

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 Ubuntu on a Raspberry Pi
2. Setting up Ubuntu
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 HDMI to HDMI 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>

Install Raspberry Pi OS using Raspberry Pi Imager

Raspberry Pi Imager is the quick and easy way to install Raspberry Pi OS and other operating systems to a microSD card, ready to use with your Raspberry Pi.

Download and install Raspberry Pi Imager to a computer with an SD card reader. Put the SD card you'll use with your Raspberry Pi into the reader and run Raspberry Pi Imager.

[Download for Windows](#)

[Download for macOS](#)

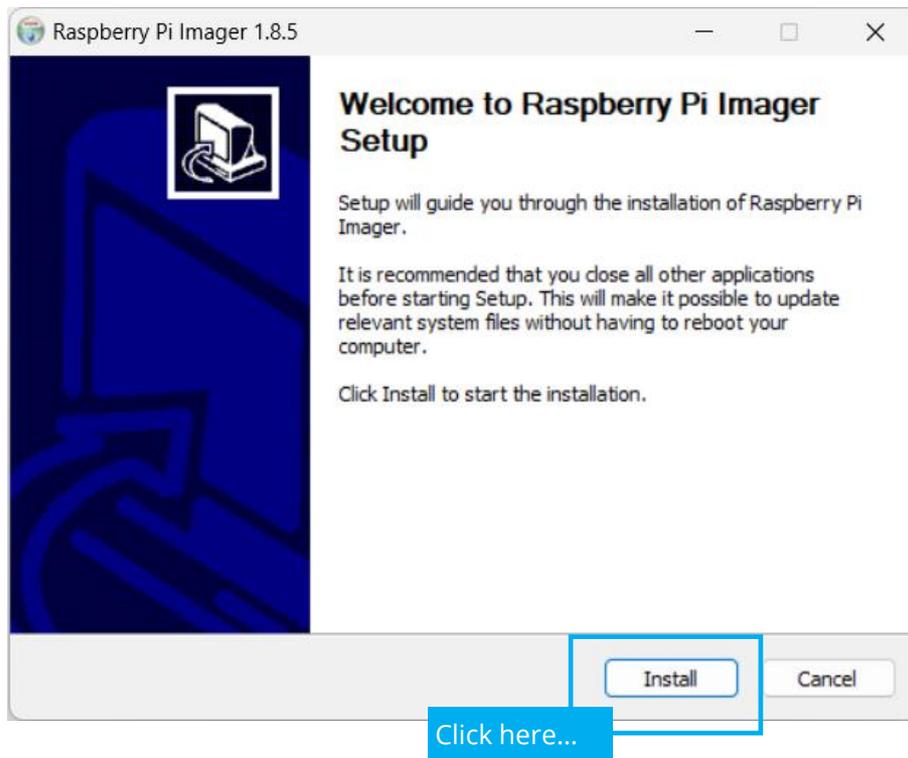
[Download for Ubuntu for x86](#)

To install on **Raspberry Pi OS**, type
`sudo apt install rpi-imager`
in a Terminal window.



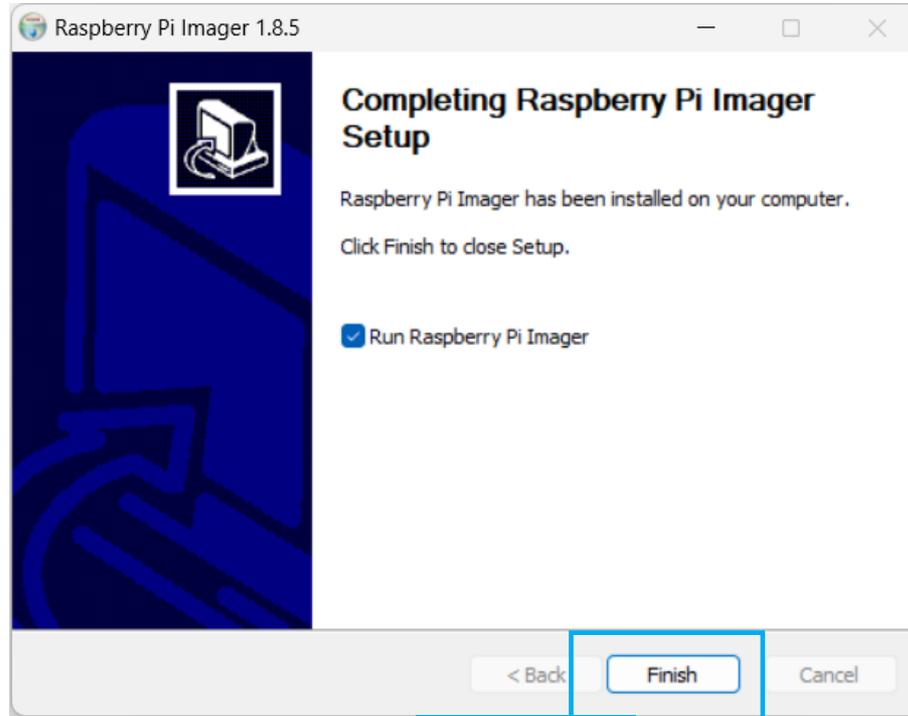
Step 1c

Install Raspberry Pi imager.



