lab1

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- *вариант #19*
- github lab link

1. `hostname`

`MacBook-Pro-Ivan.local`

2. `ipconfig`

- ip-addres: `10.160.56.63`
- subnet mask: `255.255.128.0`
- gateway: `open.wifi.bsu`
- dhcp address: `10.0.0.20`
- mac-address: `72:00:06:67:22:40`
- dns-address: `10.0.0.20`

3. `ping`

address	ttl	time
10.150.1.5	254	13ms
10.150.1.1	126	28ms
10.0.0.20	127	9ms
10.150.6.29	126	2ms
10.150.3.30	126	2ms

- `ping 10.150.1.5`:

```
PING 10.150.1.5 (10.150.1.5): 56 data bytes

64 bytes from 10.150.1.5: icmp_seq=0 ttl=254 time=12.983 ms

64 bytes from 10.150.1.5: icmp_seq=1 ttl=254 time=7.325 ms

64 bytes from 10.150.1.5: icmp_seq=2 ttl=254 time=11.669 ms

64 bytes from 10.150.1.5: icmp_seq=3 ttl=254 time=13.142 ms

64 bytes from 10.150.1.5: icmp_seq=4 ttl=254 time=101.383 ms


--- 10.150.1.5 ping statistics ---

5 packets transmitted, 5 packets received, 0.0% packet loss

round-trip min/avg/max/stddev = 7.325/29.300/101.383/36.103 ms
```

- `ping 10.150.1.1`:

```
PING 10.150.1.1 (10.150.1.1): 56 data bytes

64 bytes from 10.150.1.1: icmp_seq=0 ttl=126 time=40.251 ms

64 bytes from 10.150.1.1: icmp_seq=1 ttl=126 time=9.657 ms
```

```
64 bytes from 10.150.1.1: icmp_seq=2 ttl=126 time=3.135 ms

64 bytes from 10.150.1.1: icmp_seq=3 ttl=126 time=28.235 ms

64 bytes from 10.150.1.1: icmp_seq=4 ttl=126 time=5.278 ms


--- 10.150.1.1 ping statistics ---

5 packets transmitted, 5 packets received, 0.0% packet loss

round-trip min/avg/max/stddev = 3.135/17.311/40.251/14.491 ms
```

- `ping 10.0.0.20`:

```
PING 10.0.0.20 (10.0.0.20): 56 data bytes

64 bytes from 10.0.0.20: icmp_seq=0 ttl=127 time=3.809 ms

64 bytes from 10.0.0.20: icmp_seq=1 ttl=127 time=3.546 ms

64 bytes from 10.0.0.20: icmp_seq=2 ttl=127 time=9.281 ms

64 bytes from 10.0.0.20: icmp_seq=3 ttl=127 time=17.810 ms

64 bytes from 10.0.0.20: icmp_seq=4 ttl=127 time=12.888 ms


--- 10.0.0.20 ping statistics ---

5 packets transmitted, 5 packets received, 0.0% packet loss

round-trip min/avg/max/stddev = 3.546/9.467/17.810/5.448 ms
```

- `ping 10.150.6.29`:

```
PING 10.150.6.29 (10.150.6.29): 56 data bytes

64 bytes from 10.150.6.29: icmp_seq=0 ttl=126 time=5.058 ms

64 bytes from 10.150.6.29: icmp_seq=1 ttl=126 time=4.163 ms

64 bytes from 10.150.6.29: icmp_seq=2 ttl=126 time=1.922 ms

64 bytes from 10.150.6.29: icmp_seq=3 ttl=126 time=1.946 ms

64 bytes from 10.150.6.29: icmp_seq=4 ttl=126 time=1.847 ms


--- 10.150.6.29 ping statistics ---

5 packets transmitted, 5 packets received, 0.0% packet loss

round-trip min/avg/max/stddev = 1.847/2.987/5.058/1.356 ms
```

