

Task A.

Step 1.

```
alex@kali: ~
File Actions Edit View Help
(alex@kali)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe2:e58b/16 brd fe80::ff:fe2:e58b/8
        inet6 fd17:625c:f037:2:a00:27ff:fe2:e58b/64 brd fd17:625c:f037:2:ffff:ffff:ffff:ffff/0
    <global>
        inet6 fd17:625c:f037:2:a00:27ff:fe2:e58b/64 brd fd17:625c:f037:2:ffff:ffff:ffff:ffff/0
    <global>
        ether 08:00:27:c2:e5:8b txqueuelen 1000 (Ethernet)
        RX packets 9 bytes 3723 (3.6 KiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 29 bytes 4884 (4.7 KiB)
        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 8 bytes 480 (480.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 8 bytes 480 (480.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

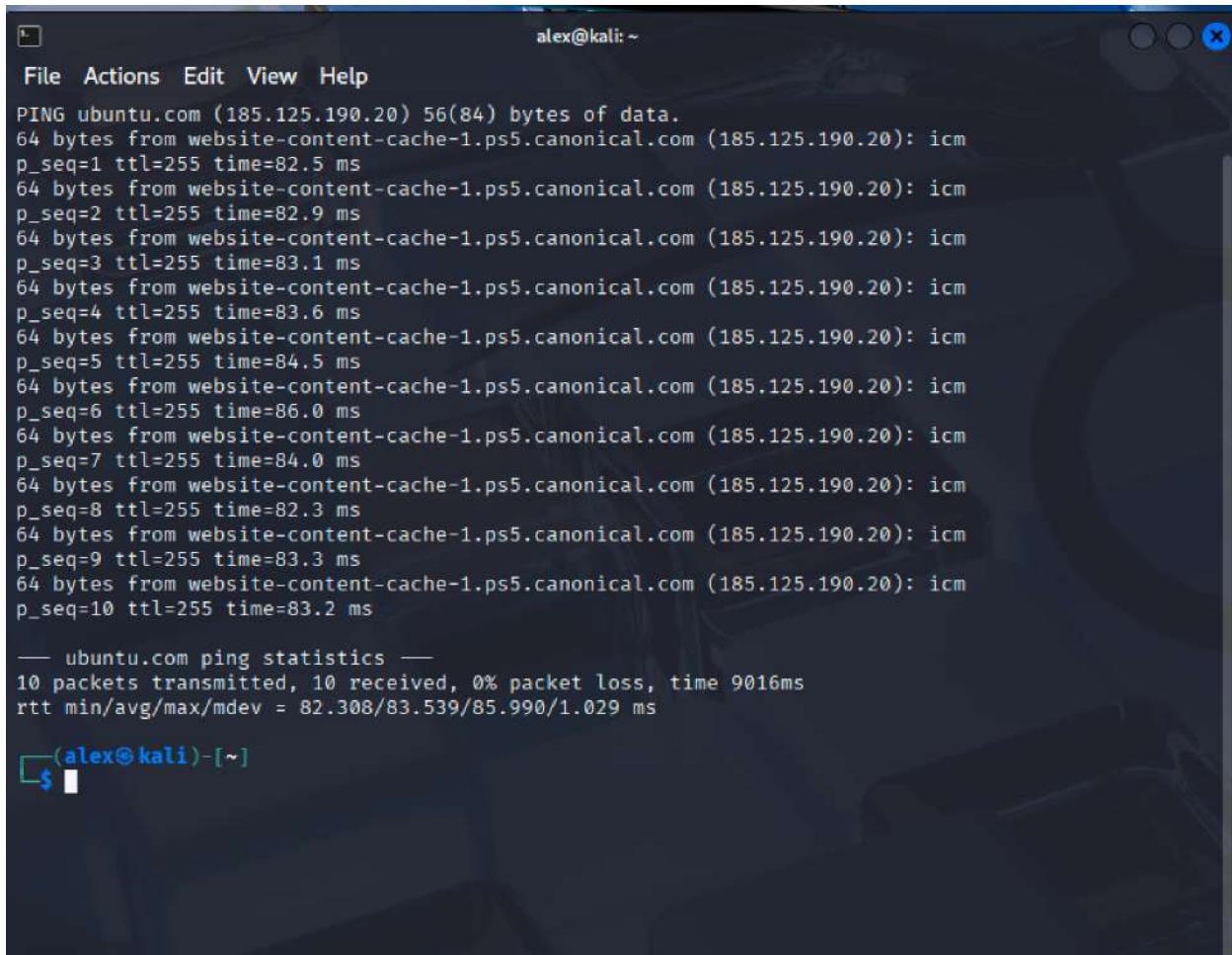
(alex@kali)-[~]
$
```

