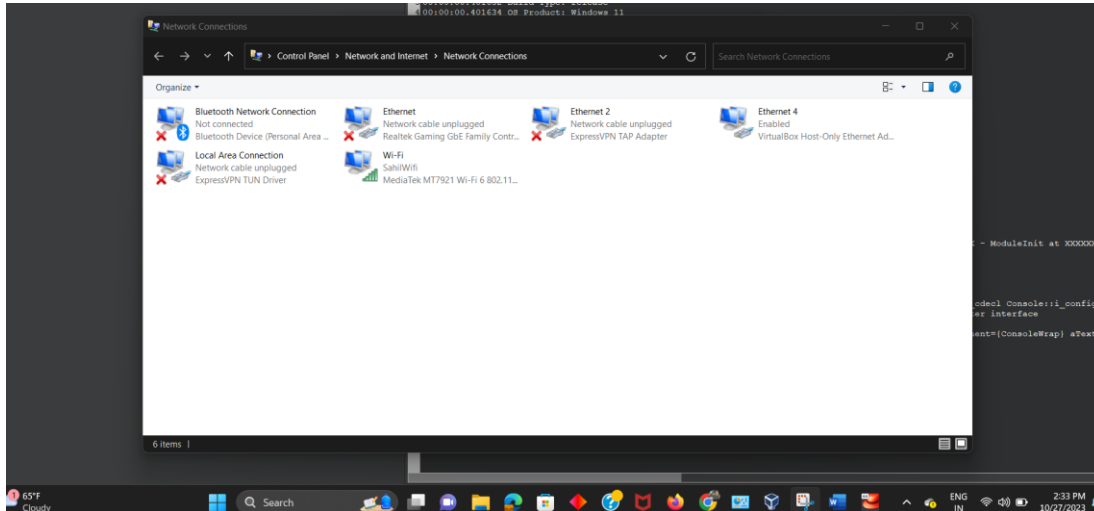


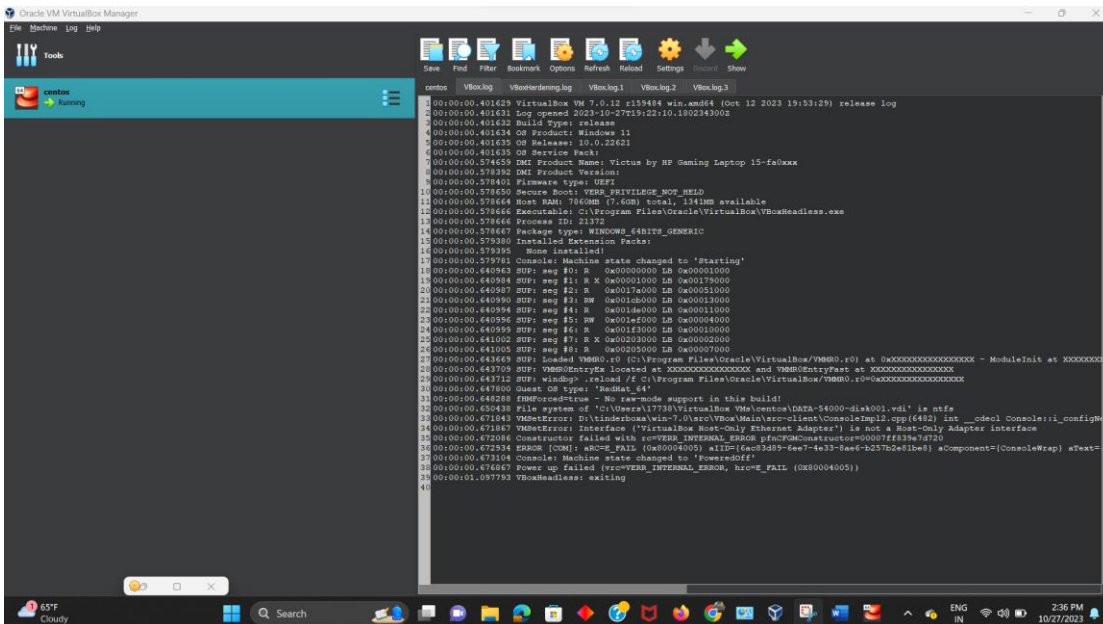
# Week 1

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## 1. Checking Virtual Machine is Connected to Network in Control Panel.



