

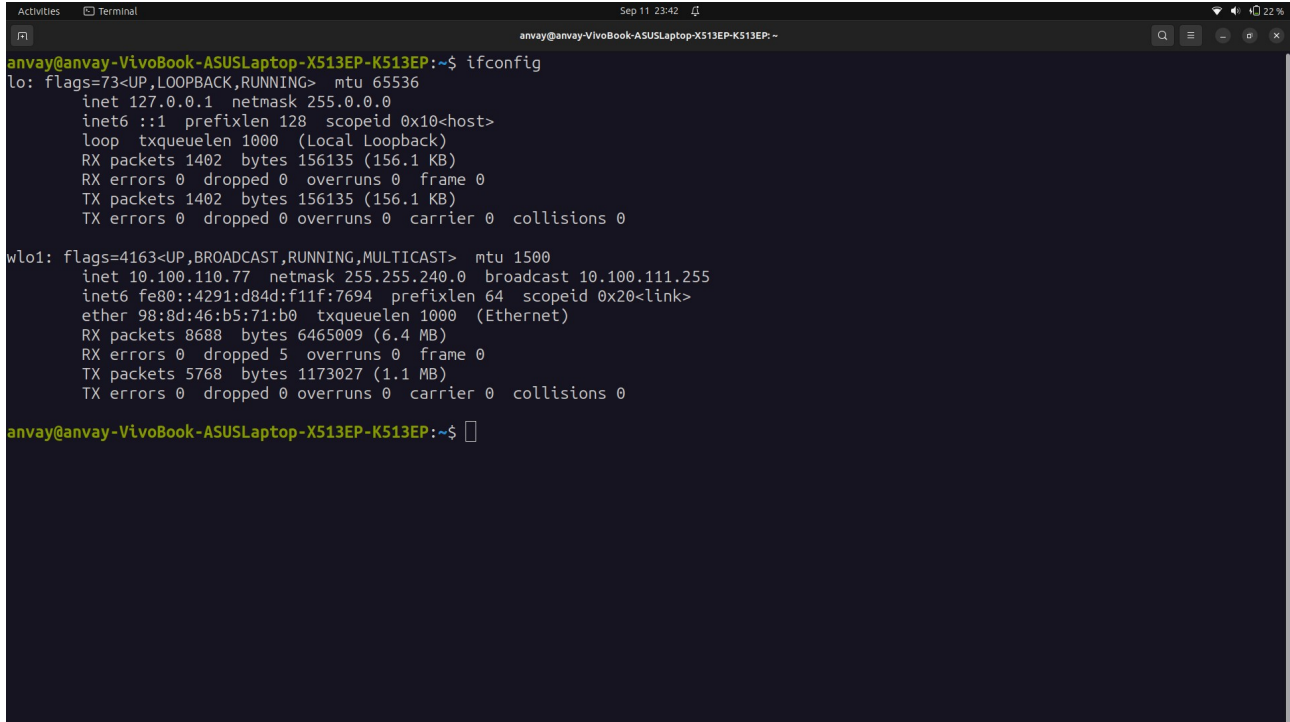
CN Assignment-2

MIS: 112103059

TY Comp div-1

Batch: T3

1. ifconfig



```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ 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)
    RX packets 1402 bytes 156135 (156.1 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1402 bytes 156135 (156.1 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlo1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.100.110.77 netmask 255.255.240.0 broadcast 10.100.111.255
    inet6 fe80::4291:d84d:f11f:7694 prefixlen 64 scopeid 0x20<link>
    ether 98:8d:46:b5:71:b0 txqueuelen 1000 (Ethernet)
    RX packets 8688 bytes 6465009 (6.4 MB)
    RX errors 0 dropped 5 overruns 0 frame 0
    TX packets 5768 bytes 1173027 (1.1 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

DESCRIPTION

Ifconfig is used to configure the kernel-resident network interfaces. It is used at boot time to set up interfaces as necessary. After that, it is usually only needed when debugging or when system tuning is needed.

If no arguments are given, ifconfig displays the status of the currently active interfaces. If a single interface argument is given, it displays the status of the given interface only; if a single argument is given, it displays the status of all interfaces, even those that are down. Otherwise, it configures an interface.

2. ip

DESCRIPTION

The **ip** command in Linux is a powerful and versatile utility for configuring and managing network interfaces, routes, and related networking information.

Options:

addr show: To display information about all network interfaces, their IP addresses, and other details:

route show: To view the routing table:

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ ip addr show
1: 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: wlo1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether 98:8d:46:b5:71:b0 brd ff:ff:ff:ff:ff:ff
    altname wlp0s20f3
    inet 10.100.110.77/20 brd 10.100.111.255 scope global dynamic noprefixroute wlo1
        valid_lft 423sec preferred_lft 423sec
    inet6 fe80::4291:d84d:f11f:7694/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ ip route show
default via 10.100.100.2 dev wlo1 proto dhcp src 10.100.110.77 metric 600
10.100.96.0/20 dev wlo1 proto kernel scope link src 10.100.110.77 metric 600
169.254.0.0/16 dev wlo1 scope link metric 1000
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

3. traceroute

The traceroute command in Linux is used to trace the route that packets take from your computer to a destination host or IP address on a network. It helps you visualize the path that network packets follow through routers and network devices, showing the IP addresses of each intermediate hop and the time it takes for a packet to travel from your computer to that hop.

Options:

- n: Display numeric IP addresses instead of resolving hostnames (useful for faster execution).
- q <number>: Set the number of probe packets per hop (default is 3).

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ traceroute www.youtube.com
traceroute to www.youtube.com (142.250.67.142), 30 hops max, 60 byte packets
 1 _gateway (192.168.180.64) 1.863 ms !N 1.869 ms !N *
```

