Old Dominion University

CYSE 270 Linux System for Cybersecurity

Assignment #12

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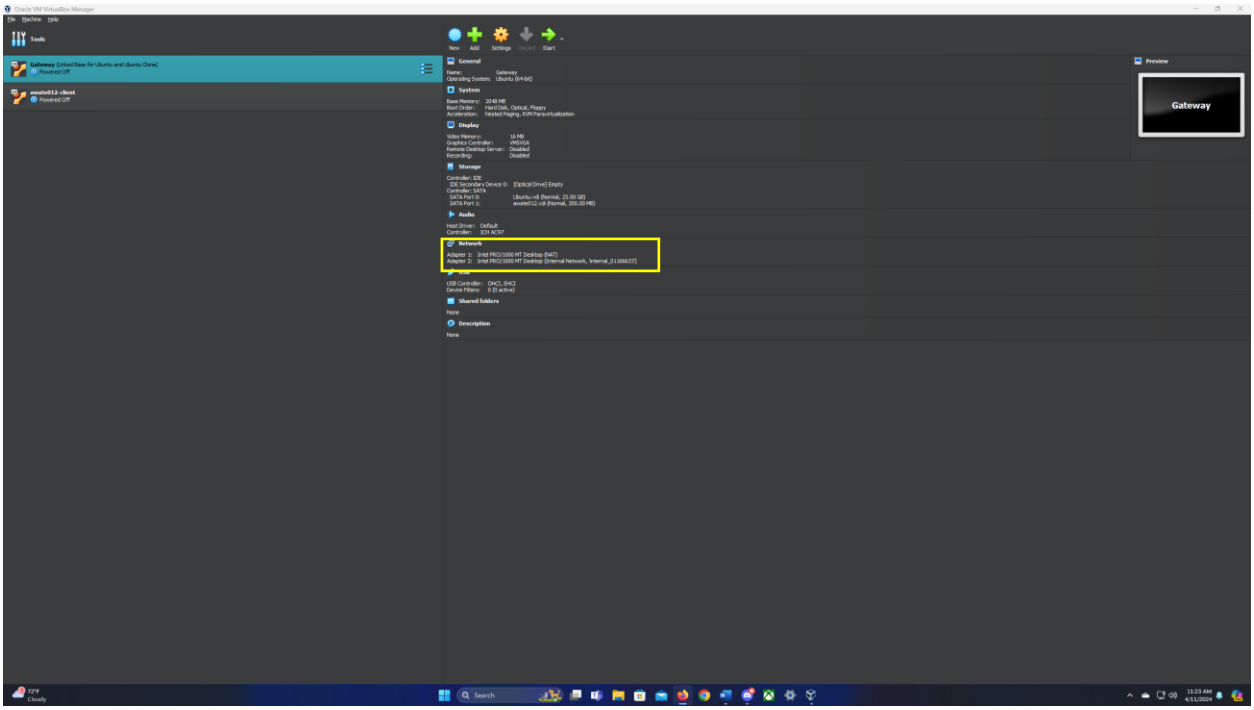
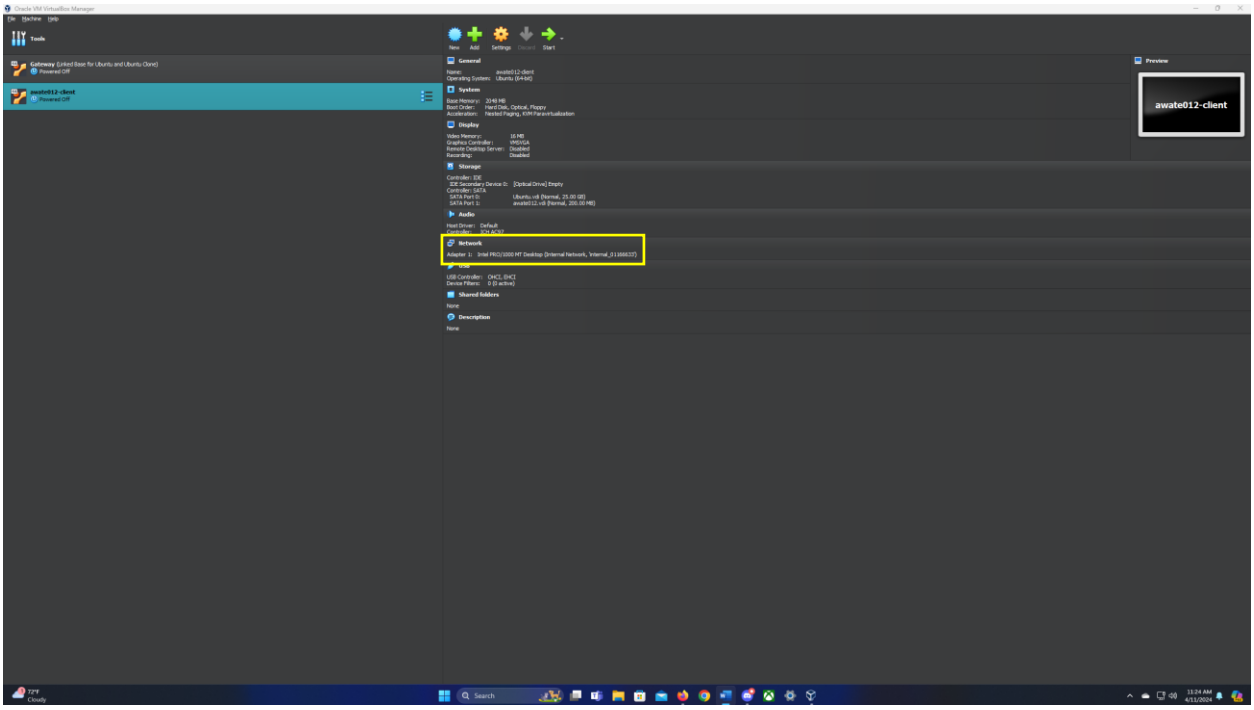
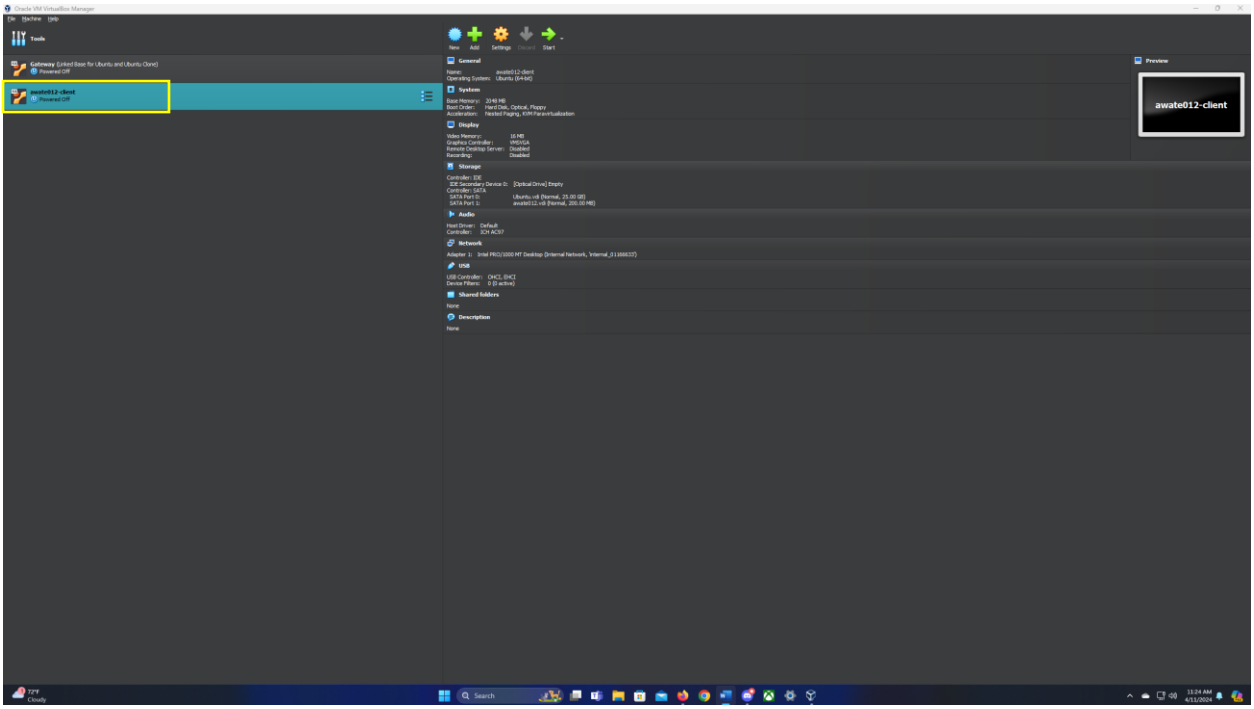
Task A – Network Configuration

