

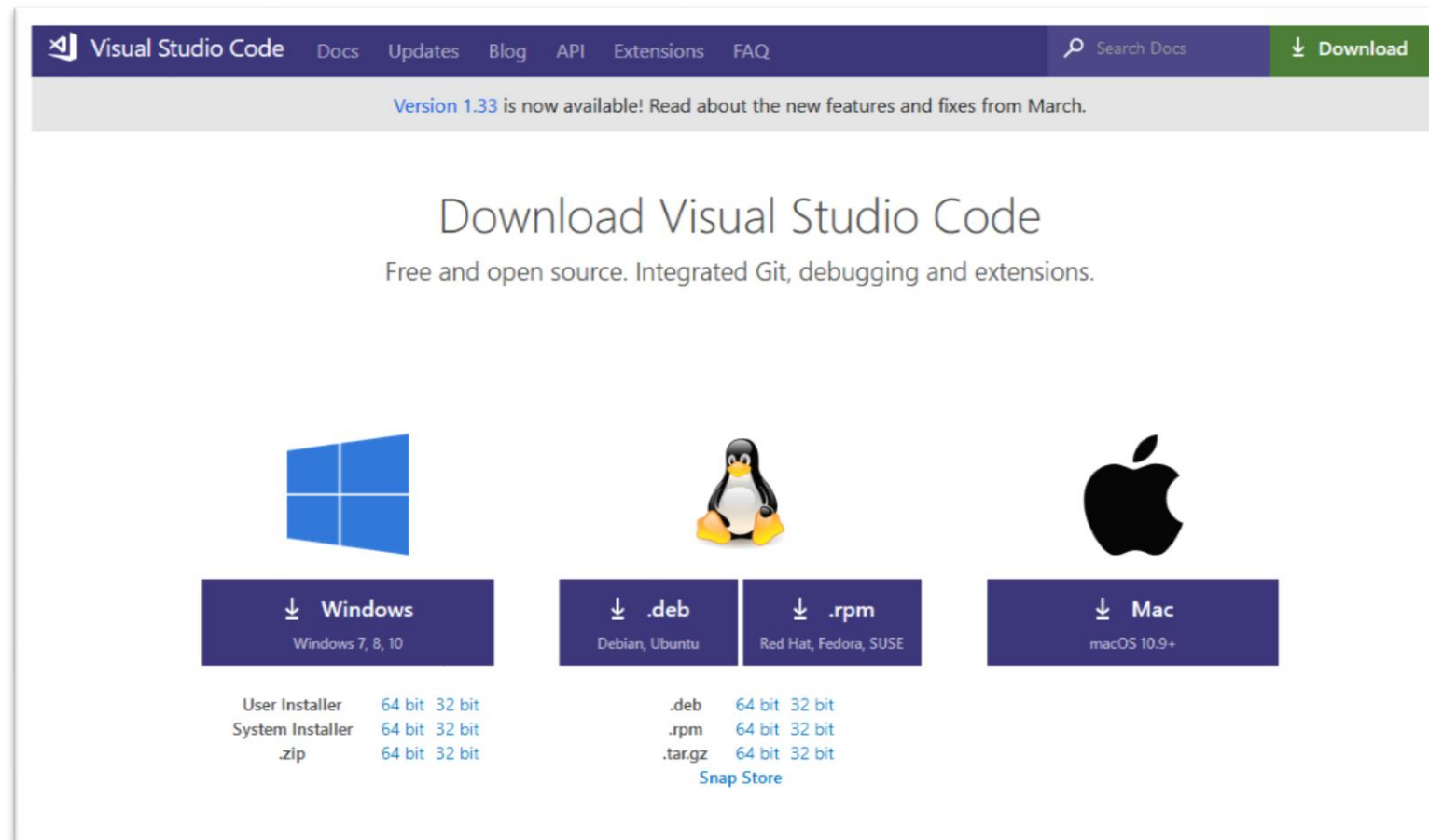
How to install and use PlatformIO for Arduino and Hackberry Project