- `ping 10.150.3.30`:

```
PING 10.150.3.30 (10.150.3.30): 56 data bytes

64 bytes from 10.150.3.30: icmp_seq=0 ttl=126 time=1.469 ms

64 bytes from 10.150.3.30: icmp_seq=1 ttl=126 time=28.628 ms

64 bytes from 10.150.3.30: icmp_seq=2 ttl=126 time=2.202 ms

64 bytes from 10.150.3.30: icmp_seq=3 ttl=126 time=2.161 ms

64 bytes from 10.150.3.30: icmp_seq=4 ttl=126 time=2.090 ms


--- 10.150.3.30 ping statistics ---

5 packets transmitted, 5 packets received, 0.0% packet loss

round-trip min/avg/max/stddev = 1.469/7.310/28.628/10.662 ms
```

address	ip	time

ya.ru	93.158.134.3	78ms
yandex.ru	5.255.255.55	64ms
tut.by	178.172.160.2	7ms
onliner.by	178.124.129.14	9ms

- `ping ya.ru`:

```
PING ya.ru (93.158.134.3): 56 data bytes
64 bytes from 93.158.134.3: icmp_seq=0 ttl=51 time=78.590 ms
64 bytes from 93.158.134.3: icmp_seq=1 ttl=51 time=78.794 ms
64 bytes from 93.158.134.3: icmp_seq=2 ttl=51 time=79.144 ms
64 bytes from 93.158.134.3: icmp_seq=3 ttl=51 time=79.358 ms
64 bytes from 93.158.134.3: icmp_seq=4 ttl=51 time=78.066 ms


--- ya.ru ping statistics ---
5 packets transmitted, 5 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 78.066/78.790/79.358/0.450 ms
```

- `ping yandex.ru`:

```
PING yandex.ru (5.255.255.55): 56 data bytes
64 bytes from 5.255.255.55: icmp_seq=0 ttl=52 time=62.885 ms
64 bytes from 5.255.255.55: icmp_seq=1 ttl=52 time=66.083 ms
64 bytes from 5.255.255.55: icmp_seq=2 ttl=52 time=64.771 ms
64 bytes from 5.255.255.55: icmp_seq=3 ttl=52 time=64.913 ms
64 bytes from 5.255.255.55: icmp_seq=4 ttl=52 time=67.250 ms


--- yandex.ru ping statistics ---
5 packets transmitted, 5 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 62.885/65.180/67.250/1.456 ms
```

- `ping tut.by`:

```
PING tut.by (178.172.160.2): 56 data bytes
64 bytes from 178.172.160.2: icmp_seq=0 ttl=57 time=3.890 ms
64 bytes from 178.172.160.2: icmp_seq=1 ttl=57 time=6.985 ms
64 bytes from 178.172.160.2: icmp_seq=2 ttl=57 time=5.929 ms
64 bytes from 178.172.160.2: icmp_seq=3 ttl=57 time=18.421 ms
64 bytes from 178.172.160.2: icmp_seq=4 ttl=57 time=3.704 ms


--- tut.by ping statistics ---
5 packets transmitted, 5 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 3.704/7.786/18.421/5.460 ms
```

- `ping -c 19 -s 1000 onliner.by`:

```
PING onliner.by (178.124.129.14): 1000 data bytes
1008 bytes from 178.124.129.14: icmp_seq=0 ttl=57 time=3.881 ms
```

```
1008 bytes from 178.124.129.14: icmp_seq=1 ttl=57 time=27.734 ms

1008 bytes from 178.124.129.14: icmp_seq=2 ttl=57 time=4.349 ms

1008 bytes from 178.124.129.14: icmp_seq=3 ttl=57 time=6.633 ms

1008 bytes from 178.124.129.14: icmp_seq=4 ttl=57 time=15.975 ms

1008 bytes from 178.124.129.14: icmp_seq=5 ttl=57 time=7.877 ms

1008 bytes from 178.124.129.14: icmp_seq=6 ttl=57 time=3.745 ms

1008 bytes from 178.124.129.14: icmp_seq=7 ttl=57 time=8.865 ms

1008 bytes from 178.124.129.14: icmp_seq=8 ttl=57 time=10.251 ms

1008 bytes from 178.124.129.14: icmp_seq=9 ttl=57 time=4.258 ms

1008 bytes from 178.124.129.14: icmp_seq=10 ttl=57 time=3.463 ms

1008 bytes from 178.124.129.14: icmp_seq=11 ttl=57 time=3.971 ms

1008 bytes from 178.124.129.14: icmp_seq=12 ttl=57 time=3.804 ms

1008 bytes from 178.124.129.14: icmp_seq=13 ttl=57 time=3.085 ms

1008 bytes from 178.124.129.14: icmp_seq=14 ttl=57 time=11.908 ms

1008 bytes from 178.124.129.14: icmp_seq=15 ttl=57 time=3.868 ms

1008 bytes from 178.124.129.14: icmp_seq=16 ttl=57 time=4.033 ms

1008 bytes from 178.124.129.14: icmp_seq=17 ttl=57 time=4.006 ms

1008 bytes from 178.124.129.14: icmp_seq=18 ttl=57 time=5.871 ms


--- onliner.by ping statistics ---

19 packets transmitted, 19 packets received, 0.0% packet loss

round-trip min/avg/max/stddev = 3.085/7.241/27.734/5.891 ms
```

