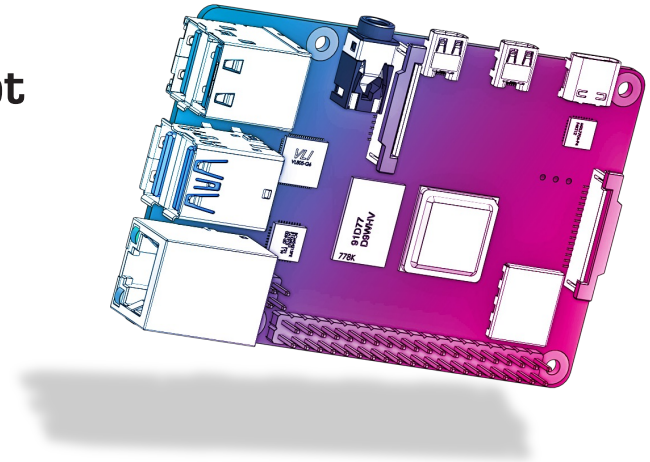
PRINT
BUILD
DEVELOP
YOUR OWN ROBOT

How to build your robot

www.pib.rocks/build



assembly instructions for:

PIB'S SOFTWARE ON RASPBERRY PI

v2024

Software installation

For pib to work, it is necessary to install pib.software on your Raspberry Pi.

This tutorial consists of 3 main steps:

1. Downloading and installing Raspberry pi OS on a Raspberry Pi
2. Setting up Raspberry pi OS
3. Installing pib.software

To follow this tutorial you will need:

- A device that can read a micro SD card (You may need an adapter for this to work)
- The (USB-C) power supply of the Raspberry Pi
- A keyboard and mouse
- A display and a matching micro HDMI adapter

  (For example: to connect the Raspberry Pi to a HDMI display, you need a micro HMDI to HMDI adapter)

Step 1a

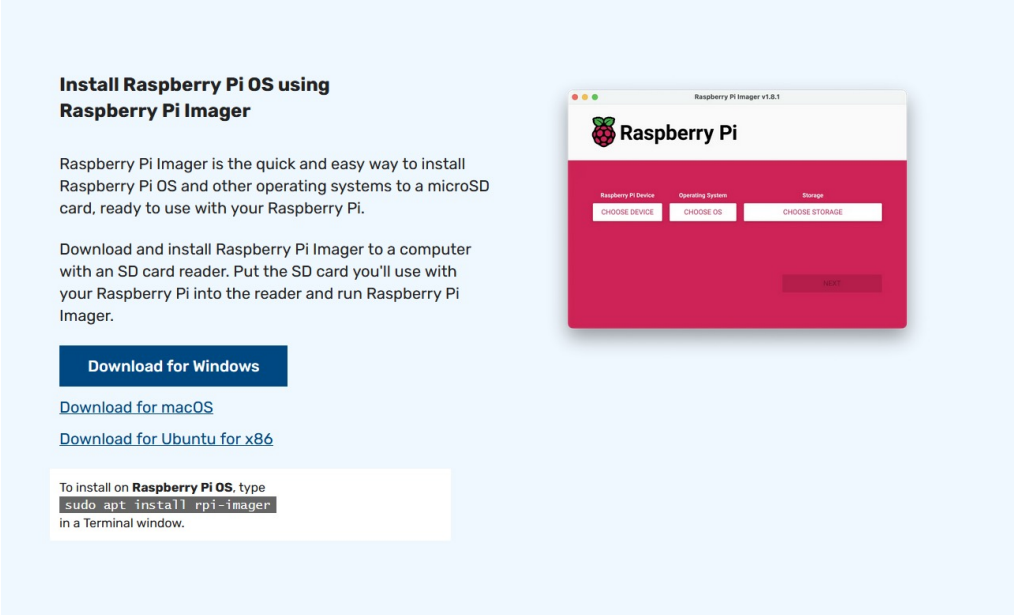
Put the **micro SD card into a device** that can read a SD card (a laptop or PC).

You may need an adapter for this to work.

