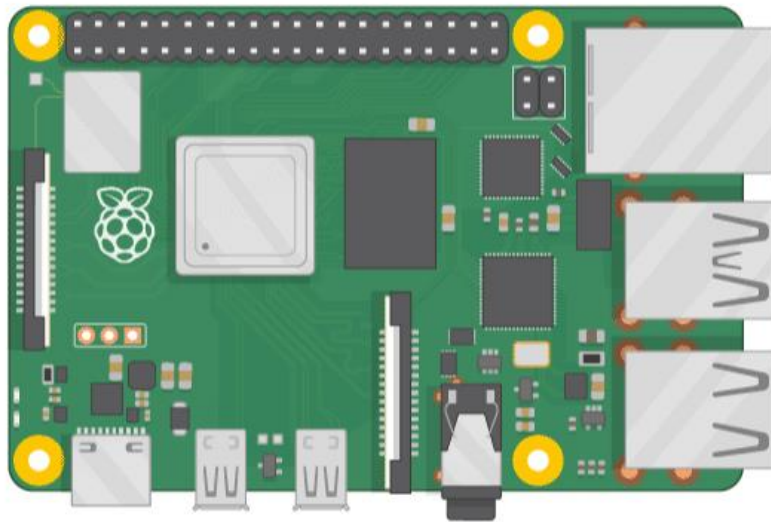**IOT**

Internet of Things

Practical 3: Connect Raspberry Pi with your existing system components.

➢ The Raspberry Pi is a small computer that can do lots of things. You plug it into a monitor and attach a keyboard and mouse.

➢ We list down all the hardware can be joined with Raspberry Pie circuit and Used OS within the SD card.

Hardware

- o A Raspberry Pi computer with an SD card or micro-SD card

- o A monitor with a cable (and, if needed, an HDMI adaptor)

- o A USB keyboard and mouse

- o A power supply

- o Headphones or speakers (optional)

    o   An ethernet cable (optional)

Software

    o   Raspberry Pi OS, installed using the Raspberry Pi Imager

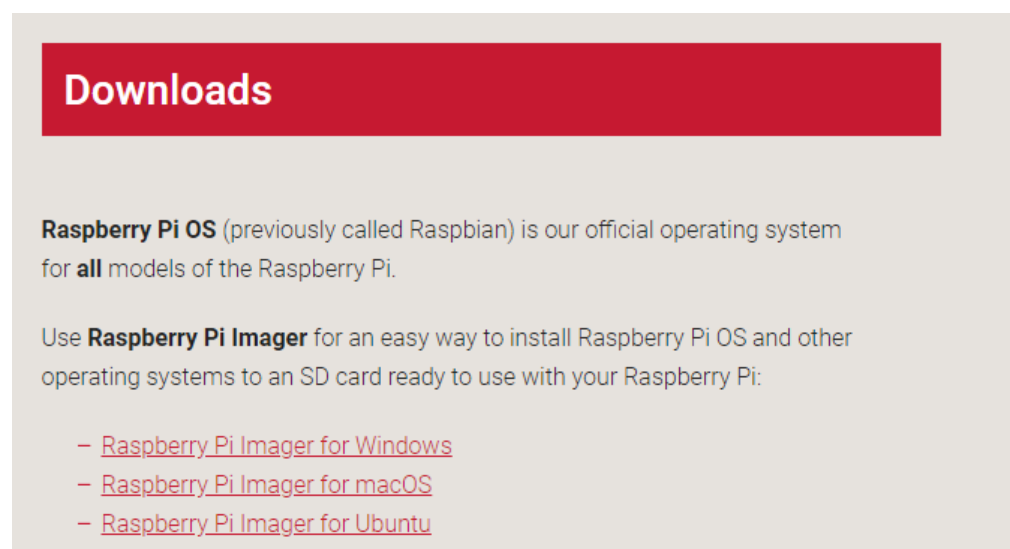## ❖ Install Raspberry Pi OS on your SD card with the Raspberry Pi Imager

Many vendors sell SD cards with a simple Raspberry Pi OS installer called NOOBS preinstalled but you can really easily install Raspberry Pi OS yourself using a computer that has an SD card port or using an SD card reader.

Using the Raspberry Pi Imager is the easiest way to install Raspberry Pi OS on your SD card.
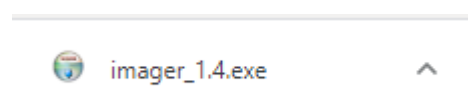
installing operating system images

