

Network Commands:

1. arp -a

```
student@student-OptiPlex-3060:~$ nslookup google.com
Server:      127.0.1.1
Address:     127.0.1.1#53

Non-authoritative answer:
Name:   google.com
Address: 172.217.160.174

student@student-OptiPlex-3060:~$ arp -a
? (192.168.32.40) at f4:a9:97:dc:fb:93 [ether] on enp2s0
? (192.168.44.210) at b0:83:fe:73:7e:c7 [ether] on enp2s0
? (192.168.33.125) at b4:b5:2f:d1:10:a5 [ether] on enp2s0
? (192.168.42.136) at 00:23:54:fa:4d:ec [ether] on enp2s0
? (192.168.32.1) at 00:02:b6:42:71:c4 [ether] on enp2s0
? (192.168.35.33) at 00:23:54:fa:4d:c1 [ether] on enp2s0
? (192.168.16.1) at 4c:5e:9c:d1:85:77 [ether] on wlp3s0
? (192.168.36.70) at fc:4d:d4:36:3d:b0 [ether] on enp2s0
? (192.168.25.215) at a0:d3:7a:2c:40:f2 [ether] on wlp3s0
student@student-OptiPlex-3060:~$
```

2. ping -i

```
student@student-OptiPlex-3060:~$ ping -i 0.5 127.0.0.1
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data.
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0.055 ms
64 bytes from 127.0.0.1: icmp_seq=2 ttl=64 time=0.047 ms
64 bytes from 127.0.0.1: icmp_seq=3 ttl=64 time=0.040 ms
64 bytes from 127.0.0.1: icmp_seq=4 ttl=64 time=0.048 ms
64 bytes from 127.0.0.1: icmp_seq=5 ttl=64 time=0.039 ms
64 bytes from 127.0.0.1: icmp_seq=6 ttl=64 time=0.047 ms
64 bytes from 127.0.0.1: icmp_seq=7 ttl=64 time=0.043 ms
64 bytes from 127.0.0.1: icmp_seq=8 ttl=64 time=0.048 ms
64 bytes from 127.0.0.1: icmp_seq=9 ttl=64 time=0.041 ms
64 bytes from 127.0.0.1: icmp_seq=10 ttl=64 time=0.047 ms
64 bytes from 127.0.0.1: icmp_seq=11 ttl=64 time=0.039 ms
64 bytes from 127.0.0.1: icmp_seq=12 ttl=64 time=0.047 ms
64 bytes from 127.0.0.1: icmp_seq=13 ttl=64 time=0.041 ms
64 bytes from 127.0.0.1: icmp_seq=14 ttl=64 time=0.048 ms
64 bytes from 127.0.0.1: icmp_seq=15 ttl=64 time=0.045 ms
64 bytes from 127.0.0.1: icmp_seq=16 ttl=64 time=0.047 ms
64 bytes from 127.0.0.1: icmp_seq=17 ttl=64 time=0.043 ms
64 bytes from 127.0.0.1: icmp_seq=18 ttl=64 time=0.049 ms
64 bytes from 127.0.0.1: icmp_seq=19 ttl=64 time=0.041 ms
64 bytes from 127.0.0.1: icmp_seq=20 ttl=64 time=0.044 ms
64 bytes from 127.0.0.1: icmp_seq=21 ttl=64 time=0.041 ms
64 bytes from 127.0.0.1: icmp_seq=22 ttl=64 time=0.044 ms
```

2. traceroute

```
guest-8zkkev@student-HP-Pro-3330-MT:~$ traceroute google.com
traceroute to google.com (216.58.199.174), 30 hops max, 60 byte packets
 1  192.168.32.1 (192.168.32.1)  0.251 ms  0.246 ms  0.242 ms
 2  103.197.221.161 (103.197.221.161)  0.747 ms  136.233.8.33 (136.233.8.33)  1.452 ms  103.197.221.161 (103.197.221.161)  0.740 ms
 3  172.24.155.47 (172.24.155.47)  2.587 ms  103.197.223.17 (103.197.223.17)  0.881 ms  172.24.155.47 (172.24.155.47)  2.890 ms
 4  103.27.170.10 (103.27.170.10)  1.741 ms  172.16.176.21 (172.16.176.21)  2.325 ms  103.27.170.10 (103.27.170.10)  1.733 ms
 5  172.16.180.73 (172.16.180.73)  2.309 ms  108.170.248.177 (108.170.248.177)  3.713 ms  172.16.180.73 (172.16.180.73)  2.303 ms
 6  209.85.242.125 (209.85.242.125)  2.406 ms  1.892 ms  172.16.17.249 (172.16.17.249)  2.008 ms
 7  bom05s08-in-f174.1e100.net (216.58.199.174)  1.871 ms  108.170.234.208 (108.170.234.208)  3.098 ms  bom05s08-in-f174.1e100.net (216.58.199.174)  1.736 ms
```

3. nslookup

```
student@student-OptiPlex-3060:~$ nslookup google.com
Server:      127.0.1.1
Address:     127.0.1.1#53

Non-authoritative answer:
Name:   google.com
Address: 172.217.160.174

student@student-OptiPlex-3060:~$
```

