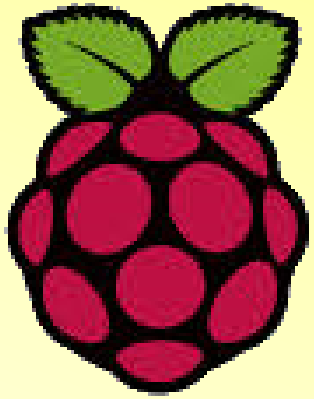
Raspberry Pi



By Declan Fox

Raspberry Pi

As we can't bring flat screen TVs in to CoderDojo with us we have to find another way of controlling our Raspberry Pi.

Headless operation is when log in to one computer from another.

We are going to use SSH and VNC to connect to our Pi.

Headless operation

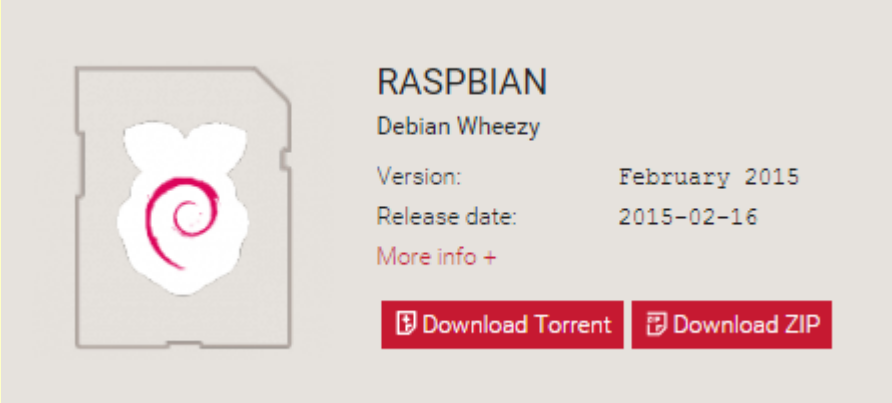
What you will need

1. Raspberry Pi
2. SD Card (4GB+)
3. Power source (Android charger)
4. Patch cable(Ethernet cable)
5. Laptop/PC and SD card reader

Set up SD card

Step 1.

Download Raspbian Wheezy from http://www.raspberrypi.org/downloads/



Set up SD card

Step2.

Download win32diskimager from http://sourceforge.net/projects/win32diskimager/

Step 3.

Extract the executable from the zip file and run the Win32DiskImager utility

Set up SD card

Step 4.

Select the image file(Raspbian) and unzip it.

Step 5.

Select the drive letter of the SD card in the device box. **Be careful to select the correct drive; if you get the wrong one you can destroy your data on the computer's hard disk!**

Set up SD card

Step 6.

Click Write and wait for the write to complete.

Step 7.

Exit the imager and eject the SD card.

Connect your RPi

Step 1.

Download and install Putty from http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Step 2.

Download and install Advanced IP Scanner from http://www.advanced-ip-scanner.com/

Connect your RPi

Step 3.

Connect your Patch cable to your laptop and your Raspberry Pi.

Step 4.

Power up your Raspberry Pi.

Connect your RPi

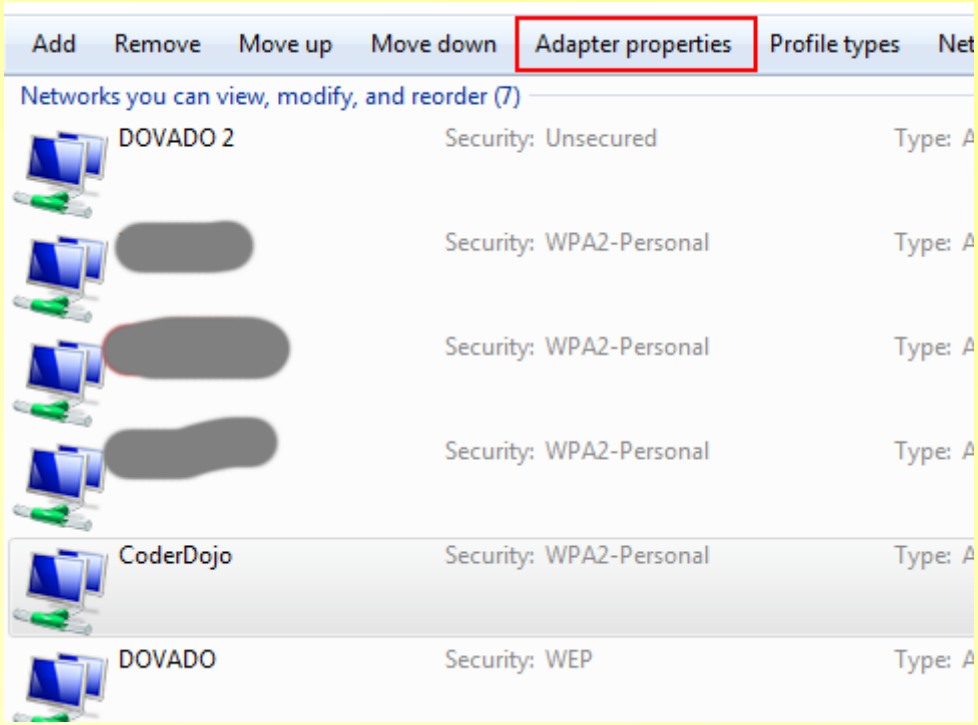
Step 5.

