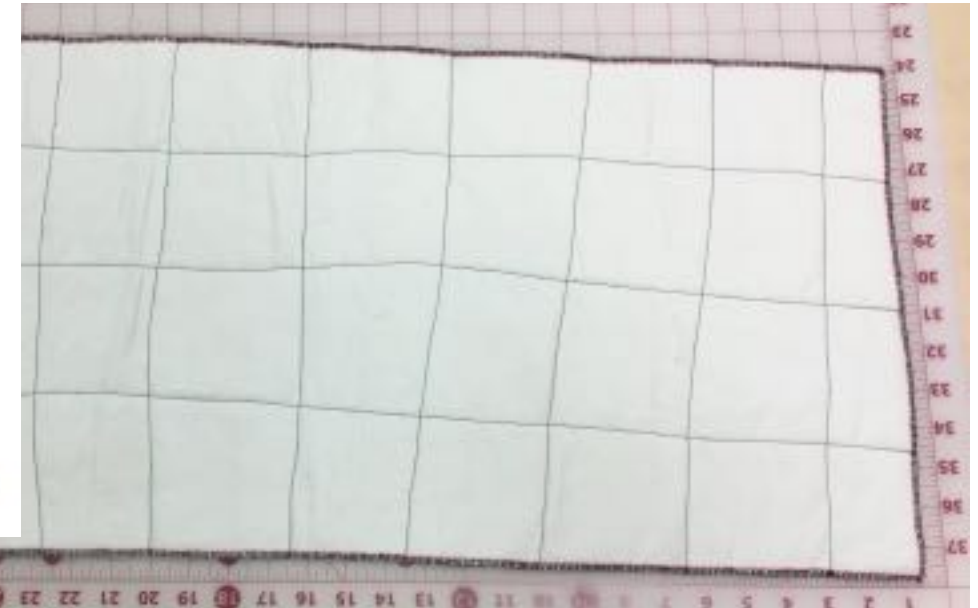


Step 0: Place Padding Under Fabric



Align the pad such that it sits under the fabric in the general region of the pink rectangle. The padding's only purpose is to softness behind the touch regions so as to increase their sensitivity



