Setup Guide for Mobile App

Step 01-Install ESP8266 2.7.4 Board Version to Arduino IDE

Go to Tools > Board > Board Manager > and search for esp8266. Then select version as 2.7.4 as board version. Then install it.

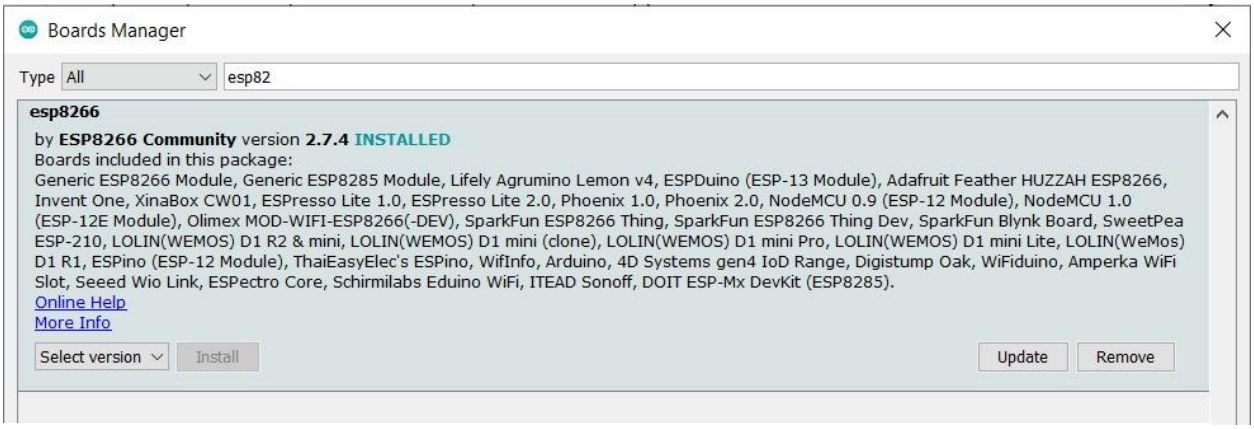

Figure 1_Install Node MCU board version.

STEP 02- Adding Firebase Library

First, download the firebase library zip folder from the following link.

