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Task A

Step 1.) After changing my virtual box network settings to **NAT** mode, I executed the **ifconfig** command.

Step 2-3) I then executed the **route -n** command to display its gateway and netmask. I then executed **netstat -t** to list all active tcp connections.

Step 4.) I executed the **ping -c 10 command** to show the 10 ping attempts to **ubuntu.com**. The pings returned bytes so it was successful.

```
└$ 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=25
5 time=301 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=2 ttl=25
5 time=295 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=3 ttl=25
5 time=341 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=4 ttl=25
5 time=462 ms
```

Step 5-7.) I executed the **host** command which displayed the IP address of www.odu.edu, concatenated the **/etc/hostname** file to display the systems host name and then concatenated the **/etc/resolve.conf** file

```
┌──(derek❀kali)-[~]
└$ host www.odu.edu
www.odu.edu has address 35.170.140.174

┌──(derek❀kali)-[~]
└$ cat /etc/hostname
kali

┌──(derek❀kali)-[~]
└$ cat /etc/resolv.conf
# Generated by NetworkManager
nameserver 151.236.14.64
nameserver 62.216.95.100
```

Step 8.) I executed an elevated **vim** command on the host name file and changed its contents to my midas id.

```
┌──(derek❀kali)-[~]
└$ sudo vim /etc/hostname
[sudo] password for derek:

┌──(derek❀kali)-[~]
└$ cat /etc/hostname
dhill036
```

Task B

Step 1.) For Task B I changed my Virtual Box Network setting to **bridged adapter** mode then rebooted the VM. I ran the **ifconfig** command and unlike before there is no **eth0** network interface present. The network is not connected to anything but its local 127.0.01 address.

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```
┌──(derek㉿dhill036)-[~]
└─$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet6 fe80::a00:27ff:fe74:367e  prefixlen 64  scopeid 0×20<link>
        ether 08:00:27:74:36:7e  txqueuelen 1000  (Ethernet)
        RX packets 5  bytes 582 (582.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 47  bytes 8637 (8.4 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 0×10<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 2-4). I executed the **route -n** command but since there is no network no IP address was returned. The same state was present for the **netsat -t** and **ping -c** command.

```
┌──(derek㉿dhill036)-[~]
└─$ route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface

┌──(derek㉿dhill036)-[~]
└─$ netstat -t
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State

┌──(derek㉿dhill036)-[~]
└─$ ping -c 10 ubuntu.com
ping: ubuntu.com: Temporary failure in name resolution
```

```
└─$ 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=25
5 time=301 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=2 ttl=25
5 time=295 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=3 ttl=25
5 time=341 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_seq=4 ttl=25
5 time=462 ms
```

Step 5-7.) As expected, the **host** name failed to resolve a dns query for www.odu.edu because the internet was not reachable. I concatenated the **/etc/hostname** file and it

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displayed my midas id as expected. The **/etc/resolve.conf** file returns the same dns configuration server as expected.

```
┌──(derek�⊛dhill036)-[~]
└─$ host www.odu.edu
;; UDP setup with 151.236.14.64#53(151.236.14.64) for www.odu.edu failed: network unreachable.
;; no servers could be reached
;; UDP setup with 151.236.14.64#53(151.236.14.64) for www.odu.edu failed: network unreachable.
;; UDP setup with 62.216.95.100#53(62.216.95.100) for www.odu.edu failed: network unreachable.
;; no servers could be reached

┌──(derek�⊛dhill036)-[~]
└─$ cat /etc/hostname
dhill036

┌──(derek�⊛dhill036)-[~]
└─$ cat /etc/resolv.conf
# Generated by NetworkManager
nameserver 151.236.14.64
nameserver 62.216.95.100
```