

Homework 1 - Networking Utilities

Task 1

```
root@kali: /home/kali
File Actions Edit View Help
ax25 (AMPR AX.25) netrom (AMPR NET/ROM) rose (AMPR ROSE)
ipx (Novell IPX) ddp (Appletalk DDP) ec (Econet)
ash (Ash) x25 (CCITT X.25)

(root@kali)-[/home/kali]
# ifconfig -a
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.68.128 netmask 255.255.255.0 broadcast 192.168.68.255
    inet6 fe80::b24b:e4a0:d84b:79cd prefixlen 64 scopeid 0<link>
    ether 00:0c:29:62:ca:02 txqueuelen 1000 (Ethernet)
    RX packets 1242 bytes 91500 (89.3 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 203 bytes 19878 (19.4 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<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 4 bytes 240 (240.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4 bytes 240 (240.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

(root@kali)-[/home/kali]
#
```

Task 2

```
root@kali: /home/kali
File Actions Edit View Help

64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=27 ttl=128 time=33.2 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=28 ttl=128 time=29.8 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=29 ttl=128 time=34.7 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=30 ttl=128 time=30.2 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=31 ttl=128 time=31.2 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=32 ttl=128 time=33.5 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=33 ttl=128 time=32.2 ms
^C
— nytimes.map.fastly.net ping statistics —
33 packets transmitted, 33 received, 0% packet loss, time 32059ms
rtt min/avg/max/mdev = 29.265/31.902/41.187/2.479 ms

(root@kali)-[/home/kali]
# ping -c 5 www.nyt.com
PING nytimes.map.fastly.net (146.75.37.164) 56(84) bytes of data.
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=1 ttl=128 time=36.1 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=2 ttl=128 time=30.3 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=3 ttl=128 time=33.9 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=4 ttl=128 time=33.4 ms
64 bytes from 146.75.37.164 (146.75.37.164): icmp_seq=5 ttl=128 time=32.6 ms

— nytimes.map.fastly.net ping statistics —
5 packets transmitted, 5 received, 0% packet loss, time 4008ms
rtt min/avg/max/mdev = 30.254/33.254/36.053/1.880 ms

(root@kali)-[/home/kali]
#
```

Task 3

```
root@kali: /home/kali
File Actions Edit View Help
15 * * *
16 * * *
17 * * *
18 * * *
19 * * *
20 * * *
21 * * *
22 * * *
23 * * *
24 * * *
25 * * *
26 * * *
27 * * *
28 * * *
29 * * *
30 * * *

(root@kali)-[/home/kali]
# tcptraceroute www.louisville.gov
Running:
      traceroute -T -O info www.louisville.gov
traceroute to www.louisville.gov (172.64.150.58), 30 hops max, 60 byte packets
 1 192.168.68.2 (192.168.68.2)  0.193 ms  0.172 ms  0.115 ms
 2 172.64.150.58 (172.64.150.58) <syn,ack>  134.208 ms  134.389 ms  134.115 ms

(root@kali)-[/home/kali]
#
```

Task 4

```
Tcp:
 85 active connection openings
 0 passive connection openings
 2 failed connection attempts
 1 connection resets received
 1 connections established
6431 segments received
6006 segments sent out
 5 segments retransmitted
 0 bad segments received
27 resets sent

Udp:
3346 packets received
 0 packets to unknown port received
 0 packet receive errors
1135 packets sent
 0 receive buffer errors
 0 send buffer errors
IgnoredMulti: 188
```

Task 5

```
(root@kali)-[/home/kali]
# netstat -tulpn | grep :22
tcp        0      0 0.0.0.0:22 0.0.0.0:*    LISTEN
tcp6       0      0 :::22    :::*         LISTEN
43172/sshd: /usr/sb
43172/sshd: /usr/sb
```

Task 6

Not sure if I did this right, was a little confused as to what exactly was required for this one so I just did all the websites listed in the assignment with `grep "href=" index.html | cut -d "/" -f 3` for the third field in all of them.

```
(root@kali)-[/home/kali]
# grep "href=" index.html | cut -d "/" -f 3
louisvilleky.gov
louisvilleky.gov
custom
custom
custom
custom
custom
louisvilleky
louisvilleky
louisvilleky
louisvilleky
louisvilleky
louisvilleky
louisvilleky
louisvilleky
default
default
```