Getting started with the Adalogger

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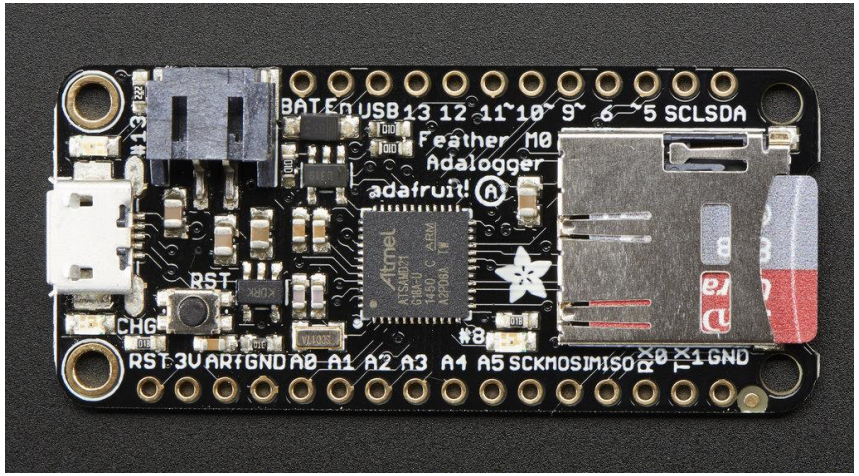
Getting to know the Adafruit Adalogger

Some key characteristics:

- Small form factor (“feather”)
- 3.3V operation with battery connector
- ATSAMD21G18 ARM Cortex M0 processor
- 256KB of FLASH + 32KB of RAM
- Built in micro SD card reader
- 20 GPIO pins

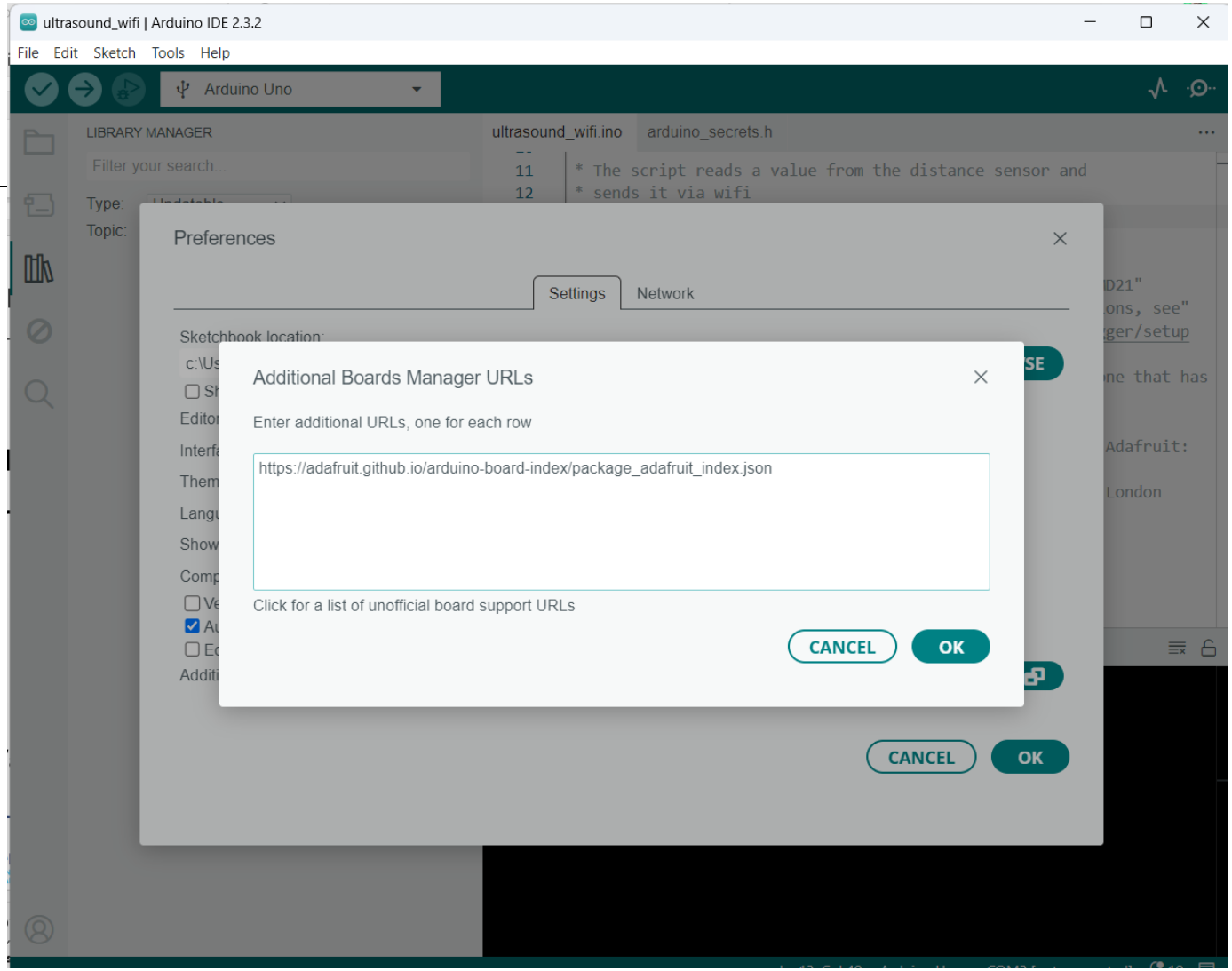
https://learn.adafruit.com/adafruit-feather-m0-adalogger/



