BODGERS

Today

Setting up our own Raspberry Pi

1. Formatting SD Cards
2. SD Card Images
3. Putting Images on SD Cards
4. Configuring the Raspberry Pi
5. Connecting to the Raspberry Pi

Arduino Basics

1. The Arduino software
2. Simple sketch

Formatting SD Cards

If your SD Card is new it's ready to be used but if it has been used before it may need to be formatted.

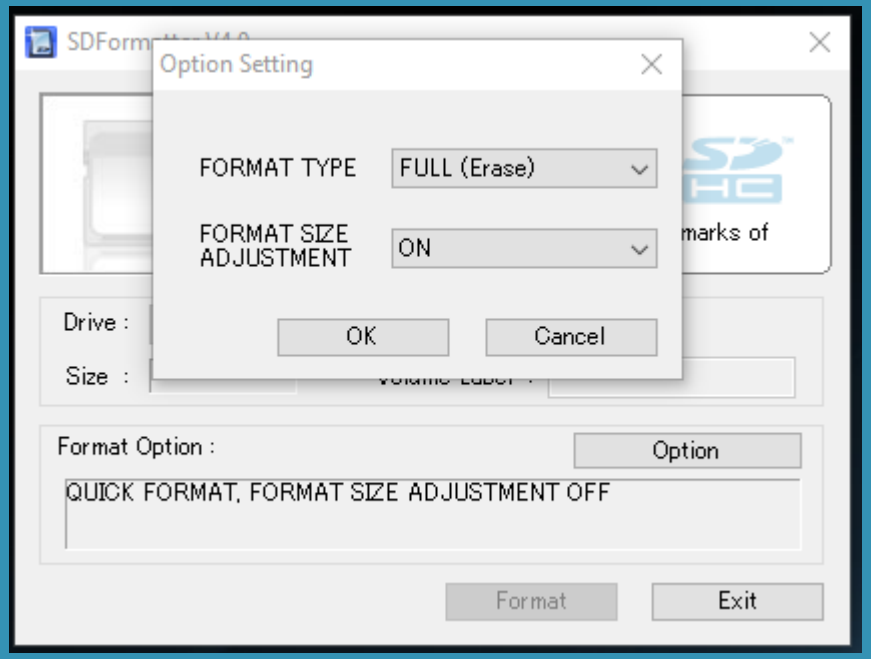
Go to https://www.sdcard.org/downloads/formatter_4/eula_windows/index.html scroll down and click Accept to download.

Install and open the software

Formatting SD Cards

Important make sure you select the correct drive for your SD Card

In options select Full (erase) for FORMAT TYPE and change FORMAT SIZE ADJUSTMENT SIZE to ON



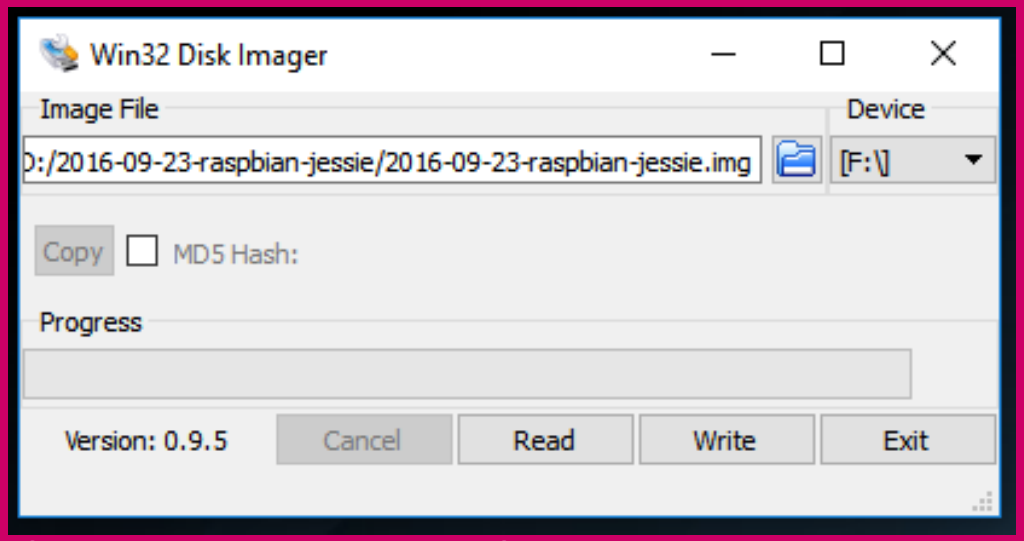
SD Card Images

There are some really interesting Images available for the Raspberry Pi. These include not only Retro Pi which is a huge collection of older games and Kodi which is an amazing media player but also other Linux Distros, windows 10 IOT, Android and even Risc OS