On your laptop click on the

Start orb >> Control panel >> Network and Internet >> Network and Sharing Centre >> Manage wireless networks

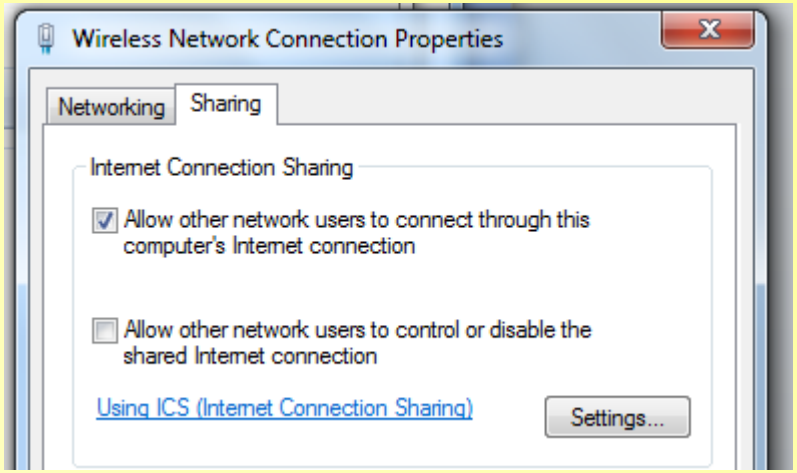
Select your Wi Fi connection and click on adapter Properties.

Connect your RPi



Connect your RPi

On the pop up window click on the sharing tab.



Tick Allow other network users to connect through this computer's internet connection.

Connect your RPi

Step 6.

Start Advanced IP scanner and click the Scan button.

Your Raspberry Pi should show up on the list of connected devices.

If your Raspberry Pi doesn’t show up you may set up a network bridge.

Connect your RPi

Setting up a network bridge

Make sure that you untick the check box for sharing your connection then follow the instructions here

Then use the ip scanner as before.

Important

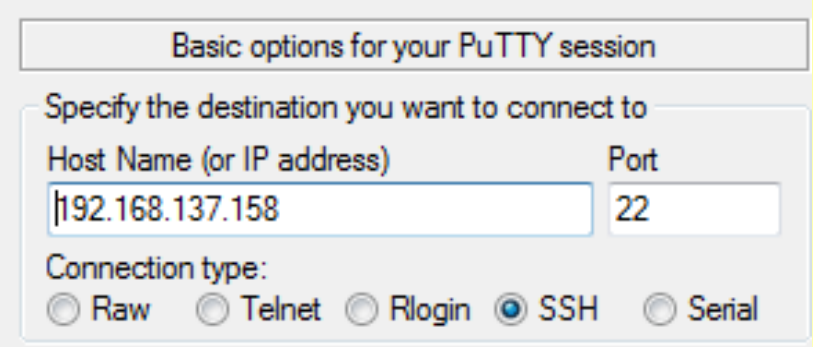
Make sure you delete the bridge when you're finished as it's a big security risk.

Raspberry Pi

Step 7.