1. In the virtual box setting, connect two VMs in the same internal network, “internal_{UIN}”.
    a. Replace {UIN} with your real UIN.

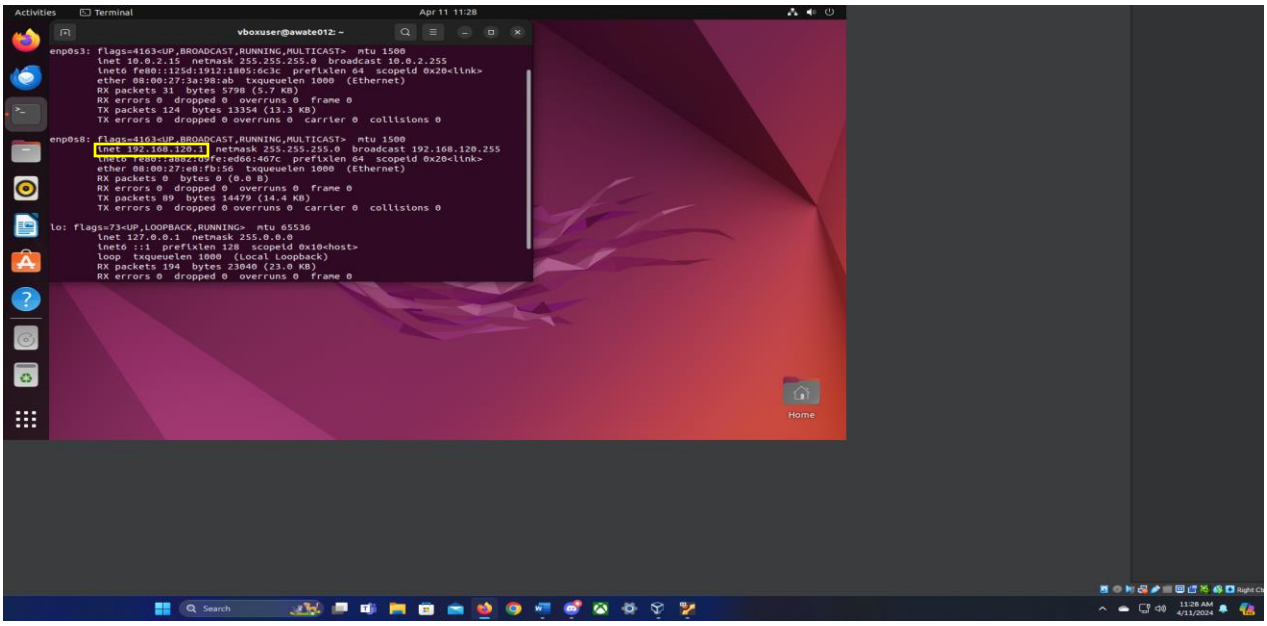




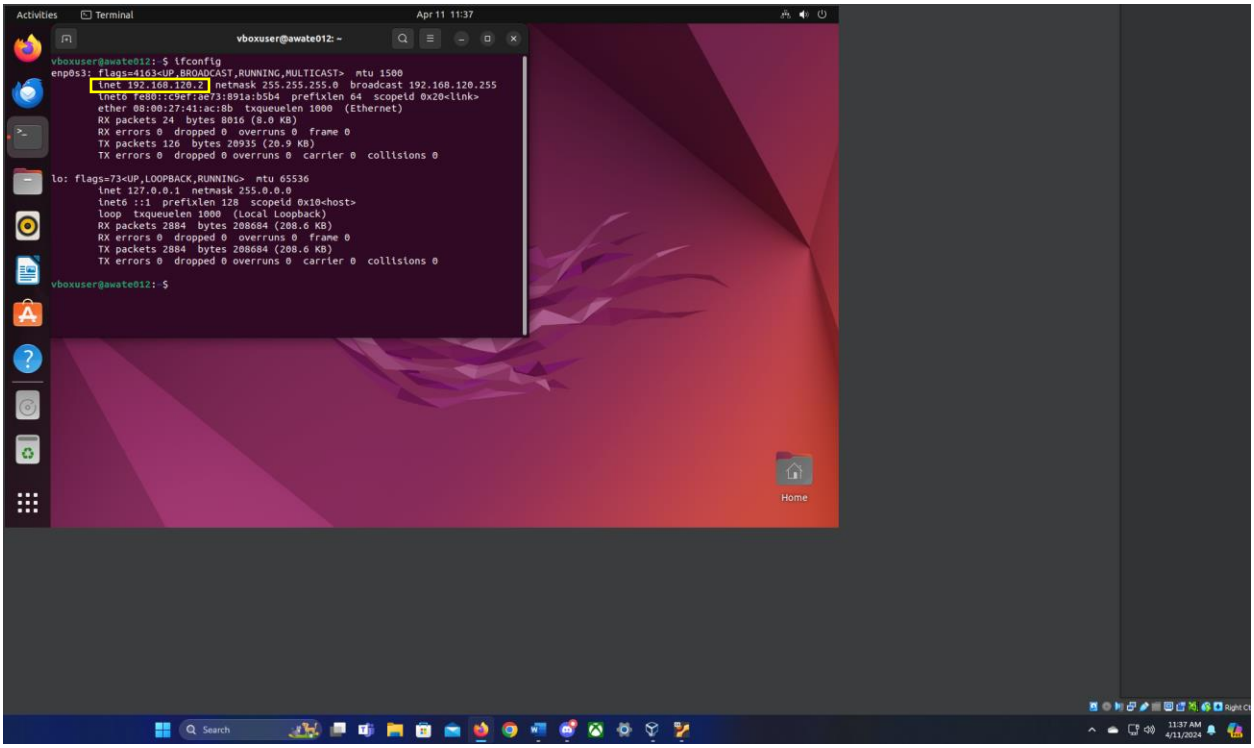
2. Change the hostname of the Client VM to “{MIDASname}-Client”. Replace {MIDASname} with your real MIDAS name.