A device that can read a micro SD card

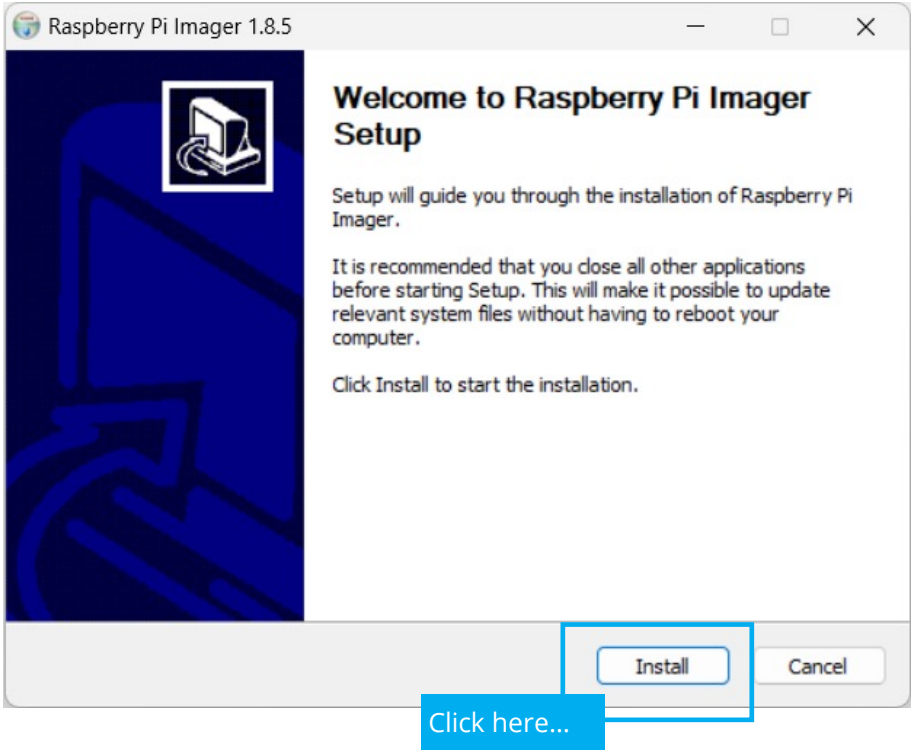
Step 1b

Download Raspberry Pi imager from https://www.raspberrypi.com/software



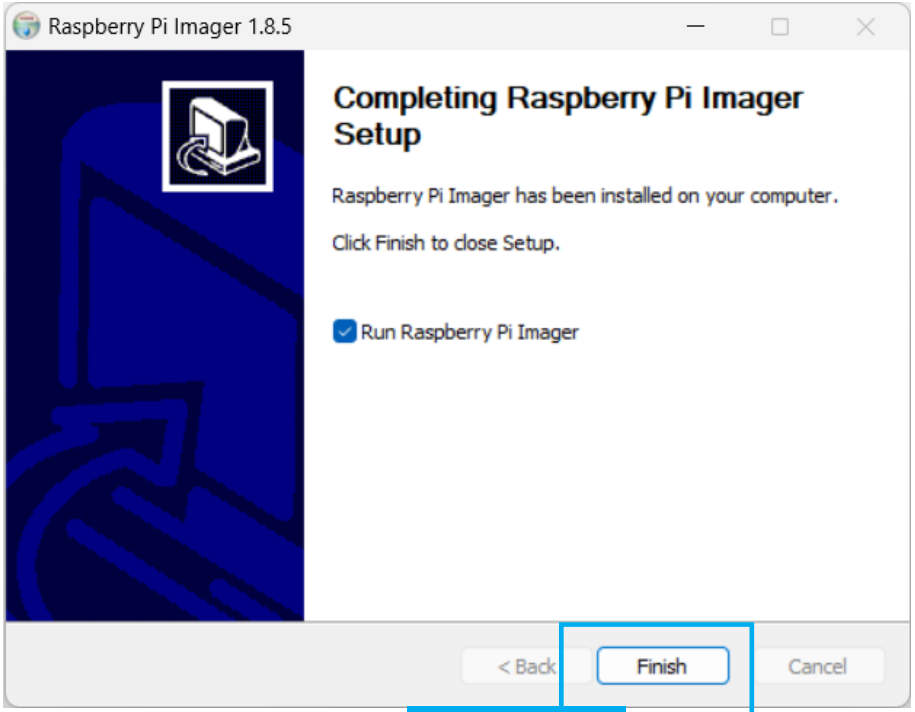
Step 1c

Install Raspberry Pi imager.



Step 1d

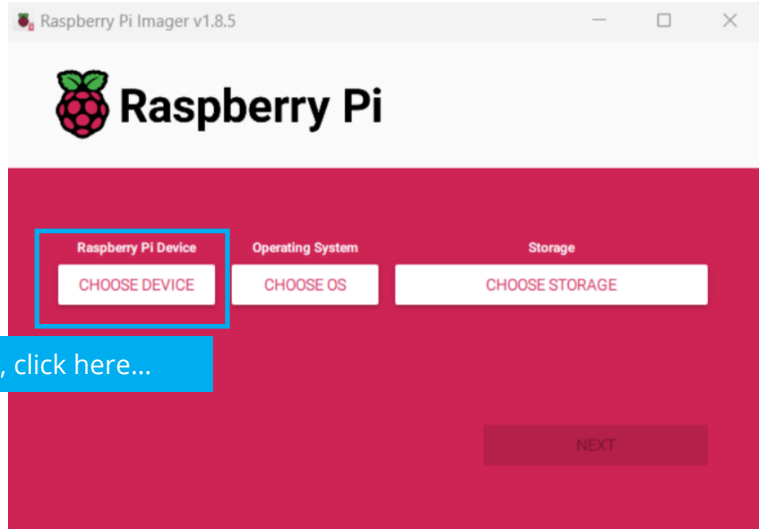
After installation click on „**Finish**“ and launch the application.

