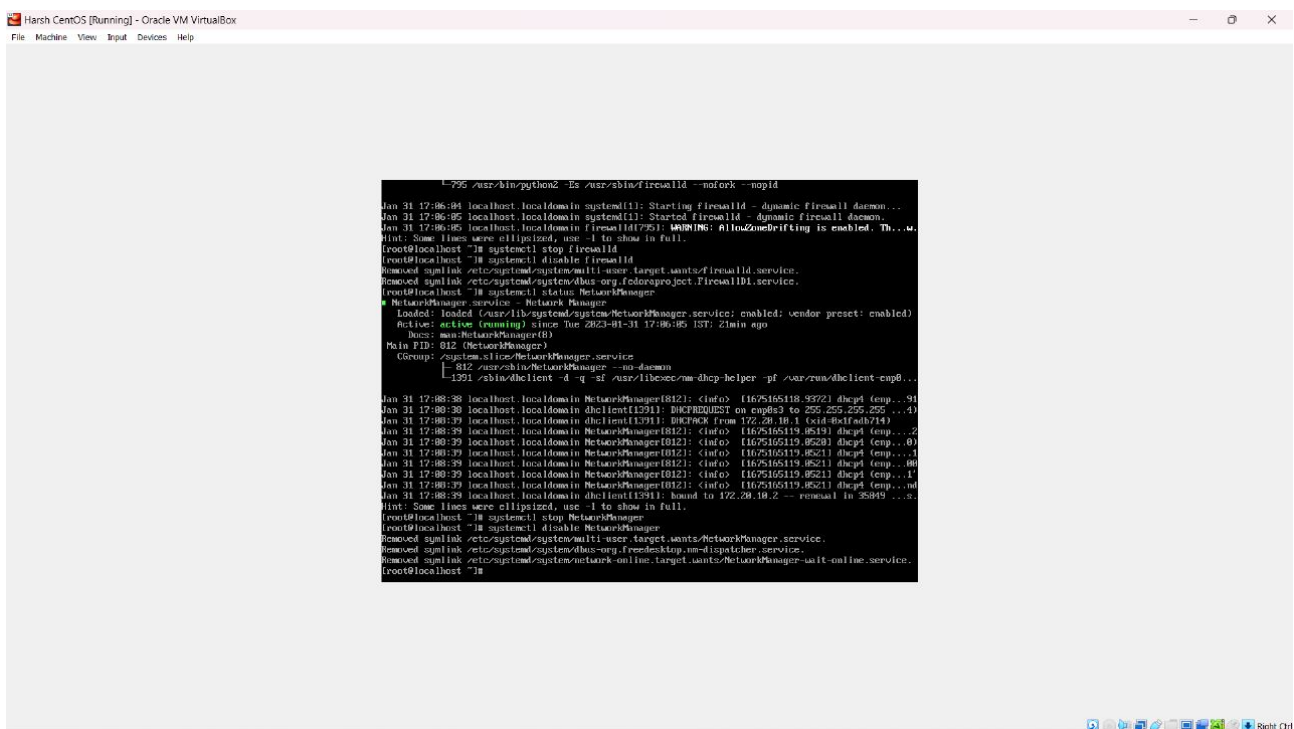


The file `"/etc/environment"` in CentOS is used to set system-wide environment variables for all users on the system. we use the `vi` text editor to modify the file.

Perform the “**systemctl status firewall, systemctl stop firewall, systemctl disable firewall**” commands

systemctl is a tool used to manage system services in Linux distributions that use the Systemd init system. The following commands can be used to manage the firewall service in CentOS:

1. **systemctl status firewall** - This command shows the status of the firewall service. It displays whether the firewall service is running, inactive, or not found.
2. **systemctl stop firewall** - This command stops the firewall service. It can be used to temporarily disable the firewall to troubleshoot issues or make changes to the firewall rules.
3. **systemctl disable firewall** - This command disables the firewall service from starting automatically at boot time. It can be used to permanently disable the firewall if it is not needed.



```
Harsh CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

root@localhost: ~ # systemctl status firewall
systemctl status firewall
/usr/bin/python2 -E /usr/sbin/firewalld --nofork --nopid
Jan 31 17:06:04 localhost.localdomain systemd[1]: Starting firewalld - dynamic Firewall daemon...
Jan 31 17:06:05 localhost.localdomain systemd[1]: Started firewalld - dynamic Firewall daemon.
Jan 31 17:06:05 localhost.localdomain firewalld[795]: WARNING: Allow2meDrifting is enabled. Th...
Hint: Some lines were ellipsized, use -l to show in full.
root@localhost: ~ # systemctl stop firewall
root@localhost: ~ # systemctl disable firewall
Removed symlink /etc/systemd/systemd-wait-user.target.wants/firewalld.service.
Removed symlink /etc/systemd/systemd-usb-org.fedoraproject.FirewallD1.service.
root@localhost: ~ # systemctl status NetworkManager
* NetworkManager.service: Network Manager
Loaded: loaded (/usr/lib/systemd/system/NetworkManager.service; enabled; vendor preset: enabled)
Active: active (running) since Tue 2023-01-31 17:06:05 IST; 21min ago
Docs: man:NetworkManager(8)
Main PID: 812 (NetworkManager)
Group: /system.slice/NetworkManager.service
└─ 812 /usr/sbin/NetworkManager --no-daemon
└─ 1391 /sbin/dhclient -d -q -sf /usr/libexec/nm-dhcp-helper -pf /var/run/dhclient-emp8...
Jan 31 17:08:38 localhost.localdomain NetworkManager[812]: (info) [1675165118.9372] dhcpd (emp...
Jan 31 17:08:39 localhost.localdomain dhclient[1391]: DHCPREQUEST on emp8s3 to 255.255.255...
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: (info) [1675165119.0519] dhcpd (emp...
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: (info) [1675165119.0520] dhcpd (emp...
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: (info) [1675165119.0521] dhcpd (emp...
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: (info) [1675165119.0521] dhcpd (emp...
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: (info) [1675165119.0521] dhcpd (emp...
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: (info) [1675165119.0521] dhcpd (emp...
Jan 31 17:08:39 localhost.localdomain dhclient[1391]: bound to 172.28.10.2 -- renewal in 35045 ...
Hint: Some lines were ellipsized, use -l to show in full.
root@localhost: ~ # systemctl stop NetworkManager
root@localhost: ~ # systemctl disable NetworkManager
Removed symlink /etc/systemd/systemd-wait1-user.target.wants/NetworkManager.service.
Removed symlink /etc/systemd/systemd-usb-org.freedesktop.nm-dispatcher.service.
Removed symlink /etc/systemd/system-network-online.target.wants/NetworkManager-wait-online.service.
root@localhost: ~ #
```

Perform the “**systemctl status NetworkManager, systemctl stop NetworkManager systemctl disable NetworkManager**” commands

1. **systemctl status NetworkManager** - This command shows the status of the NetworkManager service. It displays whether the service is running, inactive, or not found.
2. **systemctl stop NetworkManager** - This command stops the NetworkManager service. It can be used to temporarily disable the NetworkManager service if you need to troubleshoot network issues or make changes to the network configuration.

3. `systemctl disable NetworkManager` - This command disables the NetworkManager service from starting automatically at boot time. It can be used to permanently disable the NetworkManager service if you need to manage the network through other means, such as network scripts.

```
Harsh CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: <info> [16/5465119.9372] dhcp4 (emp...9)
Jan 31 17:08:39 localhost.localdomain dhclient[1591]: DHCPREQUEST on emp43 to 255.255.255.255...4)
Jan 31 17:08:39 localhost.localdomain dhclient[1591]: DHCPACK from 172.20.10.1 (xid=64fadb714)
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: <info> [16/5465119.9519] dhcp4 (emp...2)
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: <info> [16/5465119.9520] dhcp4 (emp...0)
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: <info> [16/5465119.9521] dhcp4 (emp...4)
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: <info> [16/5465119.9521] dhcp4 (emp...00)
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: <info> [16/5465119.9521] dhcp4 (emp...1)
Jan 31 17:08:39 localhost.localdomain NetworkManager[812]: <info> [16/5465119.9521] dhcp4 (emp...nd
Jan 31 17:08:39 localhost.localdomain dhclient[1591]: bound to 172.20.10.2 -- renewal in 35949...s.
Note: Some lines were ellipsized, use -l to show in full.
root@localhost ~# systemctl stop NetworkManager
root@localhost ~# systemctl disable NetworkManager
Removed symlink /etc/systemd/system/multi-user.target.wants/NetworkManager.service.
Removed symlink /etc/systemd/system/dbus-org.freedesktop.nm-dispatcher.service.
root@localhost ~# systemctl enable network
network.service is not a native service, redirecting to /sbin/chkconfig.
Executing /sbin/chkconfig network on
root@localhost ~# systemctl start network
root@localhost ~# cat /etc/sysconfig/network-scripts/ifcfg-emp43
TYPE="Ethernet"
PROXY_METHOD="none"
BROWSER_ONLY="no"
BOOTPROTO="dhcp"
DEFROUTE="yes"
IPV4_FAILURE_FATAL="no"
IPV6INIT="no"
IPV6_FAILURE_FATAL="yes"
IPV6_DEFROUTE="yes"
IPV6_FAILURE_FATAL="no"
IPV6_ADDR_GEN_MODE="stable-privacy"
NAME="emp43"
UUID="03634c22-6243-450b-ab33-625f0cca3393"
ONBOOT="yes"
root@localhost ~#
```