Hackberry project with PlatformIO

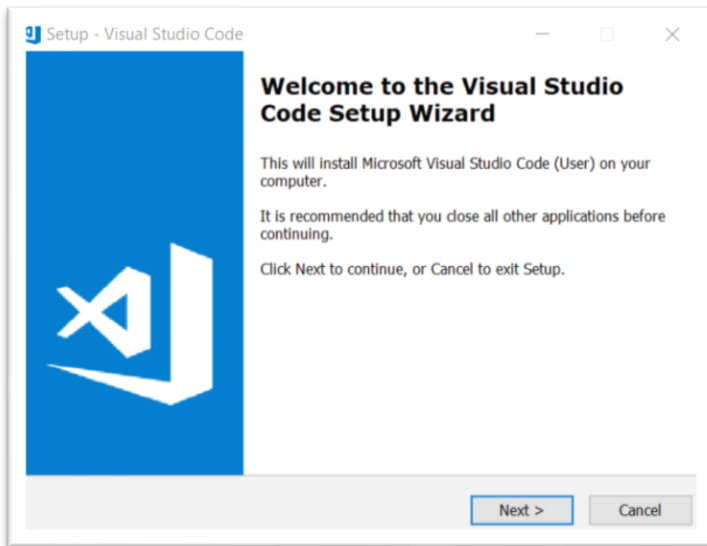
- Why PlatformIO instead of Arduino IDE?
 - PlatformIO is much more flexible than Arduino in how to architect a complex program (such as the Hackberry project).
 - It also supports a lot more development board (ATmega, STM32, ESP8266, PIC32, etc ...) and is fully compatible with Arduino.
 - Debug tools and other extensions (ex : beautifier, code completion, etc...) are available
 - Can integrate your version management tools (ex: Git)

Download Visual Studio Code

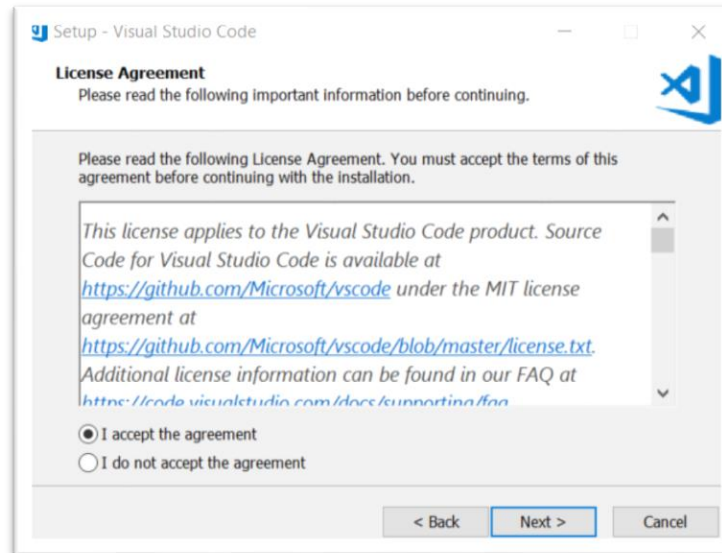
- Visual Studio Code is an IDE available on all platforms. Its installation is required to use PlatformIO.
- Download link : <https://code.visualstudio.com/Download>



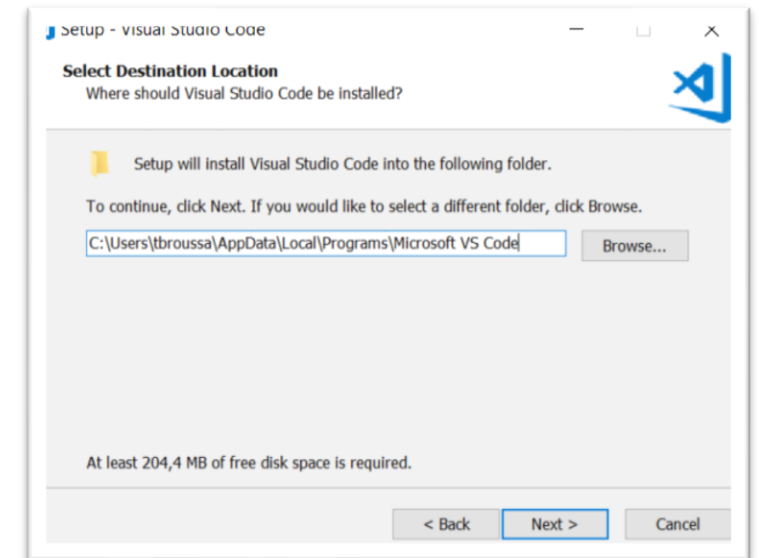
Visual Studio Code Setup (1/2)



1 - Click on « Next »

