

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	01-00-5c-7f-ff-fa	Static

2. host name

DESKTOP-5R3B7BE

3. ipconfig /all

Windows IP Configuration

Host Name : DESKTOP-5R3B7BE

Primary Prio Suffix :

Node Type : Hybrid

IP Routing Enabled : No

WINS Proxy Enabled : No

4. netstat -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
17... d4 6a 6a 82 c4 25 ... Dell Wireless 1707 802.11b/g/n
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: 2404:6800:4007:81c1:2004

142.250.183.228

7. pathping

Usage: pathping [-g host-list] [-h maximum-hops]
[-i address] [-n] [-p period] [-z min-gates]
[-w timeout] [-c] [-e] target-name

8. ping localhost

Pinging DESKTOP-SR3B7BE [::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

2. route

manipulates network routing tables.

~~set~~

Some Important Linux Networking Commands

1. ~~if~~ 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 scope id 0x10<host>
```

```
loop txqueuelen 1000 (Local Loopback)
```

```
TX errors 0 dropped 0 overruns 0 carrier 0
```

3. mta.google.com

My tracerout [10, 97]

localhost.localdomain (0.0.0.0)

Usage: htop display mode Restart Order quit

Host	packets		ping		
	loss %	sent	sent	last	avg
1. 172.16.28.1	0.0%	117	0.2	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 ~~gode~~ google.com

PING google.com (216.58.200.142) 56 (84) bytes of data
64 bytes from mra05s10-in-f14.1e.100.net (216.58.200.142):
icmp_seq=1 ttl=120 time=3.38 ms
64 bytes from mra05s10-in-f14.1e.100.net (216.58.200.142):
icmp_seq=2 ttl=120 time=3.61 ms

Student Observation

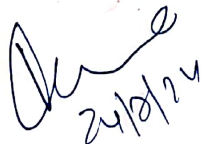
~~1. which command is used~~

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

5.

RESULT

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


24/10/24