COMPUTER NETWORKS LABORATORY

By:

Nitish S

PES2201800368

5 'A'

WEEK – 1 - LEARN AND UNDERSTAND NETWORK TOOLS

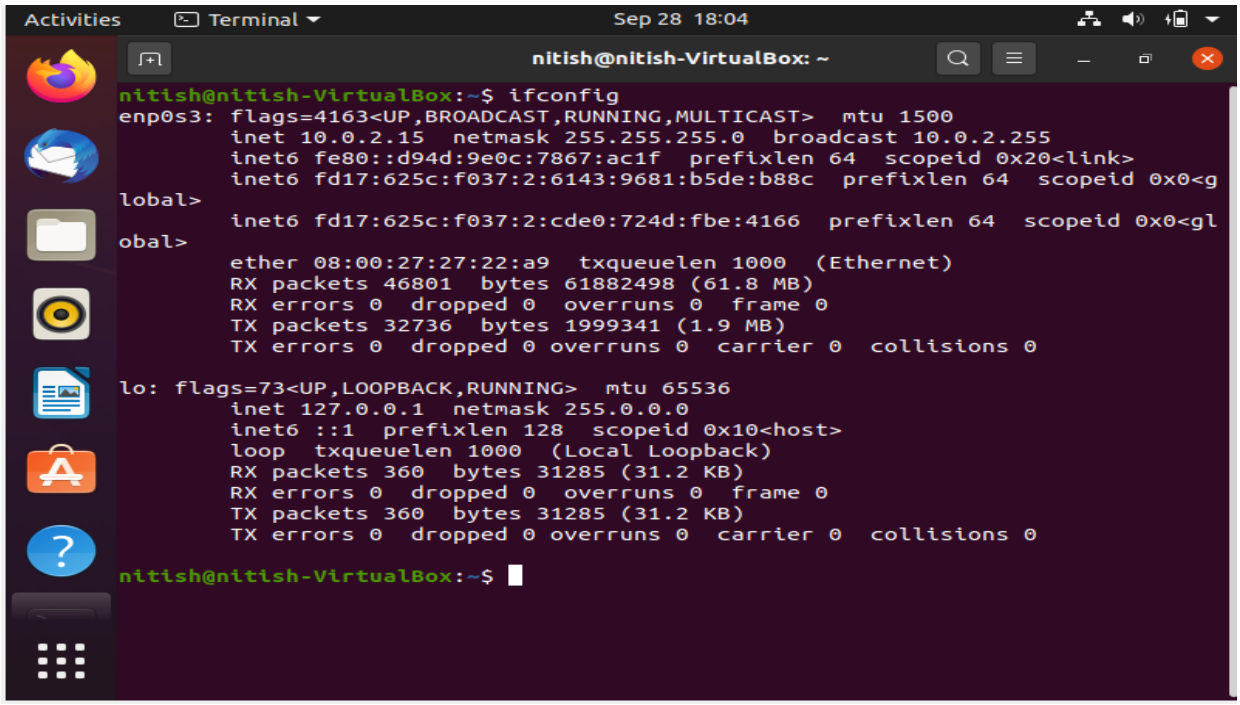
DATE: 31/08/2020

RESUBMISSION OF TASK 1 and TASK 7:-

TASK – 1: LINUX INTERFACE CONFIGURATION (IFCONFIG / IP COMMAND):

Step -1: To display status of all active network interfaces:

ifconfig (or) ip addr show

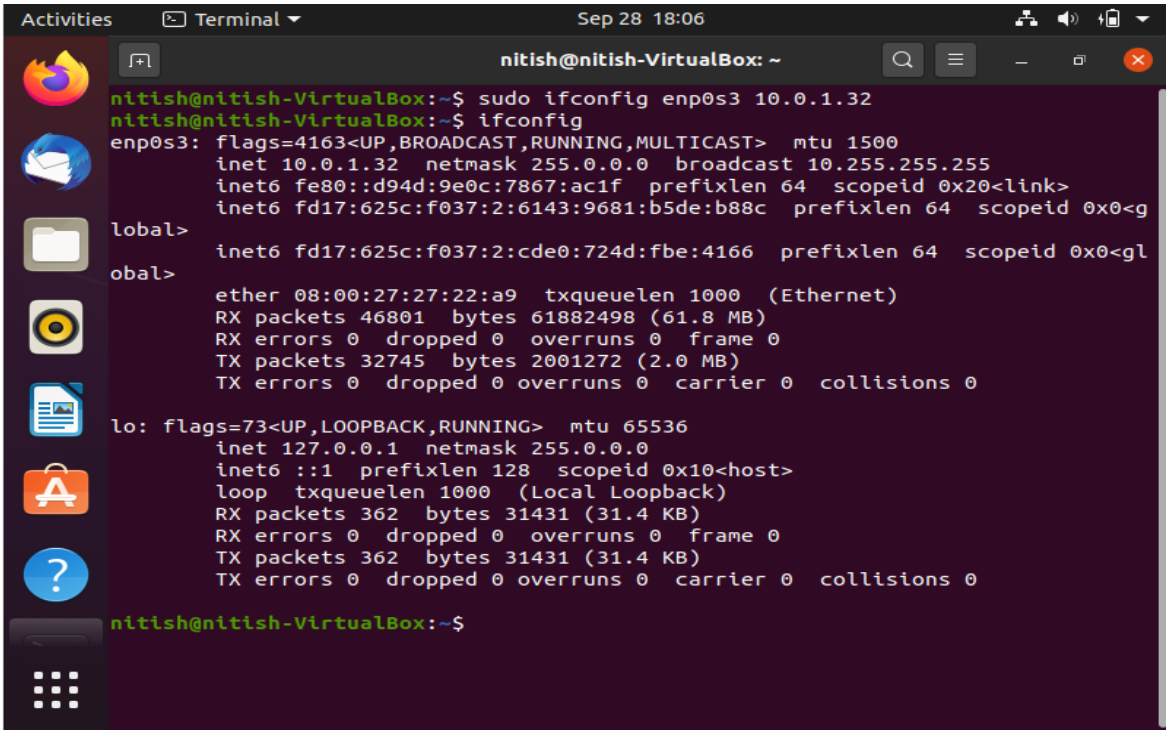


ip address table:-

Interface name	IP address (IPv4 / IPv6)	MAC address
enp0s3	10.0.2.15 netmask 255.0.0.0	08:00:27:89:68:38
lo	127.0.0.1 netmask 255.0.0.0	00:00:00:00:00:00

Step – 2: To assign an IP address to an interface , use the following command:

sudo ifconfig enp0s3 10.0.1.32



ip address table:-

Interface name	IP address (IPv4 / IPv6)	MAC address
enp0s3	10.0.1.32 netmask 255.0.0.0	08:00:27:89:68:38
lo	127.0.0.1 netmask 255.0.0.0	00:00:00:00:00:00

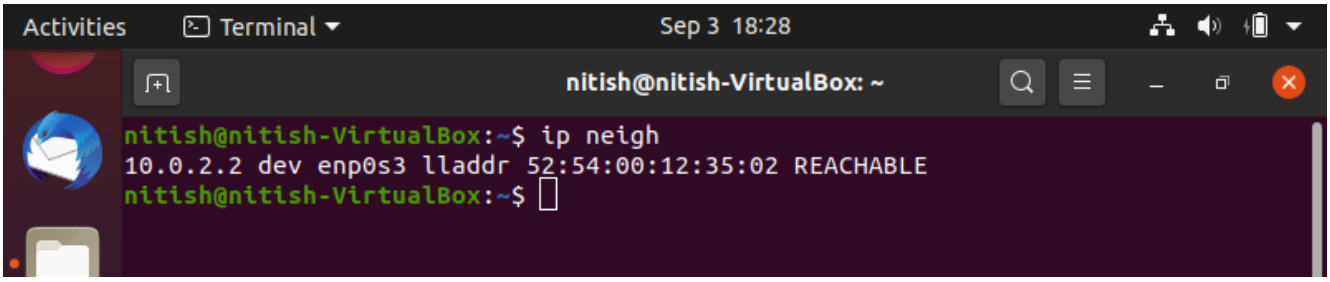
Step -3 : To activate/ deactivate a network interface type:

sudo ifconfig 10.0.1.32 down

sudo ifconfig 10.0.1.32 up

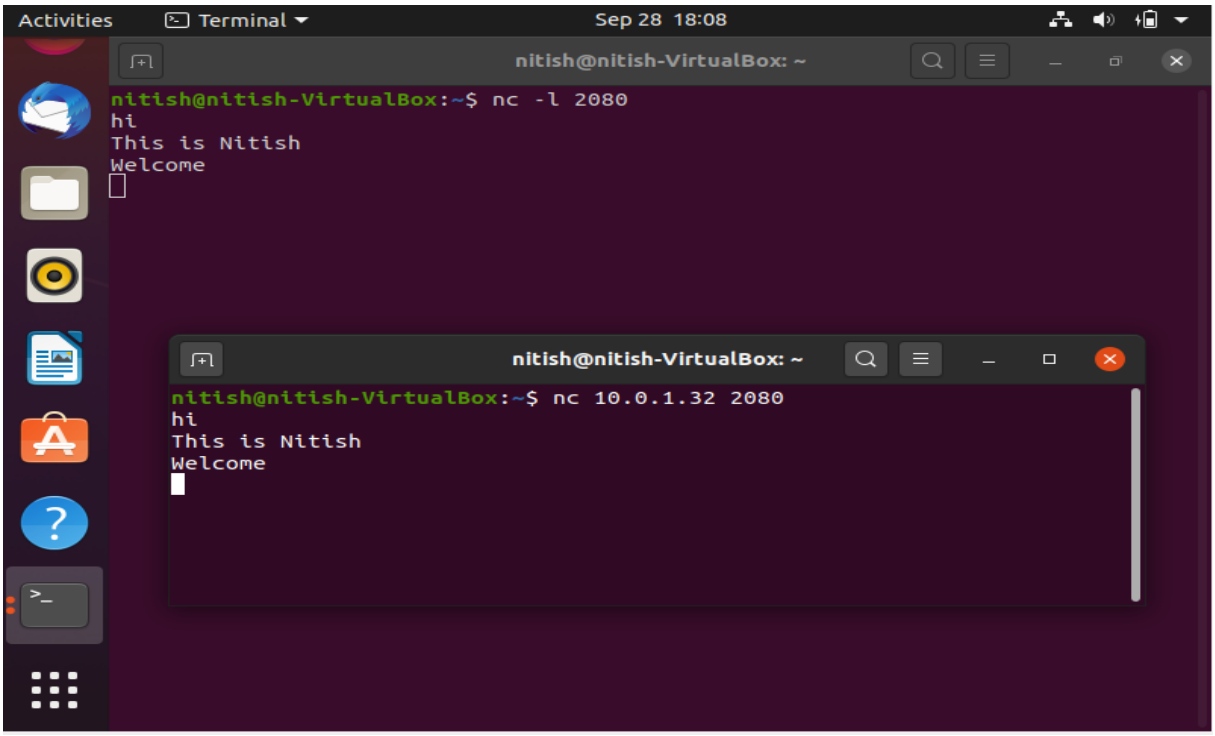
Step – 4: To show the current neighbor table in kernel , type:

ip neigh



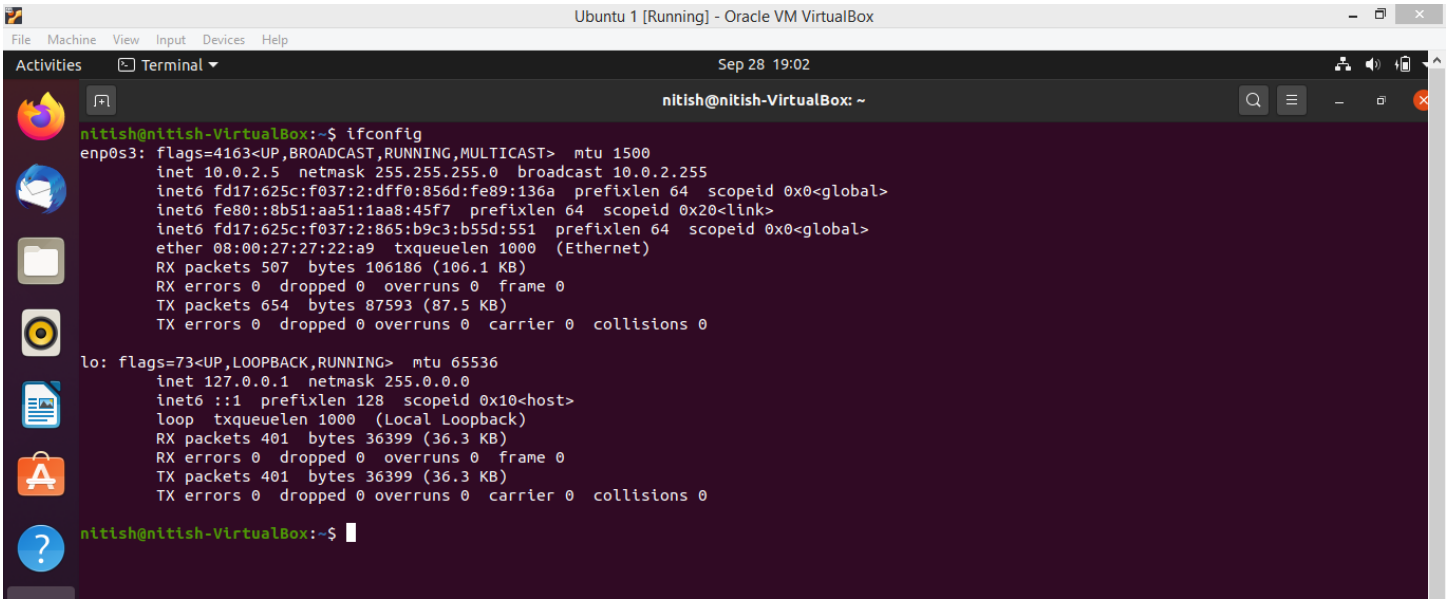
TASK – 7a) NETCAT AS A CHAT TOOL:

a) INTRA-SYSTEM COMMUNICATION:-



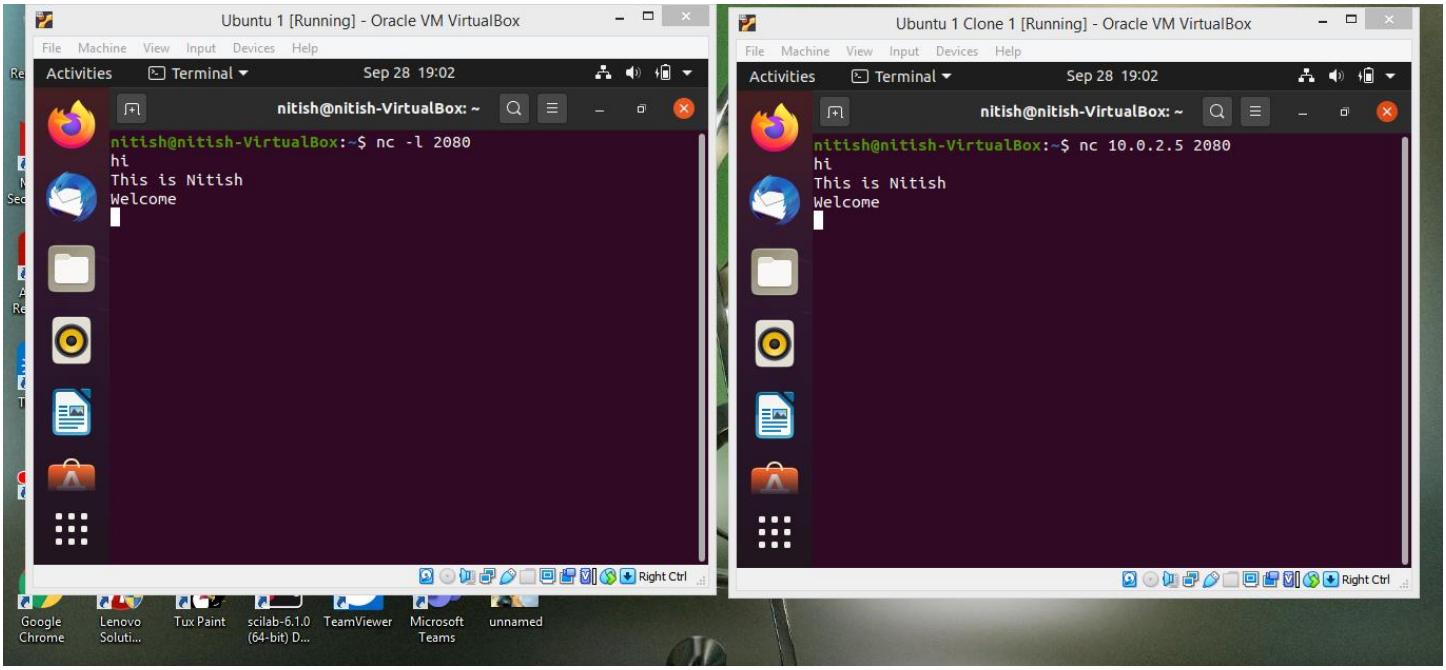
b) INTER-SYSTEM COMMUNICATION (USING 2 VMs):

