

EX NO: 01

DATE 16.7.24

Basic Networking Commands

AIM:

→ To study the various network commands used in Linux and Windows

(i) arp -a

(172.16.9.23) at 7c:57:58:35:00:31 [eth0] on
emp250

gateway (172.16.8.1) at 7c:5a:1c:5f:be:45 [eth0]
on emp250

(172.16.10.60) at d3:b6:c1:15:ca:5f [eth0] on
emp250

(ii) hostname

localhost.localdomain

(iii) netstat

Active Internet connections (w/o servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State
tcp	0	0	127.0.0.1:60271	DESKTOP-ATEKDUG	ESTABLISHED
tcp	0	0	127.0.0.1:60278	DESKTOP-ATEKDUG	ESTABLISHED

(iv) ipconfig /all

Windows IP configuration

~~Real~~ HOSTNAME . . . : DESKTOP-ATEKDUG

Primary Dns Suffix . . .

Node Type . . . : Mixed

xv) nbtstat -a

Displays protocol statistics and current TCP/IP connections using NBT

(NetBIOS over TCP/IP)

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

vi) nslookup www.rajalakshmi.org

Default server: unknown

Address: 172.16.8.1

Non-authoritative answer:

Name: www.rajalakshmi.org

Address: 14.99.10.232

(vii) pathping

Usage: pathping [-g host-list] [-h maximum-hops]
[-i address] [-n] [-p period]
[-q num-queries] [-w timeout]
[-A] [-b] target-name

*(viii) ping www.rajalakshmi.org

Pinging www.rajalakshmi.org [14.99.10.232] with 32
bytes of data

Reply from 14.99.10.232: bytes = 32 time = 21ms TTL = 125

Reply from 14.99.10.232: bytes = 32 time = 9ms TTL = 127

(ix) route

Manipulates network routing tables

ROUTE [-f] [-p] [-4/-6] command [destination]
[MASK] netmask [gateway]
[METRIC metric] [IF interface]

(x) ip

Usage: ip [options] OBJECT { COMMAND / help }

ip [-force] -batch filename

where OBJECT := { link | address | address label | route | rule |
route table | tunnel | tuntap | maddress |
mroute | mrule | monitor | xfrm | netns |
[2tp] | fou | mass cec | tcp-metrics | token |
netconf | i/a | vrf }

(xi) ifconfig

enp2s0: flags = 4163 <UP, BROADCAST, RUNNING,
MULTICAST> mtu 1500

inet 172.16.8.102 network 225.225.252.0 broadcast
172.16.11.255

ineth fe80::27db:aa09:8543:5356 prefixlen 64
scopeid 0x20 <link>

(xii) ~~mt google.com~~

my traceroute [v0.87]

200K

localhost.localdomain (0.0.0.0) Sat Jul 11:27:36

keys: help Display Mode Restart Statistics Order
of fields quit

PMGs

host	Loss %	Sent	Last	Arg	Best	Host	Stdev
1.172.16.8.1	0.0	196	0.3	0.2	0.1	0.8	0.1

tcpdump - D

1. exp 250 [Up-running]
2. any [Pseudo-device that captures on all interfaces]
[Up-running]
3. lo [Up, Running, Loopback]
4. wtp 3 50

ping

Usage: ping [-aAbBdDfhLnDqrRVvV64] [-c count]
[-i interval] [-I interface] [-m mark]
[-M pmtdisc-option] [-d prebad] [-p pattern]
[-Q tos] [-s packetsize] [-S sndbuf] [-t ttl]

Question & Answer

- 1) 'ping' to find reachability
2. mtr <web address>
3. ip address to show IP configuration
4. 'netstat'
5. 'ifconfig'

Result :

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⇒ Thus the various networking commands used in Linux and Windows are studied