

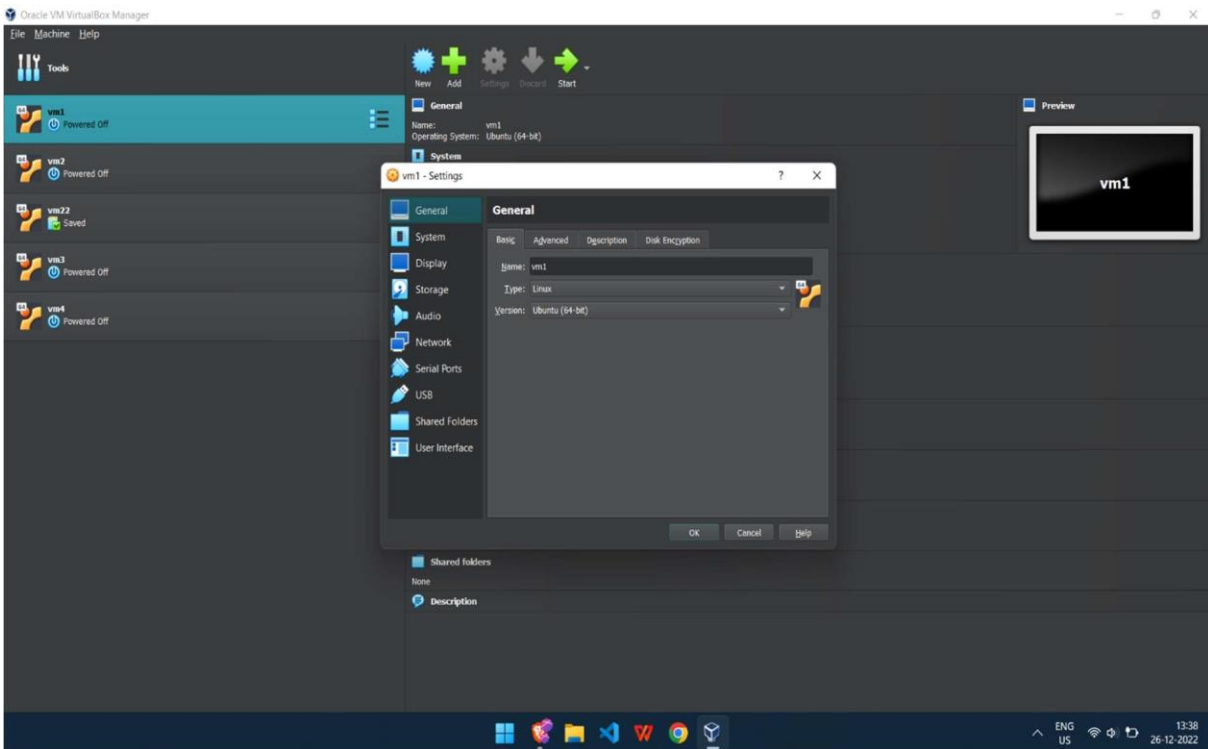
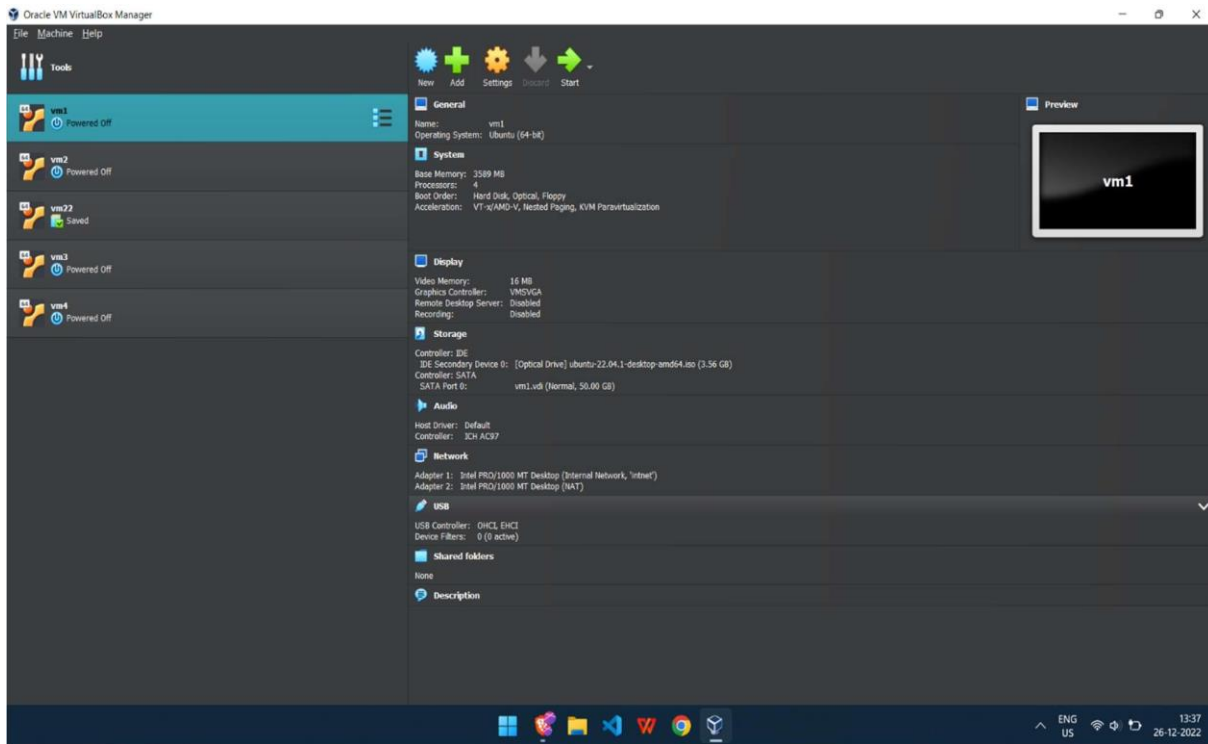
Assignment 5

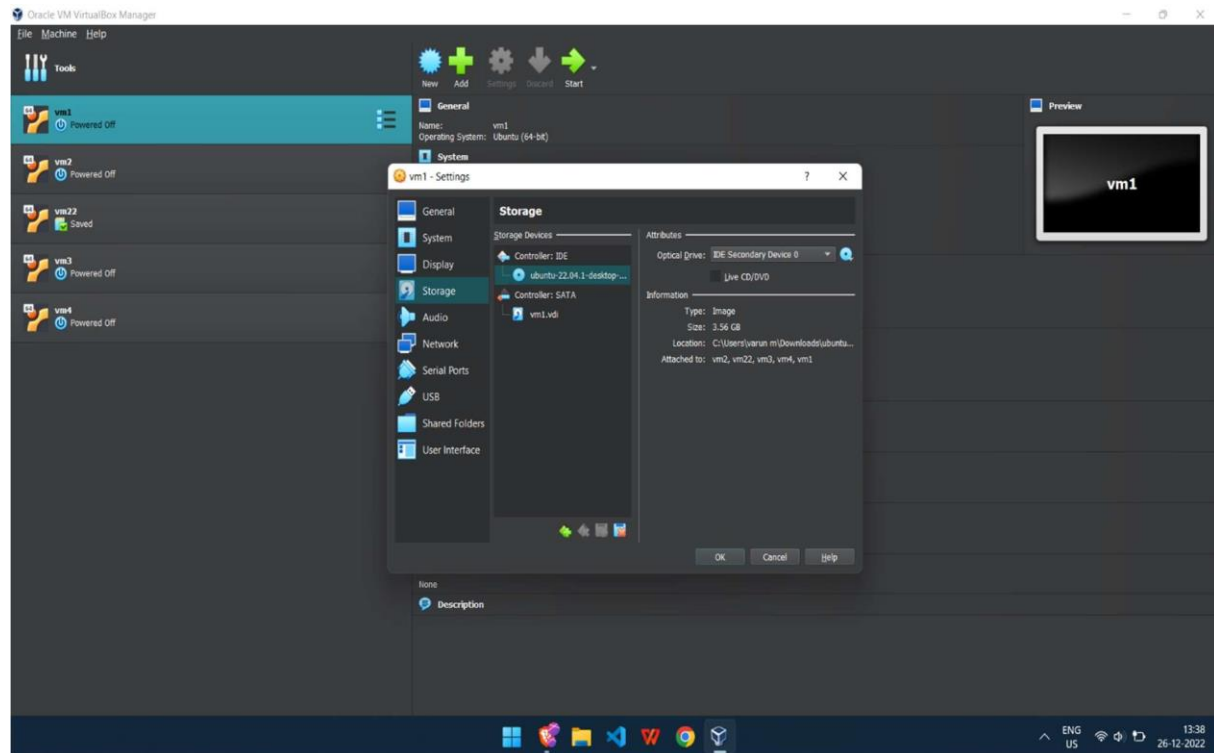
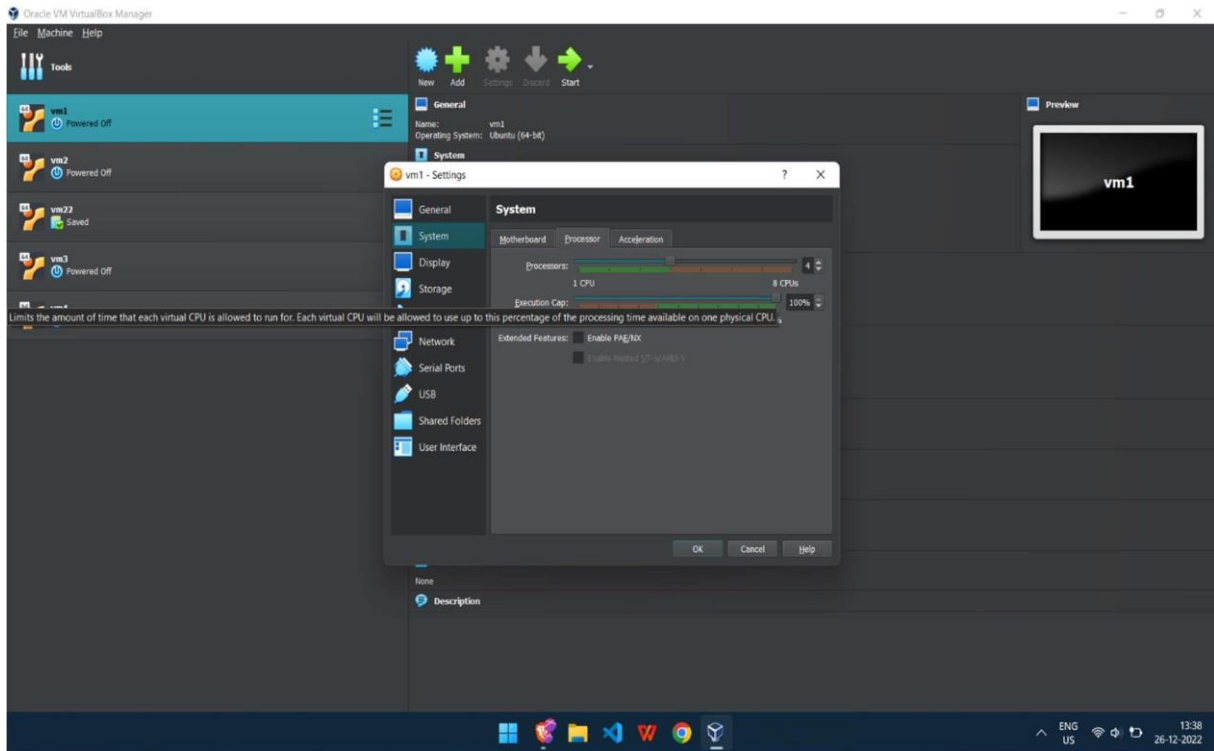
Q) Install any 5 VM's of your choice and network all of them together. You should be able to access internet on any of the