

# Complete guide on testing, connecting and completing the device.

## Step 1: Installing Arduino IDE and setting it up for uploading codes to the Microcontroller

When your microcontroller from Adafruit the " Adalogger M0" arrives you can proceed to setup up the Arduino IDE software so you can start testing it. For this, the manufacturer has a great guide at the following link , remove the small brackets.

[Click here for the link](#)

This will guide you in :

1. Installing the Arduino IDE - a software development environment used to code and debug many popular microcontrollers.
2. First steps to setting up the Arduino IDE for you particular board.



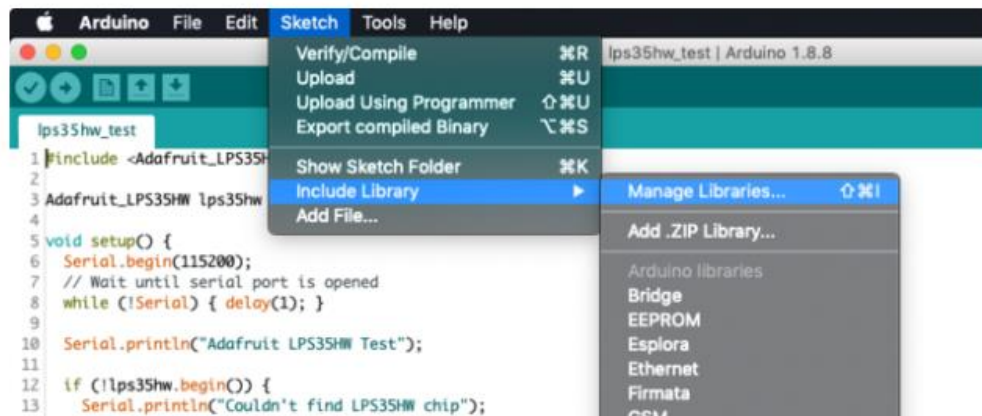
Navigate to the next page to "Using with the Arduino IDE" , On this page the IDE is setup for your Microcontroller board by installing support packages and finally a serial driver is installed that allows your computer to communicate with the microcontroller via the USB port. After these steps your computer has Arduino IDE fully setup to start playing with the Microcontroller board.

Finally, at the end of this guide, you will run a blink led code - an embedded analogue of the "Hello World" code and your first one. You will see the LED on your board blink - verifying the working of the board and learning the steps to upload any program to the microcontrollers in the process.'

## Step 2: Installing the libraries required to run the codes

To make this project and its code easier to alter for a beginner, libraries from the manufacturers and the community have been used. These make the code more reliable and readable. Any code that you will upload relevant to the project, will need these libraries to run without error. Once you install them you will never have to do them again.

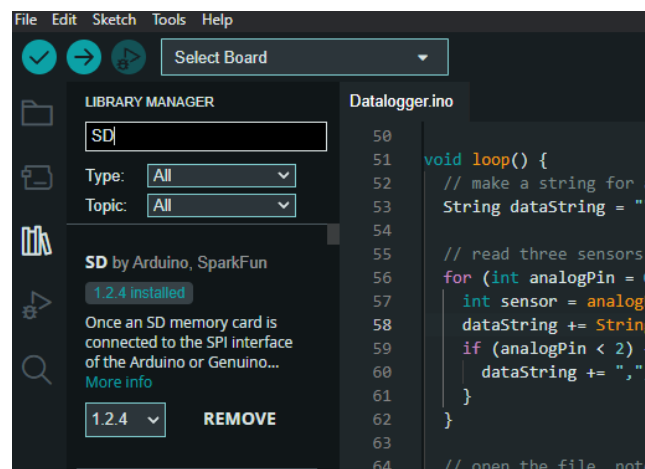
[Click here for a guide by the manufacturer on how to do this](#) (Proceed to the Library Installation Section ):



Proceed to the Library Installation Section

For this Open Arduino IDE > Sketch tab > Include Library > Manage libraries. Then simply search and install the libraries listed in the guide above.

Another library that needs to be installed is SD. Just search for SD and then install the first one.