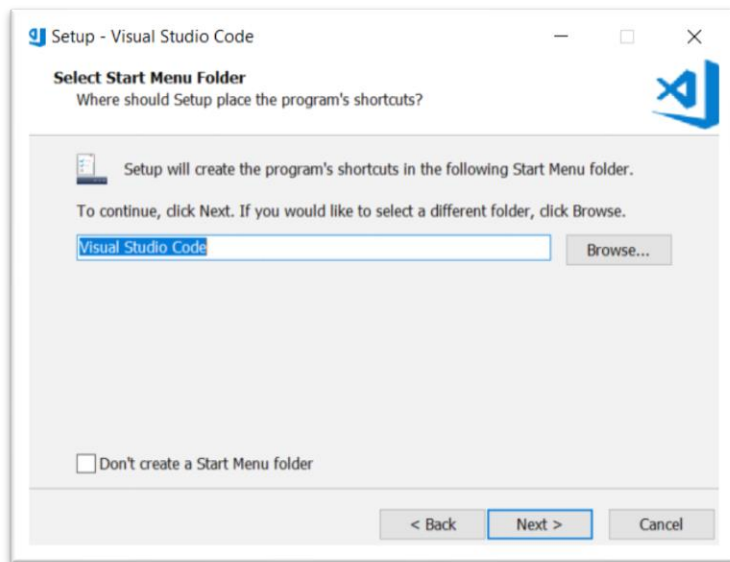


2 – Accept the agreement
and click on « Next »

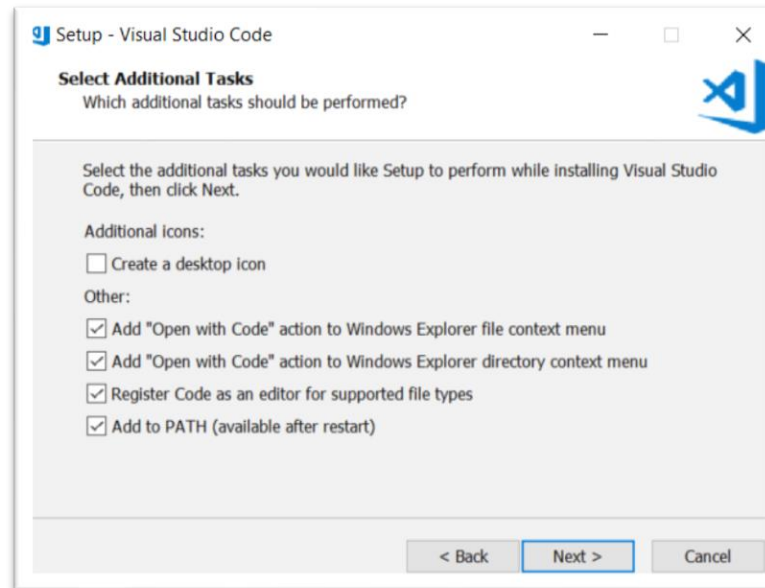


3 – Select the setup folder
and click on « Next »

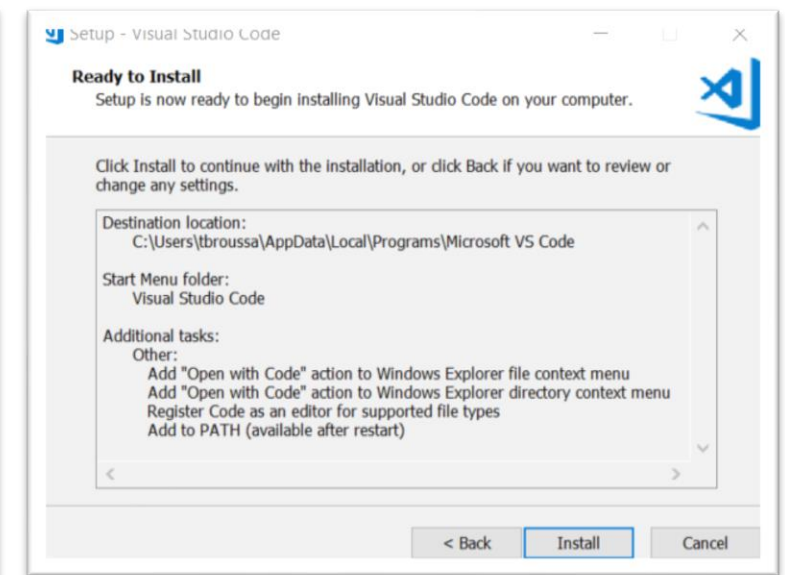
Visual Studio Code Setup (2/2)