VM's. Document the procedure with appropriate screenshots.

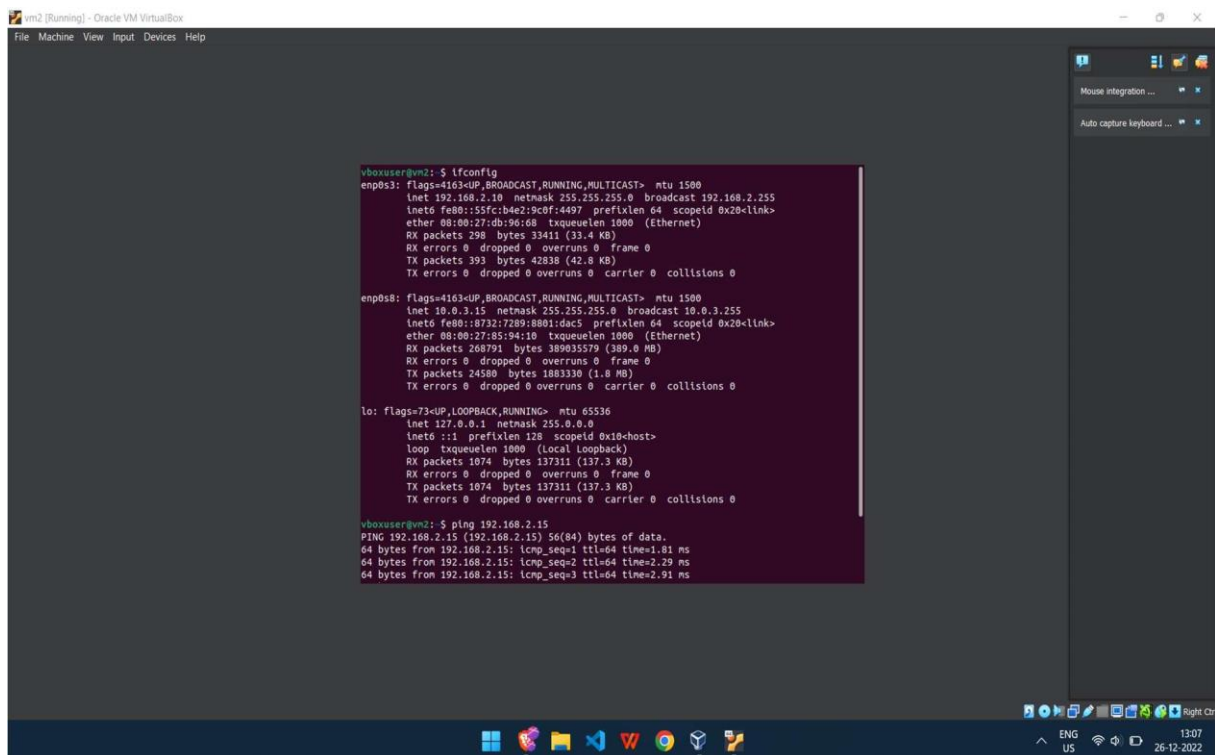
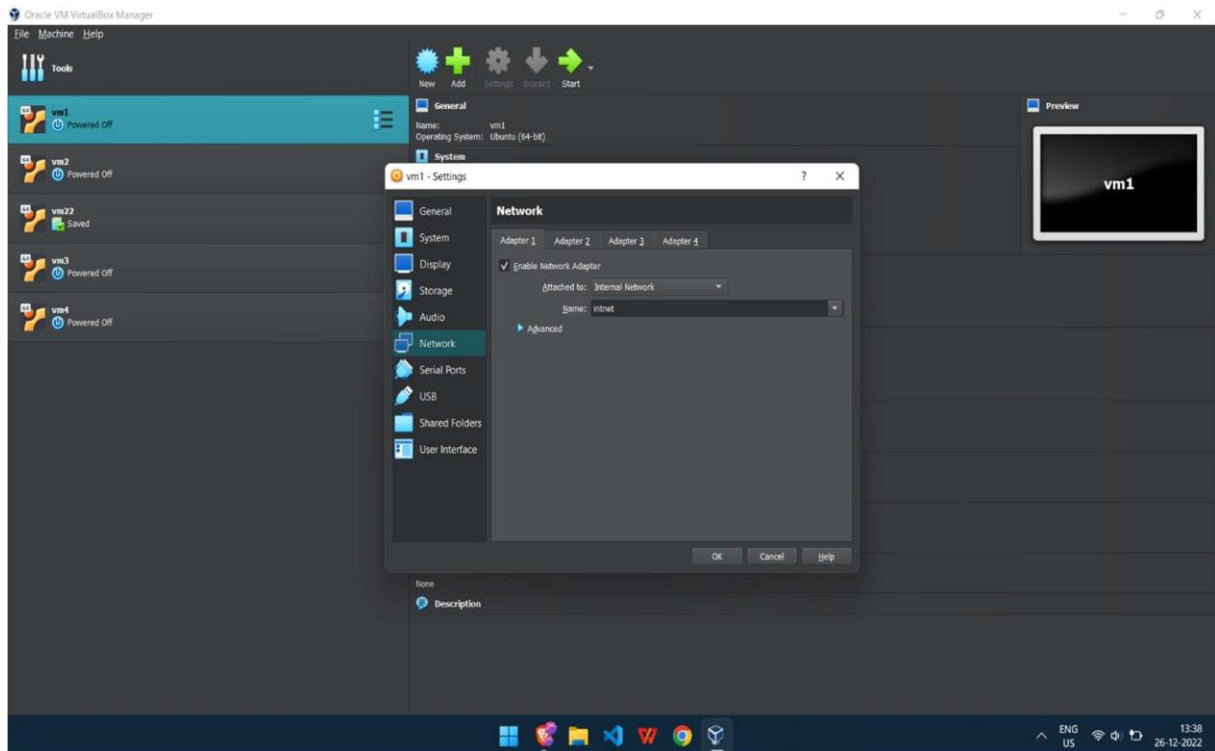
To install and network multiple virtual machines (VMs) together, you will need to use a virtualization software such as VMware Workstation or VirtualBox. Here is a general