

T1

```
user@AA3209-Ubuntu:~$ ip address 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: ens160: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:50:56:88:17:5f brd ff:ff:ff:ff:ff:ff
    inet 172.21.0.138/28 brd 172.21.0.143 scope global dynamic ens160
        valid_lft 68228sec preferred_lft 68228sec
    inet6 fe80::250:56ff:fe88:175f/64 scope link
        valid_lft forever preferred_lft forever
user@AA3209-Ubuntu:~$
```

T2

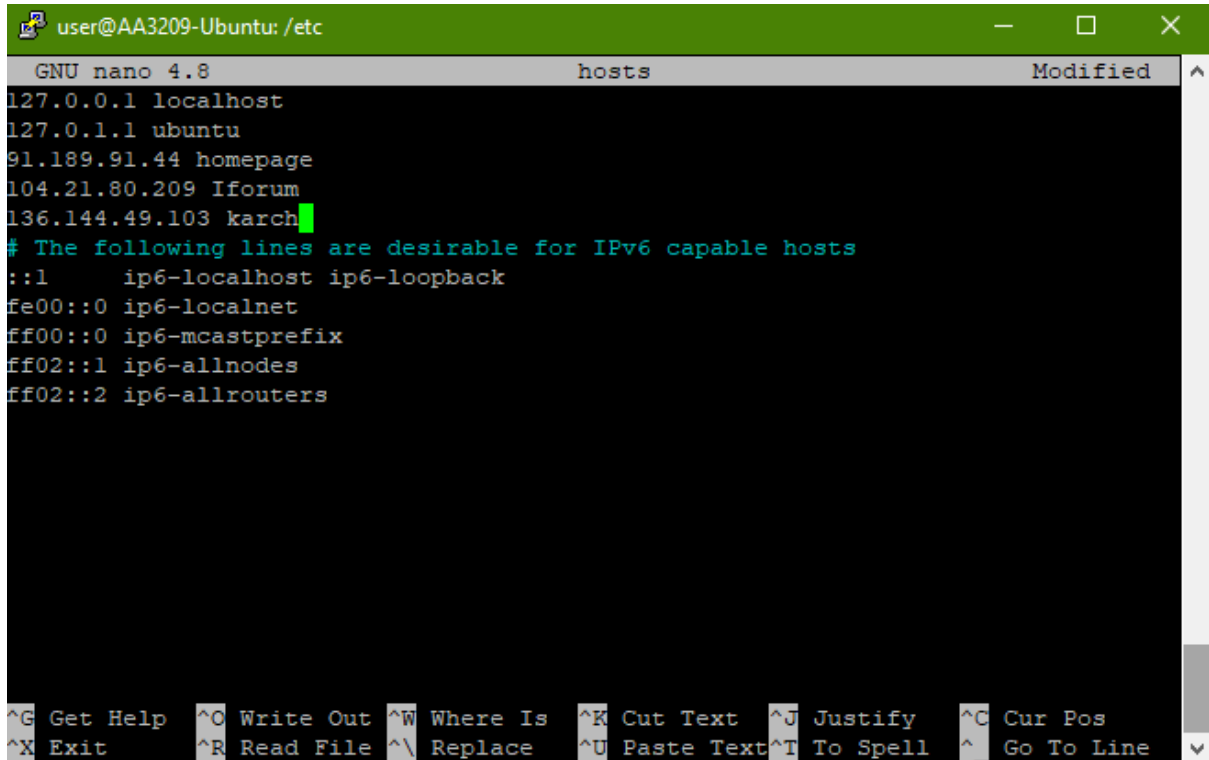
```
user@AA3209-Ubuntu:~$ ping www.ubuntu.com
PING www.ubuntu.com (91.189.91.44) 56(84) bytes of data.
64 bytes from elvira.canonical.com (91.189.91.44): icmp_seq=1 ttl=46 time=119 ms
64 bytes from elvira.canonical.com (91.189.91.44): icmp_seq=2 ttl=46 time=119 ms
64 bytes from elvira.canonical.com (91.189.91.44): icmp_seq=3 ttl=46 time=119 ms
64 bytes from elvira.canonical.com (91.189.91.44): icmp_seq=4 ttl=46 time=119 ms
^C
--- www.ubuntu.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 119.266/119.385/119.495/0.097 ms
```

```
user@AA3209-Ubuntu:~$ ping www.linux.org
PING www.linux.org (104.21.80.209) 56(84) bytes of data.
64 bytes from 104.21.80.209 (104.21.80.209): icmp_seq=1 ttl=53 time=6.33 ms
64 bytes from 104.21.80.209 (104.21.80.209): icmp_seq=2 ttl=53 time=6.37 ms
64 bytes from 104.21.80.209 (104.21.80.209): icmp_seq=3 ttl=53 time=6.45 ms
^C
--- www.linux.org ping statistics ---
```

```
user@AA3209-Ubuntu:~$ ping www.kernel.org
PING fra.git.kernel.org (136.144.49.103) 56(84) bytes of data.
```

```
user@AA3209-Ubuntu:/etc$ cat hosts
127.0.0.1 localhost
127.0.1.1 ubuntu

# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0  ip6-localnet
ff00::0  ip6-mcastprefix
ff02::1  ip6-allnodes
ff02::2  ip6-allrouters
user@AA3209-Ubuntu:/etc$ sudo nano hosts
[sudo] password for user:
```



```
user@AA3209-Ubuntu: /etc
GNU nano 4.8 hosts Modified
127.0.0.1 localhost
127.0.1.1 ubuntu
91.189.91.44 homepage
104.21.80.209 Iforum
136.144.49.103 karch
# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0  ip6-localnet
ff00::0  ip6-mcastprefix
ff02::1  ip6-allnodes
ff02::2  ip6-allrouters

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Paste Text ^T To Spell  ^  Go To Line
```

```
user@AA3209-Ubuntu:~$ ping homepage
PING homepage (91.189.91.44) 56(84) bytes of data.
64 bytes from homepage (91.189.91.44): icmp_seq=1 ttl=46 time=119 ms
64 bytes from homepage (91.189.91.44): icmp_seq=2 ttl=46 time=119 ms
64 bytes from homepage (91.189.91.44): icmp_seq=3 ttl=46 time=119 ms
64 bytes from homepage (91.189.91.44): icmp_seq=4 ttl=46 time=120 ms
64 bytes from homepage (91.189.91.44): icmp_seq=5 ttl=46 time=119 ms
64 bytes from homepage (91.189.91.44): icmp_seq=6 ttl=46 time=119 ms
```

```

user@AA3209-Ubuntu:~$ ping iforum
PING iforum (104.21.80.209) 56(84) bytes of data.
64 bytes from iforum (104.21.80.209): icmp_seq=1 ttl=53 time=6.28 ms
64 bytes from iforum (104.21.80.209): icmp_seq=2 ttl=53 time=6.35 ms
64 bytes from iforum (104.21.80.209): icmp_seq=3 ttl=53 time=6.32 ms
64 bytes from iforum (104.21.80.209): icmp_seq=4 ttl=53 time=6.42 ms
64 bytes from iforum (104.21.80.209): icmp_seq=5 ttl=53 time=6.39 ms
^C
--- iforum ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4006ms
rtt min/avg/max/mdev = 6.281/6.352/6.421/0.048 ms
user@AA3209-Ubuntu:~$

