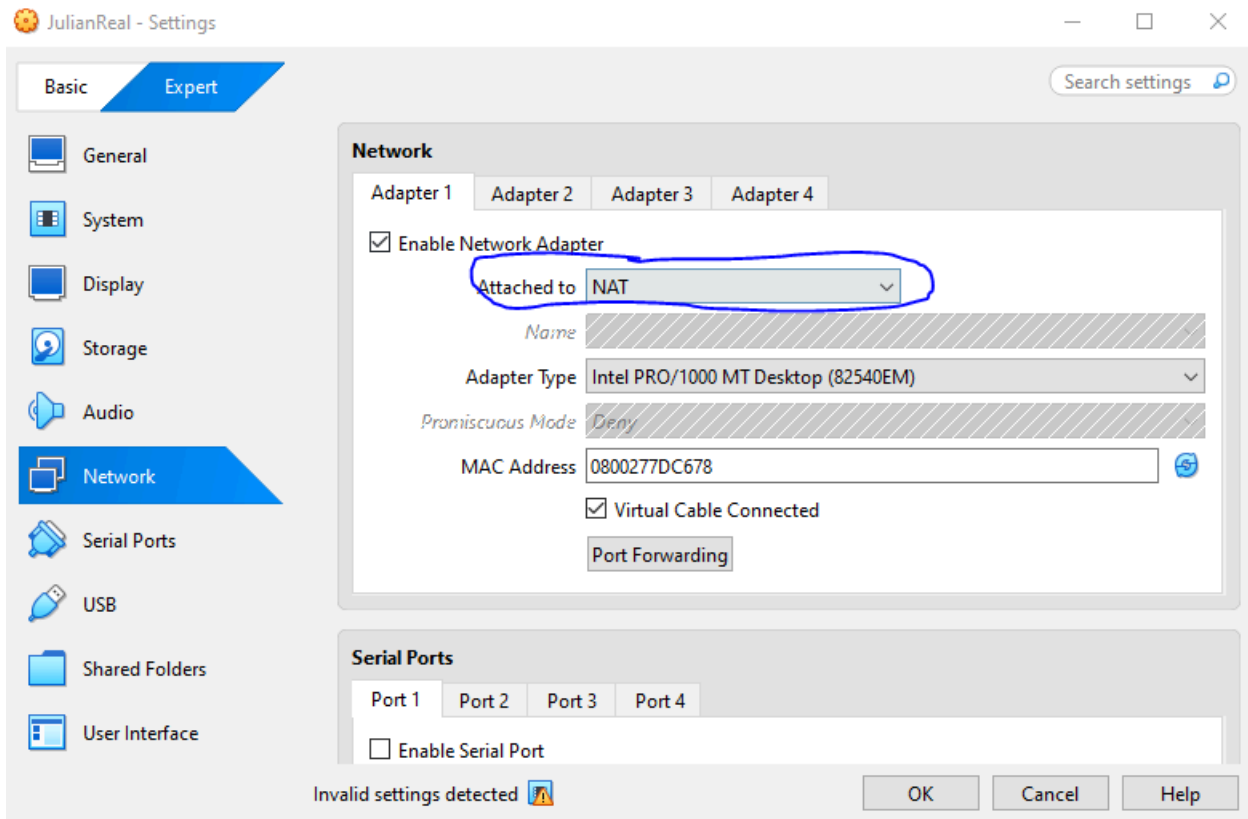


## TASK A STEP 0:



## Step 1:

```
(julian@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:fe7d:c678 prefixlen 64 scopeid 0<global>
    inet6 fe80::a00:27ff:fe7d:c678 prefixlen 64 scopeid 0<link>
    inet6 fd17:625c:f037:2:cb63:884d:732a:6bca prefixlen 64 scopeid 0<global>
    ether 08:00:27:7d:c6:78 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:

```

(julian@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:

```

(julian@kali)-[~]
└─$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp    0      0 10.0.2.15:bootpc      10.0.2.2:bootps        ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags   Type       State I-Node Path
unix  3      [ ]     STREAM    CONNECTED 11739  /run/user/1000/at-spi/bus_0
unix  3      [ ]     STREAM    CONNECTED 9203  /run/user/1000/at-spi/bus_0
unix  3      [ ]     STREAM    CONNECTED 9615  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 11282
unix  3      [ ]     STREAM    CONNECTED 807   /run/dbus/system_bus_socket
unix  3      [ ]     DGRAM     CONNECTED 2538
unix  3      [ ]     STREAM    CONNECTED 12333
unix  3      [ ]     STREAM    CONNECTED 9030  /run/user/1000/pipewire-0-manager
unix  3      [ ]     STREAM    CONNECTED 9000
unix  3      [ ]     STREAM    CONNECTED 12346
unix  3      [ ]     STREAM    CONNECTED 9089  /run/user/1000/at-spi/bus_0
unix  3      [ ]     STREAM    CONNECTED 2918
unix  3      [ ]     STREAM    CONNECTED 12338
unix  3      [ ]     STREAM    CONNECTED 9387  /run/systemd/journal/stdout
unix  2      [ ]     DGRAM     CONNECTED 296
unix  3      [ ]     STREAM    CONNECTED 9414  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 9212  /run/user/1000/bus
unix  3      [ ]     STREAM    CONNECTED 803
unix  3      [ ]     STREAM    CONNECTED 11296
unix  3      [ ]     STREAM    CONNECTED 3445  /run/systemd/journal/stdout
unix  3      [ ]     STREAM    CONNECTED 12335
unix  3      [ ]     STREAM    CONNECTED 8126  /run/user/1000/bus
unix  3      [ ]     STREAM    CONNECTED 10549 @/tmp/.X11-unix/X0
unix  3      [ ]     STREAM    CONNECTED 794
unix  3      [ ]     STREAM    CONNECTED 8763  /run/systemd/journal/stdout
unix  3      [ ]     STREAM    CONNECTED 8600  /run/systemd/journal/stdout
unix  3      [ ]     STREAM    CONNECTED 12368
unix  3      [ ]     STREAM    CONNECTED 11290 @/tmp/.X11-unix/X0
unix  3      [ ]     STREAM    CONNECTED 9602  @/tmp/.X11-unix/X0
unix  3      [ ]     STREAM    CONNECTED 9429  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 8949
unix  3      [ ]     STREAM    CONNECTED 11281
unix  3      [ ]     STREAM    CONNECTED 9959
unix  3      [ ]     STREAM    CONNECTED 12345
unix  3      [ ]     STREAM    CONNECTED 12298  /run/user/1000/bus
unix  3      [ ]     STREAM    CONNECTED 3992
unix  3      [ ]     STREAM    CONNECTED 2867
unix  3      [ ]     STREAM    CONNECTED 4033
unix  3      [ ]     STREAM    CONNECTED 9182  /run/user/1000/bus
unix  3      [ ]     STREAM    CONNECTED 9027
unix  3      [ ]     STREAM    CONNECTED 9018  /run/user/1000/pipewire-0-manager
unix  3      [ ]     STREAM    CONNECTED 13340 /run/user/1000/pulse/native
unix  3      [ ]     STREAM    CONNECTED 11302
unix  3      [ ]     STREAM    CONNECTED 8729  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 12347
unix  3      [ ]     STREAM    CONNECTED 9140  /run/user/1000/at-spi/bus_0
unix  3      [ ]     DGRAM     CONNECTED 2536
unix  3      [ ]     STREAM    CONNECTED 8117  /run/user/1000/bus
unix  2      [ ]     DGRAM     CONNECTED 444
unix  3      [ ]     STREAM    CONNECTED 9431  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 9660  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 9639  @/tmp/.X11-unix/X0
unix  3      [ ]     STREAM    CONNECTED 770
unix  3      [ ]     STREAM    CONNECTED 2919  /run/systemd/journal/stdout
unix  3      [ ]     STREAM    CONNECTED 458
unix  3      [ ]     STREAM    CONNECTED 4084
unix  3      [ ]     STREAM    CONNECTED 8131  /run/user/1000/bus
unix  3      [ ]     STREAM    CONNECTED 9013
unix  3      [ ]     STREAM    CONNECTED 13336 /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 6911  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 9123  /run/user/1000/at-spi/bus_0
unix  3      [ ]     STREAM    CONNECTED 9068  /run/user/1000/at-spi/bus_0
unix  3      [ ]     STREAM    CONNECTED 431
unix  3      [ ]     STREAM    CONNECTED 12336
unix  3      [ ]     STREAM    CONNECTED 10454
unix  3      [ ]     STREAM    CONNECTED 9026
unix  3      [ ]     STREAM    CONNECTED 9648  /run/dbus/system_bus_socket
unix  3      [ ]     STREAM    CONNECTED 804
unix  2      [ ]     DGRAM     CONNECTED 8943
unix  3      [ ]     STREAM    CONNECTED 9697
unix  3      [ ]     STREAM    CONNECTED 9094  /run/user/1000/at-spi/bus_0