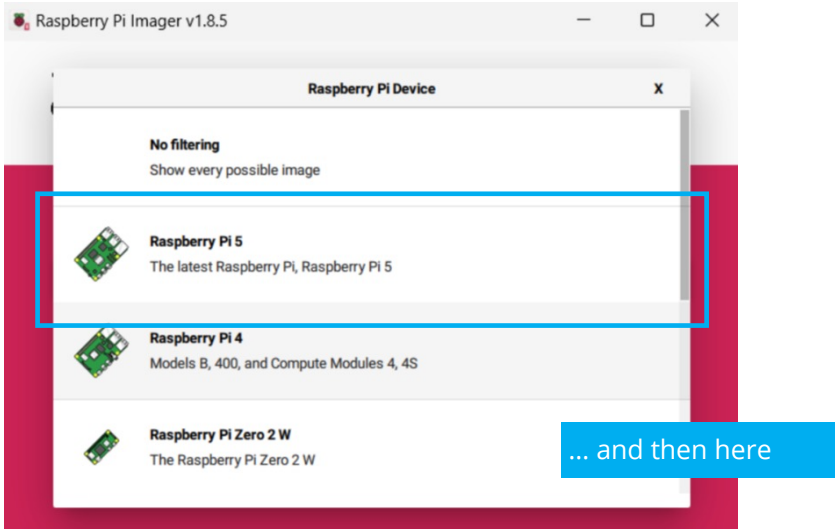


Step 1e

Lauch imager and click on „**Choose Device**“.

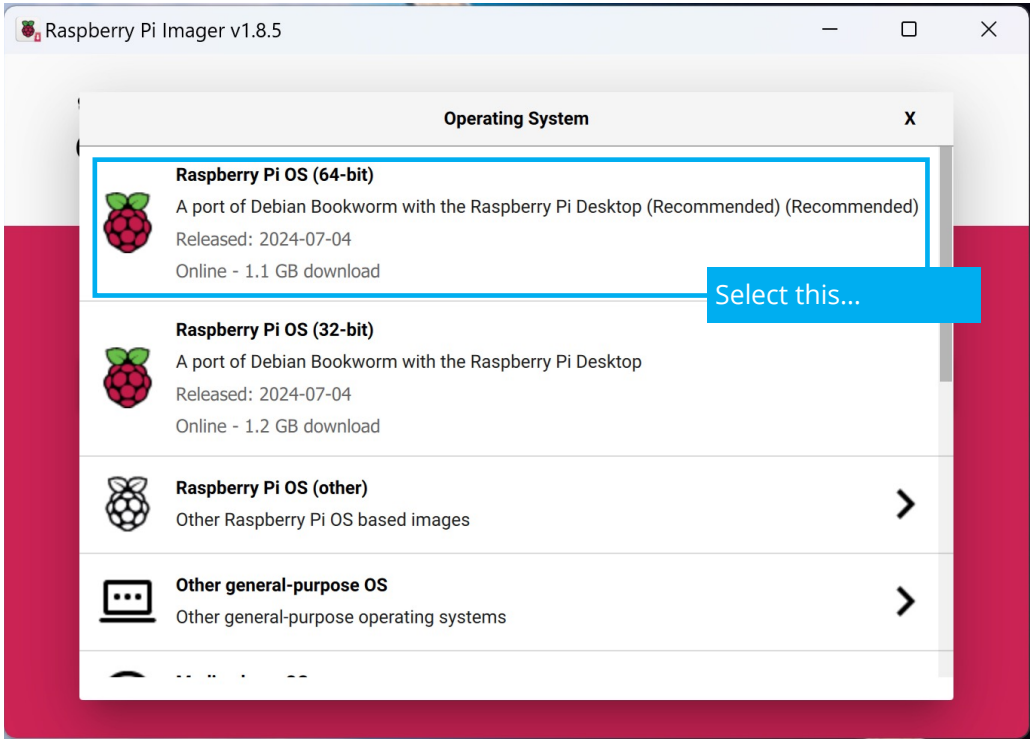
Then click on „**Raspberry Pi 5**“.





Step 1f

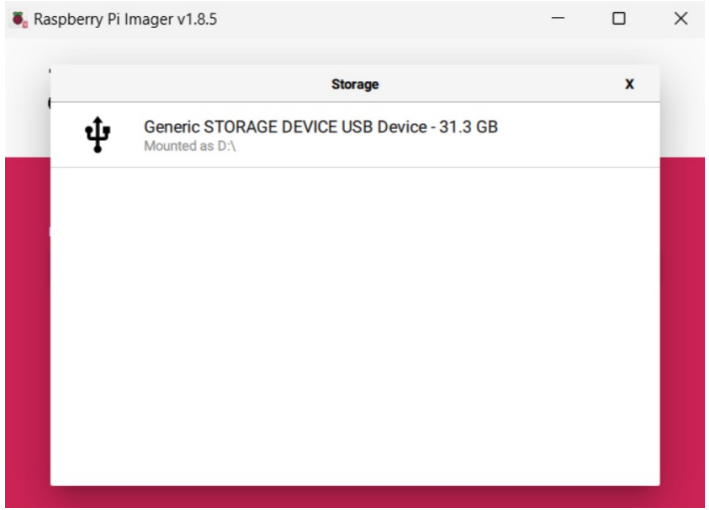
Select „**Raspberry Pi OS**“.

