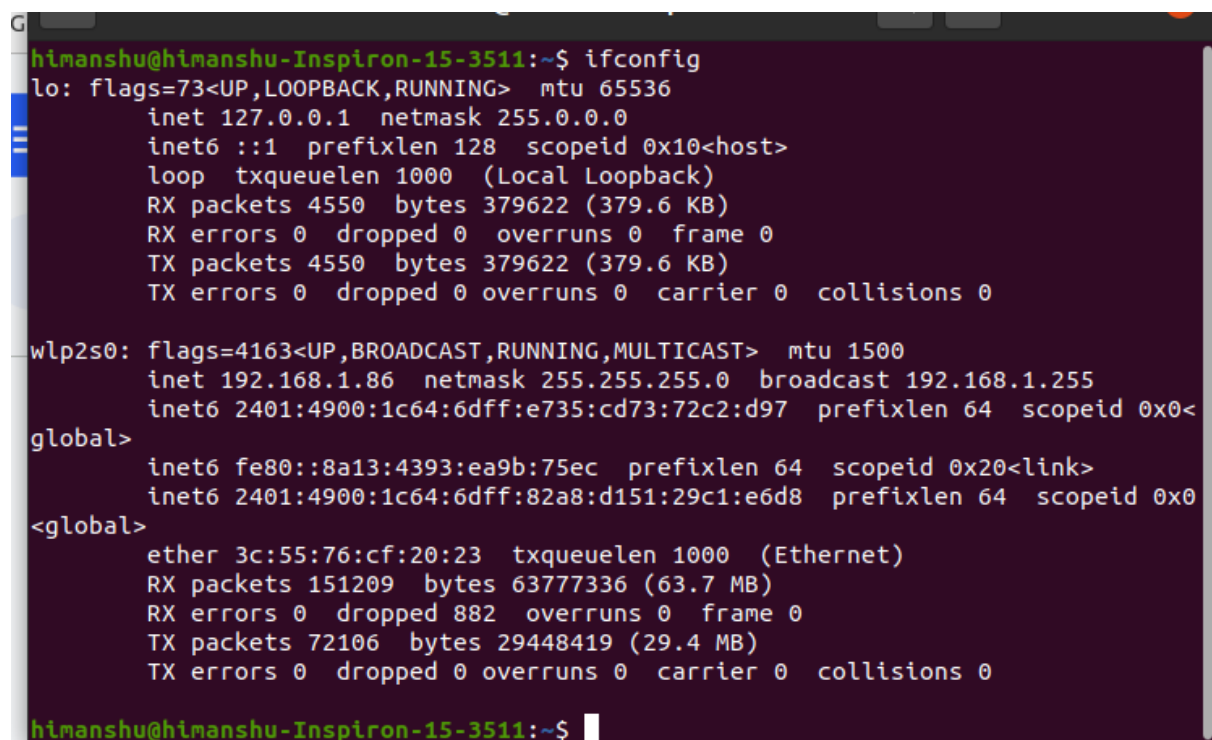


LINUX NETWORKING

ubuntu में कई networking command उपलब्ध हैं जिनका use आप अपने network के management और problem solve के लिए कर सकते हैं। यहाँ कुछ common हैं:

- ifconfig - IP address, netmask, and MAC address include network interface configuration information include show करता है।



```
himanshu@himanshu-Inspiron-15-3511:~$ 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 4550 bytes 379622 (379.6 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4550 bytes 379622 (379.6 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlp2s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.86 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 2401:4900:1c64:6dff:e735:cd73:72c2:d97 prefixlen 64 scopeid 0x0<
global>
    inet6 fe80::8a13:4393:ea9b:75ec prefixlen 64 scopeid 0x20<link>
    inet6 2401:4900:1c64:6dff:82a8:d151:29c1:e6d8 prefixlen 64 scopeid 0x0<
global>
    ether 3c:55:76:cf:20:23 txqueuelen 1000 (Ethernet)
    RX packets 151209 bytes 63777336 (63.7 MB)
    RX errors 0 dropped 882 overruns 0 frame 0
    TX packets 72106 bytes 29448419 (29.4 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

himanshu@himanshu-Inspiron-15-3511:~$
```

