

Ex: NO: 1
Date: 20/1/2024. Practical-1.

AIM:-

Study of various network commands used in linux and windows.

BASIC NETWORKING COMMANDS:-

i) arp -a

output:-

Interface : 192.168.140.213 --- 0xd.

Internet address

192.168.140.160

192.168.140.255

Physical address

aa-bb-cd-ef-1b

ff-ff-ff-ff-ff-ff

Type.

dynamic
static.

ii) HOSTNAME

DESKTOP-H9TCQ69

iii) ipconfig /all

Host name

Primary Dns Suffix

Node type

IP routing enabled

wins proxy enabled

: DESKTOP-H9TCQ69.

: Hybrid.

: no.

: no.

iv) netstat -a

NETSTAT [-a RemoteName] [-A IP address] [-c] [-e]
[-x] [-r] [-rr] [-s] [-S] [interval].

v) netstat

active connections.

Proto

TCP

Local address

127.0.0.1:5501

Foreign address

DESKTOP-H9TCQ69:

62956

state.

established

TCP

127.0.0.1:5501

DESKTOP-HATCQ6A:

established

62957

TCP

127.0.0.1:5501

DESKTOP-HATCQ6A: established

62958

6). nslookup www.google.com

Server: unknown.

Address: 192.168.140.160.

non-authoritative answer:

Name: www.google.com

Addresses: 2404:6800:4009:804::2004.

142.250.182.32.

7). Pathping

Usage: Pathping [-g host-list] [-h maximum-hops]
[-i address] [-n] [-p period]
[-q num-queries] [-w timeout].
[-u] [-v] target-name

8). Ping www.facebook.com

[157.240.16.35] with 32 byte of data.

reply from 157.240.16.35 byte = 32 time = 18 ms.

reply from 157.240.16.35 byte = 32 time = 18 ms.

9). route.

ROUTE [-f] [-p] [-4|-6] command [destination]
[mask netmask] [gateway] [metric metric]
[if interface].

Linux Networking commands:-

i) ~~ip~~ ip

algun

if [option] OBJECT { command [nargs] }

if [-force] - watch filename

where OBJECT := { link | address | addrlabel | route |
rule | neigh | nlabel | tunnel | tunnelp |
maddress | mroute | mrule }

OPTIONALS: $\{ -v(\text{version}) - s(\text{statics}) - d(\text{debug}) - o(\text{optimize}) \}$

ii). if config

config
 emu210: flags = 4169 <UP, BROADCAST, MULTICAST>
 netmask 255.252.0
 98 netmask 172.16.16.25

MULTICAST >
M2. 16. 8. 98 net mark 255. 255. 252. 0
inet bred cast 172. 16. 16. 255
172. 16. 16. 255. 172. 16. 16. 255. 172. 16. 16. 255

mel- m2. 16. 8. 12
mel- Je 80: : bibb : 31 e 9 : 51 e c : e 6 t b . pafzelen
chinket .

inl- m2: 16:8
inl- Je 80: : bibb: 31 e 9: 51 e c: e 6 t b. pafalen
chink.

iii). मल्ल.

mlr google.com.

Host

Packets.

Pings -

	Packets.	1st	2nd	3rd	4th	5th	6th
loss %	Sent	last	avg	Best	Worst	std	
0.0%	195	0.2	0.2	0.1	0.9	0.0	
0.0%	195	1.8	2.1	1.7	11.0	0.8	

0.0% 195 0.2, 0.2, 0.1, 0.1

0.0% 195 1.8 2.1 1.7 11.0 0.8

i) 172. 16. 8. 1.

g) 142.250.171.162.

iv) Pung

ping [-a n s d r p h n o g r u v v 6 4] [-c count]
ping [-a n s d r p h n o g r u v v 6 4] [-i interface] [-m mark].

[-i interval] [-s interface] [-m mem].
[-m pmkdisc-option], [-l preload] [-p pattern]
destination.

destination.

ping -c [-a A B D f h l o q s r t v V] [-c count] [-i interval] [-S interface] [-l preload] destination.

STUDENT OBSERVATION :-

- 1) which command is used to find the reachability of a host-machine from your device?
'ping' to find reachability.
- 2) which command will be given the details of hops taken by a packet to reach its destination?
'tracert' < web address >.
- 3) which command displays the ip configuration of your machine
ip address show to show ipconfig.
- 4) which command displays the TCP port status's your machine? 'netstat'.
- 5) write the modify the ip configuration in a linux machine. 'ifconfig'.

RESULT :-

Thus the study of various network commands used in linux & windows was successfully completed.

CONFIGURING AND ETHERNET CONNECTIONS USING nmcli

- 1). Listing network manager connection profiles :-
> nmcli connection show

NAME	UUID	TYPE	DEVICE
New 802-3-ethernet-connection	43cfa19-8023-	ethernet	enp2s

- 2). > nmcli connection add con-name <connection-name> ifname <device-name> type ethernet.
o/p: connection added.

- 3). > nmcli connection modify (rename) :-
> nmcli connection modify "king" connection-id "king"
> connection id/name changed

- 4). nmcli connection delete king
o/p: - connection king deleted.

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