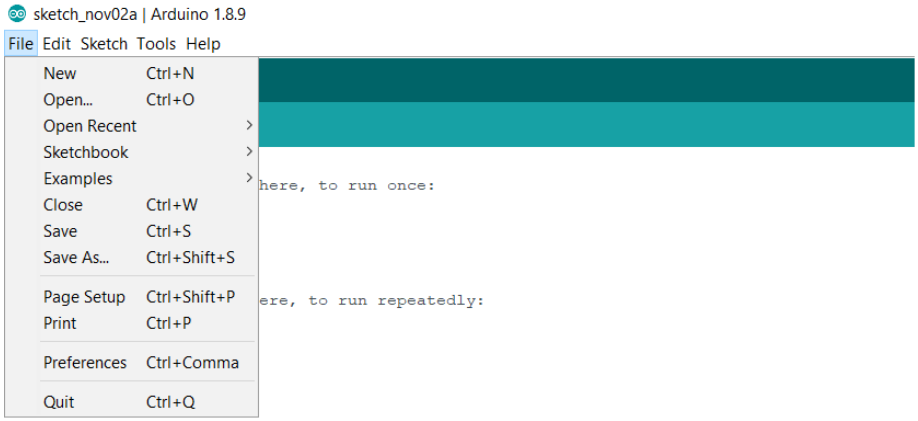
Guides to import TerasysHUB Code in Arduino

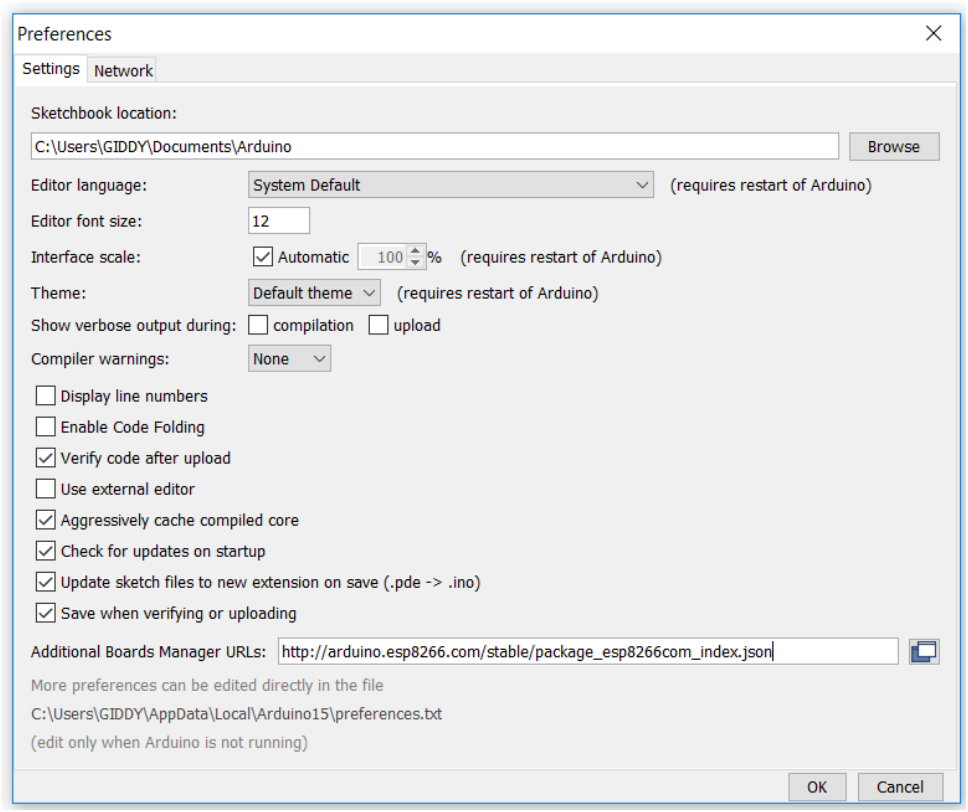
- Install the latest Arduino IDE 1.6.4 software from the below website https://www.arduino.cc/en/Main/Software.
- After installation, open Arduino software to install ESP8266 Board Package.