- IP - A interfaces and routing tables को configure करने के लिए एक more advanced tool होता है ।

```

himanshu@himanshu-Inspiron-15-3511:~$ ip -a
Usage: ip [ OPTIONS ] OBJECT { COMMAND | help }
       ip [ -force ] -batch filename
where  OBJECT := { link | address | addrlabel | route | rule | neigh | ntable |
                  tunnel | tuntap | maddress | mroute | mrule | monitor | xfrm |
                  netns | l2tp | fou | macsec | tcp_metrics | token | netconf | ila |
                  vrf | sr | nexthop }
       OPTIONS := { -V[ersion] | -s[tatistics] | -d[etails] | -r[esolve] |
                    -h[uman-readable] | -i[ec] | -j[son] | -p[retty] |
                    -f[amily] { inet | inet6 | mpls | bridge | link } |
                    -4 | -6 | -I | -D | -M | -B | -O |
                    -l[oops] { maximum-addr-flush-attempts } | -br[ief] |
                    -o[neline] | -t[imestamp] | -ts[hort] | -b[atch] [filename] |
                    -rc[vbuf] [size] | -n[etns] name | -N[umeric] | -a[ll] |
                    -c[olor]}
himanshu@himanshu-Inspiron-15-3511:~$

```

- Ping - Tests को ICMP (Internet Control Message Protocol) packets send करके networking connectivity का testing करता है।

```

himanshu@himanshu-Inspiron-15-3511:~$ ping linux.com
PING linux.com(2620:12a:8000::3 (2620:12a:8000::3)) 56 data bytes
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=1 ttl=59 time=322 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=2 ttl=59 time=218 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=3 ttl=59 time=71.5 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=4 ttl=59 time=188 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=5 ttl=59 time=776 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=6 ttl=59 time=1165 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=7 ttl=59 time=369 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=8 ttl=59 time=840 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=9 ttl=59 time=323 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=10 ttl=59 time=1925 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=11 ttl=59 time=925 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=12 ttl=59 time=686 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=13 ttl=59 time=139 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=14 ttl=59 time=135 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=15 ttl=59 time=148 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=16 ttl=59 time=55.4 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=17 ttl=59 time=323 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=18 ttl=59 time=934 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=19 ttl=59 time=259 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=20 ttl=59 time=116 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=21 ttl=59 time=67.8 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=22 ttl=59 time=89.3 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=23 ttl=59 time=135 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=24 ttl=59 time=57.6 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=25 ttl=59 time=67.7 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=26 ttl=59 time=93.8 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=27 ttl=59 time=110 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=28 ttl=59 time=119 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=29 ttl=59 time=828 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=30 ttl=59 time=189 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=31 ttl=59 time=671 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=32 ttl=59 time=487 ms
64 bytes from 2620:12a:8000::3 (2620:12a:8000::3): icmp_seq=33 ttl=59 time=107 ms

```

- Traceroute - वह path show करता है जो packet आपके computer से remote host तक ले जाता है, और each hop को travel करने में कितना time लगता है।

```
Try 'traceroute -help' or 'traceroute --usage' for more information.
himanshu@himanshu-Inspiron-15-3511:~$ traceroute linux.com
traceroute to linux.com (23.185.0.3), 64 hops max
 1  192.168.1.1  88.136ms  3.335ms  3.298ms
 2  223.177.143.255  99.140ms  202.412ms  107.369ms
 3  122.186.81.177  496.652ms  222.451ms  5.604ms
 4  116.119.109.250  497.919ms  629.543ms  421.015ms
 5  * * *
 6  * * *
 7  * * *
 8  * * *
 9  * * *
10  * * *
11  * * *
12  * * *
13  * * *
14  * * *
15  * * *
16  * * *
17  * * *
18  * * *
19  * * *
20  * * *
21  * * *
22  * * *
```