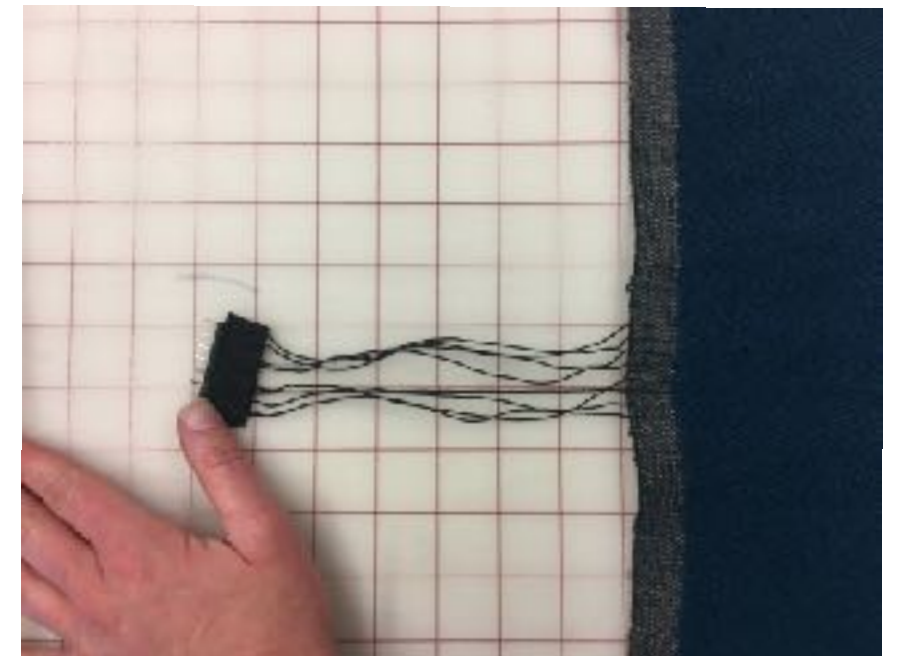
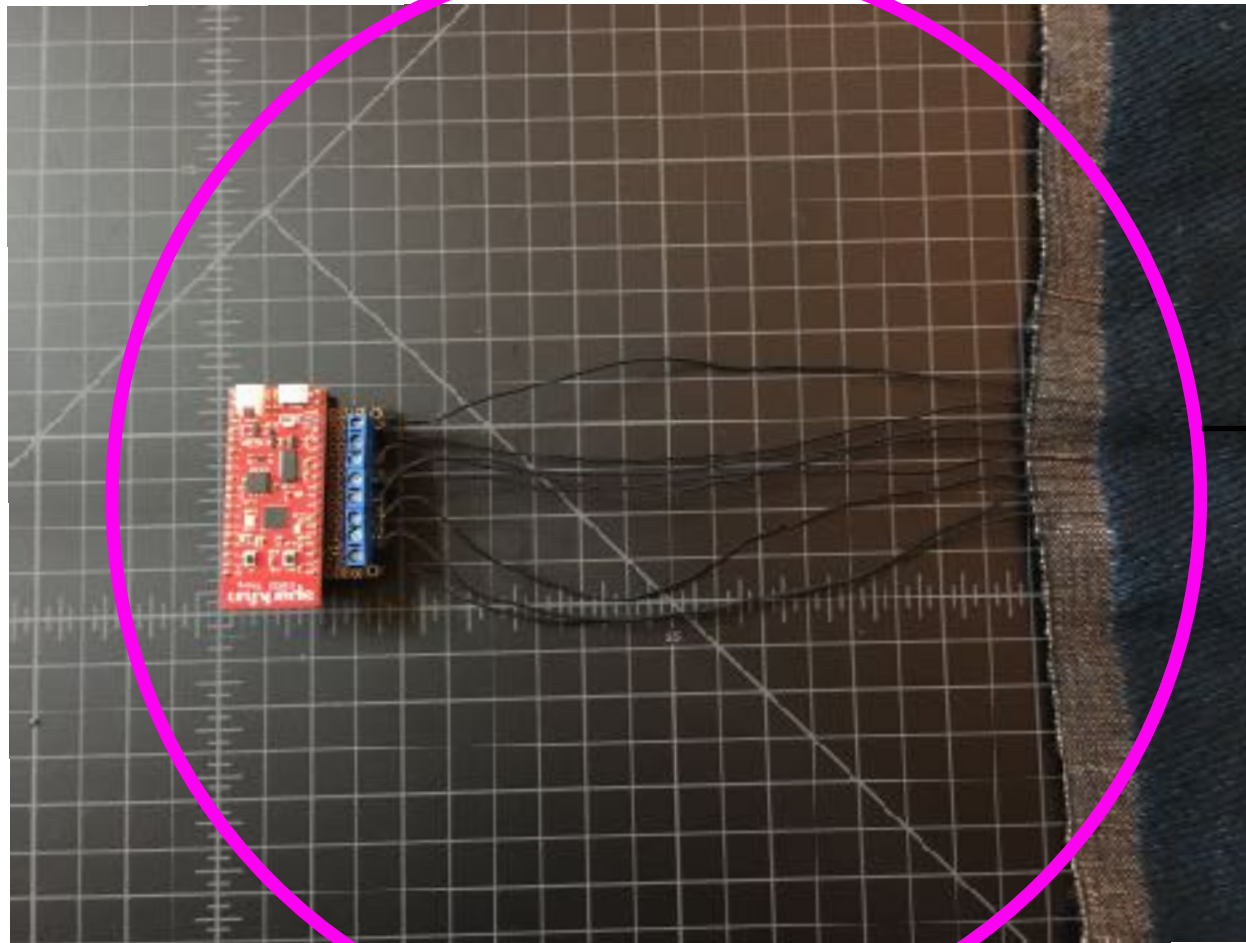
If you are installing with the rod, you can insert any rod into the top. Choose a smooth material (e.g. steel or acrylic) so that it does not catch on the fabric. The rod shown in this image is 3/16" in diameter and made of steel.

Insert the rod slowly and smoothly to prevent catching and snagging the fabric.