Step 1d

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

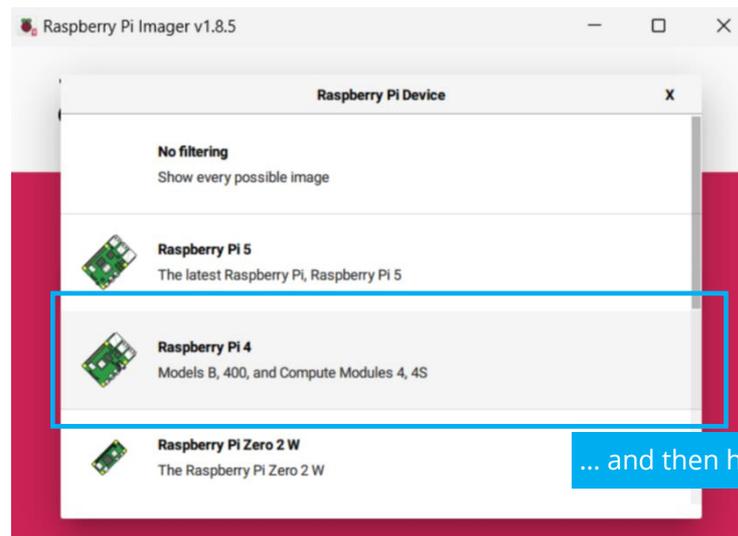
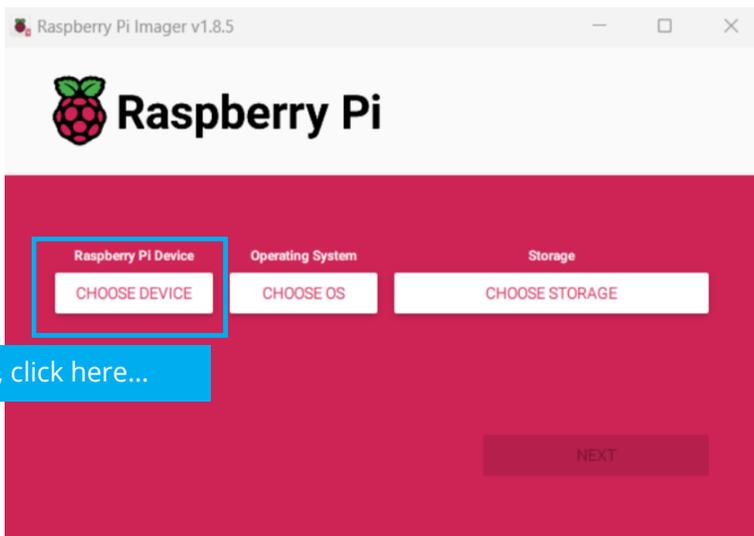


... and here

Step 1e

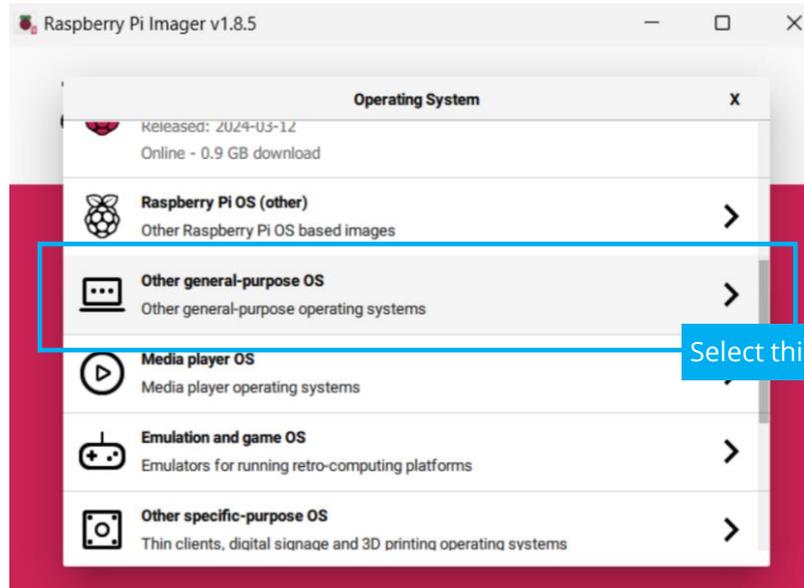
Launch imager and click on „**Choose Device**“.

Then click on „**Raspberry Pi 4**“.