Steps to Install ESP8266 Board Package

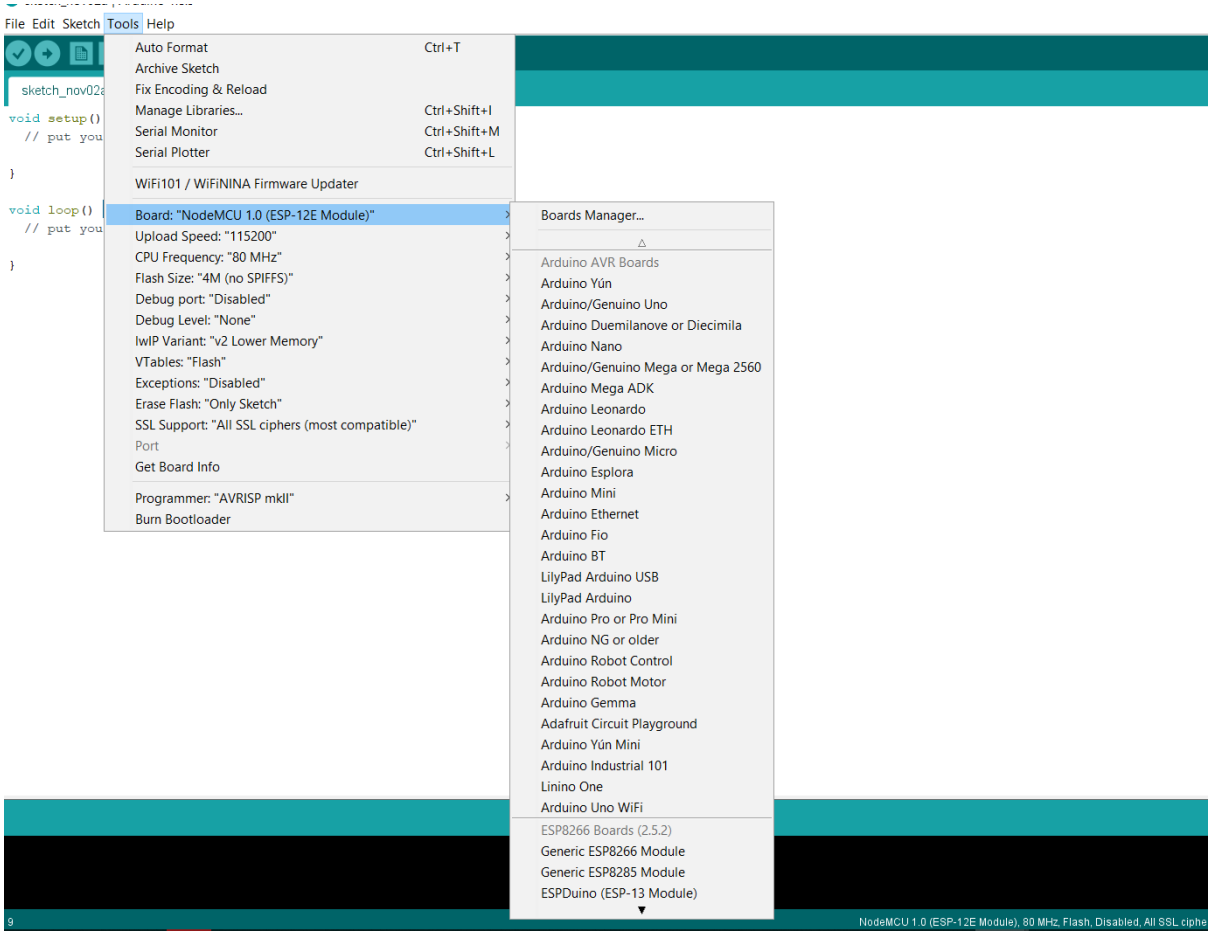
- To Install the ESP8266 Board Package, go to **File, click on Preferences** from IDE menu.

