NETWORKING & SYSTEM ADMINISTRATION LAB

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Experiment No.: 25

Aim

Familiarization of basic network commands in windows

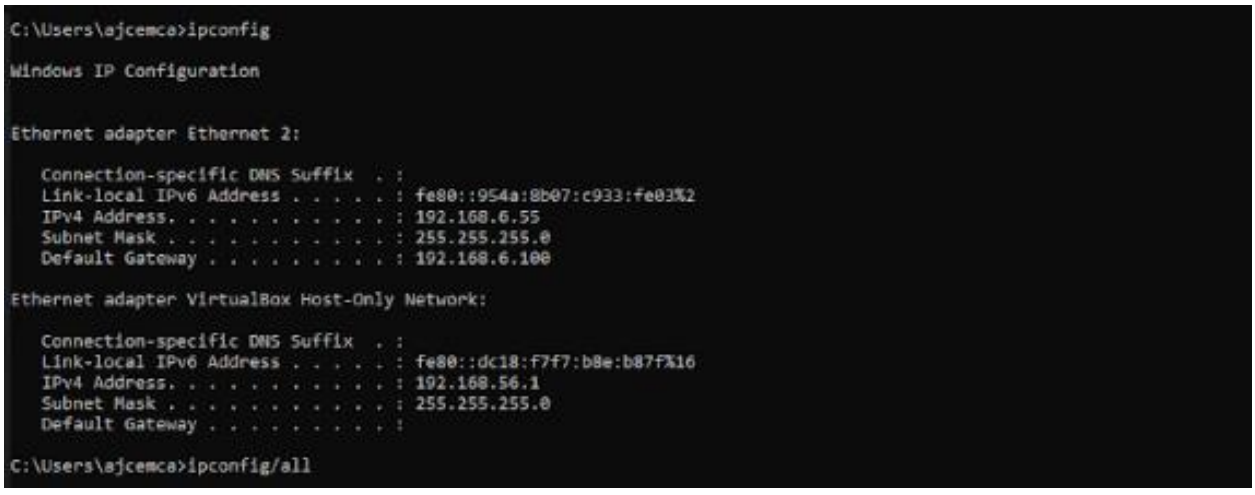
Procedure

1. ipconfig

This commands in windows allows you to see a summarized information of your network such as ip address, subnet mask , server address etc.