Step 1f

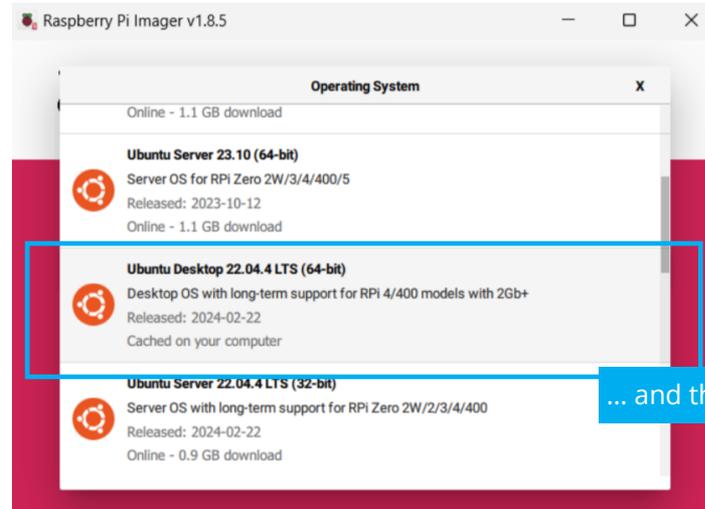
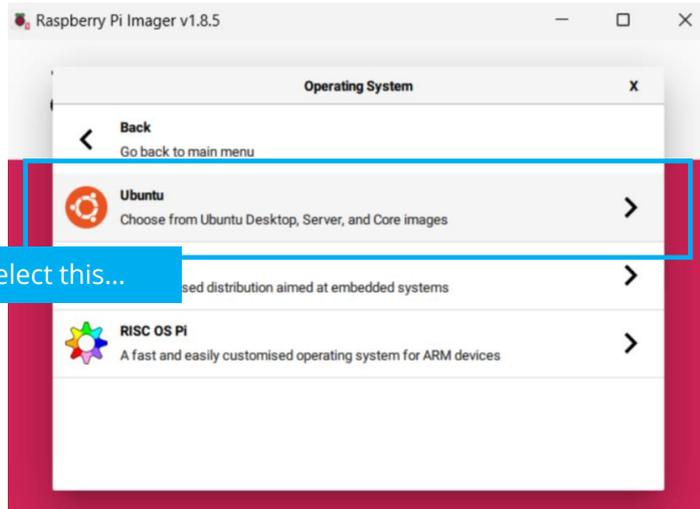
Select „**Other general-purpose OS**“.



Step 1g

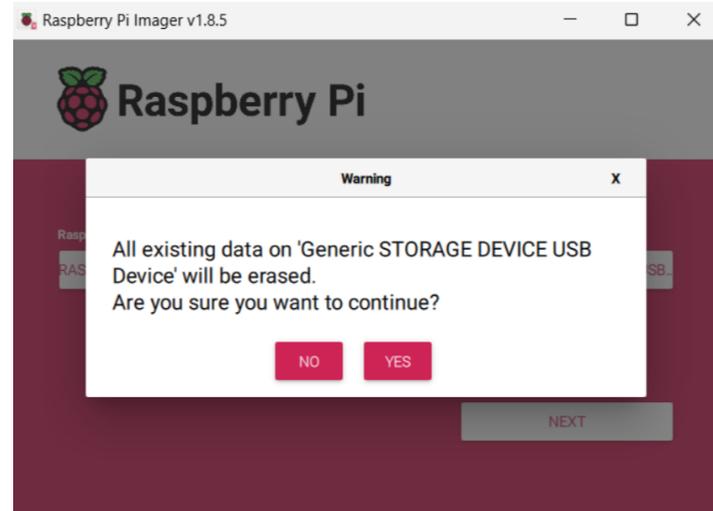
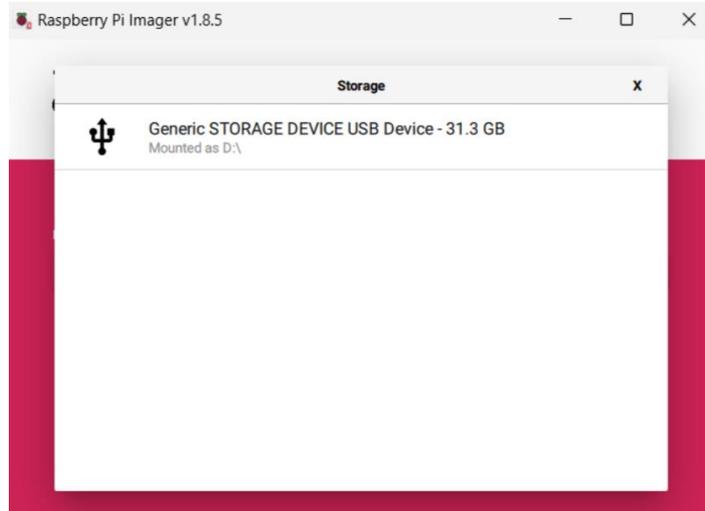
Select „**Ubuntu**“ then „**Ubuntu 22.04.4 LTS desktop version 64-bit**“.

Please note: you can select a newer version too, but it is important to select Ubuntu 22.04.x



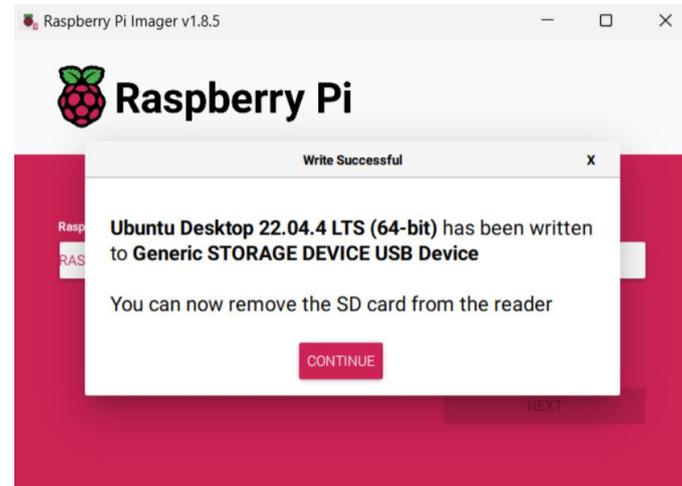
Step 1h

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.



