

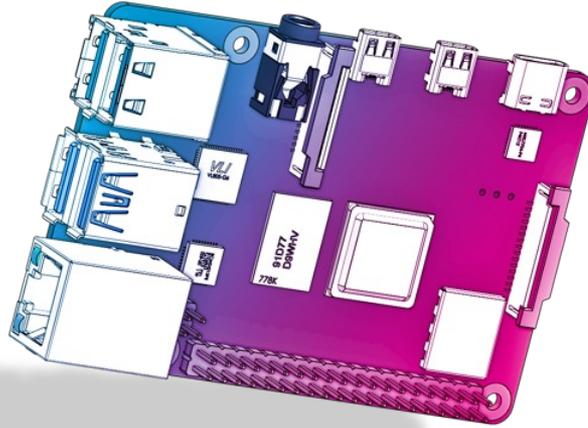


## How to build your robot

[www.pib.rocks/build](http://www.pib.rocks/build)

instructions for:  
**START UP**

v2024



PRINT

BUILD

DEVELOP

YOUR OWN ROBOT

## Build it better: our suggestion for assembling pib



We recommend **tools** for each step. These are a suggestion, you can of course also use other tools.



1-5

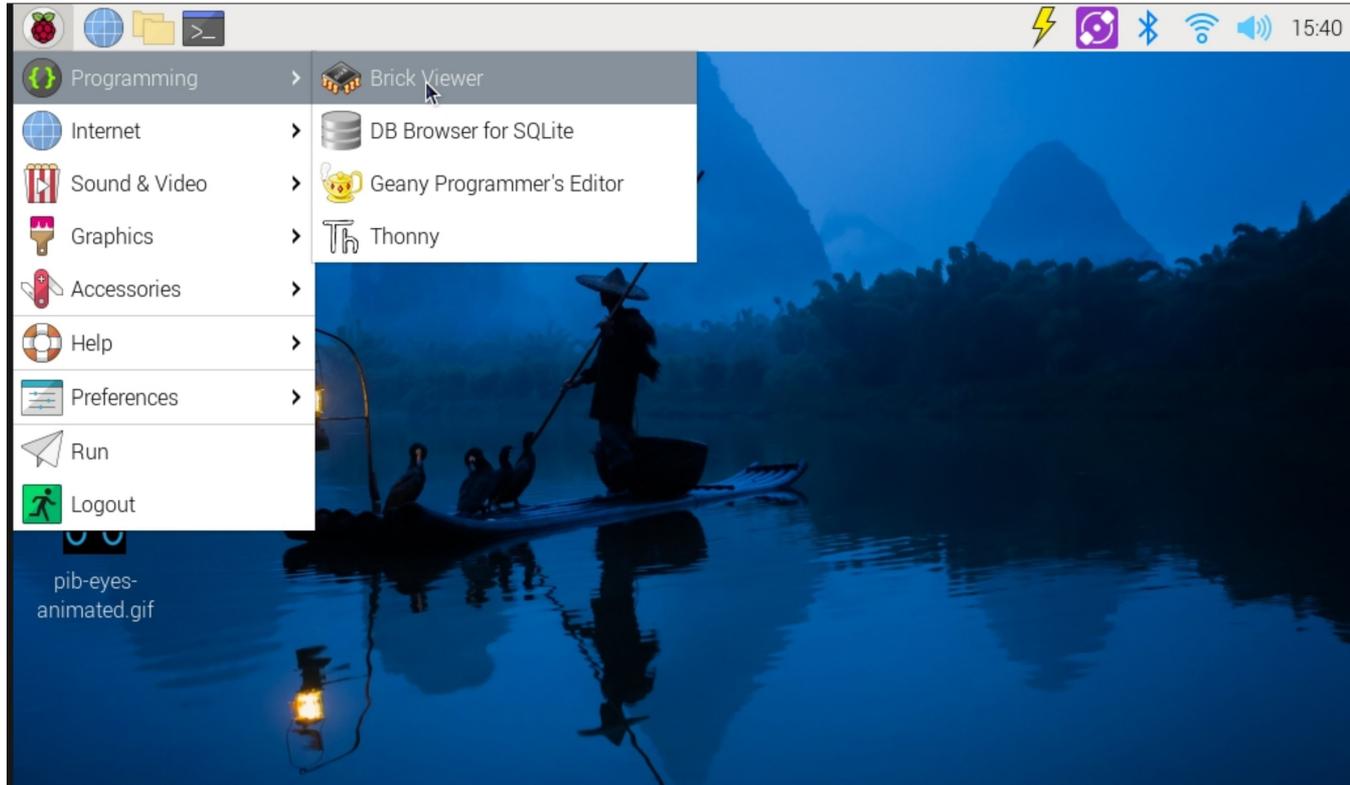
We have categorized each step according to its **difficulty** - from **1-5** (1 being the easiest, 5 the hardest)