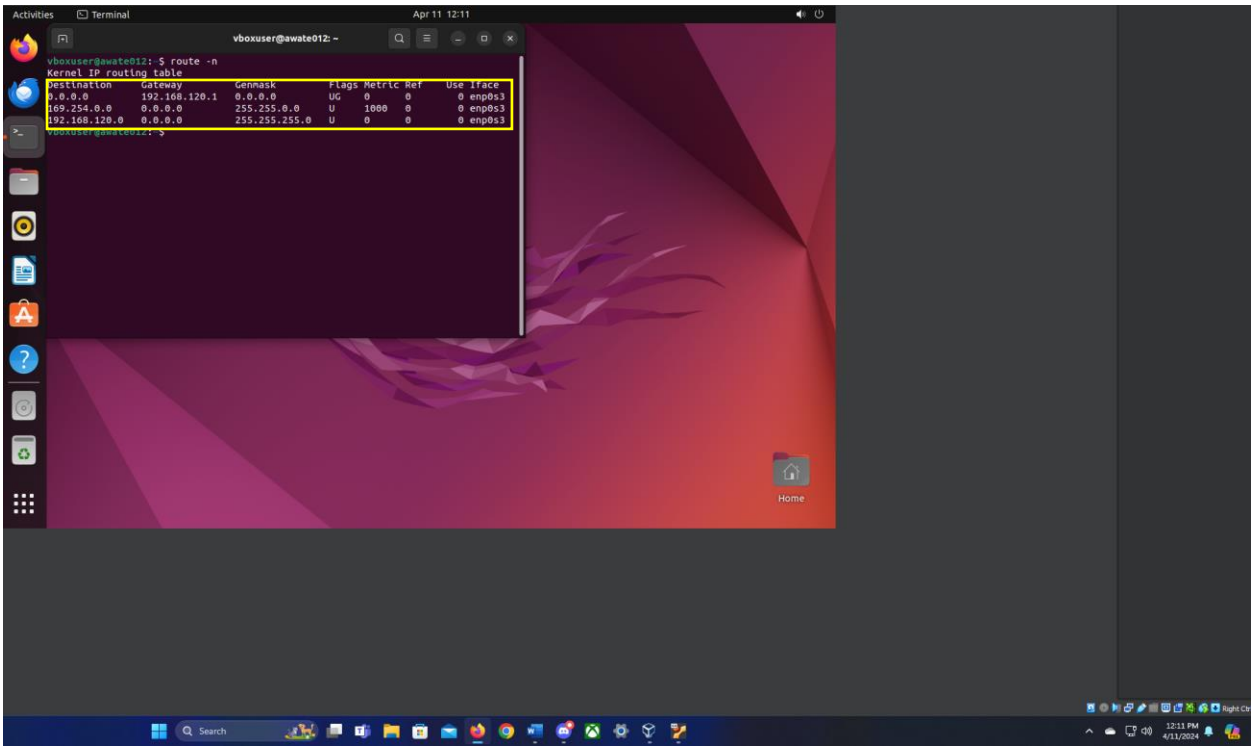


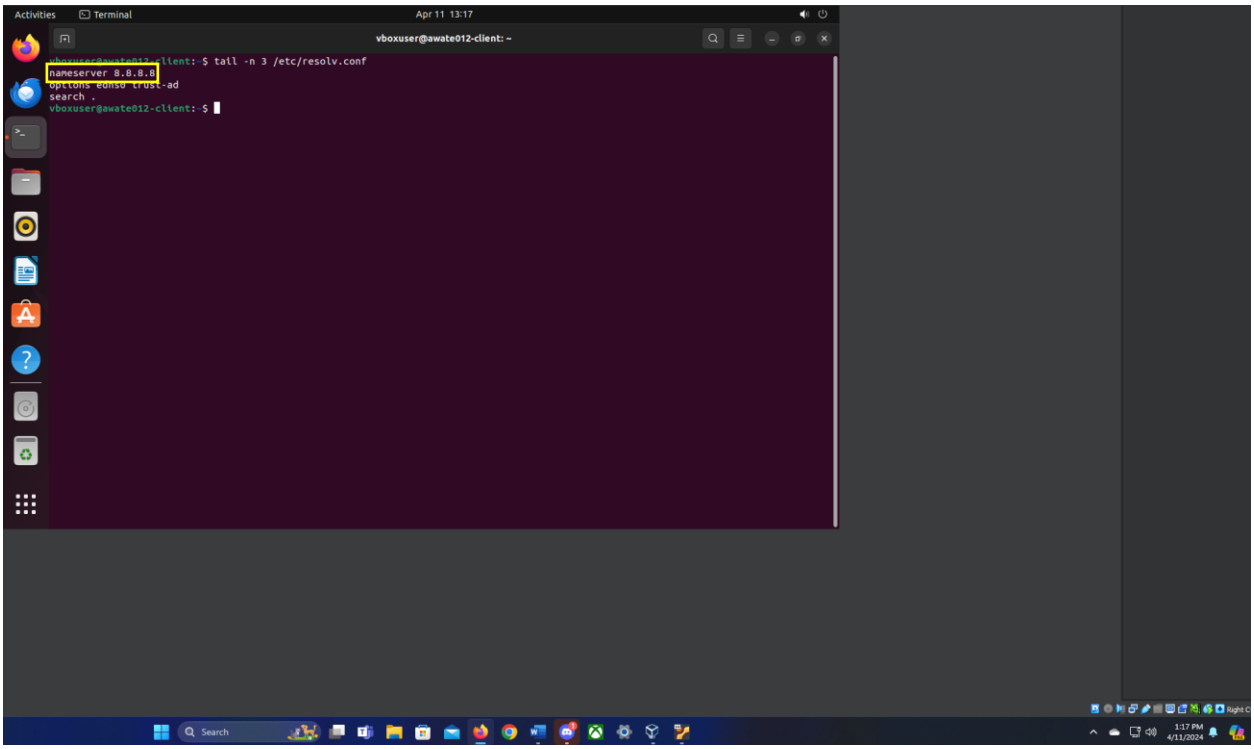
3. Configure the temporary IP address on the Gateway Ubuntu, as shown in Figure 1.