I could download and send you these libraries to add them. But this method is better as your libraries will keep getting updated automatically.

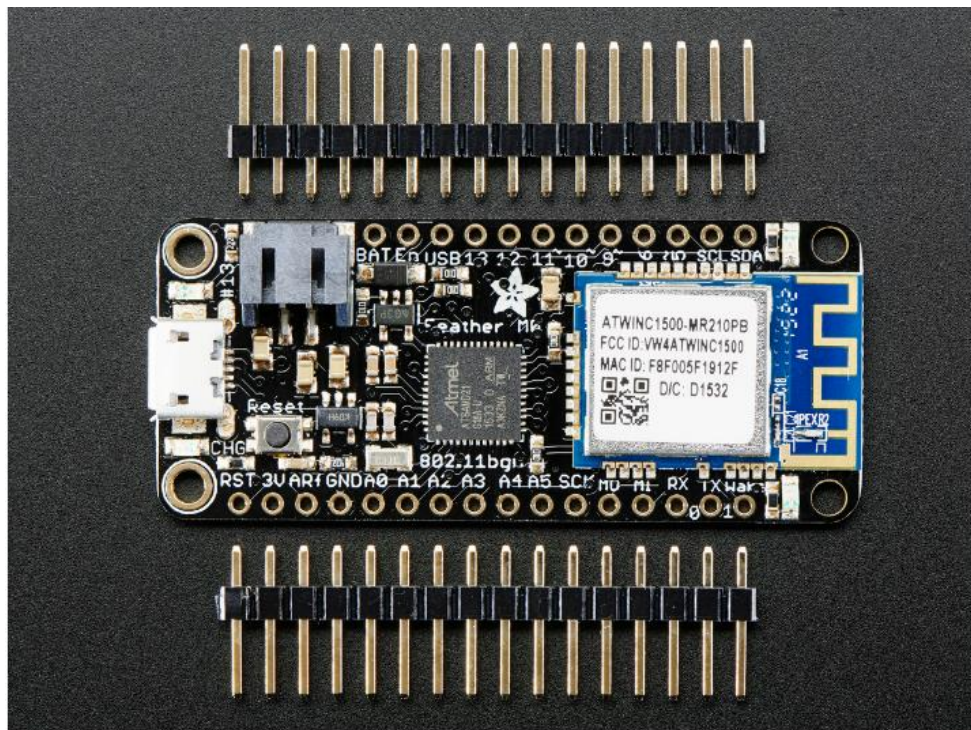
### STEP 3: Check whether the SD Card is working or not.

Plug in the SD card to the onboard holder of the Microcontroller board. [Then follow this guide to test the SD Card.](#) In all the examples library codes, set Chip Select or CS variable as 04 before uploading them.