Step 1: Connect Fabric to Micro-controller

This side is up

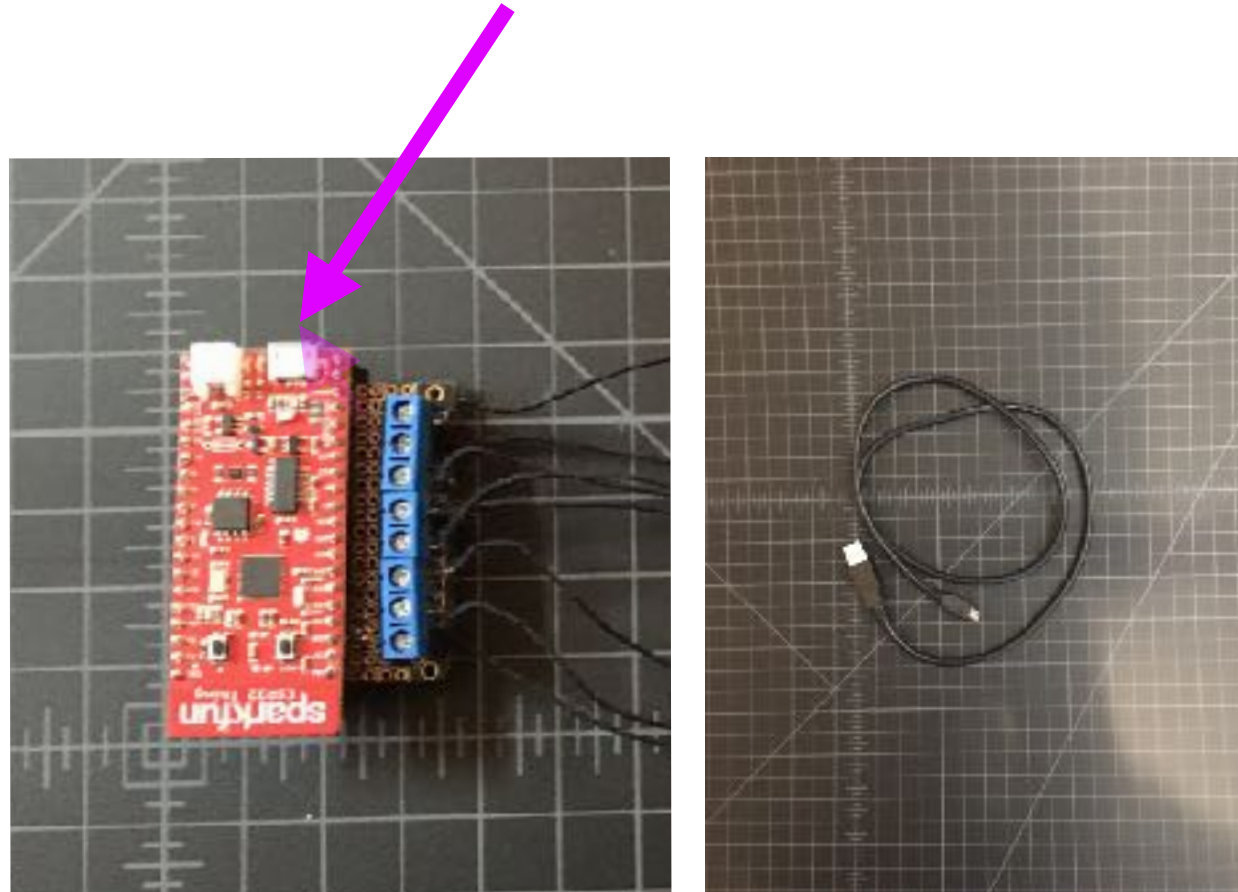
connector extends from left side of fabric



Connect the connector into the blue screw terminal unit. In a correct installation you should be able to isolate each black wire such that it is not crossing the others. Ensure connections are tight by tightening the screw terminals