## Disable selinux from its config.

```
Harsh CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

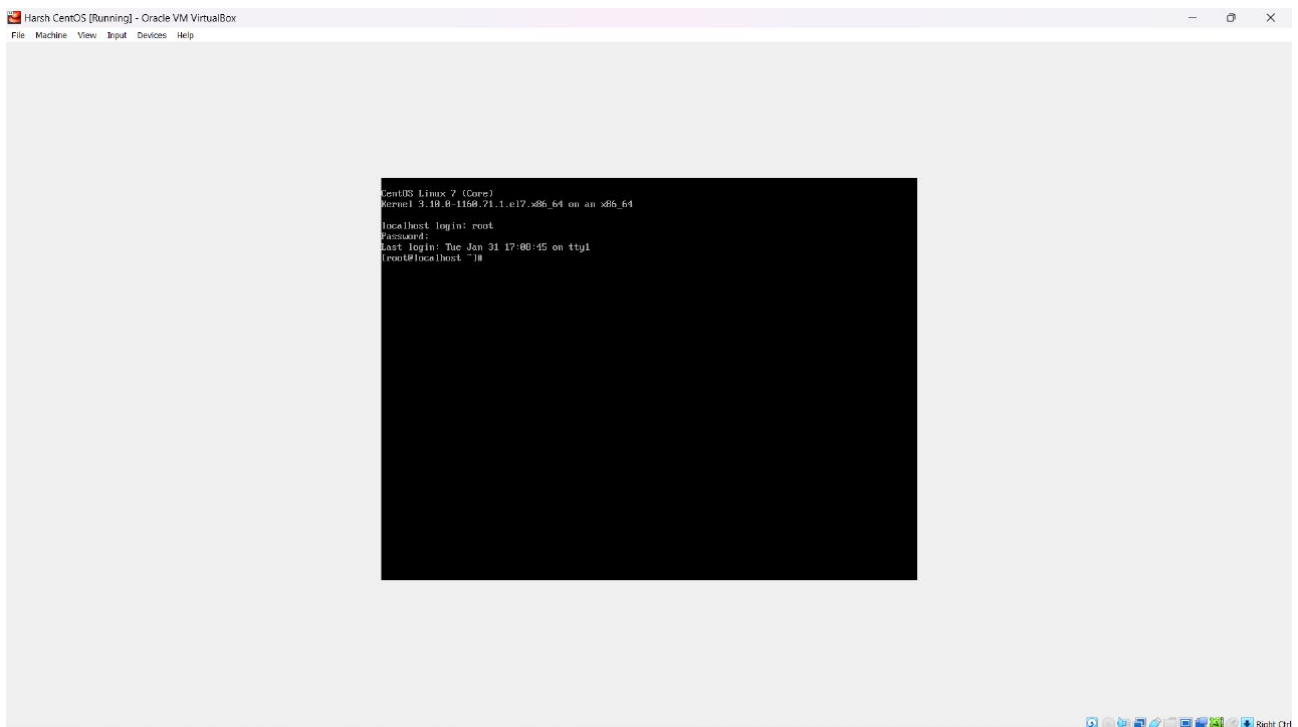
# This file controls the state of SELinux on the system.
# SELinux can take one of three values:
# enforcing - SELinux security policy is enforced.
# permissive - SELinux prints warnings instead of enforcing.
# disabled - No SELinux policy is loaded.
SELINUX=disabled
# SELINUXTYPE can take one of three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

# For more information on SELinux, see the SELinux documentation.

/etc/selinux/config" 14L, 542C written
root@localhost ~# reboot
```



## Reboot after disable the **selinux**



And log in again using the password.