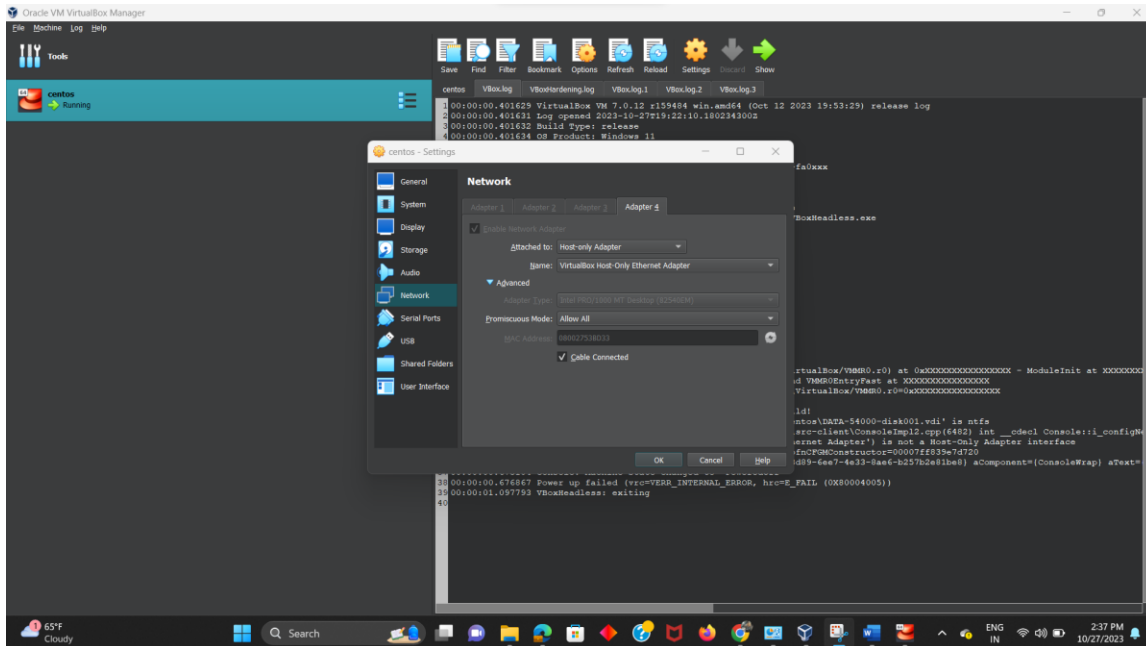
## 2. After Installing the Virtual Machine Starting the Clone and Running it.



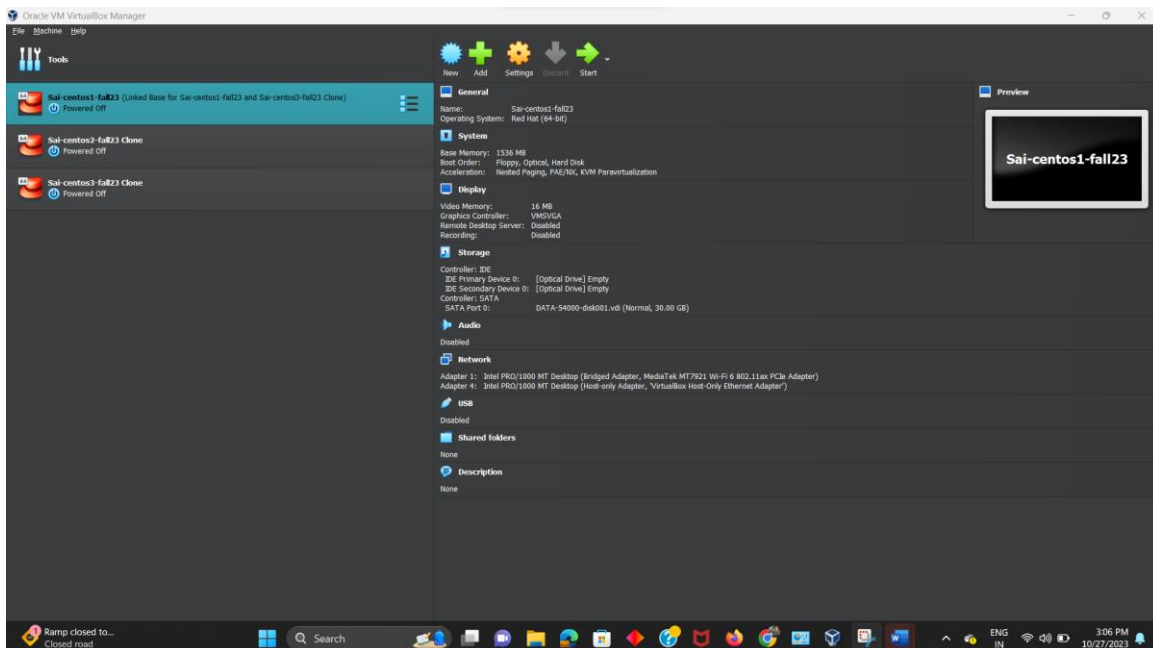
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### 3. Importing Centos 7 into VM and selecting the host only adapter



