IPCONFIG – Displays basic IP configuration details of the system.

```
C:\Users\Nemis Ruparel>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Ethernet adapter Ethernet 4:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::c259:5a0e:41c4:c253%5
   IPv4 Address. . . . . . . . . . . : 192.168.56.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 10:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   IPv6 Address. . . . . . . . . . . : 2409:40c1:2001:d203:535d:ab19:4831:e116
   Temporary IPv6 Address. . . . . . : 2409:40c1:2001:d203:1c57:a1d5:f211:2cd4
   Link-local IPv6 Address . . . . . : fe80::938d:a7fc:fa1d:3c75%12
   IPv4 Address. . . . . . . . . . . : 192.168.80.65
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : fe80::8c7a:19ff:fe91:a49e%12
                                       192.168.80.183
```

Ipconfig/all : displays detailed network configuration information for all network adapters on a Windows system.

```
Windows IP Configuration

   Host Name . . . . . . . . . . . . : DESKTOP-LG09AU5
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Hybrid
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Ethernet:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Realtek PCIe GbE Family Controller
   Physical Address. . . . . . . . . : 6C-02-E0-57-66-7A
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes

Ethernet adapter Ethernet 4:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : VirtualBox Host-Only Ethernet Adapter
   Physical Address. . . . . . . . . : 0A-00-27-00-00-05
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   Link-local IPv6 Address . . . . . : fe80::c259:5a0e:41c4:c253%5(Preferred)
   IPv4 Address. . . . . . . . . . . : 192.168.56.1(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
   DHCPv6 IAID . . . . . . . . . . . : 789184551
   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-2C-5E-27-72-6C-02-E0-57-66-7A
   NetBIOS over Tcpip. . . . . . . . : Enabled

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
   Physical Address. . . . . . . . . : 22-4E-F6-88-18-3D
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Local Area Connection* 10:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #2
   Physical Address. . . . . . . . . : A2-4E-F6-88-18-3D
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Realtek RTL8822CE 802.11ac PCIe Adapter
   Physical Address. . . . . . . . . : 20-4E-F6-88-18-3D
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
   IPv6 Address. . . . . . . . . . . : 2409:40c1:2001:d203:535d:ab19:4831:e116(Preferred)
   Temporary IPv6 Address. . . . . . : 2409:40c1:2001:d203:1c57:a1d5:f211:2cd4(Preferred)
   Link-local IPv6 Address . . . . . : fe80::938d:a7fc:fa1d:3c75%12(Preferred)
   IPv4 Address. . . . . . . . . . . : 192.168.80.65(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Lease Obtained. . . . . . . . . . : 25 March 2025 14:22:22
   Lease Expires . . . . . . . . . . : 25 March 2025 15:22:20
   Default Gateway . . . . . . . . . : fe80::8c7a:19ff:fe91:a49e%12
                                       192.168.80.183
   DHCP Server . . . . . . . . . . . : 192.168.80.183
   DHCPv6 IAID . . . . . . . . . . . : 102780662
   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-2C-5E-27-72-6C-02-E0-57-66-7A
   DNS Servers . . . . . . . . . . . : 192.168.80.183
                                       2409:40c1:2001:d203::4
   NetBIOS over Tcpip. . . . . . . . : Enabled
```

Ping – Sends ICMP packets to test network connectivity and response time.

```
C:\Users\Nemis Ruparel>ping

Usage: ping [-t] [-a] [-n count] [-l size] [-f] [-i TTL] [-v TOS]
            [-r count] [-s count] [[-j host-list] | [-k host-list]]
            [-w timeout] [-R] [-S srcaddr] [-c compartment] [-p]
            [-4] [-6] target_name

Options:
    -t             Ping the specified host until stopped.
                   To see statistics and continue - type Control-Break;
                   To stop - type Control-C.
    -a             Resolve addresses to hostnames.
    -n count       Number of echo requests to send.
    -l size        Send buffer size.
    -f             Set Don't Fragment flag in packet (IPv4-only).
    -i TTL         Time To Live.
    -v TOS         Type Of Service (IPv4-only. This setting has been deprecated
                   and has no effect on the type of service field in the IP
                   Header).
    -r count       Record route for count hops (IPv4-only).
    -s count       Timestamp for count hops (IPv4-only).
    -j host-list   Loose source route along host-list (IPv4-only).
    -k host-list   Strict source route along host-list (IPv4-only).
    -w timeout     Timeout in milliseconds to wait for each reply.
    -R             Use routing header to test reverse route also (IPv6-only).
                   Per RFC 5095 the use of this routing header has been
                   deprecated. Some systems may drop echo requests if
                   this header is used.
    -S srcaddr     Source address to use.
    -c compartment Routing compartment identifier.
    -p             Ping a Hyper-V Network Virtualization provider address.
    -4             Force using IPv4.
    -6             Force using IPv6.
```