Run the “**GETENFORCE**” command.

The `getenforce` command in CentOS is used to check the current status of the SELinux (Security-Enhanced Linux) security framework. SELinux is a mandatory access control system that provides additional security by enforcing security policies on processes, files, and other system resources.

The `getenforce` command returns the current SELinux mode, which can be either "Enforcing", "Permissive", or "Disabled".



Now, perform the “**sudo yum install -y centos-release-openstack-train**” command

The command `sudo yum install -y centos-release-openstack-train` is used to install the "CentOS OpenStack Train Repository" package on a CentOS system. The package provides the necessary repository information to install packages related to OpenStack Train, which is a specific version of the OpenStack cloud computing platform.



```
Harsh CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Total
Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7
Importing GPG key 0x2468E25:
  Userid : "CentOS-7 Key (CentOS 7 Official Signing Key) <security@centos.org>"
  Fingerprint: 6341 ab27 53d7 8a78 a7c2 7bd1 2406 8ba2 f4a8 0e45
  Package : centos-release-7-9-2889.1.el7.centos.x86_64 (@anaconda)
  From : /etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : centos-release-storage-common-2.2.el7.centos.noarch 1/6
  Installing : centos-release-ifc-guests20-1.9-3.el7.centos.noarch 2/6
  Installing : centos-release-ceph-nautilus-1.2-2.el7.centos.noarch 3/6
  Installing : centos-release-virt-common-3.1.el7.centos.noarch 4/6
  Installing : centos-release-qemu-ev-1.9-4.el7.centos.noarch 5/6
  Installing : centos-release-openstack-train-1.1.el7.centos.noarch 6/6
  Verifying : centos-release-openstack-train-1.1.el7.centos.noarch 1/6
  Verifying : centos-release-virt-common-3.1.el7.centos.noarch 2/6
  Verifying : centos-release-ceph-nautilus-1.2-2.el7.centos.noarch 3/6
  Verifying : centos-release-ifc-guests20-1.9-3.el7.centos.noarch 4/6
  Verifying : centos-release-storage-common-2.2.el7.centos.noarch 5/6
  Verifying : centos-release-qemu-ev-1.9-4.el7.centos.noarch 6/6

Installed:
  centos-release-openstack-train.noarch 0:1-1.el7.centos

Dependency Installed:
  centos-release-ceph-nautilus.noarch 0:1.2-2.el7.centos
  centos-release-ifc-guests20.noarch 0:1.9-3.el7.centos
  centos-release-qemu-ev.noarch 0:1.9-4.el7.centos
  centos-release-storage-common.noarch 0:2-2.el7.centos
  centos-release-virt-common.noarch 0:3-1.el7.centos

Complete!
root@localhost ~# sudo yum install yum-utils
```

perform the “**sudo yum install yum-utils**” command

The command `sudo yum install yum-utils` is used to install the `yum-utils` package on a CentOS system.

The `yum-utils` package provides a collection of utilities and plugins for the `yum` package manager. These utilities make it easier to manage packages, resolve dependencies, and perform various other tasks related to package management.





