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SUBJECT: Computer Networks - Lab Note

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EX. No: 01 DATE: 28.08.2024

BASIC NETWORKING COMMANDS

AIM:

Study of various Networking commands used in Linux and windows.

arp -a :

Interface: 172.16.75.91 --- 0xc

Internet Address	physical Address	type
172.16.72.1	7c-5a-1c-cf-be-41	dynamic
172.16.72.133	4c-ae-a3-65-97-f3	dynamic
172.16.72.195	4c-ac-a8-64-fc-50	dynamic
172.16.72.254	00-0e-09-86-8c-e0	dynamic
172.16.75.89	4c-82-a9-78-90-c5	dynamic
172.16.75.90	4c-82-a9-78-8d-57	dynamic
172.16.75.129	4c-82-a9-78-94-8d	dynamic
172.16.79.255	ff-ff-ff-ff-ff-ff	dynamic
224.0.0.2	01-00-5e-00-00-02	dynamic
224.0.0.22	01-00-5e-00-00-16	dynamic
224.0.0.113	01-00-5e-00-00-71	dynamic
228.8.8.8	01-00-5e-00-00-fb	dynamic
239.0.0.8	01-00-5e-00-00-fc	dynamic

hostname :-

KS03-97

ipconfig/all

Windows IP configuration

Host name : KBOB-91

Primary Dns Suffix :

Node type : Hybrid

IP routing enabled : no

wins Proxy enabled : no

ethernet adapter ethernet :

Media state : Media disconnected

Connection-specific Dns Suffix :

Description : Intel (R) ethernet connection (17) 1219-LM

Physical Address : 20-22-10-86-2E-5E

DHCP enabled : yes.

Autoconfiguration Enabled : yes.

netstat :

Proto	local Address	foreign Address	State
TCP	127.0.0.1:49671	KBOB-91:49672	established
TCP	172.16.75.91:50488	a23-11-215-66:https	close-wait
TCP	172.16.75.91:50726	123:http	time-wait
TCP	172.16.75.91:50949	172.16.1483 ms-do	syn-sent

nslook up:

default server: unknown

Address: 172.16.8.1

Server: www.google.com

Addresses: 2404:6800:4007:81e::2004
142.258.183.228

nbstat -a:

NBTSTAT [[-a Remote Name] [-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 seconds between each display.

Pathping:

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

Ping:

Usage: Ping [-t] [-a] [-n count] [-l size] [-f]
[-i 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.

Route:

Route [-f] [-p] [-4]-6] command [destination]
[Mask netmask] [gateway] [Metric metric]
[If interface]

Linux:

ip a:

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

ifconfig:

enp2s0: flags=4163 <UP, BROADCAST, RUNNING, MULTICAST> mtu 1500
inet 172.16.8.92 netmask 255.255.252.0
broadcast 172.16.11.255
inet6 fe80::bc77:296:90e0:38c3 prefix
len 64 scope id 0x20 <link>
ether 50:9a:4c:85:0c:f5 txqueuelen 1000
(ethernet)

mtr:

mtr google.com

	Packets			Pings				
Host	loss%	snt	last	avg	best	wrst	stdev	
1.172.16.8.1	0.0%	110	0.2	0.2	0.1	0.4	0.0	
2.142.250.172.162	0.0%	110	18.8	21.8	18.5	107.5	19.9	

Ping:

ping google.com

Ping google.com (142.250.182.14) 56(84) bytes of data.

64 bytes from maa05s18-in-f14.1e100.net (142.250.182.14): icmp-seq=1 ttl=120 time=3.51 ms

64 bytes from maa05s18-in-f14.1e100.net (142.250.182.14): icmp-seq=2 ttl=120 time=3.33 ms

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 configuration of your machine.

ipconfig

4) which command display the TCP port status in your machine?

netstat -ano

5) write the modify the ip configuation in a linux machine.

addr add <interface_name>

RESULT:

Thus, the study of various network commands used in Linux & windows was done successfully.