

Internet Of Things

Install Raspberry Pi OS




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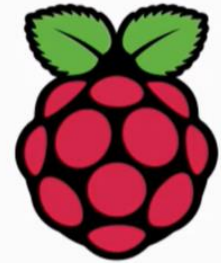


Introduction

- After understanding what is IOT and how it is functioning.
- We are going to implement an IOT device
- We need a Raspberry Pi to implement an IOT device
- We will program it using Python programming language
- We will use the most popular IOT cloud platform
“ThingSpeak”

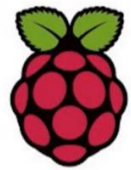


Introduction



Raspberry Pi OS

- This is the officially supported operating system
- Its free OS based on Debian



+



= **RaspbianOS**

Raspberry Pi Debian

- Customized for Raspberry Pi Hardware

How to Install

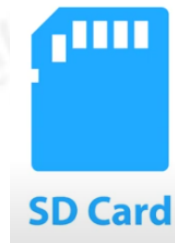
We need the following:

- **Computer**



- **SD card**

- Minimum 50 GB storage



- **SD card reader**

- To flash OS image on the SD card



How to Install

Also, we need the following software tools:

- SD card formatter



SD Card Formatter

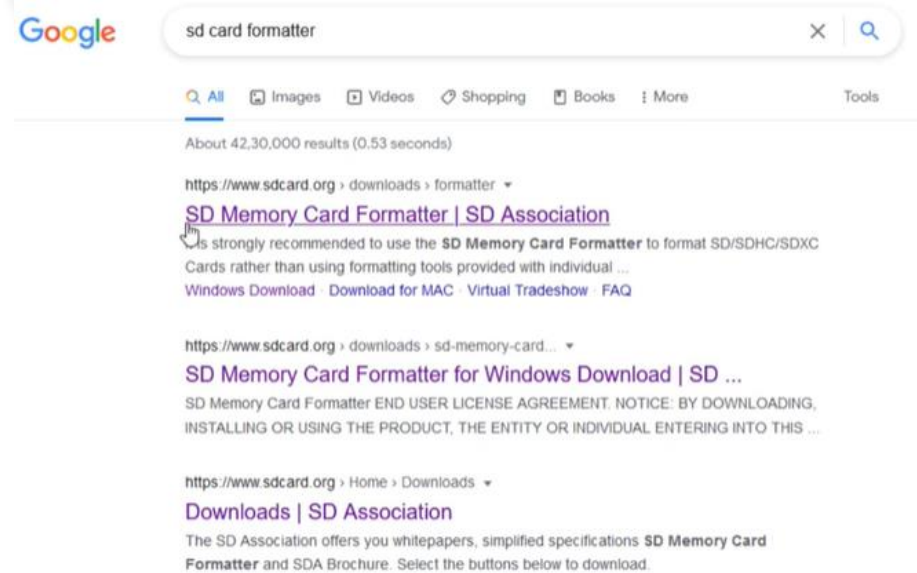
- Etcher



Etcher

How to download and install SD Card formatter

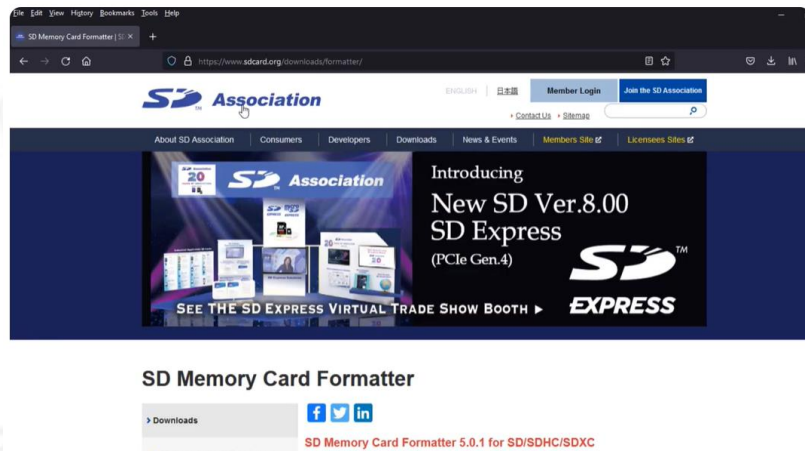
- Search on google for “SD card Formatter”



- Click on the link “SD Memory Card Formatter”

How to download and install SD Card formatter

- You will see SD Association



- Scroll down and click for Windows or for Mac

Important Notice:
Administrator Rights is required for Windows and Mac OS/macOS to execute SD Memory Card Formatter.