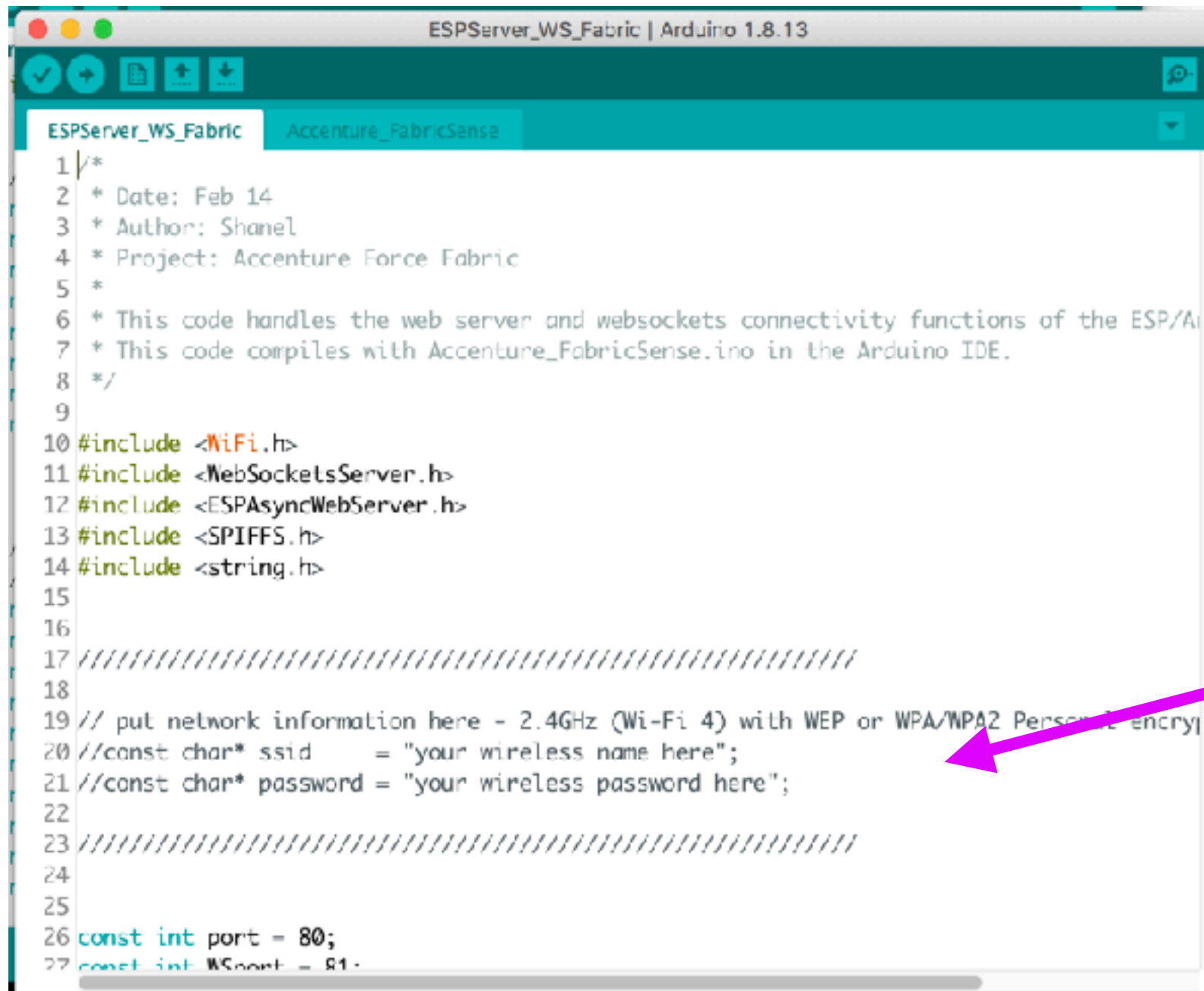
Step 2: Connect the Microcontroller to a USB port on a computer or laptop using the Programming Cable



Step 3: Install the Arduino IDE as well as the micro controller board and associated libraries on your computer following the instructions at:

<https://github.com/sminliwu/accentureVisualizer>

Step 4: Open the file named ESP_WS_FabricSense.ino using your Arduino IDE and change the network information to your network

