



Mawlana Bhashani Science and Technology University

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```
asikur@asikur-HP-EliteBook-840-G2: ~  
asikur@asikur-HP-EliteBook-840-G2:~$ 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 382 bytes 35993 (35.9 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 382 bytes 35993 (35.9 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
wlo1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.0.10 netmask 255.255.255.0 broadcast 192.168.0.255  
    inet6 fe80::241c:fe78:9f2:e5de prefixlen 64 scopeid 0x20<link>  
    ether 34:02:86:98:ec:43 txqueuelen 1000 (Ethernet)  
    RX packets 48408 bytes 67223095 (67.2 MB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 44338 bytes 5157809 (5.1 MB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
asikur@asikur-HP-EliteBook-840-G2:~$ |
```

```
asikur@asikur-HP-EliteBook-840-G2: ~  
RX packets 48408  bytes 67223095 (67.2 MB)  
RX errors 0  dropped 0  overruns 0  frame 0  
TX packets 44338  bytes 5157809 (5.1 MB)  
TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0  
  
asikur@asikur-HP-EliteBook-840-G2:~$ ip  
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] | -iec | -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]}
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ tracepath
```

Usage

```
tracepath [options] <destination>
```

Options:

-4	use IPv4
-6	use IPv6
-b	print both name and ip
-l <length>	use packet <length>
-m <hops>	use maximum <hops>
-n	no dns name resolution
-p <port>	use destination <port>
-V	print version and exit
<destination>	dns name or ip address

For more details see tracepath(8).

```
asikur@asikur-HP-EliteBook-840-G2:~$ |
```

```
asikur@asikur-HP-EliteBook-840-G2: ~  
asikur@asikur-HP-EliteBook-840-G2:~$ netstat  
Active Internet connections (w/o servers)  
Proto Recv-Q Send-Q Local Address           Foreign Address         State  
tcp        0      0 asikur-HP-EliteBo:38620 aqualea.canonical:https ESTABLISHED  
tcp       3796      0 asikur-HP-EliteBo:57522 bahamutt.canonica:https ESTABLISHED  
tcp        0      0 asikur-HP-EliteBo:38678 aqualea.canonical:https ESTABLISHED  
udp        0      0 asikur-HP-EliteB:bootpc _gateway:bootps         ESTABLISHED  
Active UNIX domain sockets (w/o servers)  
Proto RefCnt Flags               Type               State         I-Node  Path  
unix    2      [ ]                 DGRAM                
d/notify  
unix    2      [ ]                 DGRAM              31414        /run/wpa_supplicant/w  
lo1  
unix    2      [ ]                 DGRAM              31442        /run/wpa_supplicant/p  
2p-dev-wlo1  
unix    4      [ ]                 DGRAM              14933        /run/systemd/notify  
unix    2      [ ]                 DGRAM              14947        /run/systemd/journal/  
syslog  
unix   21      [ ]                 DGRAM              14957        /run/systemd/journal/  
dev-log  
unix    9      [ ]                 DGRAM              14961        /run/systemd/journal/  
socket  
unix    2      [ ]                 DGRAM              36810  
unix    2      [ ]                 DGRAM              26325
```

```

socket
unix 3      [ ]          STREAM     CONNECTED   38781
unix 3      [ ]          STREAM     CONNECTED   41531    /run/user/1000/bus
unix 3      [ ]          STREAM     CONNECTED   39011    /run/user/1000/bus
unix 3      [ ]          STREAM     CONNECTED   37616
unix 3      [ ]          STREAM     CONNECTED   34260
unix 3      [ ]          STREAM     CONNECTED   31031    /run/dbus/system_bus_
socket
unix 3      [ ]          DGRAM      79908
unix 3      [ ]          STREAM     CONNECTED   43074
unix 3      [ ]          STREAM     CONNECTED   38597    @/tmp/.X11-unix/X0
unix 3      [ ]          STREAM     CONNECTED   37875    /run/user/1000/bus
unix 3      [ ]          STREAM     CONNECTED   36714
unix 3      [ ]          DGRAM      14935
unix 3      [ ]          STREAM     CONNECTED   42160    /run/user/1000/bus
unix 3      [ ]          STREAM     CONNECTED   41711    /run/dbus/system_bus_
socket
unix 3      [ ]          STREAM     CONNECTED   36789    /run/user/1000/bus
unix 3      [ ]          STREAM     CONNECTED   21342    /run/systemd/journal/
stdout
unix 3      [ ]          STREAM     CONNECTED   41489
unix 3      [ ]          STREAM     CONNECTED   46398    @/dbus-vfs-daemon/soc
ket-Tu30aamu

```

asikur@asikur-HP-EliteBook-840-G2:~\$ ss

Netid	State	Recv-Q	Send-Q	Peer Address:Port	Local Address:Port	Process
u_str	ESTAB	0	0			* 42323
u_str	ESTAB	0	0	* 45182		
u_str	ESTAB	0	0		/run/dbus/system_bus_socket	44389
u_str	ESTAB	0	0	* 44388		
u_str	ESTAB	0	0			* 38781
u_str	ESTAB	0	0	* 41718		
u_str	ESTAB	0	0		/run/user/1000/bus	41531
u_str	ESTAB	0	0	* 38623		
u_str	ESTAB	0	0		/run/user/1000/bus	39011
u_str	ESTAB	0	0	* 37991		
u_str	ESTAB	0	0			* 37616
u_str	ESTAB	0	0	* 33733		
u_str	ESTAB	0	0			* 34260
u_str	ESTAB	0	0	* 30710		
u_str	ESTAB	0	0		/run/dbus/system_bus_socket	31031
u_str	ESTAB	0	0	* 29192		
u_str	ESTAB	0	0			* 43074
u_str	ESTAB	0	0	* 44254		
u_str	ESTAB	0	0		@/tmp/.X11-unix/X0	38597
u_str	ESTAB	0	0	* 40514		