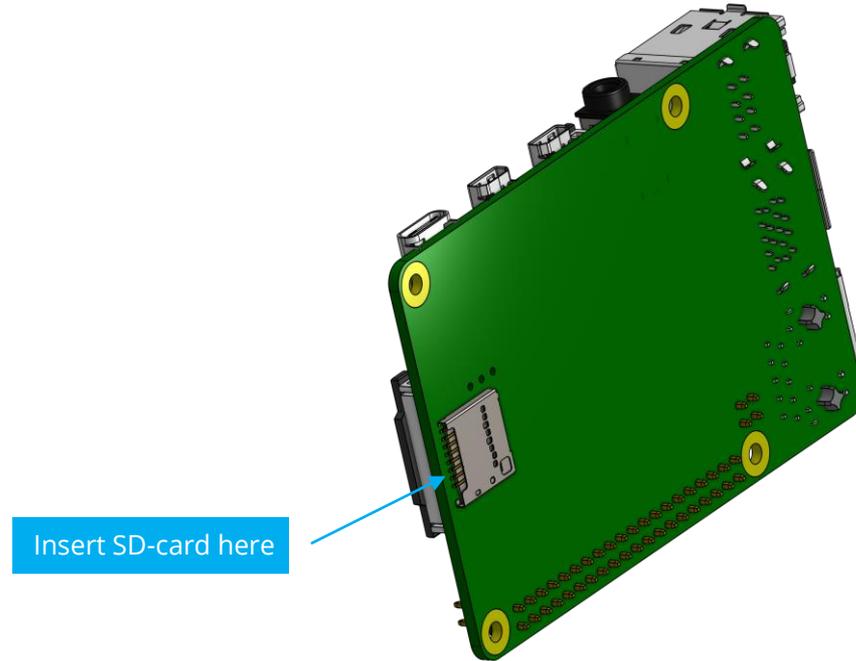
Step 1i

Click on „**Write**“ to start installing Ubuntu on the storage medium and wait until the process is finished.
Then click on „**Continue**“ to end Step 1.