- netstat - active connections and listening ports such as network statistics show करता है।

```

root@himanshu-Inspiron-15-3511:~/home/himanshu$ sudo netstat -tulpen
himanshu@himanshu-Inspiron-15-3511:~$ sudo netstat -tulpen
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       User        Inode         PID/Program name
tcp        0      0 127.0.0.1:631          0.0.0.0:*                LISTEN      0           30761         807/cupsd
tcp        0      0 127.0.0.53:53          0.0.0.0:*                LISTEN      101          28445         698/systemd-resolve
tcp6       0      0 :::1:631               :::*                    LISTEN      0           30760         807/cupsd
udp        0      0 127.0.0.53:53          0.0.0.0:*                101          28444         698/systemd-resolve
udp        0      0 0.0.0.0:57523          0.0.0.0:*                115          30919         804/avahi-daemon: r
udp        0      0 0.0.0.0:49686          0.0.0.0:*                1000         174442         9621/firefox
udp        0      0 0.0.0.0:631            0.0.0.0:*                0            32408         906/cups-browsed
udp        0      0 0.0.0.0:42184          0.0.0.0:*                1000         174333         9621/firefox
udp        0      0 224.0.0.0:251:5353     0.0.0.0:*                1000         89731         7662/chrome
udp        0      0 0.0.0.0:5353           0.0.0.0:*                115          30917         804/avahi-daemon: r
udp        0      0 0.0.0.0:51440          0.0.0.0:*                1000         168357         9621/firefox
udp6       0      0 :::57201               :::*                    1000         173021         9621/firefox
udp6       0      0 :::32769               :::*                    1000         169474         9621/firefox
udp6       0      0 :::33056               :::*                    1000         169999         9621/firefox
udp6       0      0 fe80::8a13:4393:ea9:546 :::*                    0            89376         813/NetworkManager
udp6       0      0 :::54132               :::*                    1000         169473         9621/firefox
udp6       0      0 :::5353                :::*                    115          30918         804/avahi-daemon: r
udp6       0      0 :::46393               :::*                    1000         170133         9621/firefox
udp6       0      0 :::55001               :::*                    1000         170027         9621/firefox
udp6       0      0 :::59464               :::*                    115          30920         804/avahi-daemon: r
udp6       0      0 :::39375               :::*                    1000         167698         9621/firefox
udp6       0      0 :::35582               :::*                    1000         173617         9621/firefox
udp6       0      0 :::44030               :::*                    1000         174397         9621/firefox
himanshu@himanshu-Inspiron-15-3511:~$ sudo netstat -ltnx
Kernel Interface table
Iface MTU RX-OK RX-ERR RX-DRP RX-OVR TX-OK TX-ERR TX-DRP TX-OVR Flg
lo 65536 13224 0 0 0 13224 0 0 0 0 LRU
wlp2s0 1500 252252 0 1089 0 141439 0 0 0 0 BMRU

```

- nslookup - IP addresses पर hostnames को solve करने के लिए DNS queries करता है और इसके opposite ।

```

himanshu@himanshu-Inspiron-15-3511:~$ nslookup
> www.google.com
Server:          127.0.0.53
Address:         127.0.0.53#53

Non-authoritative answer:
Name:   www.google.com
Address: 172.217.27.196
Name:   www.google.com
Address: 2404:6800:4009:800::2004
> set type =ns
*** Invalid option: type
> set type =ns
*** Invalid option: type
> set type
*** Invalid option: type
> non authoritative answer:
Server:          127.0.0.53
Address:         127.0.0.53#53

** server can't find non: SERVFAIL
>