IP ADDRESS OF THE SERVER MACHINE: 10.0.2.5



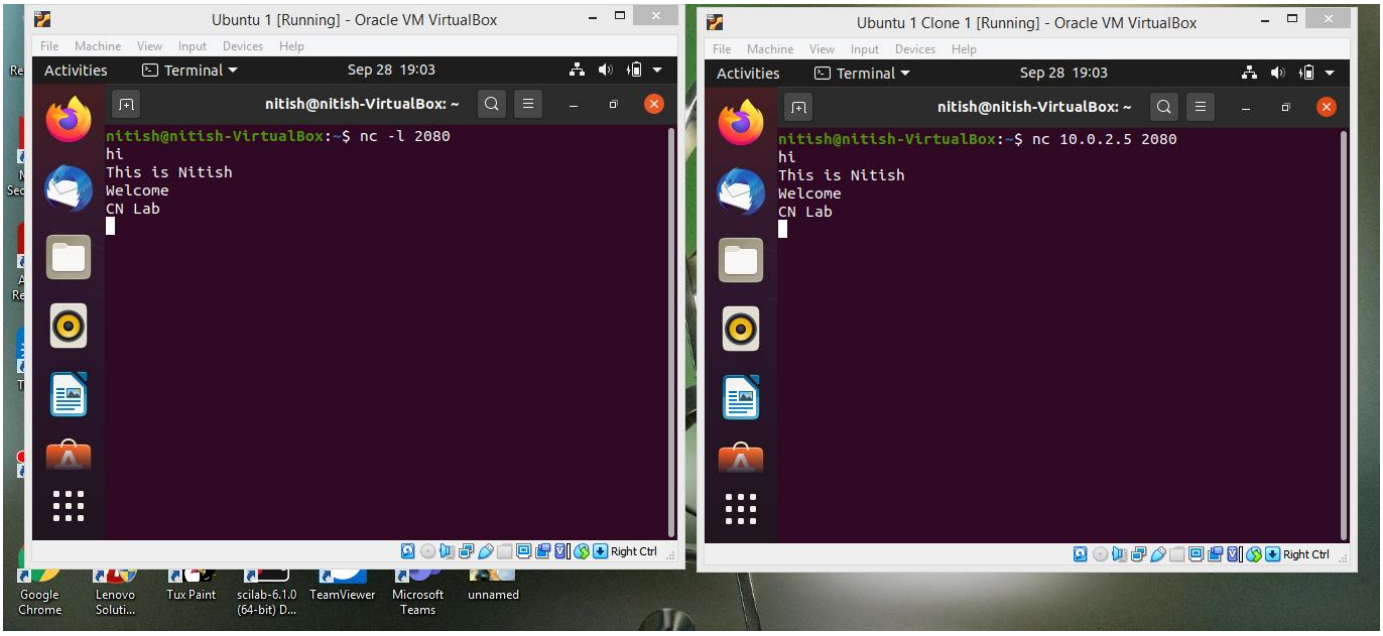
INTER-SYSTEM COMMUNICATION:-

SERVER MACHINE	CLIENT MACHINE



SERVER MACHINE

CLIENT MACHINE



TASK – 7b) USE NETCAT TO TRANSFER FILES:-

IP ADDRESS OF THE SERVER MACHINE: 10.0.2.5

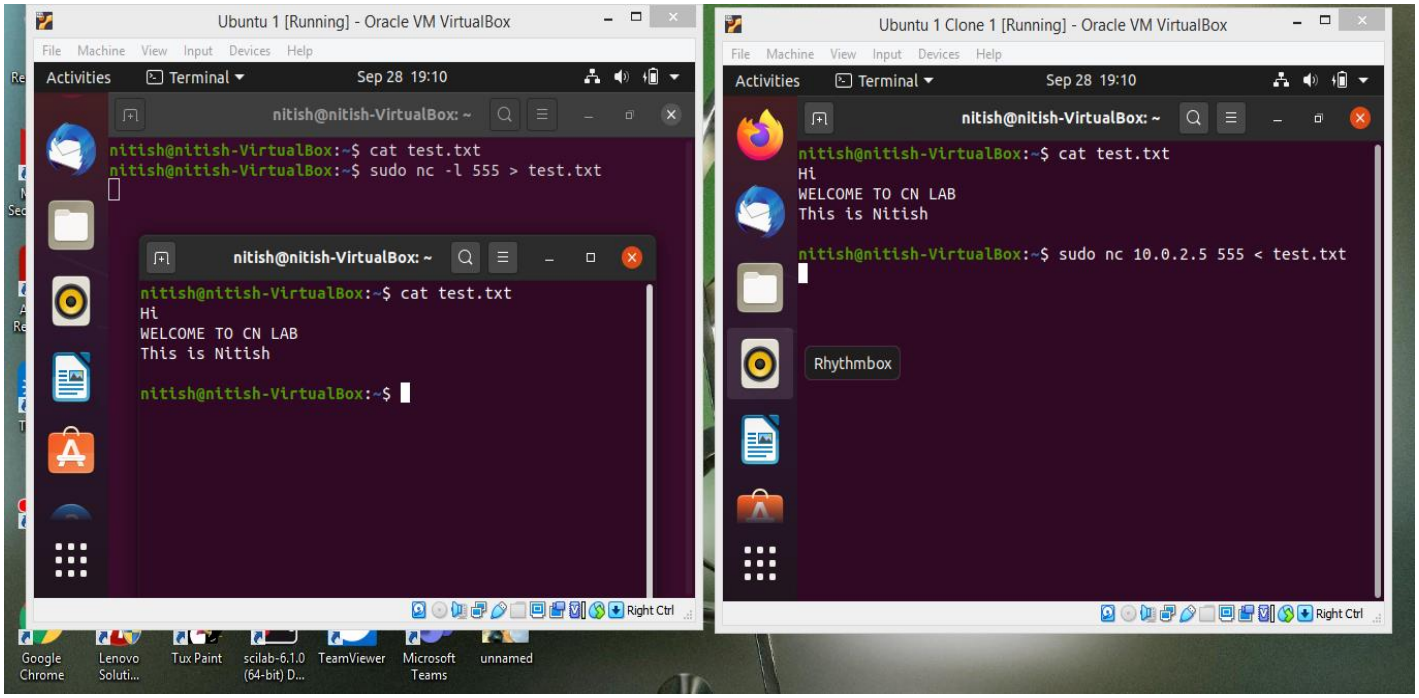
Can be observed from the below screenshot that initially, the test.txt was empty as the cat command did not give any output.

