

# **Assignment No. 7**

**Batch: T6**

**PRN No: 2019BTECS00033**

- **Title: Install and demonstrate Oracle Parallel database : Oracle Real Application Clusters (RAC) 19c.**

**Aim:**

- **STEPS FOR ORACLE RAC 19c INSTALLATION ON LINUX USING VIRTUALBOX**

**Steps for Oracle RAC 19c installation (Grid + Oracle Software) on Linux Red hat 6 version on VirtualBox**

**I      System Requirements:**

8 GB of RAM; 80 GB of free space on the hard disk + staging area for Oracle Linux and RAC downloads, about 12 GB; This procedure was tested on 64-bit Windows 10.

**I      Download Software :**

Virtualbox(103 MB)  
OracleLinux 7  
Mobile Xstream  
Linux ISO file(4.5GB)

**III    Virtual Machine Setup**

## I      **Install the system Linux prerequisites**

The package oracle-database-preinstall-19c contains all the prerequisites on Oracle Linux using the Oracle Unbreakable Enterprise Kernel (UEK).

```
# yum update -y  
# yum install -y oracle-database-preinstall-19c.x86_64  
# yum install oracleasm-support  
# yum install bind* -y  
# sysctl -p
```

## I      **OS level prerequisites (User creation + Network and System level changes):**

```
II            • Add the following entry in /etc/hosts file  
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4  
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6  
# Private  
192.168.10.1 rac1-priv.localdomain rac1-priv  
192.168.10.2 rac2-priv.localdomain rac2-priv  
# Public  
192.168.56.71 rac1.localdomain rac1  
192.168.56.72 rac2.localdomain rac2  
# Virtual  
192.168.56.81 rac1-vip.localdomain rac1-vip  
192.168.56.82 rac2-vip.localdomain rac2-vip
```

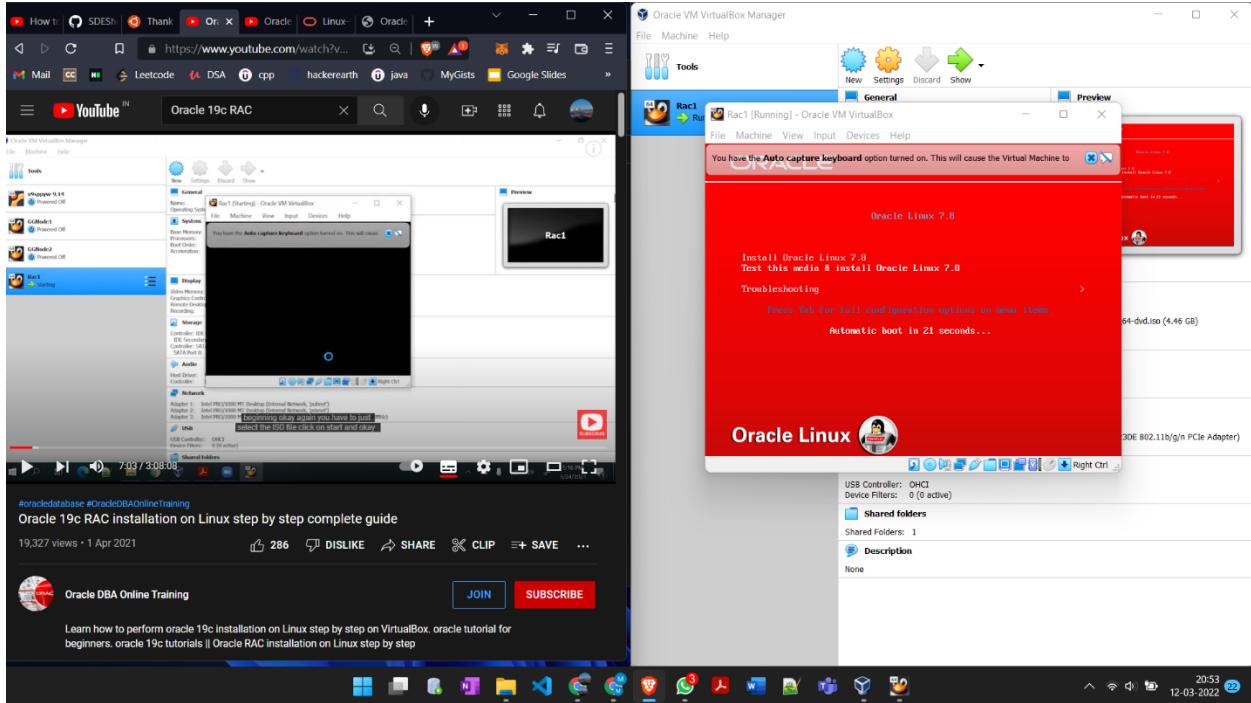
## I      **Clone the Virtual Machine**

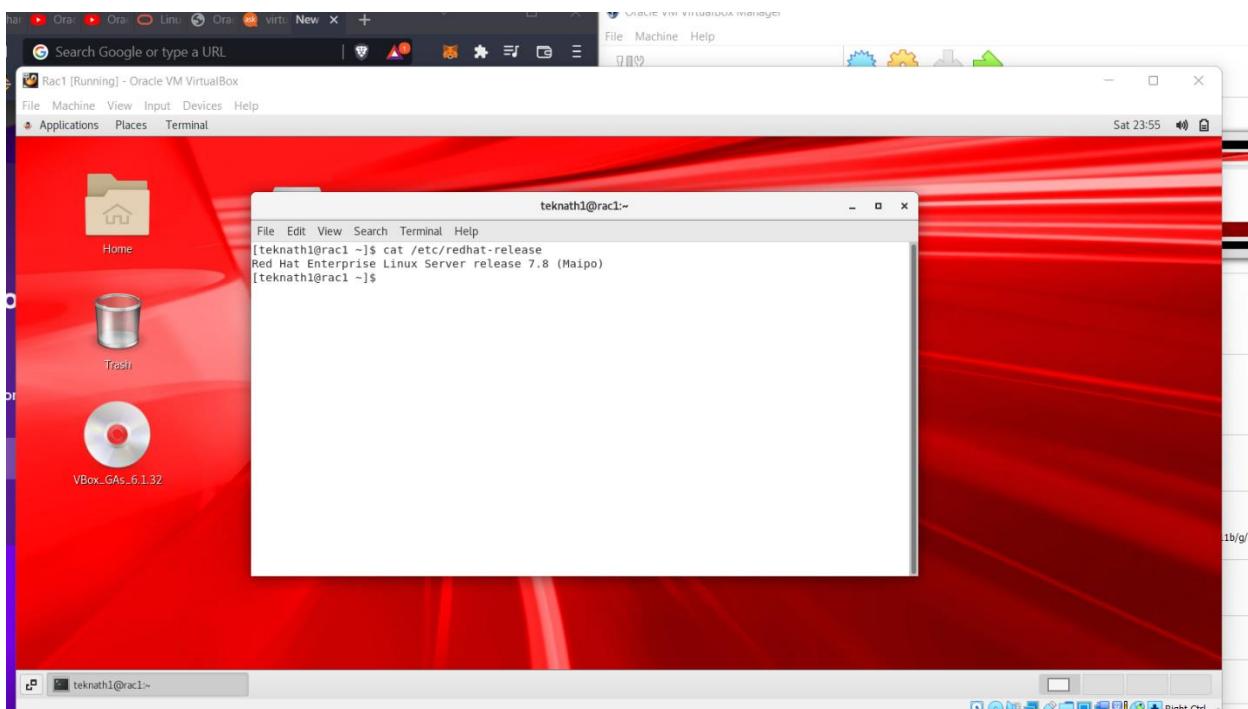
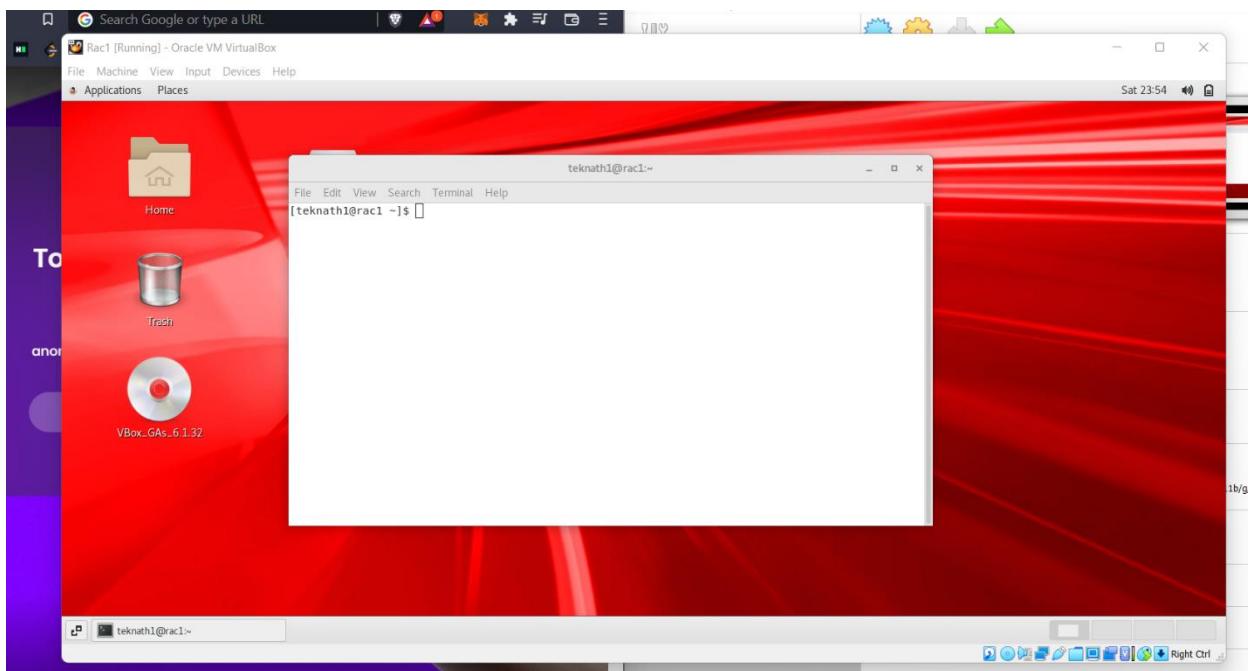
After completing above step now we will clone the Rac1 VM and make Rac2 VM.