We also show you which **non-printable parts** you need for each step

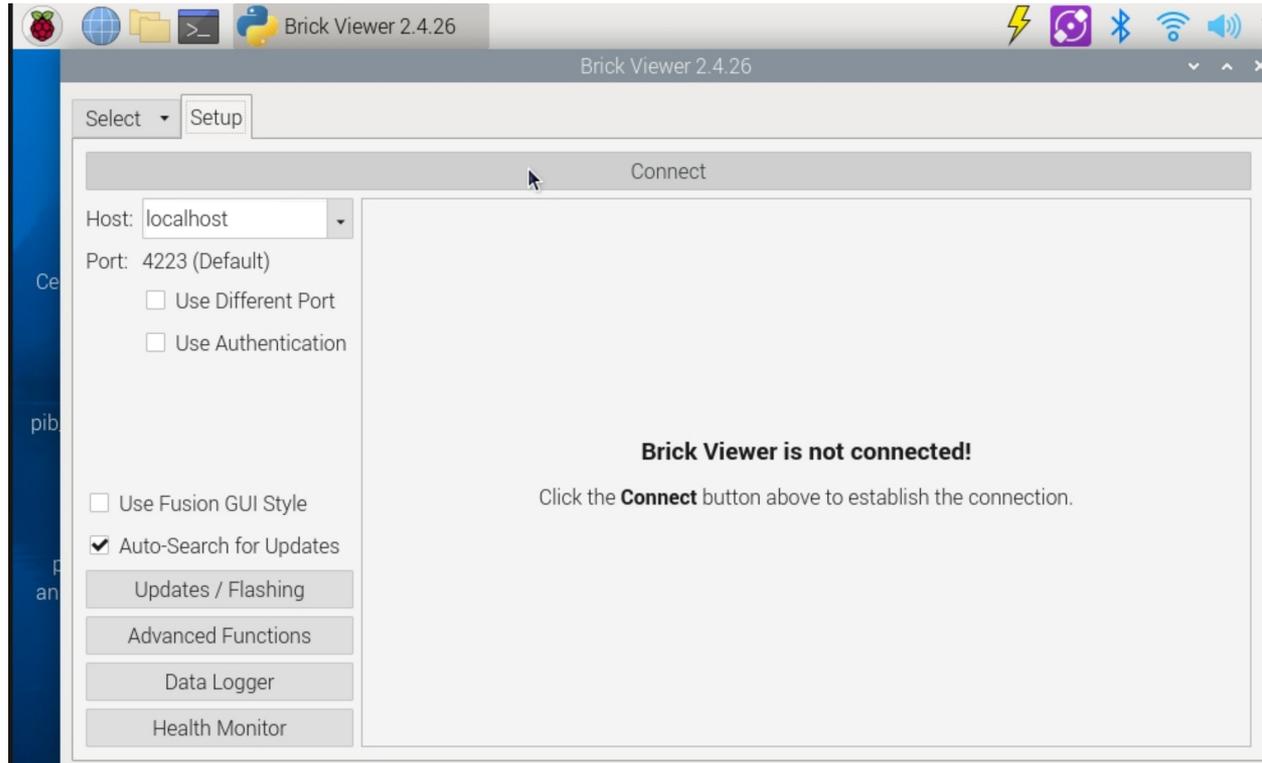
## Step 1

Click on the top left Raspberry icon, then point at programming and select brick viewer



