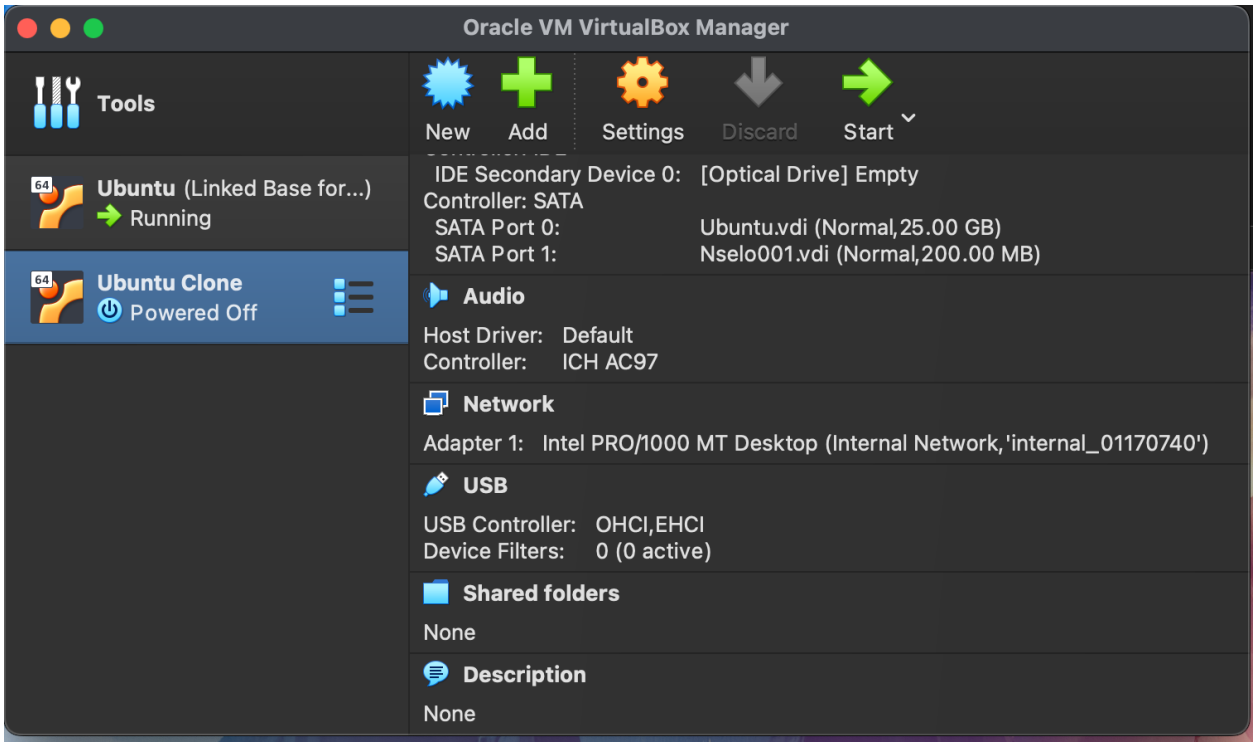
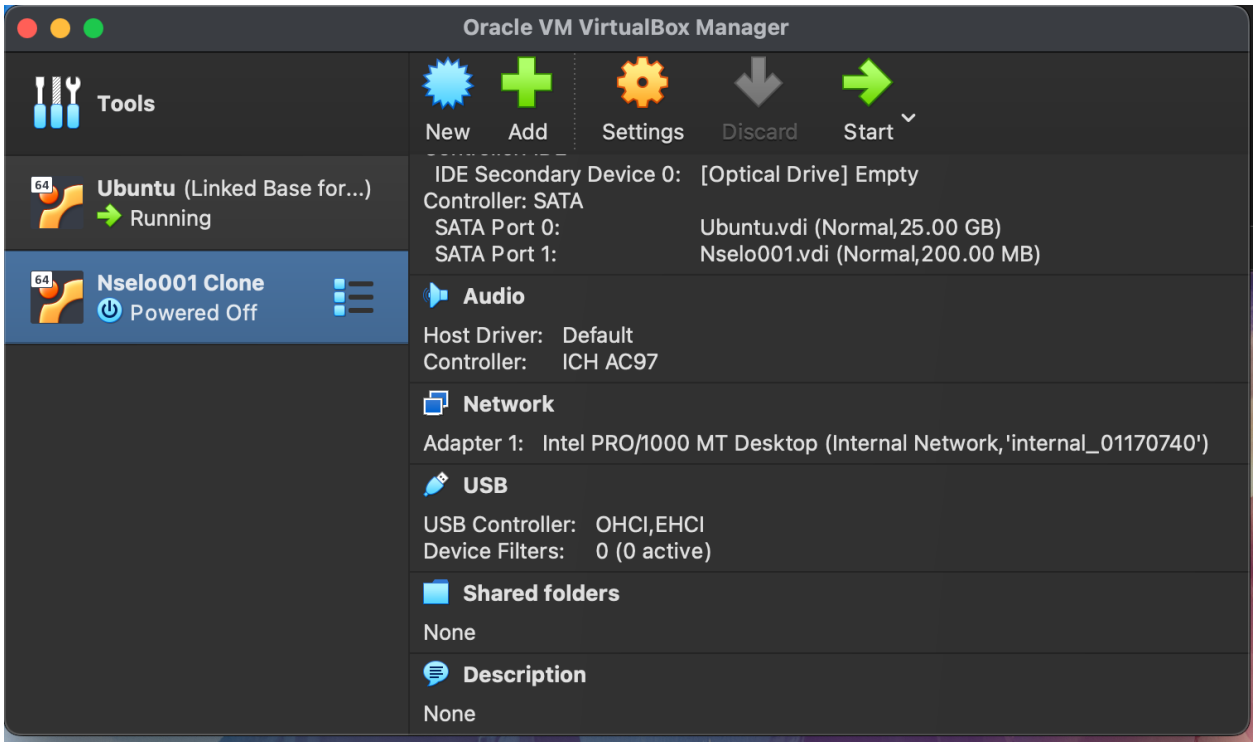
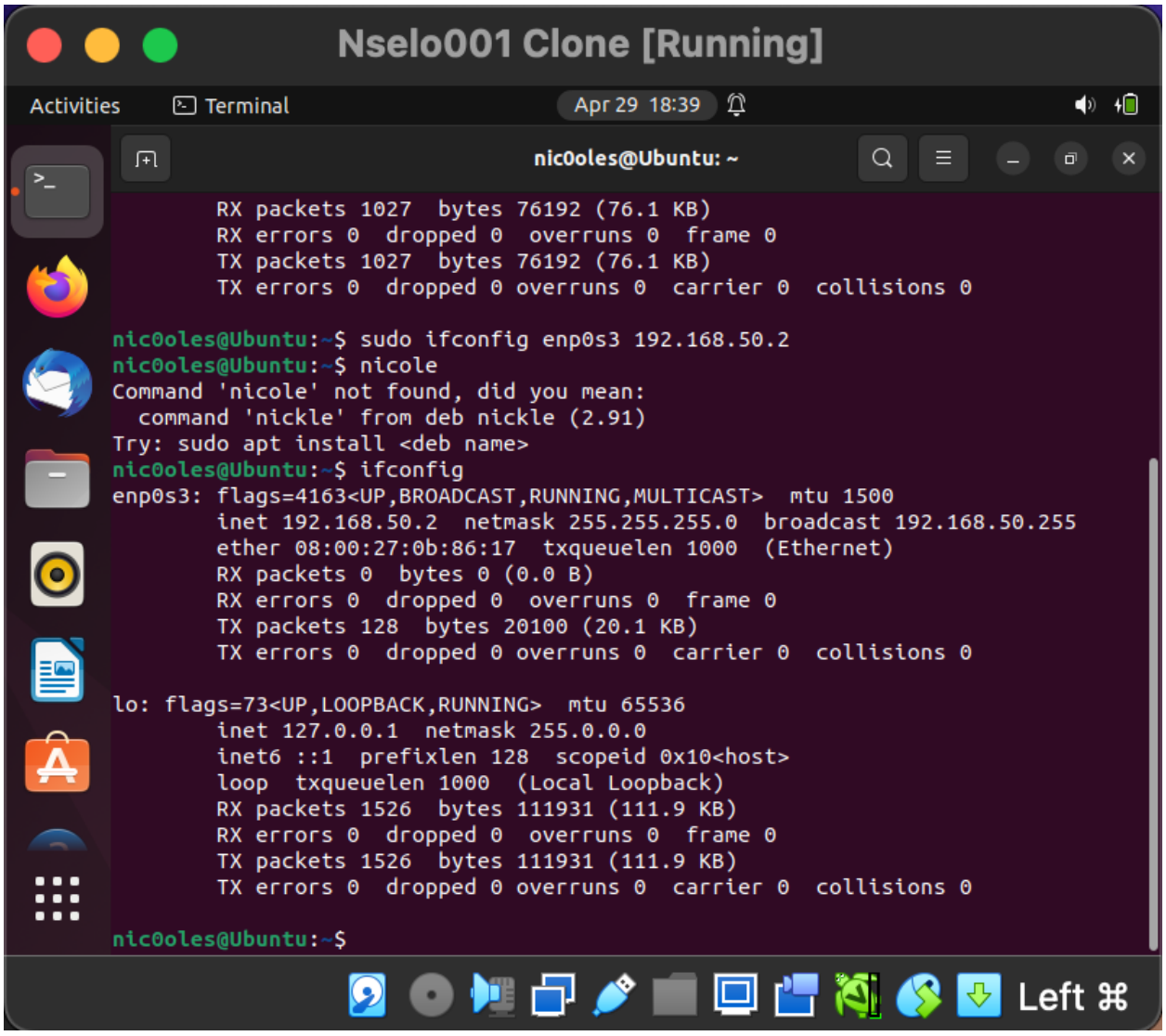
Task A –Network Configuration (60 points)
Please submit the screenshot for all the steps.
1. In the virtual box setting, connect two VMs in the same internal network, “internal_{UIN}”. Replace {UIN} with your real UIN.