## I      **Create Shared Disks:**

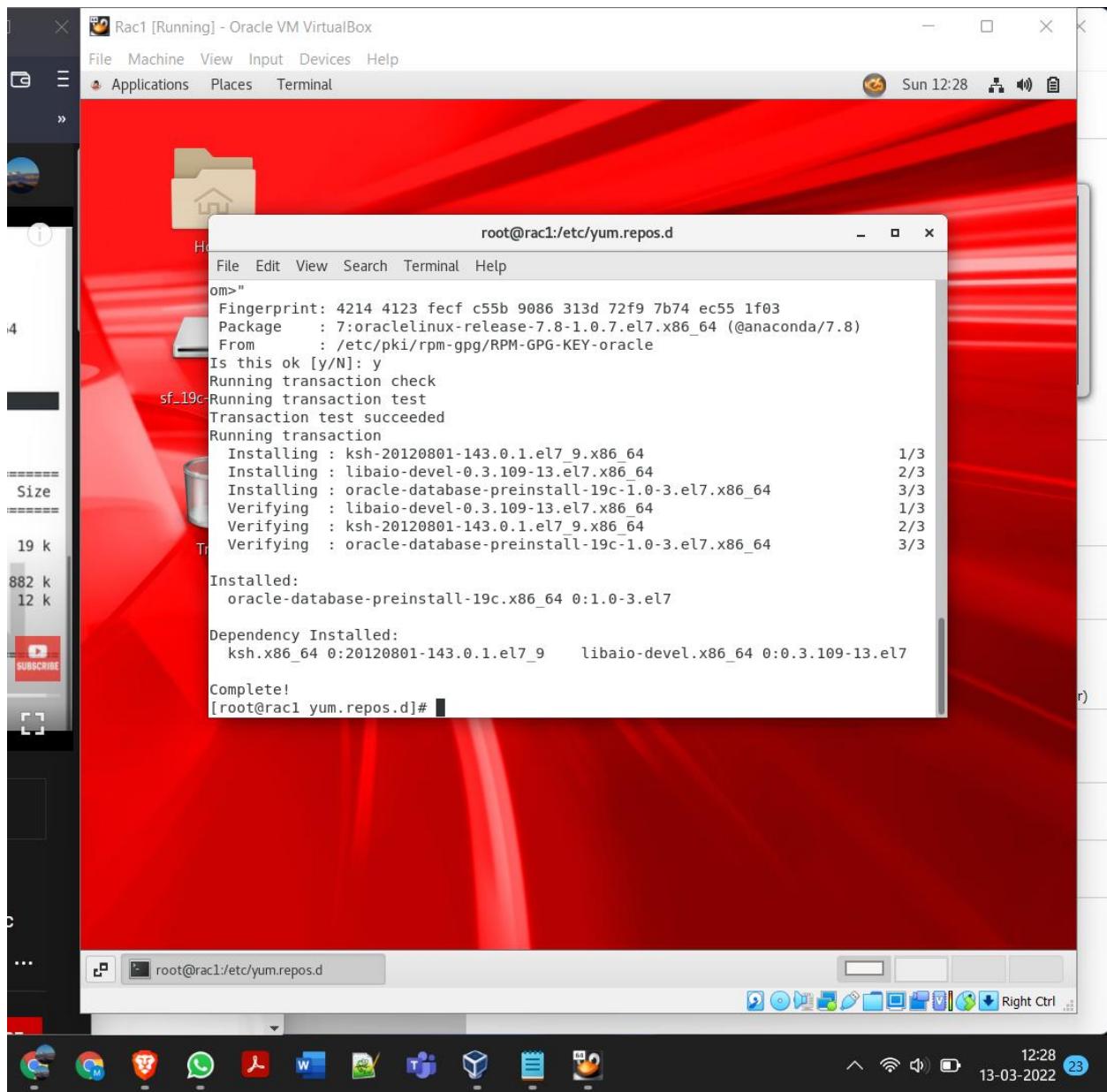
## I      **Configure oracleasm on both the nodes as root user.**

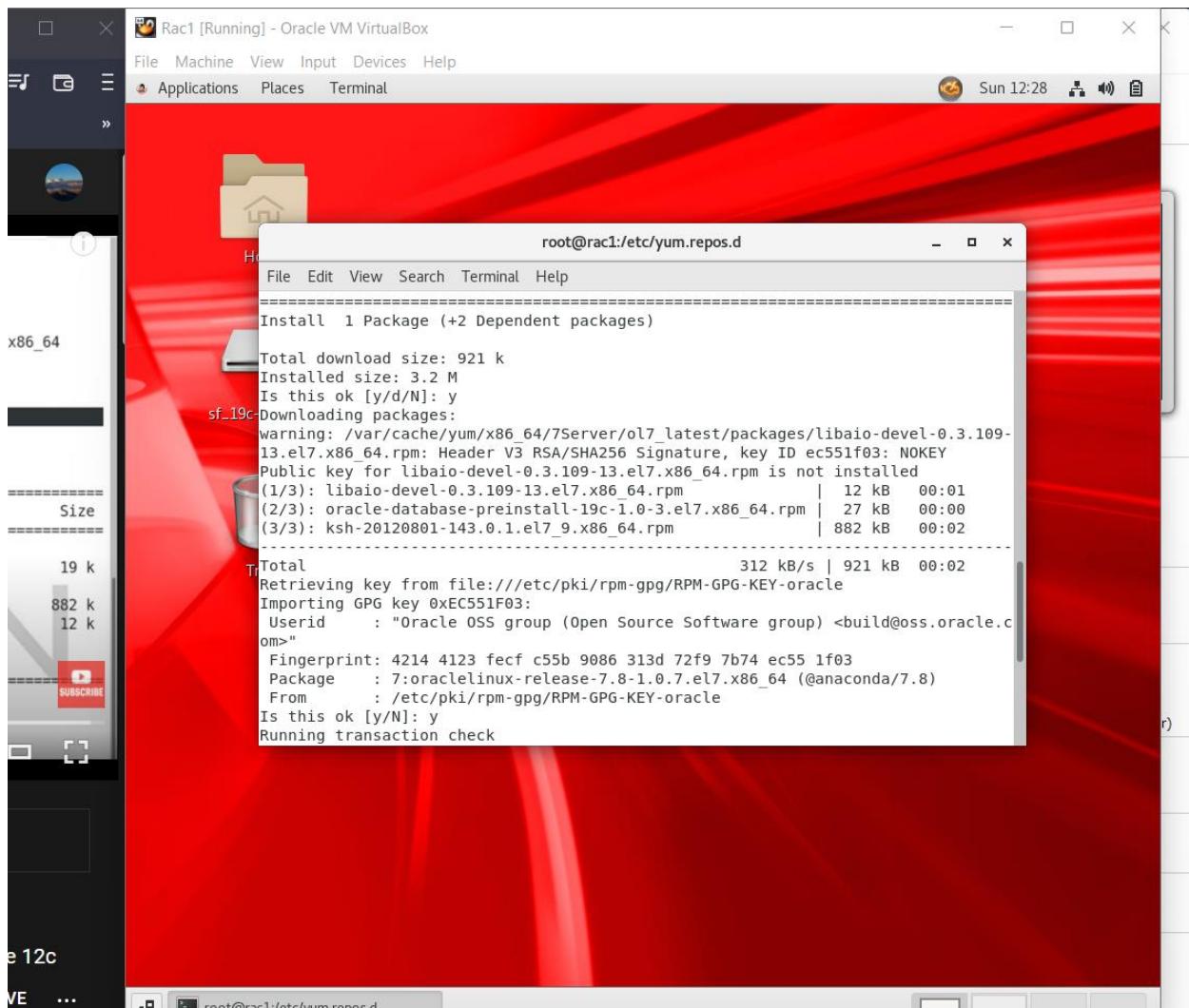
# ScreenSHOTS OF Practical:





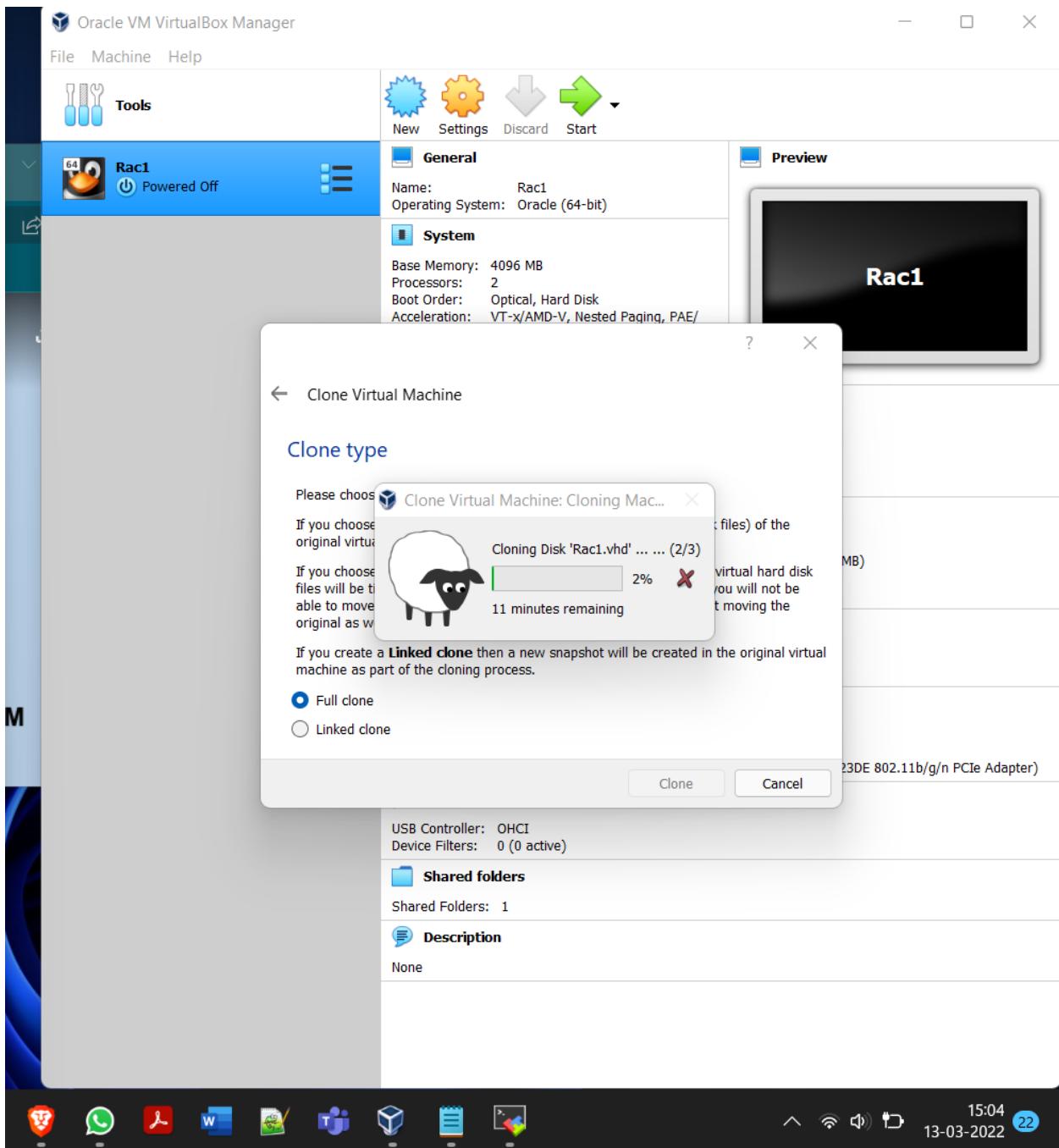


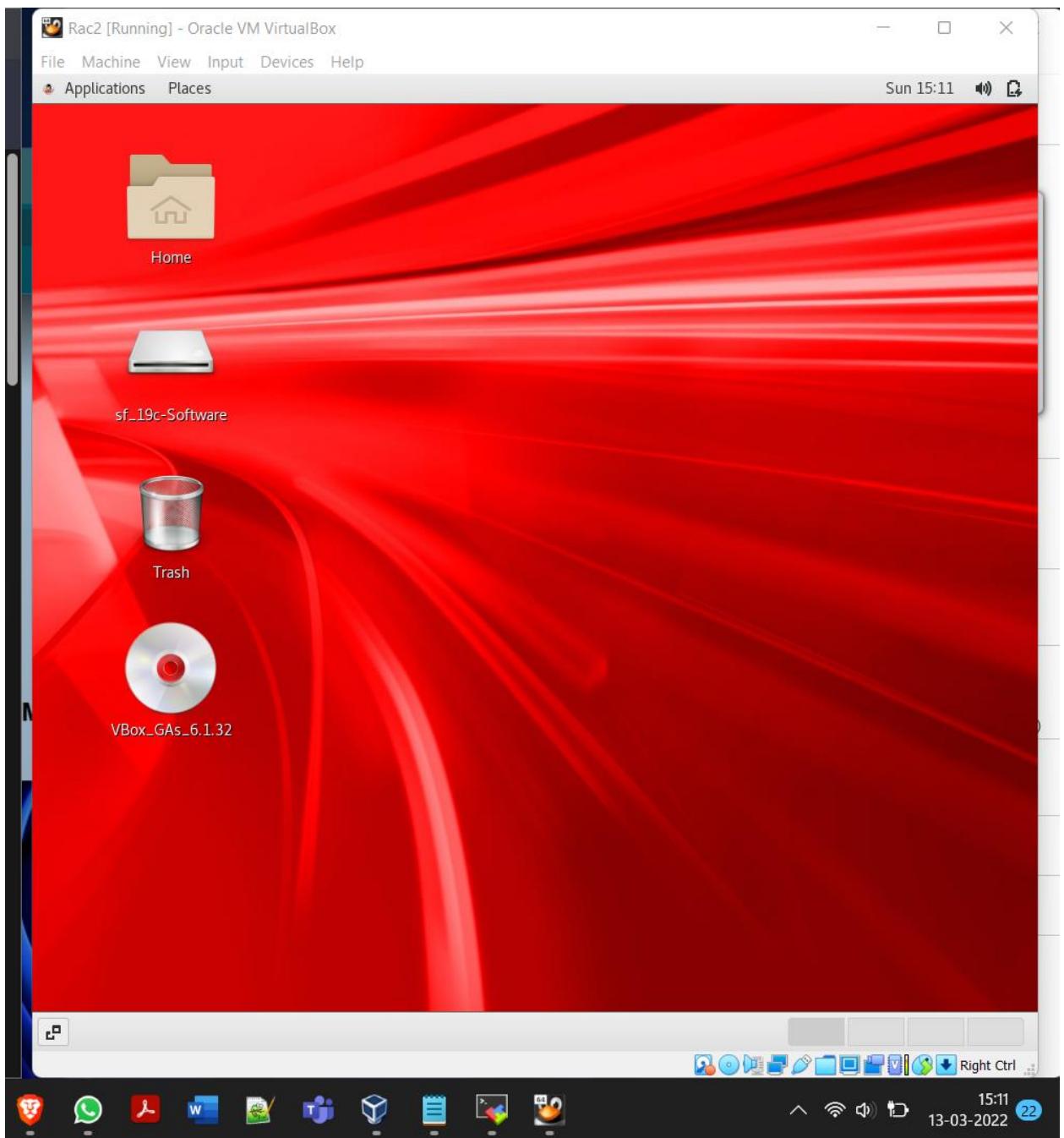


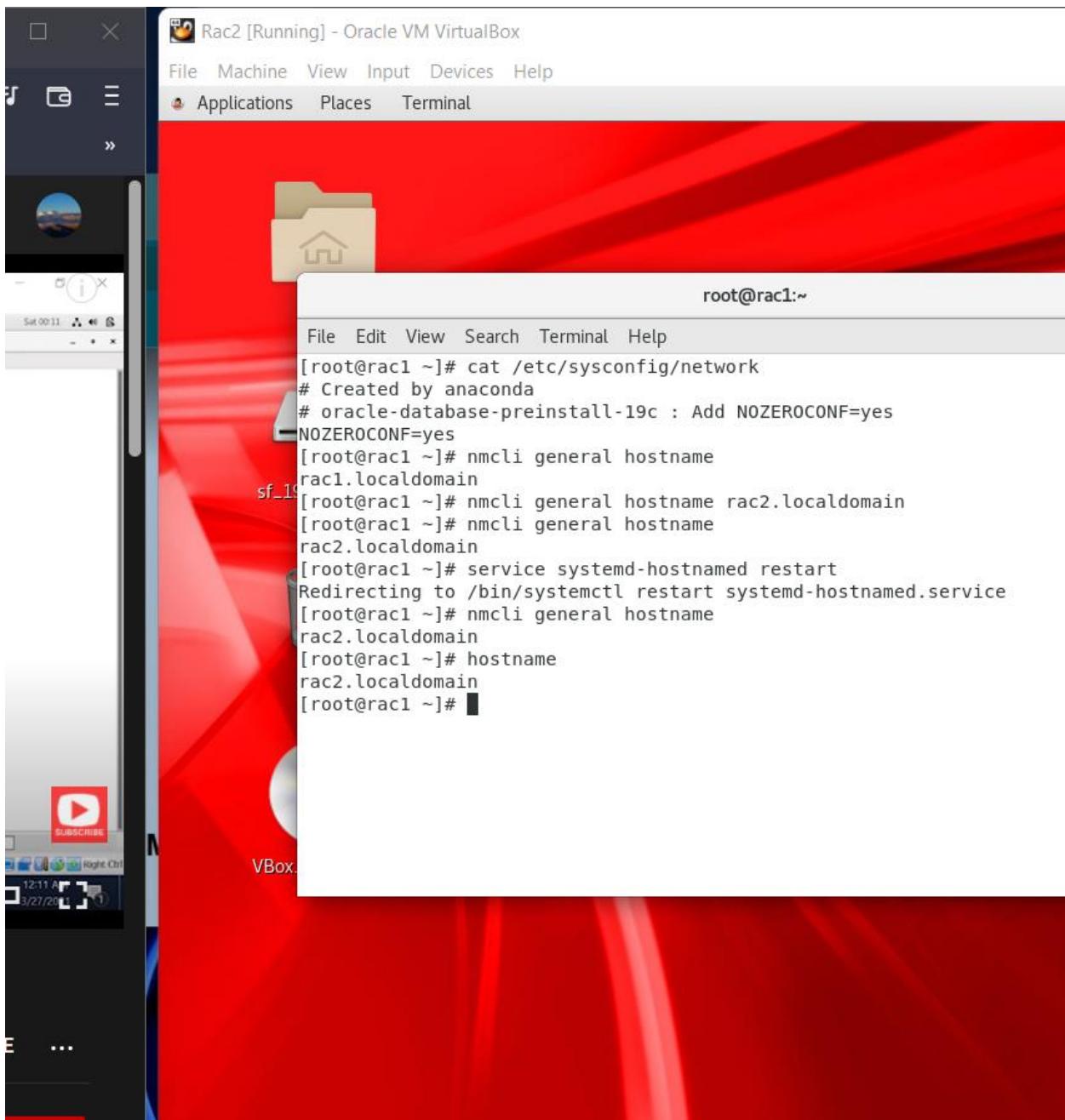


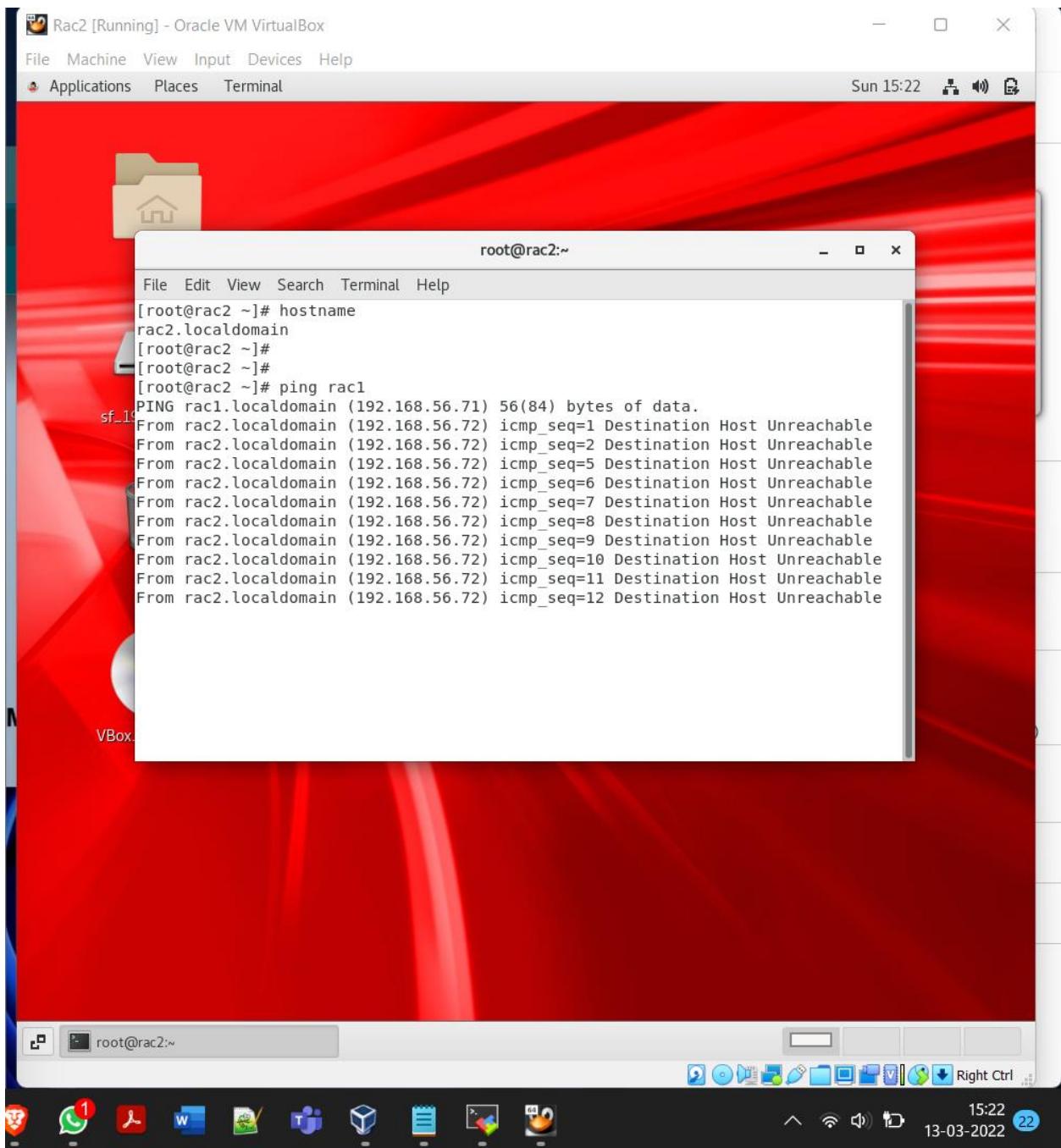
A screenshot of a Linux desktop environment with a red background. A terminal window titled "root@rac1:/etc/yum.repos.d" is open, displaying the following command and its output:

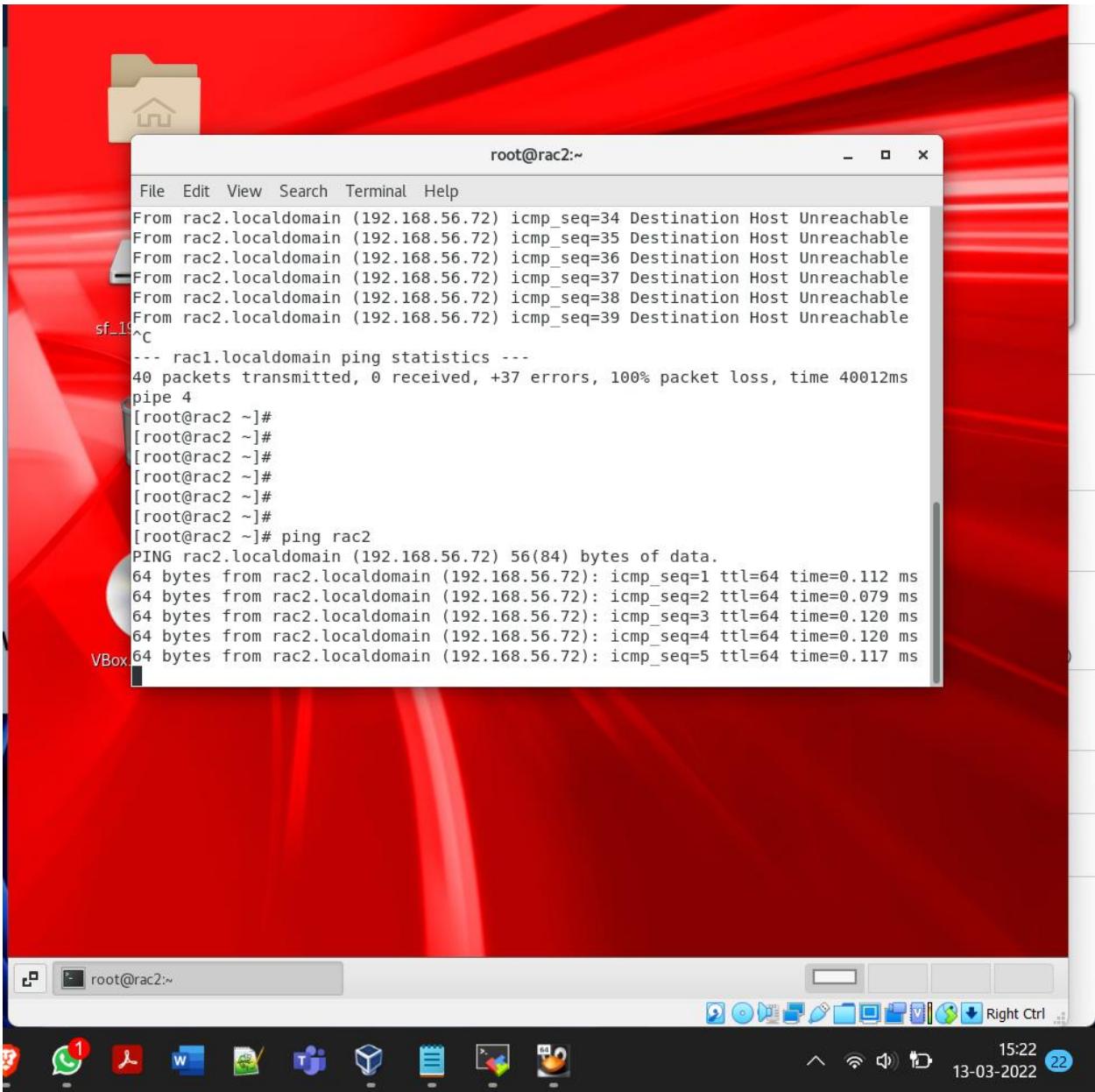
```
root@rac1:/etc/yum.repos.d#
File Edit View Search Terminal Help
Available: 32:bind-export-libs-9.11.4-26.P2.el7_9.7.x86_64 (ol7_lates
t)
          bind-export-libs(x86-64) = 32:9.11.4-26.P2.el7_9.7
Available: 32:bind-export-libs-9.11.4-26.P2.el7_9.8.x86_64 (ol7_lates
t)
          bind-export-libs(x86-64) = 32:9.11.4-26.P2.el7_9.8
sf_19c- You could try using --skip-broken to work around the problem
You could try running: rpm -Va --nofiles --nodigest
[root@rac1 yum.repos.d]# sysctl -p
fs.file-max = 6815744
kernel.sem = 250 32000 100 128
kernel.shmmni = 4096
kernel.shmall = 1073741824
kernel.shmmax = 4398046511104
kernel.panic_on_oops = 1
net.core.rmem_default = 262144
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048576
net.ipv4.conf.all.rp_filter = 2
net.ipv4.conf.default.rp_filter = 2
fs.aio-max-nr = 1048576
net.ipv4.ip_local_port_range = 9000 65500
[root@rac1 yum.repos.d]#
```

