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Practical-1

Aim: To study various Network commands used in Linux and Windows

Commands:

1) arp-a:

Interface: 172.16.75.29 --- 0a12

Internet address	Physical address	Type
172.16.72.1	7c-5a-1c-cf-b8-41	dynamic
172.16.72.133	4c-a8-a3-b5-a7-f3	
172.16.72.195	4c-a8-a3-b4-fc-50	
244.0.0.2	01-00-5e-00-00-02	dynamic
244.0.0.22	01-00-5e-00-00-16	static
244.0.0.251	01-00-5e-00-00-fb	static

2) hostname

Desktop-(018B47D)

3) ipconfig/all

Windows IP Configuration

Hostname Desktop-C01 B47D
Primary DNS Suffix
Node Type Mixed
IP Routing enabled No
WINS Proxy Enabled No

Ethernet adapter Ethernet 3:

Media State
Connection-specific DNS suffix Media disconnected
Description
Physical Address Intel(R) Ethernet Connection (2) 10Gb
DHCP enabled Yes
Autoconfiguration enabled Yes

Wireless LAN adapter Local Area Connection* 13:

Media State : Media disconnected
Connection-specific DNS suffix :
Description : Microsoft Wi-Fi Direct Virtual Adapter
Physical Address : 6E-82-A9-77-FF-17
DHCP Enabled : Yes
Autoconfiguration Enabled : Yes

wireless LAN adapter Wi-Fi 3:
Connection-specific

4) nbtstat -a [hostname]

Ethernet 3:

Node IP Address: [0.0.0.0] scope Id: []

Host not found.

Wi-Fi 3:

Node IP Address: [172.16.75.20] scope Id: []

NetBIOS Remote Machine Name Table

Name	Type	Status
Desktop-01B47D<00>	Unique	Registered

MAC Address = 4C-8A2-A9-78-8B-49

5) netstat Active connections

Proto	Local Address	Foreign Address	State
TCP	127.0.0.1:49678	localhost:49679	Established
TCP	172.16.75.29:50601	23-11-215-89:https	close-wait
TCP	172.16.75.29:50622	14.98.16.9:https	Established
TCP	172.16.75.29:51725	172.16.72.1:domain	Time-wait

b) nslookup -x [www.rajalakshmi.org]

Server: Unknown

Address: 172.16.72.1

Non-authoritative answer:

Name: www.rajalakshmi.org

Address: 174.99.10.232

7) tracert to 172.16.72.1

Tracing route to 172.16.72.1 over a maximum of 30 hops

0 172.16.75.29

1 172.16.72.1

Computing statistics for 25 seconds...

Hop	RTT	Source to Here	This Node/Link	Address
0		Lost/Sent = Pct	Lost/Sent = Pct	172.16.75.29
		0/100 = 0%	0/100 = 0%	
1	9ms	0/100 = 0%	0/100 = 0%	172.16.72.1

Trace complete

8) ping 8.8.8.8

ping 8.8.8.8 with 32 bytes of data:

Reply from 8.8.8.8: bytes=32 Time=67ms TTL=120

Reply from 8.8.8.8: bytes=32 Time=31ms TTL=120

Reply from 8.8.8.8: bytes=32 Time=11ms TTL=120

Reply from 8.8.8.8: bytes=32 Time=15ms TTL=120

Ping statistics for 8.8.8.8:

Packets: sent = 4, Received = 4, lost = 0 (0% loss),

Approximate round trip times in milliseconds:

Minimum=11ms, Maximum=67ms, Average=31ms

9) route print 157*

Interface List

17... 20 88 1086 (8 39 Intel(R) Ethernet Controller I219-LM

IPv4 Route Table:

Active Routes:

None

Persistent Routes:

None

IPv6 Route Table:

Active Routes:

None

Persistent Routes:

None

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IP addr show

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue
 state unknown group default qlen 1000

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

inet 127.0.0.1/8 scope host lo

valid-lft forever preferred-lft forever

inet6 ::1/128 scope host

valid-lft forever preferred-lft forever

IP config:

ip350: flags=4096<UP, BROADCAST, MULTICAST> mtu 1500
 ether 98:49:95:06:71:a0 txqueuelen 1000 (Ethernet)
 Rx packets 0 bytes 0 (0.0 B)
 Rx errors 0 dropped 0 overruns 0 frames
 Tx packets 0 bytes 0 (0.0 B)
 Tx errors 0 dropped 0 overruns 0 carrier 0
 collisions 0

mtb goog google.com

localhost.localdomain (0.0.0.0)

Host

1. 172.16.8.1

2. static - 41.229.249.49 - static.co.in

3. 142.250.171.162

4. 142.251.227.217

5. 216.239.54.197

6. maa05slo - in-f14-18100.net

ping 8.8.8.8

64 bytes from 8.8.8.8: icmp_seq=1 ttl=120 time=3.64ms

64 bytes from 8.8.8.8: icmp_seq=2 ttl=120 time=7.05ms

64 bytes from 8.8.8.8: icmp_seq=3 ttl=120 time=7.05ms

--- 8.8.8.8 ping statistics ---

3 packets transmitted, 3 received, 0% packet loss, time 2003ms

rtt min/avg/max/mdev = 4.487/11.757/17.287/5.600ms

These connections show

Name
REC.A4

VVID

02C149Fb-4282-40b0-bd5d-belf b05410bb 80211-windem

Inf

multi connection add new net ifname eth10 type ethernet

'new' (8607d888-3b2b-434f-bb50-613943f695a4) successfully added.

at multi connection show

Name

UVID

Type

News

8407d 888- 3666-434F- 6650-619943F0526

Rec A4

a 2C 149 Pb-4282-1060-bd5d-fair 60541066

802-3-Elaw

PO2-11-wireless

route connection modify "new" IPv4 method auto

multi connection modify ⁷ new ipv6. method auto

~~much connection up new~~

in address show exp25 exp250

2: exp250: 2 broadcast, multicast, up, lower, up, mlu

in route show default

default via 172.16.8.1 dev exp250 proto static metric 100

172.16.8.0/22 dev exp250 proto kernel scope link src 172.16.8.67
metric 100

in -4 route show default

default via 172.16.8.1 dev exp250 proto static metric 100

cat /etc/resolv.conf

generate by Network Manager
nameserver 172.16.8.1

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Ping is used.

If config is used to display in configuration

used command is used to find reachability.

'mtr <target web address>' command is used to
find the number of hops taken by a packet

'show ip route' command shows the IP
routing table

The various network commands in
Cisco IOS is studied.