Start Putty

Type in your Rpi's IP address and click open



Raspberry Pi

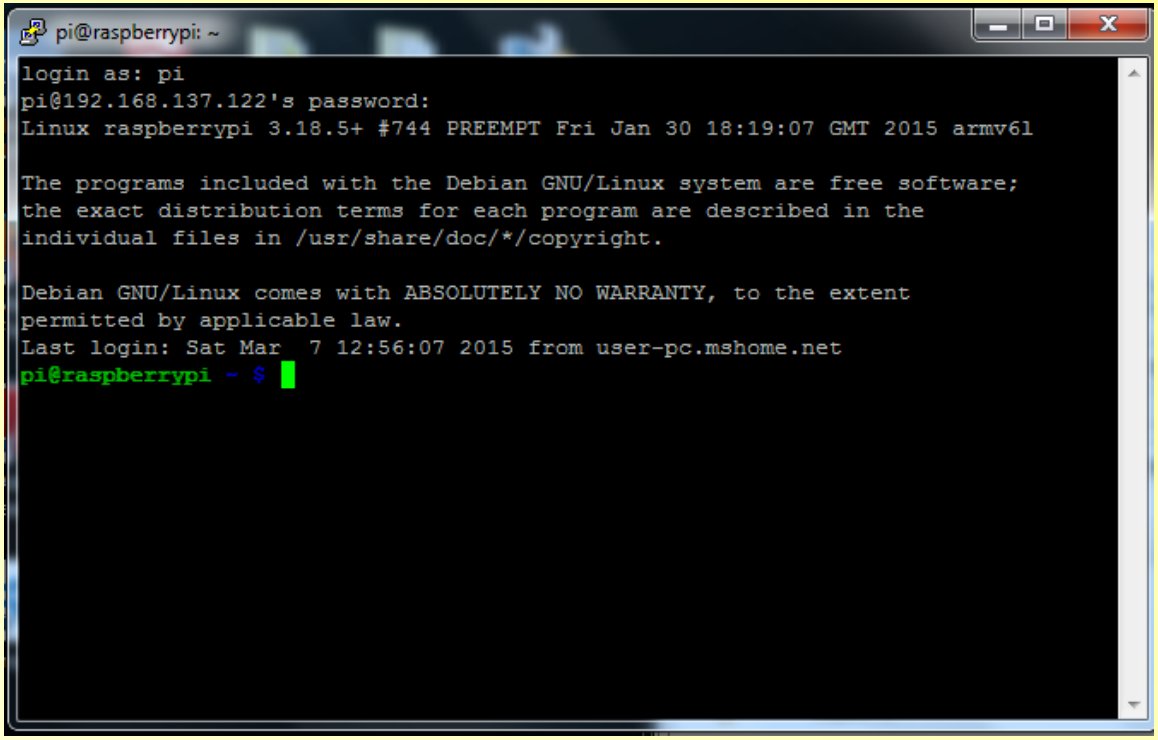
Step 8.

The default login is pi

The default password is raspberry

Raspberry Pi

You should now be logged into your Raspberry Pi



Raspberry Pi

Next we're going to set up, and log in to, a remote desktop.

VNC is a graphical desktop sharing system that allows you to remotely control the desktop interface of one computer from another. It transmits the keyboard and mouse events from the controller, and receives updates to the screen over the network from the remote host.

Raspberry Pi

Step 1.

Install TightVNC on your Raspberry Pi

```
pi@raspberrypi ~ $ sudo apt-get update
```

```
pi@raspberrypi ~ $ sudo apt-get install tightvncserver
```

Raspberry Pi

Step 2.

To install TightVNC Viewer on your laptop go to http://www.tightvnc.com/ , download and install the version for your computer.

You just need to install the Viewer only

Raspberry Pi

Step 3.

Start TightVNC on your Raspberry Pi

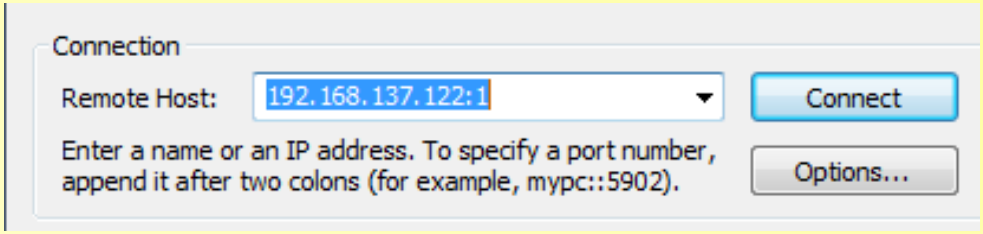
```
pi@raspberrypi ~ $ /usr/bin/tightvncserver

New 'X' desktop is raspberrypi:1

Starting applications specified in /home/pi/.vnc/xstartup
Log file is /home/pi/.vnc/raspberrypi:1.log
```

Take note of the number following raspberrypi this is the number of the desktop, you'll need this to connect. Set up a password

Raspberry Pi

Step 4.

Start TightVNC on your laptop

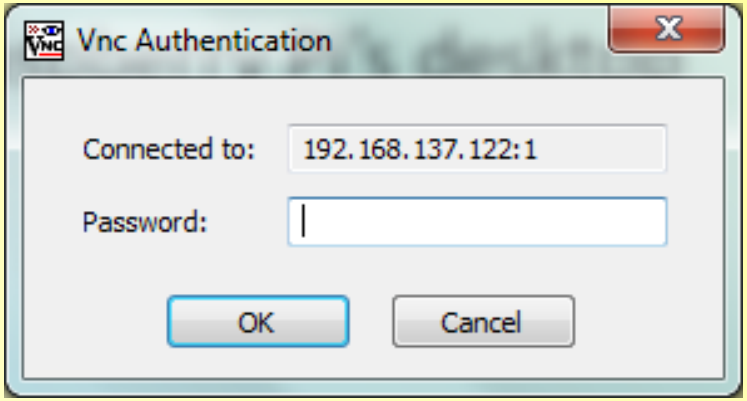


Enter your ip address followed by your desktop number and click connect.

Raspberry Pi

Step 5.

Enter your password and click OK



You should now be connected to your Raspberry Pi's desktop