SD Interface Devices

The following interface devices can be used to access SD/SDHC/SDXC memory cards:

- SD Card slot on PC
- USB SD Card reader for USB2.0, USB3.0, USB3.1 & USB-C

Always confirm that the device is compatible with the SD, SDHC or SDXC memory card before formatting.

SD Memory Card Formatter Download for Windows/Mac



Developed by [Tuxera](#)

User's Manual of SD Memory Card Formatter for Windows/Mac

How to download and install SD Card formatter

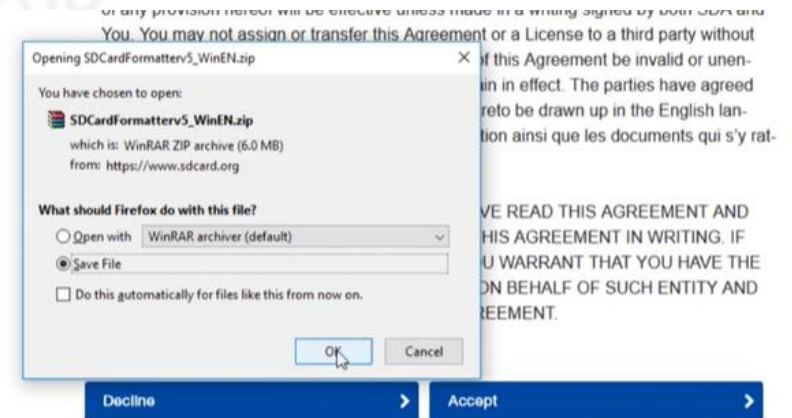
- Scroll down and click accept

On any provision herein will be effective unless made in a writing signed by both SDA and You. You may not assign or transfer this Agreement or a License to a third party without SDA's prior written consent. Should any provision of this Agreement be invalid or unenforceable, the remainder of the provisions will remain in effect. The parties have agreed that this Agreement and the documents related thereto be drawn up in the English language. Les parties exigent que la présente convention ainsi que les documents qui s'y rattachent soient rédigés en anglais.

YOU ACKNOWLEDGE AND AGREE THAT YOU HAVE READ THIS AGREEMENT AND INTEND TO BE BOUND AS IF YOU HAD SIGNED THIS AGREEMENT IN WRITING. IF YOU ARE ACTING ON BEHALF OF AN ENTITY, YOU WARRANT THAT YOU HAVE THE AUTHORITY TO ENTER INTO THIS AGREEMENT ON BEHALF OF SUCH ENTITY AND BIND SUCH ENTITY TO THE TERMS OF THIS AGREEMENT.