https://github.com/FirebaseExtended/firebase-arduino

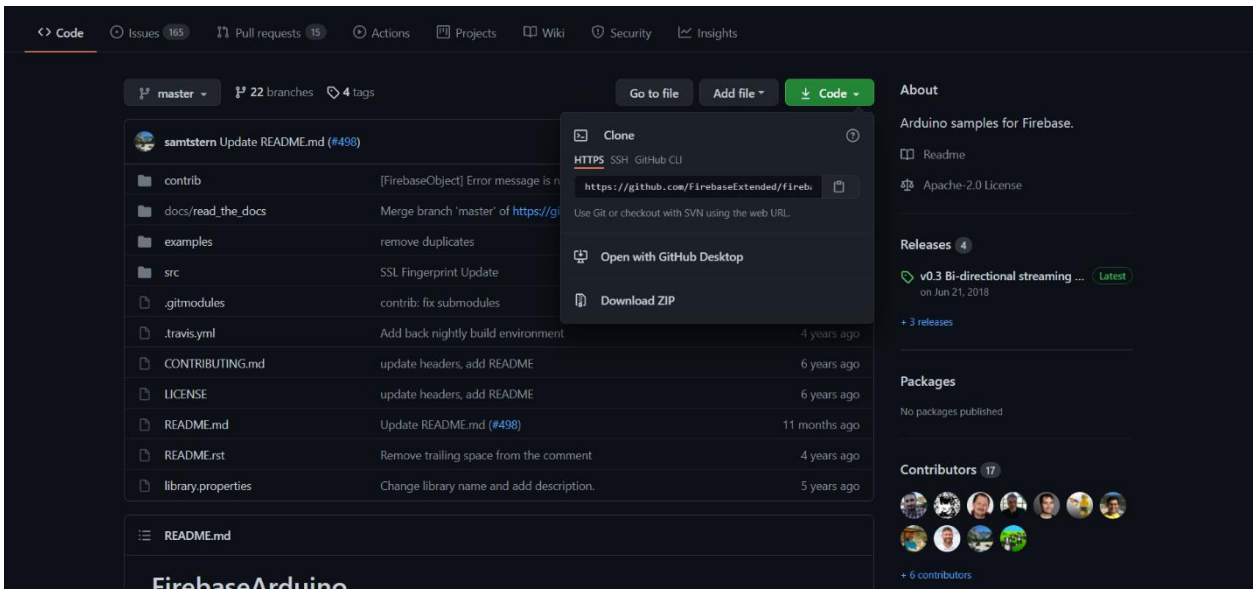

Figure 2- Site for download firebase library

Then open Arduino IDE and go to Sketch > include library > add ZIP library and add ZIP library to Arduino IDE.

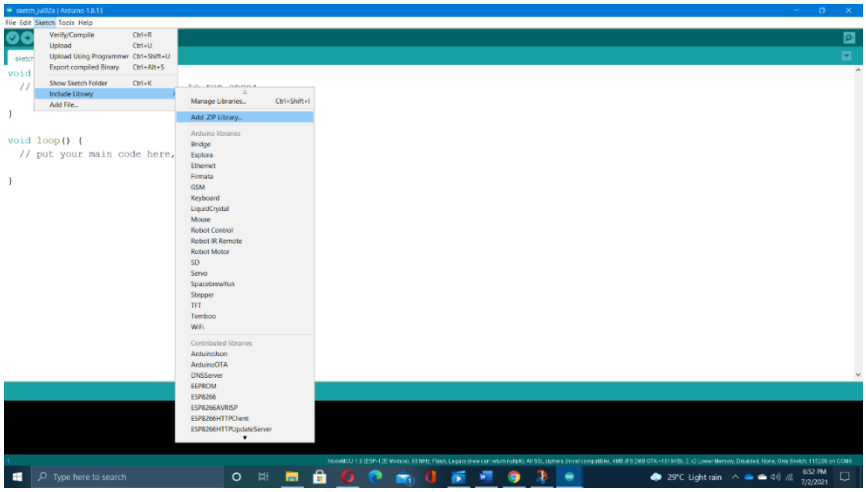

Figure 3-Adding Firebase Library to Arduino Libraries

But there is a small error in this library. We have to update the fingerprint of the library.

First go to the location of Arduino libraries. (Most probably this will be located at documents\Arduino\libraries.) There is a library named “firebase-Arduino-master” and go to that folder. After that go to the “src” folder. There is a header file named “FirebaseHttpClient.h” and open it. At the bottom of that header file, there will be a method named as “static const char kFirebaseFingerprint[]” and under that you have to paste the following code. “15 54 34 FB 33 96 E6 65 0C D3 67 4B 32 E6 C3 49 64 E5 00 0B”

*FirebaseHttpClient.h - Notepad
File Edit Format View Help

```
};

class FirebaseHttpClient {
 public:
  static FirebaseHttpClient* create();

  virtual void setReuseConnection(bool reuse) = 0;
  virtual void begin(const std::string& url) = 0;
  virtual void begin(const std::string& host, const std::string& path) = 0;

  virtual void end() = 0;

  virtual void addHeader(const std::string& name, const std::string& value) = 0;
  virtual void collectHeaders(const char* header_keys[],
                              const int header_key_count) = 0;
  virtual std::string header(const std::string& name) = 0;

  virtual int sendRequest(const std::string& method, const std::string& data) = 0;

  virtual std::string getString() = 0;

  virtual Stream* getStreamPtr() = 0;

  virtual std::string errorToString(int error_code) = 0;

  virtual bool connected() = 0;

 protected:
  static const uint16_t kFirebasePort = 443;
};

static const char kFirebaseFingerprint[] =
      "15 54 34 FB 33 96 E6 65 0C D3 67 4B 32 E6 C3 49 64 E5 00 0B";
#endif  // FIREBASE_HTTP_CLIENT_H
```

Figure 4-Update the FirebaseHttpClient.h in Arduino Library.

Step 03 – Adding the ArduinoJson Library

Open Tools > Manage Library and install ArduinoJson version 5.13.5 library.

