

Task A

1.

```
(mehmet@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 fd00::9ed6:dbf7:5169:aae5 prefixlen 64 scopeid 0<global>
    inet6 fe80::a00:27ff:fe99:dbdb prefixlen 64 scopeid 0<link>
    inet6 fd00::a00:27ff:fe99:dbdb prefixlen 64 scopeid 0<global>
    ether 08:00:27:99:db:db txqueuelen 1000 (Ethernet)
    RX packets 9 bytes 3723 (3.6 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 30 bytes 4974 (4.8 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 0<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
```

2.

```
(mehmet@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
```

3.

```
(mehmet@kali)-[~]
└─$ netstat -t
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
```

4.

```
(mehmet@kali)-[~]
└─$ ping -c 10 ubuntu.com
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_seq=1 ttl=255 time=135 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=2 ttl=255 time=134 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=3 ttl=255 time=157 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=4 ttl=255 time=179 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=5 ttl=255 time=200 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=6 ttl=255 time=279 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=7 ttl=255 time=109 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=8 ttl=255 time=164 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=9 ttl=255 time=187 ms
64 bytes from website-content-cache-1.ps5.canonical.com (185.125.190.20): icmp_seq=10 ttl=255 time=209 ms

— ubuntu.com ping statistics —
10 packets transmitted, 10 received, 0% packet loss, time 9017ms
rtt min/avg/max/mdev = 108.780/175.185/278.749/45.583 ms

(mehmet@kali)-[~]
└─$
```

5.

```
(mehmet@kali)-[~]
└─$ host odu.edu
odu.edu has address 35.170.140.174
odu.edu mail is handled by 10 odu-edu.mail.protection.outlook.com.
```

6.

```
(mehmet@kali)-[~]
└─$ cat /proc/sys/kernel/hostname
kali
```

7.

```
(mehmet@kali)-[~]
└─$ cat /etc/resolv.conf
# Generated by NetworkManager
search lan
nameserver 10.0.2.3
nameserver fd00::3
```

8.

```
(mehmet@mcuce002)-[~]
└─$ cat /proc/sys/kernel/hostname
mcuce002
```

Task B

1. IP is different

```
(mehmet@mcuce002)-[~]
└─$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.12.106 netmask 255.255.255.0 broadcast 192.168.12.255
    inet6 f4re:5e6c:2e69:98de:a00:27ff:fe99:dbdb prefixlen 64 scopeid 0x0<global>
    inet6 2607:fb90:b318:4b86:b486:ced3:195d:de6e prefixlen 64 scopeid 0x0<global>
    inet6 fdfe:5e6c:2e69:98de:d029:8779:5024:a3d prefixlen 64 scopeid 0x0<global>
    inet6 fe80::a00:27ff:fe99:dbdb prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:99:db:db txqueuelen 1000 (Ethernet)
    RX packets 46 bytes 3606 (3.5 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 42 bytes 8328 (8.1 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

(mehmet@mcuce002)-[~]
└─$
```

2. The change in IP results in a different route table

```
(mehmet@mcuce002)-[~]
└─$ route
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
default TMO-G4AR.lan 0.0.0.0 UG 100 0 0 eth0
192.168.12.0 0.0.0.0 255.255.255.0 U 100 0 0 eth0

(mehmet@mcuce002)-[~]
└─$
```

3.

```
(mehmet@mcuce002)-[~]
└─$ netstat -t
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
```

4. No packets were received

```
(mehmet@mcuce002)-[~]
└─$ ping -c 10 ubuntu.com
PING ubuntu.com (2620:2d:4000:1::27) 56 data bytes

— ubuntu.com ping statistics —
10 packets transmitted, 0 received, 100% packet loss, time 9212ms
```

5. No difference

```
(mehmet@mcuce002)-[~]
$ host odu.edu
odu.edu has address 35.170.140.174
odu.edu mail is handled by 10 odu-edu.mail.protection.outlook.com.
```

6. New hostname

```
(mehmet@mcuce002)-[~]
$ cat /proc/sys/kernel/hostname
mcuce002
```

7. Different nameserver

```
(mehmet@mcuce002)-[~]
$ cat /etc/resolv.conf
# Generated by NetworkManager
search lan
nameserver 192.168.12.1
nameserver fe80::1aa5:ffff:fe77:71e6%eth0
Desktop
(mehmet@mcuce002)-[~]
$
```