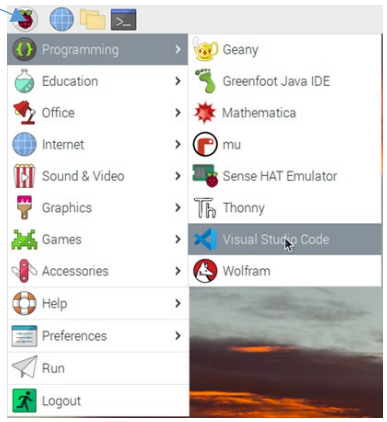
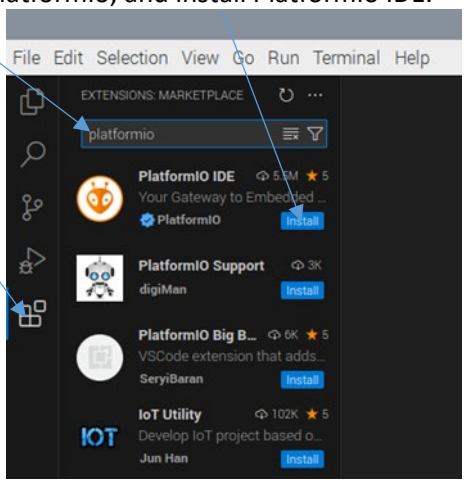
Instruction Visual Studio Code

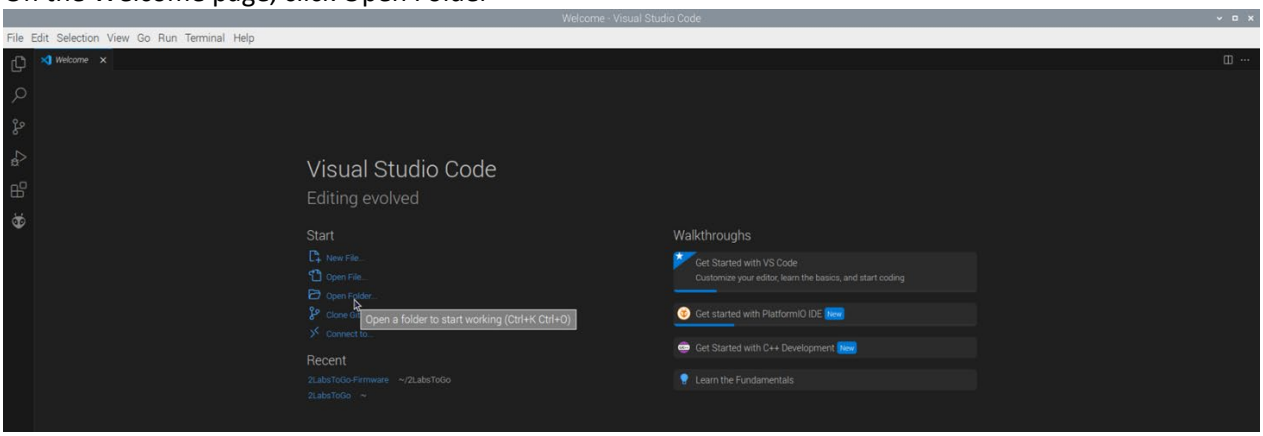
On the Raspberry Pi, start Visual Studio Code.
Therefore, click the raspberry (top left) and select Programming -> Visual Studio Code



In Visual Studio Code, install Platformio IDE, if not already done.
Click “Extensions”, search for platformio, and install Platformio IDE.

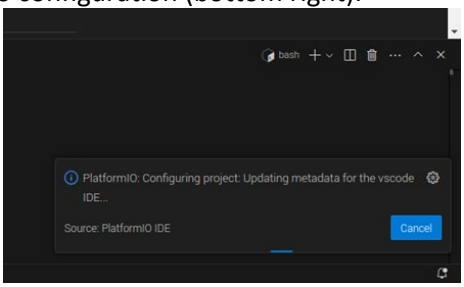


On the Welcome page, click Open Folder

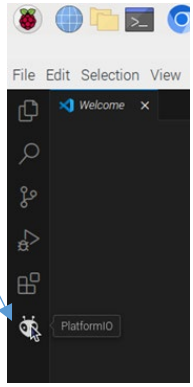


and select the folder .../2LabsToGo-Eco/2LabsToGo-Eco-Firmware/2LabsToGo-Eco-Marlin.