- `ping localhost`:

```
PING localhost (127.0.0.1): 56 data bytes

64 bytes from 127.0.0.1: icmp_seq=0 ttl=64 time=0.042 ms

64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0.152 ms

64 bytes from 127.0.0.1: icmp_seq=2 ttl=64 time=0.144 ms

64 bytes from 127.0.0.1: icmp_seq=3 ttl=64 time=0.128 ms

64 bytes from 127.0.0.1: icmp_seq=4 ttl=64 time=0.121 ms


--- localhost ping statistics ---

5 packets transmitted, 5 packets received, 0.0% packet loss

round-trip min/avg/max/stddev = 0.042/0.117/0.152/0.039 ms
```

4. `traceroute`

- `traceroute -d tut.by:`

```
1  open.wifi.bsu (10.160.0.1)  2.691 ms  1.205 ms  1.151 ms

2  border-gw.net.bsu (10.149.8.252)  1.170 ms  3.122 ms  1.241 ms

3  * * *

4  * * *

5  * 195.137.180.124 (195.137.180.124)  22.113 ms  2.973 ms

6  * 93.84.125.193 (93.84.125.193)  17.016 ms  10.495 ms

7  * 178.124.134.214 (178.124.134.214)  34.262 ms  2.414 ms

8  * * *
```

```
9  178-172-160-2.hosterby.com (178.172.160.2)  2.664 ms  2.034 ms  1.870 ms
```

- `traceroute -m 8 onliner.by`

```
1  open.wifi.bsu (10.160.0.1)  3.157 ms  3.358 ms  3.689 ms

2  border-gw.net.bsu (10.149.8.252)  2.687 ms  3.225 ms  3.351 ms

3  * * *

4  * * *

5  195.137.180.124 (195.137.180.124)  7.355 ms  11.189 ms  6.307 ms

6  * 93.84.125.189 (93.84.125.189)  12.684 ms  12.394 ms

7  178.124.134.214 (178.124.134.214)  2.132 ms  3.416 ms  2.957 ms

8  * onliner.by (178.124.129.14)  5.241 ms  3.162 ms
```

5. `arp`

- `arp -a`

```
open.wifi.bsu (10.160.0.1) at 0:21:a0:c1:19:40 on en0 ifscope [ethernet]

? (10.160.127.255) at (incomplete) on en0 ifscope [ethernet]

? (224.0.0.251) at 1:0:5e:0:0:fb on en0 ifscope permanent [ethernet]

? (239.255.255.250) at 1:0:5e:7f:ff:fa on en0 ifscope permanent [ethernet]
```

