

FH-97

3rd Year

1)

1) Ping :- Ping works by sending an ICMP echo request to a specified address on the network. When the target host receives the echo request, it responds by sending an echo reply packet.

Example Command: `ping www.google.com -c 2` (for transmitting 2 echo requests)  
Output shows :- The result of each echo request is displayed, showing whether the request received a successful response, how many bytes were received in response, the Time to Live (TTL) and how long the response took to receive, along with statistics about packet loss and Round Trip Times. Here RTT is a measure of how long it took to receive response.

2) ifconfig :- ifconfig is used to configure the kernel stage resident network interfaces. It is used at boot time to setup interfaces, usually only needed when debugging or when system tuning is needed. It displays status of currently active interfaces.

Example Command: `ifconfig`

Shows information of 3 interfaces :-

- 1) enp3s0 : Ethernet network peripheral.
- 2) lo : lo is the loopback interface, used to communicate itself.
- 3) wlp2s0 : wireless network interface on the system. (Wi-Fi).

contains several information like :-

- `inet` (TCP/IP, default) means Internet protocol family.
- `inet6` (IPv6) means Internet Protocol version 6 family.
- `ether` : value of hardware address.

- `Rx` is bytes received over an interface and `Tx` is bytes transmitted over an interface.

(2)

3) tracert:- A tracert tool provides map of how data on the Internet travels from source to destination.

Command:- tracert www.google.com

Output shows information of:-

\* Hop:- Whenever a packet is passed between a router, it is referred to as a "hop".

\* Domain name [IP Address]

\* RTT1, RTT2, RTT3 : Round Trip Time

4) netstat:- command:- netstat

Output shows information of active TCP connections, ports on which the computer is listening, Ethernet statistics, the IP routing table, IPv4 (for the IP, ICMP, TCP and UDP protocols) and IPv6 (for the IPv6, ICMPv6, TCP and UDP over IPv6 protocols).