## Step 2a

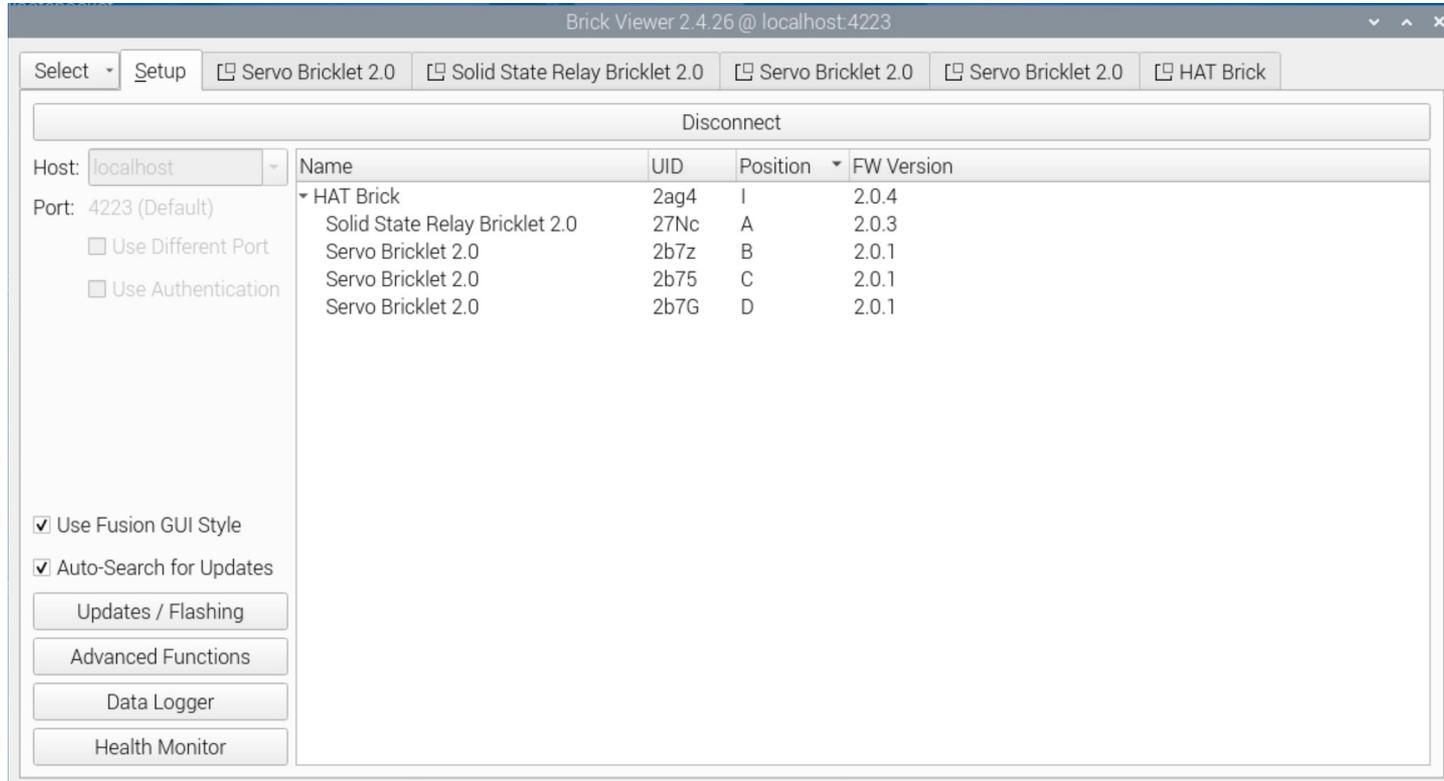
Click on connect



This connects all connected tinkerforge icomponents (1x Relay Bricklet, 3x Servo Bricklet) to the brick viewer software

note

- I. relay bricklet is for controlling the power supply
- II. servo bricklets are for controlling the motors



## Step 2b



Write the UIDs beside each bricklet in a piece of paper (case sensitive), but make sure you connected bricklet cables to correct ports as the picture

Brick Viewer 2.4.26 @ localhost:4223

Select Setup Servo Bricklet 2.0 Solid State Relay Bricklet 2.0 Servo Bricklet 2.0 Servo Bricklet 2.0 HAT Brick

Disconnect

Host: localhost

Port: 4223 (Default)

Use Different Port

Use Authentication

Use Fusion GUI Style

Auto-Search for Updates

Updates / Flashing

Advanced Functions

Data Logger

Health Monitor

Name	UID	Position	FW Version
▼ HAT Brick	2aq4	I	2.0.4
Solid State Relay Bricklet 2.0	27Nc	A <b>Bricklet 1</b>	2.0.3
Servo Bricklet 2.0	2b7z	B <b>Bricklet 2</b>	2.0.1
Servo Bricklet 2.0	2b75	C <b>Bricklet 3</b>	2.0.1
Servo Bricklet 2.0	2b7G	D	2.0.1

