```
vinay@jarvis:~$ arp -v
 Address
                         HWtype HWaddress
                                                    Flags Mask
                                                                         Iface
 192.168.55.105
                         ether
                                34:e1:2d:17:c6:6d
                                                    C
                                                                         wlp12s0
                         ether
                                9c:65:ee:47:ba:8f
                                                    C
 gateway
                                                                         wlp12s0
 Entries: 2
                Skipped: 0
                               Found: 2
vinay@jarvis:~$
 vinay@jarvis:~$ arp -n
 Address
                         HWtvpe
                                 HWaddress
                                                    Flags Mask
                                                                         Iface
 192.168.55.105
                         ether
                                 34:e1:2d:17:c6:6d
                                                                         wlp12s0
                                                    C
 192.168.55.1
                         ether
                                 9c:65:ee:47:ba:8f
                                                    C
                                                                         wlp12s0
 vinay@jarvis:~$
vinay@jarvis:~$ arp -e
Address
                        HWtype HWaddress
                                                   Flags Mask
                                                                         Iface
192.168.55.105
                        ether
                                34:e1:2d:17:c6:6d
                                                   C
                                                                         wlp12s0
                        ether
                                9c:65:ee:47:ba:8f
                                                   C
                                                                         wlp12s0
 gateway
vinay@jarvis:~$
vinay@jarvis:~$ arp -a
? (192.168.55.105) at 34:e1:2d:17:c6:6d [ether] on wlp12s0
gateway (192.168.55.1) at 9c:65:ee:47:ba:8f [ether] on wlp12s0
vinay@jarvis:~$
[17k61a05f5@online ~]$ finger -s
                                   Idle
Login
             Name
                         Tty
                                         Login Time
                                                       Office
                                                                   Office Phone
17k61a0572
                         pts/59
                                         Nov 29 12:13 (172.168.3.22)
17k61a0578
                         pts/54
                                      3 Nov 29 12:04 (172.168.1.175)
17k61a0579
                         pts/22
                                         Nov 29 12:02 (172.168.2.103)
                                         Nov 29 11:40 (172.168.2.174)
17k61a0580
                         pts/55
17k61a0595
                         pts/35
                                     16 Nov 29 10:30 (172.168.4.155)
                                         Nov 29 10:31 (172.168.3.8)
17k61a05a0
                         pts/48
                                     1
17k61a05a1
                         pts/8
                                     21
                                         Nov 29 10:20 (172.168.1.77)
                                         Nov 29 10:17 (172.168.4.187)
17k61a05a5
                         pts/6
[17k61a05f5@online ~]$ finger -m
                                         Login Time
                                                      Office
                                                                  Office Phone
Login
                        Tty
                                  Idle
             Name
17k61a0572
                        pts/59
                                         Nov 29 12:13 (172.168.3.22)
17k61a0580
                        pts/55
                                        Nov 29 11:40 (172.168.2.174)
17k61a0595
                        pts/35
                                    19
                                        Nov 29 10:30 (172.168.4.155)
                                         Nov 29 10:31 (172.168.3.8)
17k61a05a0
                        pts/48
                        pts/8
17k61a05a1
                                    24
                                         Nov 29 10:20 (172.168.1.77)
[17k61a05f5@online ~]$ finger -p
Login
             Name
                         Tty
                                  Idle
                                         Login Time
                                                       Office
                                                                  Office Phone
17k61a0572
                                         Nov 29 12:13 (172.168.3.22)
                         pts/59
                                     1
17k61a0580
                        pts/55
                                        Nov 29 11:40 (172.168.2.174)
17k61a0595
                        pts/35
                                         Nov 29 10:30 (172.168.4.155)
17k61a05a0
                                        Nov 29 10:31 (172.168.3.8)
                        pts/48
                                     6
17k61a05a1
                        pts/8
                                    36
                                        Nov 29 10:20 (172.168.1.77)
17k61a05a1
                         pts/22
                                         Nov 29 12:29 (172.168.1.77)
17k61a05a5
                                     4
                                        Nov 29 10:17 (172.168.4.187)
                         pts/6
                                     1 Nov 29 10:22 (172.168.1.145)
17k61a05a6
                        pts/26
vinay@jarvis:~$ ifconfig -s
                 RX-OK RX-ERR RX-DRP RX-OVR
Iface
          MTU
                                              TX-OK TX-ERR TX-DRP TX-OVR Flg
                            0
                                  0 0
                                                               0
                                                                      0 BMU
enp9s0
         1500
                     0
                                                  0
                                                         0
        65536
                 16242
                            0
                                  0 0
                                              16242
                                                         0
                                                                0
                                                                      0 LRU
         1500
                121938
                            0
                                  0 0
                                              87833
                                                         0
                                                                0
                                                                      0 BMRU
wlp12s0
vinay@jarvis:~$
[17k61a05f5@online ~]$ ping -w 5 dccomics.com
PING dccomics.com (35.165.154.218) 56(84) bytes of data.
```