6. `netstat`

- `netstat -p TCP`

```
Active Internet connections

Proto Recv-Q Send-Q  Local Address          Foreign Address        (state)
tcp4       0      0  10.160.56.63.54536     23.99.116.116.https    ESTABLISHED
tcp4       0      0  10.160.56.63.54535     23.99.116.116.https    ESTABLISHED
tcp4       0      0  10.160.56.63.54534     23.99.116.116.https    ESTABLISHED
tcp4       0      0  10.160.56.63.54530     janus2.intuit.ru.http  ESTABLISHED
tcp4       0      0  10.160.56.63.54525     17.110.232.46.https    ESTABLISHED
tcp4       0      0  10.160.56.63.54523     17.154.66.159.http     ESTABLISHED
tcp4       0      0  10.160.56.63.54519     ec2-52-203-218-1.https ESTABLISHED
tcp4       0      0  10.160.56.63.54518     waw02s06-in-f10..https ESTABLISHED
tcp4       0      0  10.160.56.63.54517     waw02s06-in-f78..https ESTABLISHED
tcp4       0      0  10.160.56.63.54512     waw02s07-in-f3.1.https ESTABLISHED
tcp4       0      0  10.160.56.63.54511     95.213.11.180.https    ESTABLISHED
tcp4       0      0  10.160.56.63.54508     srv82-165-240-87.https ESTABLISHED
tcp4       0      0  10.160.56.63.54500     149.154.167.51.https   ESTABLISHED
tcp4       0      0  10.160.56.63.54498     95.213.4.194.https     ESTABLISHED
tcp4       0      0  10.160.56.63.54497     ec2-52-0-252-241.https ESTABLISHED
tcp4       0      0  10.160.56.63.54487     waw02s06-in-f5.1.https ESTABLISHED
tcp4       0      0  10.160.56.63.54486     waw02s06-in-f78..https ESTABLISHED
tcp4       0      0  10.160.56.63.54485     waw02s06-in-f78..https ESTABLISHED
tcp4       0      0  10.160.56.63.54477     waw02s06-in-f78..https ESTABLISHED
tcp4       0      0  10.160.56.63.54474     li-in-f188.1e100.https ESTABLISHED
```

```
tcp4       0      0  10.160.56.63.54471    17.188.165.204.5223    ESTABLISHED
tcp4       0      0  10.160.56.63.54469    17.188.139.40.5223     ESTABLISHED
tcp4       0      0  10.160.56.63.54466    lt-in-f189.1e100.https ESTABLISHED
tcp4       0      0  10.160.56.63.54464    157.55.235.154.40023   ESTABLISHED
tcp4       0      0  10.160.56.63.54463    waw02s06-in-f4.1.https ESTABLISHED
tcp4       0      0  10.160.56.63.54462    137.116.172.9.https    ESTABLISHED
tcp4       0      0  10.160.56.63.54460    91.190.217.44.12350    ESTABLISHED
tcp4       0      0  10.160.56.63.54459    40.77.226.192.https    ESTABLISHED
tcp4       0      0  cmm-server.54422      192.30.253.124.https   ESTABLISHED
tcp4       0      0  cmm-server.54044      192.30.253.125.https   ESTABLISHED
tcp4       0      0  10.160.56.63.54521    23.97.178.173.https    TIME_WAIT
tcp4       0      0  10.160.56.63.54524    23.97.178.173.https    TIME_WAIT
tcp4       0      0  10.160.56.63.54527    janus2.intuit.ru.http  TIME_WAIT
tcp4       0      0  10.160.56.63.54528    janus2.intuit.ru.http  TIME_WAIT
tcp4       0      0  10.160.56.63.54529    janus2.intuit.ru.http  TIME_WAIT
tcp4       0      0  10.160.56.63.54531    janus2.intuit.ru.http  TIME_WAIT
tcp4       0      0  10.160.56.63.54532    janus2.intuit.ru.http  TIME_WAIT
tcp4       0      0  10.160.56.63.54533    janus2.intuit.ru.http  TIME_WAIT
tcp4       0      0  10.160.56.63.54526    104.40.208.40.https    TIME_WAIT
```