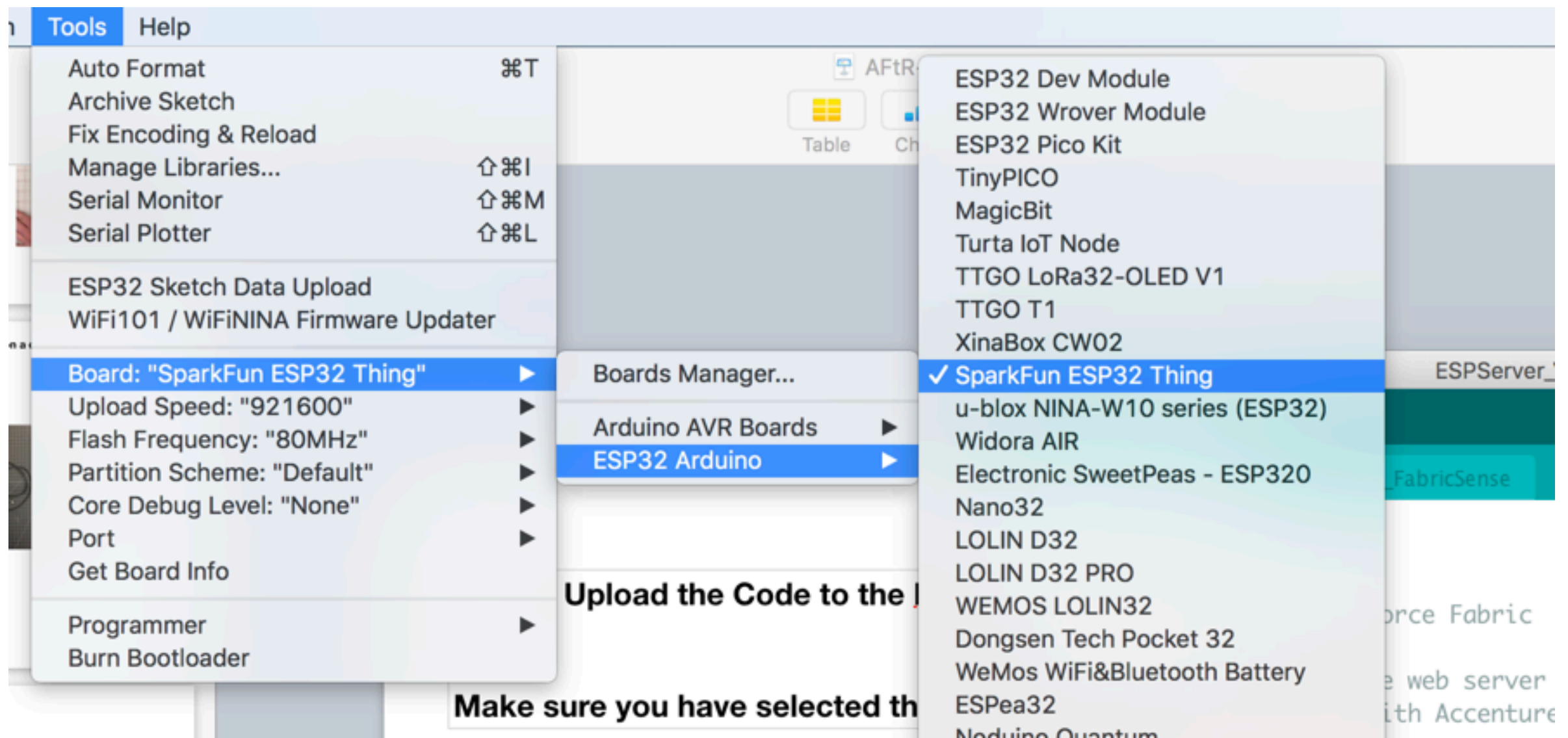


```
1 /*
2  * Date: Feb 14
3  * Author: Shanel
4  * Project: Accenture Force Fabric
5  *
6  * This code handles the web server and websockets connectivity functions of the ESP/A
7  * This code compiles with Accenture_FabricSense.ino in the Arduino IDE.
8  */
9
10 #include <WiFi.h>
11 #include <WebSocketsServer.h>
12 #include <ESPAsyncWebServer.h>
13 #include <SPIFFS.h>
14 #include <string.h>
15
16
17 //////////////////////////////////////
18
19 // put network information here - 2.4GHz (Wi-Fi 4) with WEP or WPA/WPA2 Personal encry
20 //const char* ssid = "your wireless name here";
21 //const char* password = "your wireless password here";
22
23 //////////////////////////////////////
24
25
26 const int port = 80;
27 const int WSPORT = 81;
```

Change this to your wifi name and password

Step 5: Upload the Code to the Microcontroller

Make sure you have selected the correct board and USB port for uploading



Step 6: Open the Serial Port and get the IP address

After uploading the code open the serial port to get the IP address for the visualization



