Ex No: 2b **VM-VM ping , VM-Native Ping**

Date : 12/07/25

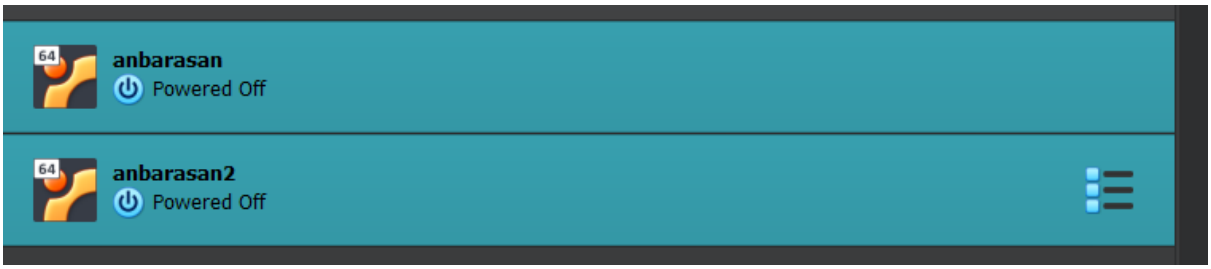
Aim:

To establish VM-VM ping and VM-Native ping.

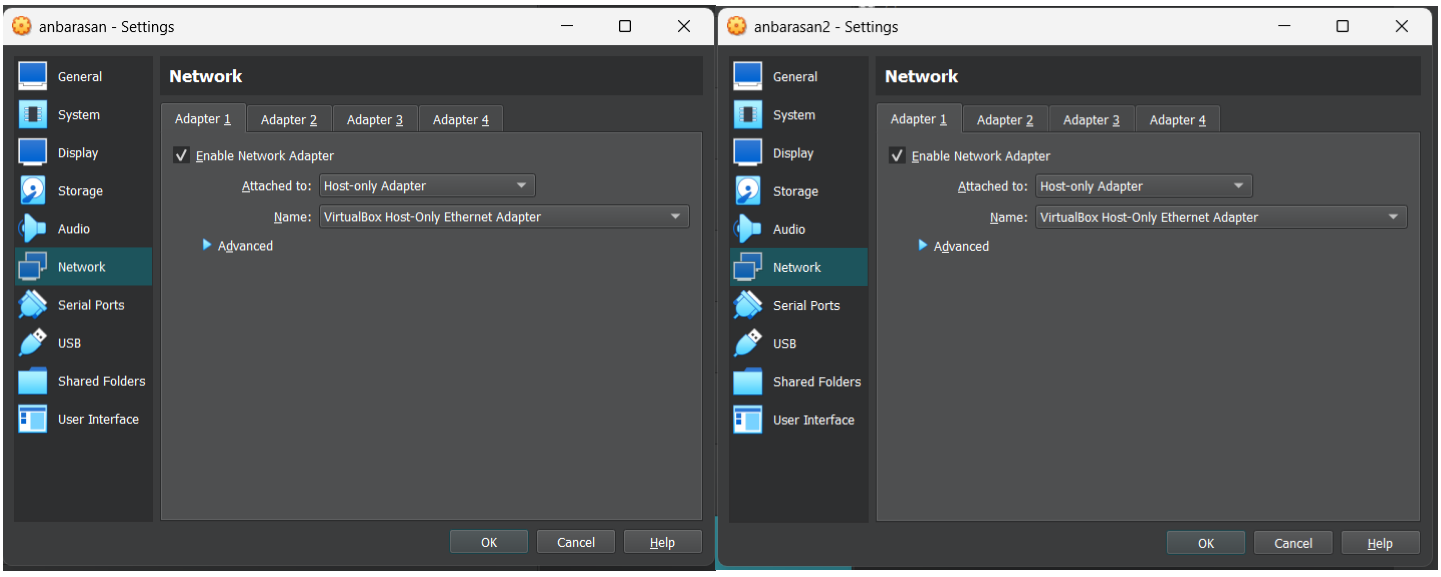
Procedure:

VM-VM ping

1. Create two virtual machines with required memory, processor and hard disk.



2. Once the VM created, Change the network settings as Host-only adapter for both the VMs Click the VM-> settings->Network -> change the Attached to as “Host-only adapter”



3. Check ip of the VMs created : *ip a*

```
tce@tce-VirtualBox:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defau
lt 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: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP g
roup default qlen 1000
    link/ether 08:00:27:fc:81:ae brd ff:ff:ff:ff:ff:ff
    inet 192.168.56.103/24 brd 192.168.56.255 scope global dynamic noprefixrout
e enp0s3
       valid_lft 390sec preferred_lft 390sec
    inet6 fe80::5870:42b:ef0f:1767/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
3: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DO
WN group default
    link/ether 02:42:86:56:06:8c brd 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
tce@tce-VirtualBox:~$
```

```
vboxuser@ubuntuos:~$ ip a
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: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:0c:b3:7e brd ff:ff:ff:ff:ff:ff
    inet 192.168.56.104/24 brd 192.168.56.255 scope global dynamic noprefixroute enp0s3
       valid_lft 449sec preferred_lft 449sec
    inet6 fe80::9f0:aef3:2295:27c1/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
vboxuser@ubuntuos:~$
```

4. Try ping command on both VMs : *ping ip-address*

If you have any problem arises due to security reasons execute *sudo ufw disable* **-** To disable the firewall

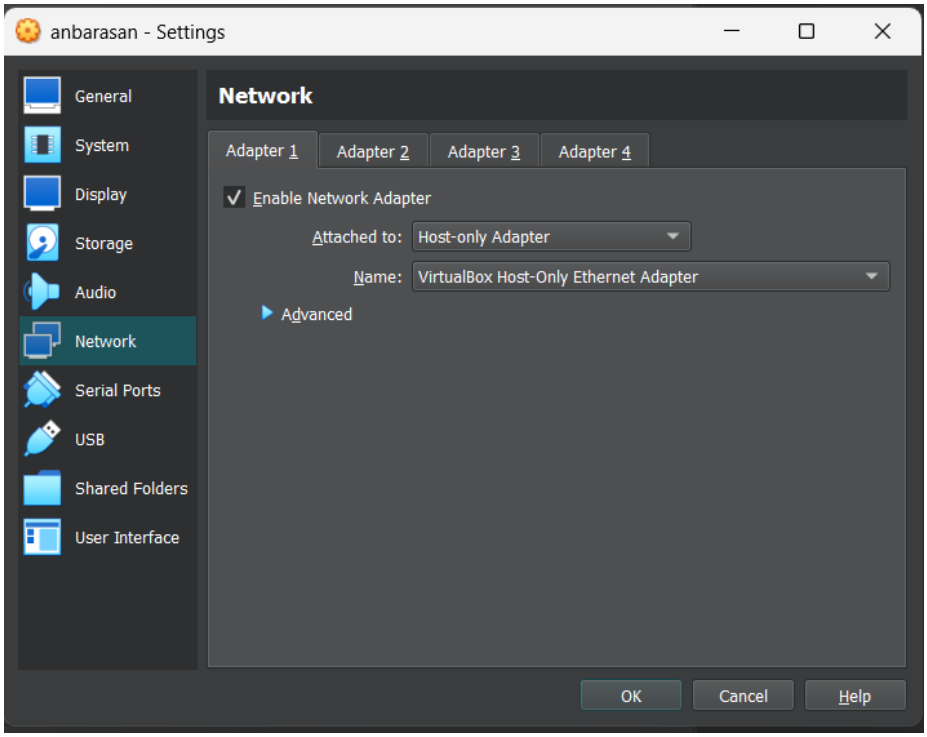
```
tce@tce-VirtualBox:~$ ping 192.168.56.104
PING 192.168.56.104 (192.168.56.104) 56(84) bytes of data.
64 bytes from 192.168.56.104: icmp_seq=1 ttl=64 time=1.07 ms
64 bytes from 192.168.56.104: icmp_seq=2 ttl=64 time=1.01 ms
64 bytes from 192.168.56.104: icmp_seq=3 ttl=64 time=1.69 ms
64 bytes from 192.168.56.104: icmp_seq=4 ttl=64 time=1.35 ms
64 bytes from 192.168.56.104: icmp_seq=5 ttl=64 time=1.38 ms
^C
--- 192.168.56.104 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4008ms
rtt min/avg/max/mdev = 1.015/1.306/1.696/0.244 ms
tce@tce-VirtualBox:~$
```

```
vboxuser@ubuntuos:~$ ping 192.168.56.103
PING 192.168.56.103 (192.168.56.103) 56(84) bytes of data.
64 bytes from 192.168.56.103: icmp_seq=1 ttl=64 time=1.23 ms
64 bytes from 192.168.56.103: icmp_seq=2 ttl=64 time=1.20 ms
64 bytes from 192.168.56.103: icmp_seq=3 ttl=64 time=0.920 ms
64 bytes from 192.168.56.103: icmp_seq=4 ttl=64 time=1.58 ms
64 bytes from 192.168.56.103: icmp_seq=5 ttl=64 time=1.43 ms
^C
--- 192.168.56.103 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 0.920/1.271/1.579/0.224 ms
vboxuser@ubuntuos:~$
```