``1``: This indicates that this is the first hop in the traceroute.

`_gateway`: This is the hostname or identifier for the first hop, which is often the default gateway or router in your local network.

`(192.168.180.64)`: This is the IP address of the first hop, which is typically a router in your local network.

1.863 ms: This is the round-trip time (latency) for the first hop, measured in milliseconds. In this case, it took approximately 1.863 milliseconds to reach the first hop.

!N: This !N represents a "network unreachable" message. It indicates that the network path to the destination is not reachable at this hop. It might be due to network configuration, routing issues, or firewall rules preventing the traceroute packets from reaching the destination.

1.869 ms: This is the round-trip time for the second probe to the same hop, which is similar to the first probe.

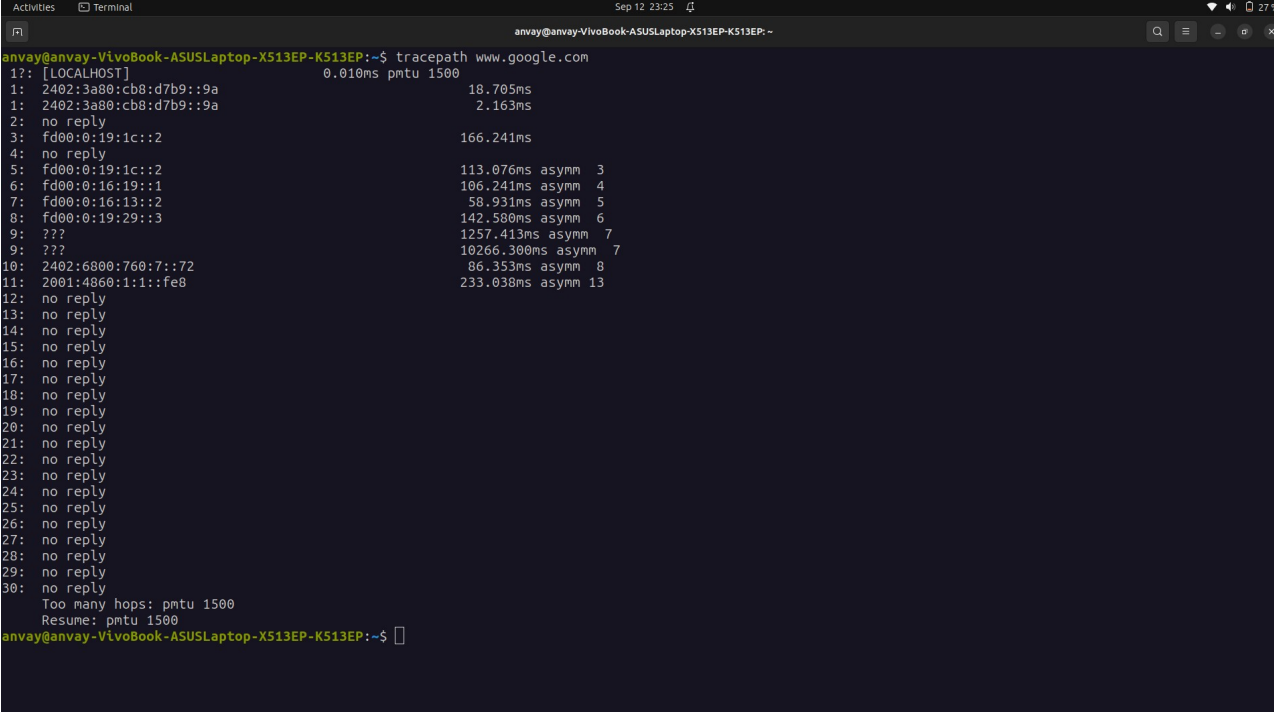
!N: Again, this indicates a "network unreachable" message for the second probe.

: An asterisk () represents that the third probe to the same hop did not receive a response.