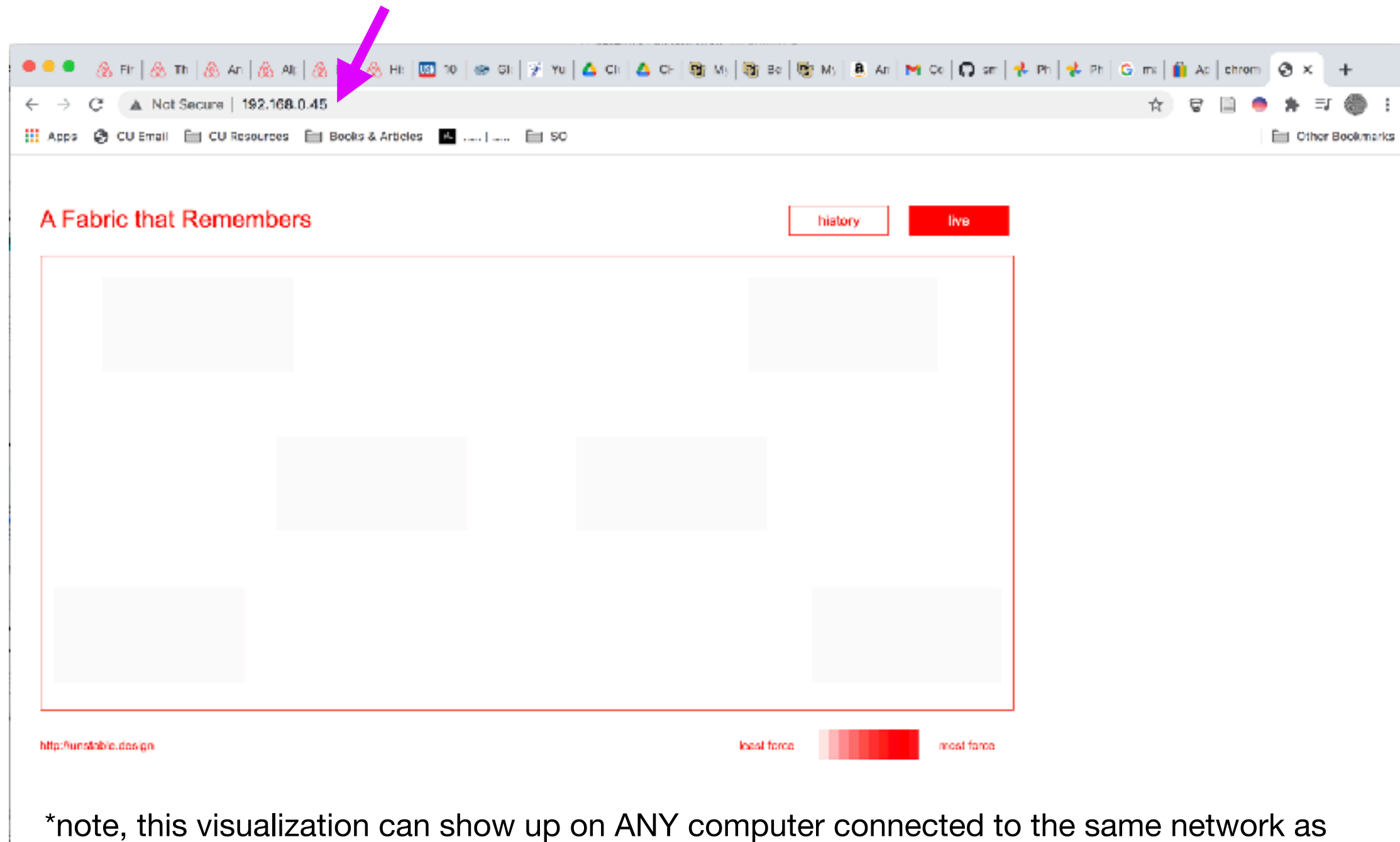
```
attempting to connect to wifi
.connection successful!
server running at IP: 192.168.0.45:80
Async HTTP server started.
Websocket server started.
calculating base values
```

write this down!

