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Practical-1

Aim: Study of various Network commands used in Linux and Windows

BASIC NETWORKING COMMANDS

WINDOWS COMMAND:

1. arp -a

Interface : 192.168.182.1 --- 0x6

Internet Address	Physical Address	Type
192.168.182.254	00-50-56-fc-56-76	dynamic
172.0.0.2	01-00-5e-00-00-02	static
239.255.255.250	01-00-5e-7f-ff-fa	static
224.0.0.252	01-00-5e-00-00-fc	static

2. hostname

DESKTOP-V4FUKL3

3. ipconfig/all

Windows IP Configuration

Host Name . . . . . : DESKTOP-V4FUKL3

Primary Dns Suffix . . . . :

Node Type . . . . . : Mixed

IP Routing Enabled . . . . . : No

Wins Proxy Enabled . . . . : No

ethernet adapter Ethernet:

Connection-specific DNS Suffix . :

Description . . . . . : Realtek PCIe GBE family Controller

DNS servers . . . . . : 172.16.8.1

NetBIOS over Tcpip . . . . . : Enabled
Subnet Mask : 255.255.252.0

4) nbtstat - a

NBTSTAT [[-a RemoteName] [-A IP address] [-c] [-n] [-r] [-R]
[-RR] [-s] [-S] [interval]]

RemoteName Remote host machine name
IP address Dotted decimal representation of the IP address
interval Redisplays selected statistics pausing interval sec between each display.

5. netstat - a

Active Connections

Proto	Local Add	Foreign Add	State
TCP	0.0.0.0:135	Desktop-V4FUKL3:0	LISTENING
TCP	172.16.8.93:49908	13.107.246.254:https	CLOSE_WAIT
TCP	172.16.8.93.50433	sd-in-f188:5228	ESTABLISHED

6. nslookup

Default Server: Unknown
Address: 172.16.8.1
Server: www.google.com
Addresses: 2404:6800:4007:81e::2004
142.258.183.228

7. pathping

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

8. ping

ping www.rajalakshmi.org

pinging www.rajalakshmi.org [14.99.10.232] with 32 bytes of data:

Reply from 14.99.10.232 : bytes=32 time<1ms TTL=127

ping statistic for 14.99.10.232 :

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

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

9. Route

Manipulates network routing tables.

Route [-f][-p][-4][-6] command [destination] [MASK networks] [gateway] [METRIC metric] [IF interface]

command : one of these :

PRINT — print a route

ADD — Add a route.

Delete — Delete a route

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Linux Commands:

1. ip

usage: ip [options] Object {COMMAND [help}

ip [-force] -batch filename

where OBJECT := {link | address | route | rule | token}

OPTIONS := {-v[ersion] | -s[tatistics] | -d[etails] | -r[esolve]}

2. ifconfig

enp5s0: flags=4163<UP, BROADCAST, RUNNING, MULTICAST> mtu 1500
inet 172.16.8.93 netmask 255.255.252.0 broadcast 172.16.11.255

lo: flags=73<UP, LOOPBACK, RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0

wlp3s0: flags=4099<UP, Broadcast, multicast> mtu 1500
ether 56:2b:b0:30:ca:74 txqueuelen 1000 (Ethernet)

3. mtr

mtr google.com

Host	Loss	Packets Snt	Last	Avg	Best	Wrst	Stdev
1. 172.16.8.1	0.0%	85	0.2	0.2	0.1	0.9	0.0
2. 142.250.228.81	0.0%	110	3.2	3.4	2.6	15.5	1.6

Pings

4. ping

ping www.google.com.

ping www.google.com(142.250.183.228) 56(84) bytes of data.
64 bytes from maa05s23-in-f4.1e100.net (142.250.183.228):
icmp_seq=1 ttl=120 time=2.66 ms.

22 packets transmitted, 0% packet loss, time 21093ms.

Result:

Thus the study of various Network commands used in Linux and Window was done successfully.

Observation:

1) Which command is used to find the reachability of a host machine from your device?

ping <hostname or IP address>

2. Which command will be given the details of hops taken by a packet to reach its destination?

traceroute <destination>

3. Which commands display the ip configaration of your machine.

ipconfig.

4. Which command display the TCP port status in your machine?

netstat -an

5. Write the modify the ip configuration in a Linux machine.

sudo ip addr add <new_ip_address>/<subnet_mask> dev <interface_name>

Result:

Thus the study of various Network commands used in Linux and Windows was done successfully.

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