4. Dig

```
droiderx05: bash — Konsole
File Edit View Bookmarks Settings Help
droiderx05@droiderx05-Inspiron-15-3567:~$ dig

; <<>> DiG 9.11.3-1ubuntu1.8-Ubuntu <<>>
;; global options: +cmd
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 55789
;; flags: qr rd ra; QUERY: 1, ANSWER: 13, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;
                IN      NS
;; ANSWER SECTION:
.                7145    IN      NS      c.root-servers.net.
.                7145    IN      NS      d.root-servers.net.
.                7145    IN      NS      a.root-servers.net.
.                7145    IN      NS      i.root-servers.net.
.                7145    IN      NS      l.root-servers.net.
.                7145    IN      NS      h.root-servers.net.
.                7145    IN      NS      e.root-servers.net.
.                7145    IN      NS      f.root-servers.net.
.                7145    IN      NS      m.root-servers.net.
.                7145    IN      NS      g.root-servers.net.
.                7145    IN      NS      k.root-servers.net.
.                7145    IN      NS      j.root-servers.net.
.                7145    IN      NS      b.root-servers.net.

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Tue Aug 06 18:01:13 IST 2019
;; MSG SIZE rcvd: 239

droiderx05: bash
```

5. ifconfig

```
guest-8zkkev@student-HP-Pro-3330-MT:~$ man ifconfig
guest-8zkkev@student-HP-Pro-3330-MT:~$ ifconfig
enp5s0    Link encap:Ethernet  HWaddr 74:46:a0:b0:89:b5
          inet addr:192.168.42.70  Bcast:192.168.47.255  Mask:255.255.240.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:240706 errors:0 dropped:103 overruns:0 frame:0
          TX packets:13692 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:50056287 (50.0 MB)  TX bytes:1104532 (1.1 MB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:1009 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1009 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:96347 (96.3 KB)  TX bytes:96347 (96.3 KB)
```

6. netstat

```

student@Lab307-22:~$ netstat -l
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 0.0.0.0:*:ftp            0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:ssh            0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:localhost:ipp      0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:telnet           0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:192.168.36.253:10010 0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:8834             0.0.0.0:*               LISTEN
tcp6       0      0 ::::ssh                ::::*                   LISTEN
tcp6       0      0 :::localhost:ipp      ::::*                   LISTEN
tcp6       0      0 ::::8834               ::::*                   LISTEN
udp        0      0 0.0.0.0:*:Lab307-22:domain 0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:bootpc           0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:ipp            0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:56033          0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:52138          0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:mdns            0.0.0.0:*               LISTEN
udp6       0      0 ::::mdns               ::::*                   LISTEN
udp6       0      0 ::::36569              ::::*                   LISTEN
raw6       0      0 ::::ipv6-tcpm         ::::*                   LISTEN
Active UNIX domain sockets (only servers)
Proto RefCnt Flags   Type       State      I-Node  Path
unix    2      [ ACC ] STREAM   LISTENING   26328   /opt/nessus/var/nessus/nessusd.sock
unix    2      [ ACC ] STREAM   LISTENING   30268   @/tmp/.ICE-unix/2683
unix    2      [ ACC ] STREAM   LISTENING   30014   /run/user/1000/sytemd/private
unix    2      [ ACC ] SEQPACKET LISTENING   1647    /run/udev/control
unix    2      [ ACC ] STREAM   LISTENING   30021   /run/user/1000/keyring/control
unix    2      [ ACC ] STREAM   LISTENING   21689   /tmp/.X11-unix/X0
unix    2      [ ACC ] STREAM   LISTENING   30080   /run/user/1000/keyring/pkcs11
unix    2      [ ACC ] STREAM   LISTENING   30082   /run/user/1000/keyring/ssh
unix    2      [ ACC ] STREAM   LISTENING   30269   /tmp/.ICE-unix/2683
unix    2      [ ACC ] STREAM   LISTENING   20484   /sys/fs/cgroup/cgroupmanager/sock
unix    2      [ ACC ] STREAM   LISTENING   28358   /run/user/1000/pulse/native
unix    2      [ ACC ] STREAM   LISTENING   21688   @/tmp/.X11-unix/X0
unix    2      [ ACC ] STREAM   LISTENING   16922   /run/snappyd-socket
unix    2      [ ACC ] STREAM   LISTENING   1587    /run/sytemd/private
unix    2      [ ACC ] STREAM   LISTENING   1595    /run/sytemd/journal/stdout
unix    2      [ ACC ] STREAM   LISTENING   1611    /run/sytemd/fsck.progress

student@Lab307-22:~$ netstat -at
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 0.0.0.0:*:ftp            0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:ssh            0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:localhost:ipp      0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:telnet           0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:192.168.36.253:10010 0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:*:8834             0.0.0.0:*               LISTEN
tcp6       0      0 ::::ssh                ::::*                   LISTEN
tcp6       0      0 :::localhost:ipp      ::::*                   LISTEN
tcp6       0      0 ::::8834               ::::*                   LISTEN

student@Lab307-22:~$ netstat -au
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 0.0.0.0:*:Lab307-22:domain 0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:bootpc           0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:ipp            0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:56033          0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:52138          0.0.0.0:*               LISTEN
udp        0      0 0.0.0.0:*:mdns            0.0.0.0:*               LISTEN
udp6       0      0 ::::mdns               ::::*                   LISTEN
udp6       0      0 ::::36569              ::::*                   LISTEN

```