### STEP 4: Soldering Headers to the Microcontroller board.

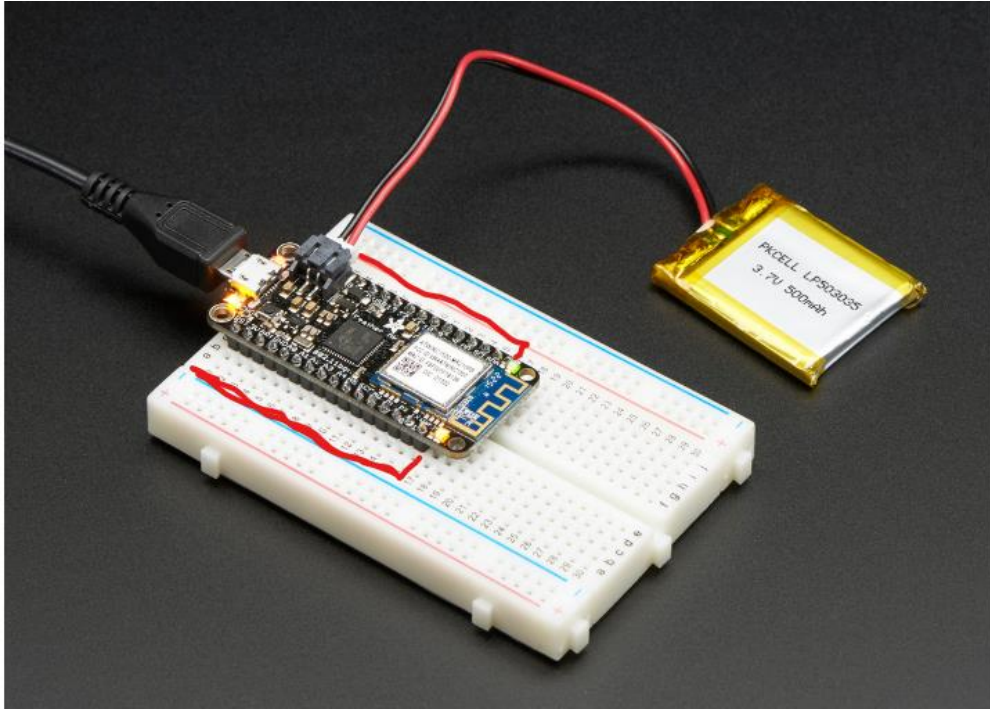
Before you can proceed with testing the pressure sensor or accelerometer, you will need to install the headers on the Adalogger feather microcontroller board. The male headers are required to insert it to a breadboard and make a circuit.

The feather board ships with male headers included in the package. You can solder them following the guide that the manufacture has on this.



[Click here for the guide. Proceed to “Soldering the Plain Headers”](#)

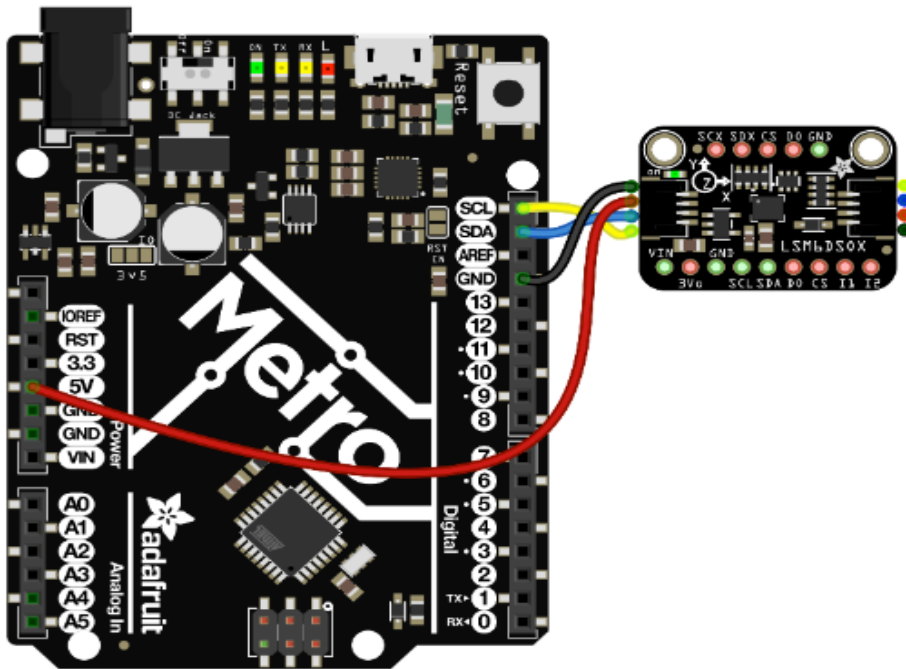
STEP 4: After you are done with soldering, place the microcontroller to the bread board :



The red lines indicate the size of your breadboard – barely long and wide enough to fit the board. Connect the battery and USB cable as well.