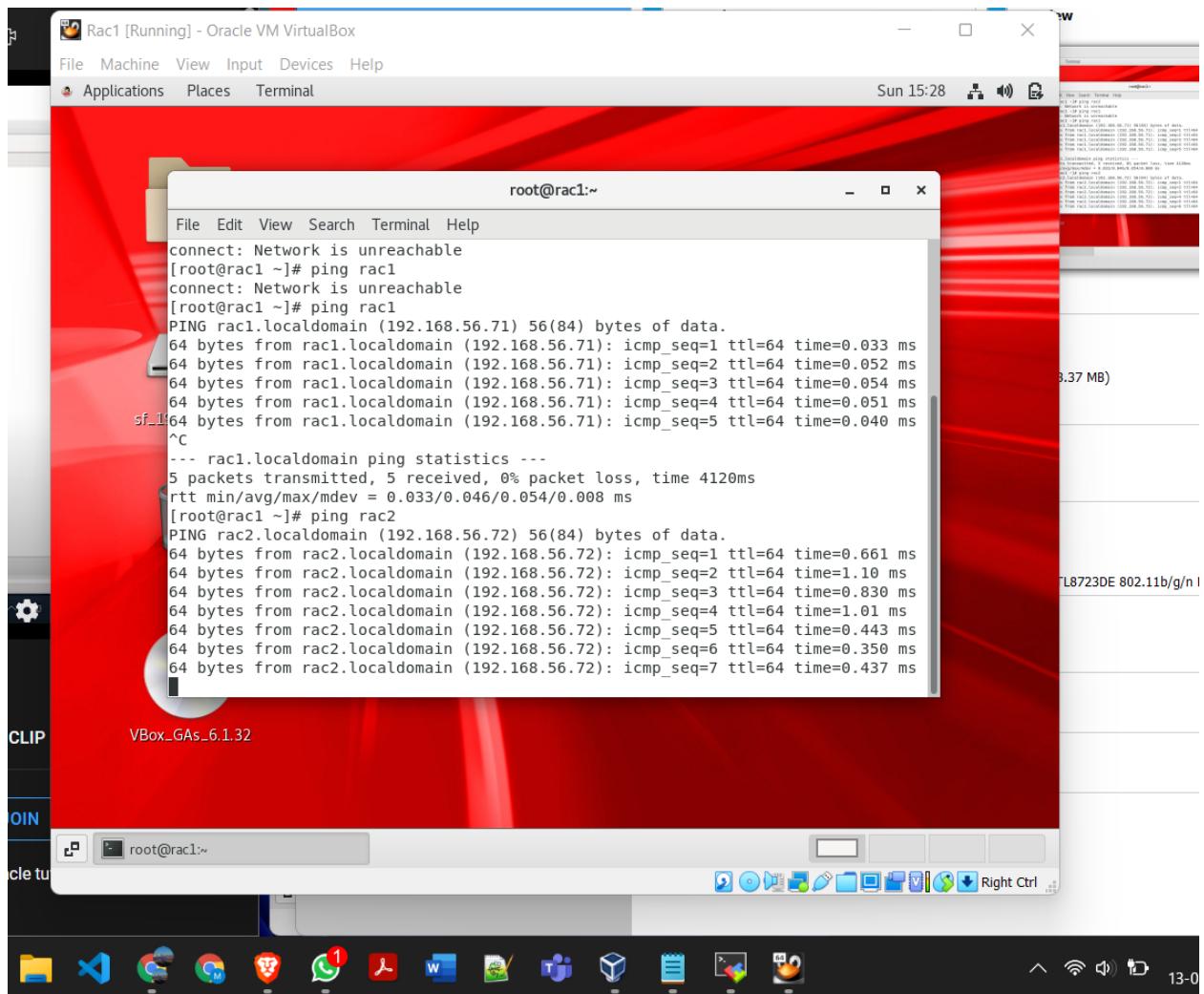












File Machine Help



Tools

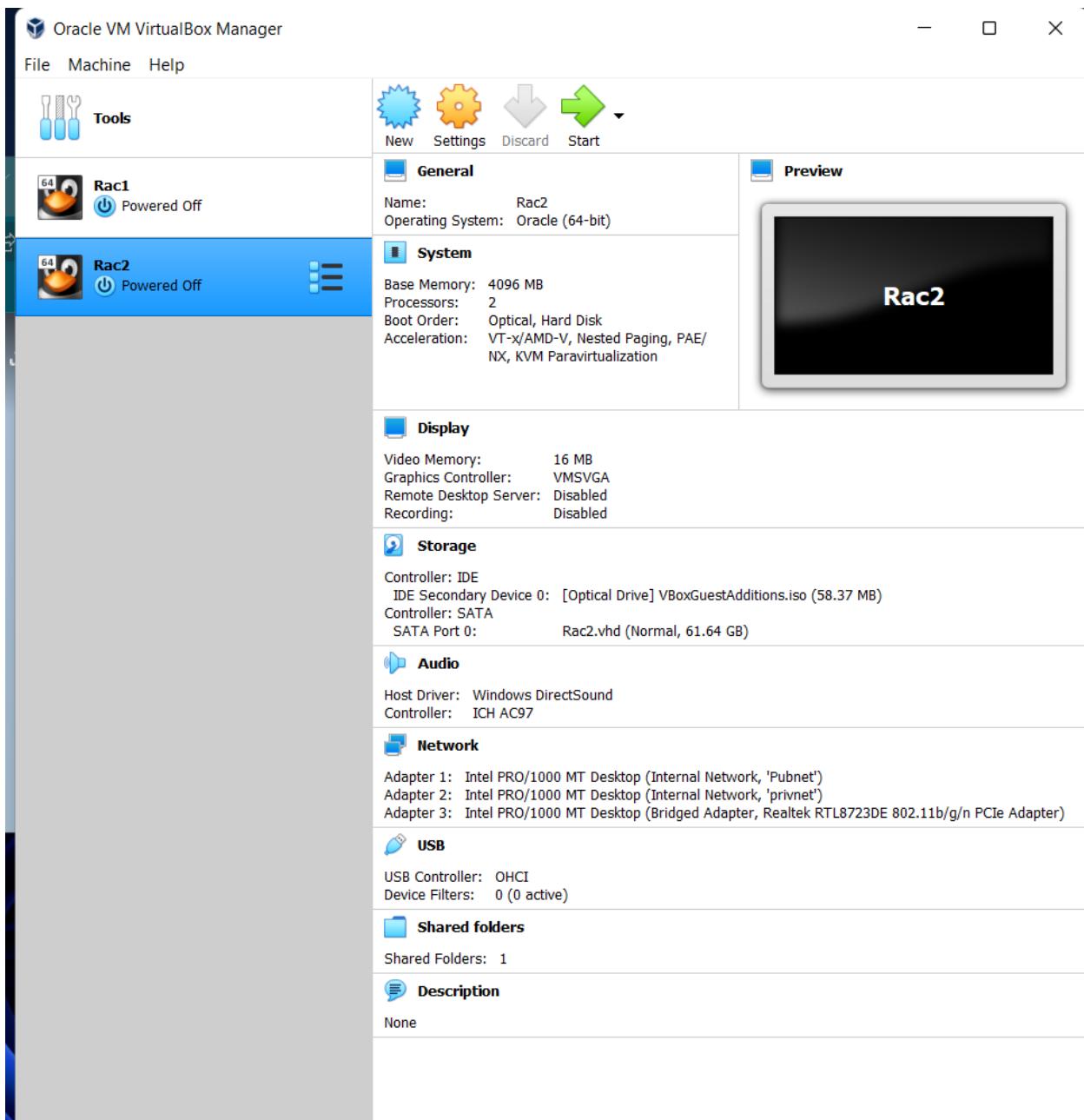
New Settings Discard Start

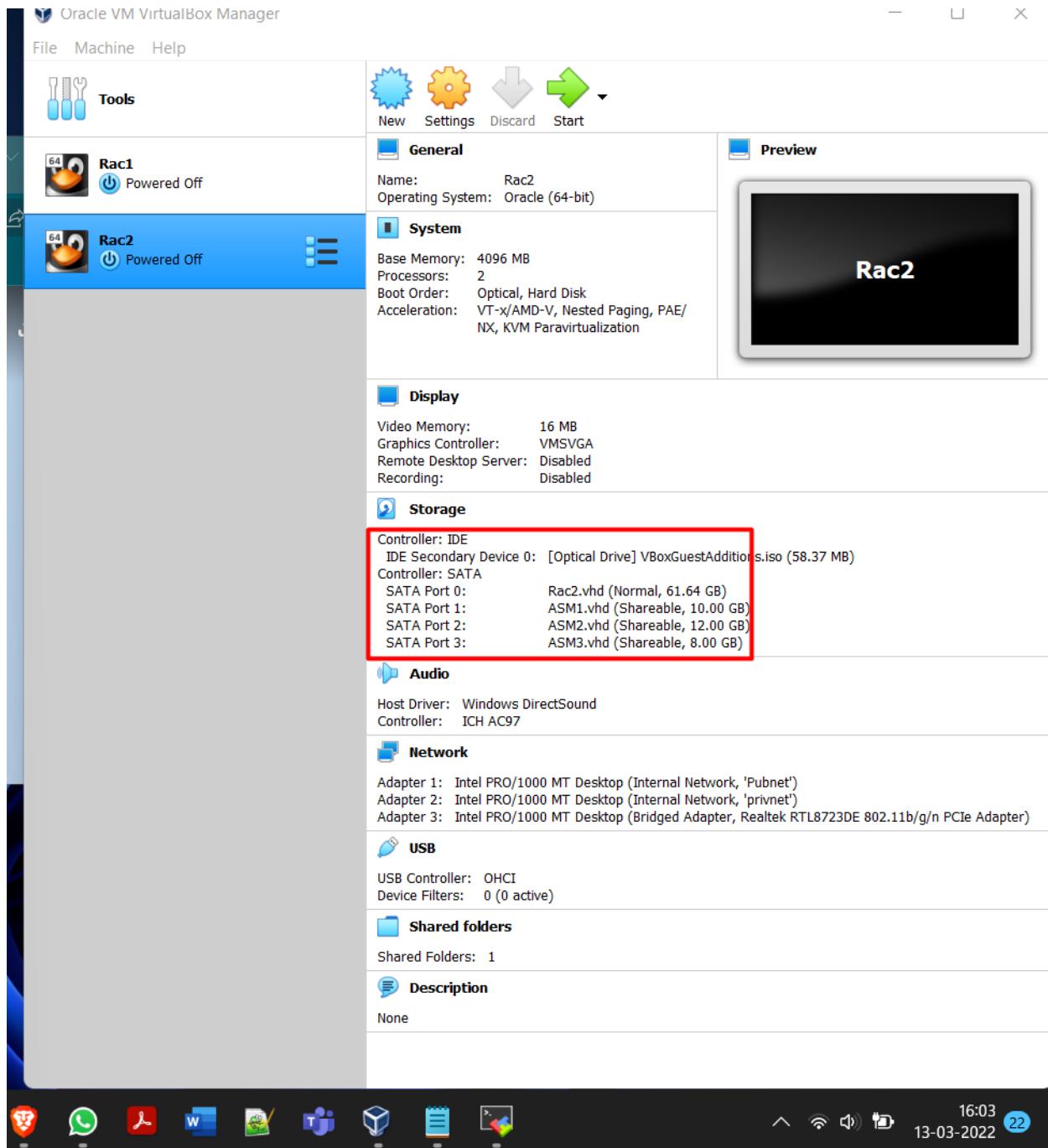
Rac1  
Powered OffRac2  
Powered Off**General**Name: Rac1  
Operating System: Oracle (64-bit)**System**Base Memory: 4096 MB  
Processors: 2  
Boot Order: Optical, Hard Disk  
Acceleration: VT-x/AMD-V, Nested Paging, PAE/NX, KVM Paravirtualization**Preview****Display**Video Memory: 16 MB  
Graphics Controller: VMSVGA  
Remote Desktop Server: Disabled  
Recording: Disabled**Storage**Controller: IDE  
IDE Secondary Device 0: [Optical Drive] VBoxGuestAdditions.iso (58.37 MB)  
Controller: SATA  
SATA Port 0: Rac1.vhd (Normal, 61.64 GB)**Audio**Host Driver: Windows DirectSound  
Controller: ICH AC97**Network**Adapter 1: Intel PRO/1000 MT Desktop (Internal Network, 'Pubnet')  
Adapter 2: Intel PRO/1000 MT Desktop (Internal Network, 'privnet')  
Adapter 3: Intel PRO/1000 MT Desktop (Bridged Adapter, Realtek RTL8723DE 802.11b/g/n PCIe Adapter)**USB**USB Controller: OHCI  
Device Filters: 0 (0 active)**Shared folders**