--- dccomics.com ping statistics ---

6 packets transmitted, 0 received, 100% packet loss, time 4999ms

```
[17k61a05f5@online ~]$ finger -1
   Login: root
                                              Name: root
   Directory: /root
                                               Shell: /bin/bash
   On since Thu Oct 10 09:19 (IST) on tty7 from :0
         8 days 2 hours idle
   On since Thu Oct 10 09:19 (IST) on pts/1 from :0
        50 days 3 hours idle
   On since Sat Oct 26 11:24 (IST) on pts/2 from :0
        19 days 22 hours idle
         (messages off)
   On since Thu Nov 21 09:49 (IST) on pts/4 from :0
        8 days 2 hours idle
         (messages off)
   Last login Mon Nov 25 16:29 (IST) on pts/85 from 172.168.3.107
   New mail received Fri Nov 29 04:57 2019 (IST)
         Unread since Thu Feb 19 21:42 2015 (IST)
   No Plan.
   vinay@jarvis:~$ ifconfig
   enp9s0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
            ether f0:4d:a2:67:8d:6b txqueuelen 1000 (Ethernet)
            RX packets 0 bytes 0 (0.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 0 bytes 0 (0.0 B)
            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 17144 bytes 2869630 (2.8 MB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 17144 bytes 2869630 (2.8 MB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
[17k61a05f5@online \sim]$ ping facebook.com
PING facebook.com (157.240.192.35) 56(84) bytes of data.
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp_seq=2 ttl=54 time=29.9 ms
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp_seq=6 ttl=54 time=27.5 ms
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp_seq=7 ttl=54 time=29.3 ms
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp_seq=8 ttl=54 time=29.9 ms
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp seq=9 ttl=54 time=28.7 ms
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp_seq=12 ttl=54 time=30.0 ms
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp_seq=13 ttl=54 time=26.5 ms
64 bytes from edge-star-mini-shv-02-maa2.facebook.com (157.240.192.35): icmp_seq=14 ttl=54 time=28.9 ms
--- facebook.com ping statistics ---
14 packets transmitted, 8 received, 42% packet loss, time 23419ms rtt min/avg/max/mdev = 26.580/28.886/30.027/1.170 ms
[17k61a05f5@online ~]$
[17k61a05f5@online ~]$ ping -c 2 www.instagram.com
PING z-p42-instagram.c10r.facebook.com (157.240.192.174) 56(84) bytes of data.
64 bytes from instagram-p42-shv-02-maa2.fbcdn.net (157.240.192.174): icmp_seq=1 ttl=54 time=30.9 ms
64 bytes from instagram-p42-shv-02-maa2.fbcdn.net (157.240.192.174): icmp_seq=2 ttl=54 time=30.8 ms
--- z-p42-instagram.c10r.facebook.com ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 5090ms
rtt min/avg/max/mdev = 30.875/30.890/30.905/0.015 ms
[17k61a05f5@online ~]$
[17k61a05f5@online ~]$ ping -i 3 -c 4 marvel.com
