

Lab 11 – Network basics

TASK A

Step 1

```
File Actions Edit View Help
(pierrerrj804@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 fd17:625c:f037:2:a00:27ff:fed8:d3ff prefixlen 64 scopeid 0<global>
    inet6 fe80::a00:27ff:fed8:d3ff prefixlen 64 scopeid 0<link>
    inet6 fd17:625c:f037:2:3a17:9e8a:9633:3199 prefixlen 64 scopeid 0<global>
    ether 08:00:27:d8:d3:ff txqueuelen 1000 (Ethernet)
    RX packets 9 bytes 3699 (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
```

Step 2

```
(pierrerrj804@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
```

Step 3

```
(pierrerj804@Kali)-[~]
└─$ netstat -t
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
```

Step 4

```
(pierrerj804@Kali)-[~]
└─$ ping -c 10 ubuntu.com
PING ubuntu.com (185.125.188.84) 56(84) bytes of data.
```

Step 5

```
(pierrerj804@Kali)-[~]
└─$ host www.odu.edu
www.odu.edu has address 35.170.140.174
```

Step 6

```
(pierrerj804@Kali)-[~]
└─$ cat /etc/hostname
Kali
```

Step 7

```
(pierrerj804@Kali)-[~]
$ cat /etc/resolv.conf
# Generated by NetworkManager
search wlan.odu.edu
nameserver 128.82.95.20
```

Step 8

```
GNU nano 8.4 /etc/hostname
pjose002
```

TASK B

Step 1

Network

Adapter 1 Adapter 2 Adapter 3 Adapter 4

Enable Network Adapter

Attached to: Bridged Adapter

Name: Intel(R) Wi-Fi 6E AX211 160MHz

Adapter Type: Intel PRO/1000 MT Desktop (82540EM)

Promiscuous Mode: Deny

MAC Address: 080027D8D3FF

Virtual Cable Connected

Step 2

```
File Actions Edit View Help
(pierrerrj804@pjose002)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.254.39.83 netmask 255.255.0.0 broadcast 10.254.255.255
    inet6 fe80::a00:27ff:fed8:d3ff prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:d8:d3:ff txqueuelen 1000 (Ethernet)
    RX packets 276 bytes 54227 (52.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 41 bytes 5842 (5.7 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

(pierrerrj804@pjose002)-[~]
$
```

Step 3

```
(pierrerrj804@pjose002)-[~]
└─$ route
Kernel IP routing table
Destination      Gateway          Genmask         Flags Metric Ref    Use    Iface
netstat -t
default          10.254.0.1      0.0.0.0         UG    100    0      0     eth0
10.254.0.0      0.0.0.0         255.255.0.0     U     100    0      0     eth0
```

Step 4

```
(pierrerrj804@pjose002)-[~]
└─$ netstat -t
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
```

Step 5

```
(pierrerrj804@pjose002)-[~]
└─$ ping -c 10 unbuntu.com
PING unbuntu.com (185.125.188.126) 56(84) bytes of data.
host www.odu.edu

— unbuntu.com ping statistics —
10 packets transmitted, 0 received, 100% packet loss, time 9199ms
```

Step 6

```
(pierrerj804@pjose002)-[~]
└─$ host www.odu.edu
www.odu.edu has address 35.170.140.174

(pierrerj804@pjose002)-[~]
└─$ vat /etc/hostname
Command 'vat' not found, did you mean:
```

Step 7/8

```
(pierrerj804@pjose002)-[~]
└─$ cat /etc/hostname
pjose002
MB Vol

(pierrerj804@pjose002)-[~]
└─$ cat /etc/resolv.conf
# Generated by NetworkManager
search wlan.odu.edu
nameserver 128.82.95.20
```

The differences between task A and task B were the NAT and Bridge mode. Task A uses a network created from VirtualBox while task B simply uses the same network as your computer. I also noticed a speed difference in some of the commands, being that task B had a harder time running commands than task A. I think that's because instead

of a direct connection, task B uses your computer and finds a network sufficient enough to run tasks, nothing more, nothing less.