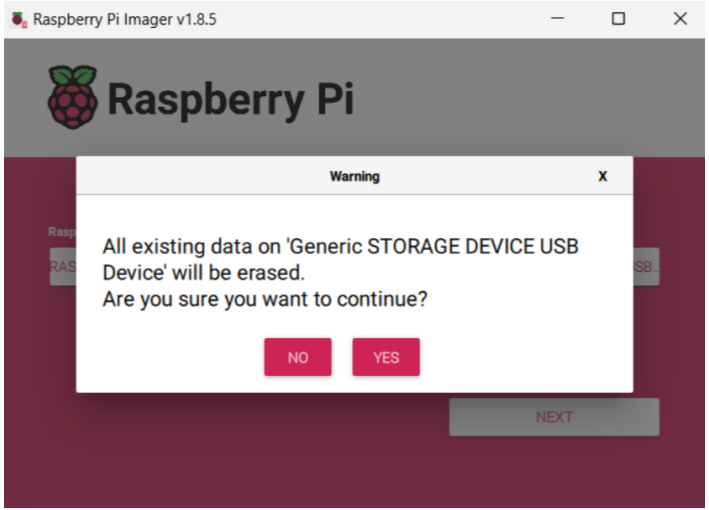


Step 1h

Choose your storage device – make sure to select the micro SD card.

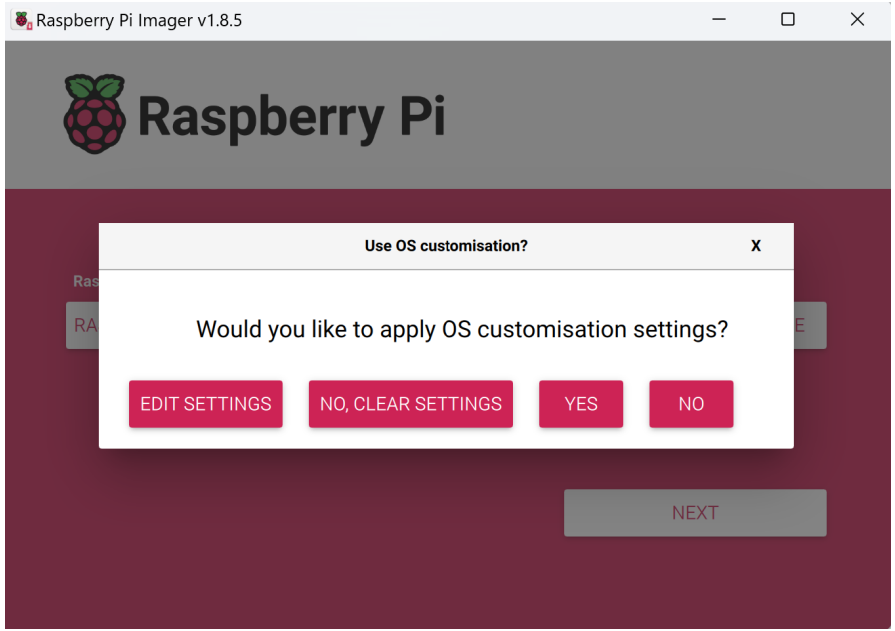
Please note: all existing data on a pre-used card will be erased.

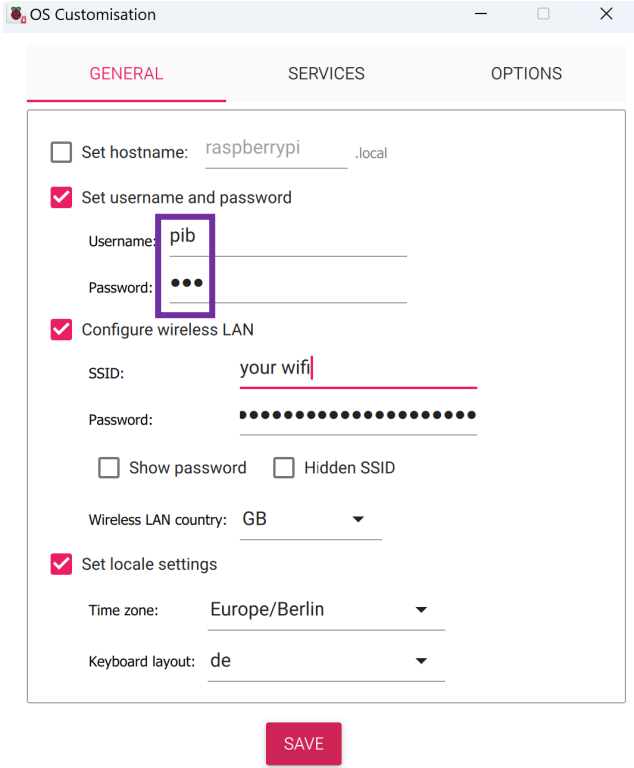




Step 1i

Select "edit settings", add wifi SSID and password, **use "pib" for both username and password**