- `netstat -np TCP`

```
Active Internet connections
Proto Recv-Q Send-Q  Local Address         Foreign Address        (state)
tcp4       0      0  10.160.56.63.55750    52.72.183.95.443       ESTABLISHED
tcp4       0      0  10.160.56.63.55748    216.58.209.46.443      ESTABLISHED
tcp4       0      0  10.160.56.63.55746    216.58.209.46.443      ESTABLISHED
tcp4       0      0  10.160.56.63.55744    216.58.209.78.443      ESTABLISHED
tcp4       0      0  10.160.56.63.55740    216.58.209.78.443      ESTABLISHED
tcp4       0      0  10.160.56.63.55739    216.58.209.67.443      ESTABLISHED
tcp4       0      0  10.160.56.63.55729    192.30.253.125.443     ESTABLISHED
tcp4       0      0  10.160.56.63.55718    151.101.36.133.443     ESTABLISHED
tcp4       0      0  10.160.56.63.55716    17.188.165.202.5223    ESTABLISHED
tcp4       0      0  10.160.56.63.55699    52.0.252.241.443       ESTABLISHED
tcp4       0      0  10.160.56.63.55606    95.213.4.194.443       ESTABLISHED
tcp4       0      0  10.160.56.63.55603    87.240.165.82.443      ESTABLISHED
tcp4       0      0  10.160.56.63.55579    64.233.165.188.443     ESTABLISHED
tcp4       0      0  10.160.56.63.55575    17.188.147.48.5223     ESTABLISHED
tcp4       0      0  10.160.56.63.55573    209.85.233.189.443     ESTABLISHED
tcp4       0      0  10.160.56.63.55571    111.221.77.143.40004   ESTABLISHED
tcp4       0      0  10.160.56.63.55541    149.154.167.51.443     ESTABLISHED
tcp4       0      0  10.160.56.63.55531    207.46.151.217.443     ESTABLISHED
tcp4       0      0  10.160.56.63.55530    40.77.226.192.443      ESTABLISHED
tcp4       0      0  10.160.56.63.55529    91.190.216.53.12350    ESTABLISHED
tcp4       0      0  10.160.56.63.54662    192.30.253.125.443     ESTABLISHED
```

- `netstat -a -s -r`

`netstat -r` - Show the routing tables. Use with `-a` to show protocol-cloned routes. When `-s` is also present, show routing statistics instead

```
Active Internet connections
Proto Recv-Q Send-Q  Local Address        Foreign Address          (state)
tcp4      0      0  10.160.56.63.55750   ec2-52-72-183-95.https   ESTABLISHED
tcp4      0      0  10.160.56.63.55748   waw02s05-in-f14..https   ESTABLISHED
tcp4      0      0  10.160.56.63.55746   waw02s05-in-f14..https   ESTABLISHED
tcp4      0      0  10.160.56.63.55744   waw02s06-in-f14..https   ESTABLISHED
tcp4      0      0  10.160.56.63.55740   waw02s06-in-f14..https   ESTABLISHED
tcp4      0      0  10.160.56.63.55739   waw02s06-in-f3.1.https   ESTABLISHED
tcp4      0      0  10.160.56.63.55729   192.30.253.125.https     ESTABLISHED
tcp4      0      0  10.160.56.63.55718   151.101.36.133.https     ESTABLISHED
tcp4      0      0  10.160.56.63.55716   17.188.165.202.5223      ESTABLISHED
tcp4      0      0  10.160.56.63.55699   ec2-52-0-252-241.https   ESTABLISHED
tcp4      0      0  10.160.56.63.55606   95.213.4.194.https       ESTABLISHED
tcp4      0      0  10.160.56.63.55603   srv82-165-240-87.https   ESTABLISHED
tcp4      0      0  10.160.56.63.55579   lg-in-f188.1e100.https   ESTABLISHED
tcp4      0      0  10.160.56.63.55575   17.188.147.48.5223       ESTABLISHED
tcp4      0      0  10.160.56.63.55573   lr-in-f189.1e100.https   ESTABLISHED
tcp4      0      0  10.160.56.63.55571   111.221.77.143.40004     ESTABLISHED
tcp4      0      0  10.160.56.63.55541   149.154.167.51.https     ESTABLISHED
tcp4      0      0  10.160.56.63.55531   207.46.151.217.https     ESTABLISHED
tcp4      0      0  10.160.56.63.55530   40.77.226.192.https      ESTABLISHED
tcp4      0      0  10.160.56.63.55529   91.190.216.53.12350      ESTABLISHED
tcp4      0      0  10.160.56.63.54662   192.30.253.125.https     ESTABLISHED
udp4      0      0  10.160.56.63.59972   waw02s05-in-f14..https
udp4      0      0  10.160.56.63.58351   lt-in-f189.1e100.https
udp6      0      0  *.65482              *.*
udp4      0      0  *.65482              *.*
udp6      0      0  *.55840              *.*
udp4      0      0  *.55840              *.*
udp6      0      0  *.49809              *.*
udp4      0      0  *.49809              *.*
udp6      0      0  *.50470              *.*
udp4      0      0  *.50470              *.*
udp4      0      0  10.160.56.63.21767   *.*
udp4      0      0  *.*                  *.*
udp4      0      0  10.160.56.63.ntp     *.*
udp6      0      0  fe80::47f:d7bc:8.ntp *.*
udp6      0      0  fe80::4479:65ff:.ntp *.*
udp4      0      0  *.*                  *.*
udp4      0      0  *.*                  *.*
udp46     0      0  *.53117              *.*
udp4      0      0  *.*                  *.*
udp4      0      0  localhost.53116      *.*
udp4      0      0  *.*                  *.*
udp4      0      0  *.*                  *.*
udp4      0      0  *.*                  *.*
udp4      0      0  *.*                  *.*
udp4      0      0  *.*                  *.*
```

```
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.58403               *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp6       0       0  fe80::e41a:ed2d:.ntp  *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp6       0       0  fe80::1%lo0.ntp       *.*
udp6       0       0  localhost.ntp         *.*
udp4       0       0  localhost.ntp         *.*
udp4       0       0  *.ntp                 *.*
udp6       0       0  *.ntp                 *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp46      0       0  *.*                   *.*
udp6       0       0  *.mdns                *.*
udp4       0       0  *.mdns                *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.*                   *.*
udp4       0       0  *.netbios-ns          *.*
udp4       0       0  *.netbios-dgm         *.*
Active Multipath Internet connections
Proto/ID  Flags     Local Address          Foreign Address        (state)
icm6       0       0  *.*                   *.*
Active LOCAL (UNIX) domain sockets
```

