Setting Up ARduino Enviroment for SparkFun Thing Plus

A drawing of a rocket ship on fire

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Everything that I needed to know could be found in this source.

<https://learn.sparkfun.com/tutorials/sparkfun-thing-plus---nina-b306-hookup-guide/all>

Download Arduino IDE for your OS:

Download is at this link: <https://www.arduino.cc/en/software/>

When I first opened it, my windows security system was trying to be a hero and block stuff, but I gave it full access to everything. It prompted me to **download USB drivers**, these are essential to download.

We need to add the SparkFun Arduino Boards JSON link to the "Arduino Additional Board Manager URLs" list in the "Preferences" menu. Open the Preferences menu by clicking **File** > **Preferences**, and towards the bottom of the window **paste the URL below into the "Additional Board Manager URLs**" **box:**

<https://raw.githubusercontent.com/sparkfun/Arduino_Boards/main/IDE_Board_Manager/package_sparkfun_index.json>

With that done, install the core by navigating to the Boards Manager in the **Tools < Boards** drop-down menu. With the Boards Manager open, search for **"SparkFun nRF"** and install the latest version.

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Figure : In the image you can see that I downloaded and selected the board.

## Installing Sensor Libraries

* **BME280**: Combined humidity and pressure sensor.
* **ISM330DHCX**: always-on 3D accelerometer and 3D gyroscope with digital output for industrial applications
* **MAX17048:** 3μA 1-Cell Fuel Gauge with ModelGauge

**Open the library manager and search for the sensor name**s bolded above. I highlighted the libraries that I used. They were all the recommended libraries that were also made by SparkFun. There were alternatives that we may have to explore if we have any problems with the recommended libraries.

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Figure : Library for ISM330DHCX

Figure : Library for BME280

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Figure : Library for MAX17048

Figure : In the library manager, if you change the type to installed, you can see your downloaded libraries.

**These Libraries are essential for the sensors** that we are going to be using on the board. We should keep a folder or page on GitHub where we can list all the libraries downloads, and links to their documentation.

It might be a promising idea to make a document for that folder where we list all the libraries and why we need them. The document will include their versions.

## Installing Adafruit TinyUSB LIBRARY

This library was recommended by SparkFun and used in the demonstration on the website. It is a toolset that allows serial communication and various other things detailed below. The library also requires a manual download of a driver. The driver needs to be placed into the *Library* folder inside of the *Arduino* folder.

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Figure : Adafruit TinyUSB Library, enabling serial communications.

#### Installing the driver for the Adafruit TinyUSB Library

<https://github.com/adafruit/Adafruit_Sensor/archive/refs/heads/master.zip>

*After downloading, extract the contents from the compressed ZIP folder. Next you need to open the Arduino Sketchbook folder. If you're not sure where this is, open the "Preferences" menu in Arduino and* ***take note of the file path for the "Sketchbook location****".* ***Open this folder and then drag (or copy) the "Adafruit\_Sensor" folder into the "Libraries" folder in your sketchbook.***

## Summary

By the end of this document