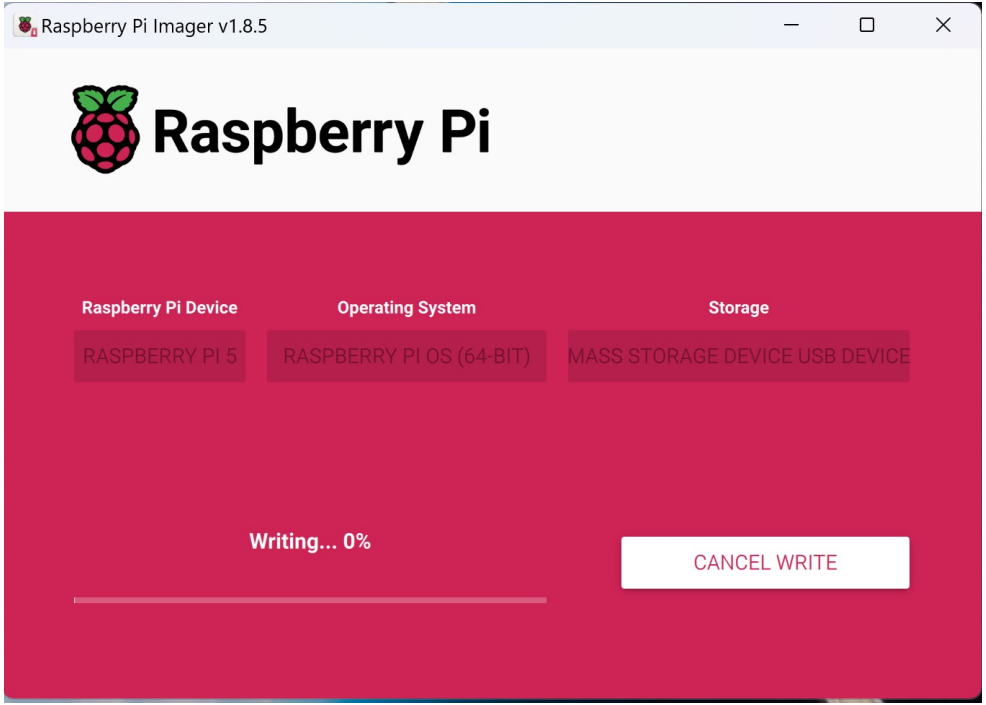




Step 1j

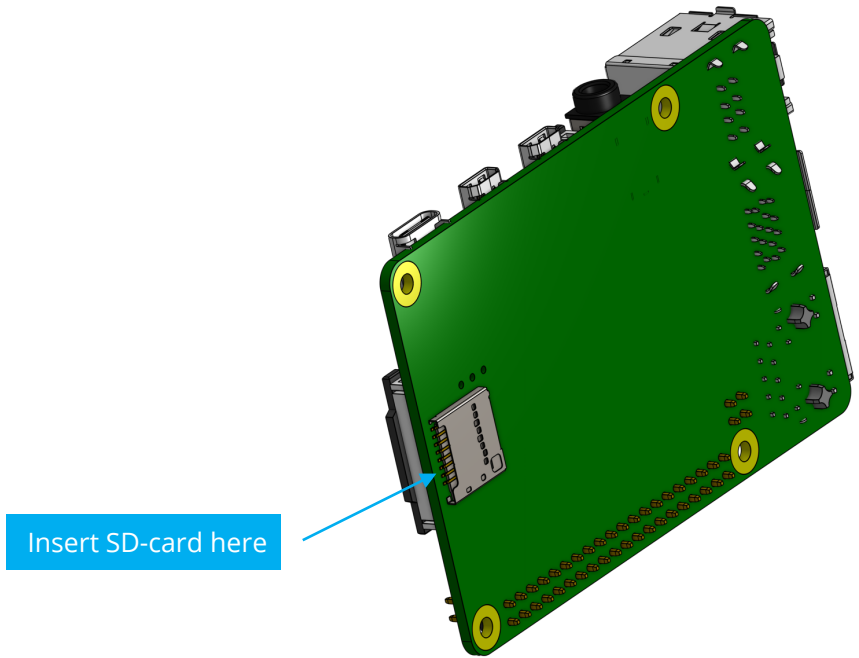
Click on „**Write**“ to start installing Raspberry pi OS on the storage medium and wait until the process is finished.

Then click on „**Continue**“ to end Step 1.



Step 2a

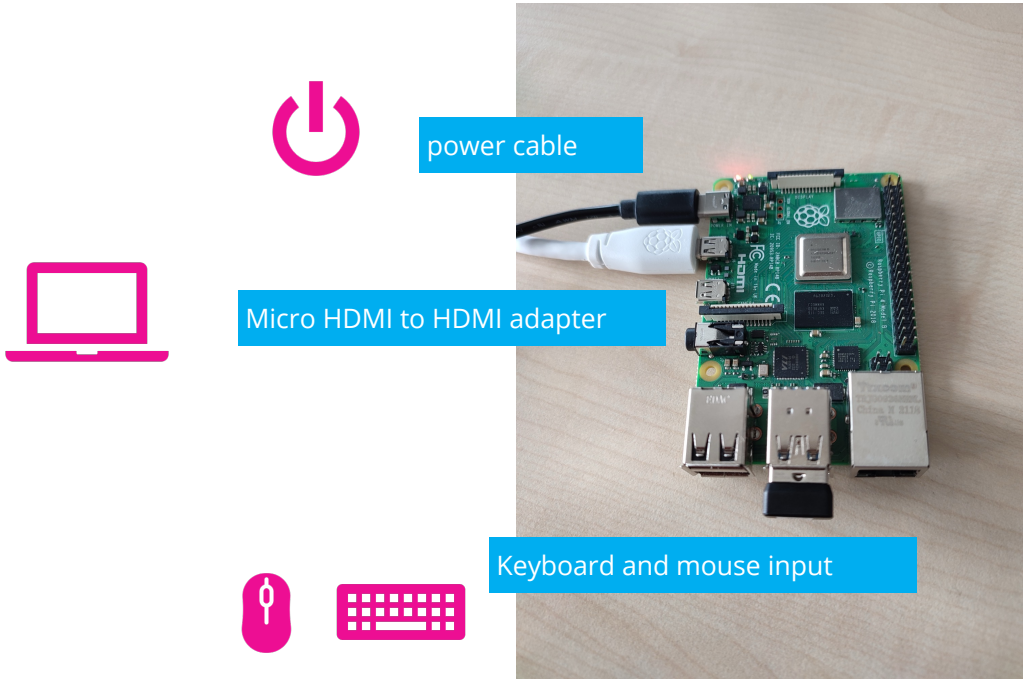
Remove the micro SD card from laptop/PC and insert it to the Raspberry Pi.



