Link to Assignment 5: https://github.com/LordJatonyas/CWM-ProgNets

Ping Test

```
ubuntu@ubuntu:~/CWM-ProgNets$ ping 192.168.10.1
PING 192.168.10.1 (192.168.10.1) 56(84) bytes of data.
64 bytes from 192.168.10.1: icmp_seq=1 ttl=63 time=1.34 ms
64 bytes from 192.168.10.1: icmp_seq=1 ttl=63 time=1.80 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=1 ttl=63 time=1.80 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=1 ttl=63 time=1.80 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=1 ttl=62 time=1.80 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=1 ttl=63 time=2.14 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=1 ttl=62 time=2.56 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=1 ttl=63 time=2.56 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=1 ttl=62 time=2.56 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=63 time=1.38 ms
64 bytes from 192.168.10.1: icmp_seq=2 ttl=63 time=1.78 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=63 time=1.78 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=63 time=1.78 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=62 time=1.78 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=63 time=2.57 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=63 time=2.58 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=62 time=2.58 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=2 ttl=62 time=2.58 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=63 time=1.46 ms
64 bytes from 192.168.10.1: icmp_seq=3 ttl=63 time=1.72 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=63 time=1.72 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=63 time=1.72 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=62 time=1.72 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=63 time=2.53 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=62 time=2.53 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=63 time=2.53 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=3 ttl=62 time=2.53 ms (DUP!)
64 bytes from 192.168.10.1: icmp_seq=4 ttl=63 time=1.44 ms
```

iperf unidirectional

(Server Side)

```
ubuntu@ubuntu:~/Documents/CWM-ProgNets/assignment5$ iperf -s -B 192.168.10.1
------------------------------------------------------------
Server listening on TCP port 5001
TCP window size:  128 KByte (default)
------------------------------------------------------------
[  1] local 192.168.10.1 port 5001 connected with 169.254.46.161 port 41762
[ ID] Interval       Transfer     Bandwidth
[  1] 0.0000-10.0321 sec   730 MBytes   611 Mbits/sec
 [  2] local 192.168.10.1 port 5001 connected with 169.254.46.161 port 47016
```

(Client Side)

```
ubuntu@ubuntu:~/CWM-ProgNets$ iperf -c 192.168.10.1 -i 1 -t 10
------------------------------------------------------------
Client connecting to 192.168.10.1, TCP port 5001
TCP window size: 85.0 KByte (default)
------------------------------------------------------------
[  1] local 169.254.46.161 port 41762 connected with 192.168.10.1 port 5001
[ ID] Interval       Transfer     Bandwidth
[  1] 0.0000-1.0000 sec  72.9 MBytes   611 Mbits/sec
[  1] 1.0000-2.0000 sec  73.0 MBytes   612 Mbits/sec
[  1] 2.0000-3.0000 sec  74.0 MBytes   621 Mbits/sec
[  1] 3.0000-4.0000 sec  74.4 MBytes   624 Mbits/sec
[  1] 4.0000-5.0000 sec  73.0 MBytes   612 Mbits/sec
[  1] 5.0000-6.0000 sec  71.8 MBytes   602 Mbits/sec
[  1] 6.0000-7.0000 sec  71.9 MBytes   603 Mbits/sec
[  1] 7.0000-8.0000 sec  73.1 MBytes   613 Mbits/sec
[  1] 8.0000-9.0000 sec  71.9 MBytes   603 Mbits/sec
[  1] 9.0000-10.0000 sec  74.2 MBytes   623 Mbits/sec
[  1] 0.0000-10.0373 sec   730 MBytes   610 Mbits/sec
```

iperf bidirectional

(Server Side)

```
Client connecting to 169.254.46.161, TCP port 5001
TCP window size:  348 KByte (default)
------------------------------------------------------------
[ *3] local 192.168.10.1 port 52150 connected with 169.254.46.161 port 5001 (reverse)
[ ID] Interval       Transfer     Bandwidth
[  2] 0.0000-10.0354 sec   311 MBytes   260 Mbits/sec
[ *3] 0.0000-10.0390 sec   838 MBytes   700 Mbits/sec
[SUM] 0.0000-10.0354 sec  1.12 GBytes   960 Mbits/sec
```

(Client Side)

```
ubuntu@ubuntu:~/CWM-ProgNets$ sudo iperf -c 192.168.10.1 -i 1 -t 10 -d
------------------------------------------------------------
Server listening on TCP port 5001
TCP window size:  128 KByte (default)
------------------------------------------------------------
------------------------------------------------------------
Client connecting to 192.168.10.1, TCP port 5001
TCP window size: 85.0 KByte (default)
------------------------------------------------------------
[  2] local 169.254.46.161 port 5001 connected with 192.168.10.1 port 52150
[  1] local 169.254.46.161 port 47016 connected with 192.168.10.1 port 5001
[ ID] Interval       Transfer     Bandwidth
[  2] 0.0000-1.0000 sec  83.6 MBytes   701 Mbits/sec
[  1] 0.0000-1.0000 sec  32.1 MBytes   269 Mbits/sec
[  1] 1.0000-2.0000 sec  29.9 MBytes   251 Mbits/sec
[  2] 1.0000-2.0000 sec  83.0 MBytes   696 Mbits/sec
[  1] 2.0000-3.0000 sec  30.4 MBytes   255 Mbits/sec
[  2] 2.0000-3.0000 sec  86.7 MBytes   727 Mbits/sec
[  2] 3.0000-4.0000 sec  84.1 MBytes   706 Mbits/sec
[  1] 3.0000-4.0000 sec  31.0 MBytes   260 Mbits/sec
[  2] 4.0000-5.0000 sec  84.7 MBytes   710 Mbits/sec
[  1] 4.0000-5.0000 sec  31.2 MBytes   262 Mbits/sec
[  1] 5.0000-6.0000 sec  30.8 MBytes   258 Mbits/sec
[  2] 5.0000-6.0000 sec  86.7 MBytes   727 Mbits/sec
[  1] 6.0000-7.0000 sec  31.9 MBytes   267 Mbits/sec
[  2] 6.0000-7.0000 sec  82.4 MBytes   691 Mbits/sec
[  1] 7.0000-8.0000 sec  30.2 MBytes   254 Mbits/sec
[  2] 7.0000-8.0000 sec  80.0 MBytes   671 Mbits/sec
[  1] 8.0000-9.0000 sec  31.4 MBytes   263 Mbits/sec
[  2] 8.0000-9.0000 sec  82.7 MBytes   694 Mbits/sec
[  2] 9.0000-10.0000 sec  80.5 MBytes   676 Mbits/sec
[  1] 9.0000-10.0000 sec  31.5 MBytes   264 Mbits/sec
[  1] 0.0000-10.0416 sec   311 MBytes   259 Mbits/sec
[  2] 0.0000-10.0346 sec   838 MBytes   701 Mbits/sec
```

Note: We have the Server Side IP ADDRESS as 192.168.10.1 because we wanted to test our understanding of the name changes being made so that there are no collisions when networking. The Client Side IP ADDRESS has been changed.