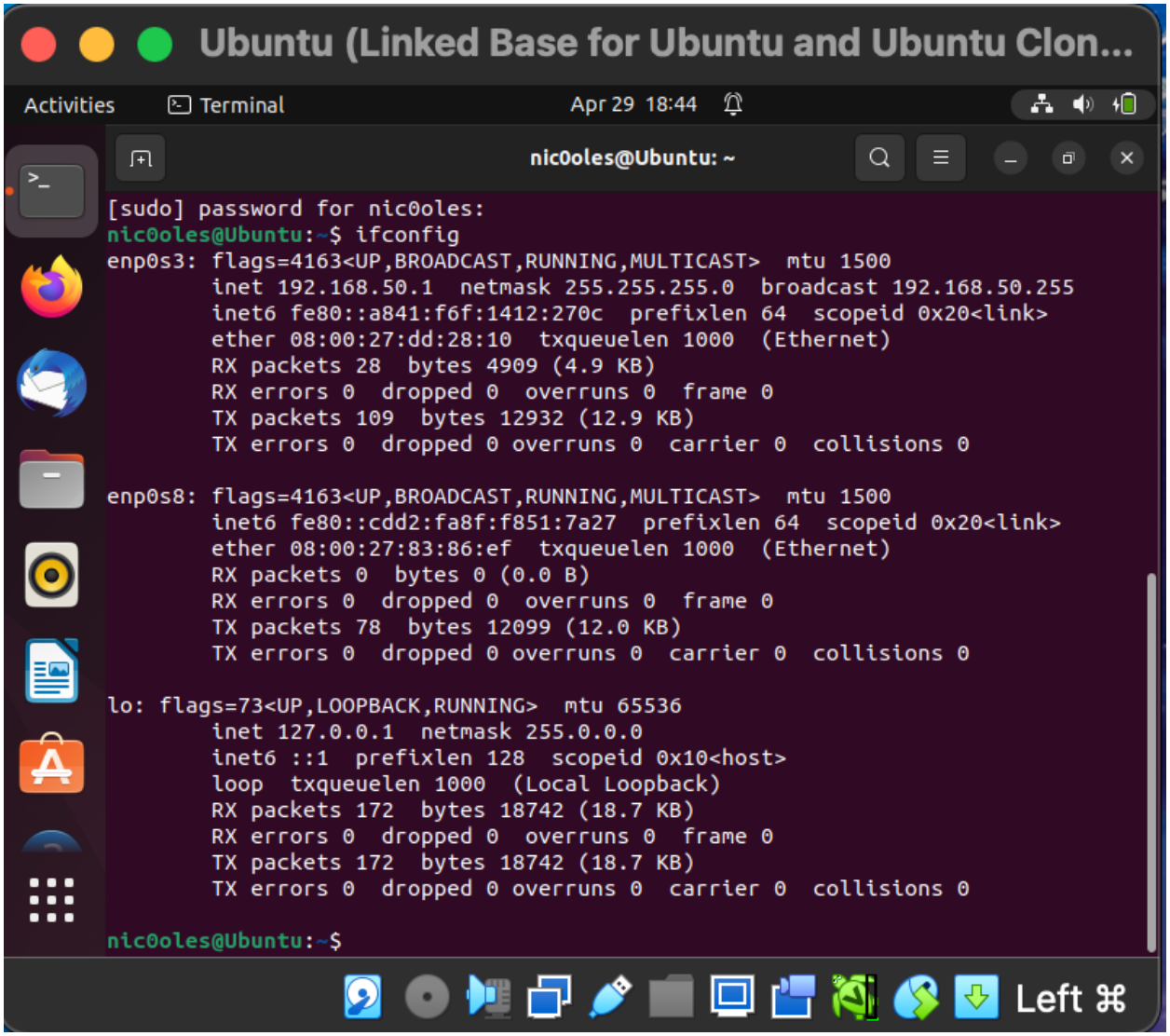


2. Change the hostname of the Client VM to “{MIDASname}-Client.” Replace {MIDAS name} with
your real MIDAS name. Don't forget to reboot your client VM to reflect the change in hostname.