4 - Click on « Next »



5 – Tick at least all the Other options and click on « Next »



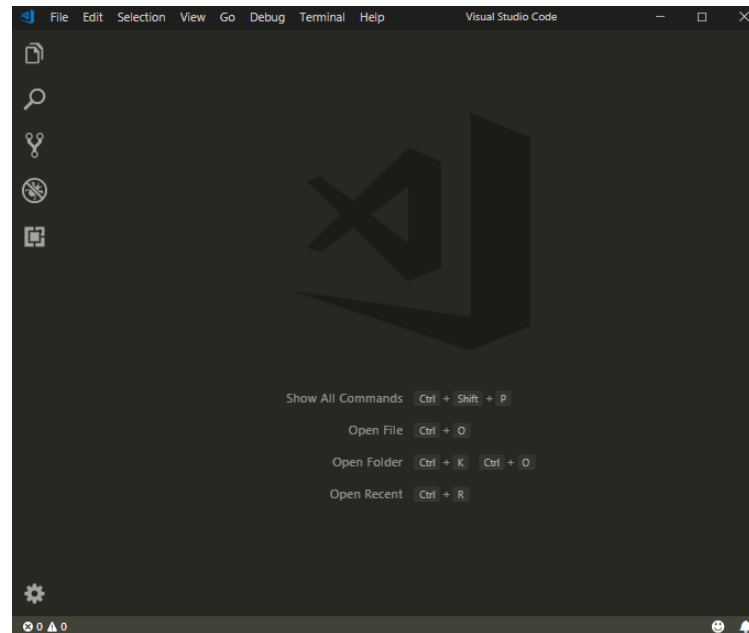
6 – Click on « Install »

PlatformIO Setup (1/2)

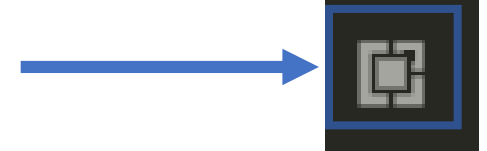
1 - Once setup is finished, a new shortcut will be available on your desktop. Click on it.



2 - The Visual Studio Code IDE appears

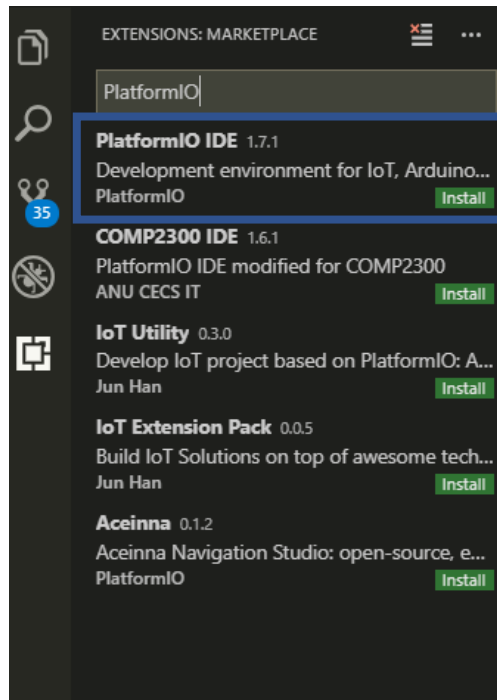


3 - Click on the « Extension » button
(Ctrl + Shift + X)



PlatformIO Setup (2/2)

4 – In the Extensions:MarketPlace, search for « PlatformIO ». The PlatformIO IDE will appears.