4. tracepath

DESCRIPTION

The `tracepath` command is a Linux utility that is used to trace the path that network packets take from your computer to a destination host or IP address on a network, similar to the `traceroute` command. It helps you visualize the route that packets follow through routers and network devices. The primary difference between `tracepath` and `traceroute` is in the output format and some options.



```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ tracepath www.google.com
1?: [LOCALHOST] 0.010ms pmtu 1500
1: 2402:3a80:cb8:d7b9::9a 18.705ms
1: 2402:3a80:cb8:d7b9::9a 2.163ms
2: no reply
3: fd00:0:19:1c::2 166.241ms
4: no reply
5: fd00:0:19:1c::2 113.076ms asymm 3
6: fd00:0:16:19::1 106.241ms asymm 4
7: fd00:0:16:13::2 58.931ms asymm 5
8: fd00:0:19:29::3 142.580ms asymm 6
9: ??? 1257.413ms asymm 7
9: ??? 10266.300ms asymm 7
10: 2402:6800:760:7::72 86.353ms asymm 8
11: 2001:4860:1:1::fe8 233.038ms asymm 13
12: no reply
13: no reply
14: no reply
15: no reply
16: no reply
17: no reply
18: no reply
19: no reply
20: no reply
21: no reply
22: no reply
23: no reply
24: no reply
25: no reply
26: no reply
27: no reply
28: no reply
29: no reply
30: no reply
Too many hops: pmtu 1500
Resume: pmtu 1500
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

The first column shows the TTL of the probe, followed by colon. Usually the value of TTL is obtained from the reply from the network, but sometimes it does not contain the necessary information and we have to guess it. In this case the number is followed by ?.

The second column shows the network hop which replied to the probe. It is either the address of the router or the word [LOCALHOST], if the probe was not sent to the network. The rest of the line shows miscellaneous information about the path to the corresponding network hop. It contains the value of RTT, and additionally it can show Path MTU when it changes. If the path is asymmetric or the probe finishes before it reaches the prescribed hop, the difference between number of hops in forward and return direction is shown next to the keyword "async". This information is not reliable, e.g. the

third line shows asymmetry of 1. This is because the first probe with TTL of 2 was rejected at the first hop due to Path MTU Discovery. The last line summarizes information about all the paths to the destination. It shows detected Path MTU, amount of hops to the destination and our guess about the number of hops from the destination to us, which can be different when the path is asymmetric.

5. ping

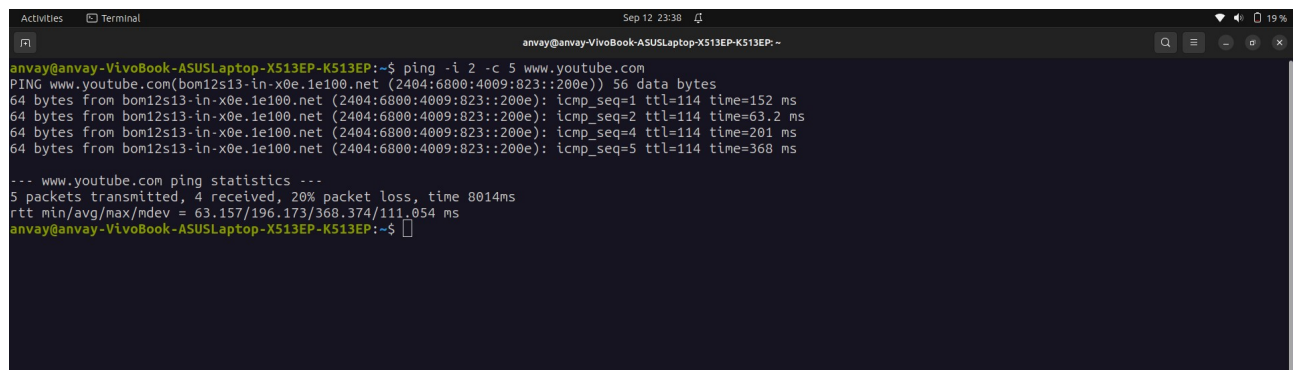
DESCRIPTION

The ping command in Ubuntu (and other Linux distributions) is used to test the reachability of a host (usually a computer or server) on an Internet Protocol (IP) network. It also measures the round-trip time for packets to travel from your computer to the target host and back. Here's how you can use the ping command in Ubuntu.

Options:

-i <interval>: Set the time interval (in seconds) between sending each ping packet (default is 1 second).

-c <count>: Specify the number of ping packets to send before stopping (default is unlimited).