Adding board definitions

Go to File -> preferences

And click on the  icon next to “additional boards manager”



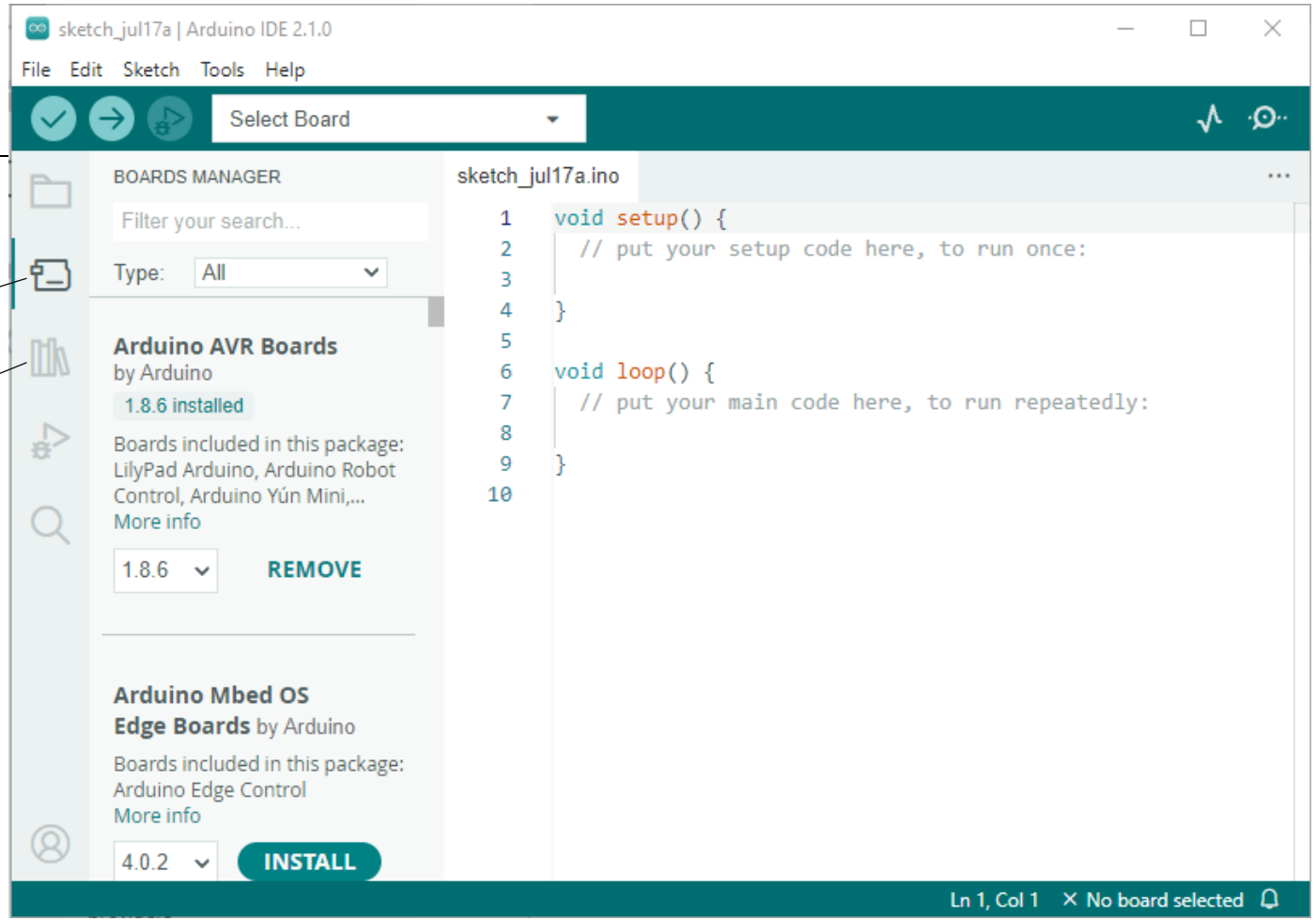
Add the following url:

https://adafruit.github.io/arduino-board-index/package_adafruit_index.json

Adding board definitions

Boards Manager

Library Manager

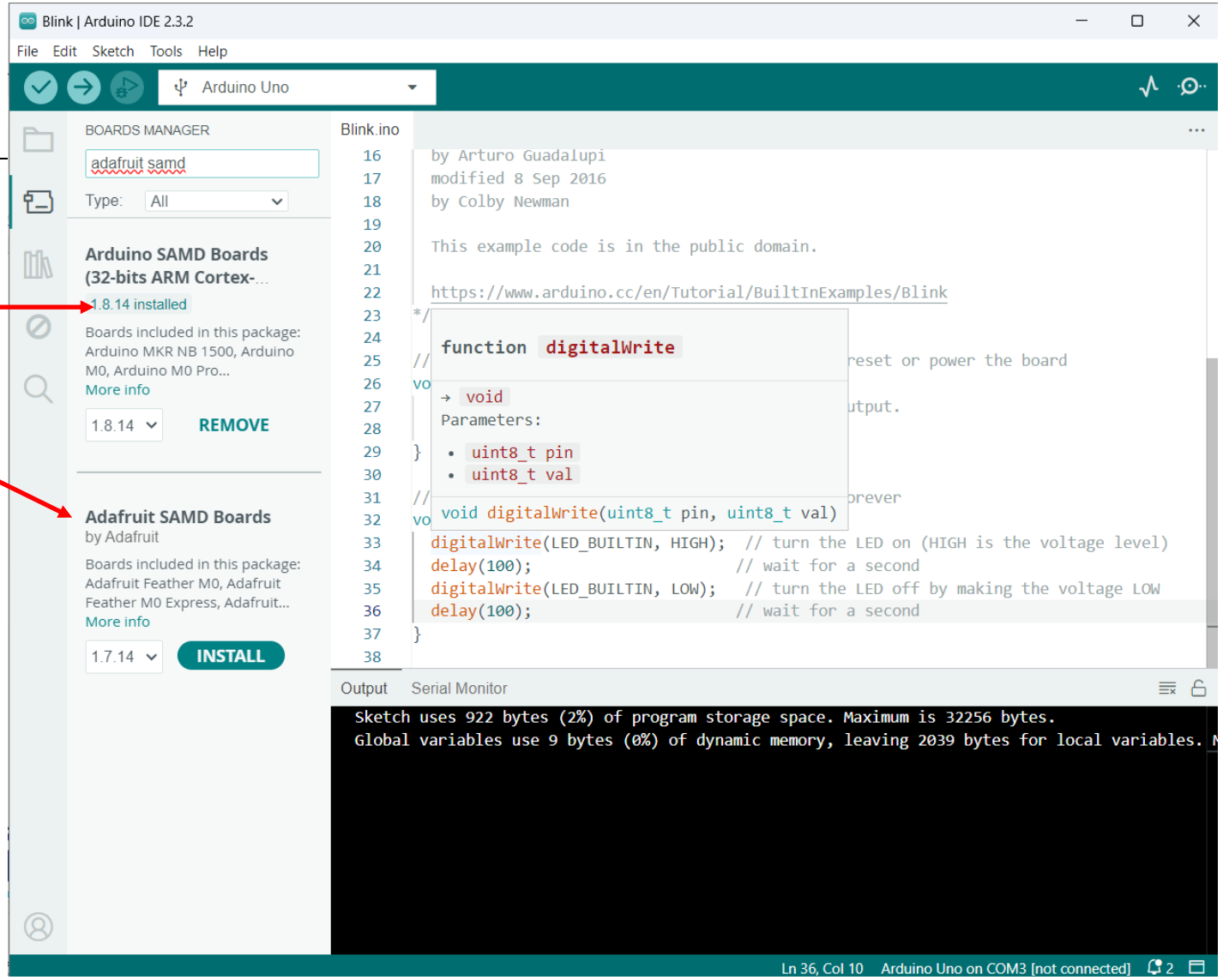


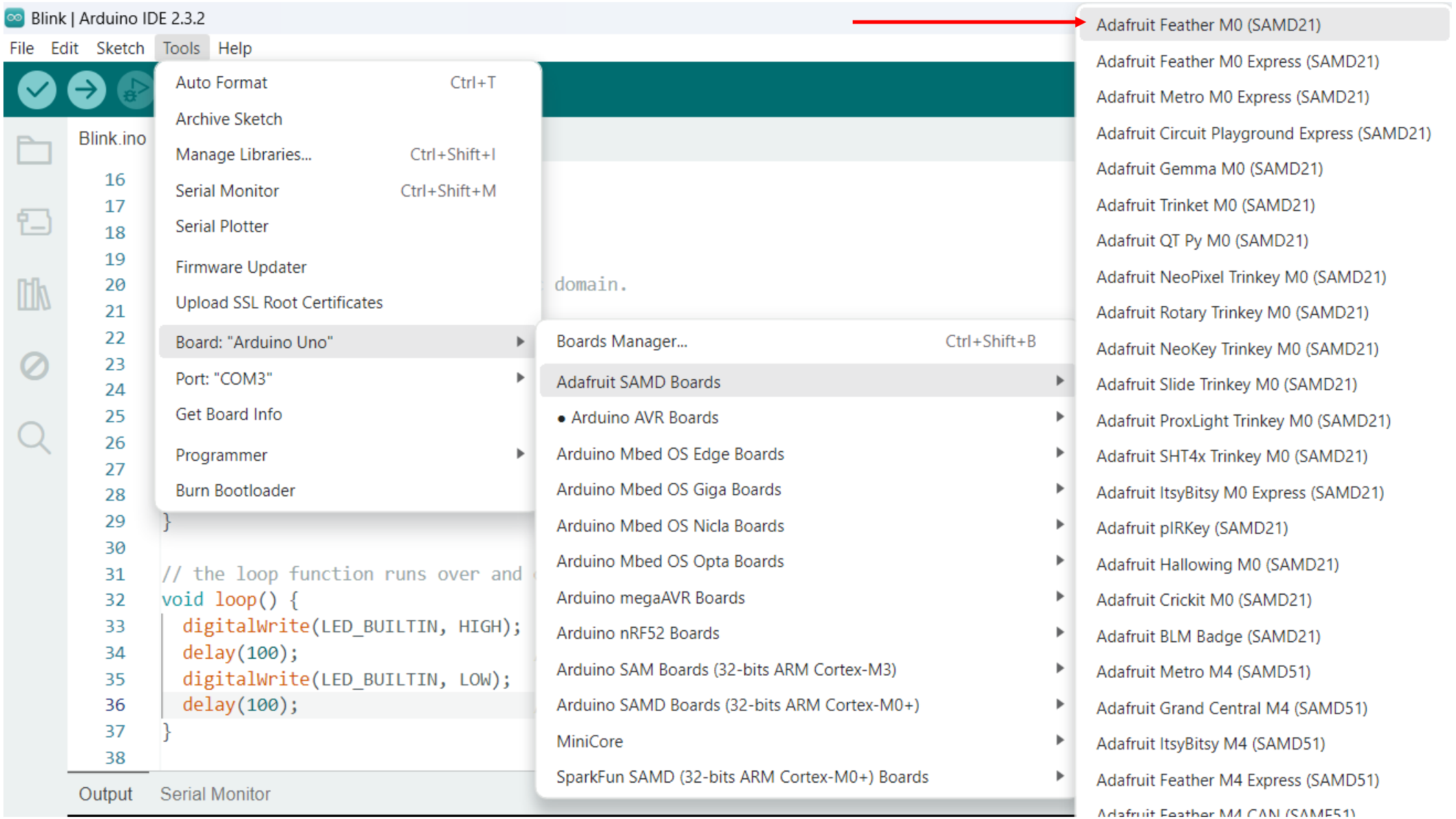
Search for “Adafruit SAMD”