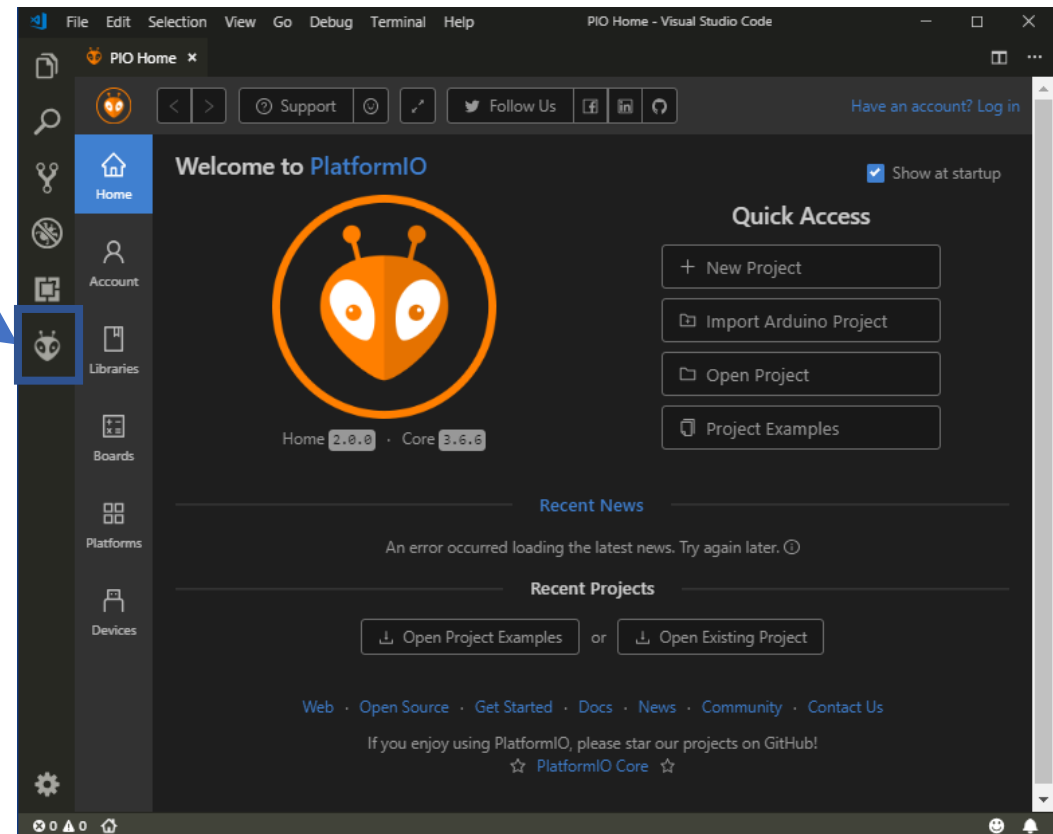


Click on
« Install »

5 – Close and reopen the Visual Studio Code IDE.

At startup, the PlatformIO screen will appear , and a new button will be available on the left side of the IDE