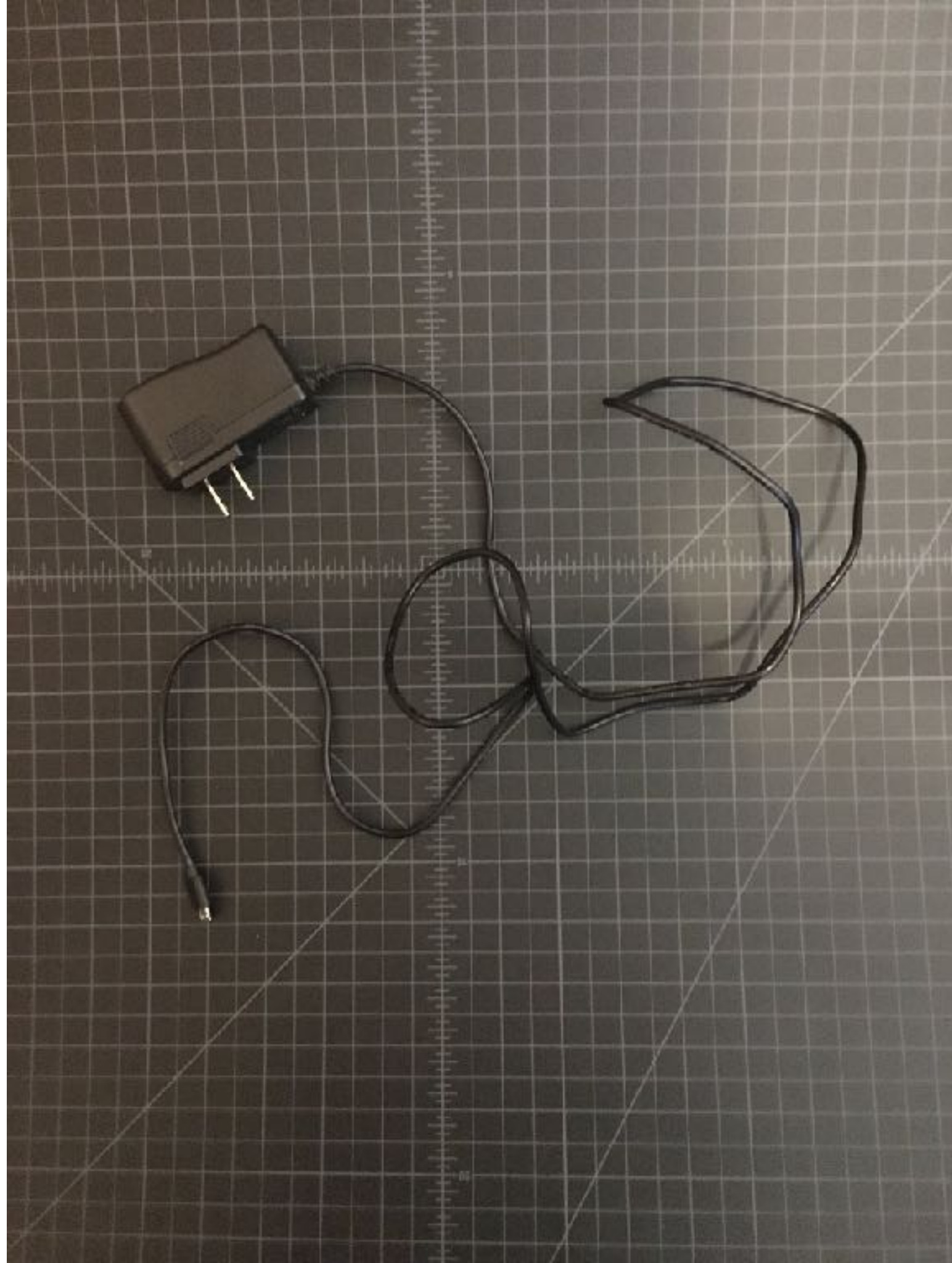
**Make sure the baud rate here is set to 115200
Or else the screen will print nonsense**

Step 7: Open a Web Browser on the Device you will use for visualization and enter the IP address in the web address bar