PING marvel.com (72.32.138.96) 56(84) bytes of data.
64 bytes from 72.32.138.96: icmp seq=1 ttl=239 time=281 ms
64 bytes from 72.32.138.96: icmp seq=3 ttl=239 time=282 ms
64 bytes from 72.32.138.96: icmp seq=4 ttl=239 time=284 ms
--- marvel.com ping statistics ---
4 packets transmitted, 3 received, 25% packet loss, time 11607ms
rtt min/avq/max/mdev = 281.482/282.847/284.736/1.445 ms
[17k61a05f5@online ~]$
```

```
vinay@jarvis:~$ whois instagram.com
    Domain Name: INSTAGRAM.COM
    Registry Domain ID: 121748357 DOMAIN COM-VRSN
    Registrar WHOIS Server: whois.registrarsafe.com
    Registrar URL: http://www.registrarsafe.com
    Updated Date: 2018-03-01T19:43:29Z
    Creation Date: 2004-06-04T13:37:18Z
    Registry Expiry Date: 2027-06-04T13:37:18Z
    Registrar: RegistrarSafe, LLC
    Registrar IANA ID: 3237
    Registrar Abuse Contact Email: abusecomplaints@registrarsafe.com
    Registrar Abuse Contact Phone: +1-650-308-7004
    Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited
    Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited
    Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited
    Domain Status: serverDeleteProhibited https://icann.org/epp#serverDeleteProhibited
    Domain Status: serverTransferProhibited https://icann.org/epp#serverTransferProhibited
    Domain Status: serverUpdateProhibited https://icann.org/epp#serverUpdateProhibited
    Name Server: NS-1349.AWSDNS-40.ORG
    Name Server: NS-2016.AWSDNS-60.CO.UK
    Name Server: NS-384.AWSDNS-48.COM
    Name Server: NS-868.AWSDNS-44.NET
    DNSSEC: unsigned
    URL of the ICANN Whois Inaccuracy Complaint Form: https://www.icann.org/wicf/
vinay@jarvis:~$ whois facebook.com
  Domain Name: FACEBOOK.COM
  Registry Domain ID: 2320948 DOMAIN COM-VRSN
  Registrar WHOIS Server: whois.registrarsafe.com
  Registrar URL: http://www.registrarsafe.com
  Updated Date: 2019-10-17T18:52:06Z
  Creation Date: 1997-03-29T05:00:00Z
  Registry Expiry Date: 2028-03-30T04:00:00Z
  Registrar: RegistrarSafe, LLC
  Registrar IANA ID: 3237
  Registrar Abuse Contact Email: abusecomplaints@registrarsafe.com
  Registrar Abuse Contact Phone: +1-650-308-7004
  Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited
  Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited
  Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited
  Domain Status: serverDeleteProhibited https://icann.org/epp#serverDeleteProhibited
  Domain Status: serverTransferProhibited https://icann.org/epp#serverTransferProhibited
  Domain Status: serverUpdateProhibited https://icann.org/epp#serverUpdateProhibited
  Name Server: A.NS.FACEBOOK.COM
  Name Server: B.NS.FACEBOOK.COM
  DNSSEC: unsigned
  URL of the ICANN Whois Inaccuracy Complaint Form: https://www.icann.org/wicf/
  vinay@jarvis:~$ netstat -v
  Active Internet connections (w/o servers)
```