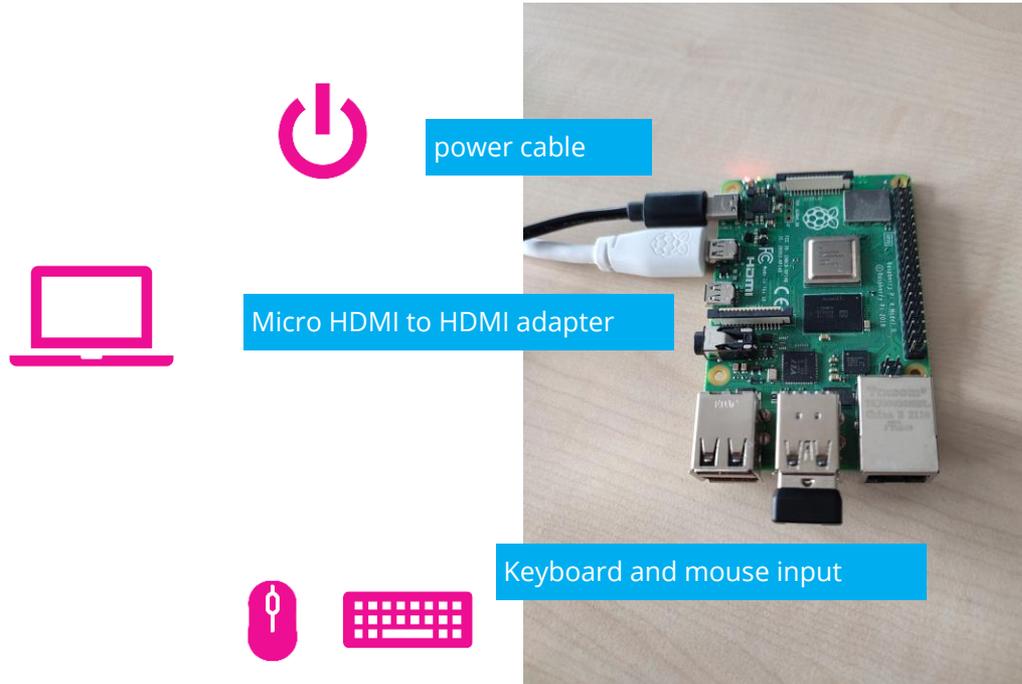
Step 2a

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



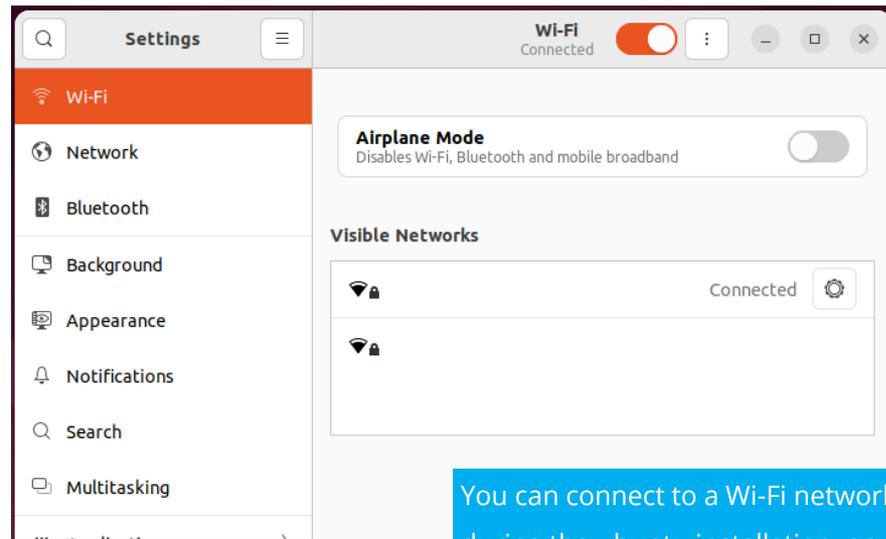
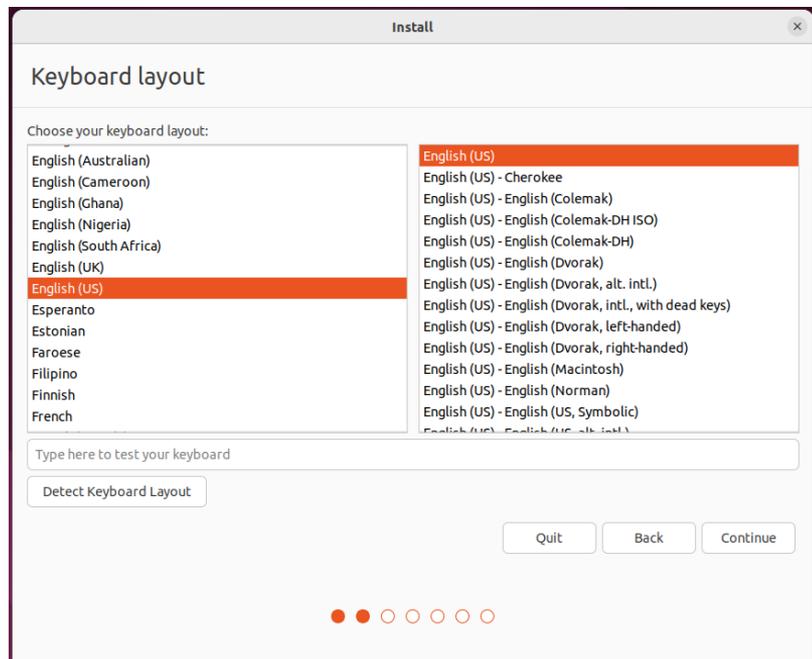
Step 2b

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 loading screen.
After it has finished loading the Ubuntu Installation setup should start.



Step 2c

Select a matching layout for the keyboard you're using.

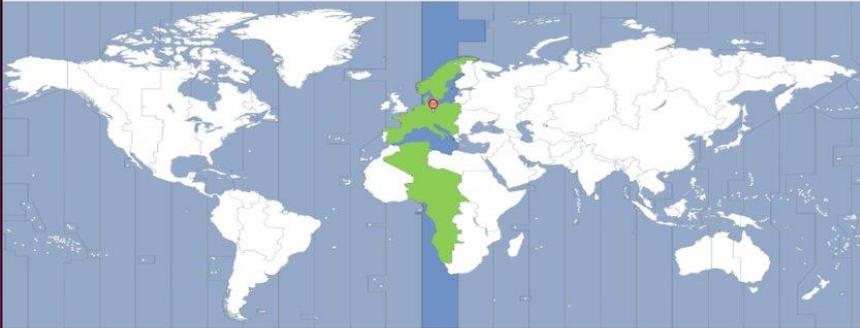


Step 2d

Select your local time zone and set "pib" as username and password.

Install

Where are you?



Berlin

Back Continue

Progress indicator: 6 dots, 5th dot highlighted.

Install

Who are you?

Your name: ✓

Your computer's name: ✓
The name it uses when it talks to other computers.

Pick a username: ✓

Choose a password: ⓘ **Short password**

Confirm your password: ✓

Log in automatically

Require my password to log in

Use Active Directory
You'll enter domain and other details in the next step.

Back Continue

Progress indicator: 6 dots, 1st dot highlighted.

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 3 commands to continue the pib.software setup.

