

```
branden@branden-VirtualBox: ~/cs356-w21-branden-codd-94...  
.  
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...  
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...  
Processing triggers for man-db (2.9.1-1) ...  
branden@branden-VirtualBox:~/cs356-w21-branden-codd-940428984$ ifconfig  
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255  
    inet6 fe80::b8ee:720f:dfbc:b26a prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:2b:d1:39 txqueuelen 1000 (Ethernet)  
    RX packets 668201 bytes 711916956 (711.9 MB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 189352 bytes 13435204 (13.4 MB)  
    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 781 bytes 82668 (82.6 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 781 bytes 82668 (82.6 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
branden@branden-VirtualBox:~/cs356-w21-branden-codd-940428984$
```

```
branden@branden-VirtualBox: ~/cs356-w21-branden-codd-94...  
branden@branden-VirtualBox:~/cs356-w21-branden-codd-940428984$ netstat -rn  
Kernel IP routing table  
Destination      Gateway         Genmask         Flags   MSS Window  irtt Iface  
0.0.0.0          10.0.2.2       0.0.0.0        UG        0 0          0 enp0s3  
10.0.2.0         0.0.0.0       255.255.255.0   U        0 0          0 enp0s3  
169.254.0.0      0.0.0.0       255.255.0.0    U        0 0          0 enp0s3  
branden@branden-VirtualBox:~/cs356-w21-branden-codd-940428984$
```

```
branden@branden-VirtualBox:~/cs356-w21-branden-codd-940428984$ ping 10.0.2.2
PING 10.0.2.2 (10.0.2.2) 56(84) bytes of data.
64 bytes from 10.0.2.2: icmp_seq=1 ttl=64 time=0.248 ms
64 bytes from 10.0.2.2: icmp_seq=2 ttl=64 time=0.590 ms
64 bytes from 10.0.2.2: icmp_seq=3 ttl=64 time=0.396 ms
64 bytes from 10.0.2.2: icmp_seq=4 ttl=64 time=0.173 ms
64 bytes from 10.0.2.2: icmp_seq=5 ttl=64 time=0.413 ms
64 bytes from 10.0.2.2: icmp_seq=6 ttl=64 time=0.570 ms
64 bytes from 10.0.2.2: icmp_seq=7 ttl=64 time=0.528 ms
64 bytes from 10.0.2.2: icmp_seq=8 ttl=64 time=0.712 ms
64 bytes from 10.0.2.2: icmp_seq=9 ttl=64 time=0.439 ms
64 bytes from 10.0.2.2: icmp_seq=10 ttl=64 time=0.410 ms
64 bytes from 10.0.2.2: icmp_seq=11 ttl=64 time=0.421 ms
64 bytes from 10.0.2.2: icmp_seq=12 ttl=64 time=0.625 ms
64 bytes from 10.0.2.2: icmp_seq=13 ttl=64 time=0.577 ms
64 bytes from 10.0.2.2: icmp_seq=14 ttl=64 time=0.599 ms
64 bytes from 10.0.2.2: icmp_seq=15 ttl=64 time=0.204 ms
64 bytes from 10.0.2.2: icmp_seq=16 ttl=64 time=0.645 ms
64 bytes from 10.0.2.2: icmp_seq=17 ttl=64 time=0.573 ms
64 bytes from 10.0.2.2: icmp_seq=18 ttl=64 time=0.176 ms
64 bytes from 10.0.2.2: icmp_seq=19 ttl=64 time=0.458 ms
64 bytes from 10.0.2.2: icmp_seq=20 ttl=64 time=0.143 ms
64 bytes from 10.0.2.2: icmp_seq=21 ttl=64 time=0.200 ms
64 bytes from 10.0.2.2: icmp_seq=22 ttl=64 time=0.195 ms
64 bytes from 10.0.2.2: icmp_seq=23 ttl=64 time=0.306 ms
64 bytes from 10.0.2.2: icmp_seq=24 ttl=64 time=0.222 ms
64 bytes from 10.0.2.2: icmp_seq=25 ttl=64 time=0.576 ms
64 bytes from 10.0.2.2: icmp_seq=26 ttl=64 time=0.472 ms
64 bytes from 10.0.2.2: icmp_seq=27 ttl=64 time=0.588 ms
64 bytes from 10.0.2.2: icmp_seq=28 ttl=64 time=0.185 ms
64 bytes from 10.0.2.2: icmp_seq=29 ttl=64 time=0.177 ms
64 bytes from 10.0.2.2: icmp_seq=30 ttl=64 time=0.157 ms
64 bytes from 10.0.2.2: icmp_seq=31 ttl=64 time=0.116 ms
64 bytes from 10.0.2.2: icmp_seq=32 ttl=64 time=0.581 ms
^C
--- 10.0.2.2 ping statistics ---
32 packets transmitted, 32 received, 0% packet loss, time 31439ms
rtt min/avg/max/mdev = 0.116/0.396/0.712/0.184 ms
```