overview of the steps you can follow to install and network multiple VMs on a Windows or Linux host machine:

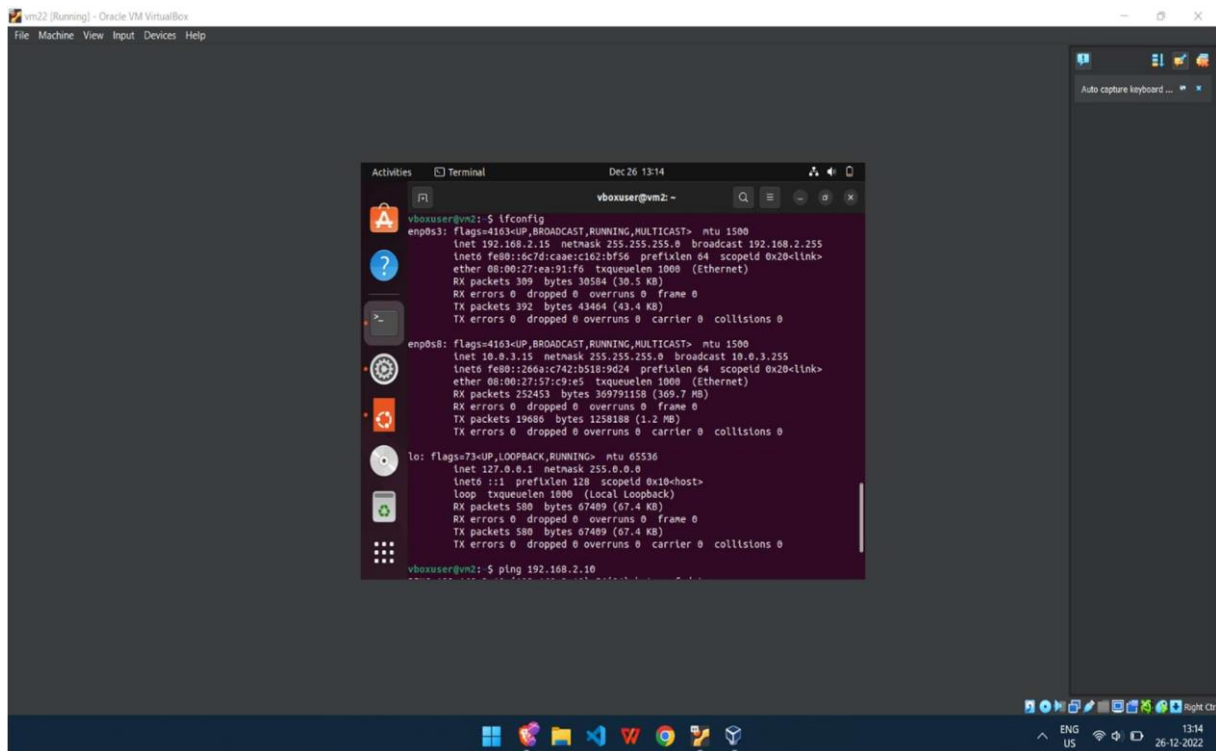
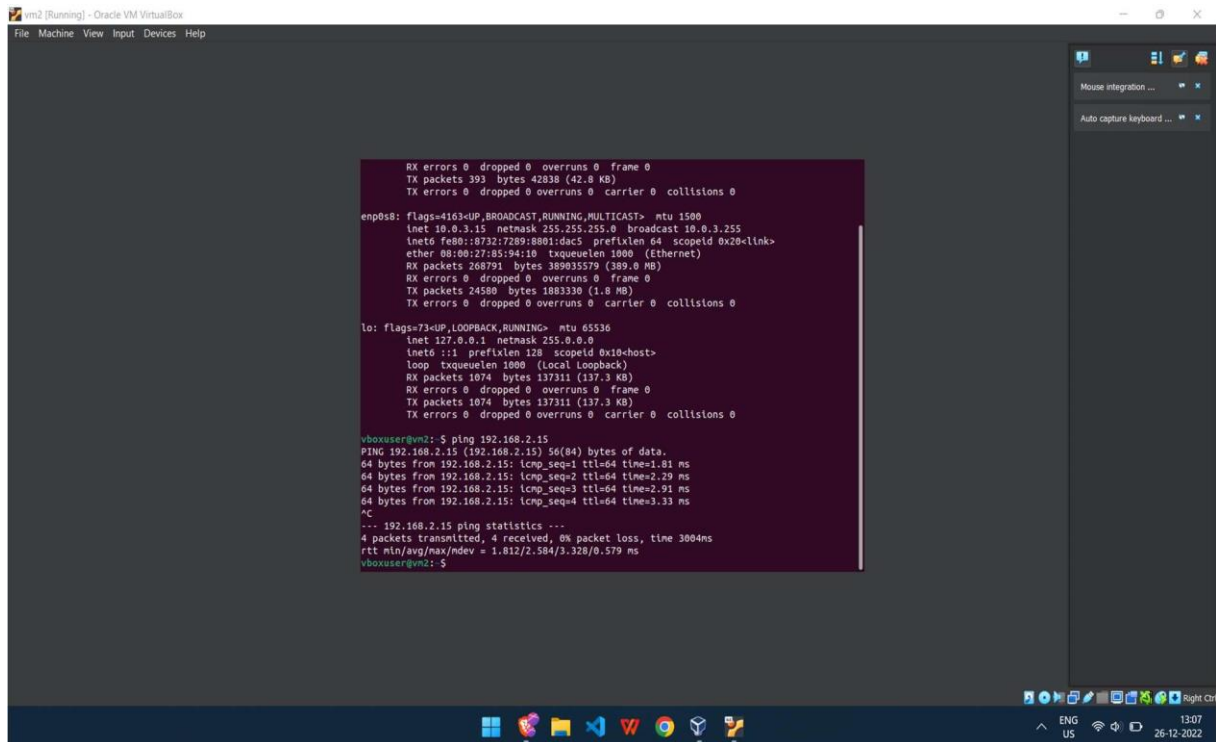
1. Download and install the virtualization software of your choice on your host machine.
2. Once the software is installed, launch it and create a new virtual machine. You will need to specify the operating system you want to install on the VM and allocate resources such as memory and storage.
3. Install the operating system on the VM by following the prompts. You will need to provide a valid product key if required.
4. Repeat steps 2 and 3 to create additional VMs.
5. To network the VMs together, you will need to configure the virtual network settings in the virtualization software. Depending on the software you are using, this may involve creating a virtual network switch or setting up network address translation (NAT).