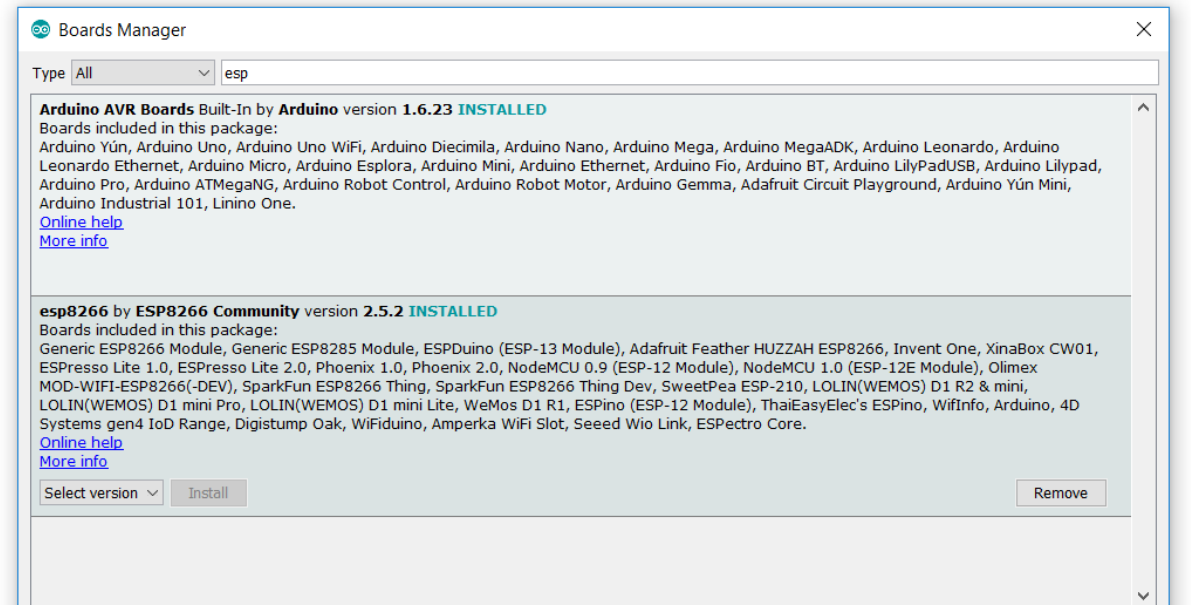


- Add below URL **into **Additional Boards Manager URLs text box ** section.
http://arduino.esp8266.com/stable/package_esp8266com_index.json