Putting a Raspbian Image On A SD Card

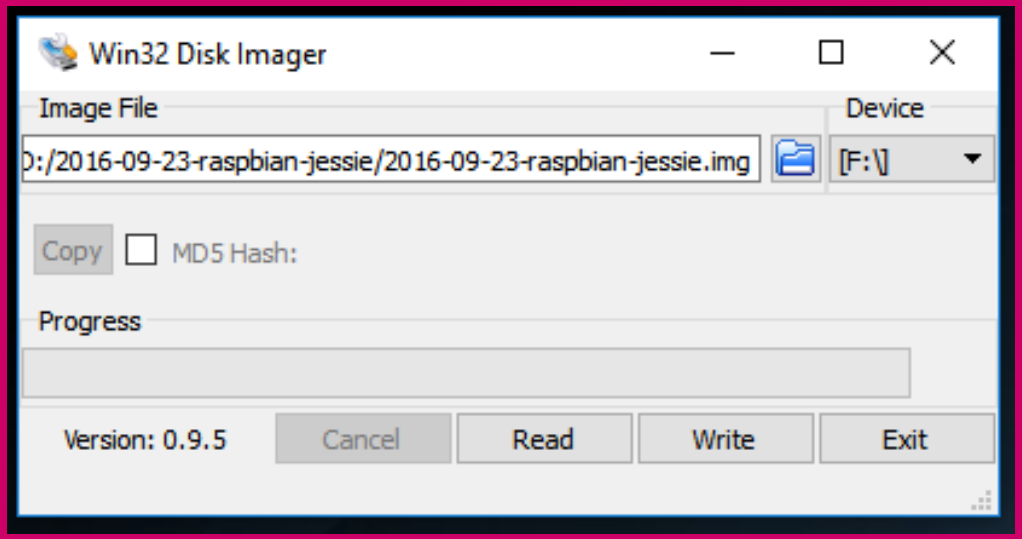
Go to https://www.raspberrypi.org/downloads/raspbian/ and download RASPBIAN JESSIE WITH PIXEL

Go to https://sourceforge.net/projects/win32diskimager/ and download win32diskimager



Click the folder icon and find the image you downloaded and ensure you select the correct drive again

Putting a Raspbian Image On A SD Card



Click Write to put the Image on the SD Card.

You can back up an Image by clicking Read

Configuring The Raspberry Pi

Due to changes in security policy SSH is disabled on the Raspberry Pi on first boot this means the easiest way to get started is to connect with a Monitor/TV and keyboard and mouse.

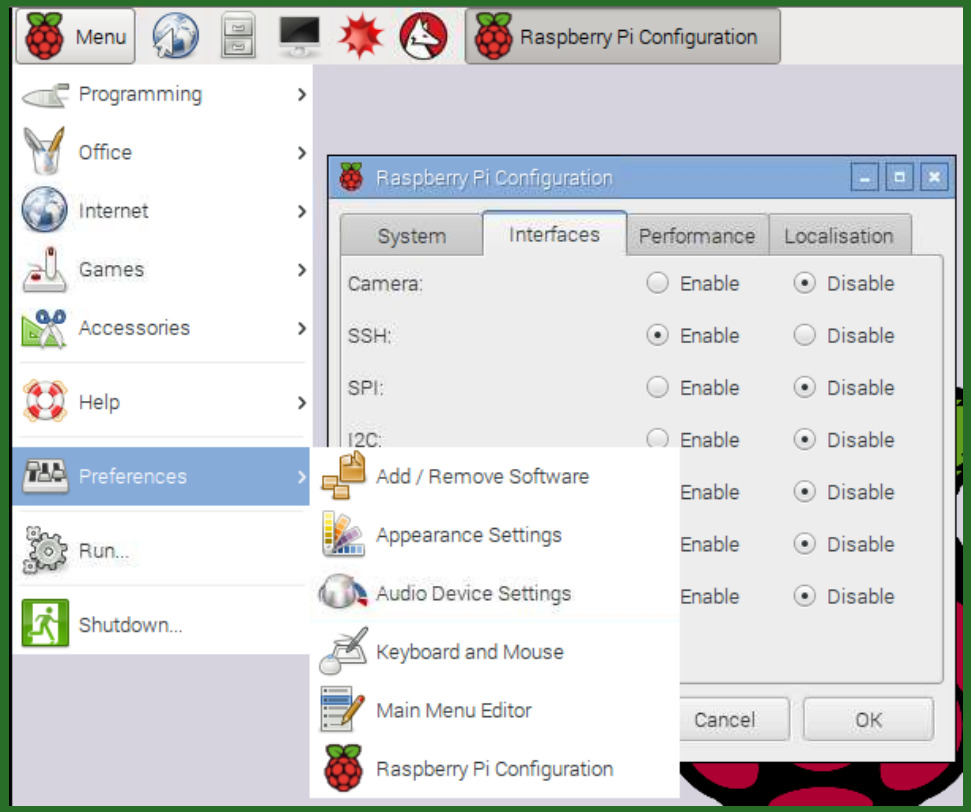
Once we are connected we can easily set up SSH, VNC and WIFI.

We can do this with the command line or with the GUI interface.

We will use GUI.