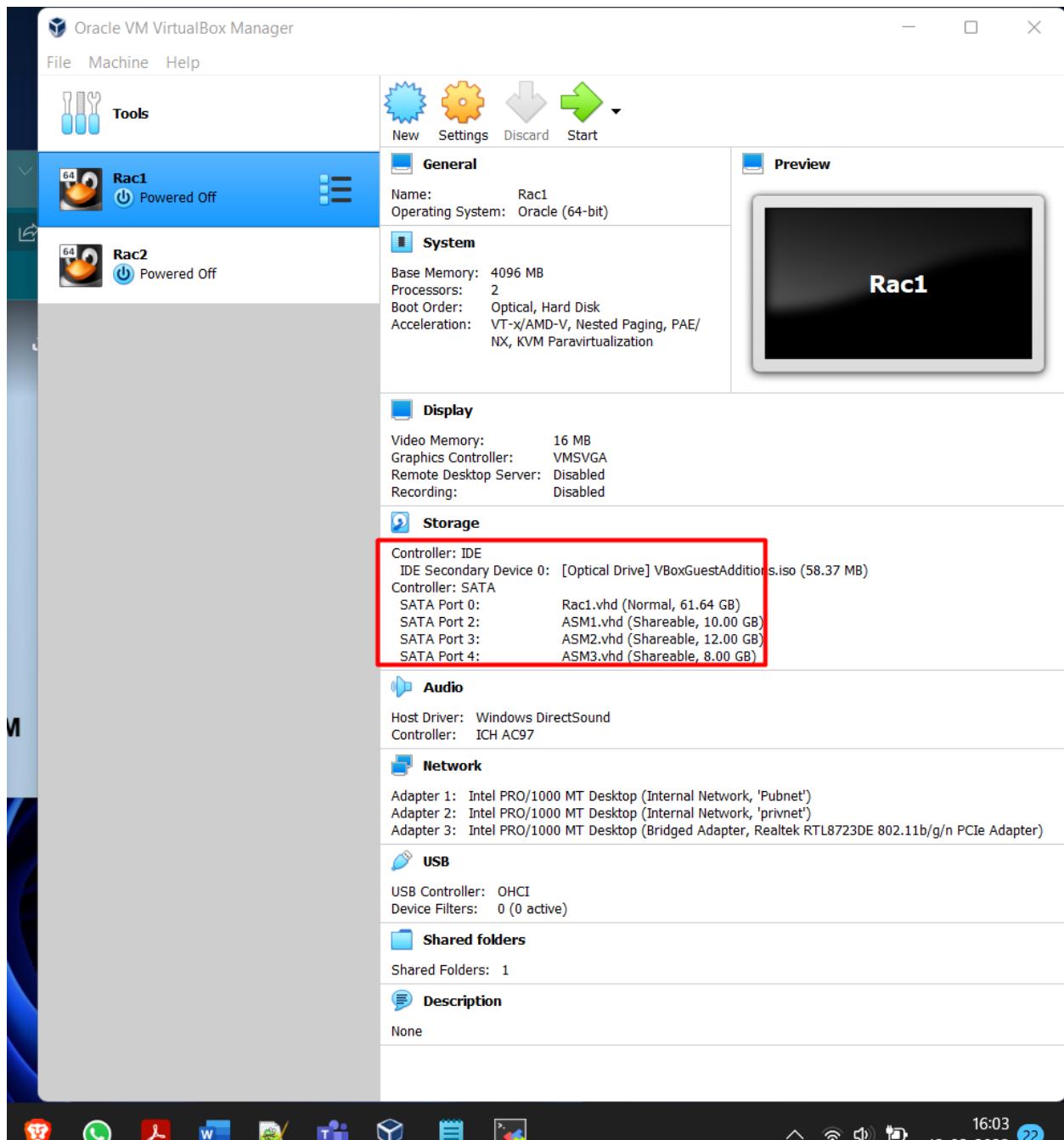
Shared Folders: 1

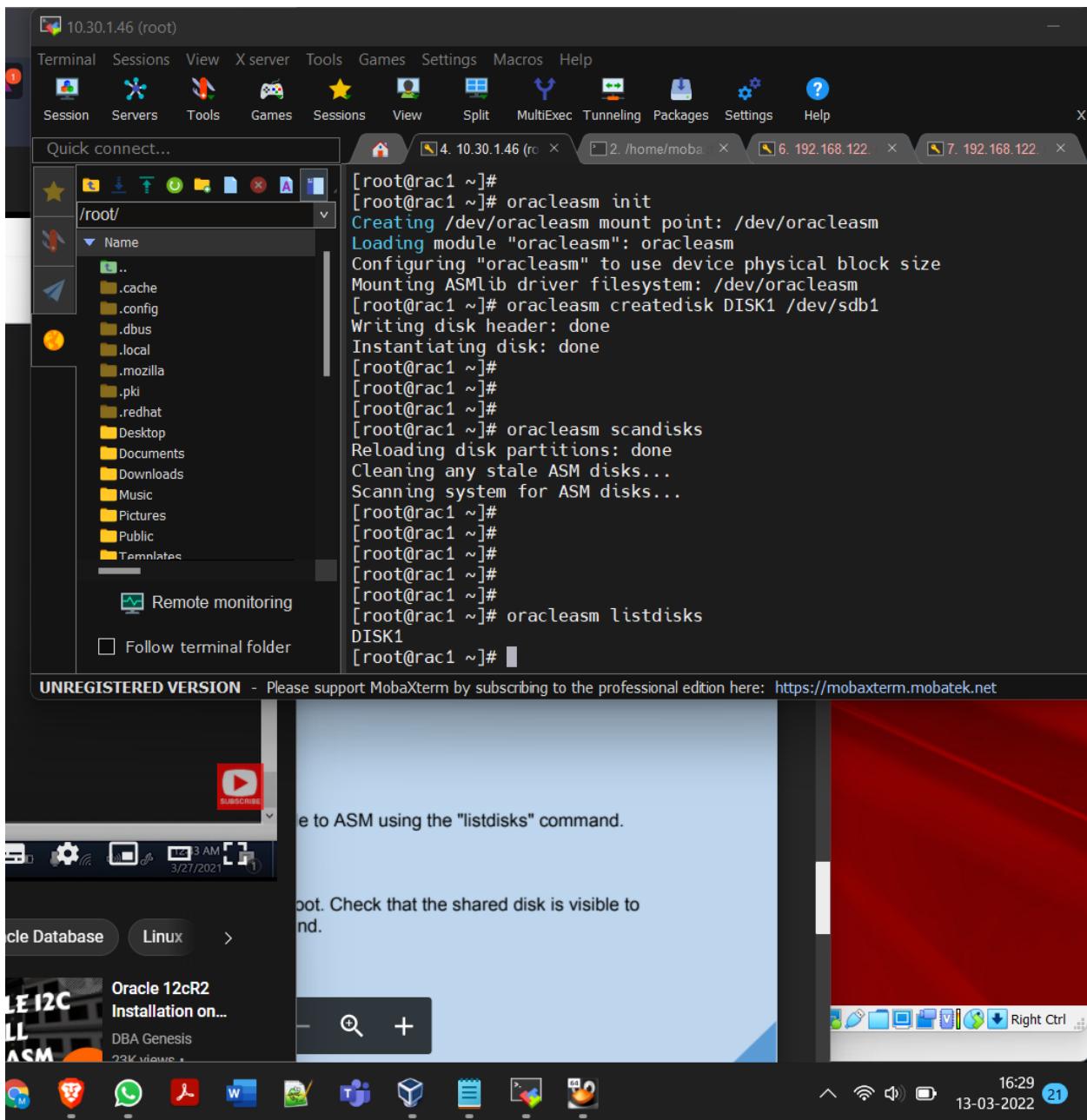
**Description**

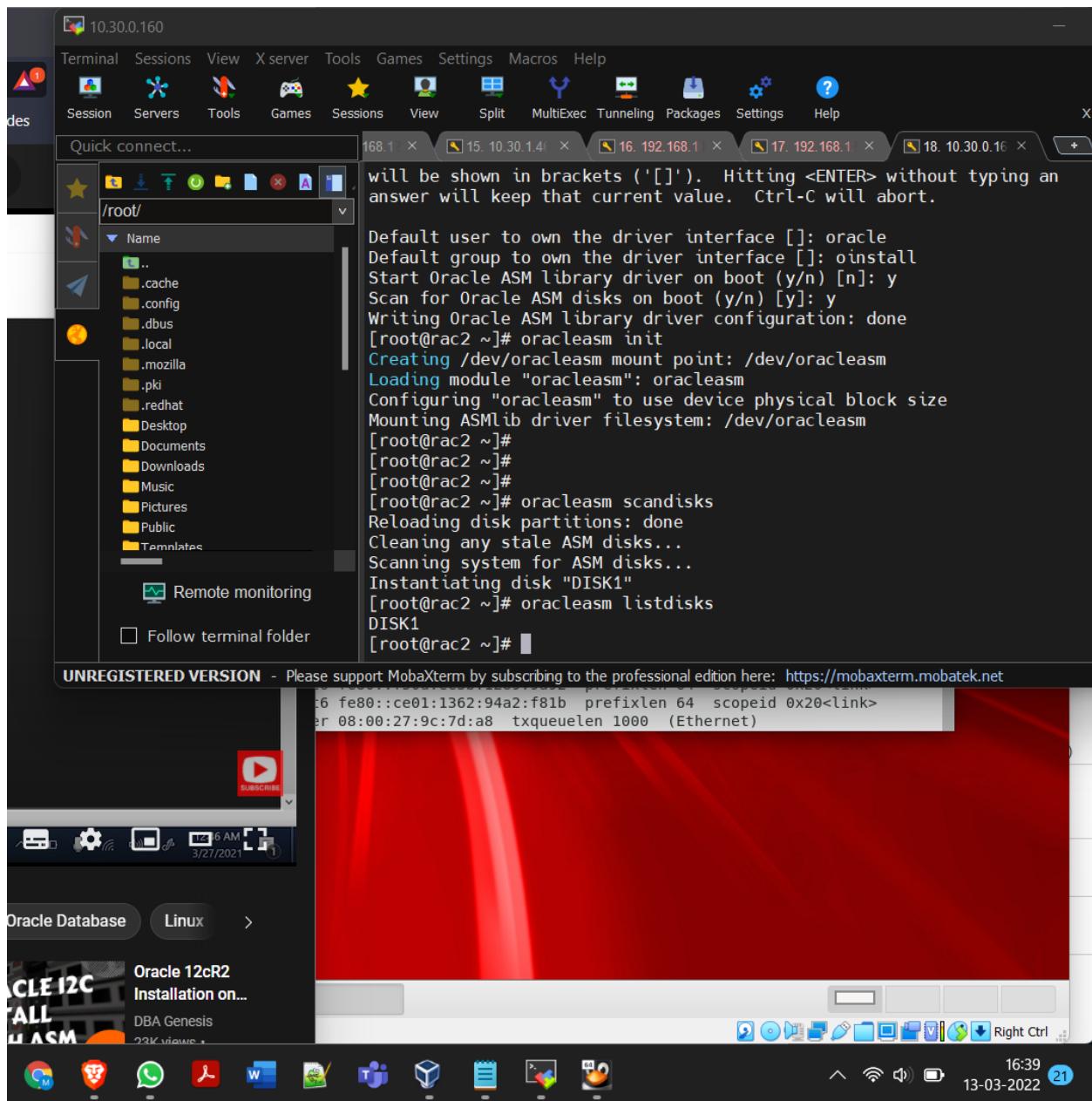
None

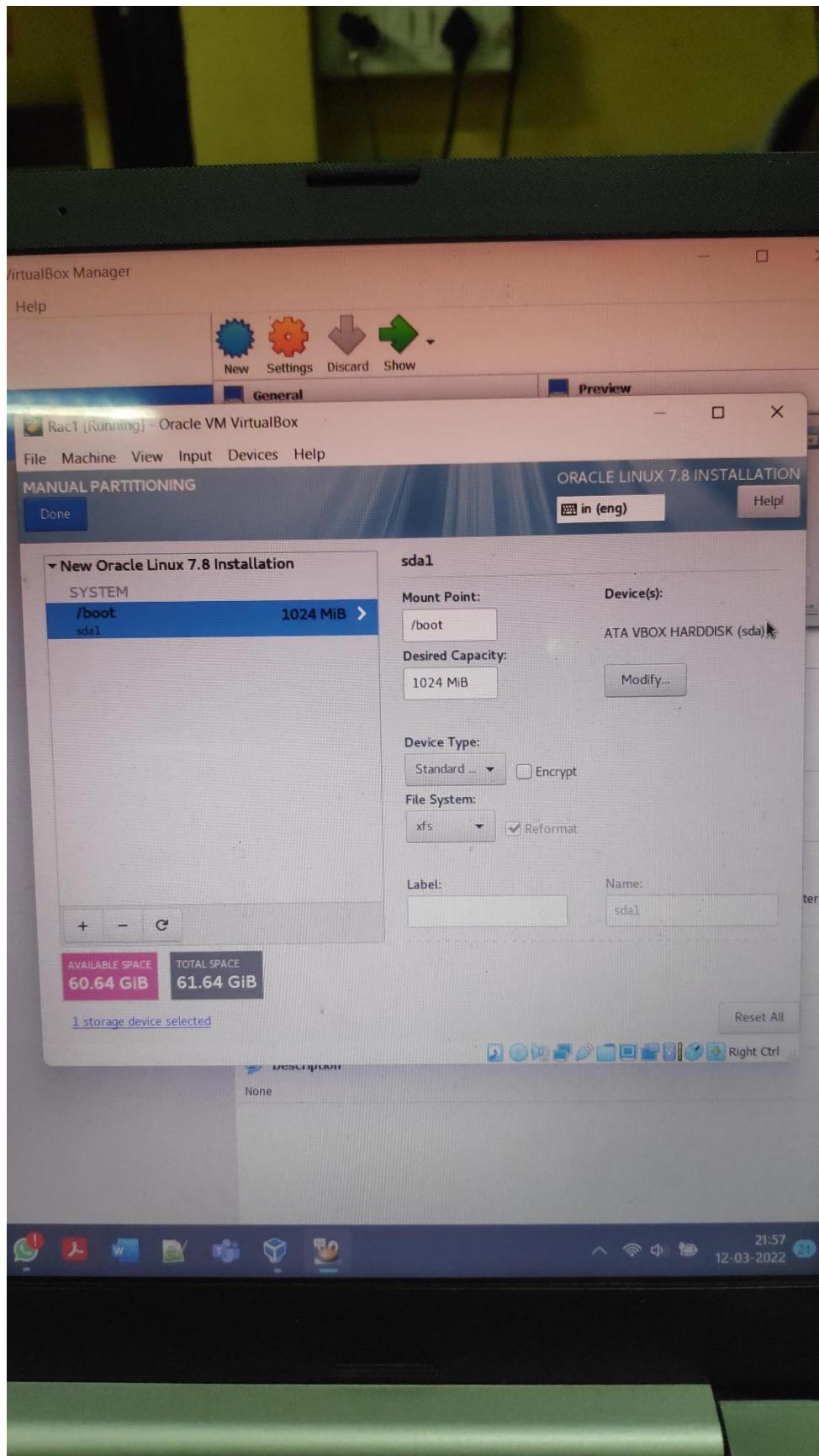