Step 2b

Connect the Raspberry Pi to your power supply, a HDMI capable screen/display and a keyboard and mouse for the next steps.

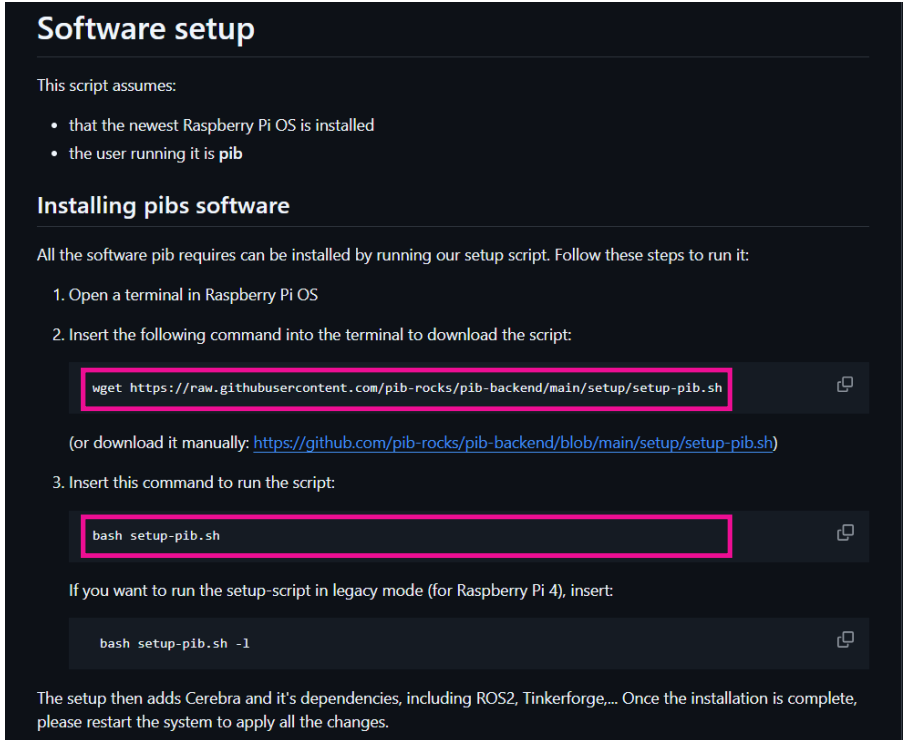
After connecting the raspberry pi to the display and power supply, it should show the Ubuntu Raspberry pi OS screen.



Step 3a

Open firefox and navigate to the pib.software setup page on Github using this link: https://github.com/pib-rocks/pib-backend

You will need these 2 commands to continue the pib.software setup.



Software setup

This script assumes:

- that the newest Raspberry Pi OS is installed
- the user running it is **pib**

Installing pibs software

All the software pib requires can be installed by running our setup script. Follow these steps to run it:

1. Open a terminal in Raspberry Pi OS
2. Insert the following command into the terminal to download the script:

```
wget https://raw.githubusercontent.com/pib-rocks/pib-backend/main/setup/setup-pib.sh
```

(or download it manually: https://github.com/pib-rocks/pib-backend/blob/main/setup/setup-pib.sh)