ping -t www.google.com – Continuously pings Google until manually stopped.

```
C:\Users\Nemis Ruparel>ping -t www.google.com

Pinging www.google.com [2404:6800:4002:810::2004] with 32 bytes of data:
Reply from 2404:6800:4002:810::2004: time=503ms
Reply from 2404:6800:4002:810::2004: time=617ms
Reply from 2404:6800:4002:810::2004: time=406ms
Reply from 2404:6800:4002:810::2004: time=584ms

Ping statistics for 2404:6800:4002:810::2004:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 406ms, Maximum = 617ms, Average = 527ms
```

Tracert – Traces the route packets take to a destination, showing each hop.

```
C:\Users\Nemis Ruparel>tracert

Usage: tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout]
               [-R] [-S srcaddr] [-4] [-6] target_name

Options:
    -d                 Do not resolve addresses to hostnames.
    -h maximum_hops    Maximum number of hops to search for target.
    -j host-list       Loose source route along host-list (IPv4-only).
    -w timeout         Wait timeout milliseconds for each reply.
    -R                 Trace round-trip path (IPv6-only).
    -S srcaddr         Source address to use (IPv6-only).
    -4                 Force using IPv4.
    -6                 Force using IPv6.
```

tracert -h 5 www.google.com – Traces the route to Google, limiting to 5 hops.

```
C:\Users\Nemis Ruparel>tracert -h 5 www.google.com

Tracing route to www.google.com [2404:6800:4002:810::2004]
over a maximum of 5 hops:

  1     2 ms     1 ms     2 ms  2409:40c1:2001:d203::4
  2   295 ms   146 ms   328 ms  2405:200:5210:4:3924:110:3:105
  3    42 ms    65 ms     *     2405:200:5210:4:3925::1
  4     *        *        *     Request timed out.
  5     *        *        *     Request timed out.

Trace complete.
```

Pathping – Combines Ping and Tracert to analyze network latency and packet loss.

```
C:\Users\Nemis Ruparel>Pathping

Usage: pathping [-g host-list] [-h maximum_hops] [-i address] [-n]
                [-p period] [-q num_queries] [-w timeout]
                [-4] [-6] target_name

Options:
    -g host-list     Loose source route along host-list.
    -h maximum_hops  Maximum number of hops to search for target.
    -i address       Use the specified source address.
    -n               Do not resolve addresses to hostnames.
    -p period        Wait period milliseconds between pings.
    -q num_queries   Number of queries per hop.
    -w timeout       Wait timeout milliseconds for each reply.
    -4               Force using IPv4.
    -6               Force using IPv6.
```

Netstat – Displays active network connections and listening ports.

```
C:\Users\Nemis Ruparel>netstat

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    192.168.80.65:49676    relay-ea81b709:https   ESTABLISHED
  TCP    192.168.80.65:49705    52.187.79.109:https    ESTABLISHED
  TCP    192.168.80.65:49738    49.44.166.99:https     ESTABLISHED
  TCP    192.168.80.65:50044    52.104.124.25:https    ESTABLISHED
  TCP    192.168.80.65:50049    104.208.16.95:https    TIME_WAIT
```