Address	Type	Recv-Q	Send-Q	Inode	Conn	Refs	Nextref Addr
f744bf24a76c949f	stream	0	0	0	f744bf24a76cbe07	0	0
f744bf24a76c962f	stream	0	0	0	f744bf24a76c97bf	0	0
f744bf24a76c97bf	stream	0	0	0	f744bf24a76c962f	0	0
f744bf24a76c930f	stream	0	0	0	f744bf24a76c9adf	0	0
f744bf24a76c9adf	stream	0	0	0	f744bf24a76c930f	0	0
f744bf249c135a17	stream	0	0	0	f744bf249c135dff	0	0
f744bf24acb764a7	stream	0	0	0	f744bf24acb74d37	0	0
f744bf24acb74d37	stream	0	0	0	f744bf24acb764a7	0	0
f744bf24acb759b7	stream	0	0	0	f744bf24acb75cd7	0	0
f744bf24acb75cd7	stream	0	0	0	f744bf24acb759b7	0	0
f744bf24acb7575f	stream	0	0	0	f744bf24acb74adf	0	0
f744bf24acb74adf	stream	0	0	0	f744bf24acb7575f	0	0
f744bf24acb763df	stream	0	0	0	f744bf24acb760bf	0	0
f744bf24a76cad9f	stream	0	0	0	f744bf24a76cb6ff	0	0
f744bf24a76cb4a7	stream	0	0	0	f744bf24a76cbae7	0	0
f744bf24a76cbae7	stream	0	0	0	f744bf24a76cb4a7	0	0
f744bf24a76c9247	stream	0	0	0	0	0	0
f744bf249ec92c77	stream	0	0	0	f744bf249ec923df	0	0
f744bf249ec923df	stream	0	0	0	f744bf249ec92c77	0	0
f744bf249ec92ae7	stream	0	0	0	f744bf24b75955cf	0	0
f744bf24acb76c77	stream	0	0	0	f744bf24acb7494f	0	0
f744bf24acb74887	stream	0	0	0	f744bf24acb75827	0	0
f744bf24acb75827	stream	0	0	0	f744bf24acb74887	0	0
f744bf24acb766ff	stream	0	0	0	f744bf24acb740b7	0	0
f744bf24acb740b7	stream	0	0	0	f744bf24acb766ff	0	0
f744bf24acb75d9f	stream	0	0	0	f744bf24acb7656f	0	0
f744bf24acb7656f	stream	4	0	0	f744bf24acb75d9f	0	0
f744bf24acb747bf	stream	0	0	0	f744bf24acb74567	0	0
f744bf24acb74567	stream	0	0	0	f744bf24acb747bf	0	0
f744bf24acb751e7	stream	0	0	0	f744bf24acb73fef	0	0
f744bf249c13530f	stream	0	0	0	f744bf249c134f27	0	0
f744bf249c137187	stream	0	0	0	f744bf249c13788f	0	0
f744bf249c13788f	stream	0	0	0	f744bf249c137187	0	0
f744bf249c1376ff	stream	0	0	0	f744bf249c136507	0	0
f744bf249c136507	stream	0	0	0	f744bf249c1376ff	0	0
f744bf249c137637	stream	0	0	0	f744bf249c1370bf	0	0
f744bf249c1370bf	stream	0	0	0	f744bf249c137637	0	0
f744bf249c1350b7	stream	0	0	0	f744bf249c13756f	0	0
f744bf249c13756f	stream	0	0	0	f744bf249c1350b7	0	0
f744bf249c1361e7	stream	0	0	0	f744bf249c135567	0	0
f744bf249c135567	stream	0	0	0	f744bf249c1361e7	0	0
f744bf249ec926ff	stream	0	0	0	f744bf249ec90a17	0	0
f744bf249ec90a17	stream	0	0	0	f744bf249ec926ff	0	0