Configuring The Raspberry Pi

On the Raspberry Pi go to Menu>Preferences>Raspberry Pi Configuration



Enable SSH and VNC using the Radio Buttons

Connecting To The Raspberry Pi

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

Since the launch of the PIXEL Desktop the Raspberry Pi comes with Real VNC installed you should still be able to connect with Tight VNC Viewer but Real VNC Viewer is much better you can download it from here https://www.realvnc.com/download/viewer/windows/

Setting Up WIFI On The Raspberry Pi

Between the Bluetooth and speaker symbols there on the top right of your screen is where you will find the WIFI connection icon.

Click on it, click on wlan0 and then click on your WIFI and enter your password

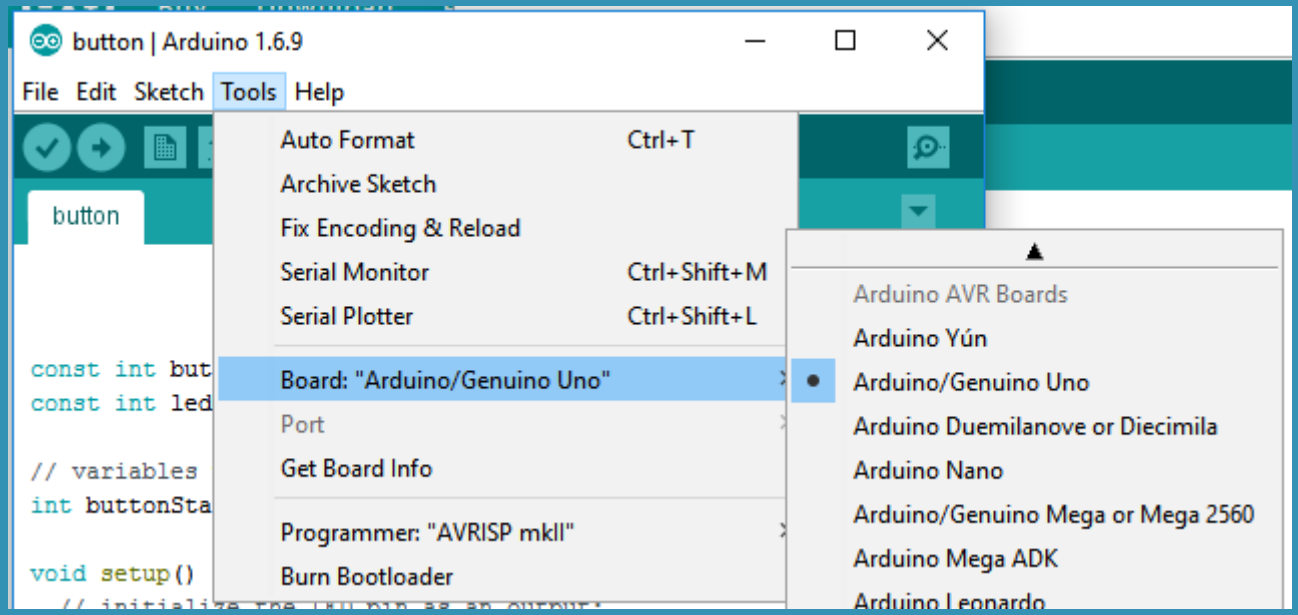
Arduino

First you will need to load the Arduino software on to your PC. The software is available here https://www.arduino.cc/en/Main/Software

Next you can connect your Arduino remember to use the correct USB cable.

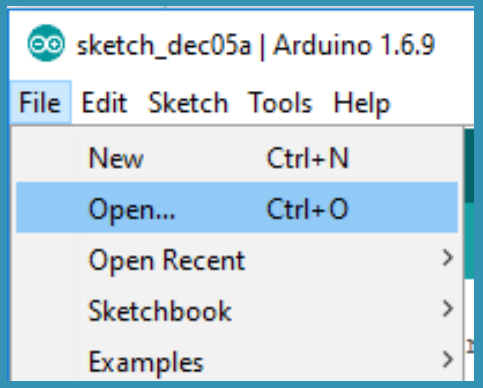
Arduino

Connect to the correct board



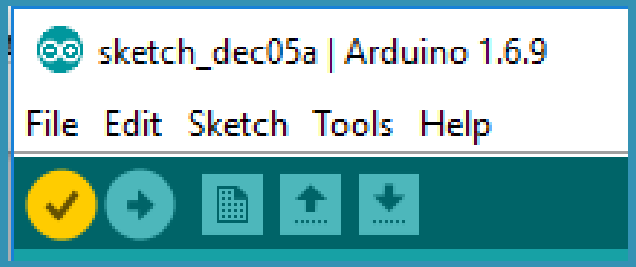
Arduino

Now you can either download or write your code. If you download the code you can open it using file>open



Arduino

Next Check that your code will compile using the Verify Icon(Correct Mark)



Arduino

Finally click on the upload icon (right arrow) to load your code onto the Arduino.

Remember the Arduino will run this code every time you start it up until you load some new code onto it.