13/01/24

PRACTICAL - 1   WINDOWS COMMANDS

Ex - 1

AIM :

Study of various Network commands used in Linux & Windows.

BASIC NETWORKING COMMANDS

1) arp - a : It show IP address of your computer
O/P Interface : 172.16.75.74 ... 0×12

Internet Address	Physical address	Type
172.16.72.1	7c - 50 - 1c - d - be - 41	dynamic
172.16.75.77	4c - 82 - 99 - 78 - 8c - 85	dynamic
172.16.79.255	44 - 44 - 44 - 44 - 44 - 44	~~dynamic~~ Static
239.25.255.251	01 - 00 - 5e - 74 - 44 - 4b	Static

2) hostname : This is the simplest of all TCP/IP
Commands. Display's name of computer

     DESKTOP - G1S42T86

3) ipconfig / all : Display detailed configuration about TCP/IP

    Windows IP Configuration
    Host Name   : DESKTOP - G1S42T86
    Primary DNS Suffix ....   :
    Node Type ....   : Mixed
    IP Routing Enabled .....   : NO
    WINS Proxy Enabled .... : NO

4) netstat - a : helps to solve problems with
                NetBIOS name resolution.

NBTSTAT [[-a RemoteName] [-A IP address] [-c] [-n]
        [-r] [-R] [-RR] [-s] [-S] [interval]]

-a (adapter status) Lists the remote machine's name
            table given its name.
-A (Adapter status) Lists the remote machines name
            table given its IP address.
-c (cache) Lists NBT's cache of remote [machine]
            names & their IP addresses.
-n (names) Lists local Net BIOS names.

5) netstat: (network statistic) netstat displays a
      variety of statistics about a computers
      active TCP / IP connections.

Active connections

Proto	Local Address	Foreign Address	State
TCP	172.16.8.105:7680	172.16.10.62:57432	ESTABLISHED
TCP	172.16.8.105:7680	TCGL2-HDCO222065:58240	ESTABLISHED
TCP	172.16.0.105:7680	172.16.10.216:58782	TIME_WAIT
TCP	172.16.0.105:50169	172.16.10.30:ms-do	ESTABLISHED

6) nslookups: To display DNS

Default Server: Unknown
Address: 172.16.8.1

7) PathPing Traces the route to destination

Usage: Pathping [-g host-list] [-h maximum_hops] [-i address] [-n]
        [-p Period] [-q num-queries] [-w timeout]
        [-4] [-6] target_name.

8) Ping : Best way to ~~connect~~ test connectivity

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

9) Route : Used to show / manipulate the ID

Manipulate network routing tables
ROUTE [-f] [-p] [-4|-6] command [destination]
[MASK netmask] [gateway] [METRIC metric] [IF interface]

- f   Clears the routing tables of all gateways

- p   Makes a route persistant

- 4   Force using IPv4

- 6   Force using IPv6

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LINUX COMMANDS

AIM :

Study of various network commands used in Linux and windows.

Some important linux commands

1) if Config : It is a stample in many sys admin tool belt for configuring and trouble shooting networking . It has since been replaced ip commands

O/P : enp2s0 : flags = 4419 <up , Broadcast , Running Promisc , Multicast > mtu 1500

    init 172.16.8.116 netmask 255.255.252

          broadcast 172.16.11.255

    init 6 fe80 : 2560 : 88a1 : cf9e : cbc3 sprefixlen 64 scopeid 0x20 < link >

    ether 50:9a:4c:35:of:51 txqueuelen 1000 (Ethernet

    Rx ~~errors packets~~ dropped 394 Overruns 0 frame 0
       errors 0

    Tx packets 131261 bytes 74472091 (71.0 MiB)

    Tx ~~errors~~ 0 dropped 0 overruns 0

       Carrier 0 collision 0.

2) IP : The ip command is one of the basic command every administrator will need in daily work, from setting up new systems and assigning IP's to troubleshooting exciting systems.

O/P : Usage : IP [options] object { command / helps }
          IP { -for] - batch filename.

ip address show:

lo: <loop Back, up, lower_up> mtu 65536
   qdisc noque state unknown
group default qlen 1000.
enp2so: <Broadcast, multicast, spromisc,
up, lower_up> mtu 1500 q disc fq-codel.
Stat up group default qlen 1000.
wlp 3So: <No-carrier, Broadcast,
multicast, up> mtu 1500 qdisc noqueue
state down group default qlen 1000.

3. mtr: (Motts tracerpute) program with a
command line interface that serves as
a network diagostic & troubleshooting tool.

O/P: mtr google.com
localhost. localdomain (0.0.0.0)
Keys: Help Displaymode Restact statistics
            order of fields   Quit.
Host

1. 172.16.8.1
2. Static - 41.229.249.49 - tataidc.co.in
3. 142.250.172.162
4. 142.291.227.215
5. 142.250.228.81
6. maa 05212 - in-f 14.1e 100.net

Sat Jul 20 11:32:45 2024

Loss%	Packets		Ping			
	Snt	Lost	Avg	Best	wrst	StDev
0.0%	314	0.2	0.2	0.1	2.6	0.1
0.0%	314	26	2.9	2.4	20.9	1.2
0.0%	314	1.9	2.1	1.6	28.9	1.8

0.3%.	314	2.6	2.9	2.3	16.0	1.4
0.0%.	314	2.9	3.3	2.5	27.1	1.9
0.0%.	314	2.6	2.8	2.2	17.0	1.3

4) tcpdump : The tcpdump command is designed
for capturing & displaying packets

O/p : Permission required

5) Ping : It is a tool that verifies IP - level
connectivity to another TCP/IP computer by
sending Internet Control message sprotocol
(ICMP)

O/p : Ping google.com

Ping google.com (142.250.67.46) 56 (84) bytes of data
64 bytes from maa 05s12 - in f14 le 100. net
(142.250.67.46) : Icmp - seq =1
ttl = 120 time = 2.85 me.

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1. 172.16.8.1
2. Static - 41.229.249.49 - talaid < 10. in
3. 142.250.172.162
4. 142.251.227.215
5. 142.250.228.81
6. maa05212, in f14 le 100.net

RESULT:

    Thus the program for linux and windows command is executed s output is verified successfully.