```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ ping -i 2 -c 5 www.youtube.com
PING www.youtube.com (bom12s13-in-x0e.1e100.net (2404:6800:4009:823::200e)) 56 data bytes
64 bytes from bom12s13-in-x0e.1e100.net (2404:6800:4009:823::200e): icmp_seq=1 ttl=114 time=152 ms
64 bytes from bom12s13-in-x0e.1e100.net (2404:6800:4009:823::200e): icmp_seq=2 ttl=114 time=63.2 ms
64 bytes from bom12s13-in-x0e.1e100.net (2404:6800:4009:823::200e): icmp_seq=4 ttl=114 time=201 ms
64 bytes from bom12s13-in-x0e.1e100.net (2404:6800:4009:823::200e): icmp_seq=5 ttl=114 time=368 ms

--- www.youtube.com ping statistics ---
5 packets transmitted, 4 received, 20% packet loss, time 8014ms
rtt min/avg/max/mdev = 63.157/196.173/368.374/111.054 ms
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

This command sent 5 ping packets to www.youtube.com with a 2-second interval between each packet and then stop. Out of 5 packets transmitted, only 4 were received.

6. netstat

DESCRIPTION:

The netstat command is a network utility available on Linux and other Unix-like operating systems. It is used to display various network-related information, including network connections, routing tables, interface statistics, masquerade connections, and more. netstat can be a helpful tool for diagnosing network issues, monitoring network activity, and understanding network configurations.

OPTIONS:

1. Display All Network Connections:

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ netstat -a
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 localhost:domain        0.0.0.0:*               LISTEN
tcp        0      0 localhost:domain        0.0.0.0:*               LISTEN
tcp        0      0 localhost:ipp            0.0.0.0:*               LISTEN
tcp6       0      0 [::]:33060              [::]:*                  LISTEN
tcp6       0      0 ip6-localhost:ipp       [::]:*                  LISTEN
tcp6       0      0 [::]:mysql               [::]:*                  LISTEN
tcp6       0      0 anvay-VivoBook-AS:68702  64:ff9b::1242:297:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:51230  2600:1901:0:e988::https TIME_WAIT
tcp6       0      0 anvay-VivoBook-AS:56242  bon12s14-ln-x8a.1:https TIME_WAIT
tcp6       0      0 anvay-VivoBook-AS:47220  whatsapp-cdn6-shv:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:37504  64:ff9b::2278:736:https TIME_WAIT
tcp6       0      0 anvay-VivoBook-AS:51666  64:ff9b::6b17:e02:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:50030  64:ff9b::2275:ede:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:42978  64:ff9b::2278:d6b:https TIME_WAIT
tcp6       0      0 anvay-VivoBook-AS:34926  55.65.117.34.bc.g:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:48204  123.208.120.34.bc:https TIME_WAIT
tcp6       0      0 anvay-VivoBook-AS:58000  ec2-34-202-92-180:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:39626  2606:4700:4400::6:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:51670  64:ff9b::6b17:e02:https TIME_WAIT
tcp6       0      0 anvay-VivoBook-AS:42964  64:ff9b::2278:d6b:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:40004  ec2-34-205-178-31:https ESTABLISHED
tcp6       0      0 anvay-VivoBook-AS:57170  ec2-18-211-225-10:https ESTABLISHED
udp        0      0 anvay-VivoBook-AS:36699  _gateway:domain        ESTABLISHED
udp        0      0 localhost:domain        0.0.0.0:*               *
udp        0      0 localhost:domain        0.0.0.0:*               *
udp        0      0 anvay-VivoBook-A:bootpc  _gateway:bootps        ESTABLISHED
udp        0      0 0.0.0.0:mdns             0.0.0.0:*               *
udp        0      0 0.0.0.0:40316            0.0.0.0:*               *
udp6       0      0 anvay-VivoBook-AS:49615  2402:3a80:cb8:d7:domain ESTABLISHED
udp6       0      0 [::]:mdns                [::]:*                  *
udp6       0      0 [::]:48754               [::]:*                  *
raw6       0      0 [::]:tpv6-icmp           [::]:*                  7

Active UNIX domain sockets (servers and established)
Proto RefCnt Flags       Type       State       I-Node     Path
unix    3      [ ]         STREAM     CONNECTED   64560
unix    3      [ ]         SEQUENTIAL CONNECTED   39086
unix    3      [ ]         STREAM     CONNECTED   35556    /run/user/1000/bus
unix    3      [ ]         STREAM     CONNECTED   30645
unix    3      [ ]         STREAM     CONNECTED   35367    /run/user/1000/at-spi-bus_1
unix    3      [ ]         STREAM     CONNECTED   33228    /run/systemd/journal/stdout
unix    2      [ ]         DGRAM      CONNECTED   28646
unix    3      [ ]         DGRAM      CONNECTED   22964
unix    3      [ ]         STREAM     CONNECTED   27579
unix    3      [ ]         STREAM     CONNECTED   32316
```

2. Display Listening Ports:

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ netstat -tuln
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.54:53           0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN
tcp6       0      0 :::33060                 :::*                     LISTEN
tcp6       0      0 :::1:631                 :::*                     LISTEN
tcp6       0      0 :::3306                  :::*                     LISTEN
udp        0      0 127.0.0.54:53           0.0.0.0:*               *
udp        0      0 127.0.0.53:53           0.0.0.0:*               *
udp        0      0 0.0.0.0:5353            0.0.0.0:*               *
udp        0      0 0.0.0.0:40316           0.0.0.0:*               *
udp6       0      0 :::5353                  :::*                     *
udp6       0      0 :::48754                 :::*                     *
```