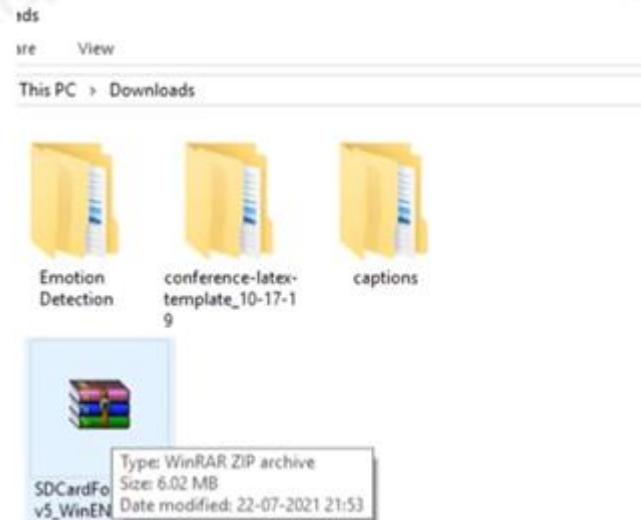
Decline > Accept >

- Then click ok to start download

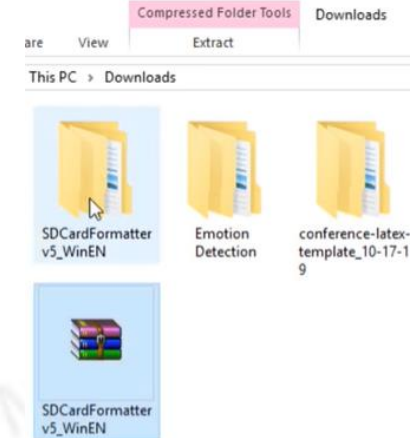


How to download and install SD Card formatter

- You will see the downloaded file in Downloads folder

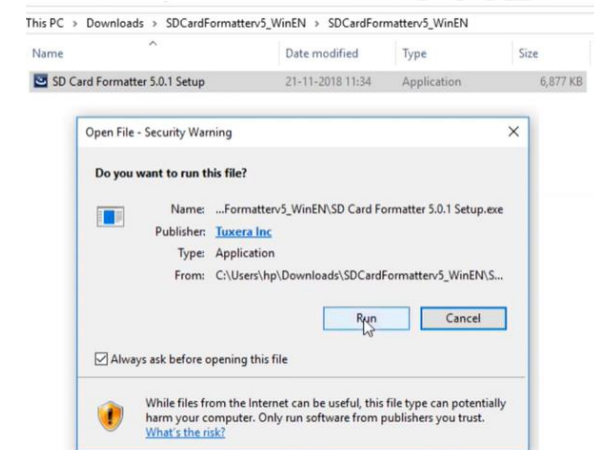


- Extract the file to see the extracted folder



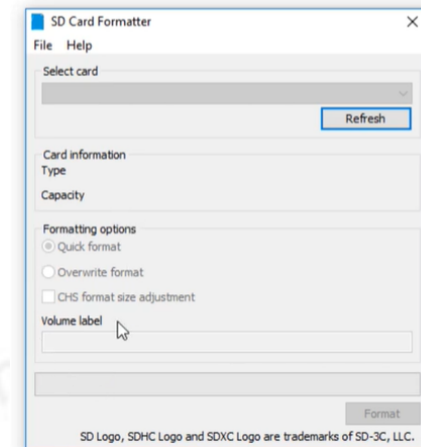
How to download and install SD Card formatter

- Run the setup file in the extracted folder to install



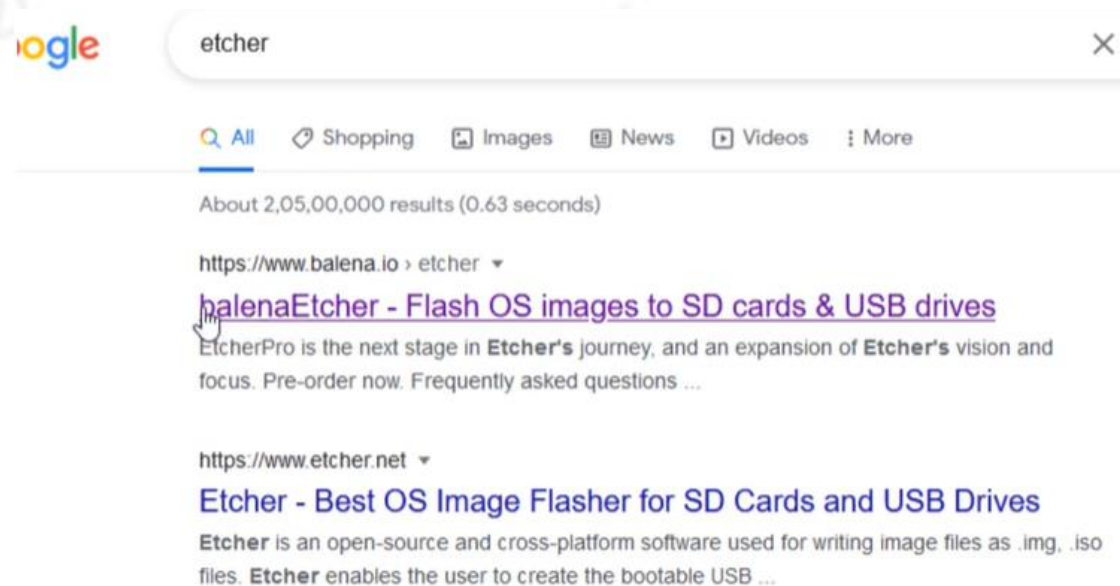
- After successful installation, you can launch the SD card formatter to format SD cards

- You need to format the SD card before flashing the OS image on it



How to download and install Etcher

- Etcher is used to flash OS image on SD Card
- Type on Google “Etcher”
- Click on the first choice “balenaEtcher”