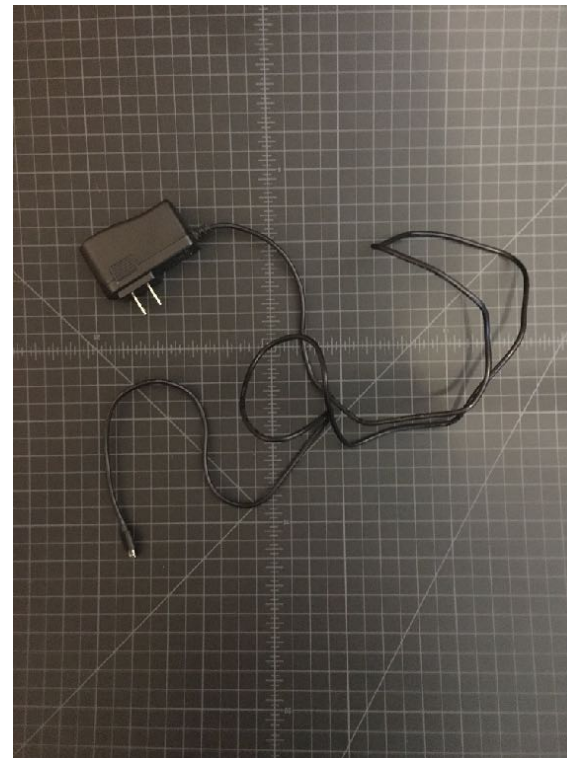
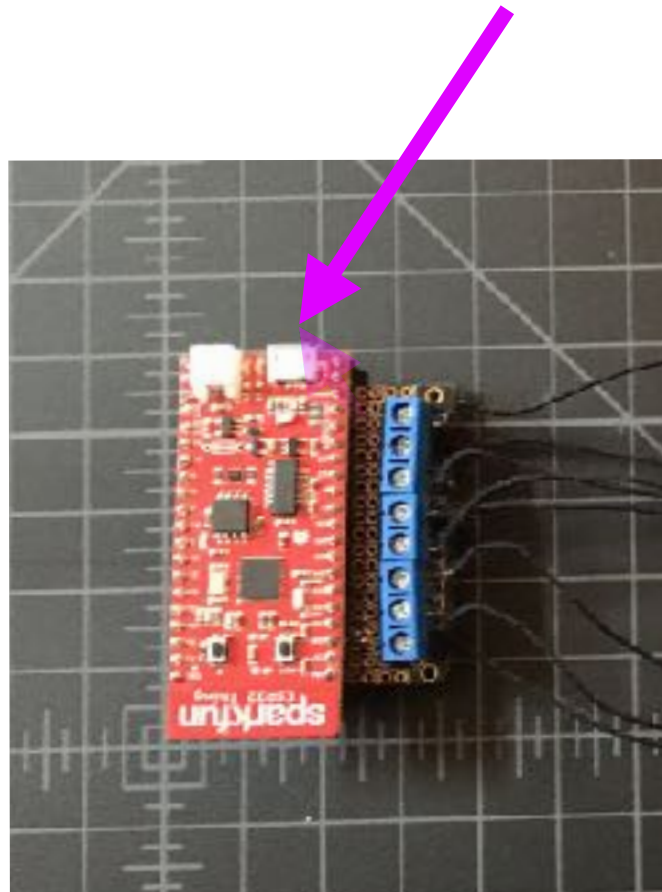
After uploading the code open the serial port to get the IP address for the visualization. Make sure the device is connected to the same WiFi network that you specified when installing on the microcontroller.



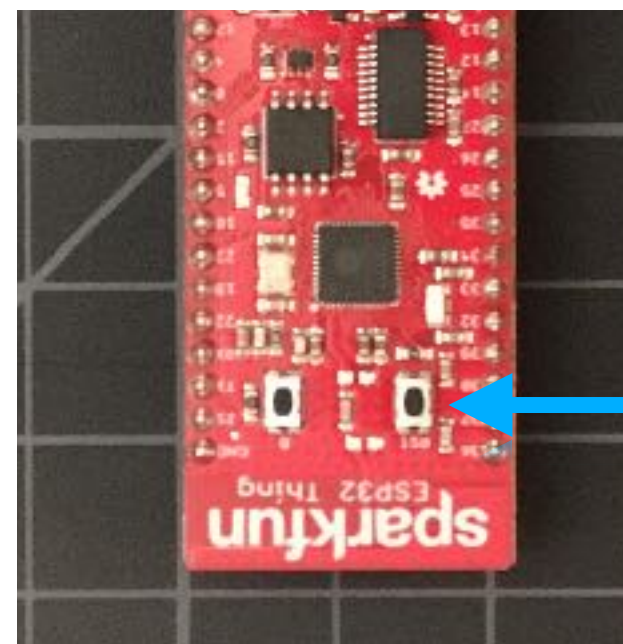
*note, this visualization can show up on ANY computer connected to the same network as long as you go to the IP address above. Each device will keep its own “history”



Step 8: Remove the programming cable and replace with the power cable.



Push the reset button the microcontroller after you give it power



Step 9: Test by pushing the fabric sections and seeing the regions get darker

<https://www.youtube.com/watch?v=pV-8iuQ4Avs>