Download and launch the Raspberry Pi Imager

    o   Visit the Raspberry Pi downloads page.
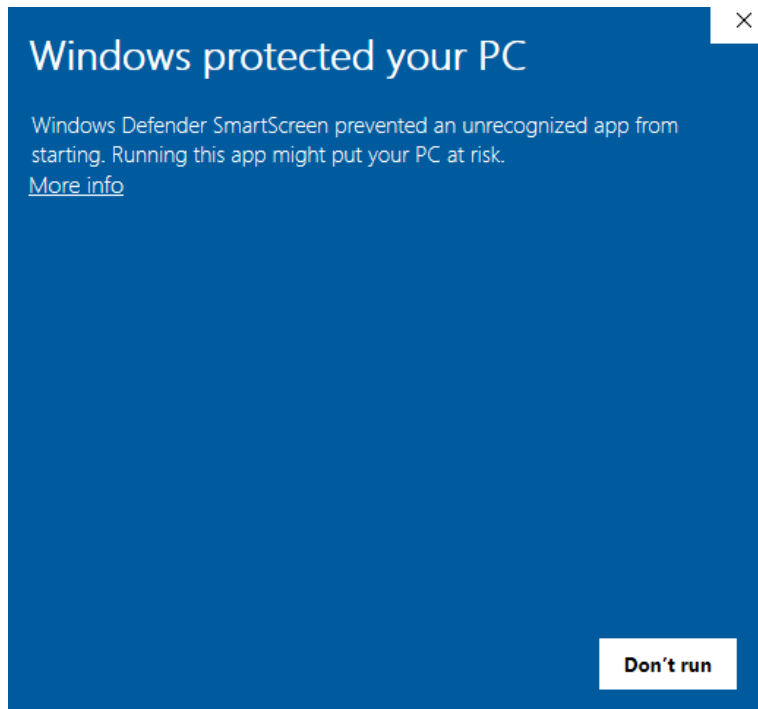   o   Click on the link for the Raspberry Pi Imager that matches your operating system.

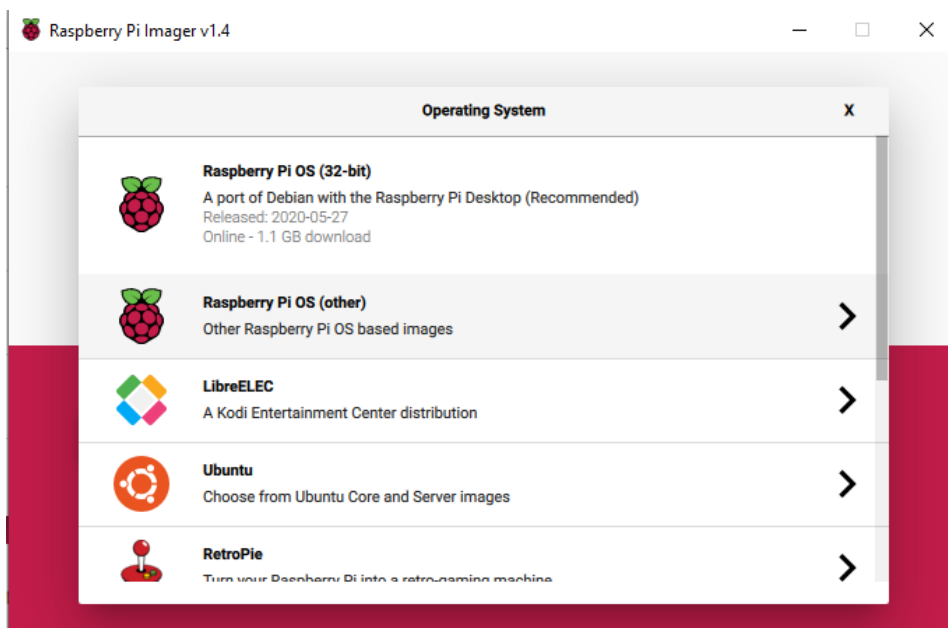   o   When the download finishes, click on it to launch the installer.

Using the Raspberry Pi Imager

IOT

All data stored on the SD card will be overwritten during formatting and lost permanently, so make sure that you back up the card or any files you want to keep before running the installer.

When you launch the installer, your operating system may try to block you from running it. For example, Windows may give the following message:
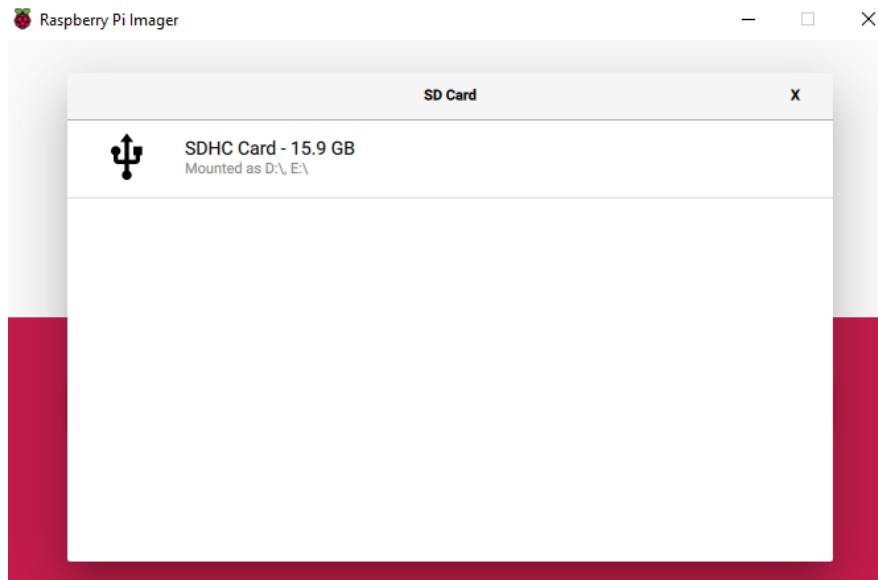

- o   If you get this, click on More info and then Run anyway.
- o   Insert your SD card into the computer or laptop's SD card slot.