Proto	Recv-Q	Send-Q	Local Address		State
tcp	0	0	jarvis:42748	maa05s06-in-f10.1:https	ESTABLISHED
tcp	0	0	jarvis:42756	bom07s15-in-f14.1:https	ESTABLISHED
tcp	0	0	jarvis:34014	maa05s02-in-f10.1:https	ESTABLISHED
tcp	0	0	jarvis:33152	maa05s05-in-f14.1:https	ESTABLISHED
tcp	0	0	jarvis:34016	maa05s02-in-f10.1:https	ESTABLISHED
tcp	0	0	jarvis:45960	104.20.50.118:https	ESTABLISHED
tcp	0	0	jarvis:54652	bom05s10-in-f4.1e:https	ESTABLISHED
tcp	0	0	jarvis:33150	maa05s05-in-f14.1:https	ESTABLISHED
tcp	0	0	jarvis:54614	maa03s22-in-f174.:https	ESTABLISHED
tcp	0	0	localhost:44454	localhost:7337	ESTABLISHED

```
ftp> get package.json
   local: package.json remote: package.json
   200 PORT command successful
   150 Opening BINARY mode data connection for package.json (1392 bytes)
   226 Transfer complete
   1392 bytes received in 0.00 secs (1.6209 MB/s)
   ftp>
vinay@jarvis:~$ netstat -e
 Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address
                                          Foreign Address
                                                                                     Inode
                                                                State
                                                                           User
                 0 jarvis:33150
                                         maa05s05-in-f14.1:https ESTABLISHED vinay
                                                                                     113872
 tcp
           0
 tcp
           0
                 0 localhost:44454
                                         localhost:7337
                                                                ESTABLISHED daemon
                                                                                     52737
                                         172.217.194.189:https
                                                                ESTABLISHED vinay
 tcp
           0
                 0 jarvis:52512
                                                                                     50215
                 0 jarvis:40678
                                         maa05s09-in-f3.1e:https ESTABLISHED vinay
                                                                                     45997
 tcp
           0
 tcp
                 0 jarvis:58266
                                         ec2-54-69-196-86.:https ESTABLISHED vinay
                                                                                     75676
 vinay@jarvis:~$ netstat -o -i
 Kernel Interface table
 Iface
            MTU
                    RX-OK RX-ERR RX-DRP RX-OVR
                                                   TX-OK TX-ERR TX-DRP TX-OVR Flg
           1500
 enp9s0
                        0
                               0
                                       0 0
                                                        0
                                                               0
                                                                       0
                                                                              O BMU
 lo
                                                               0
                                                                       0
          65536
                    15729
                               0
                                       0 0
                                                    15729
                                                                              0 LRU
                               0
                                       0 0
                                                               0
                                                                       0
                                                                              0 BMRU
 wlp12s0
           1500
                   121262
                                                    87610
 vinay@jarvis:~$
vinay@jarvis:~$ ftp ftp.siteieee.org
Connected to ftp.siteieee.org.
220 FTP Server ready.
Name (ftp.siteieee.org:vinay): u169460047.sitecsi.com
331 Password required for u169460047.sitecsi.com
Password:
230 User u169460047.sitecsi.com logged in
Remote system type is UNIX.
Using binary mode to transfer files.
ftp>
vinay@jarvis:~$ netstat -n
Active Internet connections (w/o servers)
Proto Recv-O Send-O Local Address
                                              Foreign Address
                                                                        State
                                              172.217.163.202:443
tcp
           0
                   0 192.168.55.106:42748
                                                                        ESTABLISHED
           0
                   0 192.168.55.106:42756
                                              172.217.27.206:443
tcp
                                                                        TIME WAIT
tcp
           0
                   0 192.168.55.106:34014
                                              172.217.163.74:443
                                                                        ESTABLISHED
           0
                   0 192.168.55.106:33152
                                              172.217.163.174:443
                                                                        ESTABLISHED
tcp
tcp
           0
                   0 192.168.55.106:34016
                                              172.217.163.74:443
                                                                        ESTABLISHED
                   0 192.168.55.106:54652
                                              216.58.203.132:443
           0
                                                                        TIME WAIT
tcp
                   0 192.168.55.106:33150
                                              172.217.163.174:443
                                                                        ESTABLISHED
tcp
[17k61a05f5@online ~]$ traceroute -4 www.facebook.com
traceroute to www.facebook.com (157.240.16.35), 30 hops max, 40 byte packets
   172.168.0.254 (172.168.0.254) 0.750 ms 1.192 ms 0.709 ms
    172.168.0.7 (172.168.0.7) 0.378 ms 0.302 ms 0.284 ms
   117.211.106.161 (117.211.106.161) 11.228 ms 12.059 ms
     (218.248.172.218) 22.668 ms 22.360 ms 21.986 ms
     (218.248.235.142) 30.557 ms 30.028 ms *
   * ae2.pr01.bom1.tfbnw.net (157.240.68.26) 47.275 ms
   * * po101.psw02.bom1.tfbnw.net (157.240.33.239) 43.666 ms
   173.252.67.135 (173.252.67.135) 43.357 ms 173.252.67.53 (173.252.67.53)
[17k61a05f5@online ~]$ traceroute -F google.com
traceroute to google.com (216.58.196.174), 30 hops max, 40 byte packets
    172.168.0.254 (172.168.0.254) 1.463 ms 1.573 ms 2.000 ms
    172.168.0.7 (172.168.0.7) 0.311 ms 0.315 ms 0.247 ms
 3
   117.211.106.161 (117.211.106.161) 14.750 ms 14.509 ms 14.256 ms
    * * *
 5
   72.14.211.114 (72.14.211.114) 32.943 ms 34.129 ms 34.782 ms
   * 108.170.253.97 (108.170.253.97) 30.256 ms 108.170.253.113 (108.170.253.113) 29.633 ms
```

1

2

3 4

5

6 7

[17k61a05f5@online ~]\$ traceroute -4 172.168.2.52 traceroute to 172.168.2.52 (172.168.2.52), 30 hops

- 2
- 3
- 5
- 6 * * * 7 * * *