### Step 3



To turn on and off the power for motors click on the shown button in solid state relay bricklet tab

Brick Viewer 2.4.26 @ localhost:4223

Select ▾ Setup **Solid State Relay Bricklet 2.0** Servo Bricklet 2.0 Servo Bricklet 2.0 Servo Bricklet 2.0

UID: 27Nc FW Version: 2.0.3 Timeouts: 0 Status LED: Show Status ▾ Reset More

**Switch Off**

A ○ — ○ SW

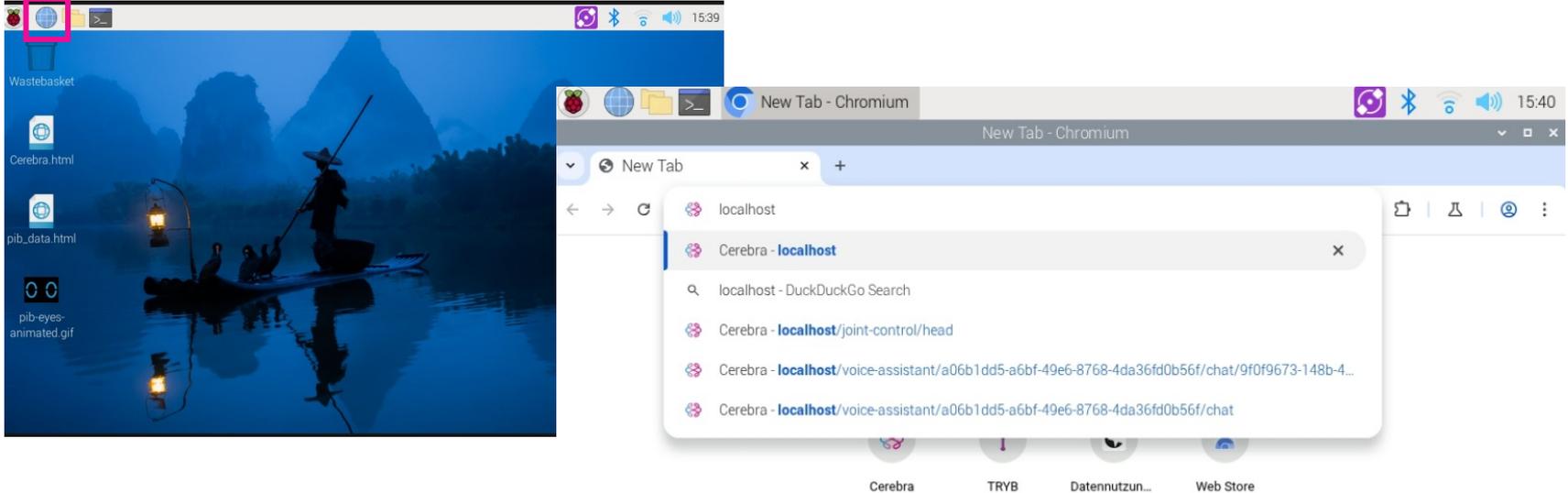
State: On

Monoflop: Time [ms]: 1000

Go

## Step 4a

Open a new browser window and navigate to localhost



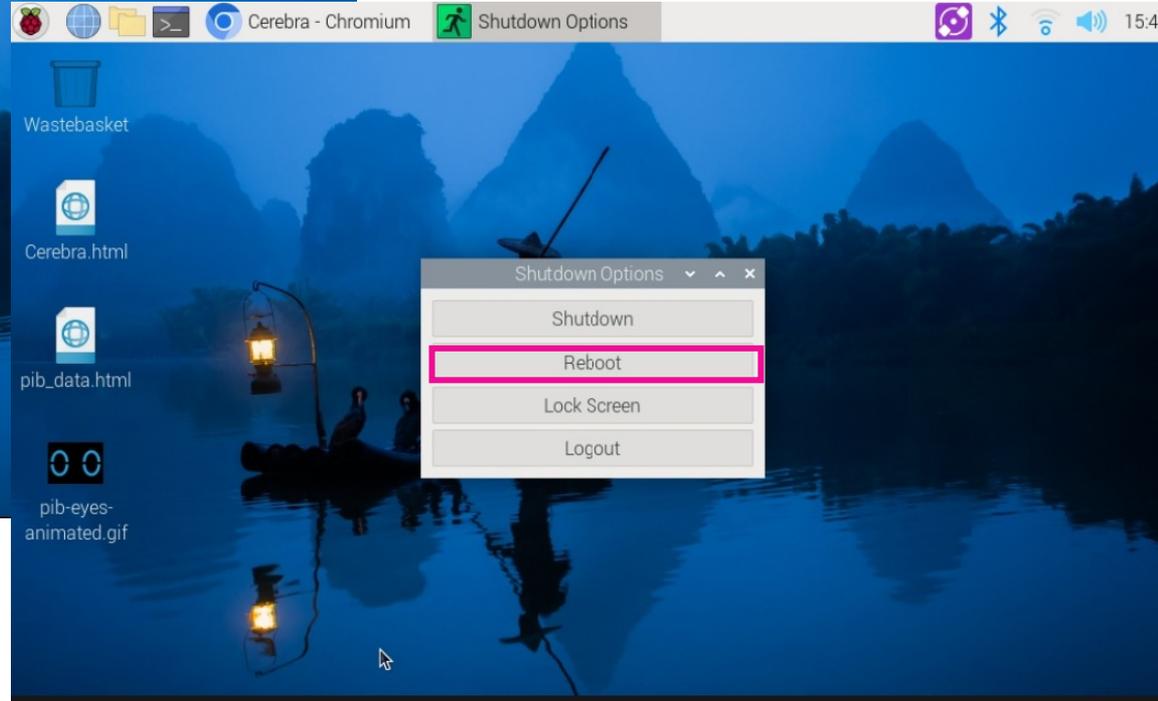
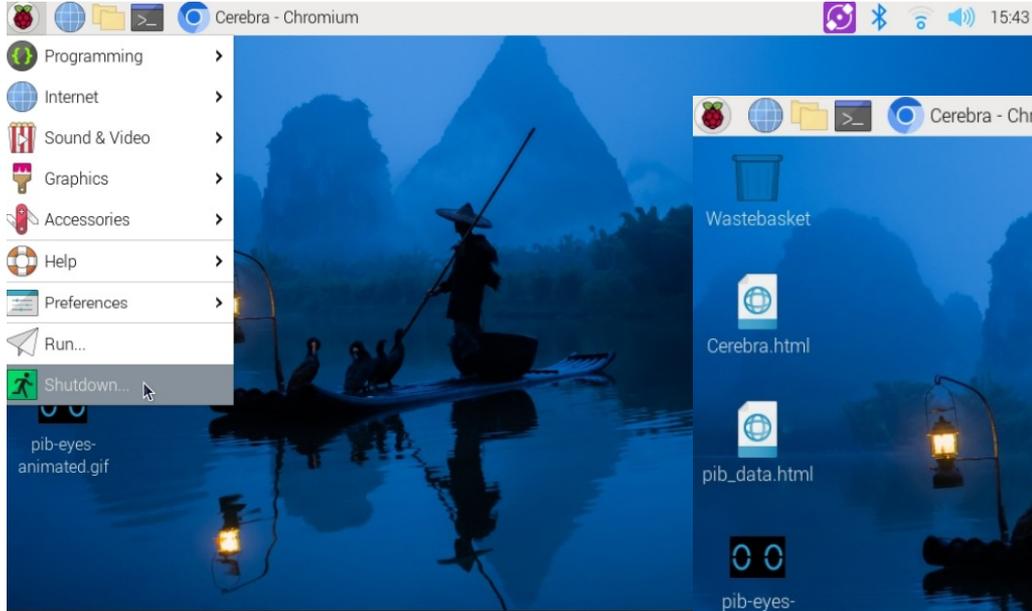
## Step 4b

Click on bricklet UIDs and enter the UIDs we gathered in step 2b and click on update

The image displays two screenshots of the Cerebra web interface in a Chromium browser window. The first screenshot shows the 'HEAD' tab selected in the top navigation bar, and the 'HARDWARE-IDS' sub-tab highlighted with a pink box. The main content area shows a table with columns for 'Settings', 'Active', and 'Current', with two rows of data. The second screenshot shows the 'LEFT HAND' tab selected, and the 'HARDWARE-IDS' sub-tab highlighted with a pink box. The main content area shows a 'Hardware' section with three input fields for 'Servo-bricklet 1' (2b7z), 'Servo-bricklet 2' (2b75), and 'Servo-bricklet 3' (2b7G). A blue 'Update' button is highlighted with a pink box at the bottom of the page.