```

- Digg - Another DNS tool जो आपको advanced DNS queries and get detailed information provide करने की permission देता है।

```

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org

; <<>> DiG 9.16.1-Ubuntu <<>> geeksforgeeks.org
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 32843
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

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

;; ANSWER SECTION:
geeksforgeeks.org.                30      IN      A      34.218.62.116

;; Query time: 618 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Tue Mar 28 15:08:29 IST 2023
;; MSG SIZE rcvd: 62

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org +short
34.218.62.116
himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org +nocomments

; <<>> DiG 9.16.1-Ubuntu <<>> geeksforgeeks.org +nocomments
;; global options: +cmd
;geeksforgeeks.org.                IN      A
geeksforgeeks.org.                18      IN      A      34.218.62.116
;; Query time: 239 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Tue Mar 28 15:09:03 IST 2023
;; MSG SIZE rcvd: 62

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org +noall
himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org +noall +answer
geeksforgeeks.org.                19      IN      A      34.218.62.116
himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org ANY

; <<>> DiG 9.16.1-Ubuntu <<>> geeksforgeeks.org ANY
;; global options: +cmd
;; connection timed out; no servers could be reached

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org ANY

; <<>> DiG 9.16.1-Ubuntu <<>> geeksforgeeks.org ANY
;; global options: +cmd
;; connection timed out; no servers could be reached

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org MX

; <<>> DiG 9.16.1-Ubuntu <<>> geeksforgeeks.org MX
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 29447
;; flags: qr rd ra; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

