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CPSC 3600
Activity 1

Objective 1

To ping for IPv4 websites I simply typed the command “ping4 <domain name>” into the terminal. The 4 after ping specified that I wanted to ping via the IPv4 address. The first domain that I pinged was www.twitter.com. This domain returned an IPv4 address of 104.244.42.129. The second domain I pinged was www.reddit.com. This returned an IPv4 address of 151.101.193.140.

www.twitter.com:

```
cpsc3600@vm1-ubuntu-1804:~$ ping4 www.twitter.com
PING twitter.com (104.244.42.129) 56(84) bytes of data.
64 bytes from 104.244.42.129 (104.244.42.129): icmp_seq=1 ttl=63 time=74.3 ms
64 bytes from 104.244.42.129 (104.244.42.129): icmp_seq=2 ttl=63 time=74.2 ms
64 bytes from 104.244.42.129 (104.244.42.129): icmp_seq=3 ttl=63 time=80.6 ms
^C
--- twitter.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2001ms
rtt min/avg/max/mdev = 74.204/76.399/80.672/3.030 ms
cpsc3600@vm1-ubuntu-1804:~$
```

www.reddit.com:

```
cpsc3600@vm1-ubuntu-1804:~$ ping4 www.reddit.com
PING reddit.map.fastly.net (151.101.193.140) 56(84) bytes of data.
64 bytes from 151.101.193.140 (151.101.193.140): icmp_seq=1 ttl=63 time=19.1 ms
64 bytes from 151.101.193.140 (151.101.193.140): icmp_seq=2 ttl=63 time=26.2 ms
64 bytes from 151.101.193.140 (151.101.193.140): icmp_seq=3 ttl=63 time=26.4 ms
^C
--- reddit.map.fastly.net ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 19.102/23.949/26.457/3.430 ms
cpsc3600@vm1-ubuntu-1804:~$
```

On my machine I was unable to ping the IPv6 addresses but was able to ping them with IPv4 and through research determine that these domains also supported IPv6. The first website I pinged that is both IPv4 and IPv6 capable is www.linkedin.com, which had and IPv4 address of 13.107.42.14. The second domain that is also IPv6 enabled that I pinged was www.wikipedia.com, which returned with an IPv4 address of 208.80.154.232.

www.linkedin.com:

```
cpsc3600@vm1-ubuntu-1804:~$ ping www.linkedin.com
PING l-0005.l-msedge.net (13.107.42.14) 56(84) bytes of data.
64 bytes from 13.107.42.14 (13.107.42.14): icmp_seq=1 ttl=63 time=19.9 ms
64 bytes from 13.107.42.14 (13.107.42.14): icmp_seq=2 ttl=63 time=27.0 ms
64 bytes from 13.107.42.14 (13.107.42.14): icmp_seq=3 ttl=63 time=22.7 ms
64 bytes from 13.107.42.14 (13.107.42.14): icmp_seq=4 ttl=63 time=20.2 ms
^C
--- l-0005.l-msedge.net ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3006ms
rtt min/avg/max/mdev = 19.930/22.472/27.025/2.847 ms
cpsc3600@vm1-ubuntu-1804:~$
```

www.wikipedia.com:

```
cpsc3600@vm1-ubuntu-1804:~$ ping www.wikipedia.com
PING ncredir-lb.wikimedia.org (208.80.154.232) 56(84) bytes of data.
64 bytes from ncredir-lb.eqiad.wikimedia.org (208.80.154.232): icmp_seq=1 ttl=63
 time=18.7 ms
64 bytes from ncredir-lb.eqiad.wikimedia.org (208.80.154.232): icmp_seq=2 ttl=63
 time=25.9 ms
64 bytes from ncredir-lb.eqiad.wikimedia.org (208.80.154.232): icmp_seq=3 ttl=63
 time=20.0 ms
^C
--- ncredir-lb.wikimedia.org ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2004ms
rtt min/avg/max/mdev = 18.766/21.602/25.978/3.141 ms
cpsc3600@vm1-ubuntu-1804:~$
```

Objective 2

The first service I investigated was SSH, the Secure Shell. SSH is a network protocol that allows for operating network services securely over and unsecured network. SSH is assigned the port number 22. Associated with SSH is the assignee Randall Stewart, who was a computer scientist who worked in the field of network protocols and most likely developed the protocol. The second service I looked at was sftp, the Simple File Transfer Protocol, that allows for file access, file transfer, and file management over a data stream. SFTP is assigned the port number 115 and is associated with the name Mark Lottor, who is the original author of the protocol. A number of ports are assigned to the name of Jon Postel. Jon Postel was a computer scientist who made many contributions to the development of the internet, specifically with regards to the development of standards. He also was the administrator of IANA until his death. He was principle in the development of the internet domain system and developed a set of protocols for handling data between networks that became known as Internet Protocol or IP. Because he was one of the early developer of a lot of these protocols, he is the listed assignee for many of them.