20/7/24

STUDY OF VARIOUS NETWORK COMMANDS USED IN LINUX AND WINDOWS

Basic Networking Commands:

(i) arp-a : (Address Resolution Protocol) - Shows IP address of your computer along with IP address of your router.

OUTPUT:

Interface: 172.16.8.87 ---0X10

Internal Address	Physical address	Type
172.16.8.1	7C-5a-5C-Cf-be-45	Dynamic
172.16.8.88	50-99-4c-35-12-2C	Dynamic
172.16.11.255	ff-ff-ff-ff-ff-ff	Static

2. Hostname - Name of your computer

OUTPUT:

DESKTOP - LDMVION

3. ipconfig /all - detailed configuration informatio about your TCP/IP connection

OUTPUT:

Windows IP configuration

Host Name ---- ---- DESKTOP-LDMVTDN

Primary DNS Suffix ------

IP Routing Enabled ----- No

Win Proxy Enabled ---- NO

Ethernet adapter Ethernet

:

:

Wireless LAN adapter Wifi

4. Nbtstat -a: display protocal statistics and current TCP/IP connections using NBT

nbt:
(net BIOS Over TCP/IP)

OUTPUT:

NBTSTAT [[-a Remote Name] [-A IP address
[-c] [-n] [-r] [-R] [-RR] [-S] [-S]
[interval]]

-a (adapter status)

Lists the remote machines name table given its name

5. Netstat -r: used to run network statistics

OUTPUT:

Interface List
16.....aa4c24 0663.... Realtek DC1C9bE Family Controller
⋮

IPV4 Route table
Active Routes
Persistent Routes
IPV6 Route table

6. nslookup domain name: To perform DNS lookup

OUTPUT:

C:\Users\REC> nslookup www.google.com
Server: Unknown
Address: 172.16.8.1
non-authoritative connects
Name: www.google.com
Address: 2404:6800:4007:81e::2004

7. Ping : (Packet Internet proper) - test connectivity between two nodes

OUTPUT:

C:\Users\REC>Ping 172.16.8.87

Pinging 172.16.8.87 with 32 bytes of data

reply from 172.16.8.87 : bytes =32 times<1ms TTL=128

:

Ping statistics for 172.16.8.87

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

Approximate round trip times in milli-seconds

minimum = 0ms, maximum = 0ms, Average = 0ms

8. Pathping : Unique to windows - combination of Ping and Tracert.

OUTPUT:

C:\Users\REC>pathping 172.16.8.87

Tracing route to DESKTOP-LDHUTDN [172.16.8..

over a maximum of 30 hops.

0 DESKTOP-LDHUTDN [172.16.8.87]

1 DESKTOP-LDHUTDN [172.16.8.87]

Computing statistics for 25 seconds...

9. Route : Used to modify / display routing int

OUTPUT:

C:\Users\REC>route PRINT

Interface List

IPv4 Route Table

Active Routes:

Network Dest : Network Gateway Inter metric

31/12/24

LINUX NETWORKING COMMANDS

(i) ip

ip address show

[root@localhost student]# ip address sho

1: lo: <loopback,up,lower-up> mtu 65536

noqueue state UNKNOWN group default

qlen 1000 link/loopback 00:00:00:00:00:0

brd 00:00:00:00:00:00 inet 127.0.0.1

scope host lo

valid_lft forever preferred_lft forever

inet6 ::1/128 scope host

valid_lft forever preferred_lft forever

ip address add

#ip address add 192.168.1.254/24 dev enp

ip address delete

#ip address del 192.168.1.254/24 dev enp2

ip link set up

#ip link set to up

ip link set down

#ip link set to down

ip link set promisc on

#ip link set to promisc on.

ip route add default

ip route add default via 192.168.1.254 dev enp250

Add default through gateway

ip route add 192.168.1.0/24 via 192.168.1.1

Adding route to device

ip route delete 192.168.1.0/24 via 192.168.1.1

Display route for IP

ip route get 10.10.1.4

10.10.1.4 via 172.16.8.1 dev enp250 src 172.16.8.92 id 0 cache

(ii) mtr

mtr google.com

1. 172.16.8.1

statistic 41.229.49

142.251.227.127

mtr-b

mtr-b google.com

Localhost local domain (0.1.0.0)

172.16.8.1

142.250.171.162

142.251.227.217

tcpdump -D

1. enp250 [up, running]
2. wlp3s0 [up, running]
3. any (pseudo device that captures on all interfaces)
4. lo [up, running]

tcpdump -i

tcpdump -i enp250 src host 10.1.1.1

tcpdump -vv for full protocol decode

listening on enp250, link-type EN10MB

capture size 2620 144 bytes

Ping -c

ping -c 10 google.com

64 bytes from maa 05s10-in-f14-100.net

(216.58.200.142) icmp seq-2 ttl = 120

31/7/24