The different Networking Commands in the command prompt are :

1. ipconfig
2. ipconfig/all
3. nslookup
4. ping
5. tracert

Additional command prompt codes used are – help color (gives color codes), color B(light green), cls (clear screen),

ipconfig -

ipconfig is used to show the wireless IP Configuration which includes IPV6 address, IPV4 address, Subnet Mask , Default gateway.

Default gateway is the local address of the router which is hit first by our computer.

Our IPV4 address - IPv4 Address. . . . . . . . . . . : 192.168.0.105

The Network layer uses this address.

Default Gateway - Default Gateway . . . . . . . . . : 192.168.0.1

When any packet wants to go to a different network, it first goes to the Default Gateway, and it’s the default gateway’s responsibility to forward the request to the requested router.

ipconfig/all -

When dealing with IP address, it comes under the third layer of Network Communication. If the user wants to go to the second layer, i.e. MAC Address, ipconfig/all is used.

The MAC address is shown as - Physical Address. . . . . . . . . : F0-57-A6-C7-C0-31

The data link layer uses this address.

nslookup -

The nslookup is used to query/ask the DNS(Domain Name System) to give the IP address of specific domain(website) if name is provided.

Just add nslookup command in Command prompt, enter the website name and press enter.

> www.nesoacademy.org

Server: dns.google

Address: 8.8.8.8

Non-authoritative answer:

Name: nesoacademy.org

Address: 15.206.168.34

Aliases: www.nesoacademy.org

ping –

If you want to check the network connection between your PC and IP address of any website you wish, ping command is used.

Press ctrl + c to escape nslookup command.

Type ping and only address of the server and press enter.

C:\Users\Kakashi>ping 15.206.168.34

Pinging 15.206.168.34 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

Request timed out.

Ping statistics for 15.206.168.34:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

We can also put the website address of the following website –

C:\Users\Kakashi>ping www.facebook.com

Pinging star-mini.c10r.facebook.com [157.240.16.35] with 32 bytes of data:

Reply from 157.240.16.35: bytes=32 time=10ms TTL=57

Reply from 157.240.16.35: bytes=32 time=6ms TTL=57

Reply from 157.240.16.35: bytes=32 time=8ms TTL=57

Reply from 157.240.16.35: bytes=32 time=2ms TTL=57

Ping statistics for 157.240.16.35:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 2ms, Maximum = 10ms, Average = 6ms

Here 4 data packets are sent to check the connectivity between two end nodes in a network connection. And the result is instantly provided.

Traceroute –

Tracert is the command used for trace routing the path between two end devices. It contains the IP information of the intermediary devices which are used as a path for the network communication.

First the sender end device sends a data to the router of the default gateway, from there, intermediary devices to the destination/receiver. More the number of routers, more the number of ip addresses.

C:\Users\Kakashi>tracert 157.240.16.35

Tracing route to edge-star-mini-shv-01-bom1.facebook.com [157.240.16.35]

over a maximum of 30 hops:

1 <1 ms <1 ms <1 ms 192.168.0.1

2 13 ms 4 ms 11 ms 37-63-87-183.mysipl.com [183.87.63.37]

3 34 ms 29 ms 29 ms 172.169.2.17

4 6 ms 2 ms 3 ms 172.22.2.250

5 37 ms 29 ms 56 ms ae1.pr04.bom1.tfbnw.net [157.240.72.52]

6 5 ms 3 ms 3 ms po104.psw04.bom1.tfbnw.net [157.240.53.21]

7 3 ms 2 ms 2 ms 157.240.38.231

8 5 ms 2 ms 3 ms edge-star-mini-shv-01-bom1.facebook.com [157.240.16.35]

Trace complete.

This route has total 8 routers that are connected. These trace routes show several details about the path of the network communication between two end devices.