## Step 4c

### Restart pib



## Feature 1

Click on joint control and select any joint you want to move and just move the slider



The screenshot shows a web browser window with the following elements:

- Browser tabs: Cerebra - Chromium
- Address bar: localhost/joint-control/head/motor/turn-head
- Page title: Cerebra - Chromium
- Page content:
  - Left sidebar: JOINT CONTROL (selected), POSES, CAMERA, VOICE ASSISTANT, PROGRAM
  - Main content area:
    - Section: RIGHT ARM HARDWARE-IDS
    - Text: Select a touch point to adjust.
    - Table:

Settings	Active	Current
	<input checked="" type="checkbox"/>	0 mA
	<input type="checkbox"/>	0 mA
    - Image: A robot head with two circular touch points on its face.
    - Section: Head Rotation
    - Slider: A horizontal slider with a pink knob, ranging from -90 to 90, currently set at 0.

Note



If a finger moves in the opposite direction to others, click on the finger, click on settings icon, click on extended values and click invert

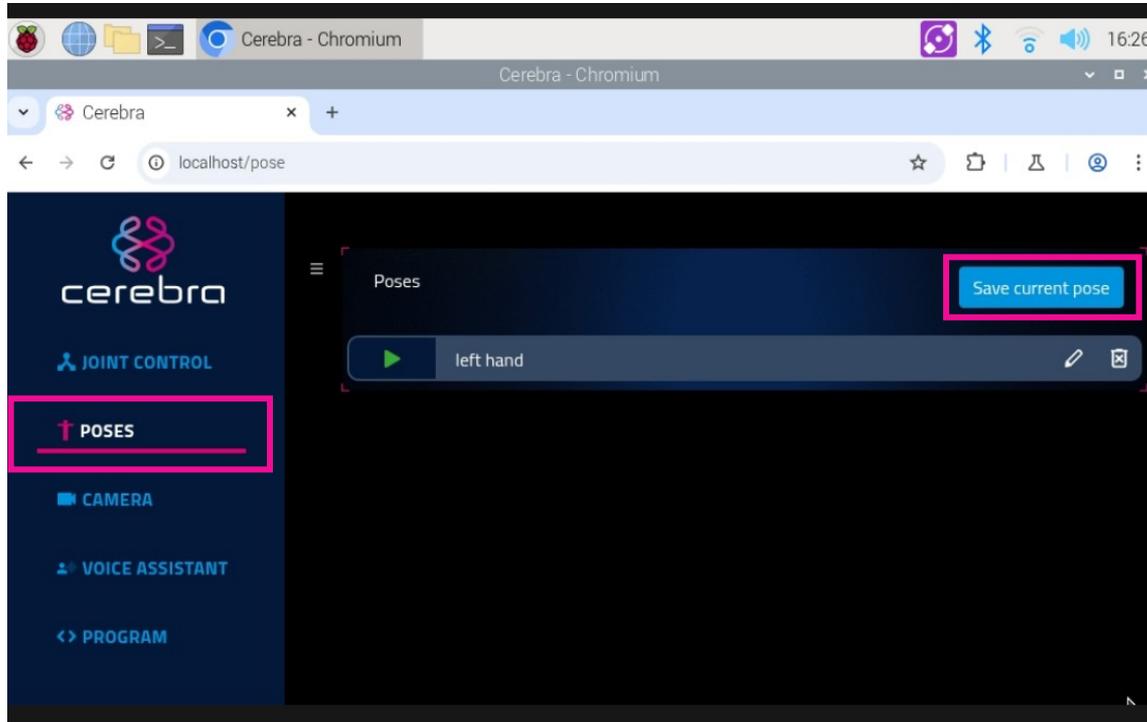
The screenshot shows the Cerebra web interface in a Chromium browser. The main menu has tabs for HEAD, LEFT HAND, RIGHT HAND, and LEFT ARM. The 'RIGHT HAND' tab is active. Below the tabs, there's a section for 'Select a touch point to adjust.' with a table of settings and a hand diagram. A gear icon in the settings column is highlighted with a pink box. A 'MOTOR SETTINGS' modal is open, with 'EXTENDED VALUES' selected and highlighted with a pink box. The modal shows 'Pulse width (µs)' at 750 and 'Degree (°/100)' at -90.