3. Display Network Statistics:

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ netstat -i
Kernel Interface table
Iface      MTU      RX-OK RX-ERR RX-DRP RX-OVR    TX-OK TX-ERR TX-DRP TX-OVR Flg
lo         65536    10882      0      0      0    10882      0      0      0  LRU
wlo1       1500     18827      0      0      0    14279      0      0      0 BMRU
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

4. Display Routing Table:

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ netstat -r
Kernel IP routing table
Destination Gateway      Genmask      Flags MSS Window  irtt Iface
default    _gateway     0.0.0.0      UG    0 0        0 wlo1
link-local 0.0.0.0      255.255.0.0  U     0 0        0 wlo1
192.168.180.0 0.0.0.0    255.255.255.0  U     0 0        0 wlo1
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

7. nslookup

DESCRIPTION:

The nslookup command is a network utility used for querying Domain Name System (DNS) servers to obtain information about domain names, IP addresses, and other DNS records. It is a valuable tool for troubleshooting DNS-related issues, checking DNS configurations, and resolving domain names to IP addresses.

To obtain the IP address associated with a domain name (e.g., google.com):

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ nslookup google.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
Name:   google.com
Address: 142.250.183.46
;; communications error to 127.0.0.53#53: timed out
Name:   google.com
Address: 2404:6800:4009:821::200e
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

To obtain the IPv6 address (AAAA record) for a domain (e.g., ipv6.google.com):


```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ nslookup -query=AAAA ipv6.google.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
ipv6.google.com canonical name = ipv6.l.google.com.
Name:   ipv6.l.google.com
Address: 2404:6800:4009:82b::200e

anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

8. dig

DESCRIPTION:

The `dig` command (short for Domain Information Groper) is a powerful and flexible command-line tool for querying Domain Name System (DNS) servers. It is commonly used on Unix-like operating systems, including Ubuntu, to retrieve various DNS-related information, such as IP addresses associated with domain names, DNS record types, and DNS server configurations.

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ dig google.com

;<<>> DiG 9.18.12-1ubuntu1.1-Ubuntu <<>> google.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 43080
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;google.com.                IN      A

;; ANSWER SECTION:
google.com.                130     IN      A      142.250.76.206

;; Query time: 139 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Wed Sep 13 00:00:11 IST 2023
;; MSG SIZE rcvd: 55

anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

9. route

DESCRIPTION:

The `route` command in Linux is used to view and manipulate the kernel's IP routing table. It allows you to examine the routing table, add or delete routes, and make changes to the network configuration. This command is particularly useful for configuring static routes and diagnosing network-related issues.

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ route
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
default _gateway 0.0.0.0 UG 20600 0 0 wlo1
link-local 0.0.0.0 255.255.0.0 U 1000 0 0 wlo1
192.168.180.0 0.0.0.0 255.255.255.0 U 600 0 0 wlo1
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

10. host

DESCRIPTION:

The `host` command in Linux is a DNS lookup utility used to query Domain Name System (DNS) servers to obtain information about domain names and IP addresses. It is primarily used to translate human-readable domain names into their corresponding IP addresses or vice versa. The `host` command is a simple and straightforward tool for DNS queries.

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ host google.com
google.com has address 142.250.182.206
google.com has IPv6 address 2404:6800:4009:831::200e
google.com mail is handled by 10 smtp.google.com.
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ host -t AAAA ipv6.google.com
ipv6.google.com is an alias for ipv6.l.google.com.
ipv6.l.google.com has IPv6 address 2404:6800:4009:82b::200e
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

11. arp

DESCRIPTION:

The `arp` command in Linux is used to view and manipulate the Address Resolution Protocol (ARP) cache, which is a crucial part of how network devices map IP addresses to their corresponding physical MAC (Media Access Control) addresses on a local area network (LAN). ARP is essential for communication within a network, and the `arp` command allows you to inspect and manage the ARP cache on a Linux system.

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ arp -a
_gateway (192.168.180.64) at 7a:64:7b:9c:88:d6 [ether] on wlo1
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ arp -n
Address HWtype HWaddress Flags Mask Iface
192.168.180.64 ether 7a:64:7b:9c:88:d6 C wlo1
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

12. iwconfig

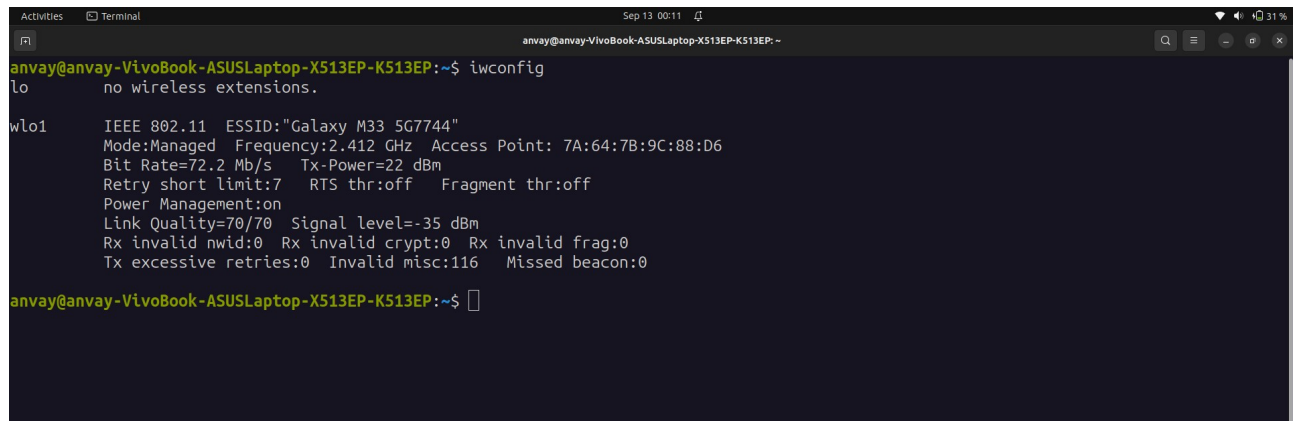
DESCRIPTION:

The `iwconfig` command in Linux is used to configure and display information about wireless

network interfaces. It is a part of the Wireless Tools package (wireless-tools), which is commonly installed on Linux systems with wireless network capabilities. `iwconfig` allows you to view information about your wireless network interface, configure wireless settings, and more.

Options :

- a: Display all information, including hidden interfaces.
- s: Show a short output with essential information



