20/07/2024

Practical 1

AIM :- Study of various network commands used in Linux and Windows

BASIC NETWORKING COMMANDS

1. arp -a

Interface : 192.168.11.1 --- 0x7

Internet Address	Physical Address	Type
192.168.11.255	ff-ff-ff-ff-ff-ff	static
224.0.0.2	01-00-5e-00-00-02	static
224.0.0.22	01-00-5e-00-00-16	static
239.255.255.250	01-00-5e-7f-ff-fa	static

2. host name

DESKTOP-5R3B7BE

3. ipconfig /all

Windows IP Configuration

Host Name . . . . . : DESKTOP-5R3B7BE
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled . . . . : No
WINS Proxy Enabled . . . . : No

4. nbtstat -a

Displays protocol statistics and current TCP/IP connections using NBT

5. netstat -r

Interface List

15...50 9a 4c 35 12 2c ... Realtek PCIe GbE Family Controller
19...d4 6a 6a 82 c4 25 ... Dell Wireless 1707 802.11b/g/n (2.4GHz)
10...16 6a 6a 82 c4 25 ... Microsoft Wi-Fi Direct Virtual Adapter
16...26 6a 6a 82 c4 25 ... Microsoft Wi-Fi Direct Virtual Adapter #2
7 ...00 50 56 c0 00 01 ... VMware Virtual Ethernet Adapter for VMnet1
11 ... 00 50 56 c0 00 08 ... VMware Virtual Ethernet Adapter for VMnet8
1 ..... Software Loopback Interface 1

6. nslookup www.google.com

Server : Unknown
Address : 172.16.9.1

Non-authoritative answer:
Name : www.google.com
Addresses : 2404:6800:4007:81c::2004
142.250.183.228

7. pathping

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

8. ping localhost

Pinging DESKTOP-5R3B9BE [::1] with 32 bytes of data:
Reply from ::1: time<1ms

Ping statistics for ::1:
Packets : Sent 4, Received 4, Lost 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms

9. route

manipulate network routing tables.

~~Set~~

Some Important Linux Networking Commands

1. ~~ip~~ ip address show

lo: <LOOPBACK, UP, LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

inet 127.0.0.1/8 scope host lo

valid_lft forever preferred_lft forever

inet6 ::1/128 scope host

valid_lft forever preferred_lft forever

2. ifconfig

lo: flags=73<UP, LOOPBACK, RUNNING> mtu 65536

inet 127.0.0.1 netmask 255.0.0.0

inet6 ::1 prefixlen 128 scopeid 0x10<host>

loop txqueuelen 1000 (Local Loopback)

TX errors 0 dropped 0 overruns 0 carrier 0

3. mtr google.com

My traceroute [v0.87]

localhost.localdomain (0.0.0.0)

Keys: Help Display mode Restart Order quit

Host	Packets Loss%	Sent	Last	Ping Avg	Best
1. 172.16.8.1	0.0%	117	5.2	0.2	0.1
2. 142.250.171.162	0.0%	117	3.5	3.6	3.2
3. 216.239.54.197	0.0%	117	4.3	3.2	2.6

4. ping ~~gaale~~ google.com

PING google.com (216.58.200.142) 56 (84) bytes of data.

64 bytes from maa05s10-in-f14.1e100.net (216.58.200.142):
icmp_seq=1 ttl=120 time=3.38 ms

64 bytes from maa05s10-in-f14.1e100.net (216.58.200.142):
icmp_seq=2 ttl=120 time=3.61 ms

Student Observation

~~1. tcbtcda command is a~~

1. ping <hostname>
2. traceroute <host name>
3. ipconfig
   ifconfig
4. netstat

5.

RESULT

Thus the various network commands used in Linux and Windows have been studied.

24/8/24