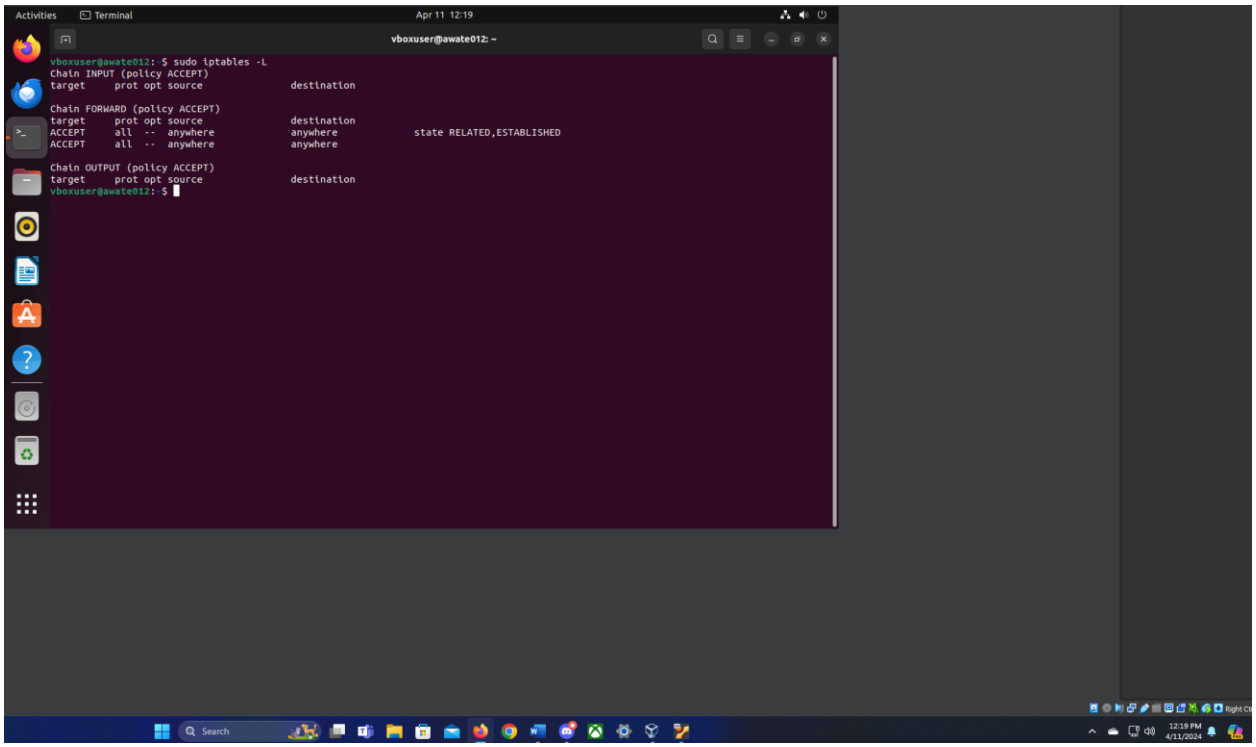
4. Configure the temporary IP address, routing table, and DNS server on Client VM as shown in Figure 1.