```
asikur@asikur-HP-EliteBook-840-G2: ~  
u_str ESTAB 0 0 * 44120 * 48662  
u_str ESTAB 0 0 * 51057 * 43232  
u_str ESTAB 0 0 * 45158 * 42044  
u_str ESTAB 0 0 * 39869 /run/dbus/system_bus_socket 42656  
u_str ESTAB 0 0 * 45426 * 39670  
u_str ESTAB 0 0 * 40643 * 39415  
u_str ESTAB 0 0 * 39416 *:ipv6-icmp  
icmp6 UNCONN 0 0 *: *  
udp ESTAB 0 0 192.168.0.10:wlo1:bootpc  
tcp ESTAB 0 0 192.168.0.10:38620  
tcp ESTAB 0 0 91.189.88.178:https  
tcp ESTAB 0 0 91.189.88.179:https  
tcp ESTAB 0 0 91.189.88.178:https  
asikur@asikur-HP-EliteBook-840-G2:~$
```

```
asikur@asikur-HP-EliteBook-840-G2: ~  
91.189.88.178:https  
asikur@asikur-HP-EliteBook-840-G2:~$ dig  
  
; <<>> DiG 9.16.1-Ubuntu <<>>  
;; global options: +cmd  
;; Got answer:  
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 57387  
;; flags: qr rd ra; QUERY: 1, ANSWER: 13, AUTHORITY: 0, ADDITIONAL: 1  
  
;; OPT PSEUDOSECTION:  
; EDNS: version: 0, flags:; udp: 65494  
;; QUESTION SECTION:  
;.                               IN      NS  
  
;; ANSWER SECTION:  
.           59216   IN      NS      f.root-servers.net.  
.           59216   IN      NS      j.root-servers.net.  
.           59216   IN      NS      l.root-servers.net.  
.           59216   IN      NS      a.root-servers.net.  
.           59216   IN      NS      b.root-servers.net.  
.           59216   IN      NS      c.root-servers.net.  
.           59216   IN      NS      i.root-servers.net.  
.           59216   IN      NS      g.root-servers.net.  
.           59216   IN      NS      d.root-servers.net.
```

```
asikur@asikur-HP-EliteBook-840-G2: ~  
;; QUESTION SECTION:  
;;  
;; ANSWER SECTION:  
. 59216 IN NS f.root-servers.net.  
. 59216 IN NS j.root-servers.net.  
. 59216 IN NS l.root-servers.net.  
. 59216 IN NS a.root-servers.net.  
. 59216 IN NS b.root-servers.net.  
. 59216 IN NS c.root-servers.net.  
. 59216 IN NS i.root-servers.net.  
. 59216 IN NS g.root-servers.net.  
. 59216 IN NS d.root-servers.net.  
. 59216 IN NS k.root-servers.net.  
. 59216 IN NS h.root-servers.net.  
. 59216 IN NS e.root-servers.net.  
. 59216 IN NS m.root-servers.net.  
  
;; Query time: 244 msec  
;; SERVER: 127.0.0.53#53(127.0.0.53)  
;; WHEN: Mon Nov 23 16:06:58 +06 2020  
;; MSG SIZE rcvd: 239  
  