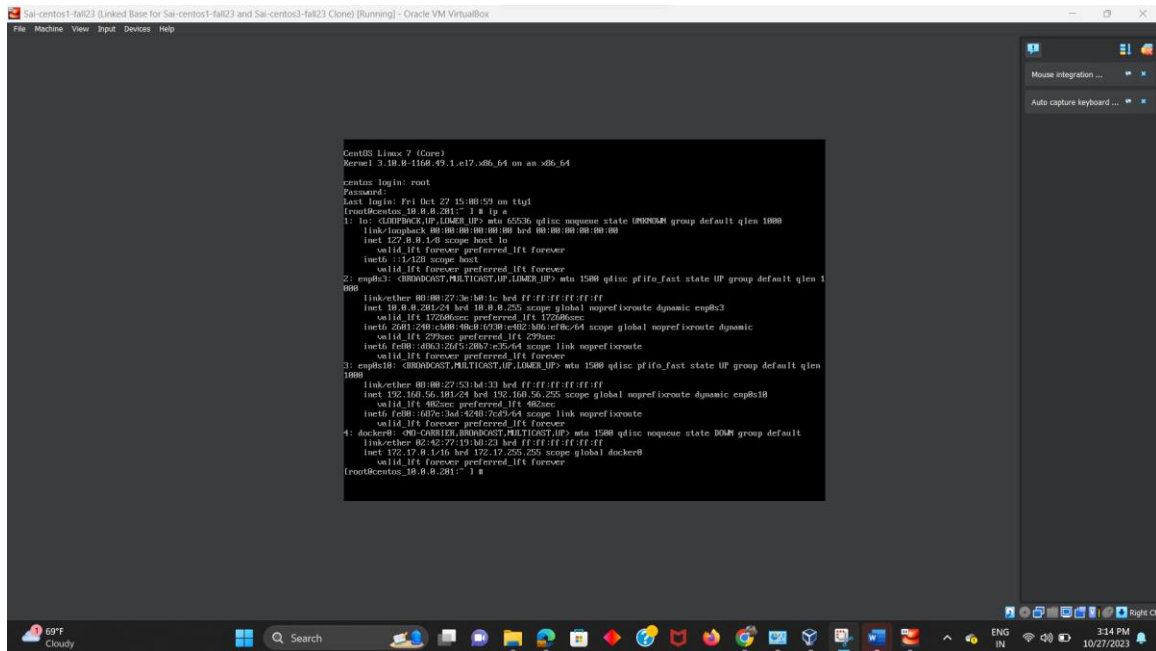
### 4. Created the multiple clone of Centos7 VM



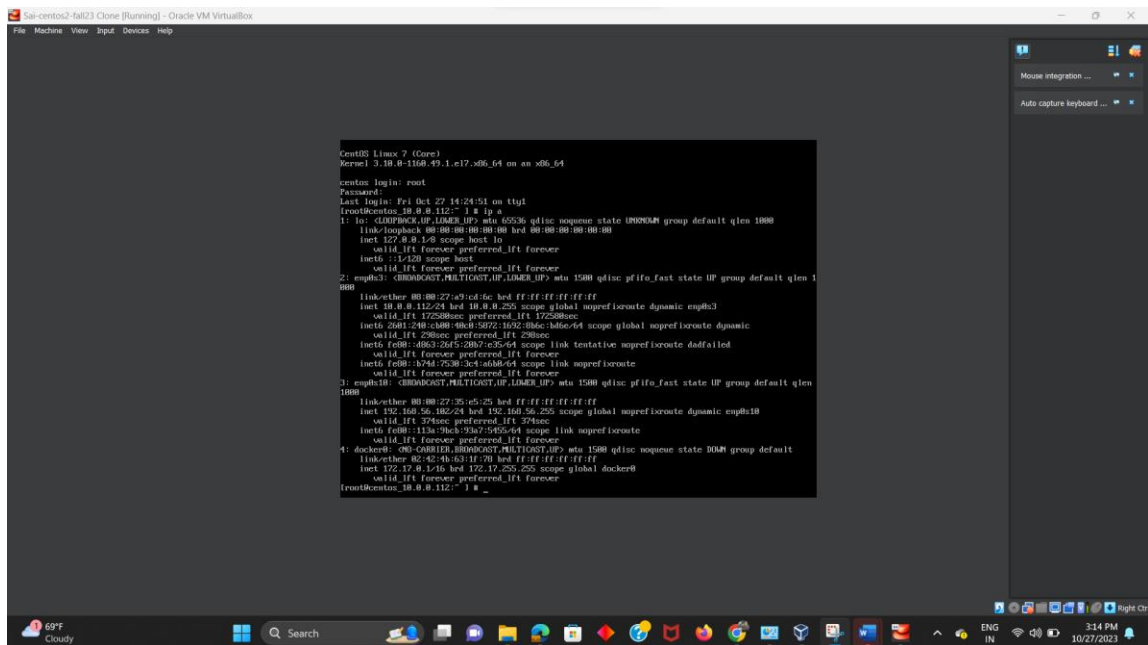
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### 5. VM 1 with 1.5GB Ram and 1CPU