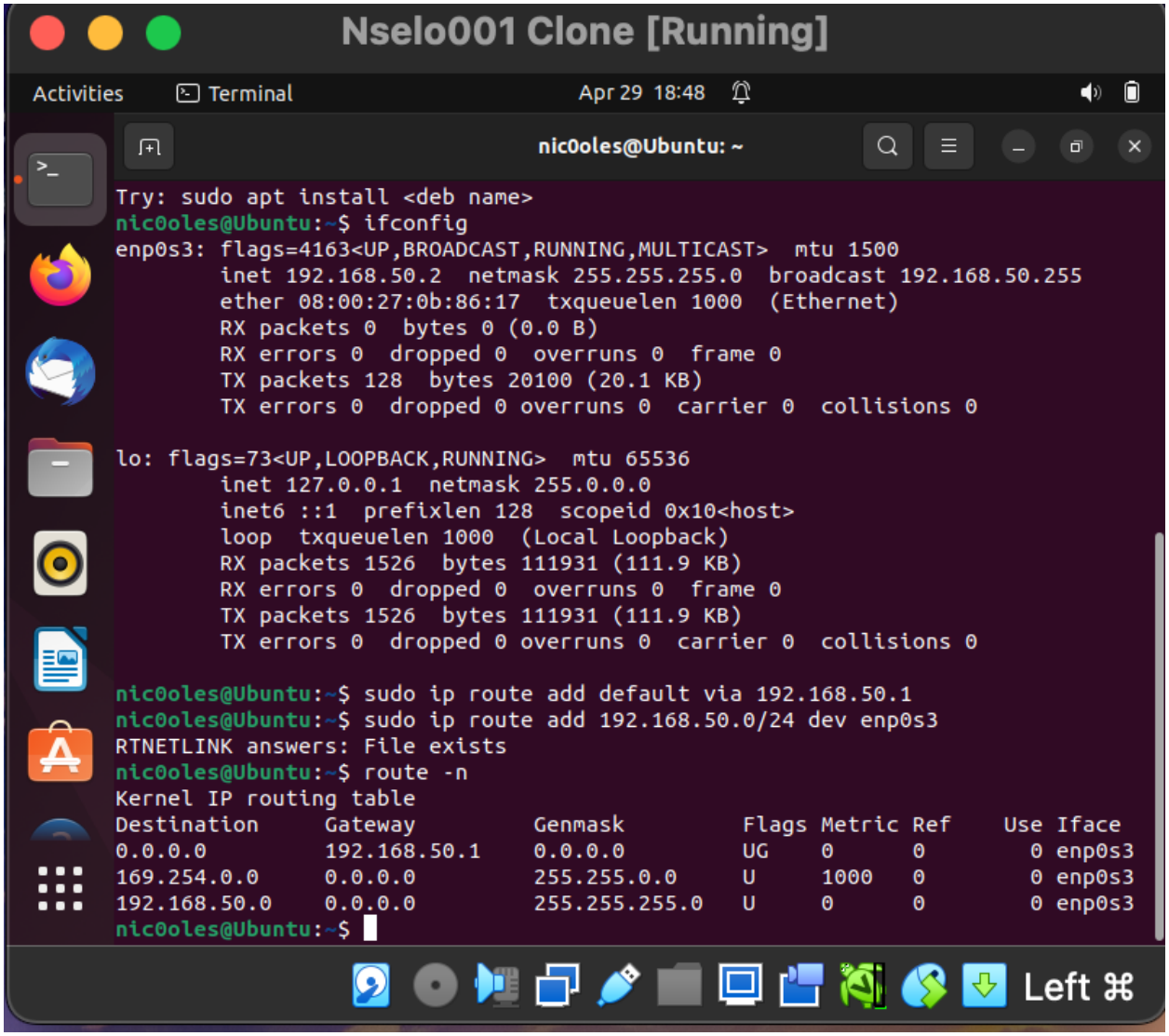


3. Configure the temporary IP address on the Gateway Ubuntu, as shown in Figure 1.

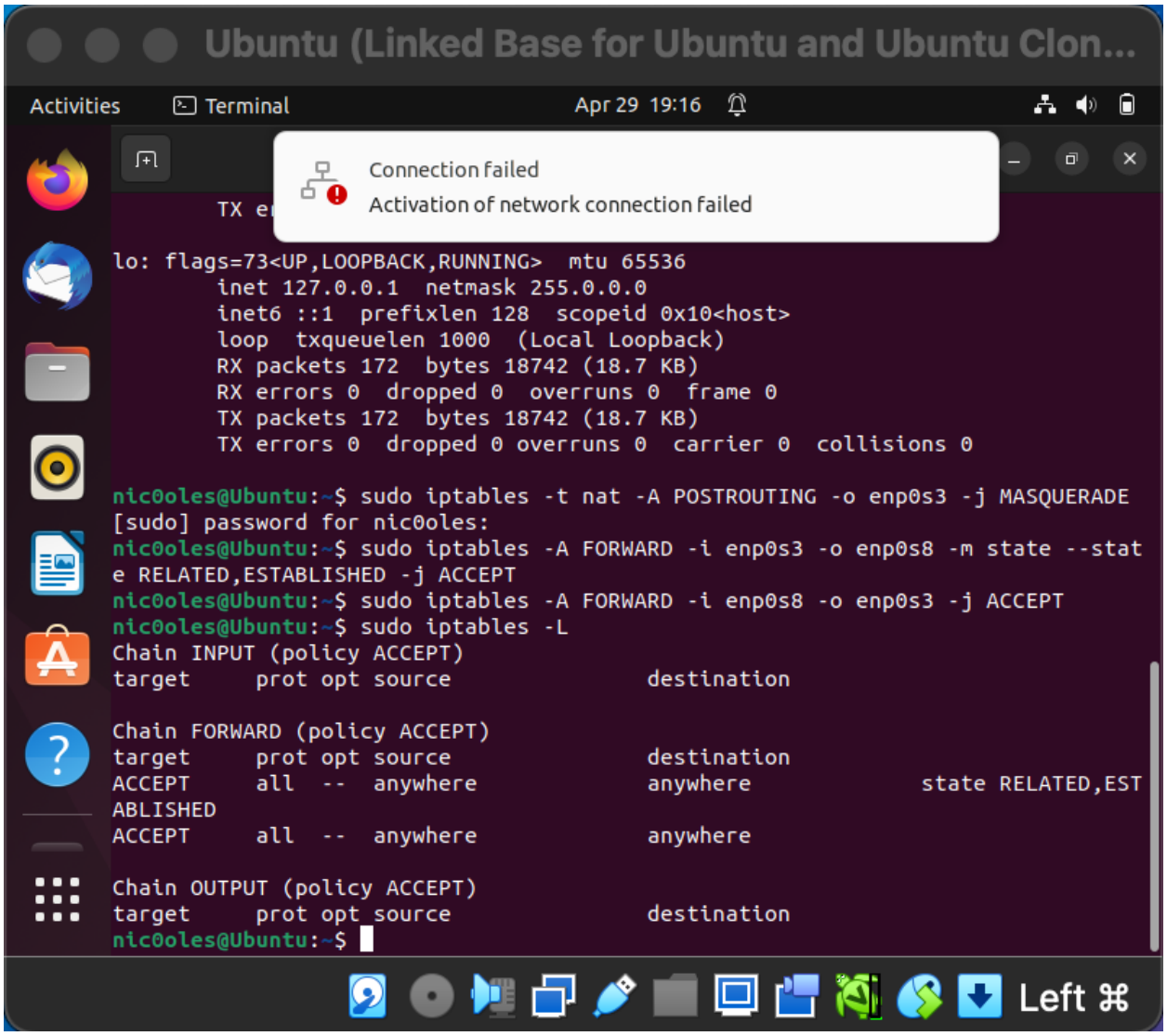



Ubuntu (Linked Base for Ubuntu and Ubuntu Clon...
Activities
Terminal
Apr 29 18:44
nic0oles@Ubuntu: ~
[sudo] password for nic0oles:
nic0oles@Ubuntu:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.50.1 netmask 255.255.255.0 broadcast 192.168.50.255
inet6 fe80::a841:f6f:1412:270c prefixlen 64 scopeid 0x20<link>
ether 08:00:27:dd:28:10 txqueuelen 1000 (Ethernet)
RX packets 28 bytes 4909 (4.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 109 bytes 12932 (12.9 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet6 fe80::cdd2:fa8f:f851:7a27 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:83:86:ef txqueuelen 1000 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 78 bytes 12099 (12.0 KB)
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 172 bytes 18742 (18.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 172 bytes 18742 (18.7 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
nic0oles@Ubuntu:~$
Left ⌘