```

```

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org +trace
; <<> DiG 9.16.1-Ubuntu <<> geeksforgeeks.org +trace
;; global options: +cmd
.          119744 IN      NS      h.root-servers.net.
.          119744 IN      NS      b.root-servers.net.
.          119744 IN      NS      k.root-servers.net.
.          119744 IN      NS      m.root-servers.net.
.          119744 IN      NS      c.root-servers.net.
.          119744 IN      NS      a.root-servers.net.
.          119744 IN      NS      f.root-servers.net.
.          119744 IN      NS      j.root-servers.net.
.          119744 IN      NS      d.root-servers.net.
.          119744 IN      NS      l.root-servers.net.
.          119744 IN      NS      g.root-servers.net.
.          119744 IN      NS      e.root-servers.net.
.          119744 IN      NS      l.root-servers.net.
;; Received 262 bytes from 127.0.0.53#53(127.0.0.53) in 307 ms

org.       172800 IN      NS      a0.org.afllias-nst.info.
org.       172800 IN      NS      a2.org.afllias-nst.info.
org.       172800 IN      NS      b0.org.afllias-nst.org.
org.       172800 IN      NS      b2.org.afllias-nst.org.
org.       172800 IN      NS      c0.org.afllias-nst.info.
org.       172800 IN      NS      d0.org.afllias-nst.org.
org.       86400  IN      DS      20974 8 2 4FEDE294C3F43BA158C41D39489CD76A86BEB8D8ADAFAFF14745C80 16E1DE32
org.       86400  IN      RRSIG  DS 8 1 86400 20230410050000 20230328040000 951 . L+wKsLzEhxyvPLldg5p5CgygCysD0E9Ma474fbkgJwI8oL5Bw/Vyx Nr4IT7JlJ3HzNMTLlJ0tkJ3Tz8zG0wWESLocgR0pRd0013e8Y
2C7a6p8 RE4MEYHC1964qk1kbuVdMo8Iu3b2sAaELGTb<0v3CLLRMBGEYMDx e5c1+TZYa0G74sLb+o94E2PrBkWV5ncp5OVXhG9+exmhut82wGuLFGB FFR3G00ErCj+dh3Arq2QVNMW7b1qQQZQgvV3+OzI31XTBhXw04ZHGbk zyPq3sW9axfNdCp6bvk0aup
fK6eXEMsxflzJuhZw<2P1c0daky c6a8u=
;; Received 783 bytes from 2001:500:a8::e#53(e.root-servers.net) in 11 ms

geeksforgeeks.org. 3600 IN      NS      ns-245.awsdns-30.com.
geeksforgeeks.org. 3600 IN      NS      ns-869.awsdns-44.net.
geeksforgeeks.org. 3600 IN      NS      ns-1520.awsdns-02.org.
geeksforgeeks.org. 3600 IN      NS      ns-1569.awsdns-04.co.uk.
gdtponngpok6i9lvtlpgor8lra9l4t0.org. 3600 IN NSEC3 1 1 0 332539EE7F95C32A C0TREABKH22RNEQENH20C326KFSUKJ7 NS S0A RRSIG DNSKEY NSEC3PARAM
gdtponngpok6i9lvtlpgor8lra9l4t0.org. 3600 IN RRSIG NSEC3 8 2 3600 20230418093955 20230328083955 31878 org. CnJcFf+LUmlrW8s9MKT4+fnLXUSKtXPpQwD0Sb1+gLnJwu75720QaUlg bJ2Rxp2NEQZ5Jw2A7bMlpVutH4ajv8YVHzY3z/n
YBvy5Cwkb1UfapPxA ZYbdRQacz2BC5vudmJ3JwP4u2TGC2Snfatb2QmTP2HwJyTmFg/F0la 3Ro=
96rd198nhh2p3705213temsejrk34.org. 3600 IN NSEC3 1 1 0 332539EE7F95C32A 96RF40NMTM6SH5BB71P9GOM7H208FVUB NS DS RRSIG
96rd198nhh2p3705213temsejrk34.org. 3600 IN RRSIG NSEC3 8 2 3600 20230415152447 20230325142447 31878 org. eq+wdhRZaETunfZT1+z4GtzyP6stVpa4ffwMA97eKn3B5ZP7QHzF7hr VYMLQlJTRN6lk0xb0d2GLu6Ew77pN0L6Juj0Fw
FvqYyu4IR8usnyr4ud lYXsuxFuoRnAc4o34B5ABAVCngQ3FwqB2P4Q0p5FgAFvdQ2Futk+lxY1l=
;; Received 703 bytes from 2001:500:a8::1#53(b2.org.afllias-nst.org) in 523 ms

geeksforgeeks.org. 30 IN      A      34.218.62.116
geeksforgeeks.org. 17280 IN   NS      ns-1520.awsdns-02.org.
geeksforgeeks.org. 17280 IN   NS      ns-1569.awsdns-04.co.uk.
geeksforgeeks.org. 17280 IN   NS      ns-245.awsdns-30.com.
geeksforgeeks.org. 17280 IN   NS      ns-869.awsdns-44.net.
;; Received 199 bytes from 205.251.195.101#53(ns-869.awsdns-44.net) in 913 ms

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org @8.8.8.8
; <<> DiG 9.16.1-Ubuntu <<> geeksforgeeks.org @8.8.8.8
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 34590
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 512
;; QUESTION SECTION:
;geeksforgeeks.org.      IN      A

;; ANSWER SECTION:
geeksforgeeks.org.      30      IN      A      34.218.62.116

;; Query time: 20 msec
;; SERVER: 8.8.8.8#53(8.8.8.8)
;; WHEN: Tue Mar 28 15:11:59 IST 2023
;; MSG SIZE rcvd: 62

himanshu@himanshu-Inspiron-15-3511:~$ dig geeksforgeeks.org +noall +answer +stats
geeksforgeeks.org.      30      IN      A      34.218.62.116
;; Query time: 592 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Tue Mar 28 15:12:17 IST 2023
;; MSG SIZE rcvd: 62

himanshu@himanshu-Inspiron-15-3511:~$