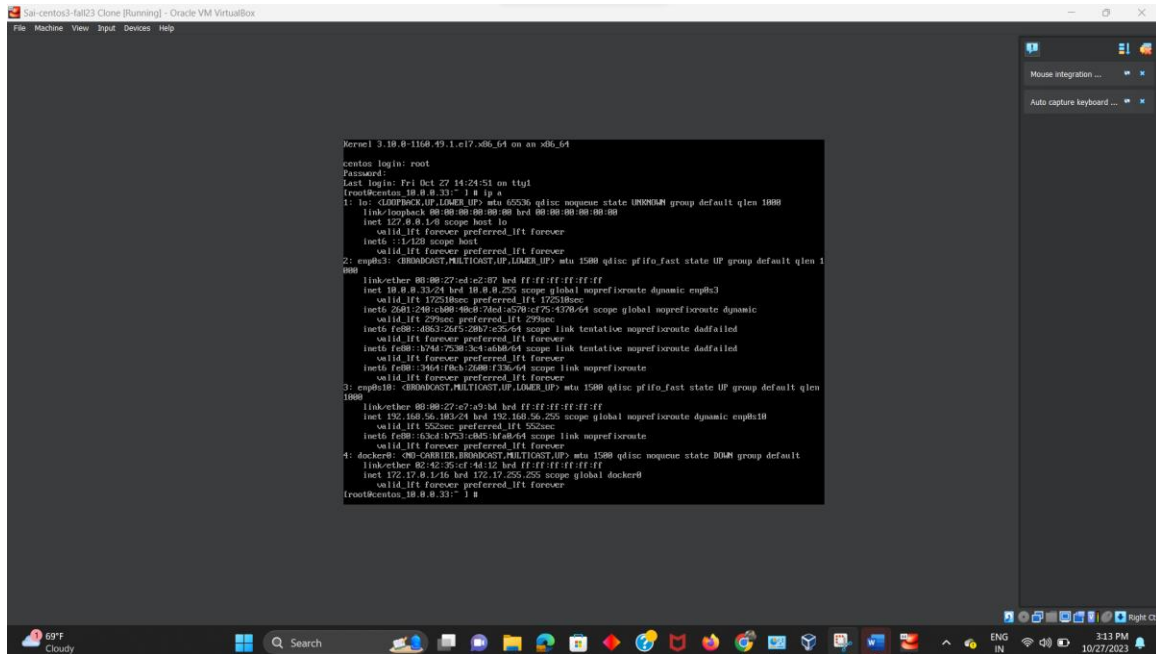
### 6. VM 2 with 2GB Ram and 1CPU (Full Clone)



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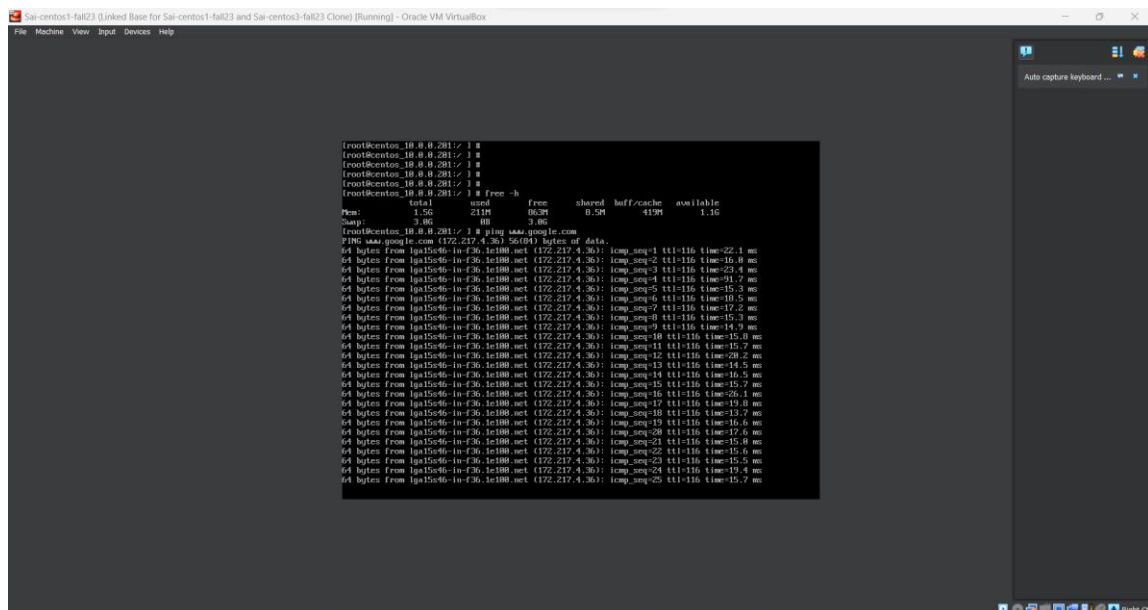
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### 7. VM 3 with 0.5GB Ram and 1CPU (Linked Clone)



### 8. In VM1 running the command to install curl





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## 11. Ping command is terminated.