Software setup

This script assumes:

- that Ubuntu Desktop 22.04.2 LTS is installed
- the user running it is **pib**

If you have not set up the user **pib** at installation, you can do so via the settings-dialog of Ubuntu and then log in as **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 Ubuntu
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 into the terminal to make the script executable:

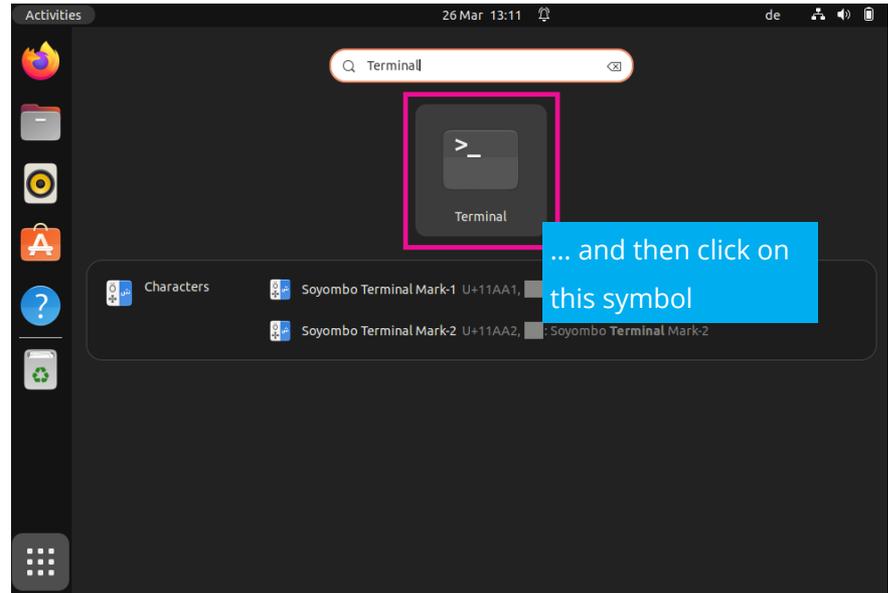
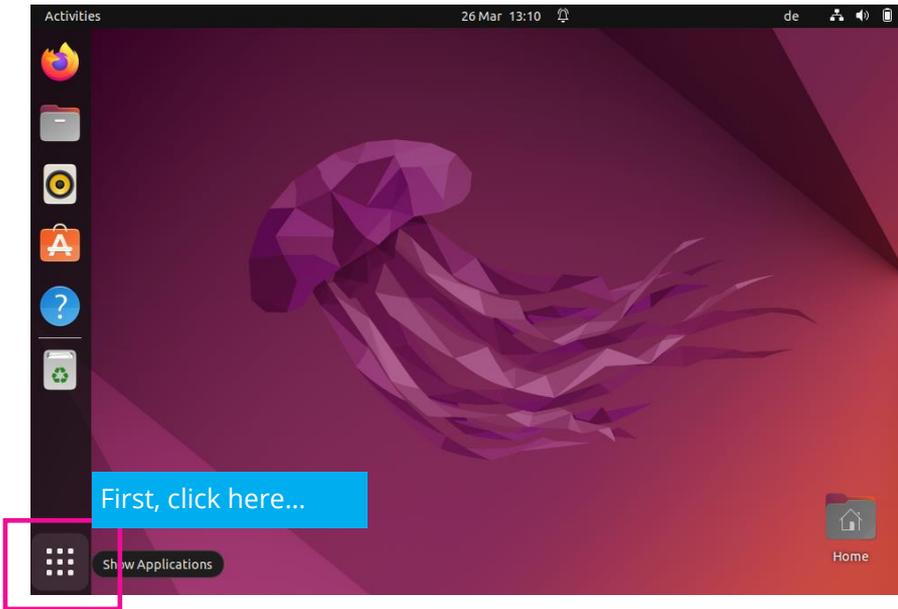
```
chmod 755 ./setup-pib.sh
```

4. Insert this command to run the script:

```
./setup-pib.sh
```

Step 3b

At first, launch the terminal. You may need to type "Terminal" into the search bar to find the app.



Step 3c

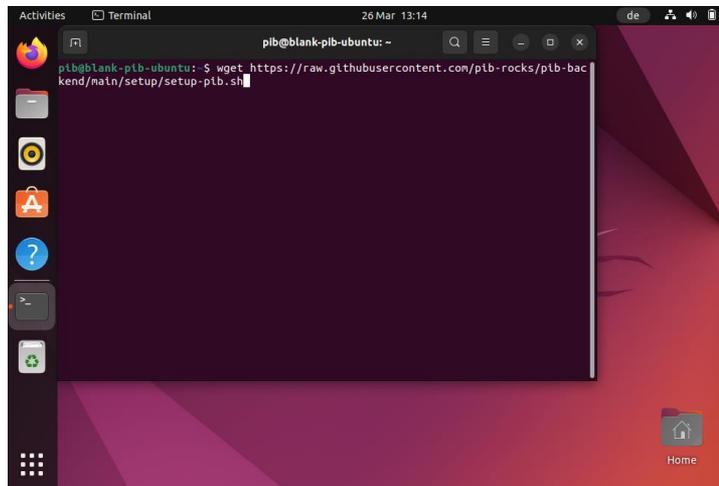
The first command will download the setup-script from our github website.

- Copy the command from github (`wget https://raw.githubusercontent.com/...`)
- 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.