```

- route - network routing table को Displays and manages करता है, जो उस path को determines करता है जो packet अपने target तक पहुंचने के लिए लेते हैं।


```

himanshu@himanshu-Inspiron-15-3511:~$ route
Kernel IP routing table
Destination      Gateway          Genmask          Flags Metric Ref    Use Iface
default          dsldevice.lan   0.0.0.0          UG    600    0      0 wlp2s0
link-local       0.0.0.0         255.255.0.0      U     1000    0      0 wlp2s0
192.168.1.0      0.0.0.0         255.255.255.0    U     600    0      0 wlp2s0
himanshu@himanshu-Inspiron-15-3511:~$ route -n
Kernel IP routing table
Destination      Gateway          Genmask          Flags Metric Ref    Use Iface
0.0.0.0          192.168.1.1     0.0.0.0          UG    600    0      0 wlp2s0
169.254.0.0      0.0.0.0         255.255.0.0      U     1000    0      0 wlp2s0
192.168.1.0      0.0.0.0         255.255.255.0    U     600    0      0 wlp2s0
himanshu@himanshu-Inspiron-15-3511:~$ sudo route add default gw 169.254.0.0
[sudo] password for himanshu:
himanshu@himanshu-Inspiron-15-3511:~$ route -Cn
Kernel IP routing cache
Source           Destination      Gateway          Flags Metric Ref    Use Iface
himanshu@himanshu-Inspiron-15-3511:~$ sudo route add -host 192.168.1.51 reject
himanshu@himanshu-Inspiron-15-3511:~$ sudo route add -host 192.168.1.51 reject
SIOCADDRT: File exists
himanshu@himanshu-Inspiron-15-3511:~$ ip route
default via 169.254.0.0 dev wlp2s0
default via 192.168.1.1 dev wlp2s0 proto dhcp metric 600
169.254.0.0/16 dev wlp2s0 scope link metric 1000
192.168.1.0/24 dev wlp2s0 proto kernel scope link src 192.168.1.86 metric 600
unreachable 192.168.1.51 scope host
himanshu@himanshu-Inspiron-15-3511:~$ route del default
SIOCDELRT: Operation not permitted
himanshu@himanshu-Inspiron-15-3511:~$ route del default
SIOCDELRT: Operation not permitted
himanshu@himanshu-Inspiron-15-3511:~$ sudo route del default
himanshu@himanshu-Inspiron-15-3511:~$ ip route show table local
local 127.0.0.0/8 dev lo proto kernel scope host src 127.0.0.1
local 127.0.0.1 dev lo proto kernel scope host src 127.0.0.1
broadcast 127.255.255.255 dev lo proto kernel scope link src 127.0.0.1
local 192.168.1.86 dev wlp2s0 proto kernel scope host src 192.168.1.86
broadcast 192.168.1.255 dev wlp2s0 proto kernel scope link src 192.168.1.86
himanshu@himanshu-Inspiron-15-3511:~$ ip -4 route
default via 192.168.1.1 dev wlp2s0 proto dhcp metric 600
169.254.0.0/16 dev wlp2s0 scope link metric 1000
192.168.1.0/24 dev wlp2s0 proto kernel scope link src 192.168.1.86 metric 600
unreachable 192.168.1.51 scope host
himanshu@himanshu-Inspiron-15-3511:~$ ip -6 route
::1 dev lo proto kernel metric 256 pref medium
2401:4900:1c64:6dff::/64 via fe80::1 dev wlp2s0 proto ra metric 600 pref high
fe80::/64 dev wlp2s0 proto kernel metric 600 pref medium
default via fe80::1 dev wlp2s0 proto ra metric 600 pref low
himanshu@himanshu-Inspiron-15-3511:~$ █

```

MANAGING LOCAL LINUX USERS AND GROUPS

ubuntu या किसी linux distribution में, local users और groups को management करने के लिए कई order उपलब्ध हैं। यहाँ कुछ general रूप से use किए जाने वाले order दिए गए हैं

- Creating a User :