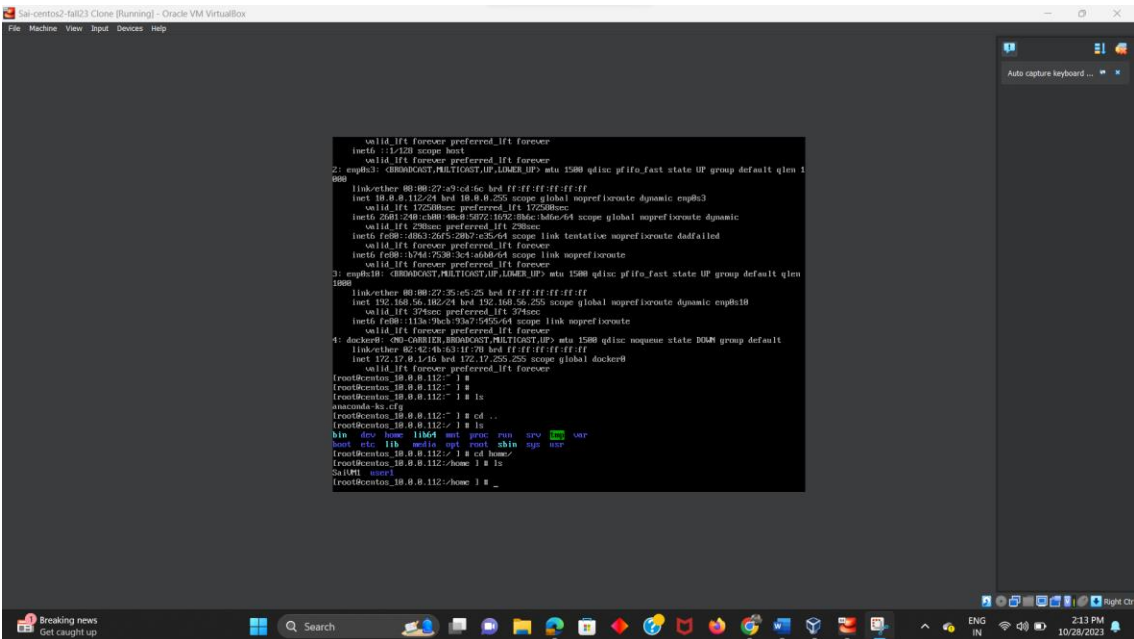
```
Sai-centos1-fal23 [Linked Base for Sai-centos1-fal23 and Sai-centos3-fal23 Clone] [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=70 ttl=116 time=15.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=71 ttl=116 time=17.4 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=72 ttl=116 time=15.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=73 ttl=116 time=18.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=74 ttl=116 time=28.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=75 ttl=116 time=15.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=76 ttl=116 time=15.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=77 ttl=116 time=18.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=78 ttl=116 time=15.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=79 ttl=116 time=14.1 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=80 ttl=116 time=13.7 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=81 ttl=116 time=17.4 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=82 ttl=116 time=17.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=83 ttl=116 time=15.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=84 ttl=116 time=16.1 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=85 ttl=116 time=19.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=86 ttl=116 time=46.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=87 ttl=116 time=16.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=88 ttl=116 time=16.9 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=89 ttl=116 time=16.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=90 ttl=116 time=15.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=91 ttl=116 time=15.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=92 ttl=116 time=15.4 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=93 ttl=116 time=18.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=94 ttl=116 time=14.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=95 ttl=116 time=15.8 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=96 ttl=116 time=16.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=97 ttl=116 time=16.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=98 ttl=116 time=22.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=99 ttl=116 time=15.4 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=100 ttl=116 time=17.1 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=101 ttl=116 time=16.7 ms
^C
--- www.google.com ping statistics ---
101 packets transmitted, 101 received, 0% packet loss, time 108272ms
rtt min/avg/max/mdev = 13.721/19.718/172.346/17.327 ms
[root@centos_10 0.0.2017 ~]#
```

## 12. Echo Command

```
Sai-centos1-fal23 [Linked Base for Sai-centos1-fal23 and Sai-centos3-fal23 Clone] [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=74 ttl=116 time=38.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=75 ttl=116 time=15.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=76 ttl=116 time=15.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=77 ttl=116 time=18.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=78 ttl=116 time=15.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=79 ttl=116 time=14.1 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=80 ttl=116 time=19.7 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=81 ttl=116 time=17.4 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=82 ttl=116 time=17.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=83 ttl=116 time=19.7 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=84 ttl=116 time=16.1 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=85 ttl=116 time=19.7 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=86 ttl=116 time=46.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=87 ttl=116 time=16.5 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=88 ttl=116 time=16.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=89 ttl=116 time=16.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=90 ttl=116 time=15.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=91 ttl=116 time=15.5 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=92 ttl=116 time=18.3 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=93 ttl=116 time=14.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=94 ttl=116 time=15.8 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=95 ttl=116 time=16.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=96 ttl=116 time=16.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=97 ttl=116 time=16.6 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=98 ttl=116 time=22.2 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=99 ttl=116 time=15.4 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=100 ttl=116 time=17.1 ms
64 bytes from lga15c46-in-f36.1e100.net: icmp_seq=101 ttl=116 time=16.7 ms
^C
--- www.google.com ping statistics ---
101 packets transmitted, 101 received, 0% packet loss, time 108272ms
rtt min/avg/max/mdev = 13.721/19.718/172.346/17.327 ms
[root@centos_10 0.0.2017 ~]# echo Saikumar
Saikumar
[root@centos_10 0.0.2017 ~]#
```