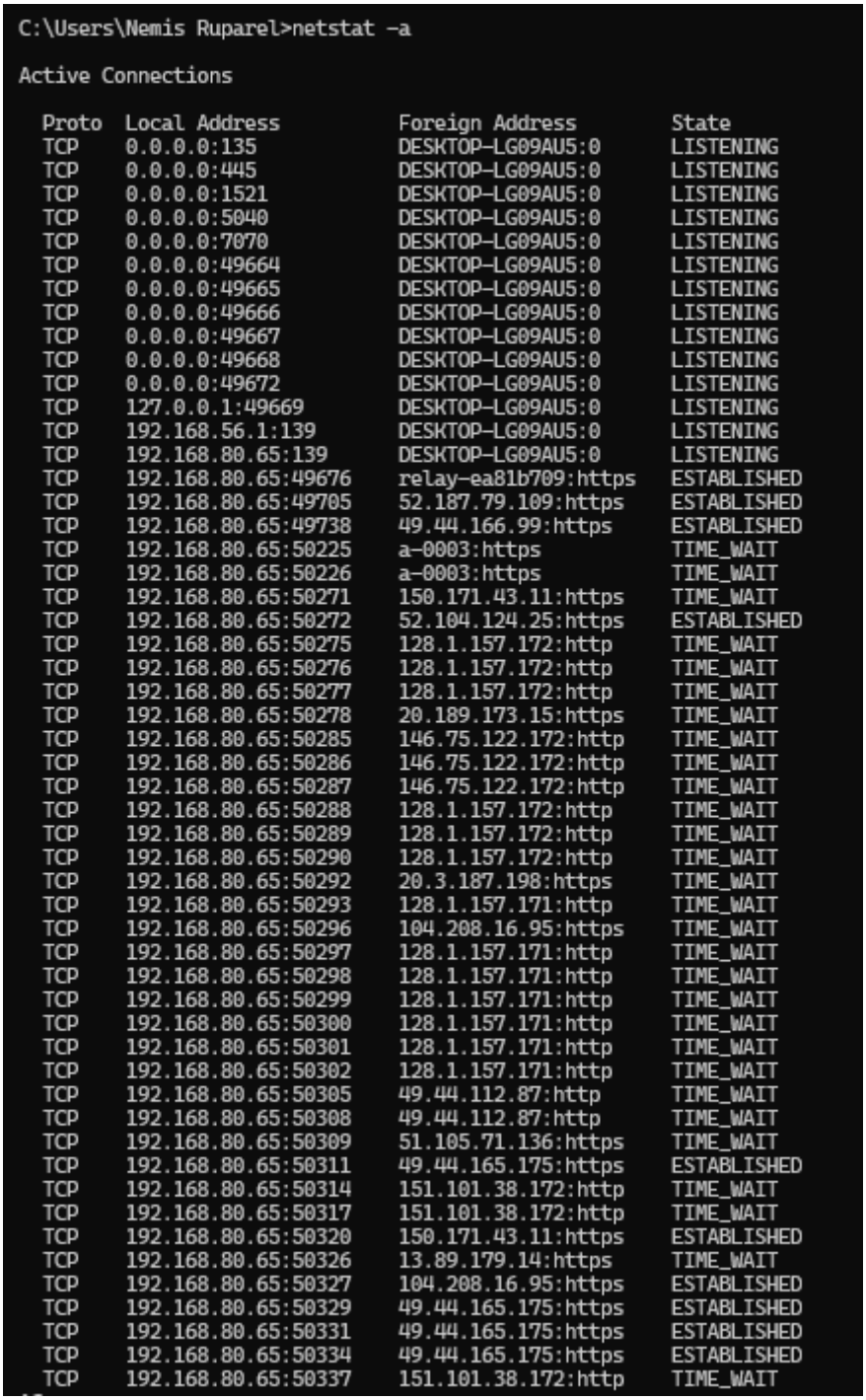
Netstat -n – Shows active connections with numerical IP addresses instead of names.

```
C:\Users\Nemis Ruparel>netstat -n

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    192.168.80.65:49676    148.113.20.117:443     ESTABLISHED
  TCP    192.168.80.65:49705    52.187.79.109:443      ESTABLISHED
  TCP    192.168.80.65:49738    49.44.166.99:443       ESTABLISHED
  TCP    192.168.80.65:50166    49.44.201.106:80       TIME_WAIT
  TCP    192.168.80.65:50186    20.189.173.7:443       TIME_WAIT
  TCP    192.168.80.65:50198    146.75.122.172:80      TIME_WAIT
  TCP    192.168.80.65:50199    146.75.122.172:80      TIME_WAIT
  TCP    192.168.80.65:50224    155.102.41.121:80      TIME_WAIT
  TCP    192.168.80.65:50225    204.79.197.203:443     TIME_WAIT
  TCP    192.168.80.65:50226    204.79.197.203:443     TIME_WAIT
  TCP    192.168.80.65:50227    155.102.41.122:80      TIME_WAIT
  TCP    192.168.80.65:50228    155.102.41.121:80      TIME_WAIT
  TCP    192.168.80.65:50229    20.190.145.142:443     ESTABLISHED
  TCP    192.168.80.65:50230    155.102.41.121:80      TIME_WAIT
  TCP    192.168.80.65:50233    155.102.41.121:80      TIME_WAIT
  TCP    192.168.80.65:50237    74.224.107.128:80      TIME_WAIT
  TCP    192.168.80.65:50239    74.224.107.128:80      TIME_WAIT
  TCP    192.168.80.65:50240    155.102.41.121:80      TIME_WAIT
  TCP    192.168.80.65:50243    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50244    128.1.157.171:80       TIME_WAIT
  TCP    192.168.80.65:50245    128.1.157.171:80       TIME_WAIT
  TCP    192.168.80.65:50246    49.44.112.87:80        TIME_WAIT
  TCP    192.168.80.65:50250    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50251    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50252    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50254    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50257    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50259    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50271    150.171.43.11:443      ESTABLISHED
  TCP    192.168.80.65:50272    52.104.124.25:443      ESTABLISHED
  TCP    192.168.80.65:50273    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50274    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50275    128.1.157.172:80       TIME_WAIT
  TCP    192.168.80.65:50276    128.1.157.172:80       TIME_WAIT
  TCP    192.168.80.65:50277    128.1.157.172:80       TIME_WAIT
  TCP    192.168.80.65:50278    20.189.173.15:443      TIME_WAIT
  TCP    192.168.80.65:50279    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50280    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50281    49.44.165.175:443      ESTABLISHED
  TCP    192.168.80.65:50285    146.75.122.172:80      ESTABLISHED
  TCP    192.168.80.65:50286    146.75.122.172:80      ESTABLISHED
  TCP    192.168.80.65:50287    146.75.122.172:80      ESTABLISHED
  TCP    192.168.80.65:50288    128.1.157.172:80       TIME_WAIT
  TCP    192.168.80.65:50289    128.1.157.172:80       TIME_WAIT
  TCP    192.168.80.65:50290    128.1.157.172:80       TIME_WAIT
  TCP    192.168.80.65:50292    20.3.187.198:443       TIME_WAIT
  TCP    192.168.80.65:50293    128.1.157.171:80       TIME_WAIT
  TCP    192.168.80.65:50295    20.3.187.198:443       FIN_WAIT_1
  TCP    192.168.80.65:50296    104.208.16.95:443      ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:49689  [2603:1040:a06:6::2]:443  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:49716  [2603:1040:a06:6::2]:443  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:49766  [2a03:2880:f26b:1d2:face:b00c:0:167]:443  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:49916  [2600:140f:1c00::312c:8cab]:443  CLOSE_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:49921  [2603:1046:c04:80f::2]:443  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:49951  [2620:1ec:46::254]:443  CLOSE_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50242  [2a04:4e42:8d::684]:80  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50247  [2600:140f:1c00::b854:e8e8]:80  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50248  [2603:1030:7::106]:443  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50249  [2600:140f:1c00::1740:8cc1]:80  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50253  [2600:140f:1c00::1740:8cc1]:80  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50255  [2a04:4e42:8e::684]:80  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50256  [2a04:4e42:8e::684]:80  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50260  [2a04:4e42:8e::684]:80  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50261  [2a04:4e42:8e::684]:80  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50262  [2600:140f:1c00::1740:8ca1]:80  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50263  [2600:140f:1c00::1740:8ca1]:80  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50264  [2a04:4e42:8e::684]:80  ESTABLISHED
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50265  [2600:140f:1c00::1740:8ca1]:80  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50266  [2600:140f:1c00::1740:8ca1]:80  TIME_WAIT
  TCP    [2409:40c1:2001:d203:1c57:a1d5:f211:2cd4]:50267  [2600:140f:1c00::1740:8ca1]:80  TIME_WAIT
```