6. Once the VMs are connected to the virtual network, you should be able to access the internet from any of the VMs.

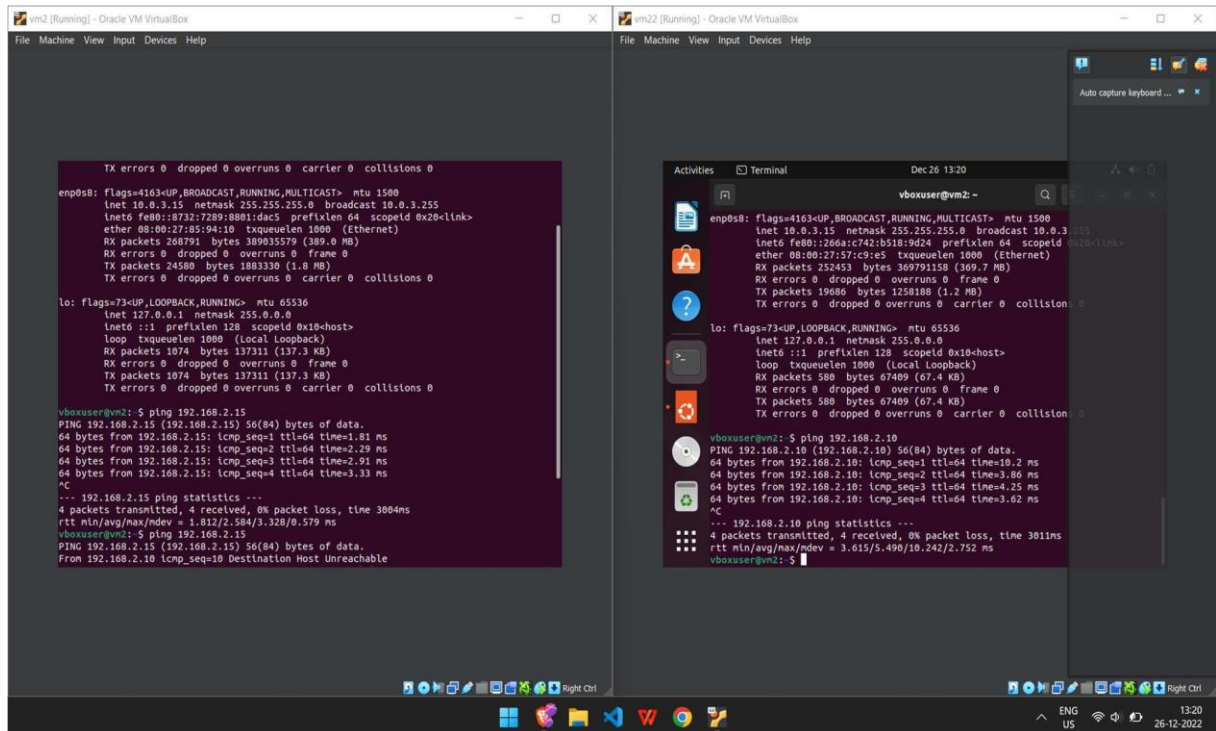
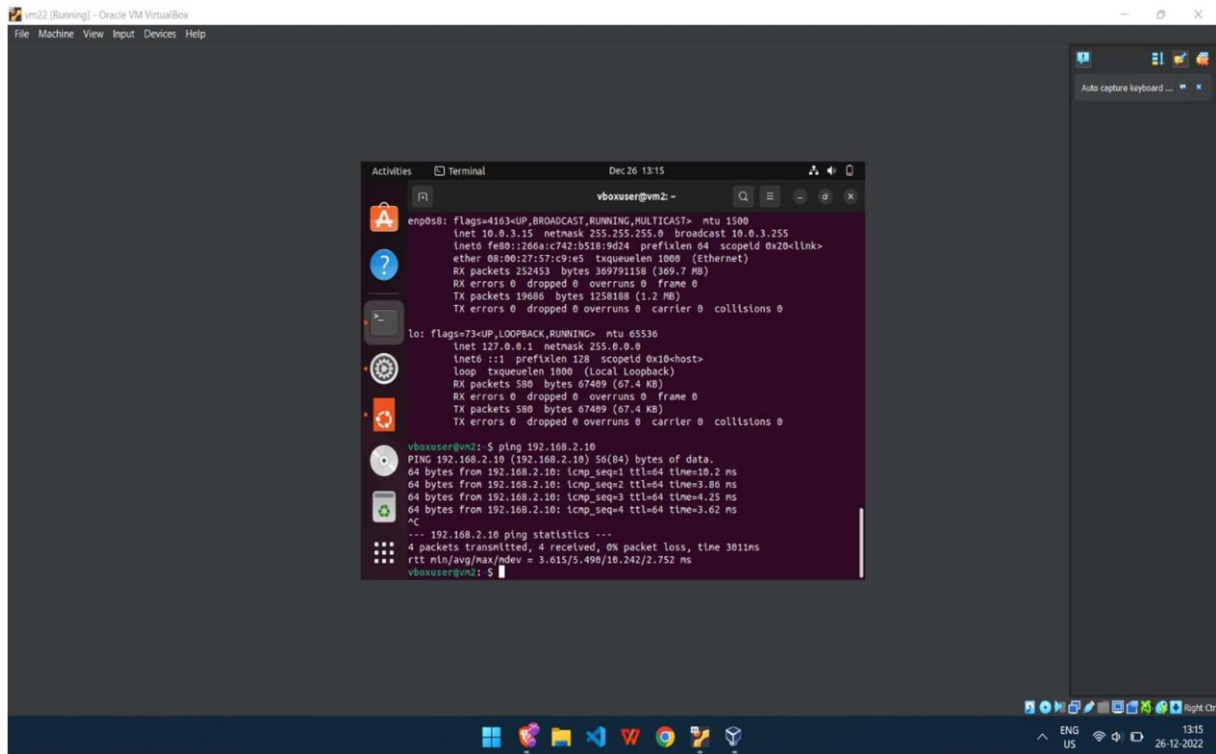
Here are some screenshots that illustrate the process of installing and networking multiple VMs using VMware Workstation on a Windows host machine:












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vm2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 1074 bytes 137311 (137.3 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1074 bytes 137311 (137.3 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

vboxuser@vm2:~$ ping 192.168.2.15
PING 192.168.2.15 (192.168.2.15) 56(84) bytes of data:
64 bytes from 192.168.2.15: icmp_seq=1 ttl=64 time=1.81 ms
64 bytes from 192.168.2.15: icmp_seq=2 ttl=64 time=2.29 ms
64 bytes from 192.168.2.15: icmp_seq=3 ttl=64 time=2.91 ms
64 bytes from 192.168.2.15: icmp_seq=4 ttl=64 time=3.33 ms
^C
--- 192.168.2.15 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/ndev = 1.812/2.584/3.328/0.579 ms
vboxuser@vm2:~$ ping 192.168.2.15
PING 192.168.2.15 (192.168.2.15) 56(84) bytes of data:
From 192.168.2.10: icmp_seq=10 Destination Host Unreachable
From 192.168.2.10: icmp_seq=11 Destination Host Unreachable
From 192.168.2.10: icmp_seq=12 Destination Host Unreachable
From 192.168.2.10: icmp_seq=13 Destination Host Unreachable
From 192.168.2.10: icmp_seq=14 Destination Host Unreachable
From 192.168.2.10: icmp_seq=15 Destination Host Unreachable
From 192.168.2.10: icmp_seq=16 Destination Host Unreachable
^C
--- 192.168.2.15 ping statistics ---
16 packets transmitted, 0 received, +7 errors, 100% packet loss, time 16387ms
pipe 4
vboxuser@vm2:~$
```

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vm2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Activities Terminal Dec 26 13:21
vboxuser@vm2:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.2.15 netmask 255.255.255.0 broadcast 192.168.2.255