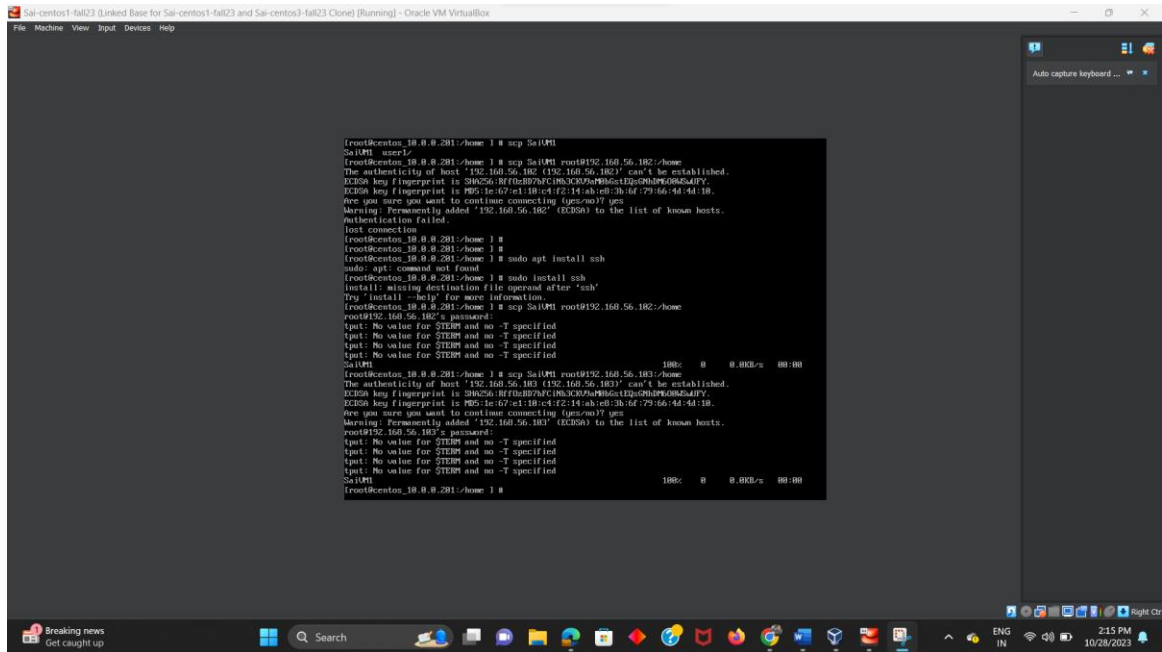




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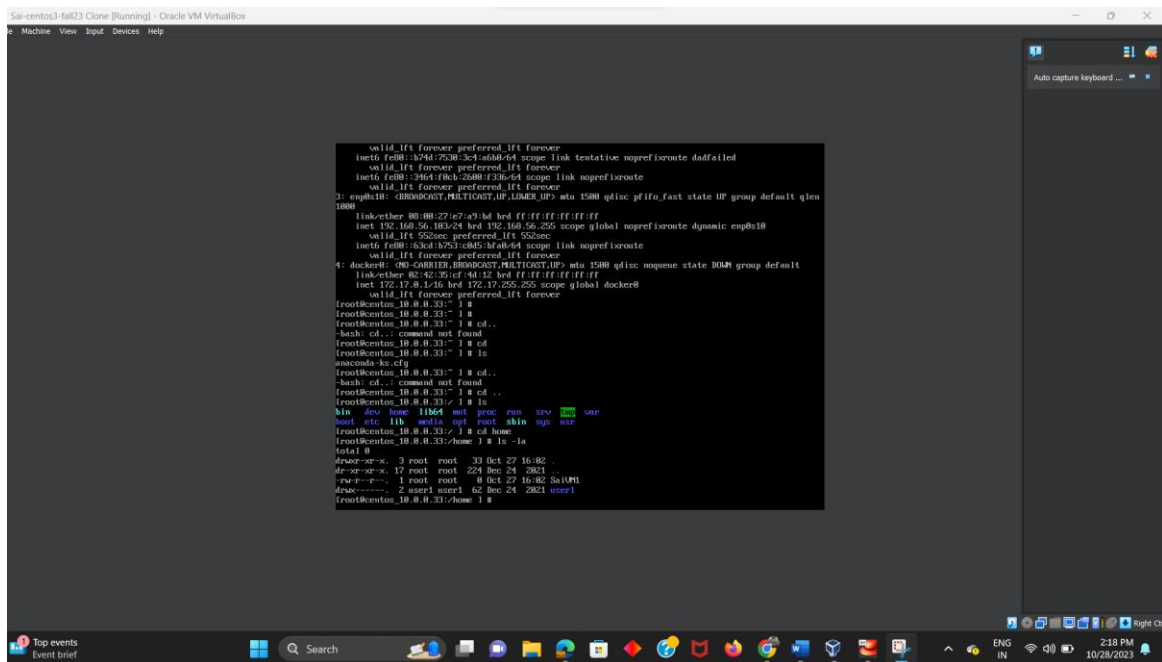
Sai Kumar Murarishetti  
Lewis ID: 30079224

