Practical - 1

Aim:
Study of various Network commands used in Linux and windows.

basic networking commands:

- arp -a

Interface : 192.168.1.2

Internet address	Physical address	Type
192.168.1.1	00-14-22-01-23-45	dynamic
192.168.1.3	00-15-23-41-63-72	dynamic

- hostname:

o/p:
Mukeshs-Macbook-Air.local

- ipconfig /all

hostname .... : mukeshs-macbook-Air.local
primary Dns suffix : mydomain:local
NodeType : Hybrid
IP Routing Enabled ... : NO
WINS Proxy Enabled .... : NO
Dns Suffix search List ... : mydomain.local

Ethernet adapter ethernet:
description : Intel(R) Ethernet connection
IPv4 address : 192.168.1.2
default getaway : 192.168.1.1
Dns server : 192.168.1.1.

- nbstat -a

Local area connection

Node Ipaddress : [192.168.1.2] Scope Id : []

NetBIOS Remote Machine name Table

Name	Type	Status
mycomputer	<00> UNIGE	Registered
workgroup	<00> GROUP	Registered

MAC address = 00-15-56-41-60-70

- netstat:

Active connections:

Proto	Local address	Foreign Address	State
TCP	192.168.1.2:5000	192.168.1.3:80	ESTABLISED
TCP	192.168.1.2:5001	192.168.1.4:443	TIME_WAIT

- nslookup:

server: unknown
address: 192.168.1.1

name: www.google.com.
address: 142.250.72.196

- Ping:

Pinging www.facebook.com [157.240.22.35] with 32 bytes of data.

Reply from 157.240.22.35: bytes=32 time=20ms TTL=52
Reply from 157.240.22.35: bytes=32 time=20ms TTL=52

Ping statistics for 157.240.22.35
Packets: sent = 4, Recived = 4, Lost = 0
approximate round trip times in milli-seconds:
minimum = 20ms, maximum = 22ms, average = 20ms

• Pathping:

Tracing route to www.google.com [142.250.72.196]
over a maximum of 30 hops:

0 mycomputer.mydomain.local [192.168.1.2]
1 192.168.1.1
2 10.0.0.1

computing statistics for 75 seconds

HOP	RTT	Lost/sent=PCT	Lost/sent=PCT	address
2	1ms	0/100=0%.	0/100=0%.	10.0.0.1

• Route print:

Interface list
12...00 15 5d 4b 6c 7d ... Intel(R) Ethernet Connection

IPV4 Route Table

Active Routes:

network destination	netmask	gateway	Interface
0.0.0.0	0.0.0.0	192.168.1.1	192.168.1.2

metric
10

Linux commands:

• Route:

Kernel IP routing table

destination	gateway	genmask	Flags	metric	Ref
default	192.168.1.1	0.0.0.0	UG	100	0

use iface
0 enp503

Student observation:

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

ans: ping.

2) which command will be give the details....

ans: tracert www.google.com

3) display the IP configurations

ans: ipconfig

4) command to display the TCP port status.

ans: netstat

5) commands to modify the IP configuration.

ans: ip address add 192.168.1.100/24 dev eth0

- ip address del
- ip link set eth0 up
- ip link set eth0 down
- ip route add default

Result:

Thus, the study of various network commands used in linux and windows is succesfuly executed and studied.

Learned
31/8/24