```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ iwconfig
lo                no wireless extensions.

wlo1              IEEE 802.11  ESSID:"Galaxy M33 5G7744"
                  Mode:Managed  Frequency:2.412 GHz  Access Point: 7A:64:7B:9C:88:D6
                  Bit Rate=72.2 Mb/s   Tx-Power=22 dBm
                  Retry short limit:7   RTS thr:off   Fragment thr:off
                  Power Management:on
                  Link Quality=70/70  Signal level=-35 dBm
                  Rx invalid nwid:0  Rx invalid crypt:0  Rx invalid frag:0
                  Tx excessive retries:0  Invalid misc:116  Missed beacon:0

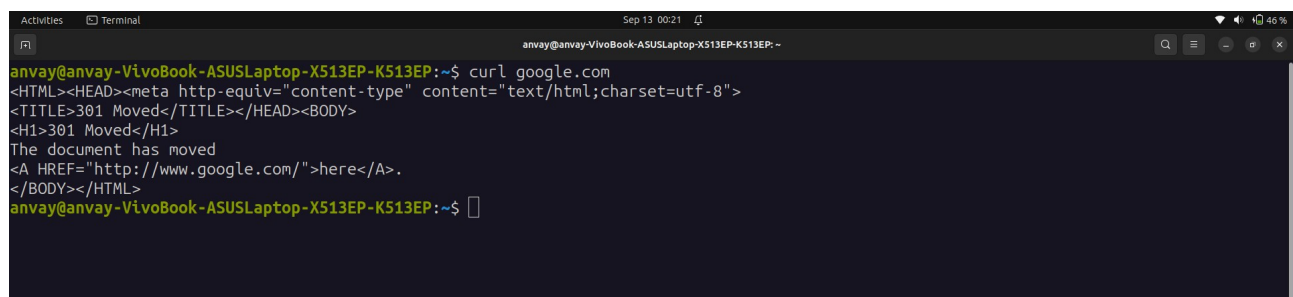
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

13. curl

DESCRIPTION:

The `curl` command in Linux is a versatile and powerful tool for making network requests to retrieve or send data to a remote server or web resource using various protocols. `curl` is commonly used for tasks such as downloading files, testing API endpoints, or interacting with web services.

It supports these protocols: DICT, FILE, FTP, FTPS, GOPHER, GOPHERS, HTTP, HTTPS, IMAP, IMAPS, LDAP, LDAPS, MQTT, POP3, POP3S, RTMP, RTMPS, RTSP, SCP, SFTP, SMB, SMBS, SMTP, SMTPS, TELNET, TFTP, WS and WSS. The command is designed to work without user interaction.