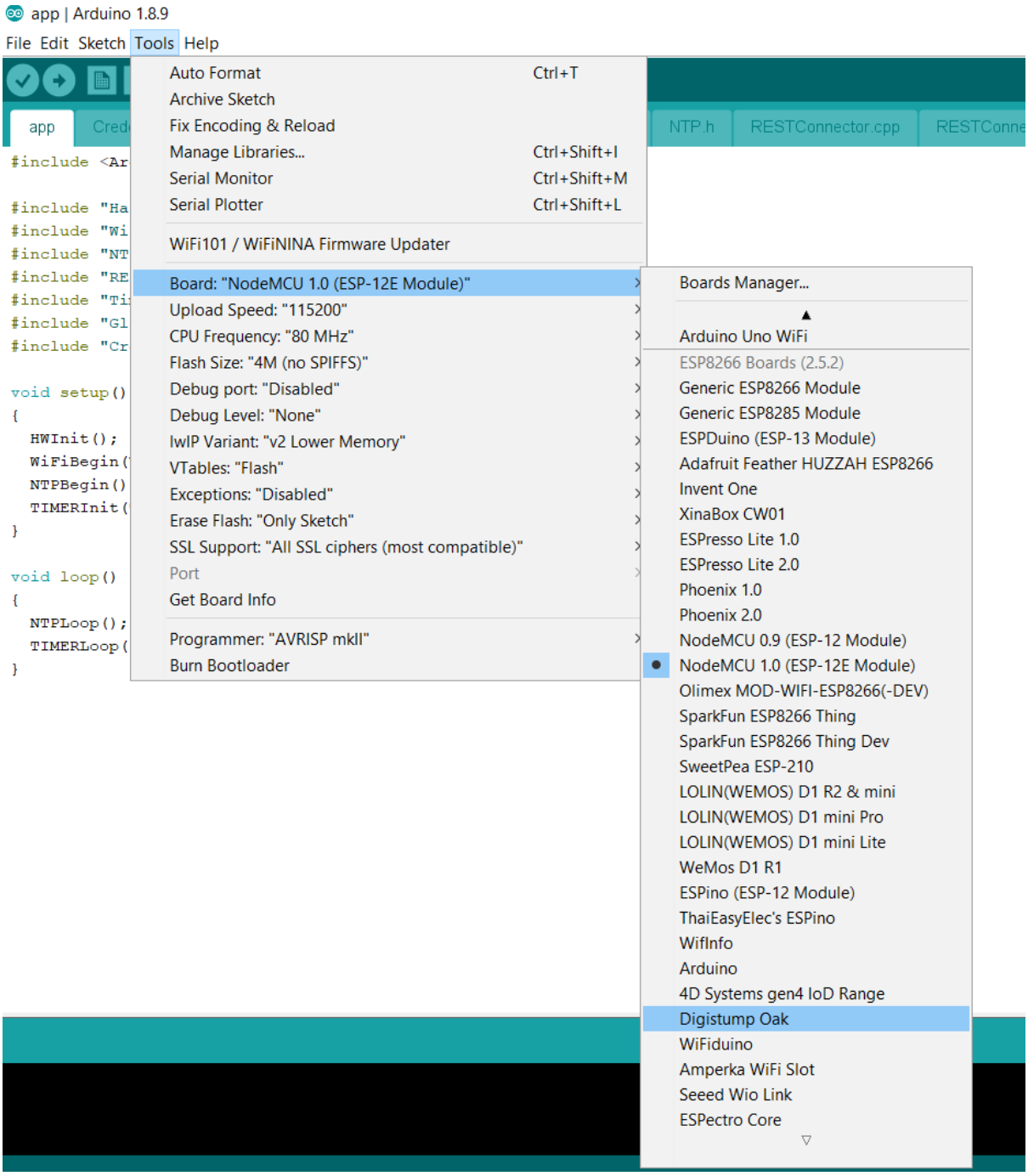


- Go to Boards Manager from ****Tools->Board->Boards Manager**** and search for ****esp8266**** and press install.