Netstat -a – Lists all active and listening ports, including TCP and UDP.



```
C:\Users\Nemis Ruparel>netstat -a

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    0.0.0.0:135            DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:445            DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:1521           DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:5040           DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:7070           DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:49664          DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:49665          DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:49666          DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:49667          DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:49668          DESKTOP-LG09AU5:0      LISTENING
  TCP    0.0.0.0:49672          DESKTOP-LG09AU5:0      LISTENING
  TCP    127.0.0.1:49669        DESKTOP-LG09AU5:0      LISTENING
  TCP    192.168.56.1:139       DESKTOP-LG09AU5:0      LISTENING
  TCP    192.168.80.65:139      DESKTOP-LG09AU5:0      LISTENING
  TCP    192.168.80.65:49676    relay-ea81b709:https   ESTABLISHED
  TCP    192.168.80.65:49705    52.187.79.109:https    ESTABLISHED
  TCP    192.168.80.65:49738    49.44.166.99:https     ESTABLISHED
  TCP    192.168.80.65:50225    a-0003:https           TIME_WAIT
  TCP    192.168.80.65:50226    a-0003:https           TIME_WAIT
  TCP    192.168.80.65:50271    150.171.43.11:https    TIME_WAIT
  TCP    192.168.80.65:50272    52.104.124.25:https    ESTABLISHED
  TCP    192.168.80.65:50275    128.1.157.172:http     TIME_WAIT
  TCP    192.168.80.65:50276    128.1.157.172:http     TIME_WAIT
  TCP    192.168.80.65:50277    128.1.157.172:http     TIME_WAIT
  TCP    192.168.80.65:50278    20.189.173.15:https    TIME_WAIT
  TCP    192.168.80.65:50285    146.75.122.172:http    TIME_WAIT
  TCP    192.168.80.65:50286    146.75.122.172:http    TIME_WAIT
  TCP    192.168.80.65:50287    146.75.122.172:http    TIME_WAIT
  TCP    192.168.80.65:50288    128.1.157.172:http     TIME_WAIT
  TCP    192.168.80.65:50289    128.1.157.172:http     TIME_WAIT
  TCP    192.168.80.65:50290    128.1.157.172:http     TIME_WAIT
  TCP    192.168.80.65:50292    20.3.187.198:https     TIME_WAIT
  TCP    192.168.80.65:50293    128.1.157.171:http     TIME_WAIT
  TCP    192.168.80.65:50296    104.208.16.95:https    TIME_WAIT
  TCP    192.168.80.65:50297    128.1.157.171:http     TIME_WAIT
  TCP    192.168.80.65:50298    128.1.157.171:http     TIME_WAIT
  TCP    192.168.80.65:50299    128.1.157.171:http     TIME_WAIT
  TCP    192.168.80.65:50300    128.1.157.171:http     TIME_WAIT
  TCP    192.168.80.65:50301    128.1.157.171:http     TIME_WAIT
  TCP    192.168.80.65:50302    128.1.157.171:http     TIME_WAIT
  TCP    192.168.80.65:50305    49.44.112.87:http      TIME_WAIT
  TCP    192.168.80.65:50308    49.44.112.87:http      TIME_WAIT
  TCP    192.168.80.65:50309    51.105.71.136:https    TIME_WAIT
  TCP    192.168.80.65:50311    49.44.165.175:https    ESTABLISHED
  TCP    192.168.80.65:50314    151.101.38.172:http    TIME_WAIT
  TCP    192.168.80.65:50317    151.101.38.172:http    TIME_WAIT
  TCP    192.168.80.65:50320    150.171.43.11:https    ESTABLISHED
  TCP    192.168.80.65:50326    13.89.179.14:https     TIME_WAIT
  TCP    192.168.80.65:50327    104.208.16.95:https    ESTABLISHED
  TCP    192.168.80.65:50329    49.44.165.175:https    ESTABLISHED
  TCP    192.168.80.65:50331    49.44.165.175:https    ESTABLISHED
  TCP    192.168.80.65:50334    49.44.165.175:https    ESTABLISHED
  TCP    192.168.80.65:50337    151.101.38.172:http    TIME_WAIT
```