Adding board definitions

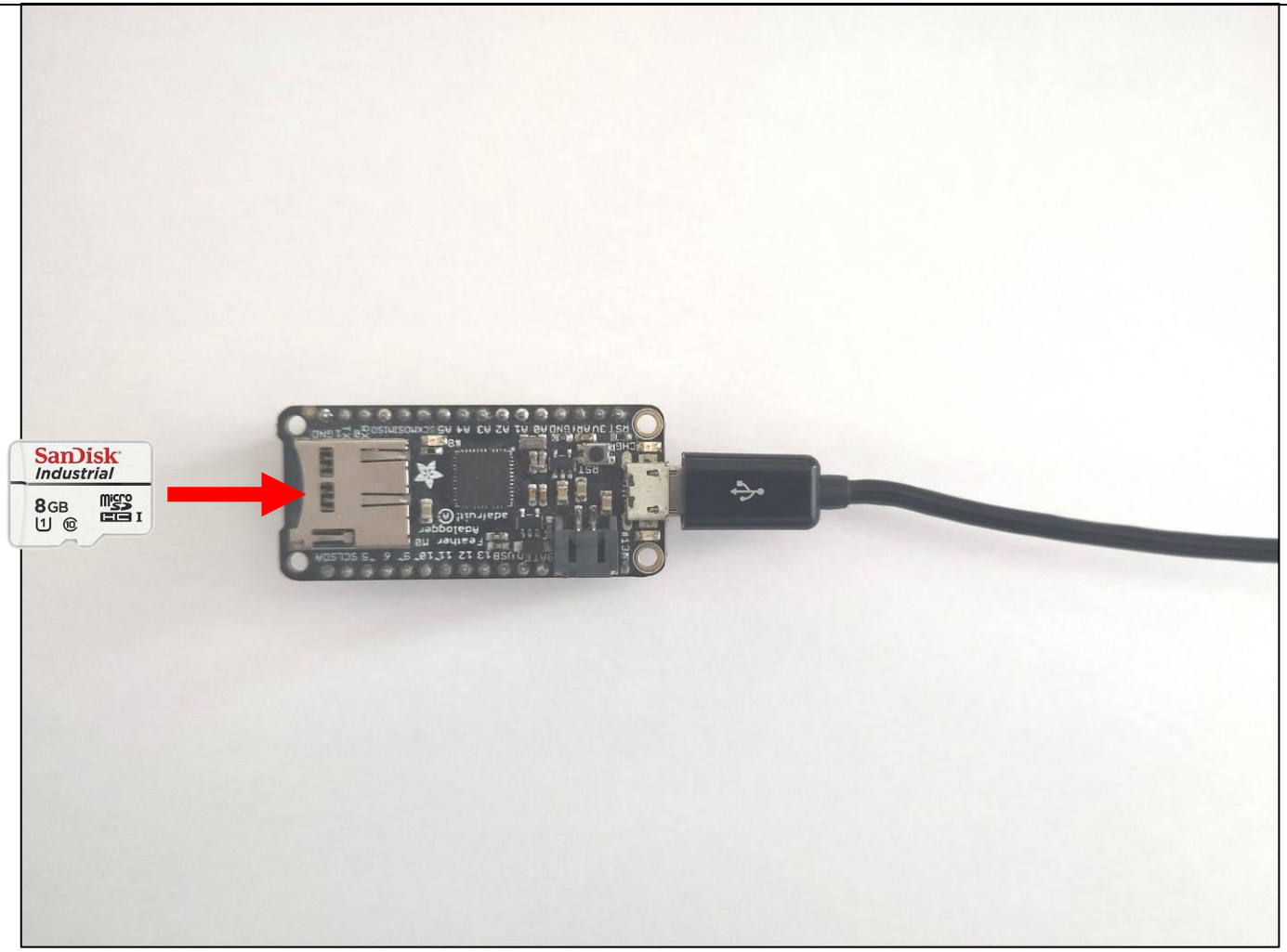
Install both:

- Arduino SAMD boards
- Adafruit SAMD boards




Blink | Arduino IDE 2.3.2
File Edit Sketch Tools Help
Blink.ino
Auto Format Ctrl+T
Archive Sketch
Manage Libraries... Ctrl+Shift+I
Serial Monitor Ctrl+Shift+M
Serial Plotter
Firmware Updater
Upload SSL Root Certificates
Board: "Arduino Uno"
Port: "COM3"
Get Board Info
Programmer
Burn Bootloader
Boards Manager... Ctrl+Shift+B
Adafruit SAMD Boards
Arduino AVR Boards
Arduino Mbed OS Edge Boards
Arduino Mbed OS Giga Boards
Arduino Mbed OS Nicla Boards
Arduino Mbed OS Opta Boards
Arduino megaAVR Boards
Arduino nRF52 Boards
Arduino SAM Boards (32-bits ARM Cortex-M3)
Arduino SAMD Boards (32-bits ARM Cortex-M0+)
MiniCore
SparkFun SAMD (32-bits ARM Cortex-M0+) Boards
Adafruit Feather M0 (SAMD21)
Adafruit Feather M0 Express (SAMD21)
Adafruit Metro M0 Express (SAMD21)
Adafruit Circuit Playground Express (SAMD21)
Adafruit Gemma M0 (SAMD21)
Adafruit Trinket M0 (SAMD21)
Adafruit QT Py M0 (SAMD21)
Adafruit NeoPixel Trinkey M0 (SAMD21)
Adafruit Rotary Trinkey M0 (SAMD21)
Adafruit NeoKey Trinkey M0 (SAMD21)
Adafruit Slide Trinkey M0 (SAMD21)
Adafruit ProxLight Trinkey M0 (SAMD21)
Adafruit SHT4x Trinkey M0 (SAMD21)
Adafruit ItsyBitsy M0 Express (SAMD21)
Adafruit pIRKey (SAMD21)
Adafruit Hallowing M0 (SAMD21)
Adafruit Crickit M0 (SAMD21)
Adafruit BLM Badge (SAMD21)
Adafruit Metro M4 (SAMD51)
Adafruit Grand Central M4 (SAMD51)
Adafruit ItsyBitsy M4 (SAMD51)
Adafruit Feather M4 Express (SAMD51)
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
domain.
}
// the loop function runs over and
void loop() {
digitalWrite(LED_BUILTIN, HIGH);
delay(100);
digitalWrite(LED_BUILTIN, LOW);
delay(100);
}
Output Serial Monitor

