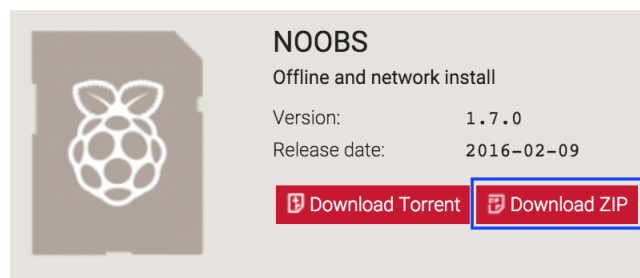


1 Introduction

The following are instructions on how to set up your Pi. You may do this on your own time or at the beginning of lab during the week of lab 5. Note that you will need a micro SD to SD card converter as well as an ethernet cord, which the TA's can loan you during your lab time.

2 Installing NOOBS

If you are on a lab computer in B160, skip to the next paragraph. These files are already downloaded for you on your desktop. Visit the Raspberry Pi website and click on downloads (<https://raspberrypi.org/downloads/>). Click on the image labeled “NOOBS”. Then click on the “Download ZIP” for the *offline* NOOBS install (see the blue box in the picture below).



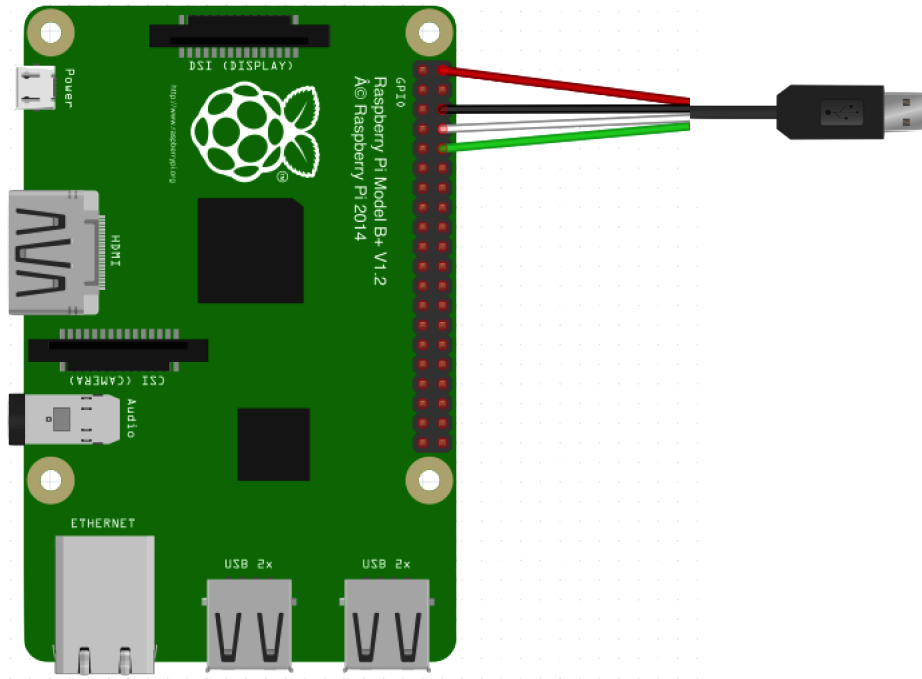
Extract the ZIP file, and drag and drop the **contents of the** unzipped folder (this unzipped folder is also on the B160 lab machine desktops) onto your SD card. If you drag and drop the folder itself, the install will not work. When the files are finished transferring, remove your SD card from the computer and insert it into the underside of your Pi. **Note:** Make sure that you hear a click when you push the SD card into your Pi; otherwise, it is not fully inserted.

3 Connecting the Wires

If you are on the Windows lab computers, plug the Desktop's blue HDMI cable into your Pi, as well as the two USB cables marked “Keyboard” and “Mouse”. You will have to press the black button that is velcroed to the table so that your Pi gains control of the keyboard and mouse instead of the lab computer. If you are not using a lab computer, go to the last page of this document to see how to connect to the Pi from your computer.

Now you will power the Pi by using the USB console cable from your lab kit. **Note: any error in this step could destroy your Pi, so please double check the wiring.**

First, connect the red, black, white, and green cable jumpers to the GPIO pins on your Pi shown below. **Never connect the USB end before connecting the jumper ends to the Pi first.**



Only after you are absolutely certain that the red, black, white, and green jumper cables are in the correct pins, you may plug the USB cable into power.

4 Booting for the First Time

If your screen is blank, hit the “1” key on your keyboard (this is for HDMI). Since this is your first time booting the Pi, a window will appear that shows different operating systems that you may install. Click the box next to “Raspbian” then click install. Once this process has finished, you may be presented with a setup screen. If not, go to terminal and type “`sudo raspi-config`”. Arrow down to “International Options”. Here, you should set your language (English), timezone (Eastern), and keyboard layout (U.S. generic). Use the arrow keys on your keyboard to navigate this screen. If you would ever like to return to this setup menu, type “`sudo raspi-config`” in the terminal. Once you have changed the Pi’s settings, reboot the Pi.

5 Shutdown and Reboot

When you are finished using your Pi, type the following in the terminal to safely shutdown: “`sudo shutdown -h now`”. To reboot, type: “`sudo shutdown -r now`”. The -h flag stands for halt, and the -r flag stands for reboot.

6 Other Useful Information

6.1 Changing Your Password/Adding New Users

Your Pi's default user is "pi" and password "raspberrypi". If you would like to change this password, log in with this user and type "passwd" in the terminal. You can change the password of user XYZ by typing "sudo passwd XYZ". To make a new user XYZ, type "sudo adduser XYZ". You will be prompted to enter a password; leaving it blank means the user will have no password.

6.2 Connecting to Your Pi from Your Computer

6.2.1 On Windows

Download the required driver for Windows by typing "PL2303 Windows" into Google. The webpage to download should be the first link. Download and install that driver. Then navigate to <http://courses.cs.purdue.edu/doku.php?id=cs25000:tutorials:tutorial1> and follow the instructions under "Step 4: Pi Log-in" for Windows.

6.2.2 On Mac

Download the required driver for Mac by typing "PL2303 Mac" into Google. The webpage to download should be the first link. Download and install that driver. Open Terminal and type "screen /dev/tty.usbserial 115200".

6.3 Wifi

There is a USB wifi adapter in your lab kit. From past experience, the Pi does not like to connect to PAL3.0 over wifi. I recommend that you find an ethernet connection (e.g., in your dorm room) and connect that way. If you would like to connect to a wifi network, go here: <http://courses.cs.purdue.edu/doku.php?id=cs25000:tutorials:tutorial1> and navigate to the "Connecting to the Internet" section.

6.4 Mounting a Flash Drive

If you would like to access a flash drive that you connect to your Pi, you need to mount it first. Type the following commands into the terminal:

```
sudo mkdir /mnt/usb
sudo mount /dev/sda1 /mnt/usb
```

If you want to move files to and from the flash drive, use the "cp" command. Type "man cp" into the terminal for more information on this command. When you are done using the flash drive, remember to unmount it before you remove it:

```
sudo umount /dev/sda1
```