Steps 2 and 3

```
alex@kali: ~
$ route
Kernel IP routing table
Destination     Gateway         Genmask        Flags Metric Ref  Use Iface
default         10.0.2.2      0.0.0.0        UG    100    0    0 eth0
10.0.2.0        0.0.0.0      255.255.255.0  U     100    0    0 eth0

alex@kali: ~
$ netstat -ta
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address          Foreign Address        State
```

Step 4

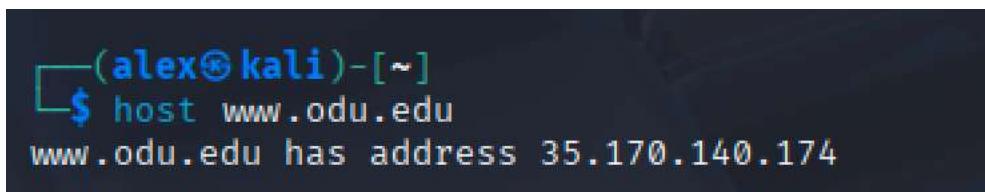


```
alex@kali:~$ ping ubuntu.com (185.125.190.20) 56(84) bytes of data.
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=1 ttl=255 time=82.5 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=2 ttl=255 time=82.9 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=3 ttl=255 time=83.1 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=4 ttl=255 time=83.6 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=5 ttl=255 time=84.5 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=6 ttl=255 time=86.0 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=7 ttl=255 time=84.0 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=8 ttl=255 time=82.3 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=9 ttl=255 time=83.3 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp
p_seq=10 ttl=255 time=83.2 ms

— ubuntu.com ping statistics —
10 packets transmitted, 10 received, 0% packet loss, time 9016ms
rtt min/avg/max/mdev = 82.308/83.539/85.990/1.029 ms

alex@kali:~$
```

Step 5



```
alex@kali:~$ host www.odu.edu
www.odu.edu has address 35.170.140.174
```

Steps 6 & 7

```
(alex㉿kali)-[~]
└─$ cat /etc/hostname
kali

(alex㉿kali)-[~]
└─$ cat /etc/resolv.conf
# Generated by NetworkManager
search mynetworksettings.com
nameserver 10.0.2.3
nameserver fd17:625c:f037:2::3

(alex㉿kali)-[~]
└─$
```

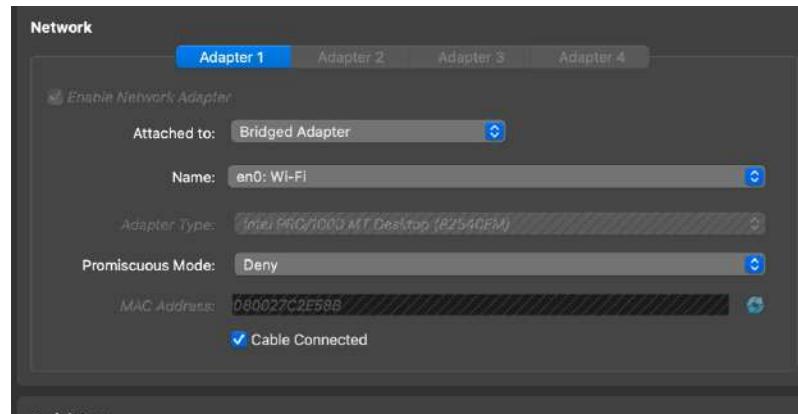
Step 8

```
(alex㉿kali)-[~]
└─$ sudo vim /etc/hostname
[sudo] password for alex:

(alex㉿kali)-[~]
└─$ cat /etc/hostname
abret003
```