Capturing from enp0s3 (icmp)

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/>

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=1/256, ttl=64 (r
2	0.086216674	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=1/256, ttl=97 (r
3	1.000992982	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=2/512, ttl=64 (r
4	1.085818105	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=2/512, ttl=97 (r
5	2.002397440	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=3/768, ttl=64 (r
6	2.087364344	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=3/768, ttl=97 (r
7	3.003821791	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=4/1024, ttl=64 (r
8	3.087725454	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=4/1024, ttl=97 (r
9	4.004903946	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=5/1280, ttl=64 (r
10	4.088934886	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=5/1280, ttl=97 (r
11	5.006649106	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=6/1536, ttl=64 (r
12	5.089900590	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=6/1536, ttl=97 (r

Frame 1: 98 bytes on wire (784 bits), 98 bytes captured (784 bits) on interface enp0s3, id 0

Ethernet II, Src: PcsCompu_2b:d1:39 (08:00:27:2b:d1:39), Dst: RealtekU_12:35:02 (52:54:00:12:35:02)

- Destination: RealtekU_12:35:02 (52:54:00:12:35:02)
 - Address: RealtekU_12:35:02 (52:54:00:12:35:02)
 - ...1. = LG bit: Locally administered address (this is NOT the factory default)
 - ...0. = IG bit: Individual address (unicast)
- Source: PcsCompu_2b:d1:39 (08:00:27:2b:d1:39)
 - Address: PcsCompu_2b:d1:39 (08:00:27:2b:d1:39)
 - ...0. = LG bit: Globally unique address (factory default)
 - ...0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 10.0.2.15, Dst: 64.233.177.147

Internet Control Message Protocol

0000 52 54 00 12 35 02 08 00 27 2b d1 39 08 00 45 00 RT..5...'+9..E.
0010 00 54 63 6c 40 00 40 01 d8 b1 0a 00 02 0f 40 e9 .Tcl@.@.
0020 b1 93 08 00 1e 06 00 03 00 01 8b 18 fe 5f 00 00
0030 00 00 85 1a 0c 00 00 00 00 00 10 11 12 13 14 15
0040 16 17 18 19 1a 1b 1c 1d 1e 1f 20 21 22 23 24 25 !"#\$\$%
0050 26 27 28 29 2a 2b 2c 2d 2e 2f 30 31 32 33 34 35 &'()*+,-./012345
0060 36 37 67

enp0s3: <live capture in progress> Packets: 28 · Displayed: 28 (100.0%) Profile: Default

Capturing from enp0s3 (icmp)

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/>

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=1/256, ttl=64 (r
2	0.086216674	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=1/256, ttl=97 (r
3	1.000992982	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=2/512, ttl=64 (r
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6	2.087364344	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=3/768, ttl=97 (r
7	3.003821791	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=4/1024, ttl=64 (r
8	3.087725454	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=4/1024, ttl=97 (r
9	4.004903946	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=5/1280, ttl=64 (r
10	4.088934886	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=5/1280, ttl=97 (r
11	5.006649106	10.0.2.15	64.233.177.147	ICMP	98	Echo (ping) request id=0x0003, seq=6/1536, ttl=64 (r
12	5.089900590	64.233.177.147	10.0.2.15	ICMP	98	Echo (ping) reply id=0x0003, seq=6/1536, ttl=97 (r