The connection has been established between VM1 to VM2 successfully.

VM-Native Ping (Linux-Windows)

1. Click VM -> settings -> Network -> Host-only Adapter -> OK.



2. Get the ip address of the VM and also the Windows host machine.

```
tce@tce-VirtualBox:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defau
lt 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: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP g
roup default qlen 1000
    link/ether 08:00:27:fc:81:ae brd ff:ff:ff:ff:ff:ff
    inet 192.168.56.103/24 brd 192.168.56.255 scope global dynamic noprefixrout
e enp0s3
       valid_lft 390sec preferred_lft 390sec
    inet6 fe80::5870:42b:ef0f:1767/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
3: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DO
WN group default
    link/ether 02:42:86:56:06:8c brd 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
tce@tce-VirtualBox:~$
```

```
C:\WINDOWS\system32\cmd.

C:\Users\anbar>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet 2:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Unknown adapter Local Area Connection:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Ethernet adapter Ethernet 5:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::adb6:e489:8ebe:bf18%6
   IPv4 Address. . . . . . . . . . . : 192.168.56.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
```

3. Now, try ping command in VM and the host machine.
   If any problem arises while pinging VM to host, it may be due to firewall settings of Windows. Try to ping after running below command as admin in windows terminal:

   netsh advfirewall firewall add rule name="Allow ICMPv4-In" protocol=icmpv4:8,any dir=in action=allow

   To deactivate it, Run :

   netsh advfirewall firewall delete rule name="Allow ICMPv4-In"

```
C:\Users\anbar>ping 192.168.56.103

Pinging 192.168.56.103 with 32 bytes of data:
Reply from 192.168.56.103: bytes=32 time<1ms TTL=64
Reply from 192.168.56.103: bytes=32 time<1ms TTL=64
Reply from 192.168.56.103: bytes=32 time=1ms TTL=64
Reply from 192.168.56.103: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.56.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\anbar>
```

```
tce@tce-VirtualBox:~$ ping 192.168.56.1
PING 192.168.56.1 (192.168.56.1) 56(84) bytes of data.
64 bytes from 192.168.56.1: icmp_seq=1 ttl=128 time=0.837 ms
64 bytes from 192.168.56.1: icmp_seq=2 ttl=128 time=0.840 ms
64 bytes from 192.168.56.1: icmp_seq=3 ttl=128 time=0.645 ms
64 bytes from 192.168.56.1: icmp_seq=4 ttl=128 time=0.658 ms
^C
--- 192.168.56.1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 0.645/0.745/0.840/0.093 ms
tce@tce-VirtualBox:~$
```

Result:

Thus, the VM-VM ping and VM-Native ping has been established successfully.