Task B

Step 1



Step 2 & 3

```
alex@abret003:~  
File Actions Edit View Help  
[alex@abret003] ~]$ ifconfig  
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
        inet 192.168.1.248 netmask 255.255.255.0 broadcast 192.168.1.255  
        inet6 2600:4040:12ca:4100:a00:27ff:fe:58b prefixlen 64 scopeid 0x0<global>  
        inet6 fe80::a00:27ff:fe:58b prefixlen 64 scopeid 0x20<link>  
        inet6 2600:4040:12ca:4100:a177:d8e9:8c7d:7282 prefixlen 64 scopeid 0x0<global>  
        ether 08:00:27:c2:e5:8b txqueuelen 1000 (Ethernet)  
        RX packets 185 bytes 41874 (40.8 KiB)  
        RX errors 0 dropped 0 overruns 0 frame 0  
        TX packets 93 bytes 27108 (26.4 KiB)  
        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 8 bytes 480 (480.0 B)  
        RX errors 0 dropped 0 overruns 0 frame 0  
        TX packets 8 bytes 480 (480.0 B)  
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
[alex@abret003] ~]$
```

The ifconfig showed different ip addresses.

```
[alex@abret003] ~]$ route  
Kernel IP routing table  
Destination     Gateway         Genmask        Flags Metric Ref  Use Iface  
default         G3100.mynetwork 0.0.0.0      UG    100    0    0 eth0  
192.168.1.0    0.0.0.0        255.255.255.0  U     100    0    0 eth0  
[alex@abret003] ~]$
```

Route also showed separate ip addresses compared to NAT.

```
[alex@abret003] ~]$ netstat -ta  
Active Internet connections (servers and established)  
Proto Recv-Q Send-Q Local Address          Foreign Address        State  
[alex@abret003] ~]$
```

No difference on netstat.

```
(alex@abret003) [~]
└─$ ping -c 10 ubuntu.com
PING ubuntu.com (2620:2d:4000:1::28) 56 data bytes
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=1 ttl=57 time
=83.0 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=2 ttl=57 time
=81.6 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=3 ttl=57 time
=82.0 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=4 ttl=57 time
=83.2 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=5 ttl=57 time
=81.9 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=6 ttl=57 time
=82.7 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=7 ttl=57 time
=82.3 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=8 ttl=57 time
=84.4 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=9 ttl=57 time
=80.6 ms
64 bytes from website-content-cache-3.canonical.com (2620:2d:4000:1::28): icmp_seq=10 ttl=57 tim
e=82.1 ms

— ubuntu.com ping statistics —
10 packets transmitted, 10 received, 0% packet loss, time 9013ms
rtt min/avg/max/mdev = 80.602/82.369/84.353/0.964 ms

└─$
```

Ping returned a different ipv6 address from ubuntu.

```
(alex@abret003) [~]
└─$ host www.odu.edu
www.odu.edu has address 35.170.140.174
```

No difference on ODU address.

```
(alex@abret003) [~]
└─$ cat /etc/hostname
abret003

(alex@abret003) [~]
└─$ cat /etc/resolv.conf
# Generated by NetworkManager
search mynetworksettings.com
nameserver 192.168.1.1
nameserver 2600:4040:12ca:4100::1
```

Same hostname, different ip addresses on resolv.conf.

Overall: changing to bridged changed the ipv4 and ipv6 addresses.