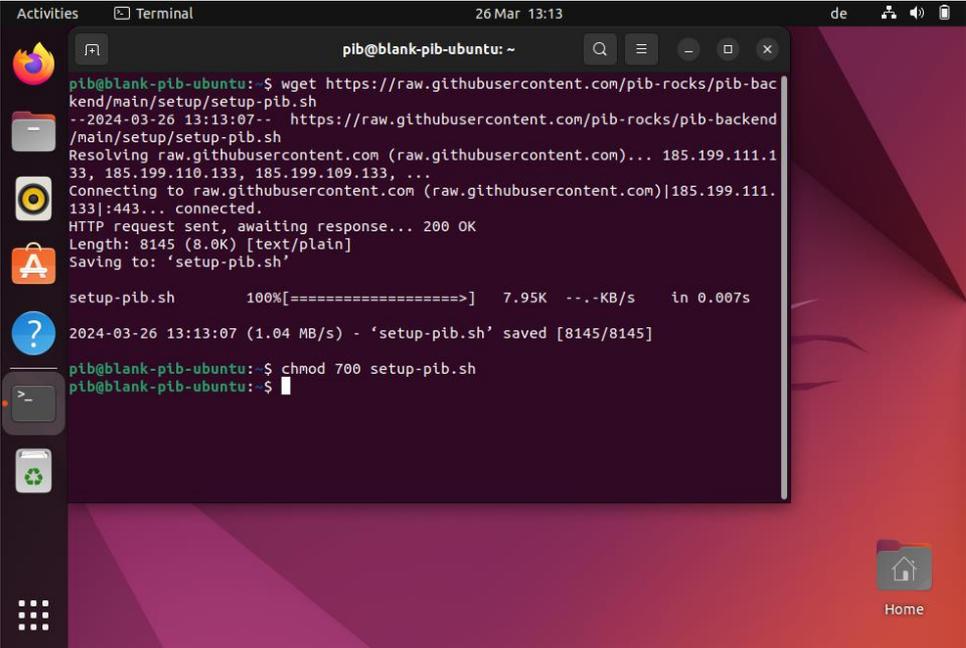
Instead use "CTRL + "SHIFT" + V" or right-click into the terminal and select "paste".



Step 3d

The second command makes the downloaded script executable.

Copy the command from github (chmod ...) and paste it into the terminal like in the first step.

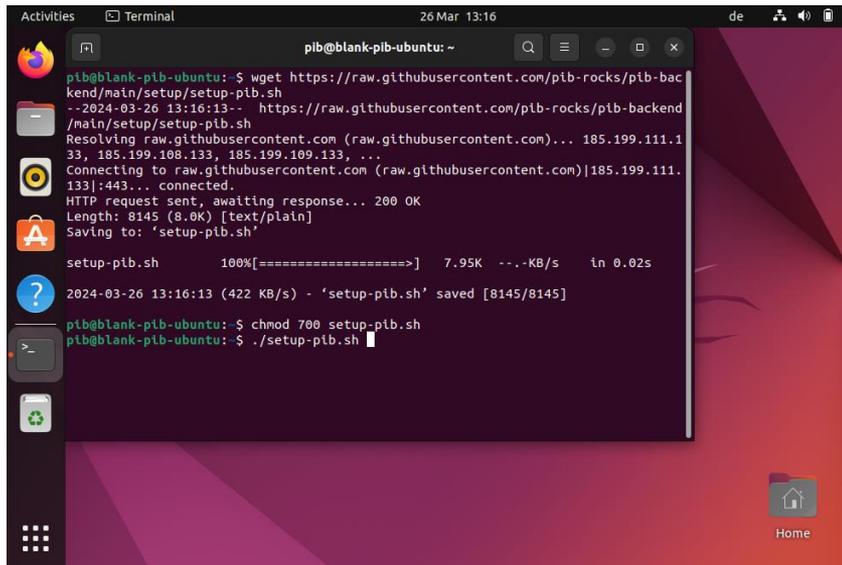


```
pi@blank-pib-ubuntu: ~  
pi@blank-pib-ubuntu:~$ wget https://raw.githubusercontent.com/pib-rocks/pib-backend/main/setup/setup-pib.sh  
--2024-03-26 13:13:07-- https://raw.githubusercontent.com/pib-rocks/pib-backend/main/setup/setup-pib.sh  
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.33, 185.199.110.133, 185.199.109.133, ...  
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 8145 (8.0K) [text/plain]  
Saving to: 'setup-pib.sh'  
  
setup-pib.sh      100%[=====] 7.95K  --.-KB/s  in 0.007s  
2024-03-26 13:13:07 (1.04 MB/s) - 'setup-pib.sh' saved [8145/8145]  
  
pi@blank-pib-ubuntu:~$ chmod 700 setup-pib.sh  
pi@blank-pib-ubuntu:~$
```