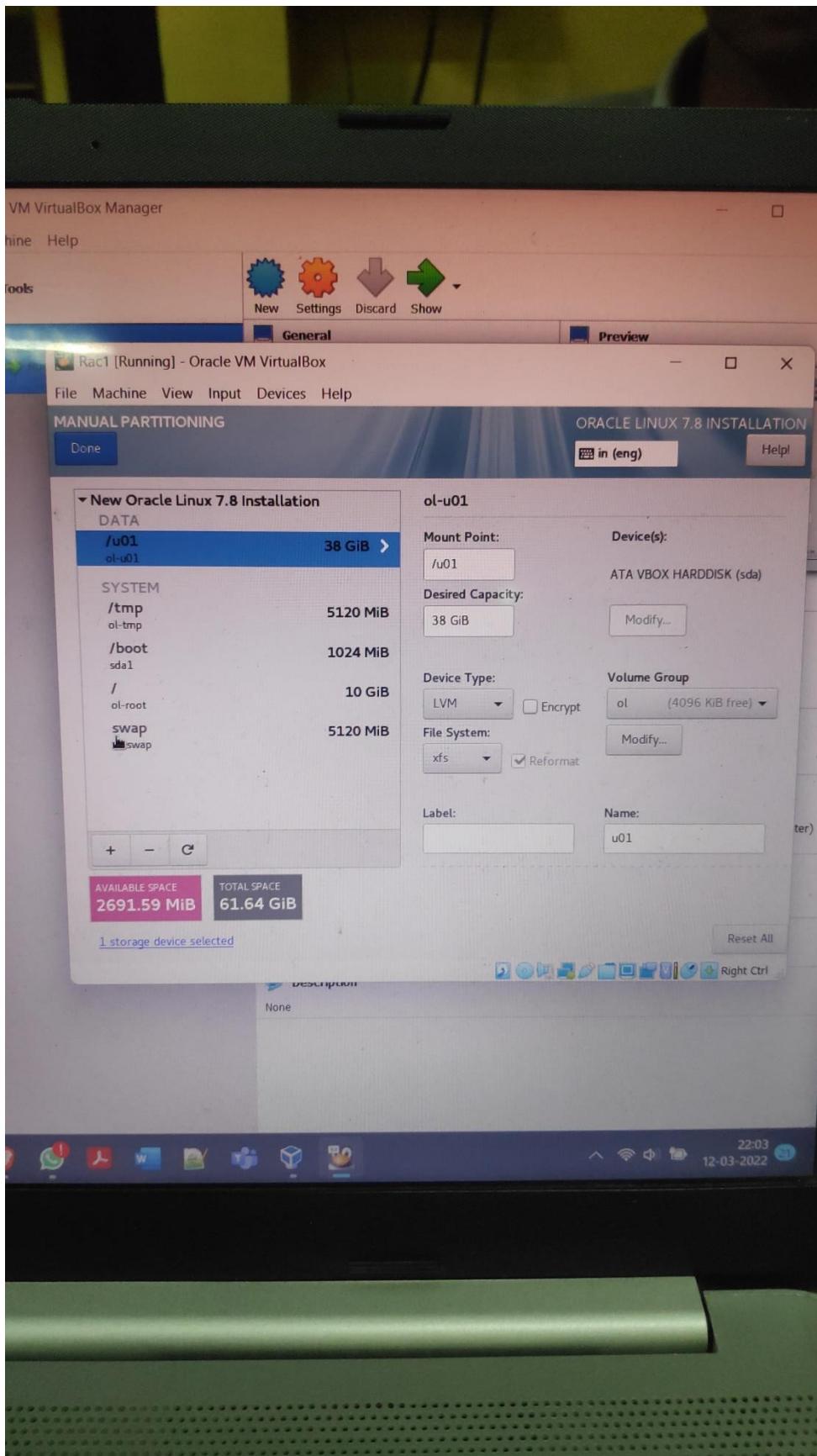


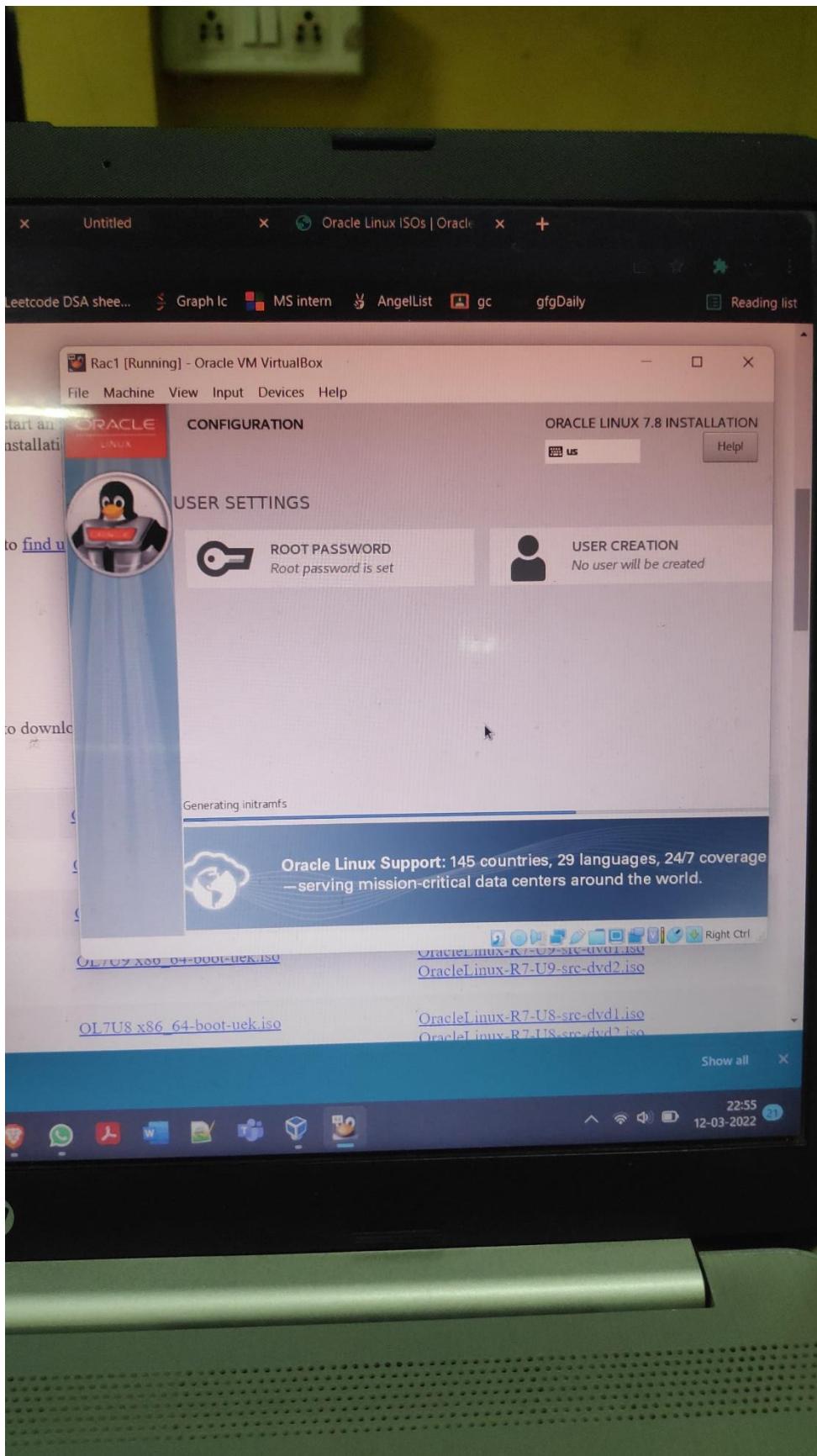


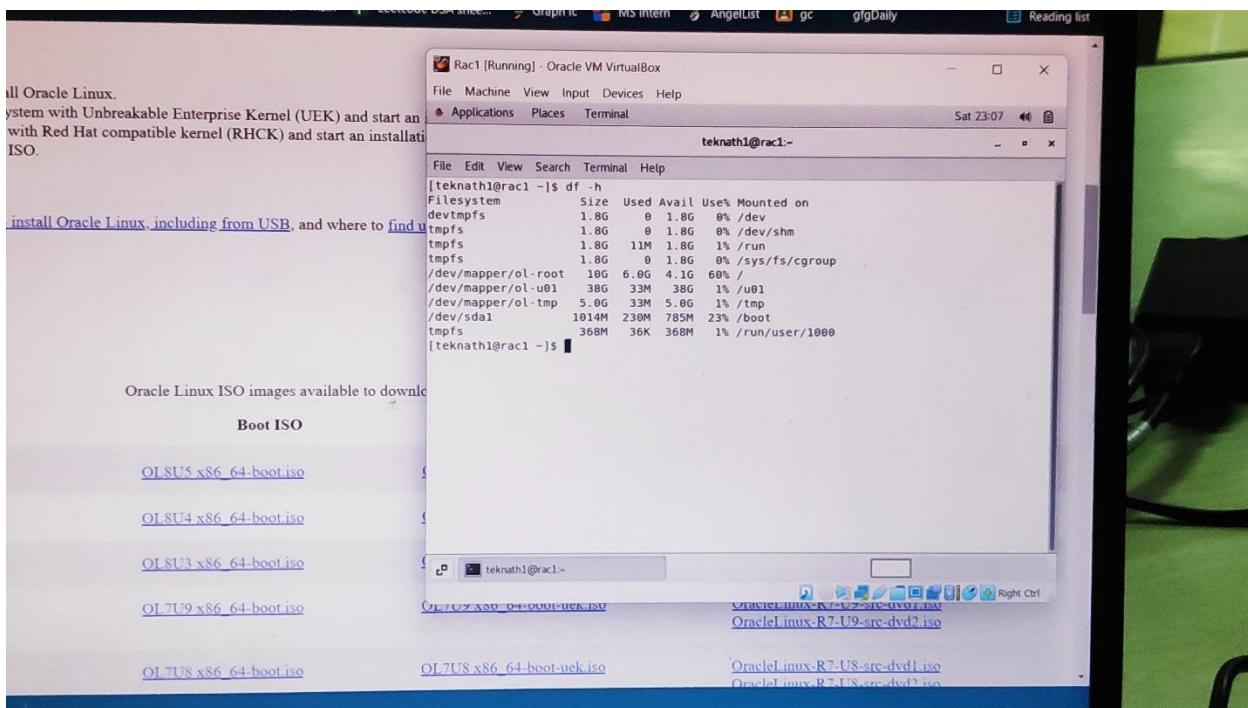
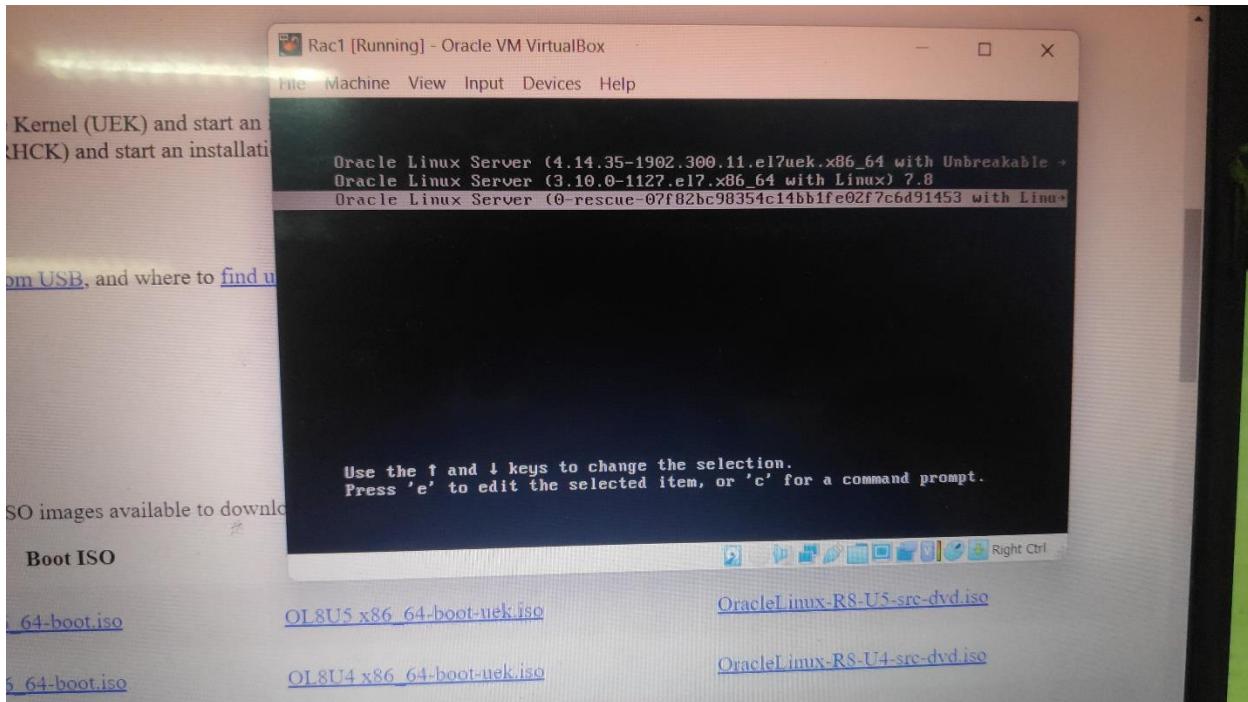


