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Practical - 1Aim:

Study of various Network commands used in Linux and windows.

Basic Network commands: WINDOWS

1) arp -a

Interface: 172.16.8.87 --- 0x10

Internet address	Physical address	Type
172.16.8.1	7c-5a-1c-cf-be-45	dynamic
172.16.8.38	38-60-77-3f-10-9a	dynamic
172.16.8.64	00-27-0e-13-ee-57	dynamic
:		
239.255.255.250	01-00-5e-7f-ff-fa	static

2) hostname : DESKTOP-LDMVTDN.

3) ipconfig /all:

windows ip configuration:

Host name : DESKTOP-LDMVTDN.

Primary Dns suffix :

Node Type : Hybrid

IP routing enabled : NO

WINS Proxy enabled : NO

4) nbtstat -a : displays protocol statistics and current TCP/IP connections using NBT

NBTSTAT [[-a RemoteName] [-A IP Address] [-c] [-n] [-r] [-R] [-RR] [-ST EST]

5) netstat :

Active connections

Proto	Local Address	Foreign Address	State
TCP	172.16.8.87:50333	20.198.119.143:https	established
TCP	172.16.8.87:50706	123:https	established
TCP	172.16.8.87:50794	23-11-215-97:https	close_wait
TCP	172.16.8.87:50795	23-11-215-97:https	close_wait
TCP	172.16.8.87:50897	192.168.137.221:ms-do	Syn-wait
TCP	172.16.8.87:50893	123:http	time-wait
TCP	[::1]:49882	DESKTOP-LDMVTBN:1521	Established

6) nslookup :

default Server : Unknown
Address : 172.16.8.1

Non-authoritative answer:

Name: www.google.com

Addresses: 2404:6800:4001:812::2004
142.250.183.228

7) Pathping :

Usage : pathping [-q host-list] [-h maximum_hops]
[-i address] [-p period] [-q num_queries]
[-w timeout] [-4] [-6] target-name

8) Ping :

Usage : ping [-t] [-a] [-n count] [-i size] [-f] [-T TTL]
[-v TOS] [-r count] [-s count] [-j host-list]
[-k host-list] [-w timeout] [-R] [-s srcaddr]
[-c compartment] [-p] [-4] [-6] target-name

9) route : Manipulates network tables.

ROUTE [-f] [-P] [-4|-6] command [destination]
[mask netmask] [gateway] [METRIC metric]
[IF interface]

Basic Network Commands: LINUX

1) ip

Usage: ip [OPTIONS] OBJECT {command|help?}

ip [-force] -batch filename

where OBJECT := { link | address | addrlabel | route | rule | neigh |
ntable | tunnel | tuntap | maddress | mroute | mrule | monitor |
xfrm | netns | l2tp | fou | macsec | tcp-metrics | token | netconf |
lla | vrf }

2) ifconfig:

lo: flags = 73<UP, LOOPBACK, RUNNING> mtu 65536

inet 127.0.0.1 netmask 255.0.0.0

inet6 ::1 prefixlen 128 scopeid 0x10<host>

loop txqueuelen 1000 (Local Loopback)

Rx packets 0 bytes 0 (0.0B)

Rx errors 0 dropped 0 overruns 0 frame 0

~~Rx~~ TX packets 0 bytes 0 (0.0B)

Tx errors 0 dropped 0 overruns 0 carrier 0 collision

3) mtr google.com

localhost . local domain (0.0.0.0)

Ping bit Pattern: 0

Pattern Range : 0 (0x00) - 255 (0xff), <0 random.

Host

1. 172.16.8.1

2. 8static - 41.229.249.49 - lataidc.co.in

3. 142.250.171.162

4. 142.251.227.215

5. 142.250.228.81

6. maad05s12 - in - f14.12100.net

5) ping:

PING google.com (216.58.200.142) 56 (84) bytes of data
64 bytes from maa05s10-in-f14.1e100.net (216.58.200.142):
icmp_seq=1 ttl=120 time: 3.31ms

64 bytes from maa05s10-in-f14.1e100.net (216.58.200.142):
icmp_seq=2 ttl=120 time: 3.51ms

Student observation:

1) ping <hostname>

2) traceroute <hostname>

3) ip config.

4) ifconfig

4) Netstat

Result:

Thus the Network Basic Commands of
windows & Linux are studied.

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