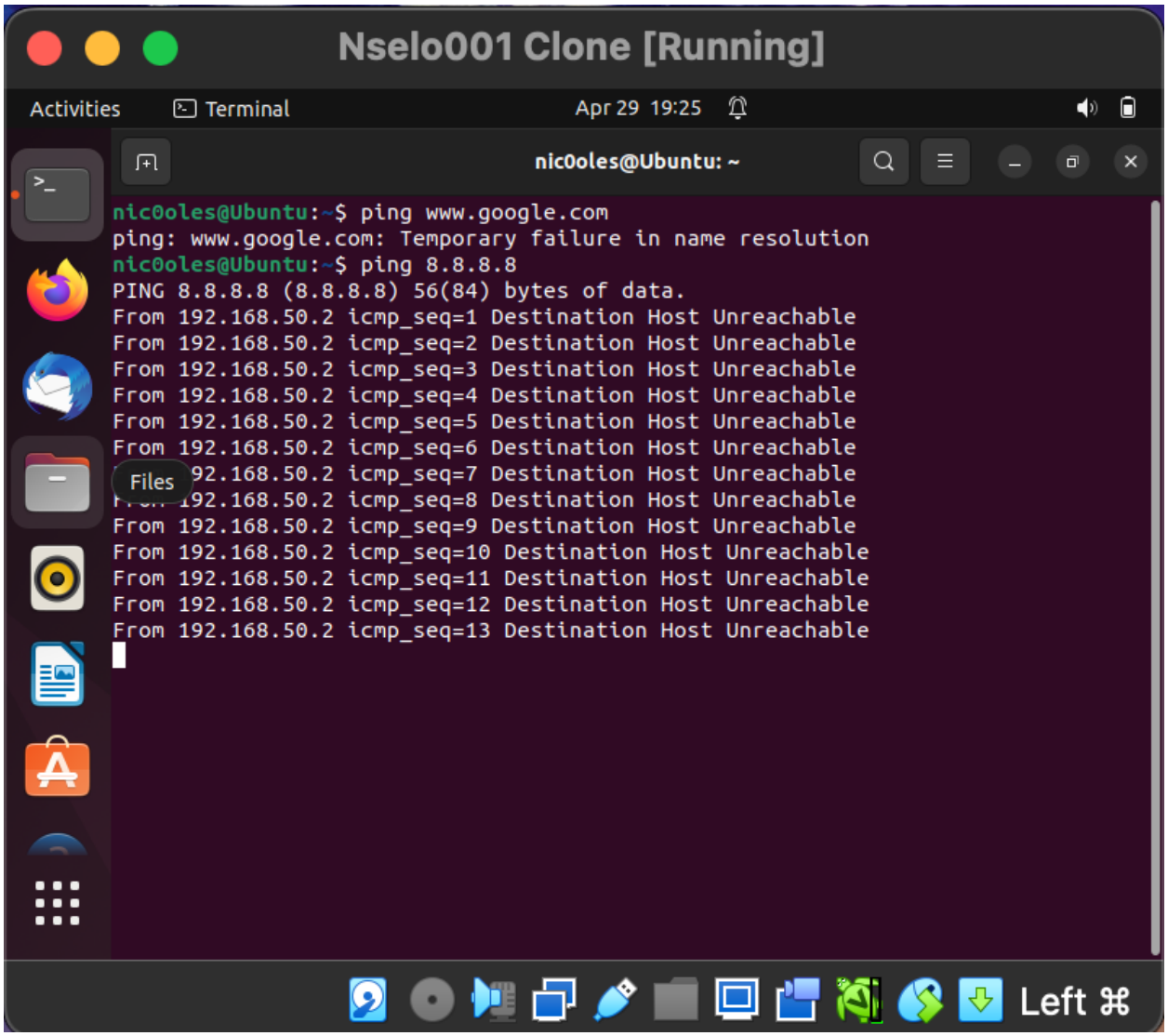
4. Configure the temporary IP address, routing table, and DNS server on Client VM as shown in Figure 1.