This is a close-up of the 'MOTOR SETTINGS' modal. It shows the 'Degree (°/100)' slider set to -90. Below it, the 'Period (µs)' slider is set to 19500. At the bottom, the 'Invert motor' checkbox is highlighted with a pink box.

## Feature 2



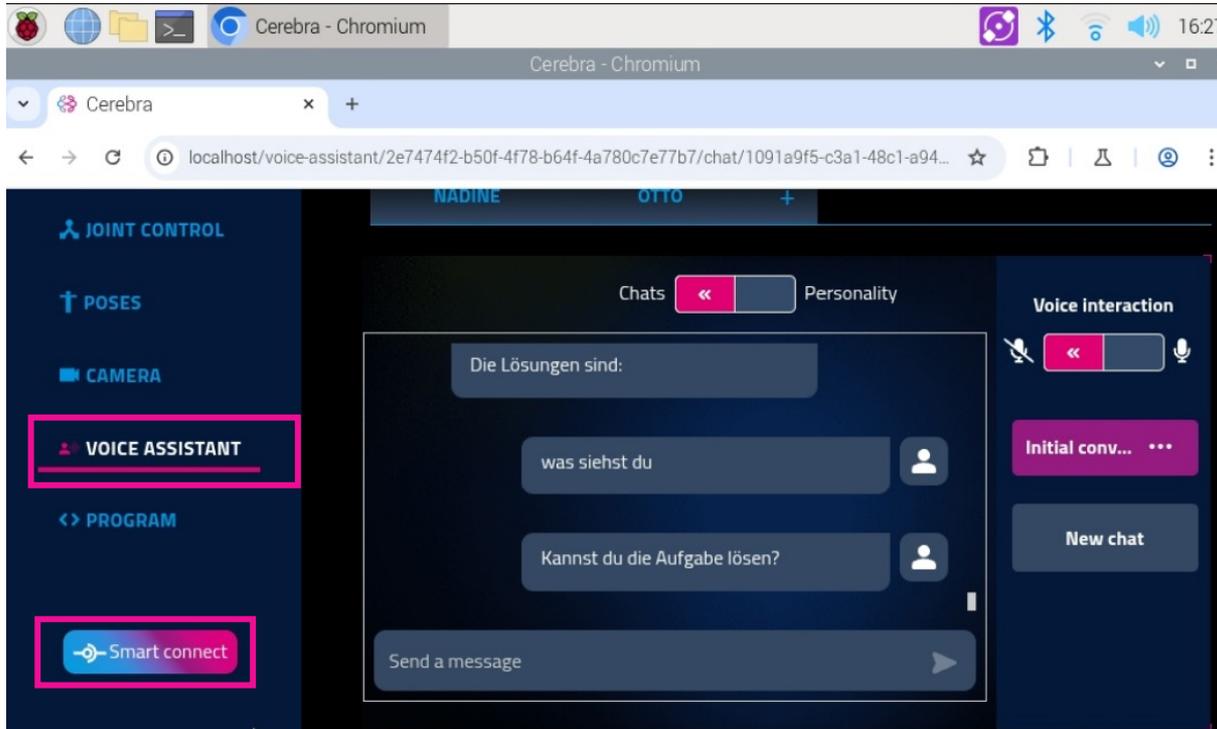
Move the joints with joint control to a configuration you want to save, then navigat to poses and create new pose. Now every time you click on this pose, pi**b** will go to the saved configuration



