ASSIGNMENT - 02

1. Execute the following commands and show the output -

   i. ipconfig   ii. ipconfig/all   iii. ping iv. nslookup v. netstat
   vi. arp

Ans:

i. ipconfig → This command will show whether we have established LAN using ethernet cable or through wifi LAN adaptar. Alongwith these, this command will also show ipv4. address of our computer.

  Output :

        Windows IP Configuration
        Ethernet adapter Ethernet :
          Media state _ _ _ _ _ _ _ _ _ _ _ _ _ : Media disconnected
          Connection-specific DNS suffix :
    Wireless LAN adapter Wifi :
       IPv4 Address.............................. : 192.168.40.126
       Subnet Mask............................. : 255.255.255.0
       Default Gateway....................... : fe80:: 86ct :
                        a758:16a6
                      : 5a27%2
                     192.168.40.167

ii. ipconfig /all → This command will show the MAC address of our system. Any packet which goes with our computer, will use this address in Layer 2/ data link layer.

  Output :

        Windows LAN adapter Wifi :
          Connection specific Wi-fi DNS suffix :
          Physical address..................... : 60-14-83-
                           GE-FE-EB

iii. ping → This command will help us to check whether a given IP is reachable from our system or not. If we have received 4 packets with 0% loss, we can verify that communication is established with the IP. Invalid IP will cause 100% loss.

Output: (for ping 216.58.200.164)

pinging 216.58.200.164 with 32 bytes of data:

Reply from 216.58.200.164 : bytes = 32 times = 292 ms TIL = 115
Reply from 216.58.200.164 : bytes = 32 times = 65 ms TIL = 115
Reply from 216.58.200.164 : bytes = 32 times = 98 ms TIL = 115
Reply from 216.58.200.164 : bytes = 32 times = 101 ms TIL = 115

Ping statistics for 216.58.200.164 :
    Packets : Sent = 4, Received = 4, Lost = 0 (0% Loss).
Approximate round trip times in milli-seconds :
    Minimum = 65 ms, Maximum = 292 ms, Average = 139 ms

iv. <u>nslookup</u> ⟩ This command will help us to know about the IP
address of the DNS server. And after this, we will
press ctrl+c to abort the execution of this
command.

Output:
    Default Server : Unknown
    Address : 192.168.40.167

v. <u>netstat</u> ⟩ This command will display a variety of statistics
about a computer's active TCP IP connections.
This is most useful if we are having trouble
with TCP IP applications such as http and tlp.

Output:
    Active Connections

Proto	Local Address	Foreign Address	State
TCP	127.0.0.1:1521	DESKTOP:49673	ESTABLISHED
TCP	127.0.0.1:49673	DESKTOP:1521	ESTABLISHED
TCP	[2401:4900:1040:9de9:30ca:d19e:84d9:6abd		

:57453 [2606:4700::C812:19f3] : http
                    CLOSE_WAIT

vi. arp-a → This command will show the IP address of our system alongwith the IP and MAC address of our router.

Output :

Interface : 192.168.40.126 - - - - - - - - 0x2

Internet Address	Physical Address	Type
192.168.40.167	cc-6a-62-72-53-63	dynamic
192.168.40.225	ff-fff-ff-ff-ff-ff	static
224.0.0.22	01-00-5e-00-00-16	static
224.0.0.251	01-00-5e-00-00-fb	static
224.0.0.252	01-00-5e-00-00-fc	static
239.255.255.250	01-00-5e-7f-ff-fa	static
255.255.255.255	ff-ff-ff-ff-ff-ff	static

2. Import 2 pc's and configure them. Show the use of ping command to communicate between them in cisco tracer. Now discuss the steps.

Ans:

Steps > i. Open the Cisco Packet Tracer, then select the End devices from the bottom left corner, then select 2 pc's (Generic) and insert into the workspace.

ii. After that, go to the connections at bottom left corner and select copper cross-over.

iii. Click on the first pc, select FastEthernet(), then go to the second pc, select FastEthernet() and the connection is made between them.

iv. Now, right click on the first pc again and a window will open and having various options like physical, configure, Desktop, custom interface. Click on the desktop and select IP configuration and then give IP address : 10.10.10.0 and give subnet mask as default. Now, note down the link local address of 2nd pc which is — [for 2nd pc, give IP address: 10.10.10.1]

Link Local Address : FE80 :: 20C : 85FF : FE15 : AACB

V. Follow the step 4 from 2nd pc [IP address : 10.10.10.1]

vi. Now click on first pc go to desktop → command prompt type, ping 10.10.10.1 to check 2 pc's can communicate with each other or not.

Use of ping command⟩

      ping [-n count /-v TOS /-t] target

To communicate between 2 pc's we use 'ping' command. We go to the first pc's command prompt and type ping second pc's IP address. Then we will see the output.

Syntax⟩ ping 10.10.10.1

Output⟩

      pinging 10.10.10.1 with 32 bytes of data.

Reply from 10.10.10.1 : bytes = 32 time = 1 ms TIL = 128
Reply from 10.10.10.1 : bytes = 32 time = 0 ms TIL = 128
Reply from 10.10.10.1 : bytes = 32 time = 0 ms TIL = 128
Reply from 10.10.10.1 : bytes = 32 time = 0 ms TIL = 128

Ping statistics from 10.10.10.1 :

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

Approximate round trip times in milli-seconds :

    Minimum = 0ms, Maximum = 1ms, Average = 0 ms.

14/3/23