Syntax :- $ ipconfig

Output :-

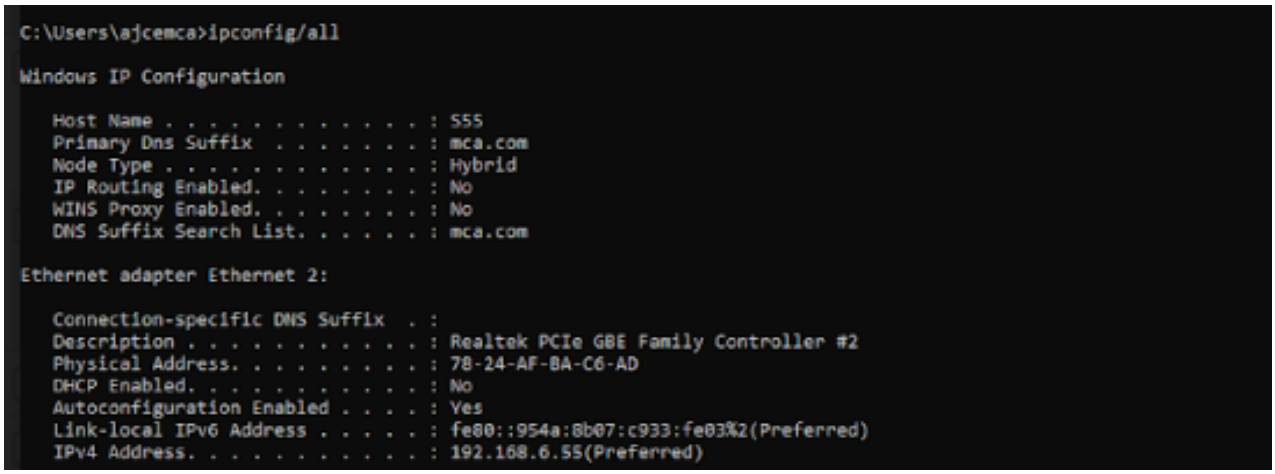


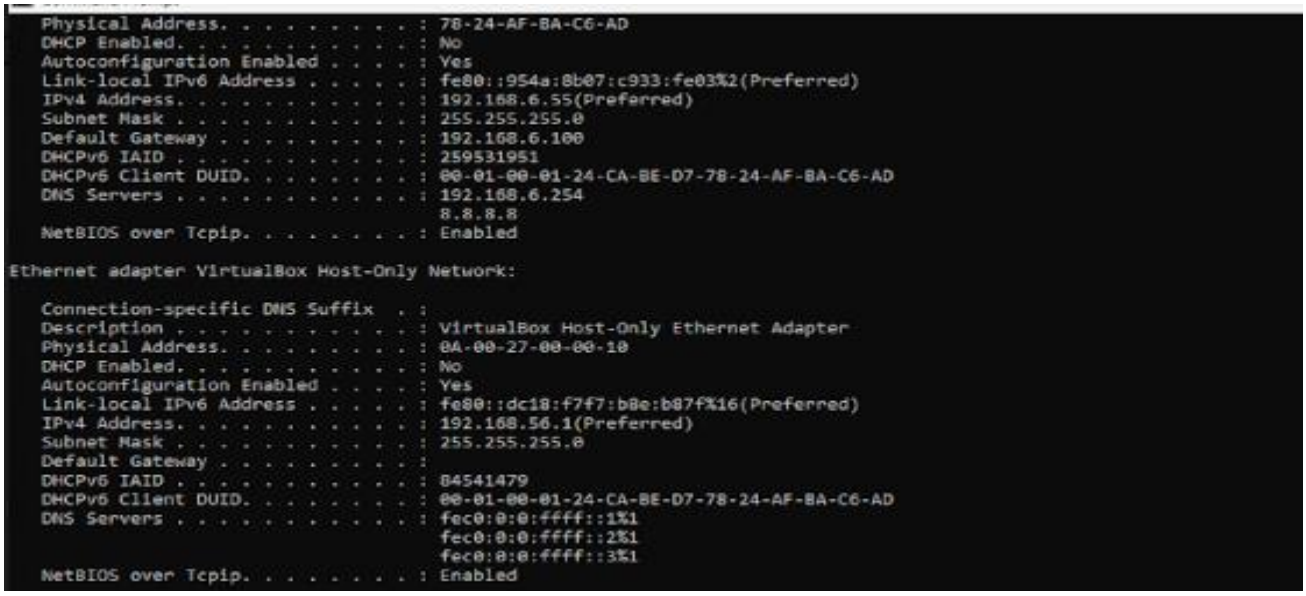
2. ipconfig/all

To see the the network information in detail. It is an extension of ipconfig command.