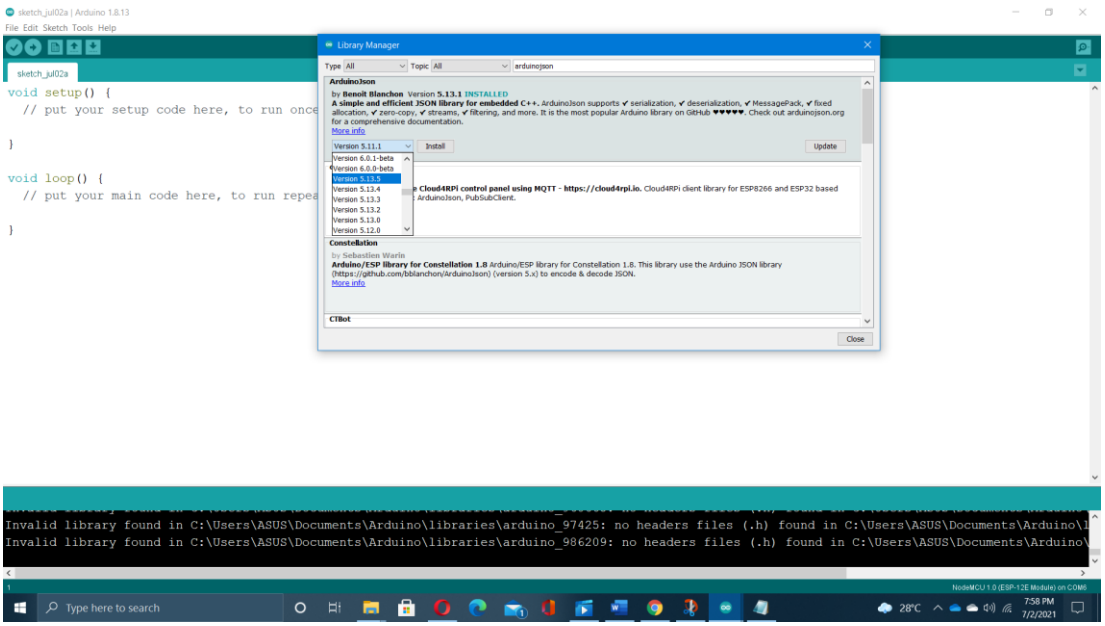

Figure 5-Adding ArduinoJson Library

Step 04 – Open App in MIT App Inventor

First you have to create an account in MIT app inventor. Visit this page and login with a google account. https://appinventor.mit.edu. Then visit to following link and load the app into MIT App Inventor.

https://gallery.appinventor.mit.edu/?galleryid=6ff6fbf1-6499-4780-b403-c029f06cd4ec

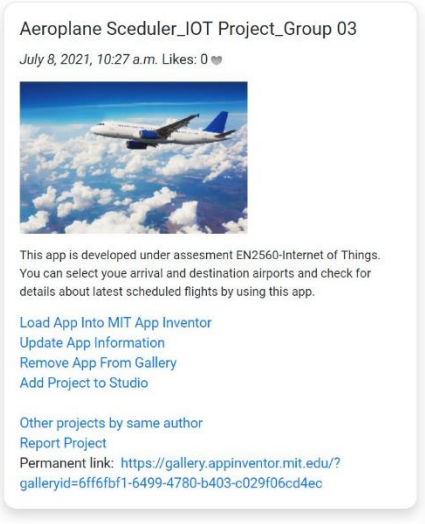

Figure 6-Load App into MIT App Inventor

There after you will be seen this kind of a web page.