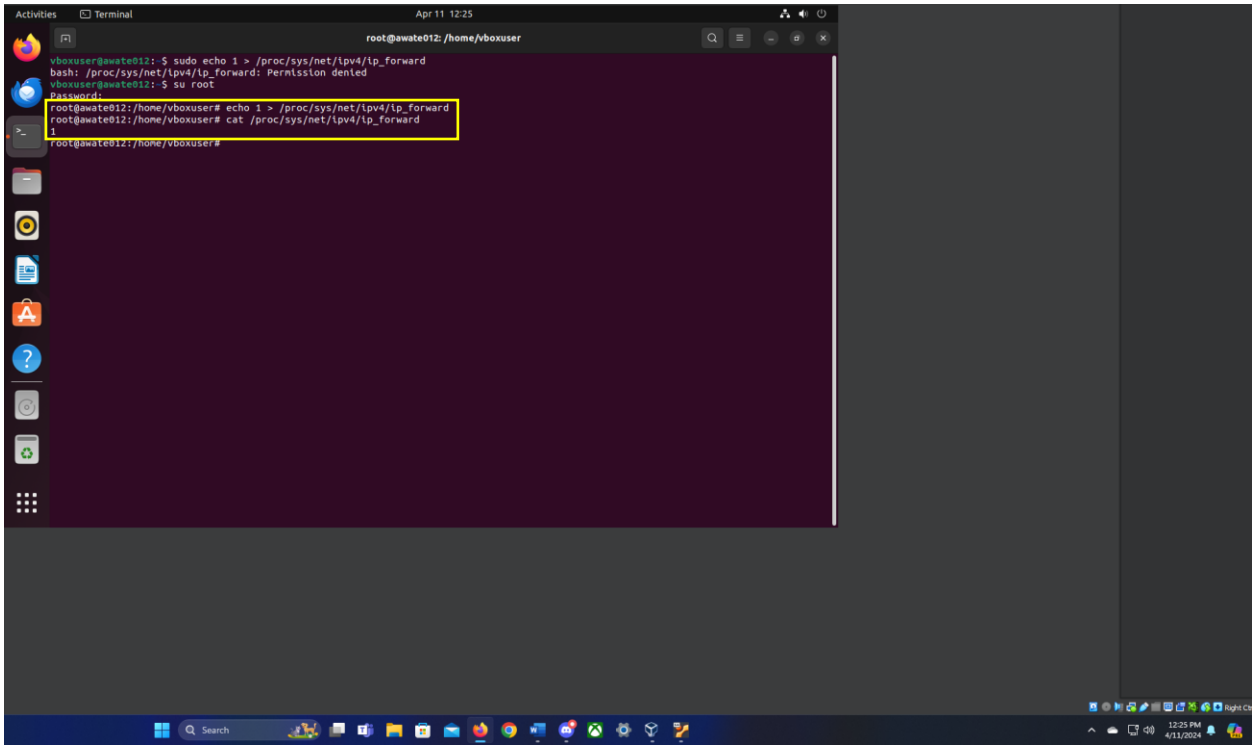




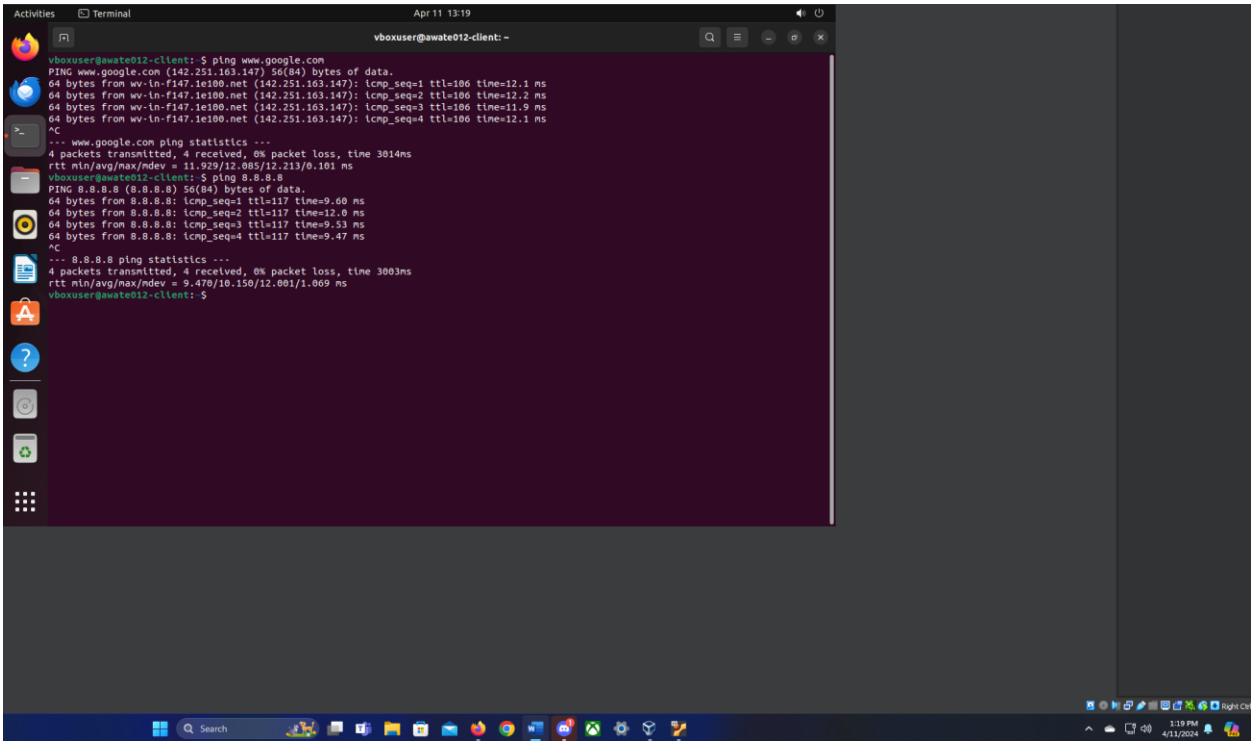


5. Configure gateway Ubuntu to enable IP forwarding (to forward the traffic) (also NAT configuration).



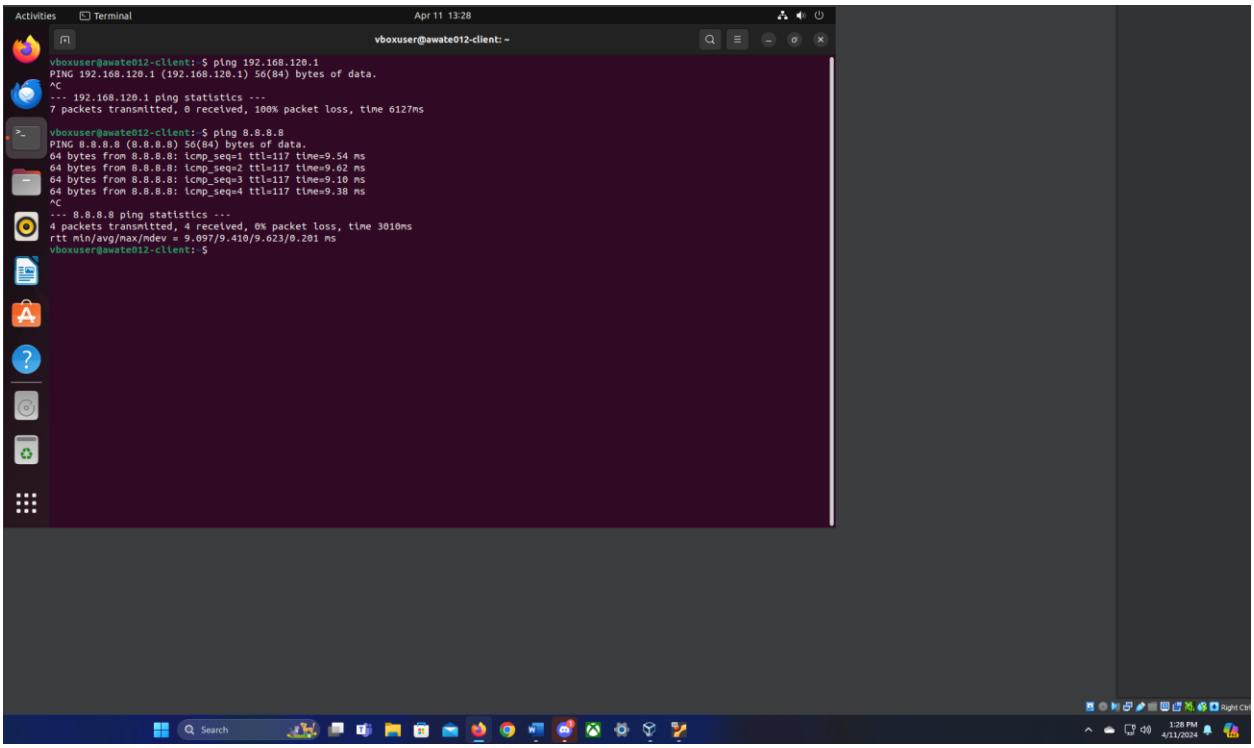


6. Test your pine connection to 8.8.8.8 and www.google.com in the client VM, respectively.

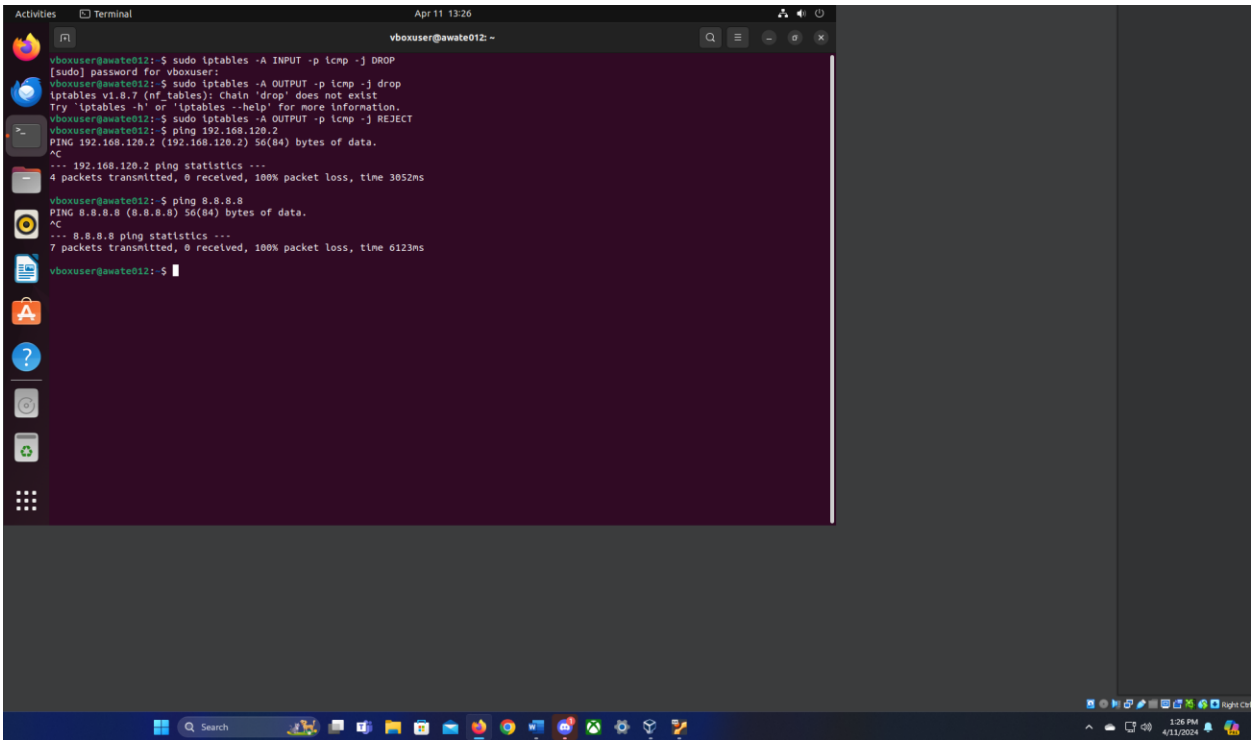


Task B – Firewall Configuration

1. Configure the iptables on the gateway Ubuntu to block all the inbound ICMP packets from the Client VM.