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

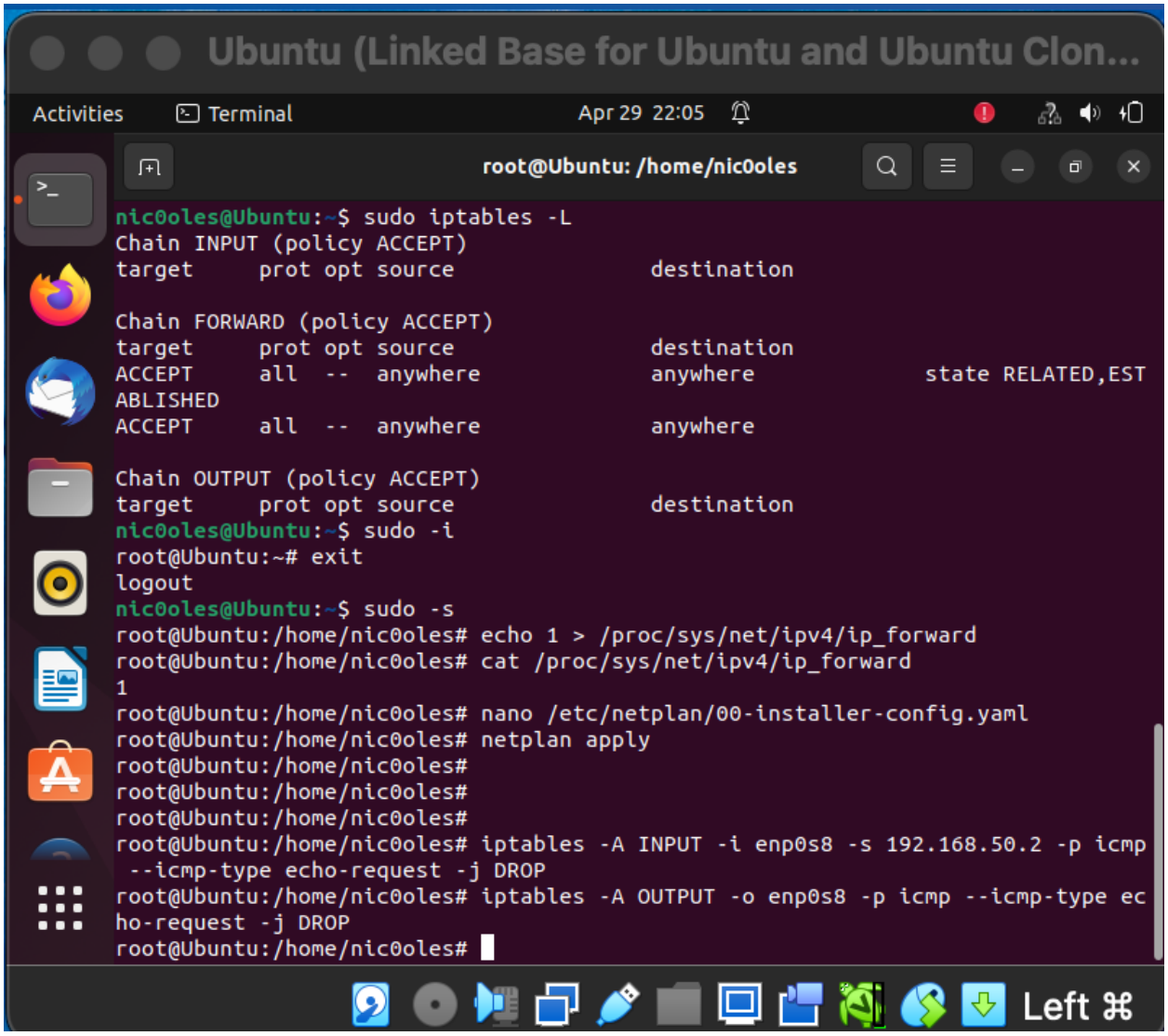


6. Test your ping connection to 8.8.8.8 and www.google.com in the client VM, respectively.

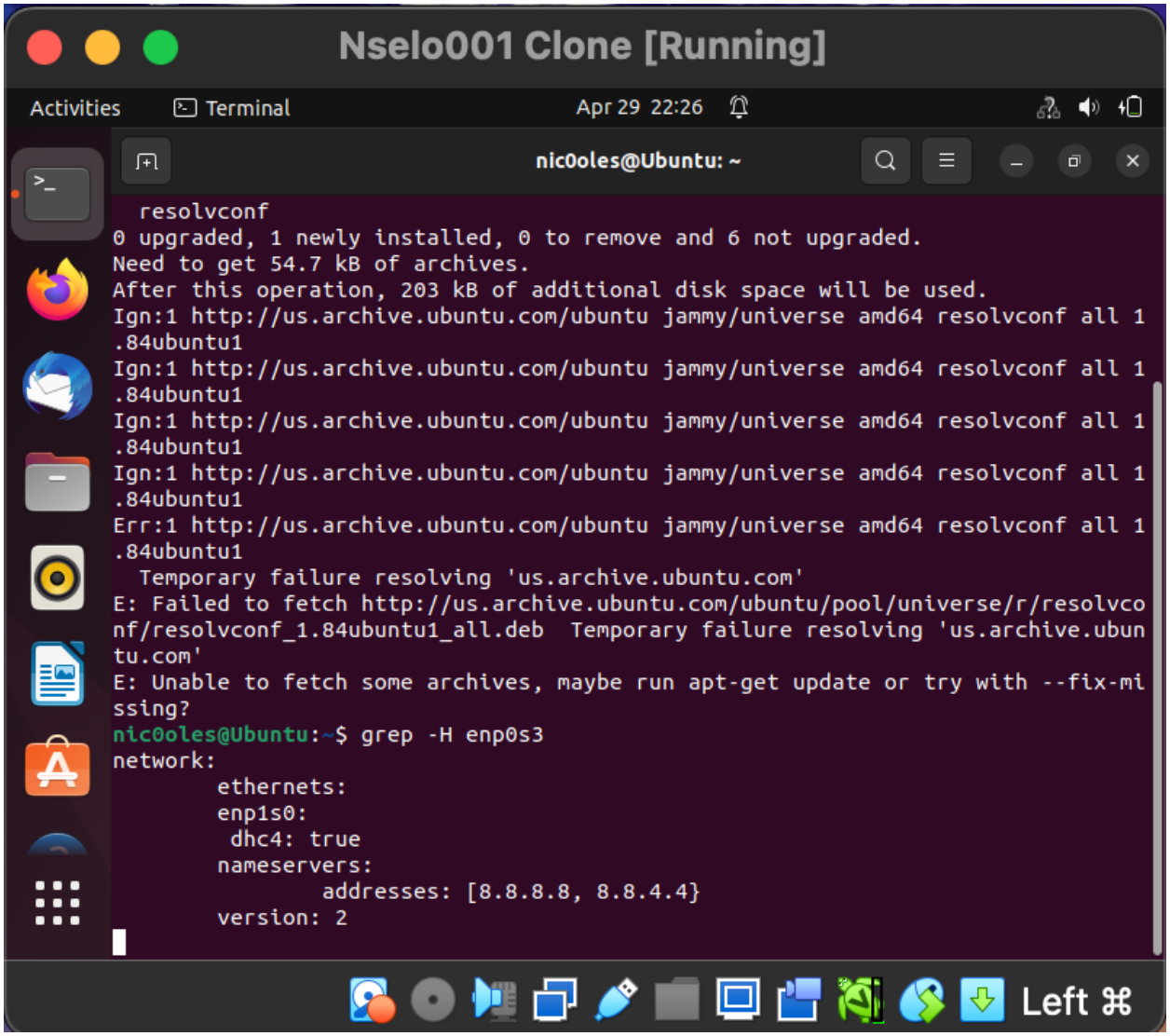


Task B –Firewall Configuration (40 points)

1. Configure the iptables on the gateway Ubuntu to block all the inbound ICMP packets from the Client VM.
2. Configure the iptables on the gateway Ubuntu to block all the outbound ICMP packets that originated from the gateway Ubuntu itself.



Extra credit:
Set the permanent IP address on the Client Ubuntu based on the above network topology.


Nselo001 Clone [Running]
Activities
Terminal
Apr 29 22:26
nic0oles@Ubuntu: ~
resolvconf
0 upgraded, 1 newly installed, 0 to remove and 6 not upgraded.
Need to get 54.7 kB of archives.
After this operation, 203 kB of additional disk space will be used.