Registered kernel control modules

id	flags	pcbcount	rcvbuf	sndbuf	name
1	9	0	131072	131072	com.apple.flow-divert
2	1	0	16384	2048	com.apple.nke.sockwall
3	9	0	524288	524288	com.apple.content-filter

```
      4        9        0     8192      2048 com.apple.packet-mangler
      5        1        3    65536     65536 com.apple.net.necp_control
      6        1       10    65536     65536 com.apple.net.netagent
      7        9        1   524288    524288 com.apple.net.utun_control
      8        1        0    65536     65536 com.apple.net.ipsec_control
      9        0       21     8192      2048 com.apple.netsrc
      a       18        5     8192      2048 com.apple.network.statistics
      b        5        0     8192      2048 com.apple.network.tcp_ccdebug
      c        1        1     8192      2048 com.apple.network.advisory
      d        1        1     8192      2048 com.checkpoint.cpfw.ctl
      e        1        0     8192      2048 com.checkpoint.cpfw.fwnotify
      f        1        0  1048576      2048 com.checkpoint.cpfw.debug
Active kernel event sockets
Proto Recv-Q Send-Q vendor  class subcla
kevt       0        0      1      1     11
kevt       0        0      1      6      1
kevt       0        0      1      6      1
kevt       0        0      1      1      2
kevt       0        0      1      6      1
kevt       0        0      1      6      1
kevt       0        0      1      1      2
kevt       0        0      1      6      1
kevt       0        0      1      1      7
kevt       0        0      1      1      1
kevt       0        0      1      6      1
kevt       0        0      1      6      1
kevt       0        0      1      6      1
kevt       0        0      1      6      1
kevt       0        0      1      6      1
kevt       0        0      1      6      1
kevt       0        0      1      1      2
kevt       0        0      1      1      2
kevt       0        0      1      6      1
kevt       0        0      1      1      0
Active kernel control sockets
Proto Recv-Q Send-Q    unit     id name
kctl       0        0      1      5 com.apple.net.necp_control
kctl       0        0      2      5 com.apple.net.necp_control
kctl       0        0      3      5 com.apple.net.necp_control
kctl       0        0      1      6 com.apple.net.netagent
kctl       0        0      2      6 com.apple.net.netagent
kctl       0        0      3      6 com.apple.net.netagent
kctl       0        0      4      6 com.apple.net.netagent
kctl       0        0      5      6 com.apple.net.netagent
kctl       0        0      6      6 com.apple.net.netagent
kctl       0        0      7      6 com.apple.net.netagent
kctl       0        0      8      6 com.apple.net.netagent
kctl       0        0      9      6 com.apple.net.netagent
```

```
kctl         0      0     10        6 com.apple.net.netagent
kctl         0      0      1        7 com.apple.net.utun_control
kctl         0      0      1        9 com.apple.netsrc
kctl         0      0      2        9 com.apple.netsrc
kctl         0      0      3        9 com.apple.netsrc
kctl         0      0      4        9 com.apple.netsrc
kctl         0      0      5        9 com.apple.netsrc
kctl         0      0      6        9 com.apple.netsrc
kctl         0      0      7        9 com.apple.netsrc
kctl         0      0      8        9 com.apple.netsrc
kctl         0      0      9        9 com.apple.netsrc
kctl         0      0     10        9 com.apple.netsrc
kctl         0      0     11        9 com.apple.netsrc
kctl         0      0     12        9 com.apple.netsrc
kctl         0      0     13        9 com.apple.netsrc
kctl         0      0     15        9 com.apple.netsrc
kctl         0      0     16        9 com.apple.netsrc
kctl         0      0     17        9 com.apple.netsrc
kctl         0      0     18        9 com.apple.netsrc
kctl         0      0     22        9 com.apple.netsrc
kctl         0      0     24        9 com.apple.netsrc
kctl         0      0     25        9 com.apple.netsrc
kctl         0      0     26        9 com.apple.netsrc
kctl         0      0      1       10 com.apple.network.statistics
kctl         0      0      2       10 com.apple.network.statistics
kctl         0      0      3       10 com.apple.network.statistics
kctl         0      0      4       10 com.apple.network.statistics
kctl         0      0      5       10 com.apple.network.statistics
kctl         0      0      1       12 com.apple.network.advisory
kctl         0      0      1       13 com.checkpoint.cpfw.ctl
```