एक new user create करने के लिए, आप adduser command का use कर सकते हैं। examples के लिए, "jondo" name एक new users create करने के लिए, terminal में निम्नलिखित command run करें :

```
himanshu@himanshu-Inspiron-15-3511:~$ sudo adduser hj
[sudo] password for himanshu:
Adding user `hj' ...
Adding new group `hj' (1001) ...
Adding new user `hj' (1001) with group `hj' ...
Creating home directory `/home/hj' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for hj
Enter the new value, or press ENTER for the default
    Full Name []: himanshu
    Room Number []: himanshu
    Work Phone []: himanshu
    Home Phone []: himanshu
    Other []: na
Is the information correct? [Y/n] y
```

- Adding a user to a group :

users को किसी existing group में add करने के लिए, usermod command का use करें। example के लिए, users "jondo" को "sudo" group में add करने के लिए, निम्नलिखित command run करें :

```
himanshu@himanshu-Inspiron-15-3511:~$ sudo usermod -aG sudo johndoe
usermod: user 'johndoe' does not exist
himanshu@himanshu-Inspiron-15-3511:~$ sudo usermod -aG sudo hj
himanshu@himanshu-Inspiron-15-3511:~$
```

- Creating a Group :

एक new group create करने के लिए, addgroup command का use करें।
example के लिए, "webdevs" name एक new group create करने के लिए, निम्नलिखित command run करें :

```
himanshu@himanshu-Inspiron-15-3511:~$ sudo usermod -aG sudo johndoe
usermod: user 'johndoe' does not exist
himanshu@himanshu-Inspiron-15-3511:~$ sudo usermod -aG sudo hj
himanshu@himanshu-Inspiron-15-3511:~$ sudo addgroup webdevs
Adding group `webdevs' (GID 1002) ...
Done.
himanshu@himanshu-Inspiron-15-3511:~$ sudo addgroup hc
Adding group `hc' (GID 1003) ...
Done.
himanshu@himanshu-Inspiron-15-3511:~$
```

- Deleting a User :

किसी users को delete करने के लिए, deluser command का use करें।
example के लिए, users "jondo" को delete करने के लिए, निम्नलिखित command run करें :

```
himanshu@himanshu-Inspiron-15-3511:~$ sudo deluser hj
Removing user `hj' ...
Warning: group `hj' has no more members.
Done.
himanshu@himanshu-Inspiron-15-3511:~$
```

- Delete a group :

किसी group को delete करने के लिए, delete group command का use करें। example के लिए, "webdevs" group को delete के लिए, निम्नलिखित command run करें :

```
himanshu@himanshu-Inspiron-15-3511:~$ sudo usermod -aG sudo johndoe
usermod: user 'johndoe' does not exist
himanshu@himanshu-Inspiron-15-3511:~$ sudo usermod -aG sudo hj
himanshu@himanshu-Inspiron-15-3511:~$ sudo addgroup webdevs
Adding group `webdevs' (GID 1002) ...
Done.
himanshu@himanshu-Inspiron-15-3511:~$ sudo addgroup hc
Adding group `hc' (GID 1003) ...
Done.
himanshu@himanshu-Inspiron-15-3511:~$ sudo deluser johndoe
/usr/sbin/deluser: The user `johndoe' does not exist.
himanshu@himanshu-Inspiron-15-3511:~$ sudo deluser hj
Removing user `hj' ...
Warning: group `hj' has no more members.
Done.
himanshu@himanshu-Inspiron-15-3511:~$ sudo delgroup webdevs
Removing group `webdevs' ...
Done.
himanshu@himanshu-Inspiron-15-3511:~$ sudo delgroup hc
Removing group `hc' ...
Done.
himanshu@himanshu-Inspiron-15-3511:~$ █
```

ये उन command के कुछ example हैं जिनका use आप ubuntu या किसी other linux distribution में local users and groups को management करने के लिए कर सकते हैं। आप इन command और other more information ubuntu document में या terminal में man command का use करके find कर सकते हैं।