asikur@asikur-HP-EliteBook-840-G2:~$ |
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ route
Kernel IP routing table
Destination    Gateway         Genmask         Flags Metric Ref    Use Iface
default        _gateway        0.0.0.0         UG    600    0      0 wlo1
link-local     0.0.0.0         255.255.0.0     U     1000   0      0 wlo1
192.168.0.0    0.0.0.0         255.255.255.0   U     600    0      0 wlo1
asikur@asikur-HP-EliteBook-840-G2:~$ |
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ host
Usage: host [-aCdilrTvVw] [-c class] [-N ndots] [-t type] [-W time]
          [-R number] [-m flag] hostname [server]
  -a is equivalent to -v -t ANY
  -A is like -a but omits RRSIG, NSEC, NSEC3
  -c specifies query class for non-IN data
  -C compares SOA records on authoritative nameservers
  -d is equivalent to -v
  -l lists all hosts in a domain, using AXFR
  -m set memory debugging flag (trace|record|usage)
  -N changes the number of dots allowed before root lookup is done
  -r disables recursive processing
  -R specifies number of retries for UDP packets
  -s a SERVFAIL response should stop query
  -t specifies the query type
  -T enables TCP/IP mode
  -U enables UDP mode
  -v enables verbose output
  -V print version number and exit
  -w specifies to wait forever for a reply
  -W specifies how long to wait for a reply
  -4 use IPv4 query transport only
  -6 use IPv6 query transport only
asikur@asikur-HP-EliteBook-840-G2:~$
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ arp
Address          HWtype  HWaddress      Flags Mask    Iface
192.168.0.1      ether   18:0f:76:8a:64:44  C             wlo1
asikur@asikur-HP-EliteBook-840-G2:~$ |
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ hostname  
asikur-HP-EliteBook-840-G2  
asikur@asikur-HP-EliteBook-840-G2:~$ |
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ whois
```

```
Command 'whois' not found, but can be installed with:
```

```
sudo apt install whois
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ sudo apt install whois|
```



```
asikur@asikur-HP-EliteBook-840-G2:~$ sudo apt install whois
[sudo] password for asikur:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  libfprint-2-tod1
Use 'sudo apt autoremove' to remove it.
The following NEW packages will be installed:
  whois
0 upgraded, 1 newly installed, 0 to remove and 217 not upgraded.
Need to get 44.7 kB of archives.
After this operation, 279 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal/main amd64 whois amd64 5.5.6 [44.7 kB]
Fetched 44.7 kB in 13s (3,518 B/s)
Selecting previously unselected package whois.
(Reading database ... 183238 files and directories currently installed.)
Preparing to unpack .../archives/whois_5.5.6_amd64.deb ...
Unpacking whois (5.5.6) ...
Setting up whois (5.5.6) ...
Processing triggers for man-db (2.9.1-1) ...
```

```
asikur@asikur-HP-EliteBook-840-G2: ~  
Processing triggers for man-db (2.9.1-1) ...  
asikur@asikur-HP-EliteBook-840-G2:~$ whois  
Usage: whois [OPTION]... OBJECT...  
  
-h HOST, --host HOST    connect to server HOST  
-p PORT, --port PORT    connect to PORT  
-I                      query whois.iana.org and follow its referral  
-H                      hide legal disclaimers  
    --verbose           explain what is being done  
    --help              display this help and exit  
    --version           output version information and exit  
  
These flags are supported by whois.ripe.net and some RIPE-like servers:  
-l                      find the one level less specific match  
-L                      find all levels less specific matches  
-m                      find all one level more specific matches  
-M                      find all levels of more specific matches  
-c                      find the smallest match containing a mnt-irt attribute  
-x                      exact match  
-b                      return brief IP address ranges with abuse contact  
-B                      turn off object filtering (show email addresses)  
-G                      turn off grouping of associated objects  
-d                      return DNS reverse delegation objects too  
-i ATTR[,ATTR]...      do an inverse look-up for specified ATTRibutes
```

```
asikur@asikur-HP-EliteBook-840-G2: ~  
asikur@asikur-HP-EliteBook-840-G2:~$ sudo apt install iftop  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following package was automatically installed and is no longer required:  
  libfprint-2-tod1  
Use 'sudo apt autoremove' to remove it.  
The following NEW packages will be installed:  
  iftop  
0 upgraded, 1 newly installed, 0 to remove and 217 not upgraded.  
Need to get 36.3 kB of archives.  
After this operation, 95.2 kB of additional disk space will be used.  
Get:1 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 iftop amd64 1.0~pre4-6build1 [36.3 kB]  
Fetched 36.3 kB in 3s (11.2 kB/s)  
Selecting previously unselected package iftop.  
(Reading database ... 183247 files and directories currently installed.)  
Preparing to unpack .../iftop_1.0~pre4-6build1_amd64.deb ...  
Unpacking iftop (1.0~pre4-6build1) ...  
Setting up iftop (1.0~pre4-6build1) ...  
Processing triggers for man-db (2.9.1-1) ...  
asikur@asikur-HP-EliteBook-840-G2:~$ |
```

```
asikur@asikur-HP-EliteBook-840-G2:~$ iftop
interface: wlo1
IP address is: 192.168.0.10
MAC address is: 34:02:86:98:ec:43
pcap_open_live(wlo1): wlo1: You don't have permission to capture on that device
(socket: Operation not permitted)
asikur@asikur-HP-EliteBook-840-G2:~$ |
```