## Feature 3



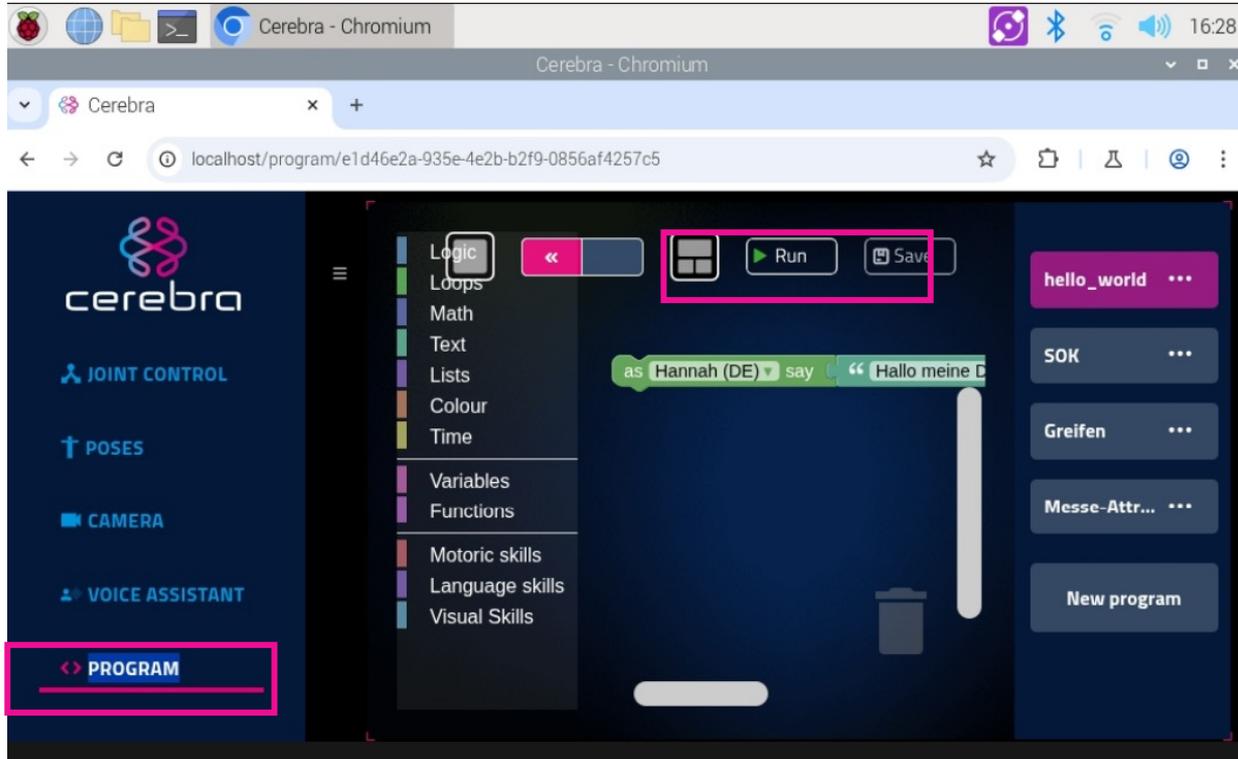
Click on smart connect API, get in touch with pib team at [team@pib.rocks](mailto:team@pib.rocks) to provide you with a token, enter this token, a new password and start talking with pib



## Feature 4

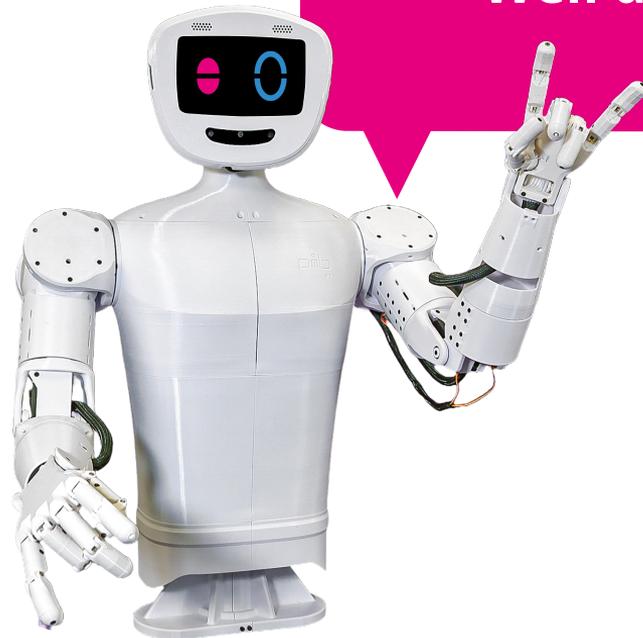


Click on block programming to create a script with basic blocks, then click run to start it



## Congratulations

You did a great job, you have started pib!



**Well done!**

## 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.



**shop.pib.rocks**

Order non-printable parts for pib.