```

```

user@AA3209-Ubuntu:~$ ping karch
PING karch (136.144.49.103) 56(84) bytes of data.
64 bytes from karch (136.144.49.103): icmp_seq=1 ttl=44 time=30.7 ms
64 bytes from karch (136.144.49.103): icmp_seq=2 ttl=44 time=30.8 ms
64 bytes from karch (136.144.49.103): icmp_seq=3 ttl=44 time=30.8 ms
^C
--- karch ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2004ms
rtt min/avg/max/mdev = 30.669/30.766/30.833/0.070 ms

```

T3

```

user@AA3209-Ubuntu:~$ netstat -l
Active Internet connections (only servers)

```

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State
tcp	0	0	localhost:domain	0.0.0.0:*	LISTEN
tcp	0	0	0.0.0.0:ssh	0.0.0.0:*	LISTEN
tcp6	0	0	:::http	:::*	LISTEN
tcp6	0	0	:::ssh	:::*	LISTEN
udp	0	0	localhost:domain	0.0.0.0:*	
udp	0	0	AA3209-Ubuntu:bootpc	0.0.0.0:*	
raw6	0	0	:::ipv6-icmp	:::*	7

```

Active UNIX domain sockets (only servers)

```

Proto	RefCnt	Flags	Type	State	I-Node	Path
unix	2	[ACC]	SEQPACKET	LISTENING	16433	/run/udev/control
unix	2	[ACC]	STREAM	LISTENING	8796975	/run/user/1000/systemd/private
unix	2	[ACC]	STREAM	LISTENING	8796981	/run/user/1000/bus
unix	2	[ACC]	STREAM	LISTENING	8796982	/run/user/1000/gnupg/S.dirmngr