```

### Step 4:

```
(julian@kali)-[~]
└─$ ping -c 10 ubuntu.com
PING ubuntu.com (185.125.190.29) 56(84) bytes of data:
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=1 ttl=255 time=95.5 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=2 ttl=255 time=92.2 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=3 ttl=255 time=86.4 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=4 ttl=255 time=86.2 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=5 ttl=255 time=93.2 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=6 ttl=255 time=100 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=7 ttl=255 time=91.3 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=8 ttl=255 time=92.8 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=9 ttl=255 time=90.8 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=10 ttl=255 time=96.1 ms

--- ubuntu.com ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9100ms
rtt min/avg/max/mdev = 86.178/92.429/99.970/4.004 ms
```

#### Step 5:

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

#### Steps 6 and 7:

```
(julian@kali)-[~]
└─$ cat /etc/hostname
kali

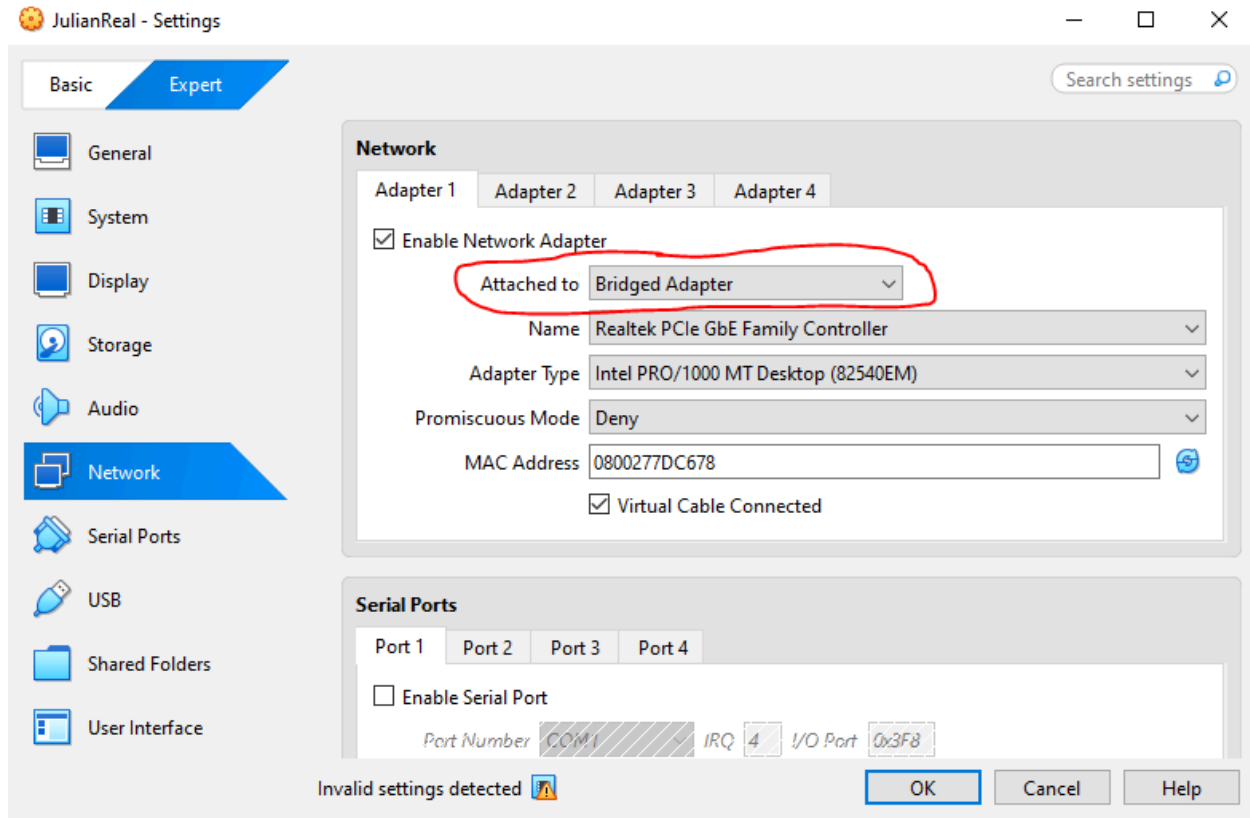
(julian@kali)-[~]
└─$ cat /etc/resolv.conf
# Generated by NetworkManager
nameserver 192.168.1.1
```

#### Step 8:

```
(julian@kali)-[~]
└─$ sudo hostname 01227173

(julian@kali)-[~]
└─$ hostname
01227173
```

## Task B: Step 0:



**Step 1:** The IP shows up differently here.

```
(julian@kali)-[~]
└─$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.20 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fe80::a00:27ff:fe7d:c678 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:7d:c6:78 txqueuelen 1000 (Ethernet)
    RX packets 39 bytes 5994 (5.8 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 26 bytes 3818 (3.7 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
```