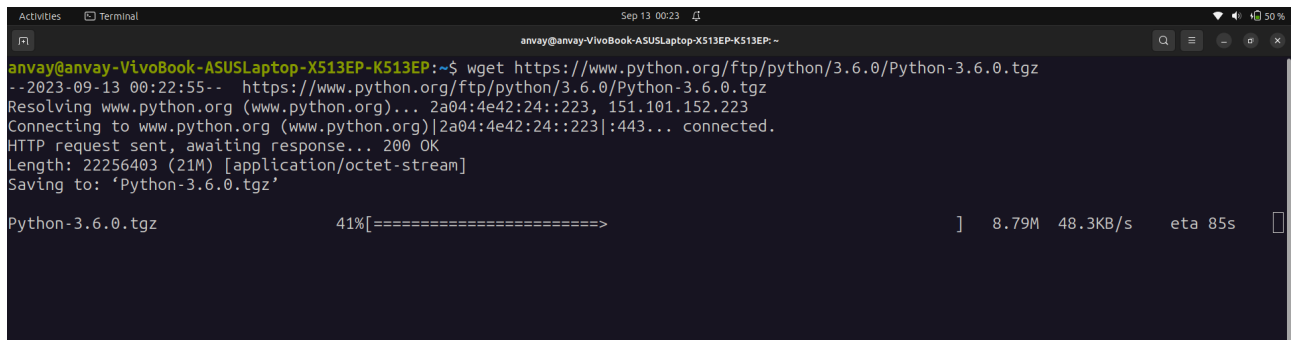
```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ curl google.com
<HTML><HEAD><meta http-equiv="content-type" content="text/html; charset=utf-8">
<TITLE>301 Moved</TITLE></HEAD><BODY>
<H1>301 Moved</H1>
The document has moved
<A HREF="http://www.google.com/">here</A>.
</BODY></HTML>
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

14. wget

DESCRIPTION:

The `wget` command is a versatile command-line utility used for downloading files from the internet. It supports various protocols, including HTTP, HTTPS, FTP, FTPS, and more. `wget` is available on most Unix-like operating systems, including Ubuntu and other Linux distributions. It is commonly

used for batch downloading, recursive fetching, and downloading files over the network.



```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ wget https://www.python.org/ftp/python/3.6.0/Python-3.6.0.tgz
--2023-09-13 00:22:55-- https://www.python.org/ftp/python/3.6.0/Python-3.6.0.tgz
Resolving www.python.org (www.python.org)... 2a04:4e42:24::223, 151.101.152.223
Connecting to www.python.org (www.python.org)[2a04:4e42:24::223]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 22256403 (21M) [application/octet-stream]
Saving to: 'Python-3.6.0.tgz'

Python-3.6.0.tgz      41%[=====] 8.79M 48.3KB/s eta 85s
```

In above example, the .tgz package for python3.6 is being downloaded using wget.

15. telnet

DESCRIPTION:

The telnet command is a command-line utility that allows you to establish a text-based network connection to a remote host or server over a network, typically using the Telnet protocol. It's available on most Unix-like operating systems, including Ubuntu and other Linux distributions. Telnet was historically used for remote access and administration of remote systems, but it's considered insecure for modern use due to its lack of encryption. Secure alternatives like SSH (Secure Shell) are recommended for remote access instead.



```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ ping coep.org.in
PING coep.org.in (172.16.1.40) 56(84) bytes of data:
64 bytes from coep.org.in (172.16.1.40): icmp_seq=1 ttl=62 time=1.89 ms
64 bytes from coep.org.in (172.16.1.40): icmp_seq=2 ttl=62 time=4.18 ms
64 bytes from coep.org.in (172.16.1.40): icmp_seq=3 ttl=62 time=4.30 ms
64 bytes from coep.org.in (172.16.1.40): icmp_seq=4 ttl=62 time=3.93 ms
^C
--- coep.org.in ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 1.891/3.575/4.295/0.981 ms
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ telnet 172.16.1.40 23
Trying 172.16.1.40...
```

16. whois

DESCRIPTION:

The whois command in Linux is a utility that allows you to retrieve information about domain names, IP addresses, and network resources from the Internet's domain name and address registration databases. It provides detailed information about the owner or administrator of a domain, its registration status, and other related information. The whois command is useful for checking domain name availability, obtaining contact information for a domain, and investigating network resources.

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ whois google.com
Domain Name: GOOGLE.COM
Registry Domain ID: 2138514 DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.markmonitor.com
Registrar URL: http://www.markmonitor.com
Updated Date: 2019-09-09T15:39:04Z
Creation Date: 1997-09-15T04:00:00Z
Registry Expiry Date: 2028-09-14T04:00:00Z
Registrar: MarkMonitor Inc.
Registrar IANA ID: 292
Registrar Abuse Contact Email: abusecomplaints@markmonitor.com
Registrar Abuse Contact Phone: +1.2086851750
Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited
Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited
Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited
Domain Status: serverDeleteProhibited https://icann.org/epp#serverDeleteProhibited
Domain Status: serverTransferProhibited https://icann.org/epp#serverTransferProhibited
Domain Status: serverUpdateProhibited https://icann.org/epp#serverUpdateProhibited
Name Server: NS1.GOOGLE.COM
Name Server: NS2.GOOGLE.COM
Name Server: NS3.GOOGLE.COM
Name Server: NS4.GOOGLE.COM
DNSSEC: unsigned
URL of the ICANN Whois Inaccuracy Complaint Form: https://www.icann.org/wicf/
>>> Last update of whois database: 2023-09-12T18:58:38Z <<<

For more information on Whois status codes, please visit https://icann.org/epp

NOTICE: The expiration date displayed in this record is the date the
registrar's sponsorship of the domain name registration in the registry is
currently set to expire. This date does not necessarily reflect the expiration
date of the domain name registrant's agreement with the sponsoring
registrar. Users may consult the sponsoring registrar's Whois database to
view the registrar's reported date of expiration for this registration.
```