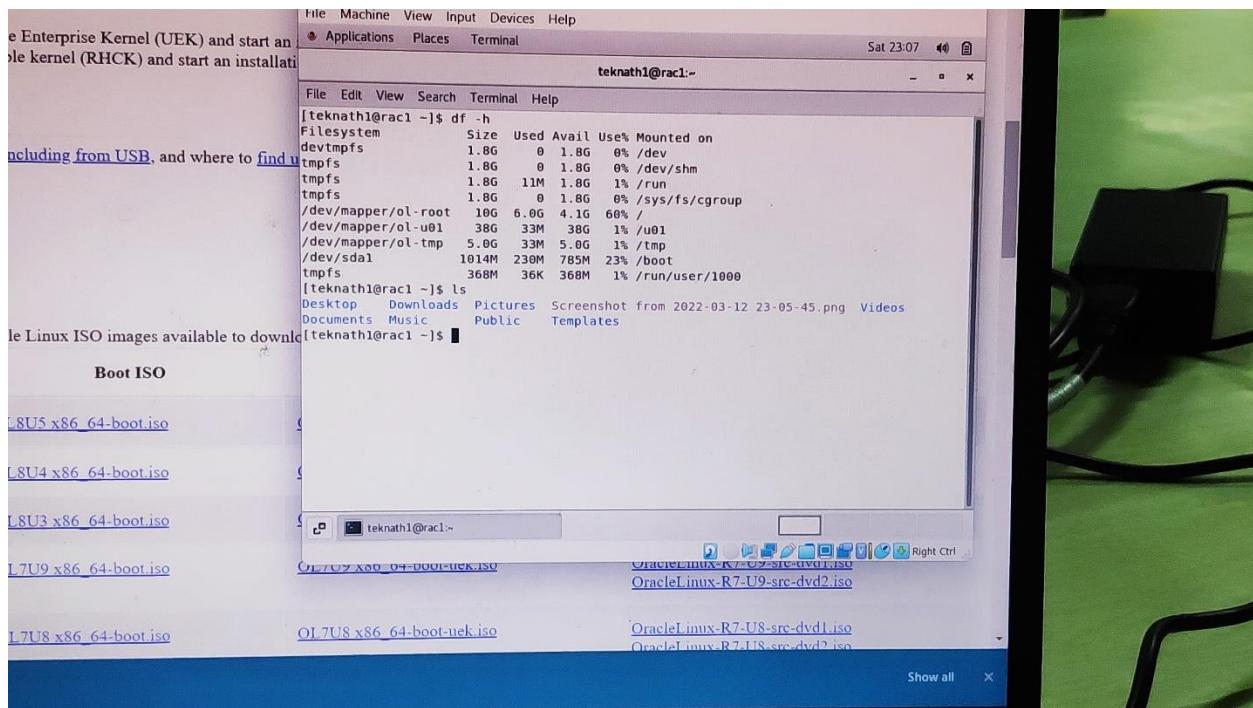


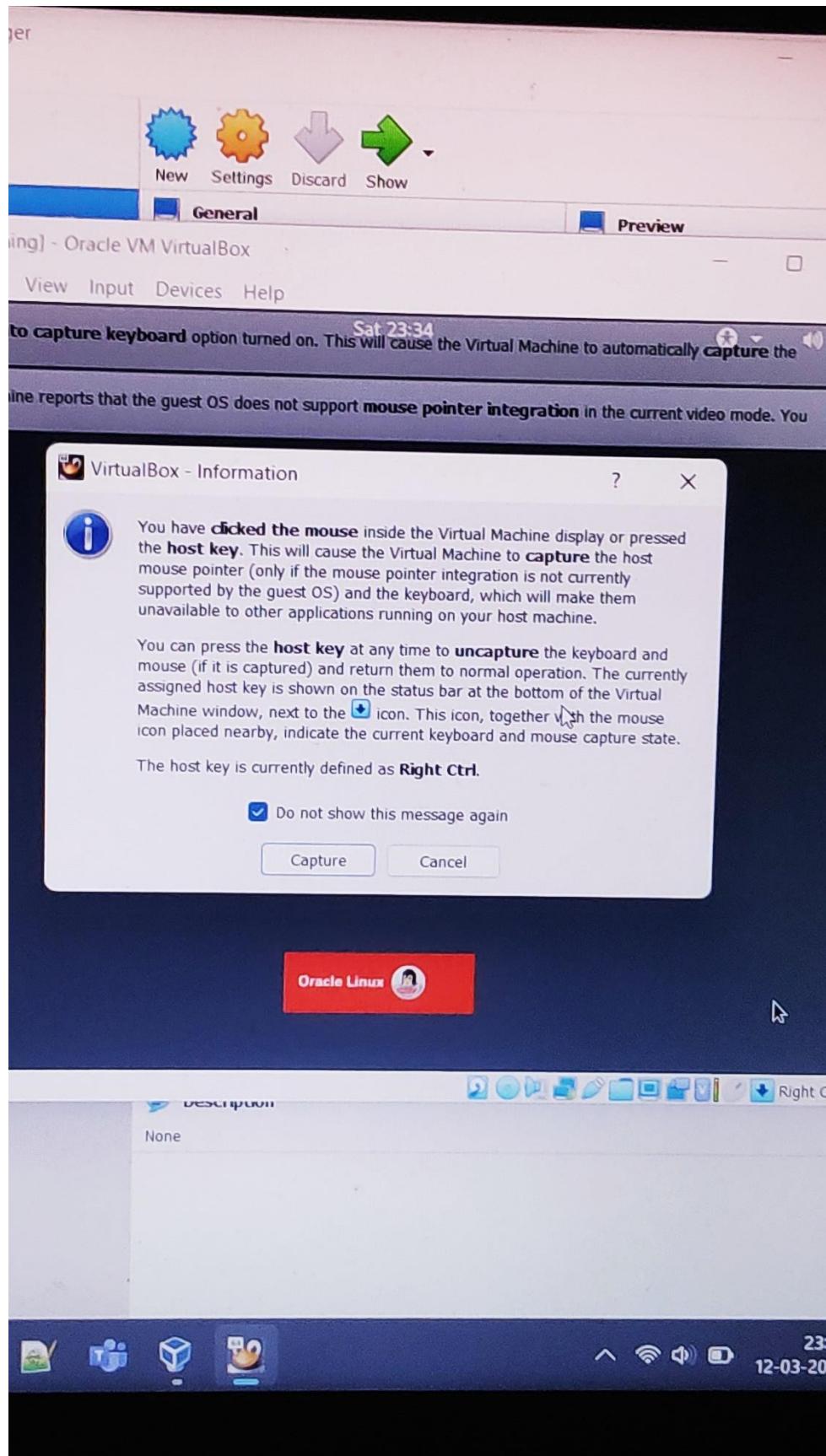


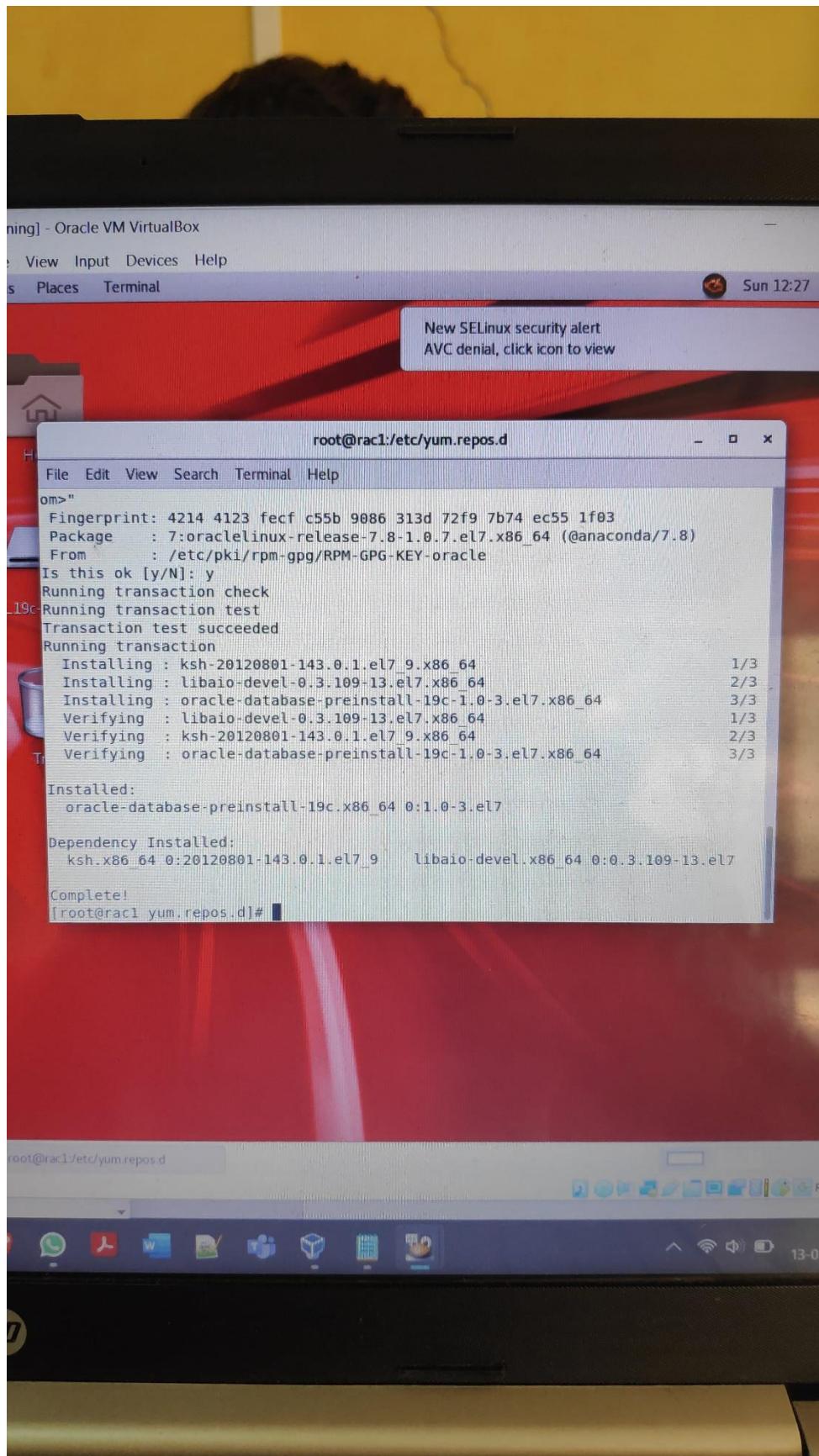












```
root@rac1:/etc/yum.repos.d
File Edit View Search Terminal Help

Installed:
  oracle-database-preinstall-19c.x86_64 0:1.0-3.el7

Dependency Installed:
  ksh.x86_64 0:20120801-143.0.1.el7_9    libaio-devel.x86_64 0:0.3.109-13.el7

Complete!
[root@rac1 yum.repos.d]#
[root@rac1 yum.repos.d]# id oracle
[root@rac1 yum.repos.d]# id oracle
uid=54321(oracle) gid=54321(oinstall) groups=54321(oinstall),54322(dba),54323(operator),54324(backupdba),54325(dgdba),54326(kmdba),54330(racdba)
[root@rac1 yum.repos.d]#
```

```
Session Servers Tools Games Sessions View Split Multitab Tunneling Packages Settings Help
168.1 X 15.10.30.1.4 X 16.192.168.1 X 17.192.168.1 X 18.10.30.0.1 X + will be shown in brackets ('[]'). Hitting <ENTER> without typing an answer will keep that current value. Ctrl-C will abort.
Default user to own the driver interface []: oracle
Default group to own the driver interface []: oinstall
Start Oracle ASM library driver on boot (y/n) [n]: y
Scan for Oracle ASM disks on boot (y/n) [y]: y
Writing Oracle ASM library driver configuration: done
[root@rac2 ~]# oracleasm init
Creating /dev/oracleasm mount point: /dev/oracleasm
Loading module "oracleasm": oracleasm
Configuring "oracleasm" to use device physical block size
Mounting ASMlib driver filesystem: /dev/oracleasm
[root@rac2 ~]# I
[root@rac2 ~]# I
[root@rac2 ~]# I
[root@rac2 ~]# oracleasm scandisks
Reloading disk partitions: done
Cleaning any stale ASM disks...
Scanning system for ASM disks...
Instantiating disk "DISK1"
[root@rac2 ~]# oracleasm listdisks
DISK1
[root@rac2 ~]# I
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
6 fe80::ce01:1362:94a2:f81b%preflight_61
```

**CONCLUSION :** Parallel Distributed system works between two independent machines and share common storage .