How to download and install Etcher

- Click download for windows



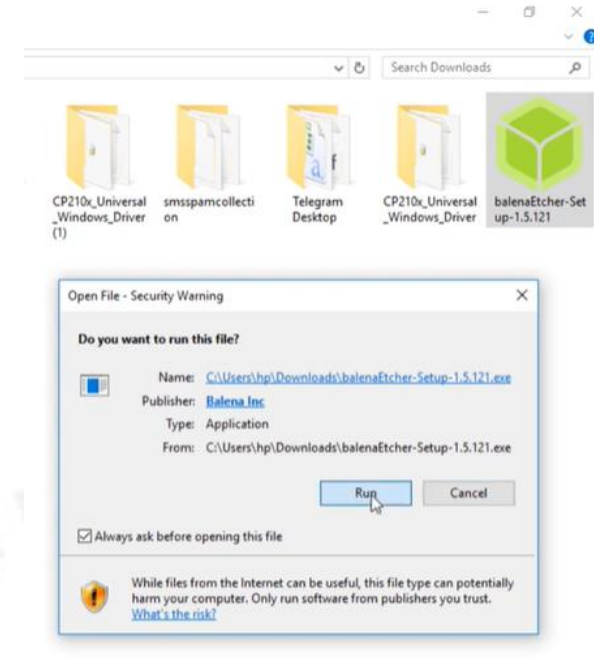
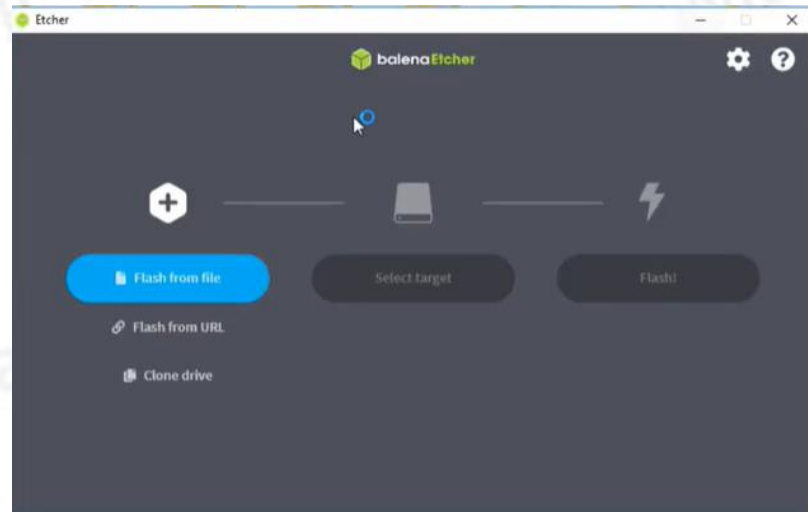
- Click on save file



How to download and install Etcher

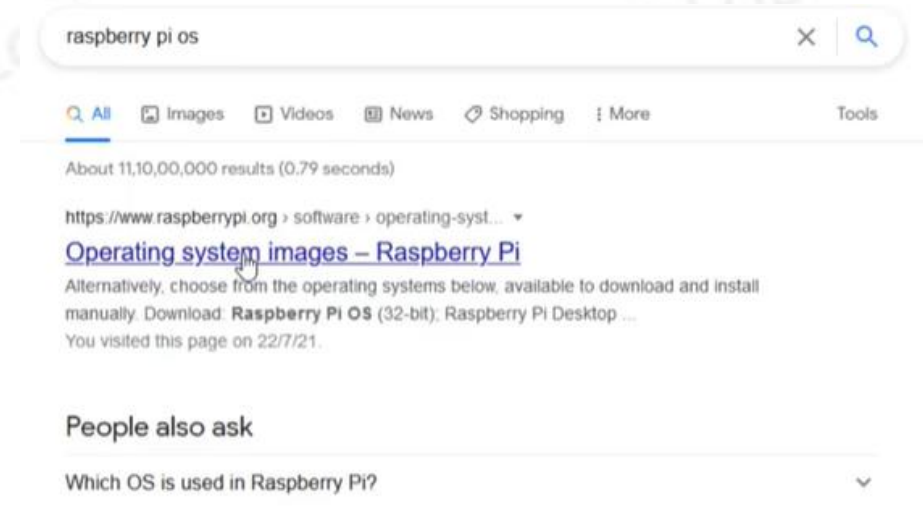
- Go to Downloads folder, then double click on the installation file