17. ifplugstatus

DESCRIPTION:

The `ifplugstatus` command is a utility used to check the status of network interfaces and determine whether a network cable is plugged into an Ethernet interface or not. This command is particularly useful for network administrators and users who need to monitor the physical status of Ethernet connections on a Linux system. It helps in diagnosing network connectivity issues and ensuring that network cables are properly connected.

```
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ ifplugstatus
lo: link beat detected
wlo1: link beat detected
anvay@anvay-VivoBook-ASUSLaptop-X513EP-K513EP:~$
```

18. nload

DESCRIPTION:

The `nload` command is a network monitoring tool available on Linux systems that provides a visual representation of network traffic and bandwidth usage in real-time. It is a command-line utility that allows you to view network statistics and monitor the incoming and outgoing network traffic on your system.

```
Activities Terminal Sep 13 00:35 anjay@anjay-VivoBook-ASUSLaptop-X513EP-K513EP: ~  
Device wlo1 [192.168.180.66] (2/2):  
=====Incoming:=====
```

Device	IP	Port	Size	Time	Rate
wlo1	192.168.180.66	25	37.52 MByte	1.70 kBit/s	360.00 Bit/s

```
=====Outgoing:=====
```

Device	IP	Port	Size	Time	Rate
wlo1	192.168.180.66	25	5.28 MByte	2.01 kBit/s	416.00 Bit/s

19.

20. mail

DESCRIPTION:

The `mail` command in Linux is a command-line utility that allows you to send and receive email messages from the command line. It provides a simple text-based interface for sending and reading emails. The `mail` command is often used for sending automated email notifications, scripting, and quick email tasks in a terminal environment.

```
Activities Terminal Sep 13 16:21 anjay@anjay-VivoBook-ASUSLaptop-X513EP-K513EP: ~  
anjay@anjay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ systemctl start postfix.service  
anjay@anjay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ systemctl status postfix.service  
● postfix.service - Postfix Mail Transport Agent  
   Loaded: loaded (/lib/systemd/system/postfix.service; enabled; preset: enabled)  
   Active: active (exited) since Wed 2023-09-13 15:02:04 IST; 1h 17min ago  
     Docs: man:postfix(1)  
   Process: 10663 ExecStart=/bin/true (code=exited, status=0/SUCCESS)  
    Main PID: 10663 (code=exited, status=0/SUCCESS)  
      CPU: 2ms  
  
Sep 13 15:02:04 anjay-VivoBook-ASUSLaptop-X513EP-K513EP systemd[1]: Starting postfix.service - Postfix Mail Transport Agent...  
Sep 13 15:02:04 anjay-VivoBook-ASUSLaptop-X513EP-K513EP systemd[1]: Finished postfix.service - Postfix Mail Transport Agent.  
anjay@anjay-VivoBook-ASUSLaptop-X513EP-K513EP:~$ echo "Hi! How are you?" | mail -s "Test mail" anjayjoshi1410@gmail.com  
"/var/mail/anjay": 8 messages 1 new 7 unread  
U 1 Mail Delivery Syst Wed Sep 13 14:52 79/3163 Undelivered Mail Returned to Sender  
U 2 Anjay Wed Sep 13 14:57 16/666 test mail  
U 3 Mail Delivery Syst Wed Sep 13 16:13 79/3157 Undelivered Mail Returned to Sender  
U 4 Mail Delivery Syst Wed Sep 13 16:15 79/3177 Undelivered Mail Returned to Sender  
U 5 Mail Delivery Syst Wed Sep 13 16:16 79/3105 Undelivered Mail Returned to Sender  
U 6 Mail Delivery Syst Wed Sep 13 16:17 82/3108 Undelivered Mail Returned to Sender  
U 7 Mail Delivery Syst Wed Sep 13 16:17 81/3138 Undelivered Mail Returned to Sender  
U 8 Mail Delivery Syst Wed Sep 13 16:21 77/3099 Undelivered Mail Returned to Sender  
?
```