**Exercise : 1**  STUDY OF VARIOUS NETWORK COMMANDS

**Date : 14.7.25** USED IN LINUX AND WINDOWS

**AIM:** To study the various Network commands using in Linux and Windows.

**1) arp -a :**

internet address ARP is short form of address revolution protocal it will show the IP address of your computer along with the IP address and and MAC address of your router.

**OUTPUT :**

| internet address | Physical Address | type |
|---|---|---|
| 172.16.8.1 | 75-5a-10-CF-be-45 | dynamic |
| 172.16.8.55 | 0a-e0-aF-b3-03-76 | dynamic |
| 172.16.8.99 | 50-9a-4c-35-11-db | dynamic |
| 224.0.0.22 | FF-FF-FF-FF-FF-FF | Static |
| 224.0.0.251 | 01-00-5e-00-00-16 | Static |

**2) hostname :** this is the simplest of all TCP/IP commands. it simply displays the name of your computer.

**OUTPUT :**

DESKTOP - GOLVE4J

**3) ipconfig /all :** this command helps to solve problem with Net Bios name resolution. (Nbt Stands for Net Bios over JCP/IP)

**OUTPUT:**

## Windows IP Configuration

Host name . . . . . . . . DESKTOP - GOVLE4J

Primary Dns Suffix . . . . . . . .

Node Type . . . . . . . . Hybrid

IP routing Enabled . . . . . . . . NO

wins Proxy Enabled . . . . . . . No

Ethernet adapted Ethernet :

Connection - Specific DNS Suffix . .

Description . . . . . . . . . . . : Intel (IR) Ethernet

Physical Address . . . . . . . . . : DS - BB - C1 - C5 - C8 - 7Q

DHCPEnable . . . . . . . . . : No

Autoconfiguration Enable . . . : yes

3) **Netstat:** (network statistics) nelstat display a variety of statistics about a computers active TCP/IP connection its a command line Tool. for monitoring network connection both incoming and outgoing as well.

output :

Active connection

| Proto | Local Address | Foreign address | |
|-------|---------------|-----------------|---|
| TCP | 172.16.10.124 : 4495 | DESTOP - GOLVE4J | Establishd |
| TCP | 172.16.10.124:4495 | DESTOP -GOLVE4J | Establishd |
| TCP | 172.16.10.124 : 7680 | DTLSRI - HDC1017128 | closed |
| TCP | 172.16.10.124: 7680 | DLSRI - HDC1017128 | closed |
| TCP | 172.16.10.124 : 49719 | 38.60.148.108 : | closed |

**5) nbtstat-a :** this command helps solve problem with NetBIOS name resolution. CNbt stands for NetBIOS over TCPI IP

**OUTPUT :**

the command local area connection

Node Ip address [192.168.1.10] Scope Id :[ ]

Net BIOS remote modine name table.

| Name | Type | Status |
|------|------|--------|
| Desktop - ABC123<00> | unique | registered |
| WORKGROOP <00> | unique | registered |
| Desktop : ABC123<20> | unique | registered |

**6) net stat :**

net stat displays a variety of statistics about a computer active TCP/IP connections.

**OUTPUT :**

Active connections,

| Proto | Local address | Foreign address | State |
|-------|---------------|-----------------|-------|
| TCP | 192.168.1.1049724 | 172.217.160.206.46 | Establishe |
| TCP | 192.168.1.To.4974. | 104.244.42.129.443 | TIME - WAIT |

**ns look up :-**

It is a tool to perform DNS look ups is LINUX. It is used to display DNS detacls, such as IP address of a particular computer.

**OUTPUT :**

> server - unknown
>
> Address : 192.168.1.1

Non-authoritive answer

Name : google

address : 142.250.192.86

## 7) Pathping :

It is unique to windows and is basically a combination of the ping and tracert commands.

**OUTPUT**

0  desktop - ABC 123 [192.168.1.10]

1  192.168.1.1

2  10.0.0.1

## 8) Ping :

Command to test connectivity between two nodes. Ping was used ICHP to communicate to other devices.

**OUTPUT:**

Reply from 157.126.034.35 : time = 34ms

Reply from 157.127.635.38 : time = 33ms

Reply from 157.128.036.38 : times = 30ms

# 9. ROUTE :

Route command is used to show/
manipulate the NP routing Table. It is primarily
used to setup static routes to specific host
or network via an interface.

## OUTPUT :

[-+] [-F] [-4] [-6] Command [destination]
[mask netmask] [gateway] [metric metric]
[IF interface]