But once the **sudo nc -l 555 > test.txt** is run in the server side and

sudo nc 10.0.2.5 555 < test.txt is run on the client machine, the file gets transferred and hence as a result the contents of test.txt from the client machine is copied into test.txt in the server machine too.

SERVER MACHINE

CLIENT MACHINE



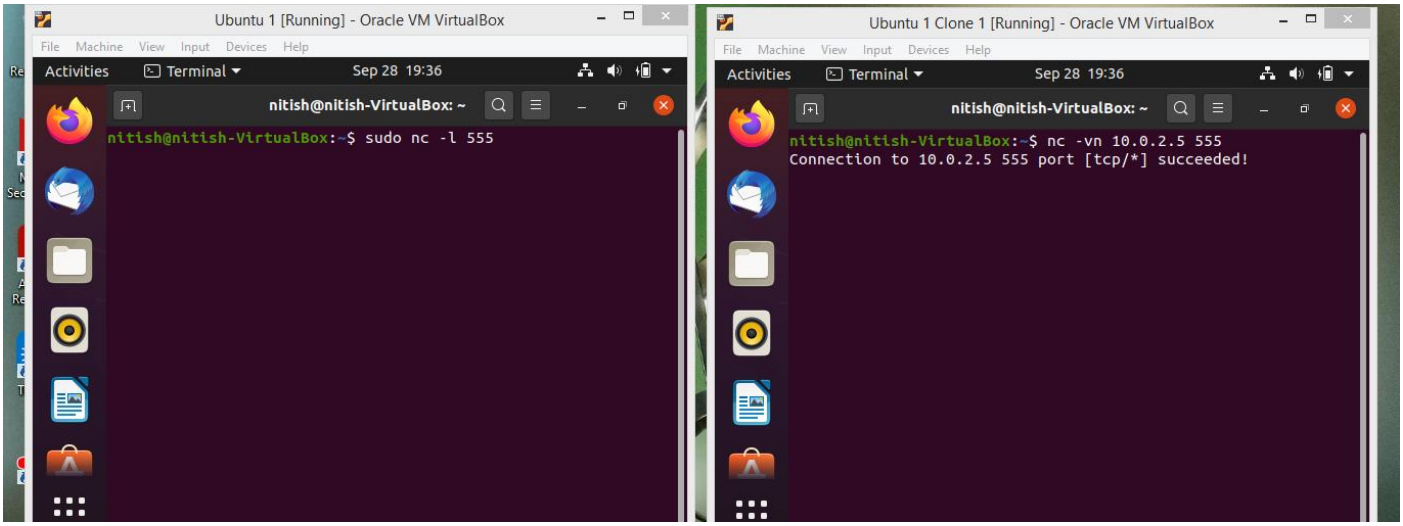
TASK – 7c) OTHER COMMANDS:-

1) To test if a particular TCP port of a remote host is open.

Command used: nc -vn 10.0.2.5 555 (checks if the port 555 is open in the server machine with IP address 10.0.2.5

SERVER MACHINE

CLIENT MACHINE



2) Run a webserver with a static webpage.

Step – 1) Run the command below on the localhost (e.g.10.0.2.15 -IP address of the server machine) to start a webserver that server test.html on port 80.

while true; do sudo nc -lp 80 < test.html; done

Step – 2) Now open **http://10.0.2.15/test.html** from another host to access it.

Step – 3) Observe the details on the terminal.