Frame 2: 98 bytes on wire (784 bits), 98 bytes captured (784 bits) on interface enp0s3, id 0

Ethernet II, Src: RealtekU_12:35:02 (52:54:00:12:35:02), Dst: PcsCompu_2b:d1:39 (08:00:27:2b:d1:39)

- Destination: PcsCompu_2b:d1:39 (08:00:27:2b:d1:39)
 - Address: PcsCompu_2b:d1:39 (08:00:27:2b:d1:39)
 -0..... = LG bit: Globally unique address (factory default)
 -0..... = IG bit: Individual address (unicast)
- Source: RealtekU_12:35:02 (52:54:00:12:35:02)
 - Address: RealtekU_12:35:02 (52:54:00:12:35:02)
 -1..... = LG bit: Locally administered address (this is NOT the factory default)
 -0..... = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 64.233.177.147, Dst: 10.0.2.15

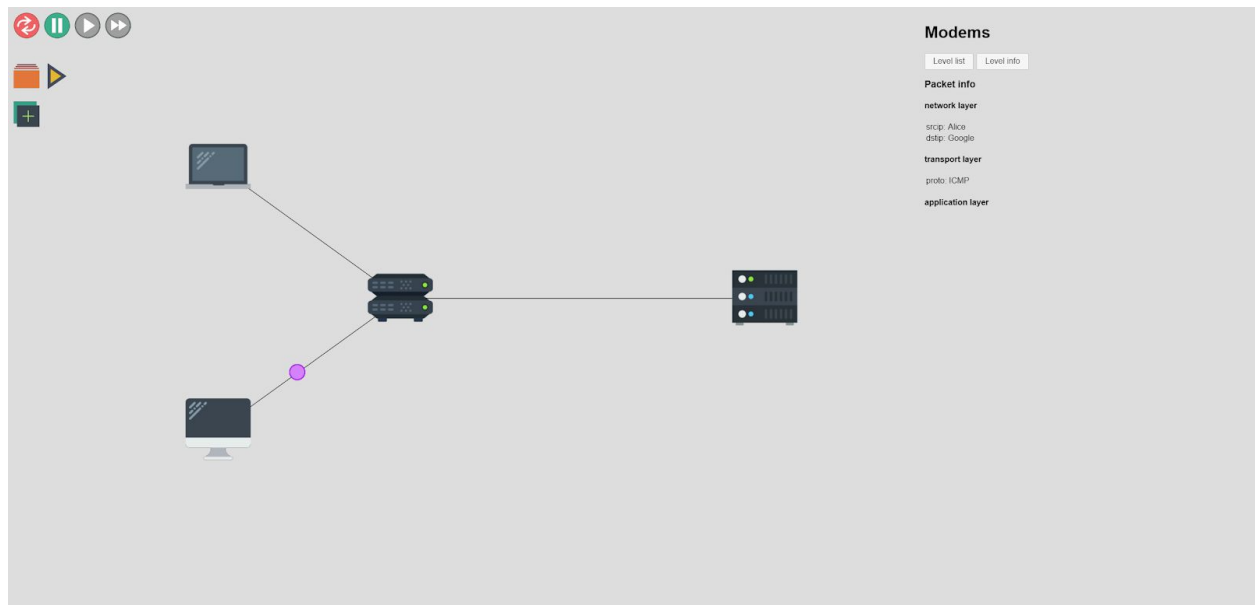
Internet Control Message Protocol

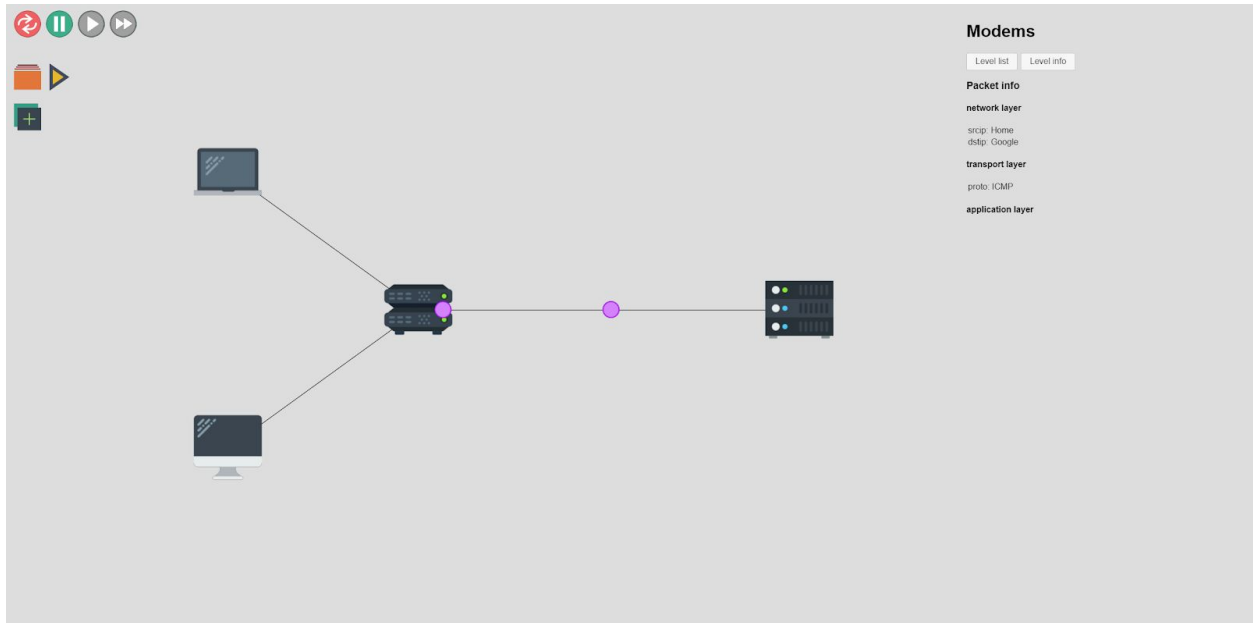
```

0000  08 00 27 2b d1 39 52 54 00 12 35 02 08 00 45 00  ..'+.9RT..5...E.
0010  00 54 ed cf 00 00 61 01 6d 4e 40 e9 b1 93 0a 00  ..T...a mN@
0020  02 0f 00 00 26 96 00 03 00 01 8b 18 fe 5f 00 00  ..&....._...
0030  00 00 85 1a 0c 00 00 00 00 00 10 11 12 13 14 15  .....!""#$%
0040  16 17 18 19 1a 1b 1c 1d 1e 1f 20 21 22 23 24 25  .....&'()*+,-./012345
0050  26 27 28 29 2a 2b 2c 2d 2e 2f 30 31 32 33 34 35  .....67
0060  36 37

```

enp0s3: <live capture in progress> Packets: 28 · Displayed: 28 (100.0%) Profile: Default







The screenshot shows the Netsim web application interface. At the top, there is a browser window titled "Untitled - Notepad" with a menu bar (File, Edit, Format, View, Help) and text content: "Branden Codd", "948428984". Below the browser window is the Netsim application window. The application window has a dark header bar with the title "Netsim" and a "Log out" button. The main content area is divided into two columns. The left column contains a "Basics" section with five tutorial cards: "Getting started", "Packet fields", "Ping", "Routing", and "Modems". The right column is empty. Below the "Basics" section is a "Spoofs" section with two cards. The "Basics" section also includes a welcome message: "Welcome to Netsim! If this is your first time playing, we recommend you start from the first level below, and work your way forward." and a note: "Please note that this project is still in beta. If you find any bugs, you can report them to @error0n or open an issue on GitHub."

Untitled - Notepad
File Edit Format View Help
Branden Codd
940428984

CSAG Network Simulator
netsimstudio.io




IP Spoofing




Stealing packets


Denial of Service



Basic DoS




Distributed DoS




Smurf attack


Attacks



Man-in-the-middle



Censorship



Traceroute