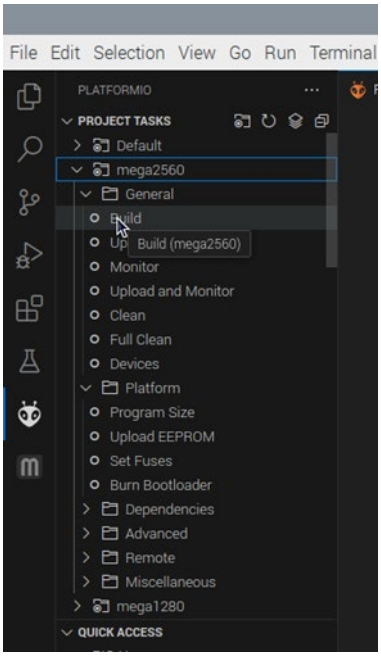
Wait for finishing the Platformio configuration (bottom right).



Click PlatformIO.



In the new menu PROJECT TASKS, expand “mega2560” and “General”, and click “Build”.



Building the firmware will start and will take some minutes. The progress can be followed in the terminal and should end with a “Success” message.

The firmware.hex file can be found in …/2LabsToGo-Eco/2LabsToGo-Eco-Firmware/2LabsToGo-Eco-Marlin/.pio/build/mega2560.

Open a new Linux Terminal and copy the firmware.hex file to the folder …/2LabsToGo-Eco/2LabsToGo-Eco-Firmware, while renaming it, for example, to my-firmware.hex:

```
cd ~/2LabsToGo-Eco/2LabsToGo-Eco-Firmware/2LabsToGo-Eco-Marlin
ls -a [to make the hidden files visible]
sudo cp .pio/build/mega2560/firmware.hex ~/2LabsToGo-Eco/2LabsToGo-Eco-Firmware/my-firmware.hex
```

Then open the file …/2LabsToGo-Eco-Firmware/flash_firmware.sh with Geany (right click) and correct the firmware filename:

```
#!/bin/bash
#read -p "Enter your username: " user
#echo "You entered $user"

#sudo avrdude -p atmega2560 -C avrdude_gpio.conf -c 2LabsToGo -v -U lfuse:w:0xff:m -U hfuse:w:0xd8:m -U efuse:w:0xfd:m
sudo avrdude -p atmega2560 -C avrdude_gpio.conf -c 2LabsToGo -v -U lfuse:w:0xff:m -U hfuse:w:0xd8:m -U efuse:w:0xfd:m
#sudo avrdude -p atmega2560 -C avrdude_gpio.conf -c 2LabsToGo -v -U flash:w:ArduinoISP.ino.hex:i
sudo avrdude -p atmega2560 -C avrdude_gpio.conf -c 2LabsToGo -v -U flash:w:ArduinoISP.ino.hex:i
#sudo avrdude -p atmega2560 -C avrdude_gpio.conf -c 2LabsToGo -v -U flash:w:firmware_2LabsToGo-Eco.hex:i
sudo avrdude -p atmega2560 -C avrdude_gpio.conf -c 2LabsToGo -v -U flash:w:firmware_2LabsToGo-Eco.hex:i
```

as to my-firmware. Keep the extension ".hex:i"(!) and save the file.

To flash the firmware, place the 4x2 jumper onto the ISP To Pi pins (center of the mainboard).
In the still open Linux Terminal (folder 2LabsToGo-Eco-Marlin), type

```
sudo chmod +x flash_firmware.sh
```

[to make the file executable, if not done already before]
and start flashing with

```
./flash_firmware.sh
```

The caselight will be switched off, and the flashing process will take some minutes, ending with the message "Thank you!".

Remove the 4x2 jumper from the mainboard, when the firmware starts immediately (caselight on and homing the x-axis).