3. Insert this command to run the script:

```
bash setup-pib.sh
```

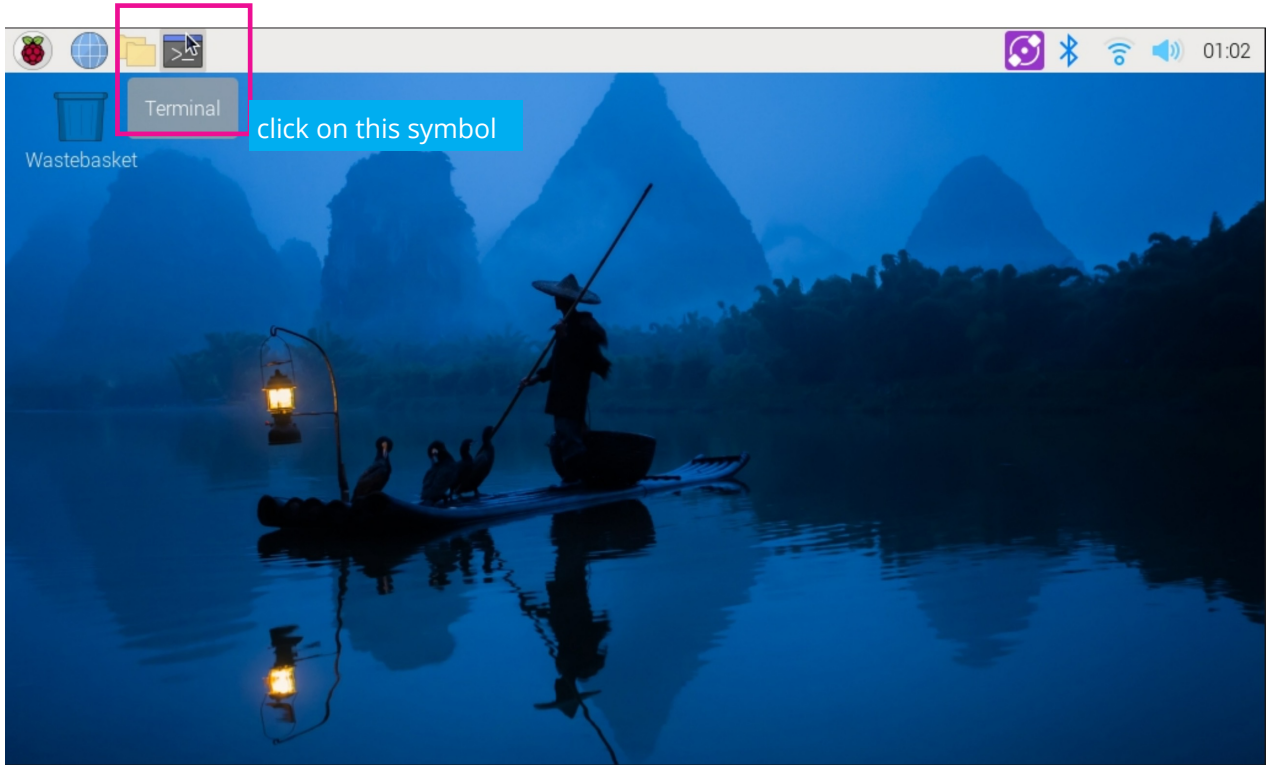
If you want to run the setup-script in legacy mode (for Raspberry Pi 4), insert:

```
bash setup-pib.sh -l
```

The setup then adds Cerebra and it's dependencies, including ROS2, Tinkerforge,... Once the installation is complete, please restart the system to apply all the changes.

Step 3b

At first, launch the terminal.



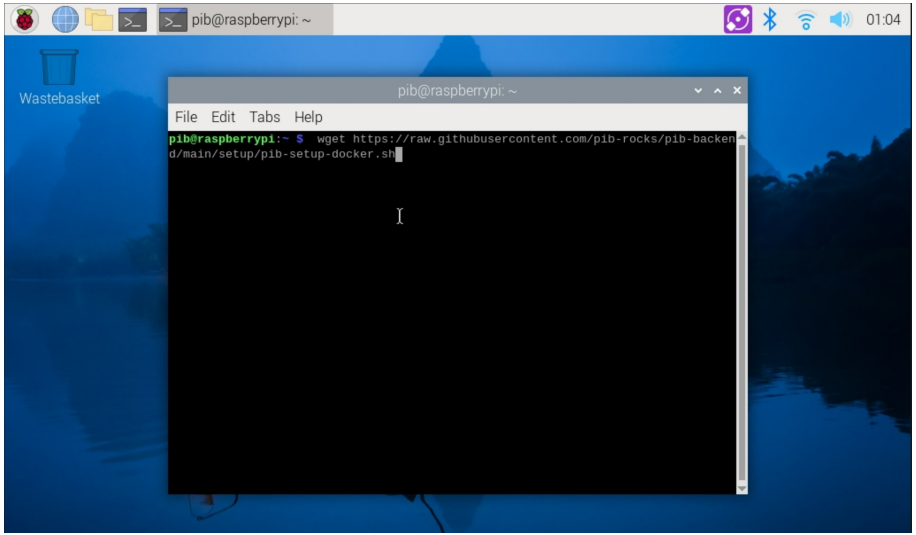
Step 3c

The first command will download the setup-script from our github website.

- Copy the command from github (wget https://raw.githubusercontent.com/pib-rocks/pib-backend/main/setup/setup-pib.sh)
- Paste it into the terminal
- Press enter to execute the command

Info: If the download isn't working you can also download the file manually via github

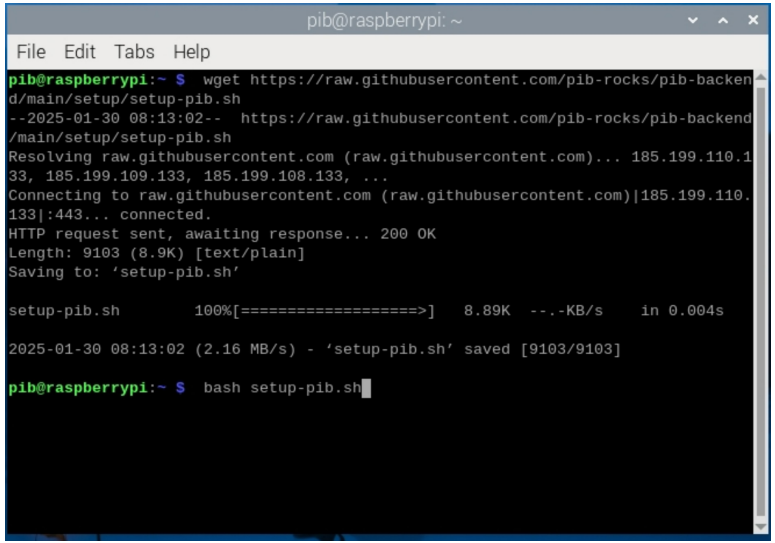
... NOTE: you **cannot** use "CTRL + V" to paste it into the terminal.
Instead use "CTRL + "SHIFT" + V" or right-click into the terminal and select "paste".