7. `nslookup`

- `nslookup 10.150.5.44`

```
Server:      10.0.0.20
Address:     10.0.0.20#53


44.5.150.10.in-addr.arpa    name = fpmi506st14.bsu.
```

8. `route`

- `netstat -rn`

```
Routing tables


Internet:
```

```
Destination        Gateway          Flags      Refs      Use    Netif Expire
default            10.160.0.1       UGSc        224      105     en0
10.160/17          link#4           UCS           2        0     en0
10.160.0.1/32      link#4           UCS           2        0     en0
10.160.0.1         0:21:a0:c1:19:40 UHLWIir      225       28     en0     969
10.160.56.63/32    link#4           UCS           1        0     en0
10.160.127.255     link#4           UHLWbI        1       18     en0
127                127.0.0.1        UCS           1        0     lo0
127.0.0.1          127.0.0.1        UH            3    31728     lo0
224.0.0/4          link#4           UmCS          3        0     en0
224.0.0.251        1:0:5e:0:0:fb    UHmLWI        1        0     en0
239.255.255.250    1:0:5e:7f:ff:fa  UHmLWI        1       20     en0
255.255.255.255/32 link#4           UCS           1        0     en0


Internet6:
Destination                        Gateway                          Flags      Netif Expire
default                            fe80::%utun0                     UGcI       utun0
::1                                ::1                              UHL         lo0
fe80::%lo0/64                      fe80::1%lo0                      UcI         lo0
fe80::1%lo0                        link#1                           UHLI        lo0
fe80::%en0/64                      link#4                           UCI         en0
fe80::47f:d7bc:8963:5392%en0       6c:40:8:a8:e3:e0                 UHLI        lo0
fe80::%awdl0/64                    link#8                           UCI        awdl0
fe80::4479:65ff:feeb:a9dd%awdl0    46:79:65:eb:a9:dd                UHLI        lo0
fe80::%utun0/64                    fe80::e41a:ed2d:46c4:7416%utun0  UcI        utun0
fe80::e41a:ed2d:46c4:7416%utun0    link#10                          UHLI        lo0
ff01::%lo0/32                      ::1                              UmCI        lo0
ff01::%en0/32                      link#4                           UmCI        en0
ff01::%awdl0/32                    link#8                           UmCI       awdl0
ff01::%utun0/32                    fe80::e41a:ed2d:46c4:7416%utun0  UmCI       utun0
ff02::%lo0/32                      ::1                              UmCI        lo0
ff02::%en0/32                      link#4                           UmCI        en0
ff02::%awdl0/32                    link#8                           UmCI       awdl0
ff02::%utun0/32                    fe80::e41a:ed2d:46c4:7416%utun0  UmCI       utun0
```