Route – Displays or modifies the system's routing table.

```
C:\Users\Nemis Ruparel>route

Manipulates network routing tables.

ROUTE [-f] [-p] [-4|-6] command [destination]
                  [MASK netmask]  [gateway] [METRIC metric]  [IF interface]

  -f           Clears the routing tables of all gateway entries.  If this is
               used in conjunction with one of the commands, the tables are
               cleared prior to running the command.

  -p           When used with the ADD command, makes a route persistent across
               boots of the system. By default, routes are not preserved
               when the system is restarted. Ignored for all other commands,
               which always affect the appropriate persistent routes.

  -4           Force using IPv4.

  -6           Force using IPv6.

  command      One of these:
                 PRINT     Prints  a route
                 ADD       Adds    a route
                 DELETE    Deletes a route
                 CHANGE    Modifies an existing route
  destination  Specifies the host.
  MASK         Specifies that the next parameter is the 'netmask' value.
  netmask      Specifies a subnet mask value for this route entry.
               If not specified, it defaults to 255.255.255.255.
  gateway      Specifies gateway.
  interface    the interface number for the specified route.
  METRIC       specifies the metric, ie. cost for the destination.

All symbolic names used for destination are looked up in the network database
file NETWORKS. The symbolic names for gateway are looked up in the host name
database file HOSTS.

If the command is PRINT or DELETE. Destination or gateway can be a wildcard,
(wildcard is specified as a star '*'), or the gateway argument may be omitted.

If Dest contains a * or ?, it is treated as a shell pattern, and only
matching destination routes are printed. The '*' matches any string,
and '?' matches any one char. Examples: 157.*.1, 157.*, 127.*, *224*.

Pattern match is only allowed in PRINT command.
Diagnostic Notes:
    Invalid MASK generates an error, that is when (DEST & MASK) != DEST.
    Example> route ADD 157.0.0.0 MASK 155.0.0.0 157.55.80.1 IF 1
             The route addition failed: The specified mask parameter is invalid. (Destination & Mask) != Destination.

Examples:

    > route PRINT
    > route PRINT -4
    > route PRINT -6
    > route PRINT 157*          .... Only prints those matching 157*

    > route ADD 157.0.0.0 MASK 255.0.0.0  157.55.80.1 METRIC 3 IF 2
              destination^      ^mask      ^gateway     metric^    ^
                                                        Interface^
      If IF is not given, it tries to find the best interface for a given
      gateway.
    > route ADD 3ffe::/32 3ffe::1

    > route CHANGE 157.0.0.0 MASK 255.0.0.0 157.55.80.5 METRIC 2 IF 2

      CHANGE is used to modify gateway and/or metric only.

    > route DELETE 157.0.0.0
    > route DELETE 3ffe::/32
```