PlatformIO
button

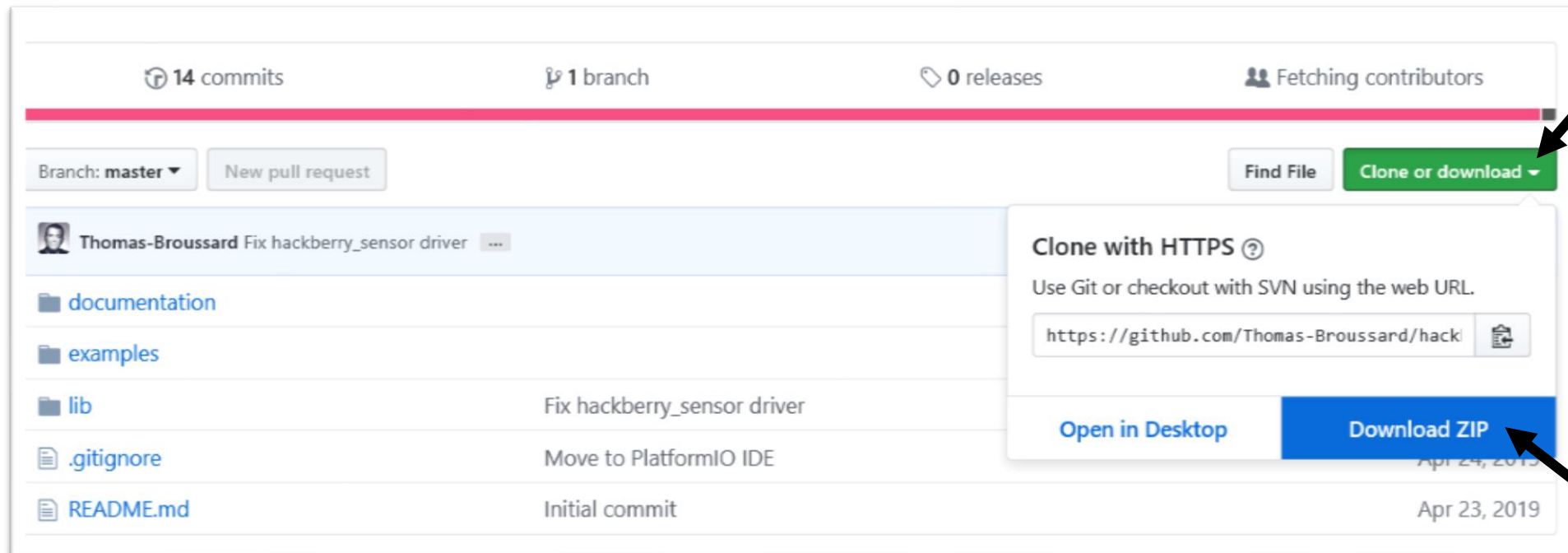


Hackberry Project with PlatformIO (1/5)


- 1 - Download the Hackberry project on Github :

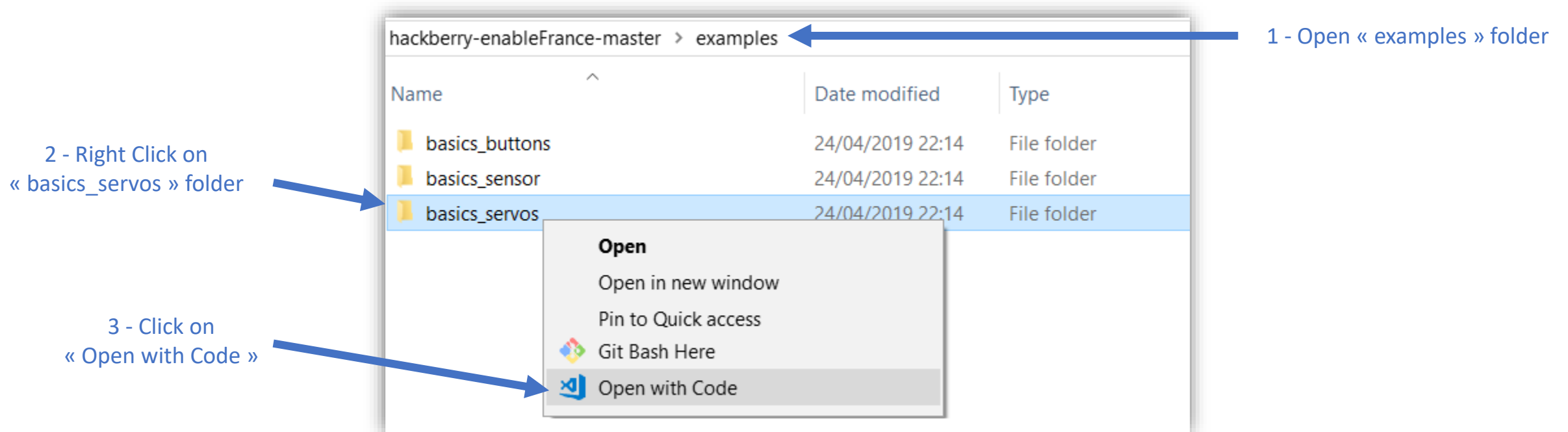
<https://github.com/Thomas-Broussard/hackberry-enableFrance>

Then, extract the zip file.



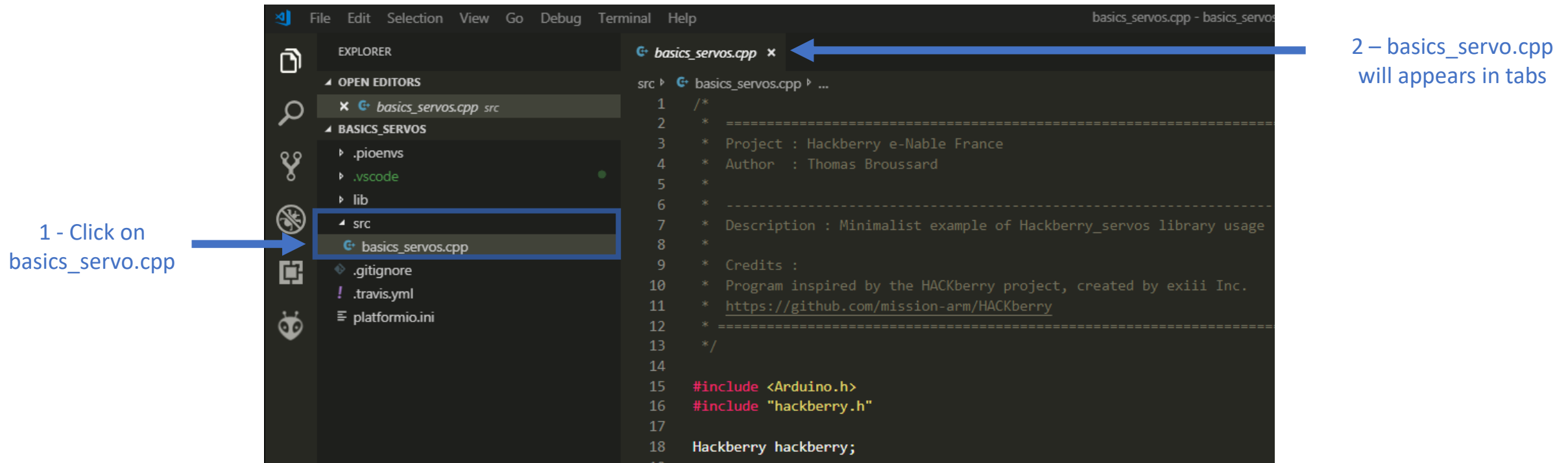
Hackberry Project with PlatformIO (2/5)

