

Setting Up Raspberry Pi

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Learning Objectives

After completing this tutorial, readers should be competent with the process of initializing a Pi motherboard. Raspberry Pi motherboards are very small form factors that are capable of running multiple types of Distributions and are perfect for a diverse array of projects.

Prerequisites

- Raspberry Pi
- Micro SD card (8GB minimum)
- USB Keyboard/Mouse
- HDMI cord
- Monitor with HDMI input
- Laptop with internet connection

Install NOOBS on SD

To begin, we need to install NOOBS on our SD card. Noobs is an easy Raspbian installer. Alternatively, you can purchase a preloaded SD card with Raspbian already installed. Raspbian is the standard OS for our Raspberry Pi

1. Format the SD card, and format to FAT.
2. Download and extract NOOBS zip file.
3. Copy the contents of the folder to the SD card, NOT the folder itself.
4. Place the SD card in the card reader slot of the Pi.

Plugin Hardware

Now we need to connect all of our peripherals before finally powering up the Pi.

1. Plug in ethernet cord
2. Connect HDMI cord from monitor to the HDMI port of the PI, and power on the monitor to correct input setting.
3. Plug in mouse and keyboard
4. Finally, we can connect the power supply to the board.

Initial Startup

Once the Pi starts up for the first time, you will need to initialize from the boot screen.

1. Select the Raspbian, and select Confirm when prompted. Raspbian will install, and will reboot

when finished

2. After the reboot, open the terminal by clicking on the icon in the top toolbar.
3. You will need login as Pi, with the default password of raspberry.

Now it is critical that you change the password from the default one. This can be done by entering the following command.

```
sudo passwd
```

Then type your new password, you will be asked to confirm the password by entering it twice.

Now we need to update and upgrade Raspbian by running the following commands.

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

Congratulations! Your Raspberry Pi is 100% initialized and ready to serve whatever purpose you command. Enjoy!

Reflection

At this point should be able to boot up the Pi successfully. Some questions to consider at this point are as follows.

- What are other distributions beside Raspbian that you could explore?
- And what are the ways that you could customize the basic setup?