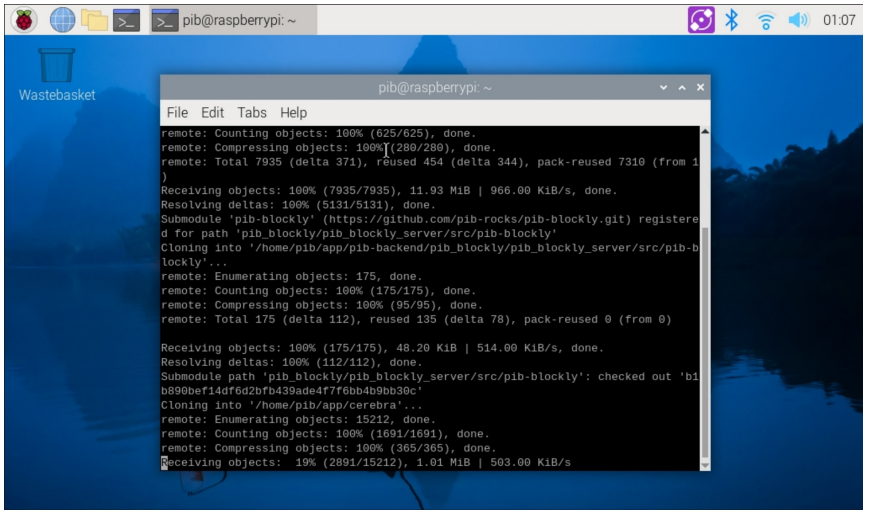


Step 3d

The second command starts the setup script. Therefore, enter the command in the terminal "**bash setup-pib.sh**".

The setup process will take quite some time, depending on your internet connection (upwards of 40 minutes).



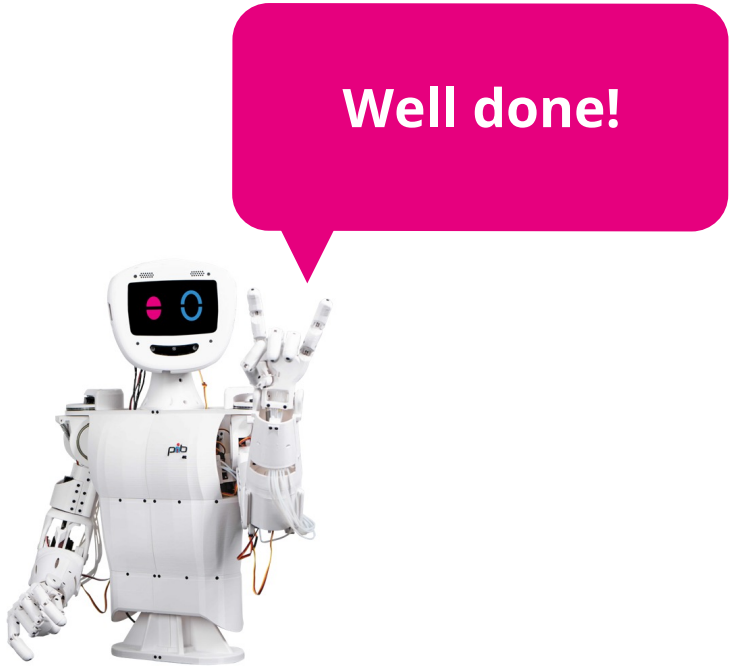


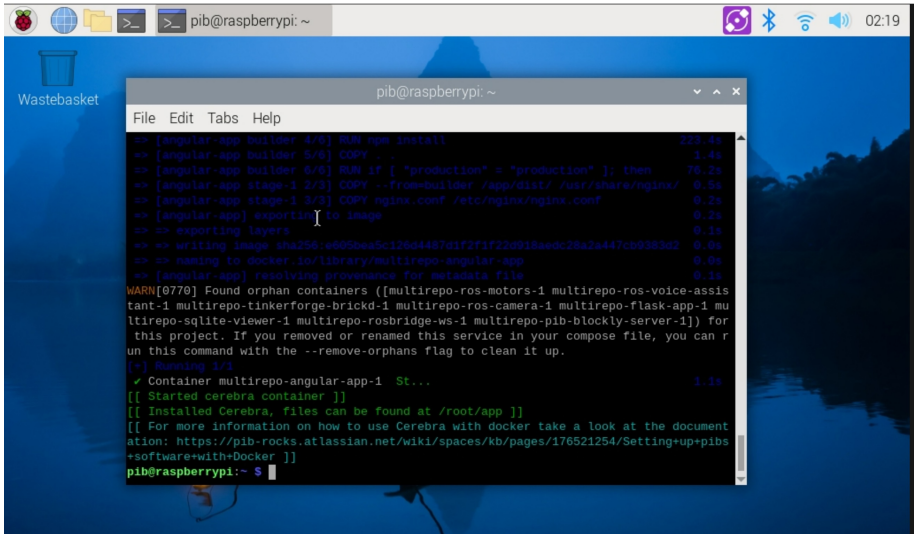
Congratulations

You did a great job, the pib´s software is now installed on your Raspberry Pi.

Please **restart** the system to apply changes.

Then, you can remove your Raspberry from all devices. The SD card should stay inside your Raspberry.





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