- This is the Etcher software



Download the Raspberry Pi OS

- Type on Google “raspberry pi os” and select the shown option



- Scroll down and download the latest version

Raspberry Pi OS

Compatible with:
[All Raspberry Pi models](#)



Raspberry Pi OS with desktop and recommended software

Release date: May 7th 2021
Kernel version: 5.10
Size: 2,867MB
[Show SHA256 file integrity hash:](#)
[Release notes](#)

[Download](#)

[Download torrent](#)

Raspberry Pi OS with desktop

Release date: May 7th 2021
Kernel version: 5.10
Size: 1,180MB
[Show SHA256 file integrity hash:](#)
[Release notes](#)

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Activate Windows

Flash the Raspberry Pi OS

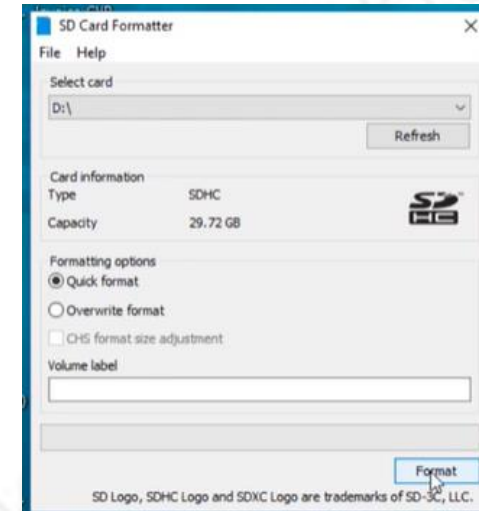
- Insert the SD card into the SD card reader
- Now, the SD card available to read or write
- Our task now is to write the Raspberry Pi OS image on the SD card



- This process called flashing

Flash the Raspberry Pi OS

- Open the SD card formatter, select the SD card and click format

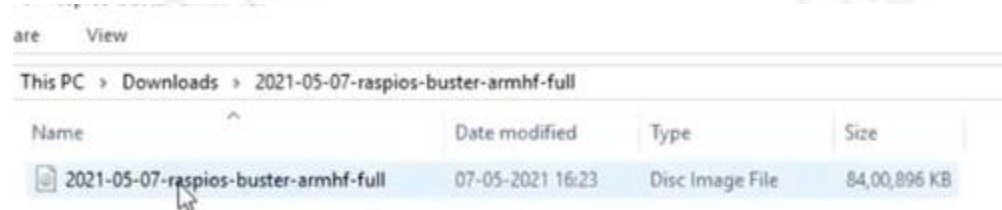


- Once you format, you will see a new drive in This PC

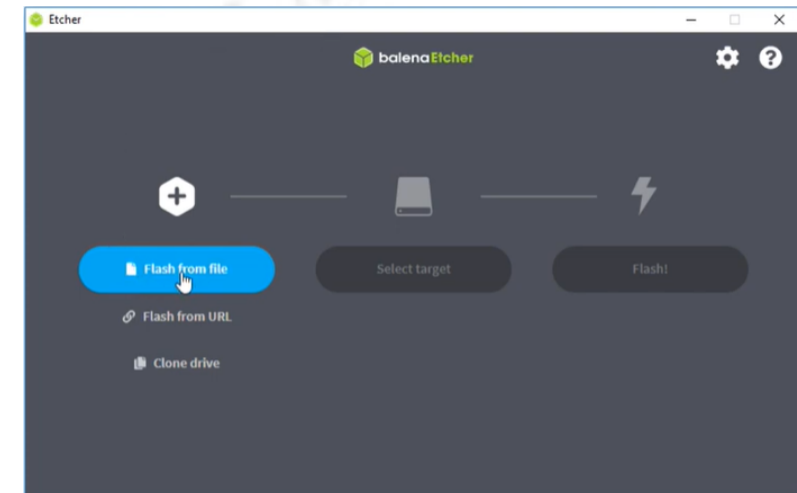


Flash the Raspberry Pi OS

- Now, extract the Raspberry Pi OS
- You will see the OS image file inside the extracted folder