The command `sudo yum update -y` is used to update packages on a CentOS system.



```

Harsh CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Updating : sudo-1.8.23-19.el7_9.x86_64 33/68
Updating : kpartx-0.9.130.el7_9.x86_64 34/68
Updating : expat-2.1.0-15.el7_9.x86_64 35/68
Installing : kernel-3.10.0-1160.03.1.el7.x86_64 36/68
Cleanup : tuned-2.11.0-11.el7_9.noarch 37/68
Cleanup : python-mako-0.9.3-17.el7.noarch 38/68
Cleanup : 1grub2-2.02-0.07.0.el7.centos.9.x86_64 39/68
Cleanup : 1grub2-pec-2.02-0.07.0.el7.centos.9.x86_64 40/68
Cleanup : 1grub2-pec-modules-2.02-0.07.0.el7.centos.9.noarch 41/68
Cleanup : systemd-sysv-215-70.el7_9.5.x86_64 42/68
Cleanup : 2microwdm-c41-2.1-73.13.el7_9.x86_64 43/68
Cleanup : nss-tools-3.67.0-4.el7_9.x86_64 44/68
Cleanup : nss-3.67.0-4.el7_9.x86_64 45/68
Cleanup : nss-openssl-3.67.0-4.el7_9.x86_64 46/68
Cleanup : nss-selinux-3.67.0-4.el7_9.x86_64 47/68
Cleanup : 1grub2-tools-extra-2.02-0.07.0.el7.centos.9.x86_64 48/68
Cleanup : 1grub2-tools-2.02-0.07.0.el7.centos.9.x86_64 49/68
Cleanup : nss-selinux-fresh-3.67.0-4.el7_9.x86_64 50/68
Cleanup : nss-util-3.67.0-4.el7_9.x86_64 51/68
Cleanup : 1grub2-tools-minimal-2.02-0.07.0.el7.centos.9.x86_64 52/68
Cleanup : systemd-215-70.el7_9.5.x86_64 53/68
Cleanup : kernel-tools-3.10.0-1160.03.1.el7.x86_64 54/68
Cleanup : 32:bind-export-libs-9.11.4-26.P2.el7_9.x86_64 55/68
Cleanup : 1grub2-common-2.02-0.07.0.el7.centos.9.noarch 56/68
Cleanup : ca-certificates-2021.2.59-72.el7_9.noarch 57/68
Cleanup : tzdata-2022a-1.el7.noarch 58/68
Cleanup : krb5-libs-1.15.1-54.el7_9.x86_64 59/68
Cleanup : kernel-tools-libs-3.10.0-1160.03.1.el7.x86_64 60/68
Cleanup : systemd-libs-215-70.el7_9.5.x86_64 61/68
Cleanup : nsspr-4.32.0-4.el7_9.x86_64 62/68
Cleanup : python-perf-3.10.0-1160.03.1.el7.x86_64 63/68
Cleanup : 1libgccomp-2.3.1-4.el7.x86_64 64/68
Cleanup : sudo-1.8.23-19.el7_9.2.x86_64 65/68
Cleanup : kpartx-0.9.130.el7_9.x86_64 66/68
Cleanup : 1meridb-libs-5.5.60-1.el7.x86_64 67/68
Cleanup : expat-2.1.0-14.el7_9.x86_64 68/68

```

Packstack is a tool that automates the installation of OpenStack. It allows you to quickly set up a proof-of-concept OpenStack environment, making it easier to test and evaluate the platform.

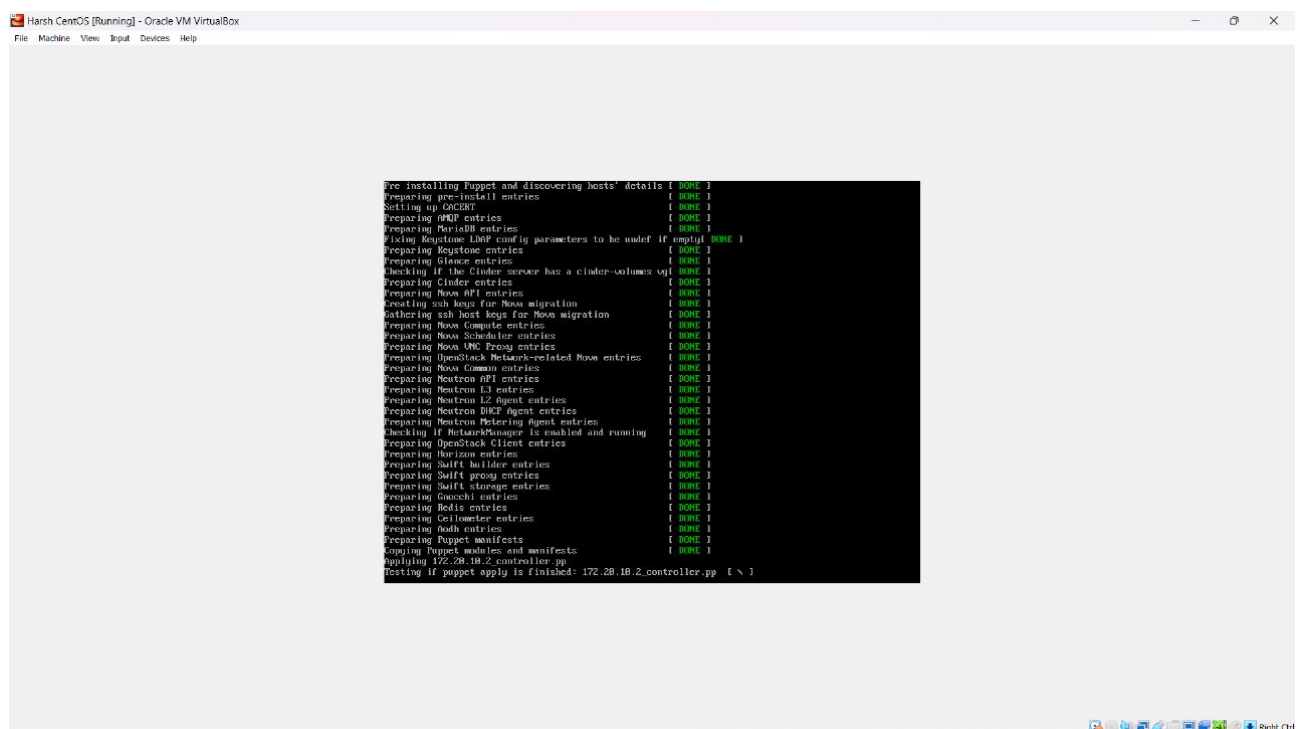
## Perform the “ip address show” command