**Step 2:** Gateway is different.

```

(julian@kali)-[~]
└─$ route
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
default         192.168.1.1    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

```

**Step 3:** More active connections can be seen in Bridged mode.

```

(julian@kali)-[~]
└─$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 192.168.1.20:bootpc    192.168.1.1:bootps     ESTABLISHED
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags   Type       State         I-Node   Path
unix   3      [ ]     STREAM    CONNECTED    7022     /run/user/1000/at-spi/bus_0
unix   3      [ ]     STREAM    CONNECTED    7522     /run/dbus/system_bus_socket
unix   3      [ ]     STREAM    CONNECTED    7967     /run/systemd/journal/stdout
unix   3      [ ]     DGRAM     CONNECTED    731
unix   3      [ ]     STREAM    CONNECTED    6811
unix   3      [ ]     STREAM    CONNECTED    9834
unix   2      [ ]     DGRAM     CONNECTED    9583
unix   3      [ ]     DGRAM     CONNECTED    5725
unix   3      [ ]     STREAM    CONNECTED    11509
unix   3      [ ]     STREAM    CONNECTED    5942
unix   3      [ ]     STREAM    CONNECTED    11647
unix   3      [ ]     STREAM    CONNECTED    12304
unix   3      [ ]     STREAM    CONNECTED    9844
unix   3      [ ]     STREAM    CONNECTED    10448    /run/dbus/system_bus_socket
unix   3      [ ]     DGRAM     CONNECTED    9596
unix   3      [ ]     STREAM    CONNECTED    11427
unix   3      [ ]     STREAM    CONNECTED    10204    /run/user/1000/at-spi/bus_0
unix   3      [ ]     STREAM    CONNECTED    10012
unix   3      [ ]     STREAM    CONNECTED    6905     @/tmp/.X11-unix/X0
unix   3      [ ]     STREAM    CONNECTED    11635    /run/user/1000/bus
unix   3      [ ]     STREAM    CONNECTED    9838
unix   3      [ ]     STREAM    CONNECTED    3069    /run/user/1000/bus
unix   3      [ ]     DGRAM     CONNECTED    9598
unix   3      [ ]     STREAM    CONNECTED    7552    /run/dbus/system_bus_socket
unix   3      [ ]     STREAM    CONNECTED    9099    /run/user/1000/bus
unix   3      [ ]     STREAM    CONNECTED    10166   /run/user/1000/bus
unix   3      [ ]     STREAM    CONNECTED    8015    /run/systemd/journal/stdout
unix   3      [ ]     STREAM    CONNECTED    7720    /run/systemd/journal/stdout
unix   3      [ ]     STREAM    CONNECTED    6959    @/tmp/.X11-unix/X0
unix   3      [ ]     STREAM    CONNECTED    6855
unix   3      [ ]     STREAM    CONNECTED    9721
unix   2      [ ]     DGRAM     CONNECTED    2609
unix   3      [ ]     STREAM    CONNECTED    748
unix   3      [ ]     STREAM    CONNECTED    11573   /run/systemd/journal/stdout
unix   3      [ ]     STREAM    CONNECTED    11495
unix   3      [ ]     DGRAM     CONNECTED    732
unix   3      [ ]     STREAM    CONNECTED    9841
unix   3      [ ]     STREAM    CONNECTED    10472   /run/dbus/system_bus_socket
unix   2      [ ]     DGRAM     CONNECTED    9574
unix   2      [ ]     DGRAM     CONNECTED    5724
unix   3      [ ]     STREAM    CONNECTED    11449
unix   3      [ ]     STREAM    CONNECTED    10018
unix   3      [ ]     STREAM    CONNECTED    2681
unix   3      [ ]     STREAM    CONNECTED    7936    /run/user/1000/bus
unix   3      [ ]     STREAM    CONNECTED    6799
unix   3      [ ]     STREAM    CONNECTED    3046    /run/user/1000/bus

```

**Step 4:** Only one ping shows up as opposed to all 10 pings for task A.

```
(julian@kali)-[~]
└─$ ping -c 10 ubuntu.com
PING ubuntu.com (185.125.190.20) 56(84) bytes of data.

— ubuntu.com ping statistics —
10 packets transmitted, 0 received, 100% packet loss, time 9221ms
```

**Step 5:** Looks the same.

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

**Step 6 and 7:** Looks the same.

```
(julian@kali)-[~]
└─$ cat /etc/hostname
kali

(julian@kali)-[~]
└─$ cat /etc/resolv.conf
# Generated by NetworkManager
nameserver 192.168.1.1
```