

Setting up a Raspberry Pi



Used in this lab:

- **Raspberry Pi**
 - A credit card sized computer.
- **SD Card**
 - 8GB class 4 SD card, preinstalled with NOOBS. If the card does not have NOOBS preinstalled you can download it from <http://www.raspberrypi.org/downloads/>
- **Display and connectivity cables**
 - Any HDMI/DVI monitor or TV should work with a Pi. For the easiest connection, use one with an HDMI input. If the monitor does not have an HDMI connection an adapter will be necessary. (Example: HDMI to VGA adapter.)
 - HDMI cable to connect to a HDMI ready monitor or TV.
 - Use a standard Ethernet cable for internet access. Optional: You can purchase and use a usb adapter.
- **Keyboard and mouse**
 - Any standard USB keyboard and mouse will work with a Raspberry Pi.
- **Case for the Raspberry Pi**
- **Power supply**
 - Use a 5V micro USB power supply to power a Raspberry Pi

Helpful but not necessary:

- **Internet connection**

- To update or download software to the Raspberry Pi, connect your Raspberry Pi to the internet either via an ethernet cable or a wifi adapter.
- **Headphones**
 - Headphones or earphones with a 3.5mm jack.

Setting up a Raspberry Pi

Review the list of equipment to make sure that you have all of the items before you begin. Then follow these instructions:

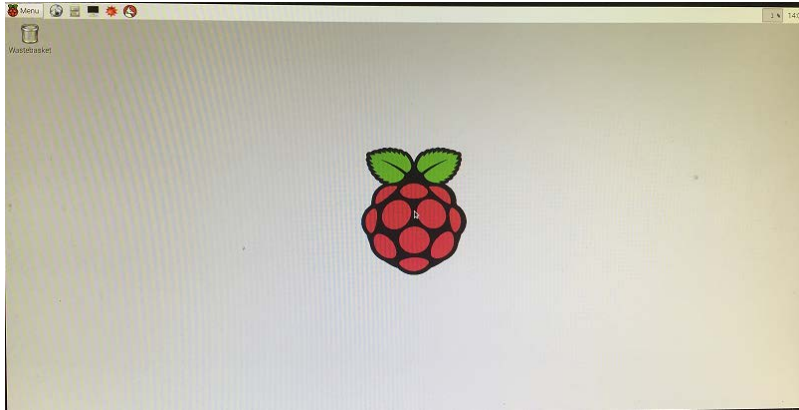
1. Insert the SD card into the SD card slot on the Raspberry Pi, the card will only fit one way, do not force.
2. Plug in the USB keyboard and Mouse into the USB slots on the Raspberry Pi.
3. Connect the HDMI cable from the Raspberry Pi to the monitor.
4. Turn on the monitor.
5. If you are going to connect the Raspberry Pi to the internet, plug in an ethernet cable into the ethernet port next to the USB ports, otherwise skip this step.
6. Plug in the micro usb power supply. This will turn on and boot your Raspberry Pi.
7. If this is the first time your Raspberry Pi and NOOBS SD card have been used, then you will have to select an operating system and configure it.

Installing Raspbian using NOOBS

1. After booting, a window will appear that will list different operating systems that you can install using NOOBS. For this lab we are using Raspbian - click the box next to Raspbian and click on Install
2. The operating system will run through its installation process. (This can take several minutes.)
3. When the install is complete. The Raspberry Pi configuration menu (raspi-config) will load. Set the time and date. Exit by using Tab on the keyboard and move to Finish.

Logging into your Raspberry Pi

1. Once your Raspberry Pi has completed the boot process, a login prompt will appear. The default login for Raspbian is username pi with the password raspberrypi. Be aware that you will not see any writing appear when you type the password. This is a security feature in Linux.
2. After you have successfully logged in, you will see the command line prompt
pi@raspberrypi~\$
3. To load the graphical user interface, type startx and press **Enter** on your keyboard.



Definitions

1. Raspberry Pi - A credit-card sized single-board computer. The Raspberry Pi plugs into a monitor or TV and uses a standard keyboard and mouse. The Raspberry Pi was developed by the Raspberry Pi Foundation.
2. NOOBS - New Out Of Box Software: NOOBS is a utility designed to make installing operating systems on the Raspberry Pi simpler for a new user.
3. HDMI cable - High-Definition Multimedia Interface - a cable used as an audio and video interface.
4. SD Card - A Secure Digital (SD) card is a memory card used in portable devices such as digital cameras, phones, tablets, and the Raspberry Pi.
5. Graphical User Interface (GUI) - A graphical user interface allows a user to interact with an electronic device using graphical indicators like icons, windows, or symbols.

Additional Resources

1. Raspberry Pi Foundation - www.raspberrypi.org
2. Free resources from the Raspberry Pi Foundation - www.raspberrypi.org/resources
3. Github Raspberry Pi Learning Resources - github.com/raspberrypilearning
4. Instructables Pi Projects - www.instructables.com/id/Raspberry-Pi-Projects