    a. After setting up rules for the gateway to drop ICMP packets from the client, we can no longer send a ping request to the gateway. We can still ping out to other addresses.



2. Configure the iptables on the gateway Ubuntu to block all the outbound ICMP packets that originated from the gateway Ubuntu itself.
    a. After setting up iptables rules, all ICMP packets were rejected


Activities
Terminal
Apr 11 13:26
vboxuser@awate012: ~
vboxuser@awate012:~$ sudo iptables -A INPUT -p icmp -j DROP
[sudo] password for vboxuser:
vboxuser@awate012:~$ sudo iptables -A OUTPUT -p icmp -j drop
iptables v1.8.7 (nf_tables): Chain 'drop' does not exist
Try `iptables -h' or 'iptables --help' for more information.
vboxuser@awate012:~$ sudo iptables -A OUTPUT -p icmp -j REJECT
vboxuser@awate012:~$ ping 192.168.120.2
PING 192.168.120.2 (192.168.120.2) 56(84) bytes of data.
^C
--- 192.168.120.2 ping statistics ---
4 packets transmitted, 0 received, 100% packet loss, time 3052ms
vboxuser@awate012:~$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
^C
--- 8.8.8.8 ping statistics ---
7 packets transmitted, 0 received, 100% packet loss, time 6123ms
vboxuser@awate012:~$
Search
1:26 PM
4/11/2024