### 15. File creating in VM1 and copying the file to VM3



```
root@centos_10.0.0.201:~# scp SaI@192.168.56.102:/home
SaI@192.168.56.102:~#
root@centos_10.0.0.201:~# scp SaI@192.168.56.102:/home
The authenticity of host '192.168.56.102 (192.168.56.102)' can't be established.
ECDSA key fingerprint is SHA256:8f70b070c70b3c07a406a172e20a00a0a4f.
ECDSA key fingerprint is MD5:1e:67:c1:18:c4:f2:14:ab:ed:3b:4f:79:66:44:44:19.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.56.102' (ECDSA) to the list of known hosts.
Authentication failed.
lost connection
root@centos_10.0.0.201:~#
root@centos_10.0.0.201:~#
root@centos_10.0.0.201:~# sudo apt install ssh
sudo: apt: command not found
root@centos_10.0.0.201:~# sudo install ssh
install: missing destination file operand after 'ssh'
Try 'install --help' for more information.
root@centos_10.0.0.201:~# scp SaI@192.168.56.102:/home
root@192.168.56.102:~# a password:
tput: No value for STEPM and no -T specified
tput: No value for STEPM and no -T specified
tput: No value for STEPM and no -T specified
tput: No value for STEPM and no -T specified
100% 0 0.0KB/s 00:00
root@centos_10.0.0.201:~# scp SaI@192.168.56.103:/home
The authenticity of host '192.168.56.103 (192.168.56.103)' can't be established.
ECDSA key fingerprint is SHA256:8f70b070c70b3c07a406a172e20a00a0a4f.
ECDSA key fingerprint is MD5:1e:67:c1:18:c4:f2:14:ab:ed:3b:4f:79:66:44:44:19.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.56.103' (ECDSA) to the list of known hosts.
root@192.168.56.103:~# a password:
tput: No value for STEPM and no -T specified
tput: No value for STEPM and no -T specified
tput: No value for STEPM and no -T specified
tput: No value for STEPM and no -T specified
100% 0 0.0KB/s 00:00
SaI@192.168.56.103:~#
root@centos_10.0.0.201:~#
```

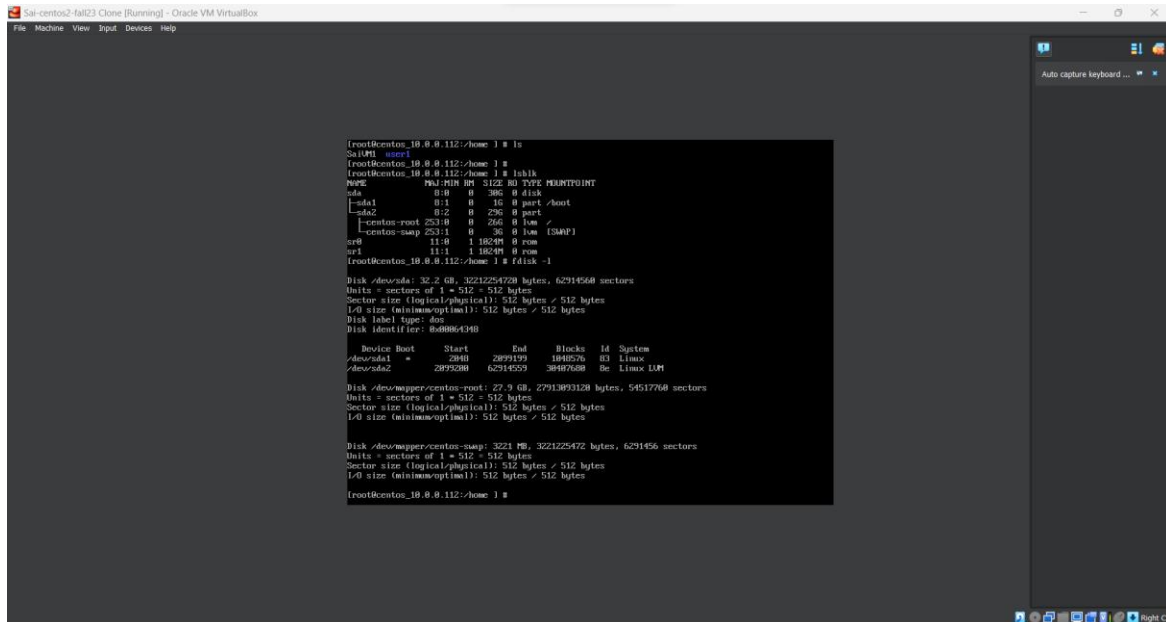
### 16. File is successfully copied to VM3



```
valid_lft forever preferred_lft forever
net6 fe8b::3744:7c3a:3et::adab::r scope link tentative noprefisroute default
valid_lft forever preferred_lft forever
net6 fe8b::2064:10b::2080::f306::64 scope link noprefisroute
valid_lft forever preferred_lft forever
3: enp3s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 80:100:27:c7:a9:b4 bed ff:ff:ff:ff:ff:ff
    inet 192.168.56.103/24 brd 192.168.56.255 scope global noprefisroute dynamic enp3s0
        valid_lft 552sec preferred_lft 552sec
    inet6 fe8b::83cd:1753:cd45:1ab:64 scope link noprefisroute
        valid_lft forever preferred_lft forever
4: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
    link/ether 92:42:25:c4:94:f2 bed ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
root@centos_10.0.0.33:~#
root@centos_10.0.0.33:~#
-bash: cd: : command not found
root@centos_10.0.0.33:~# cd
root@centos_10.0.0.33:~# ls
anaconda-kernel
root@centos_10.0.0.33:~# cd
-bash: cd: : command not found
root@centos_10.0.0.33:~# cd ..
root@centos_10.0.0.33:~# ls
bin dev home lib64 mail proc run srv usr
root etc lib media opt root skln sys usr
root@centos_10.0.0.33:~# cd home
root@centos_10.0.0.33:~# ls -la
total 0
drwxr-xr-x. 3 root root 33 Oct 27 16:02 .
dr-xr-xr-x. 17 root root 224 Dec 24 2021 ..
-rw-r--r--. 1 root root 0 Oct 27 16:02 SaI@1
drwx----- 2 user1 user1 62 Dec 24 2021 user1
root@centos_10.0.0.33:~#
```