Syntax :- $ ipconfig/all

Output :-



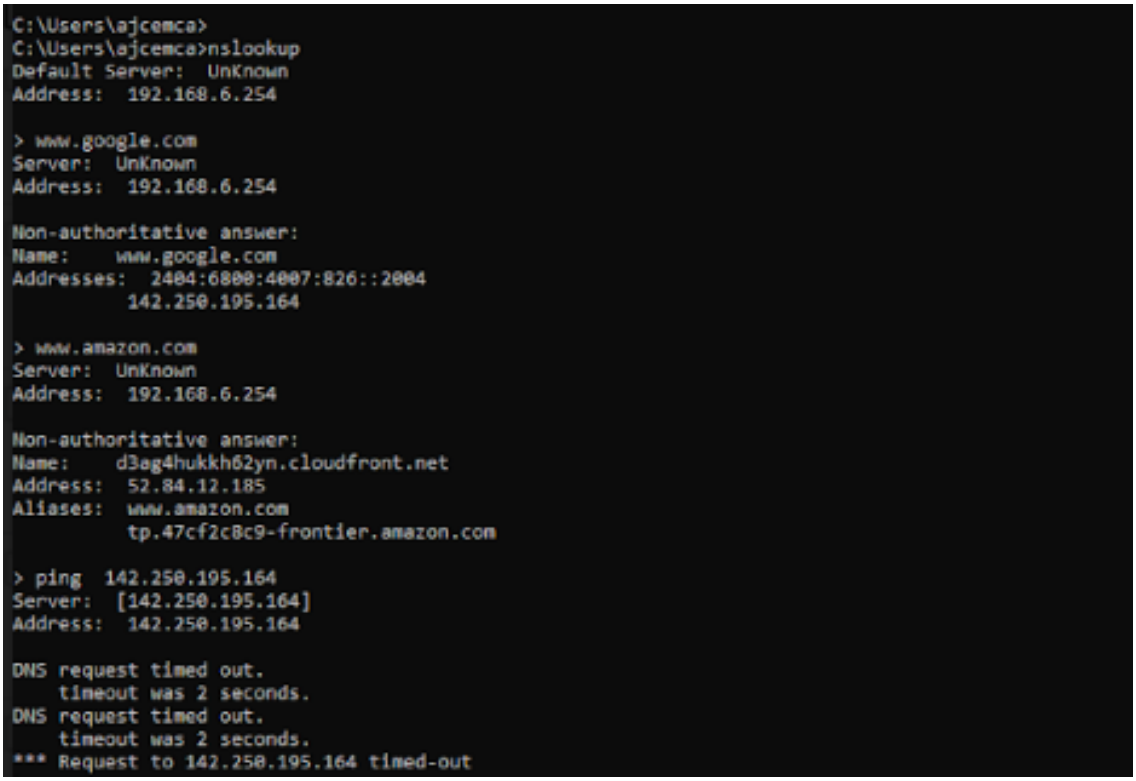


3. nslookup

To show the server to which the system is connected by default. If we want to find the ip address of a particular domain name, we can also use nslookup

Syntax :- $ nslookup

Output :-



4. ping

The command used to check the availability of a host. The response shows the URL you are pinging, the ip address associated with the URL and the size of packets being sent on the first line . The next four lines shows the replies from each individual packets including the time(in milliseconds) for the response and the time to live(TLL) of the packet, that is the amount of time that must pass before the packet discarded.

Syntax :- $ ping <IP_address>

Output :-

```
C:\Users\ajcemca>ping  142.250.195.164

Pinging 142.250.195.164 with 32 bytes of data:
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59

Ping statistics for 142.250.195.164:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 20ms, Maximum = 20ms, Average = 20ms

C:\Users\ajcemca>192.168.6.254
'192.168.6.254' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\ajcemca>ping  142.250.195.164

Pinging 142.250.195.164 with 32 bytes of data:
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59
Reply from 142.250.195.164: bytes=32 time=20ms TTL=59

Ping statistics for 142.250.195.164:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 20ms, Maximum = 20ms, Average = 20ms
```

5. tracert

The command used to show the packets that are passed through the router to which our system is connected to.

Syntax :- $ tracert <ip_address_of_system>

Output :-

```
C:\Users\ajcemca>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).
```