    inet6 fe80::6c7d:caae:c102:b756 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:ea:91:f0 txqueuelen 1000 (Ethernet)
    RX packets 309 bytes 30584 (30.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 392 bytes 43464 (43.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.3.15 netmask 255.255.255.0 broadcast 10.0.3.255
    inet6 fe80::260a:c742:b518:9d24 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:57:c9:e5 txqueuelen 1000 (Ethernet)
    RX packets 252453 bytes 369791158 (369.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 19686 bytes 1258188 (1.2 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 580 bytes 67409 (67.4 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 580 bytes 67409 (67.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

vboxuser@vm2:~$ ping 192.168.2.10
PING 192.168.2.10 (192.168.2.10) 56(84) bytes of data:
64 bytes from 192.168.2.10: icmp_seq=1 ttl=64 time=10.2 ms
64 bytes from 192.168.2.10: icmp_seq=2 ttl=64 time=3.86 ms
64 bytes from 192.168.2.10: icmp_seq=3 ttl=64 time=4.25 ms
64 bytes from 192.168.2.10: icmp_seq=4 ttl=64 time=3.62 ms
^C
--- 192.168.2.10 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3011ms
rtt min/avg/max/ndev = 3.615/5.498/10.242/2.752 ms
vboxuser@vm2:~$
```

```
vm2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

vboxuser@vm2:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.2.10 netmask 255.255.255.0 broadcast 192.168.2.255
    inet6 fe80::55fc:b4e2:9c0f:4497 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:db:96:08 txqueuelen 1000 (Ethernet)
    RX packets 398 bytes 33411 (33.4 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 393 bytes 42838 (42.8 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.3.15 netmask 255.255.255.0 broadcast 10.0.3.255
    inet6 fe80::8732:7289:8801:dac5 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:65:94:10 txqueuelen 1000 (Ethernet)