The command `ip address show` is used to display information about the network interfaces and their configuration on a CentOS system.

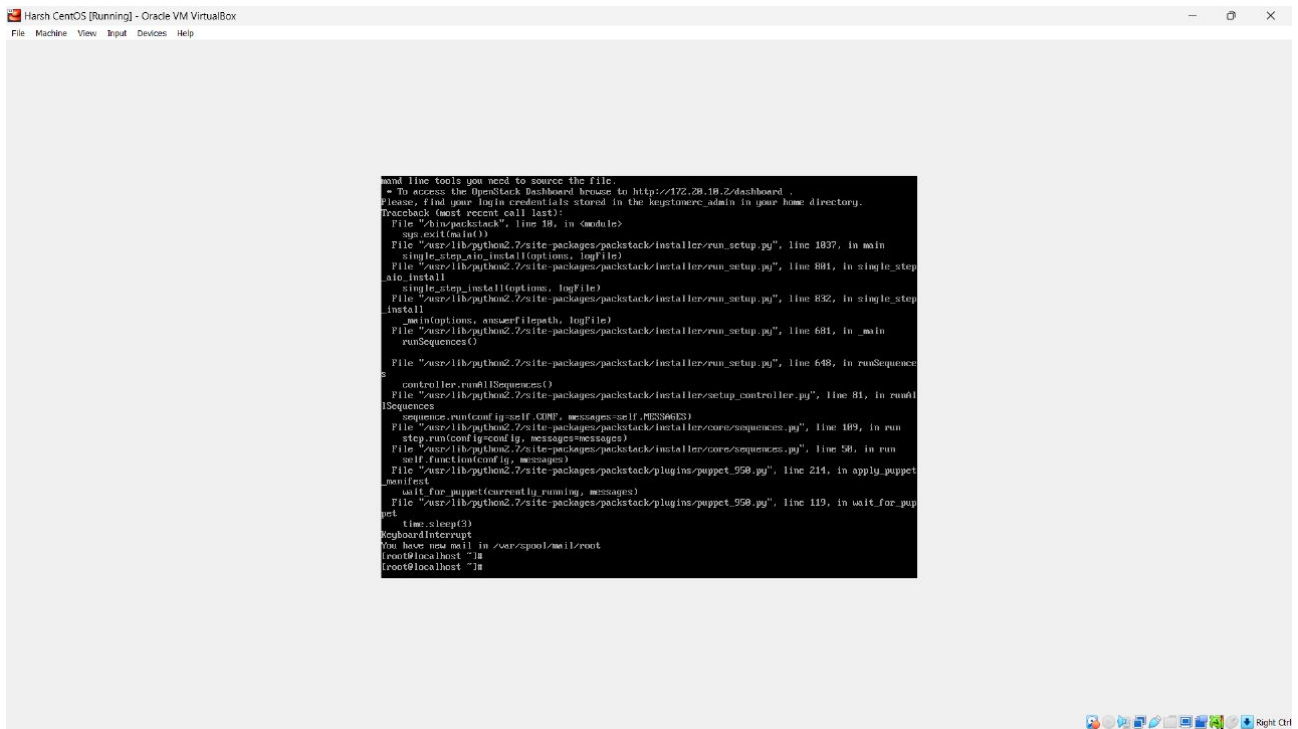


```
python2-pyOpenSSL.noarch 0:15.0.0-1.el7
python2-setuptools.noarch 0:48.0.0-1.el7
rpm-libs.x86_64 0:3.1.2-12.el7_5
ruby.x86_64 0:2.0.0.640-39.el7_9
ruby-engine16.x86_64 0:2.0.0-1.el7
ruby-facter.x86_64 1:3.9.3-2.el7
ruby-irb.noarch 0:2.0.0.640-39.el7_9
ruby-libs.x86_64 0:2.0.0.640-39.el7_9
ruby-shadow.x86_64 0:1.4.1-23.el7
rubygem-bigdecimal.x86_64 0:1.2.0-39.el7_9
rubygem-io-console.x86_64 0:0.4.2-39.el7_9
rubygem-jruby.x86_64 0:1.7.7-39.el7_9
rubygem-pathspec.noarch 0:0.2.1-3.el7
rubygem-psych.x86_64 0:2.0.0-39.el7_9
rubygem-rdoc.noarch 0:4.0.0-39.el7_9
rubygem-rgeo.noarch 0:0.6.6-2.el7
rubygem-rubygems.noarch 0:2.8.14.1-39.el7_9
ruby-libs.x86_64 0:0.5.1-6.el7

Complete!
[root@localhost ~]# ip address show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:97:bc:49 brd ff:ff:ff:ff:ff:ff
    inet 172.20.10.2/20 brd 172.20.10.15 scope global dynamic ens3
        valid_lft 65535sec preferred_lft 65535sec
    inet6 2001:490:2004::40a::a0b:27ff:fe57:c03/64 scope global mngtmode dynamic
        valid_lft forever preferred_lft forever
    inet6 fe80::a0b:27ff:fe57:c03/64 scope link
        valid_lft forever preferred_lft forever
[root@localhost ~]#
```



```
Pre installing Puppet and discovering hosts' details [ DONE ]
Preparing pre-install entries [ DONE ]
Setting up CRON [ DONE ]