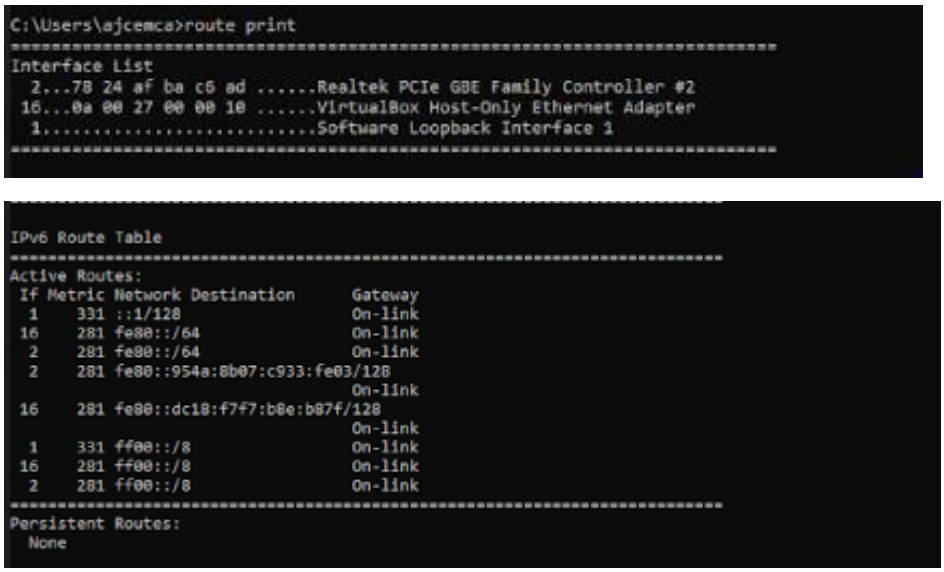
```
C:\Users\ajcemca>tracert  142.250.195.164

Tracing route to maa03s41-in-f4.1e100.net [142.250.195.164]
over a maximum of 30 hops:

  1    <1 ms    <1 ms    <1 ms  192.168.6.100
  2     2 ms     3 ms     1 ms  172.24.9.34
  3     *        *        *     Request timed out.
  4     *        *        *     Request timed out.
  5    17 ms    17 ms    17 ms  72.14.218.250
  6    17 ms    17 ms    17 ms  216.239.43.133
  7    15 ms    15 ms    15 ms  142.251.55.91
  8    20 ms    20 ms    20 ms  maa03s41-in-f4.1e100.net [142.250.195.164]

Trace complete.
```

6. route print

The command used to display and updates network routing table

Syntax :- $ route prin

Output :-

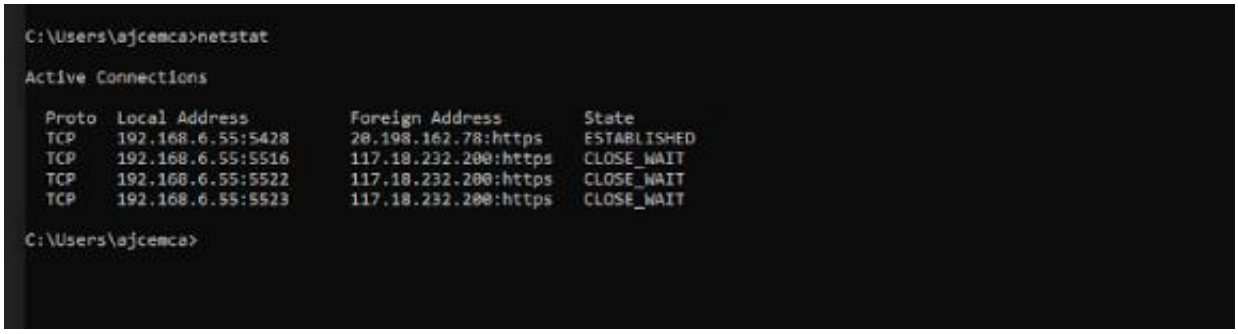


7. netstat

The network statistics or netstat command is a networking tool used for troubleshooting and configuration that can also serve a monitoring tool for the connections over the network.

Syntax :- netstat

Output :-


C:\Users\ajcemca>netstat
Active Connections
Proto Local Address Foreign Address State
TCP 192.168.6.55:5428 20.198.162.78:https ESTABLISHED
TCP 192.168.6.55:5516 117.18.232.200:https CLOSE_WAIT
TCP 192.168.6.55:5522 117.18.232.200:https CLOSE_WAIT
TCP 192.168.6.55:5523 117.18.232.200:https CLOSE_WAIT
C:\Users\ajcemca>