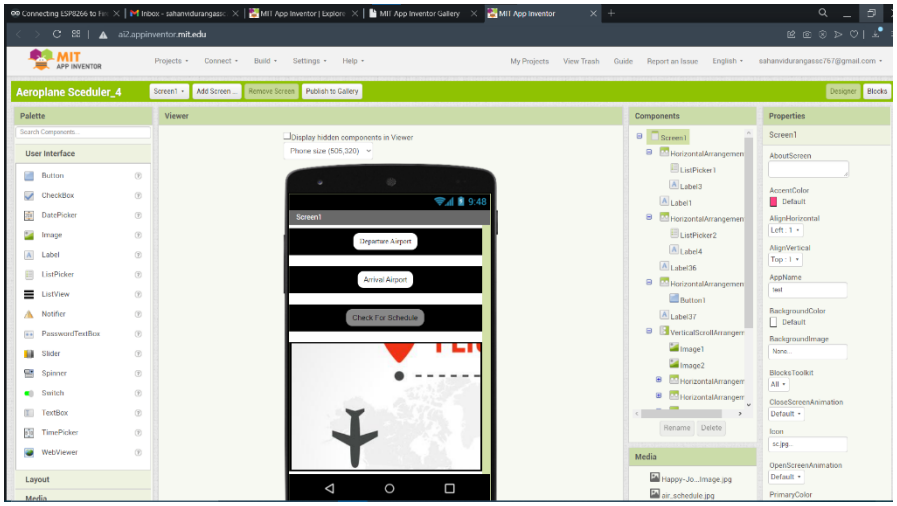

Figure 7-After loading the app into MIT app inventor

Step 05 -Install MIT AI2 Companion mobile app into android phone.

Go to play store in your android phone and search for app named “MIT AI2 Companion” and download that app.

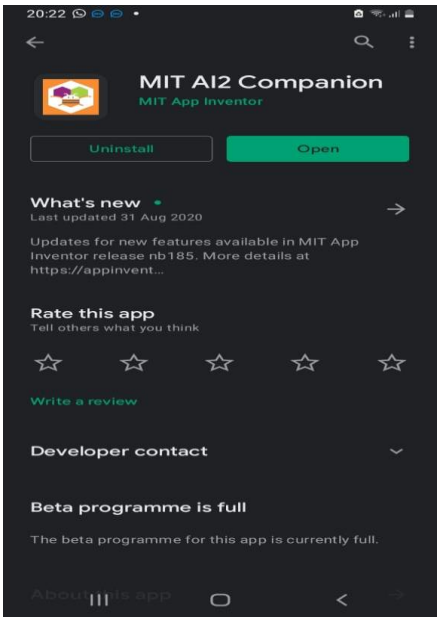

Figure 8-Download MIT AI2 Companion app

Now you are all set to use the app.

Step 06-Load Node Red flow

We have given node red flow which we designed for using this app. You have to load it to your node red workflow.

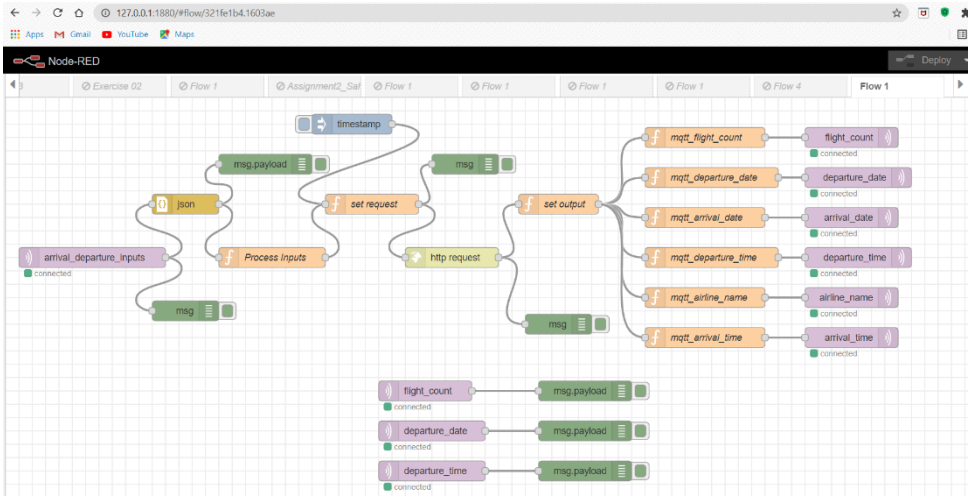

Figure 9-Node red Flow

Step 07- Run the Arduino code

Then you have to run the Arduino code which we had developed to use for this app. Make sure to change the SSID and Password in the code to your WIFI connection SSID and password.

Step 08- Load app into mobile phone

After that visit the MIT app web page and go to connect > AI Companion and you will be seen a QR code. Then open the MIR AI2 app on your phone and touch SCAN QR CODE tab. Scan the QR code with your phone. Then the app will load to your phone. It is necessary to connect your laptop and mobile phone to a same WIFI connection.

Figure 10-App Preview