T4

```
user@AA3209-Ubuntu:~$ ping www.techradar.com
PING vif08.web.future.net.uk (185.113.25.55) 56(84) bytes of data:
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=1 ttl=43 time=41
.6 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=2 ttl=43 time=41
.7 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=3 ttl=43 time=41
.9 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=4 ttl=43 time=41
.7 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=5 ttl=43 time=41
.6 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=6 ttl=43 time=41.4 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=7 ttl=43 time=41.5 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=8 ttl=43 time=41.7 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=9 ttl=43 time=41.7 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=10 ttl=43 time=41.6 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=11 ttl=43 time=41.5 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=12 ttl=43 time=41.5 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=13 ttl=43 time=41.7 ms
64 bytes from vif08.web.future.net.uk (185.113.25.55): icmp_seq=14 ttl=43 time=41.6 ms
^C
--- vif08.web.future.net.uk ping statistics ---
```

Average ping is 41.6ms and the server that responses is named vifos.web.future.net.uk

T5

```
user@AA3209-Ubuntu:~$ sudo apt install nethogs
```

```
user@AA3209-Ubuntu:~$ sudo apt install nethogs

*** System restart required ***
Last login: Sun Apr 11 17:59:16 2021 from 192.168.53.21
user@AA3209-Ubuntu:~$ nethogs
To run nethogs without being root you need to enable capabilities on the program (cap_net_admin, cap_net_raw), see the documentation for details.
user@AA3209-Ubuntu:~$ sudo nethogs
[sudo] password for user:
Ethernet link detected
Waiting for first packet to arrive (see sourceforge.net bug 1019381)
NetHogs version 0.8.5-2build2
```

PID	USER	PROGRAM	DEV	SENT	RECEIVED
3357925	user	sshd: user@pts/3	ens160	0.913	0.581 KB/sec
?	root	unknown TCP		0.000	0.000 KB/sec
TOTAL				0.913	0.581 KB/sec

```
--- vif08.web.future.net.uk ping statistics ---
14 packets transmitted, 14 received, 0% packet loss, time 13020ms
rtt min/avg/max/mdev = 41.444/41.634/41.861/0.109 ms
user@AA3209-Ubuntu:~$ sudo apt install nethogs
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  nethogs
0 upgraded, 1 newly installed, 0 to remove and 66 not upgraded.
Need to get 29.9 kB of archives.
After this operation, 86.0 kB of additional disk space will be used.
Get:1 http://fi.archive.ubuntu.com/ubuntu focal/universe amd64 nethogs amd64 0.8.5-2build2 [29.9 kB]
Fetched 29.9 kB in 0s (811 kB/s)
Selecting previously unselected package nethogs.
(Reading database ... 150580 files and directories currently installed.)
Preparing to unpack .../nethogs_0.8.5-2build2_amd64.deb ...
Unpacking nethogs (0.8.5-2build2) ...
Setting up nethogs (0.8.5-2build2) ...
Processing triggers for man-db (2.9.1-1) ...
user@AA3209-Ubuntu:~$ sudo apt install mysql-server
```

```
user@AA3209-Ubuntu: ~  
NetHogs version 0.8.5-2build2
```

PID	USER	PROGRAM	DEV	SENT	RECEIVED
3357925	user	sshd: user@pts/3	ens160	1.751	0.387 KB/sec
3357984	_apt	..sr/lib/apt/methods/htt	ens160	0.000	0.000 KB/sec
?	root	unknown TCP		0.000	0.000 KB/sec
TOTAL				1.751	0.387 KB/sec

```
done!  
update-alternatives: using /var/lib/mecab/dic/ipadic-utf8 to provide /var/lib/mecab/dic/de  
bian (mecab-dictionary) in auto mode  
Setting up libhtml-parser-perl (3.72-5) ...  
Setting up libhttp-message-perl (6.22-1) ...  
Setting up mysql-server-8.0 (8.0.23-0ubuntu0.20.04.1) ...  
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my.cnf) in a  
uto mode  
Renaming removed key_buffer and myisam-recover options (if present)  
mysqld will log errors to /var/log/mysql/error.log  
mysqld is running as pid 3358457  
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service -> /lib/systemd/s  
ystem/mysql.service.  
Setting up libcgi-pm-perl (4.46-1) ...  
Setting up libhtml-template-perl (2.97-1) ...  
Setting up mysql-server (8.0.23-0ubuntu0.20.04.1) ...  
Setting up libcgi-fast-perl (1:2.15-1) ...  
Processing triggers for systemd (245.4-4ubuntu3.3) ...  
Processing triggers for man-db (2.9.1-1) ...  
Processing triggers for libc-bin (2.31-0ubuntu9.1) ...
```

In Nethog you can see PID and user name that is doing something.

Download speed was approx. 0.5 KB/sec