

Setting up a static IP address on the Raspberry Pi

For this workshop we will use a static IP address between two computers.

Edit the network configuration file

First either launch Ixterminal from the desktop, or login to the console.

Edit the network configuration file by typing :

```
sudo nano /etc/network/interfaces
```

Change `iface eth0 inet dhcp` to `iface eth0 inet static`

Directly below this line, put the following information:

```
address 192.168.0.PiNumber
netmask 255.255.255.0
network 192.168.0.0
broadcast 192.168.0.255
gateway 192.168.0.1
```

Make sure you put the number of your Pi in place of PiNumber.

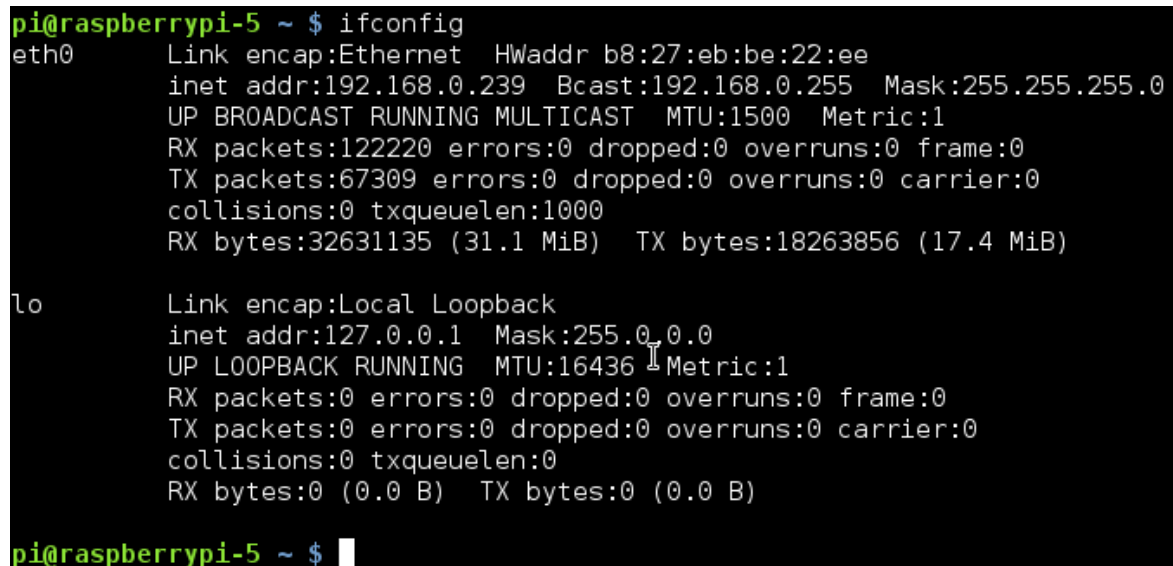
Save the file by pressing CTRL + X, then press the y key and then press the enter key. Then type:

```
sudo reboot
```

Now that the Raspberry Pi has been rebooted, it should have the static IP address configured.

Confirming your new static IP address

Type in `ifconfig` to confirm that the IP address has changed. The screenshot below is an example where it has been set to 192.168.0.239



```
pi@raspberrypi-5 ~ $ ifconfig
eth0      Link encap:Ethernet  HWaddr b8:27:eb:be:22:ee
          inet addr:192.168.0.239  Bcast:192.168.0.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:122220 errors:0 dropped:0 overruns:0 frame:0
          TX packets:67309 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:32631135 (31.1 MiB)  TX bytes:18263856 (17.4 MiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

pi@raspberrypi-5 ~ $
```

Checking that you can communicate with another device

First either launch lxterminal from the desktop, or log in to the console.

Then type in the following, replacing the number 2 with the number of the other device you want to ping.

```
ping 192.168.0.2
```

You should then see a screen like this:

```
pi@raspberrypi-5 ~ $ ping 192.168.0.1
PING 192.168.0.1 (192.168.0.1) 56(84) bytes of data.
64 bytes from 192.168.0.1: icmp_req=1 ttl=64 time=28.2 ms
64 bytes from 192.168.0.1: icmp_req=2 ttl=64 time=10.5 ms
64 bytes from 192.168.0.1: icmp_req=3 ttl=64 time=10.4 ms
64 bytes from 192.168.0.1: icmp_req=4 ttl=64 time=10.6 ms
64 bytes from 192.168.0.1: icmp_req=5 ttl=64 time=10.5 ms
^C
--- 192.168.0.1 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4007ms
rtt min/avg/max/mdev = 10.469/14.093/28.207/7.058 ms
pi@raspberrypi-5 ~ $
```

Then Press CTRL + C to stop the ping program if ping is successful.

This confirms that network communication was possible from the Pi to the device.

You can also use a website domain such as `www.google.com` to ping the outside network, if connected.