Ign:1 http://us.archive.ubuntu.com/ubuntu jammy/universe amd64 resolvconf all 1
.84ubuntu1
Ign:1 http://us.archive.ubuntu.com/ubuntu jammy/universe amd64 resolvconf all 1
.84ubuntu1
Ign:1 http://us.archive.ubuntu.com/ubuntu jammy/universe amd64 resolvconf all 1
.84ubuntu1
Ign:1 http://us.archive.ubuntu.com/ubuntu jammy/universe amd64 resolvconf all 1
.84ubuntu1
Err:1 http://us.archive.ubuntu.com/ubuntu jammy/universe amd64 resolvconf all 1
.84ubuntu1
Temporary failure resolving 'us.archive.ubuntu.com'
E: Failed to fetch http://us.archive.ubuntu.com/ubuntu/pool/universe/r/resolvco
nf/resolvconf_1.84ubuntu1_all.deb Temporary failure resolving 'us.archive.ubun
tu.com'
E: Unable to fetch some archives, maybe run apt-get update or try with --fix-mi
ssing?
nic0oles@Ubuntu:~$ grep -H enp0s3
network:
ethernets:
enp1s0:
dhc4: true
nameservers:
addresses: [8.8.8.8, 8.8.4.4}
version: 2
Left ⌘