17. To find No of Disks in VM2 following command as used.



```
(root@centos_10.0.0.112:/home 1 # ls
Salim user)
(root@centos_10.0.0.112:/home 1 #
(root@centos_10.0.0.112:/home 1 # lsblk
NAME                                MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
sda                                  8:0  0 385  0 disk
├─sda1                               8:1  0  15  0 part /boot
├─sda2                               8:2  0 295  0 part
├─centos-root 253:0  0 265  0 lvm /
├─centos-swap 253:1  0  35  0 lvm [SWAP]
sr0                                  11:0  1 10240  0 rom
sr1                                  11:1  1 10240  0 rom
(root@centos_10.0.0.112:/home 1 # fdisk -l
Disk /dev/sda: 385.2 GB, 32212254720 bytes, 62914560 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 8d006430

Device Boot      Start         End      Blocks   Id  System
/dev/sda1 *        2048    2097152    1048576    83  Linux
/dev/sda2          2097152 629145216 304216896    8e  Linux LVM

Disk /dev/mapper/centos-root: 27.9 GB, 27913893120 bytes, 5451760 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/mapper/centos-swap: 3221 MB, 3221225472 bytes, 6291456 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
(root@centos_10.0.0.112:/home 1 #
```

1. Describe in a few sentences the meaning of the 3 options to start a VM in VirtualBox, namely, Normal, Headless and Detachable.

**Normal:** A graphical user interface is shown when a virtual machine (VM) starts in Normal mode. It means that the user will be able to see and interact with the virtual machine's desktop through a window on the host operating system. When a visual interface is required, it is the common way of running a virtual machine (VM) the same as using a physical computer.

**Headless:** A virtual machine that is started in Headless mode does not have a graphical user interface. When working on server or backend operations and without having a graphical user interface, this is helpful. The virtual machine (VM) may still be monitored and used, but only through remote access methods like SSH, RDP, or other command-line applications. When running a virtual machine in the background for server applications, headless mode is frequently used.

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**Detachable:** Users may operate a virtual machine (VM) with a graphical window that separates from the main VirtualBox GUI by using the Detachable mode with the VBoxSDL front-end. Declared in various ways, the graphical user interface of the virtual machine functions separately from the main VirtualBox interface. It can be useful whenever we want to run multiple virtual machines (VMs) in separate detachable windows or separate the VM's GUI from the VirtualBox administration.

2. What is the meaning and purpose of the Export Appliance option in VirtualBox? When would you use this option?

In VirtualBox, users may create a self-contained package of a virtual machine by using the "Export Appliance" alternative, which combines the disk images and settings into a single file.

Uses:

Anyone may share a virtual computer with another person.  
Generate a virtual machine backup.  
Storing virtual machines for transfer for long-term storage.

3. What some pros/cons of VirtualBox Snapshots?

Pros of VirtualBox Snapshots:

- Easy and Simple Backup.
- Simple Rollback.
- Expanding and Creating versions.
- Separation.
- Several Branches.

Cons of VirtualBox Snapshots:

- Storage above.
- Impact on the Performance.
- Unsuitable for Extended-Duration Backup.
- Difficult management.
- Issues with Snapshot Chain.

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4. Navigate to the place where VirtualBox stores the VMs on your Windows PC and then get the size of the folders where the Centos VMs and clones are stored. What are the sizes? Which VM takes up less space? Include screenshots of the disk spaces.

To determine the sizes of the virtual machines and clones, you must locate the folder in which VirtualBox stores its virtual machine files. Without access to the exact configuration, we are unable to provide specific VM sizes as they are dependent on the quantity of data and parameters. Usually, the VirtualBox VM directory has these files. Probably the virtual machine with a smaller disk utilize is one with less snapshots and data.

5. What is the purpose of the IP address "127.0.0.1"?

The computer which we are currently using is the local host, and the IP address 127.0.0.1 is known as the loopback address. It is used to create network connections with it. By joining to 127.0.0.1, a network program performs in self-communication. It is frequently employed to test and identify network problems. It is frequently employed to test and identify network problems. The IP address can be both localhosts are 127.0.0.1. It makes sure that network communication cannot traverse a physical network interface and instead stays on the local computer.