- 2 - Open the unzipped folder :  `hackberry-enableFrance-master`
- 3 - For this example, open folder **examples** and open **basics_servos** with Visual studio code :



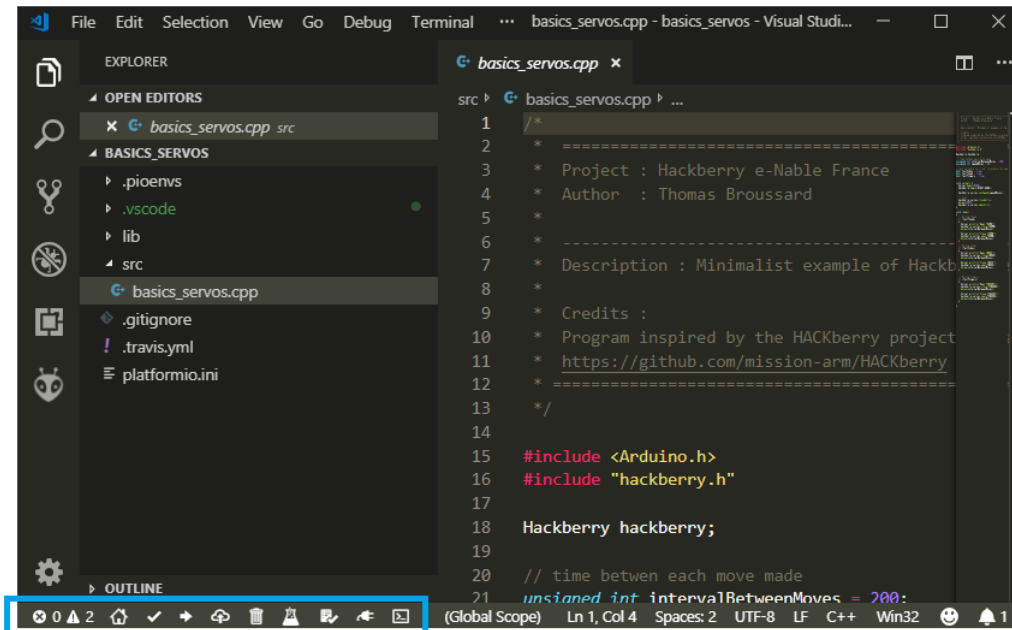
Hackberry Project with PlatformIO (3/5)

- 4 – Visual Studio Code appears. Open the **file src/basics_servos.cpp**



Hackberry Project with PlatformIO (4/5)

- The action bar will appear on the bottom of your screen. You can do the same actions as with the Arduino IDE (compile, upload, and open the serial monitor) :



PlatformIO Action Bar

Main buttons on PlatformIO Action Bar :