## STEP 5: Connecting and testing the Accelerometer:

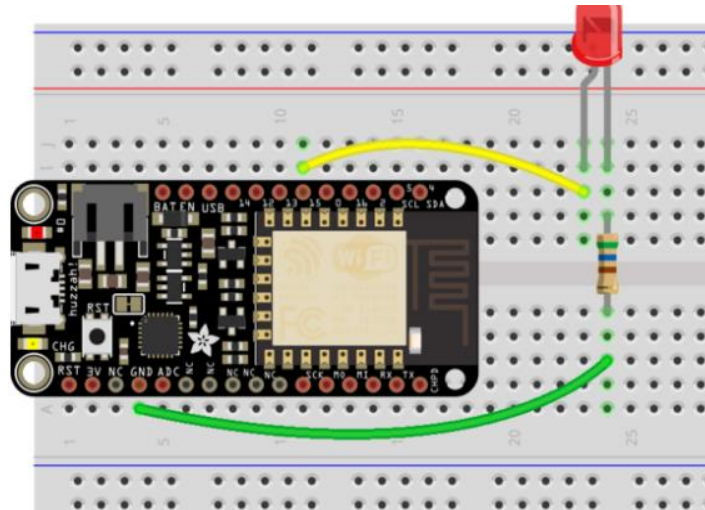
One end to the stemma cable goes into the sensor itself. The other side has four male jumper heads. These can be inserted next to the relevant pins when you place your Microcontroller on the bread.



Your board is a little different but there are pins marked SDA, SCL, GND and 3.3 V on it similar to the one above. The red wire in your case can be connected to the 3.3V not the 5V.

For an example, connections on the breadboard are like following: you want to connect an LED to pin 13 and GND, you just get one side of a male jumper inserted adjacent to the LED terminal and other side adjacent to the pin 13 or whichever is required on the microcontroller. In the following example pin 13 is connected to the positive terminal of the LED, negative terminal of the LED connected to the ground via a resistor.





Test the Accelerometer module:

Upload the code [adafruit I2C test](#) and check the serial monitor - to get the readings and settings. [There is information on this in this guide here as well.](#)

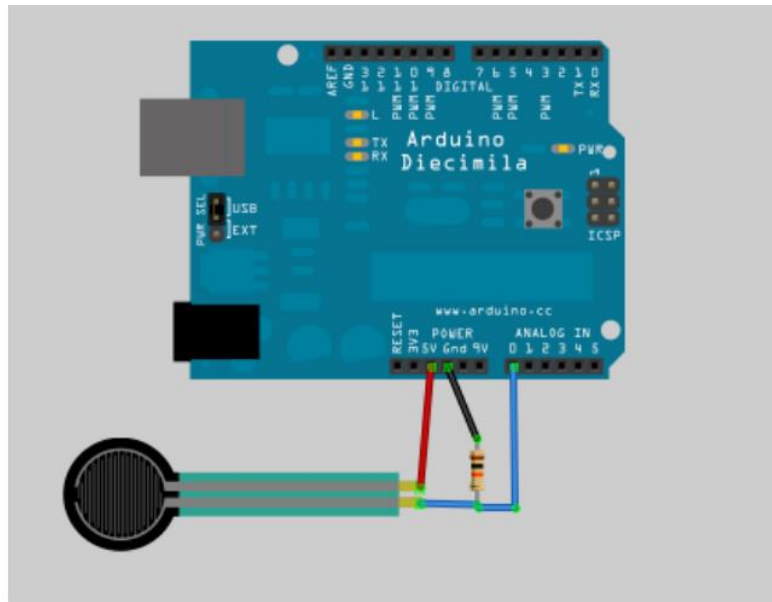
## STEP 6: Test the force sensitive resistor sensor (FSR):

Connect one end of the female to male jumper extension wire to a terminal on the FSR. Do this for the other terminal of the FSR as well. You have now extended the legs of the FSR. Now on the other end you have male jumpers heads that can be easily inserted to the breadboard.



or use a clamp-style connector like alligator clips, or a female header.

Then you will want to connect them in a voltage divider circuit to power them and read the resistance. [Here is a comprehensive guide on this.](#)



STEP 07: Once everything is known to work individually, connect everything to the microcontroller on the breadboard.

Then upload the main code that I am going to send you in the order delivery section. Be sure to do all the previous steps in sequence first. Go through the explanation videos and simulation as well before attempting this.

Harris.