    RX packets 268791 bytes 389035579 (389.0 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 24580 bytes 1883330 (1.8 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 1074 bytes 137311 (137.3 KB)
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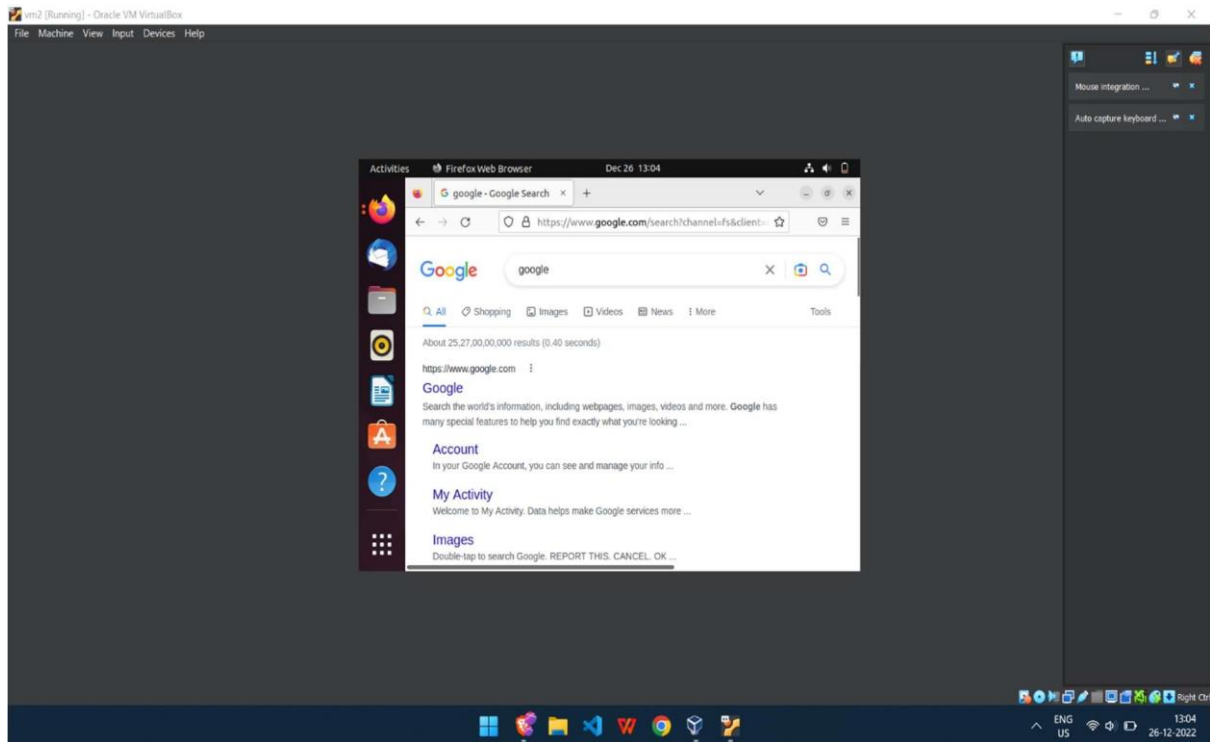
vboxuser@vm2:~$ ping 192.168.2.15
PING 192.168.2.15 (192.168.2.15) 56(84) bytes of data:
64 bytes from 192.168.2.15: icmp_seq=1 ttl=64 time=1.81 ms
64 bytes from 192.168.2.15: icmp_seq=2 ttl=64 time=2.29 ms
64 bytes from 192.168.2.15: icmp_seq=3 ttl=64 time=2.91 ms
vboxuser@vm2:~$
```

```
vm2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Activities Terminal Dec 26 13:22
vboxuser@vm2:~$ ifconfig
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.3.15 netmask 255.255.255.0 broadcast 10.0.3.255
    inet6 fe80::260a:c742:b518:9d24 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:57:c9:e5 txqueuelen 1000 (Ethernet)
    RX packets 252453 bytes 369791158 (369.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 19686 bytes 1258188 (1.2 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 580 bytes 67409 (67.4 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 580 bytes 67409 (67.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

vboxuser@vm2:~$ ping 192.168.2.10
PING 192.168.2.10 (192.168.2.10) 56(84) bytes of data:
64 bytes from 192.168.2.10: icmp_seq=1 ttl=64 time=10.2 ms
64 bytes from 192.168.2.10: icmp_seq=2 ttl=64 time=3.86 ms
64 bytes from 192.168.2.10: icmp_seq=3 ttl=64 time=4.25 ms
64 bytes from 192.168.2.10: icmp_seq=4 ttl=64 time=3.62 ms
^C
--- 192.168.2.10 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3011ms
rtt min/avg/max/ndev = 3.615/5.498/10.242/2.752 ms
vboxuser@vm2:~$
```



Note that the exact steps for installing and networking VMs will depend on the specific virtualization software you are using and the operating system of your host machine. You may need to refer to the documentation for your specific software for more detailed instructions