Number of warning detected in your code Upload the code to the development board



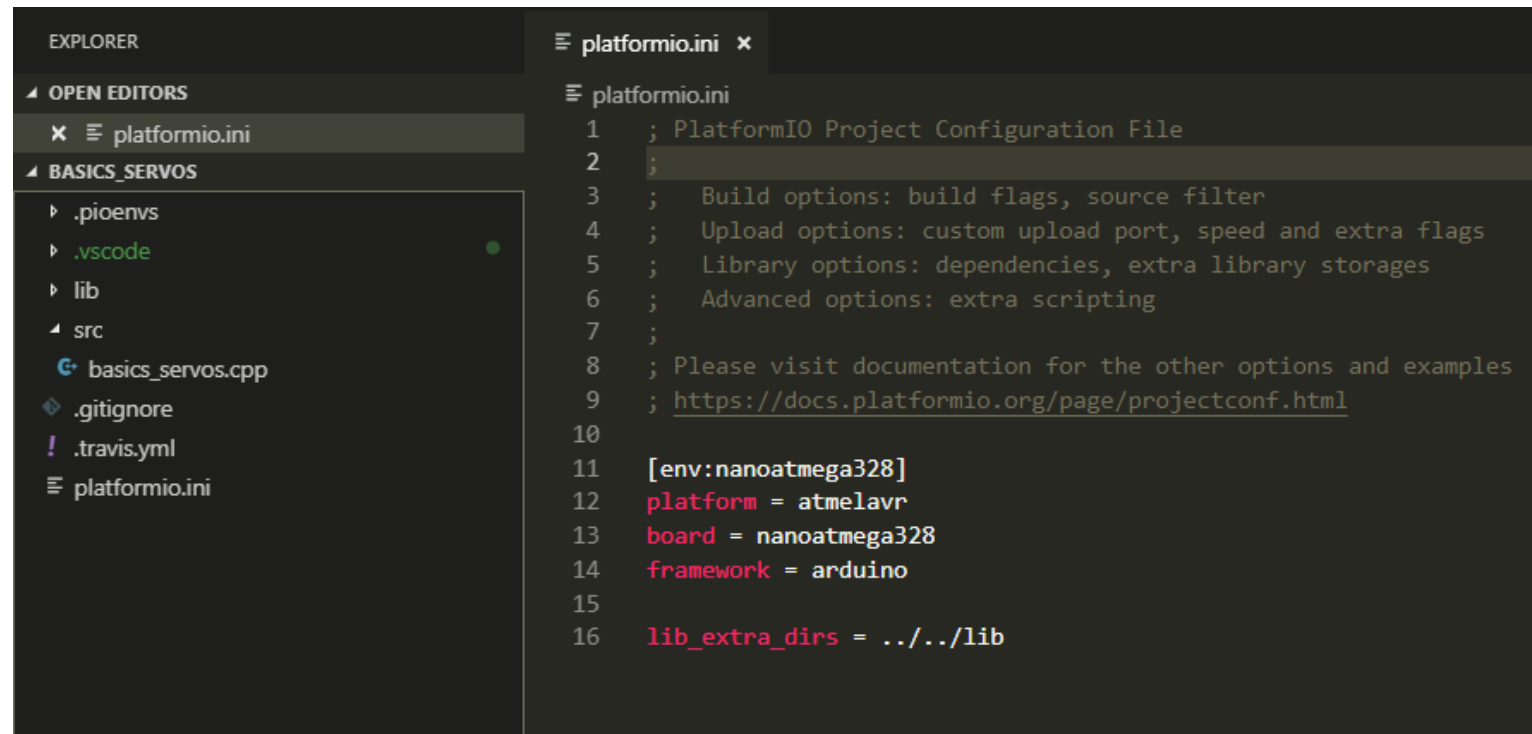
Number of errors detected in your code

Build (compile) the code

Open the serial monitor (default : 9600bauds)

Hackberry Project with PlatformIO (5/5)

- You do not need to select the development board. It is already configured in **platformio.ini** file :



The screenshot shows the Visual Studio Code interface. On the left, the Explorer sidebar displays the project structure under 'BASICS_SERVOS', including folders like .pioenvs, .vscode, lib, and src, and files like basics_servos.cpp, .gitignore, .travis.yml, and platformio.ini. The main editor window is open to the 'platformio.ini' file. The file content is as follows:

```
1 ; PlatformIO Project Configuration File
2 ;
3 ; Build options: build flags, source filter
4 ; Upload options: custom upload port, speed and extra flags
5 ; Library options: dependencies, extra library storages
6 ; Advanced options: extra scripting
7 ;
8 ; Please visit documentation for the other options and examples
9 ; https://docs.platformio.org/page/projectconf.html
10
11 [env:nanoatmega328]
12 platform = atmelavr
13 board = nanoatmega328
14 framework = arduino
15
16 lib_extra_dirs = ../../lib
```

WARNING : Modify this file only if you use other development boards !