Set-up 1: testing the SD card



Exercise 1: Revisiting the blink example

- Select the “Adafruit M0 board” from the board definitions

- Select the port

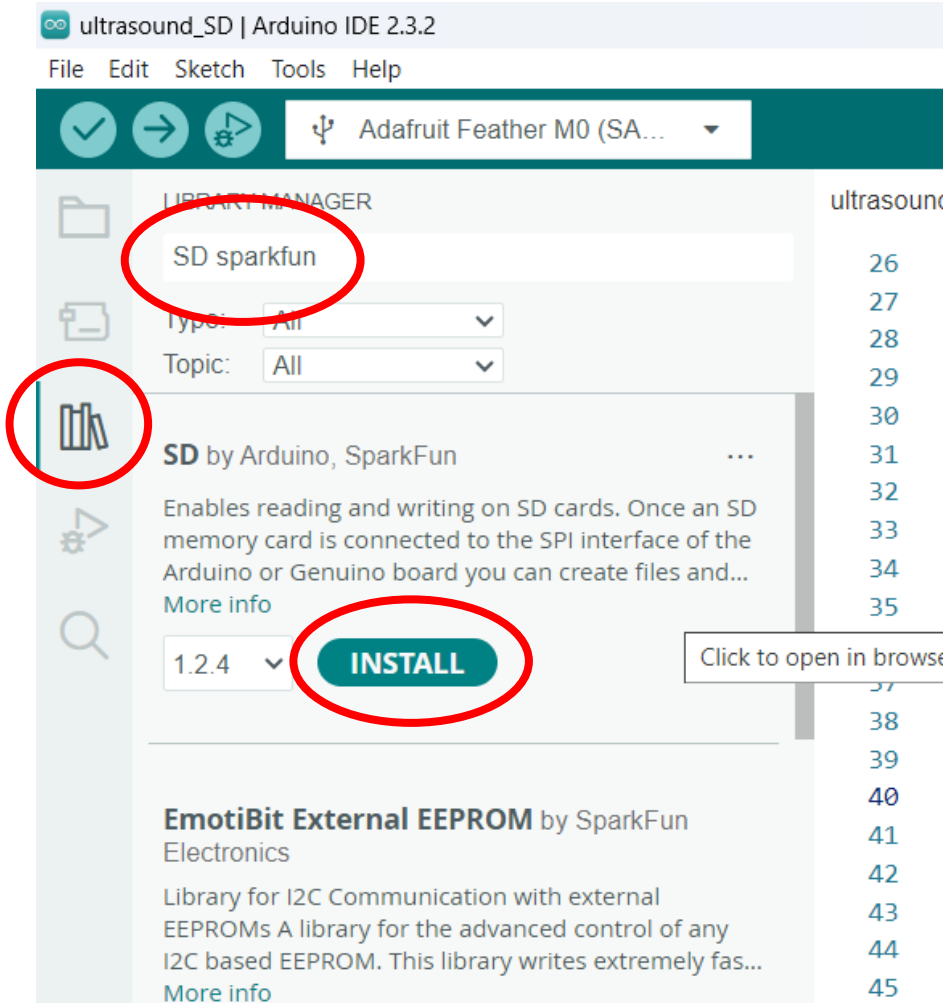
- Open the “blink.ino” script

- Run the script

Exercise 2: Exploring the SD card functionality

Now, we will start using libraries that are not part of the core Arduino installation. So they need to be installed separately, but luckily this is easy to do through the library manager interface. Search in the library for “SD sparkfun” and install the following library:

- **SD** by Arduino, Sparkfun



Exercise 2: Exploring the SD card functionality

- Run “SD -> Cardinfo.ino”
- Explore the sketch “SD -> datalogger.ino

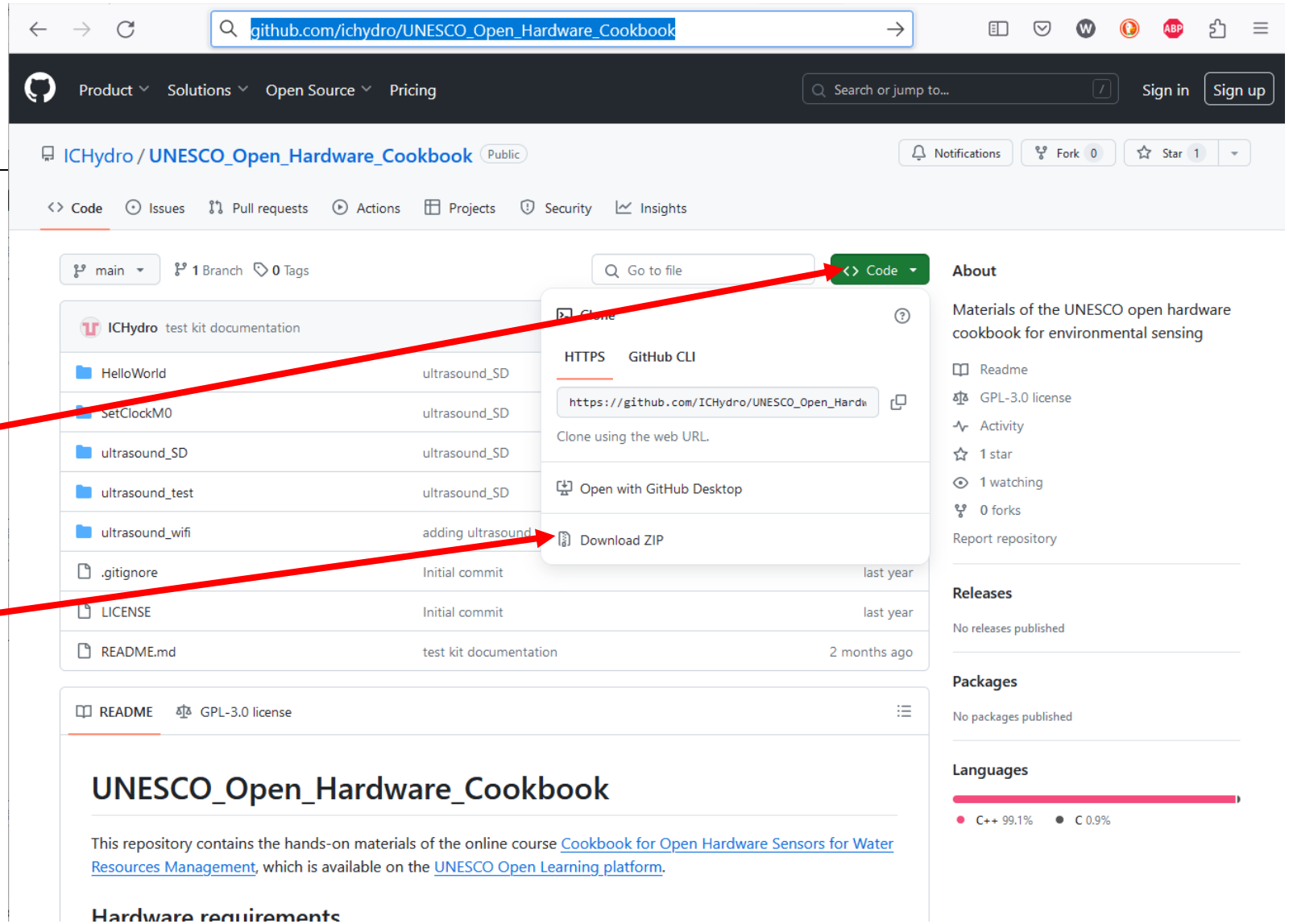
Advanced exercise

Modify the “SD -> Readwrite.ino” sketch to write your group’s names to a file on the SD card. Check by whether you have been successful by taking the card out of the Adalogger, and reading it with your PC by means of the SD card reader included in your hardware kit

Download the code

1

2



https://github.com/ichydro/UNESCO_Open_Hardware_Cookbook