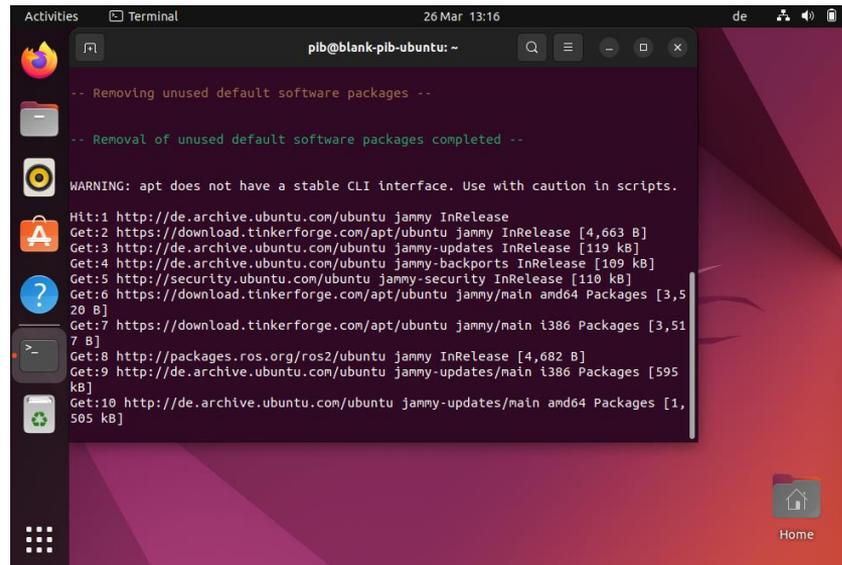
Step 3e

The third command starts the setup script. Therefore, enter the command in the terminal.

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



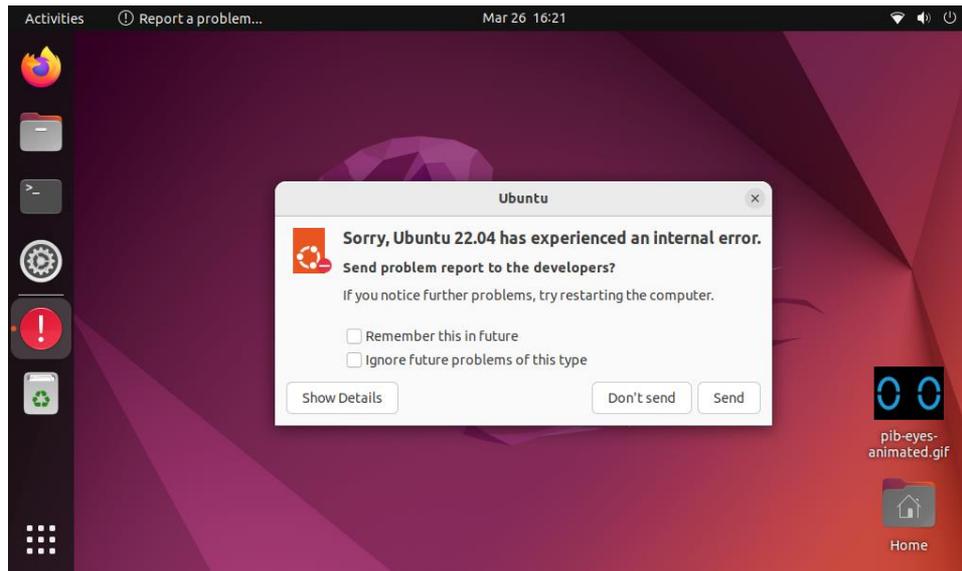
```
pi@blank-pib-ubuntu: ~  
pi@blank-pib-ubuntu:~$ wget https://raw.githubusercontent.com/pib-rocks/pib-backend/main/setup/setup-pib.sh  
--2024-03-26 13:16:13-- https://raw.githubusercontent.com/pib-rocks/pib-backend/main/setup/setup-pib.sh  
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.108.133, 185.199.109.133, ...  
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 8145 (8.0K) [text/plain]  
Saving to: 'setup-pib.sh'  
  
setup-pib.sh      100%[=====] 7.95K  --.-KB/s  in 0.02s  
  
2024-03-26 13:16:13 (422 KB/s) - 'setup-pib.sh' saved [8145/8145]  
  
pi@blank-pib-ubuntu:~$ chmod 700 setup-pib.sh  
pi@blank-pib-ubuntu:~$ ./setup-pib.sh
```



```
-- Removing unused default software packages --  
-- Removal of unused default software packages completed --  
  
WARNING: apt does not have a stable CLI interface. Use with caution in scripts.  
  
Hit:1 http://de.archive.ubuntu.com/ubuntu jammy InRelease  
Get:2 https://download.tinkerforge.com/apt/ubuntu jammy InRelease [4,663 B]  
Get:3 http://de.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]  
Get:4 http://de.archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]  
Get:5 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]  
Get:6 https://download.tinkerforge.com/apt/ubuntu jammy/main amd64 Packages [3,520 B]  
Get:7 https://download.tinkerforge.com/apt/ubuntu jammy/main i386 Packages [3,517 B]  
Get:8 http://packages.ros.org/ros2/ubuntu jammy InRelease [4,682 B]  
Get:9 http://de.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [595 kB]  
Get:10 http://de.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1,505 kB]
```

Step 3 - note

You can safely ignore most if not all error messages that pop up during or after the setup. Most of them are caused by ubuntu or software packages.



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.

Well done!



```
Congratulations! The setup completed succesfully!  
Please restart the system to apply changes...  
piB@piB:~$
```

Do you need support?



Or do you need our pib.Box with all non-printable parts?

Or maybe you have some new ideas and improvements?

Please contact us.



team@pib.rocks
Send us an email.



discord.com/invite/GRdpyeDu7P
Join us on Discord.



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