Preparing OMP entries [ DONE ]
Preparing MariaDB entries [ DONE ]
Fixing Keystone LAMP config parameters to be used if empty [ DONE ]
Preparing Keystone entries [ DONE ]
Preparing Glance entries [ DONE ]
Checking if the Cinder server has a cinder-volumes vg [ DONE ]
Preparing Cinder entries [ DONE ]
Preparing Nova API entries [ DONE ]
Creating ssh keys for Nova migration [ DONE ]
Gathering ssh host keys for Nova migration [ DONE ]
Preparing Nova Compute entries [ DONE ]
Preparing Nova Scheduler entries [ DONE ]
Preparing Nova OMC Proxy entries [ DONE ]
Preparing OpenStack Network-related Nova entries [ DONE ]
Preparing Nova Common entries [ DONE ]
Preparing Neutron API entries [ DONE ]
Preparing Neutron L3 entries [ DONE ]
Preparing Neutron L2 Agent entries [ DONE ]
Preparing Neutron DHCP Agent entries [ DONE ]
Preparing Neutron Metering Agent entries [ DONE ]
Checking if NetworkManager is enabled and running [ DONE ]
Preparing OpenStack Client entries [ DONE ]
Preparing Horizon entries [ DONE ]
Preparing Swift builder entries [ DONE ]
Preparing Swift proxy entries [ DONE ]
Preparing Swift storage entries [ DONE ]
Preparing Ceph entries [ DONE ]
Preparing Redis entries [ DONE ]
Preparing Celery entries [ DONE ]
Preparing Rabbit entries [ DONE ]
Preparing Puppet manifests [ DONE ]
Copying Puppet modules and manifests [ DONE ]
Applying 172.20.10.2.controller.pp [ DONE ]
Testing if puppet apply is finished: 172.20.10.2.controller.pp [ \ ]
```



## END OF THE EXERCISE























