

study of Various Network command used in Linux and Windows

AIM:-

To study of various Network commands used in Linux and windows:

Basic Networking Commands:

arp -a:

ARP is address resolution protocol, It show IP address of your computer along IP address and MAC address your router.

hostname:

This simplest of all TCP/IP commands. It simply display name of your computer.

nslookup -a:

helps problem solving problem with net BIOS name resolution

Pathing:

combination of Ping and traceroute commands pathing tracing the route to destination address then launch 25 second. gather rate of data loss.

Ping:

testing connectivity between two nodes. Ping ICMP to communicate to other devices

1. #ping hostname

2. #ping ip address.

Route:

route command is used to show IP routing table.

It primarily used setup routes specific host.

Some important Linux networking commands.

1. ip

IP Command basic every admin will need in daily work, from setting up new system and assigns IPs to troubleshooting existing system. The ip command show address info, pldls display network, interface, and tunnels.

ip <options> <object> <command>

a. to show IP address assign your server.

a. #ip address show

b. to assign IP interface

a. #ip address add 192.168.1.254 dev vx503

c. To delete an IP on an interface by bring interface eth0 online.

a. #ip link set eth0 up.

d. Alter status interface bring snalling mode eth0

a. #ip link set eth0 promisc up.

e. Display route taken IP 10.10.1.4

a. #ip route get 10.10.1.4

5. add a route to 192.168.10.24 can be reached device eth0

ip route add 192.168.10.24 dev eth0

2. ifconfig

staple many sysadmin tool left for config
trouble shoot network - replaces ip command.

3. mtr

(Math's traceroute) is cli that serves as network
diagnos & trouble shoot tool. command combines ping
and traceroute command. mtr has statistics about
each hop, such as response time and percentage.
sudden increase in packet loss is bad link.

Syntax:-

mtr <option> hostname / IP

a. mtr to show statistics, including each hop with
time and loss %.

mtr google.com

b. show IP address numbers

✓ # mtr -g google.com

c. set no. of ping that you want to send

mtr -c 10 google.com

4. tcpdump

The tcpdump command is design for capturing & display packets -

You can install tcpdump with command below:

```
# apt install -y tcpdump.
```

if you want to capture traffic on eth0, can initiate that tcpdump -i eth0 sample

Output:

```
# tcpdump -i eth0
```

```
# tcpdump -i eth0 -c 10
```

capture traffic to and from one host

for traffic coming from 8.8.8.8, use:

```
# tcpdump -i eth0 src host 8.8.8.8
```

for out bound traffic going to 8.8.8.8 use:

```
# tcpdump -i eth0 net host 8.8.8.8
```

for specific host,

```
# tcpdump -i eth0 port 53
```

To capture only https traffic

```
# tcpdump -i eth0 -c 10 host www.google.com
```

and port 443.

Eping

A tool verifies IP-level connectivity to another TCP/IP computer by sending ICMP Echo request message.

echo displayed along round trip times. ping is

TCP/IP command used to troubleshoot connectivity, reachability & name

```
# ping google.com
```

```
PING google.com (216.58.206.174) 56(84) bytes
```

```
64 bytes from Suho2527-in-14.16106.net (216.58.206)
```

```
icmp - seq = 1 ttl = 56 time = 10.7ms
```

```
64 bytes in 14.16106.net (216.58.206.174)
```

```
icmp - seq = 2 ttl = 56 time = 10.2ms
```

(Ethernet)

configuring network connection by using nmcli

1. # nmcli connection show.

Name	UUID	Type device
wired connection 1	a56790-c20-336	ethernet enp130

2. Config IPv4 setting

```
# nmcli connection modify "wired connection" ipv4.method auto
```

3. Config IPv6 setting

```
# nmcli connection modify "wired connection" ipv6.method auto
```

6. Activate the profile

mml6i connection up Internet-LAN

Verification:

1. #ip address show vrf150

(display IP setting of vrf)

2. #ip route show default

(Display IPv4 default gateway)

3. #ip-6 route show default

(Display IPv6 default gateway)

4. # cat /etc / resolv. conf

(Display DNS setting)

5. #ping <host-name - or - ip-address>

(To verify that host can send Packet to other host).

Result:-

Hence the basic commands are executed