Route -4 www.google.com – Shows IPv4 route details to Google.

```
C:\Users\Nemis Ruparel>route -4 google.com

Manipulates network routing tables.

ROUTE [-f] [-p] [-4|-6] command [destination]
                  [MASK netmask]  [gateway] [METRIC metric]  [IF interface]

  -f           Clears the routing tables of all gateway entries.  If this is
               used in conjunction with one of the commands, the tables are
               cleared prior to running the command.

  -p           When used with the ADD command, makes a route persistent across
               boots of the system. By default, routes are not preserved
               when the system is restarted. Ignored for all other commands,
               which always affect the appropriate persistent routes.

  -4           Force using IPv4.

  -6           Force using IPv6.

  command      One of these:
                 PRINT     Prints  a route
                 ADD       Adds    a route
                 DELETE    Deletes a route
                 CHANGE    Modifies an existing route
  destination  Specifies the host.
  MASK         Specifies that the next parameter is the 'netmask' value.
  netmask      Specifies a subnet mask value for this route entry.
               If not specified, it defaults to 255.255.255.255.
  gateway      Specifies gateway.
  interface    the interface number for the specified route.
  METRIC       specifies the metric, ie. cost for the destination.

All symbolic names used for destination are looked up in the network database
file NETWORKS. The symbolic names for gateway are looked up in the host name
database file HOSTS.

If the command is PRINT or DELETE. Destination or gateway can be a wildcard,
(wildcard is specified as a star '*'), or the gateway argument may be omitted.

If Dest contains a * or ?, it is treated as a shell pattern, and only
matching destination routes are printed. The '*' matches any string,
and '?' matches any one char. Examples: 157.*.1, 157.*, 127.*, *224*.

Pattern match is only allowed in PRINT command.
Diagnostic Notes:
    Invalid MASK generates an error, that is when (DEST & MASK) != DEST.
    Example> route ADD 157.0.0.0 MASK 155.0.0.0 157.55.80.1 IF 1
             The route addition failed: The specified mask parameter is invalid. (Destination & Mask) != Destination.

Examples:

    > route PRINT
    > route PRINT -4
    > route PRINT -6
    > route PRINT 157*          .... Only prints those matching 157*

    > route ADD 157.0.0.0 MASK 255.0.0.0  157.55.80.1 METRIC 3 IF 2
              destination^      ^mask      ^gateway     metric^    ^
                                                        Interface^
      If IF is not given, it tries to find the best interface for a given
      gateway.
    > route ADD 3ffe::/32 3ffe::1

    > route CHANGE 157.0.0.0 MASK 255.0.0.0 157.55.80.5 METRIC 2 IF 2

      CHANGE is used to modify gateway and/or metric only.

    > route DELETE 157.0.0.0
    > route DELETE 3ffe::/32
```