- o   In the Raspberry Pi Imager, select the OS that you want to install. The first option, Raspberry Pi O, is the recommended OS.

IOT

- o Select the SD card you would like to install it on. Different platforms will display the drives in different ways. Mac OS, for example, will show you all drives including you main operating system.
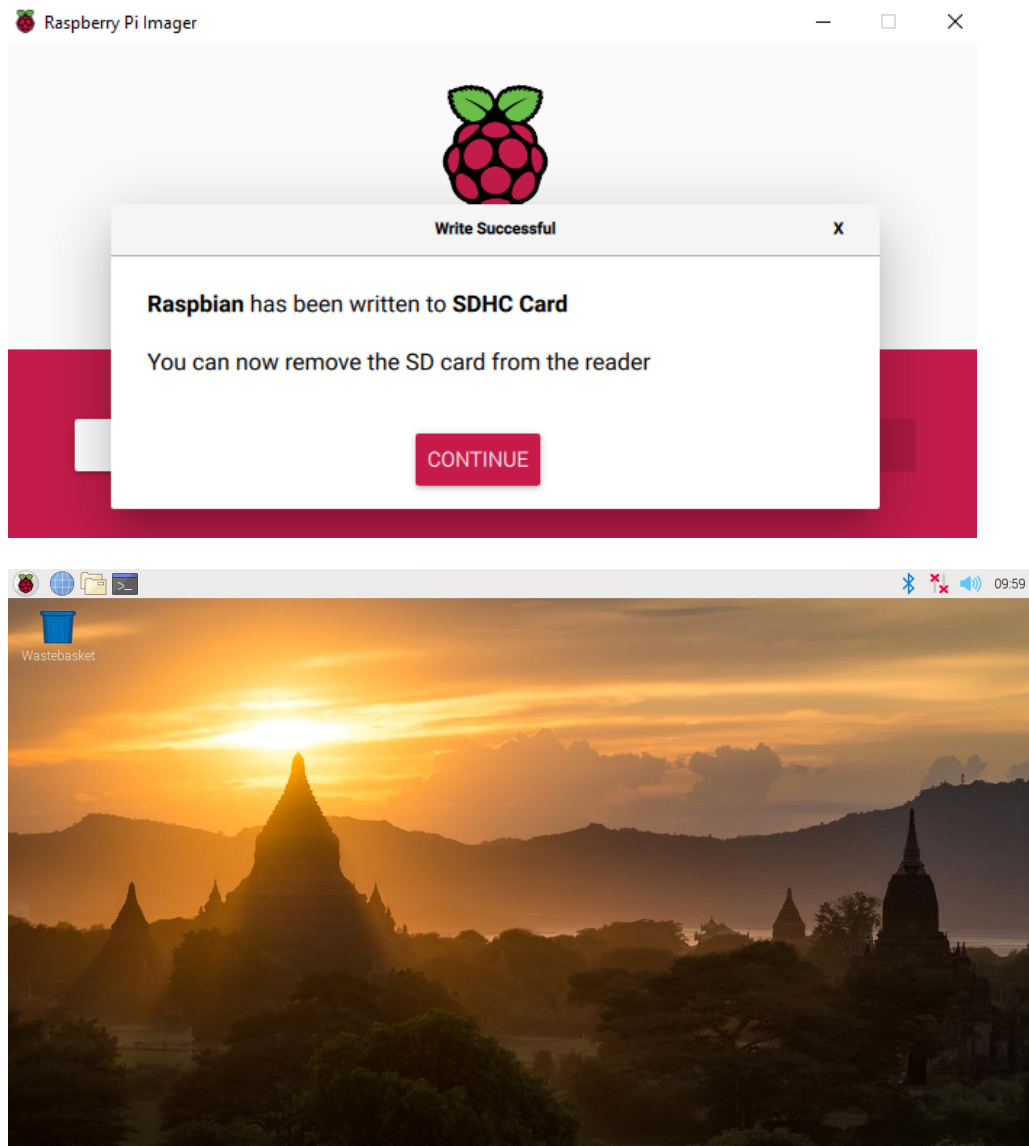
Note: Make sure you are selecting the correct drive. The drives memory capacity can be a useful indication of which drive you are selecting.

Once you have selected both the OS and the SD card, a new WRITE button will appear.

- o Then simply click the WRITE button.
- o Wait for the Raspberry Pi Imager to finish writing.

- o Once you get the following message, you can eject your SD card.

IOT

Circuit Diagram