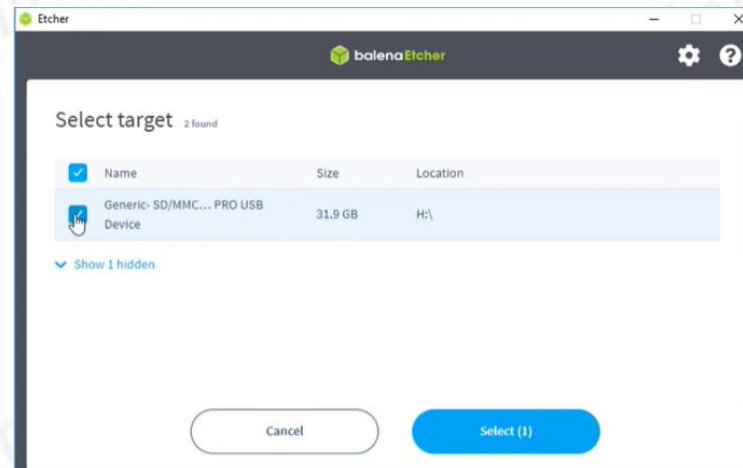
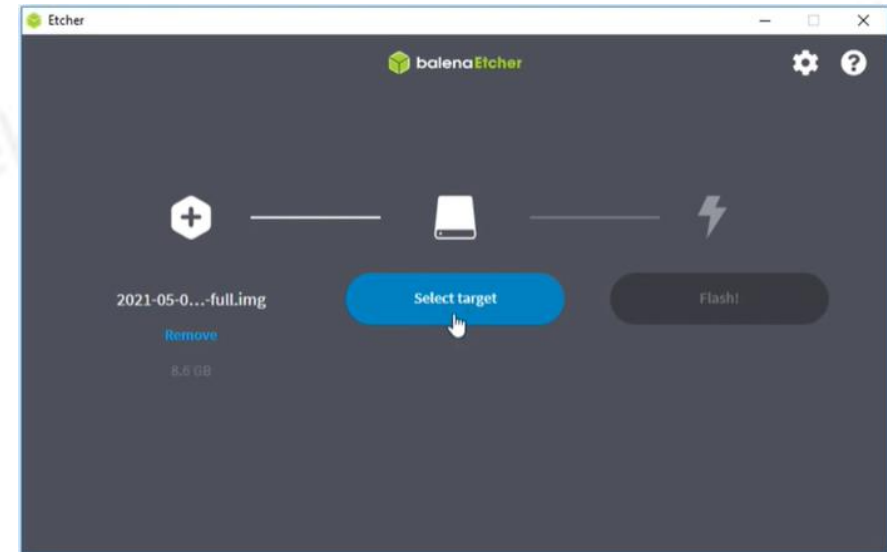


- Open Etcher software and click on flash from file



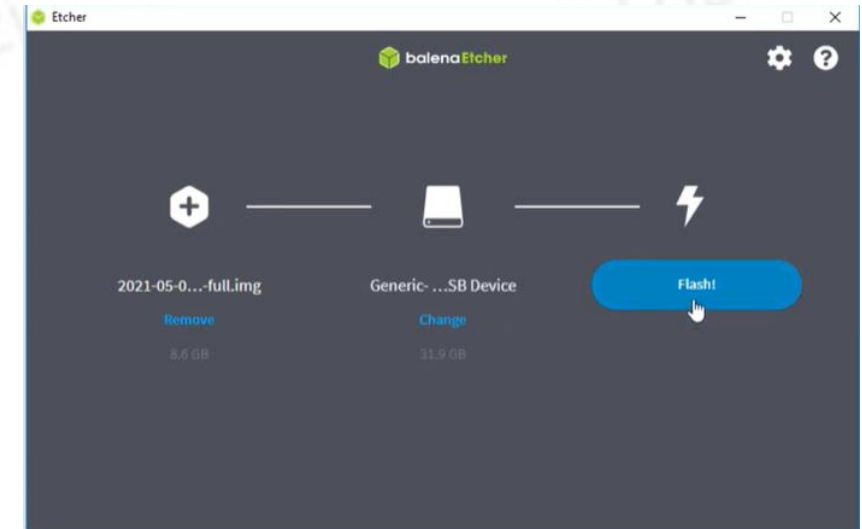
Flash the Raspberry Pi OS

- Select the OS image file
- Now, click on select target
- Select the SD card



Flash the Raspberry Pi OS

- Finally, click on Flash to flash the OS image



- Wait for flashing and validating processes to finish
- Now, remove the SD card then insert it into the Raspberry Pi and power it up.

Any Questions???