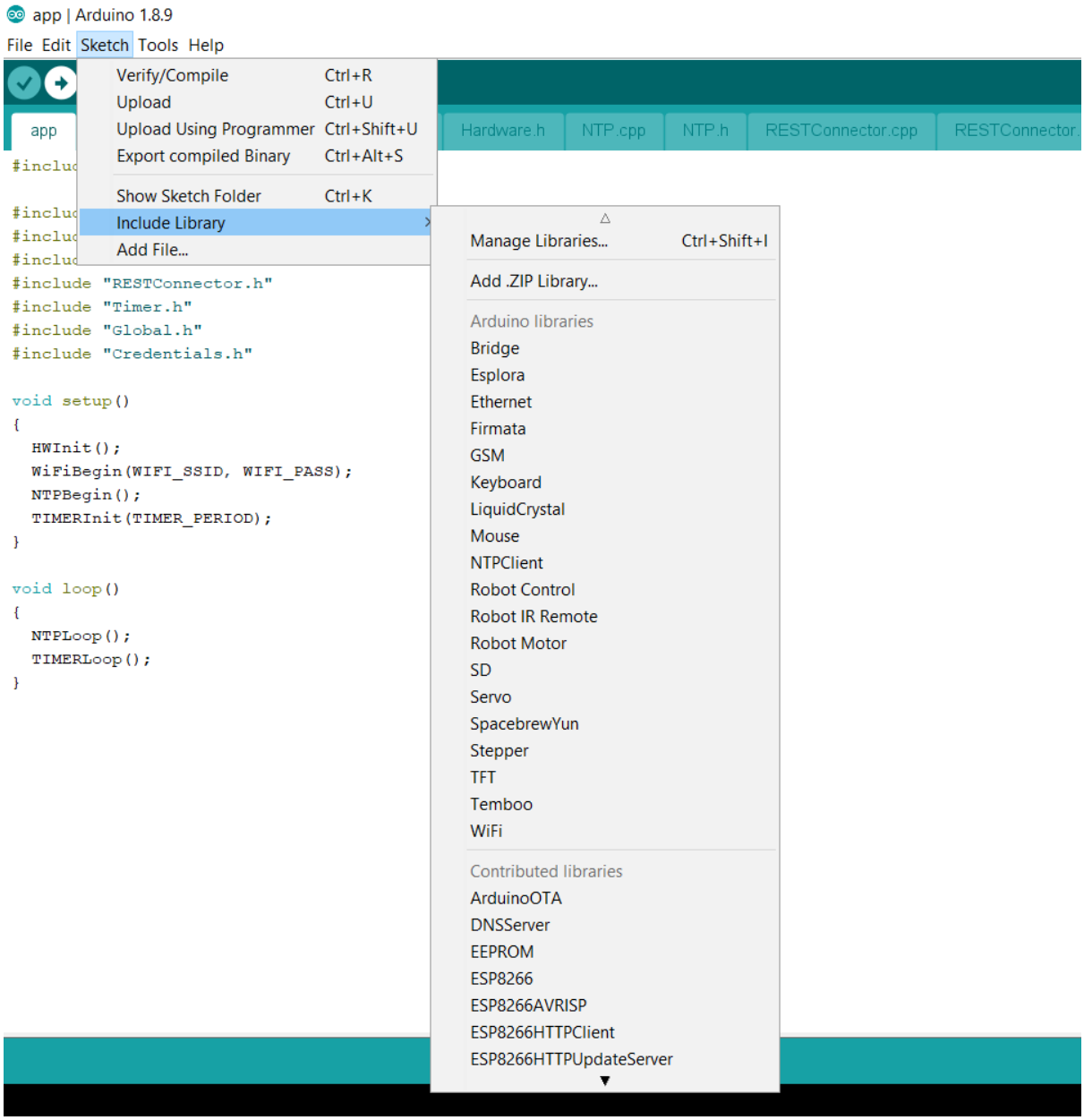


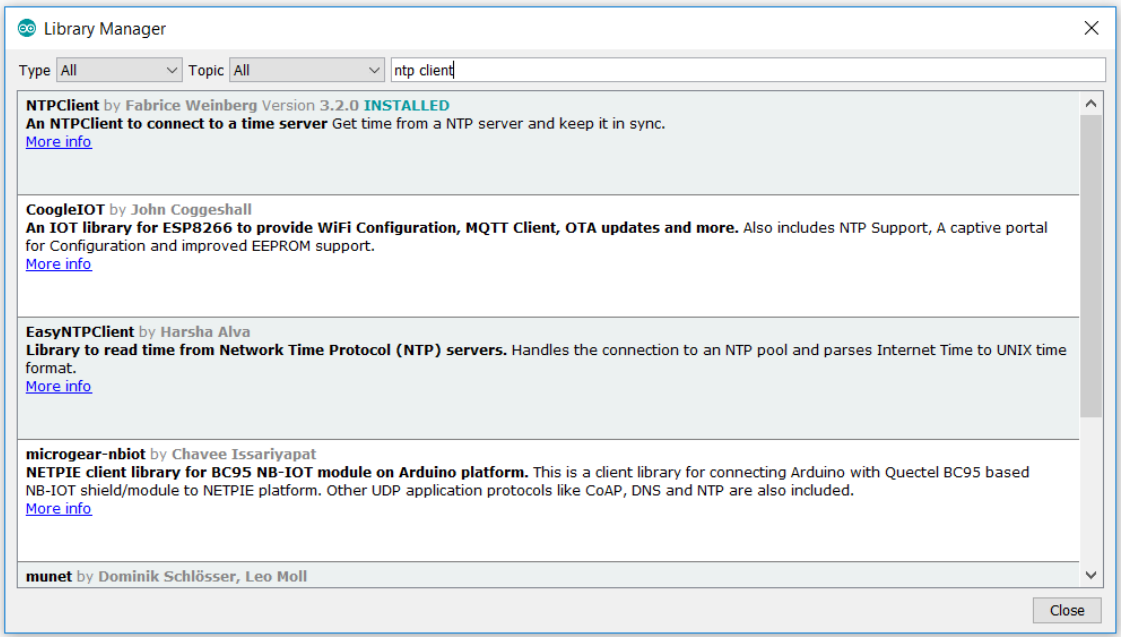


- After installation, you will be able to select ESP8266 based devices as a board under. Go to **Tools->Board, Select "NodeMCU 1.0"** as board. It will auto complete board specifications; 80 MHz as CPU Frequency.



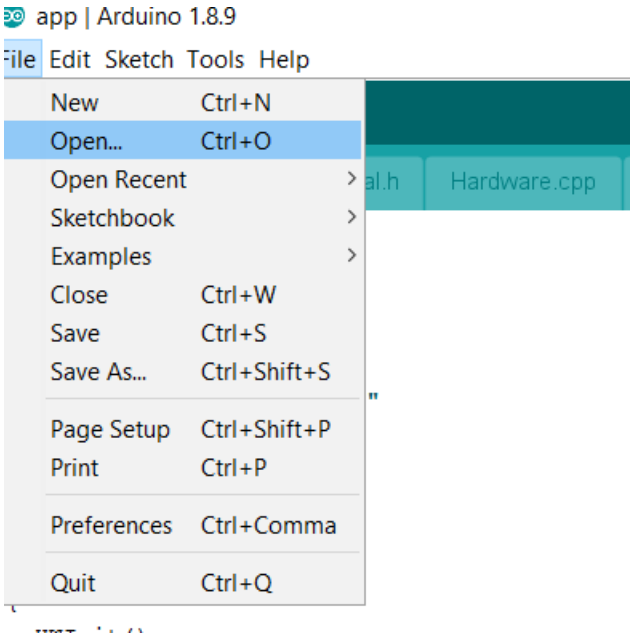
- For this project, 3 libraries are needed for compilation of the code and which can be included from the Arduino IDE with the following steps:
  1. NTPClient (by Fabrice Weinberg)
  2. DHT Sensor Library (by Adafruit)
  3. Adafruit Unified Sensor (by Adafruit)

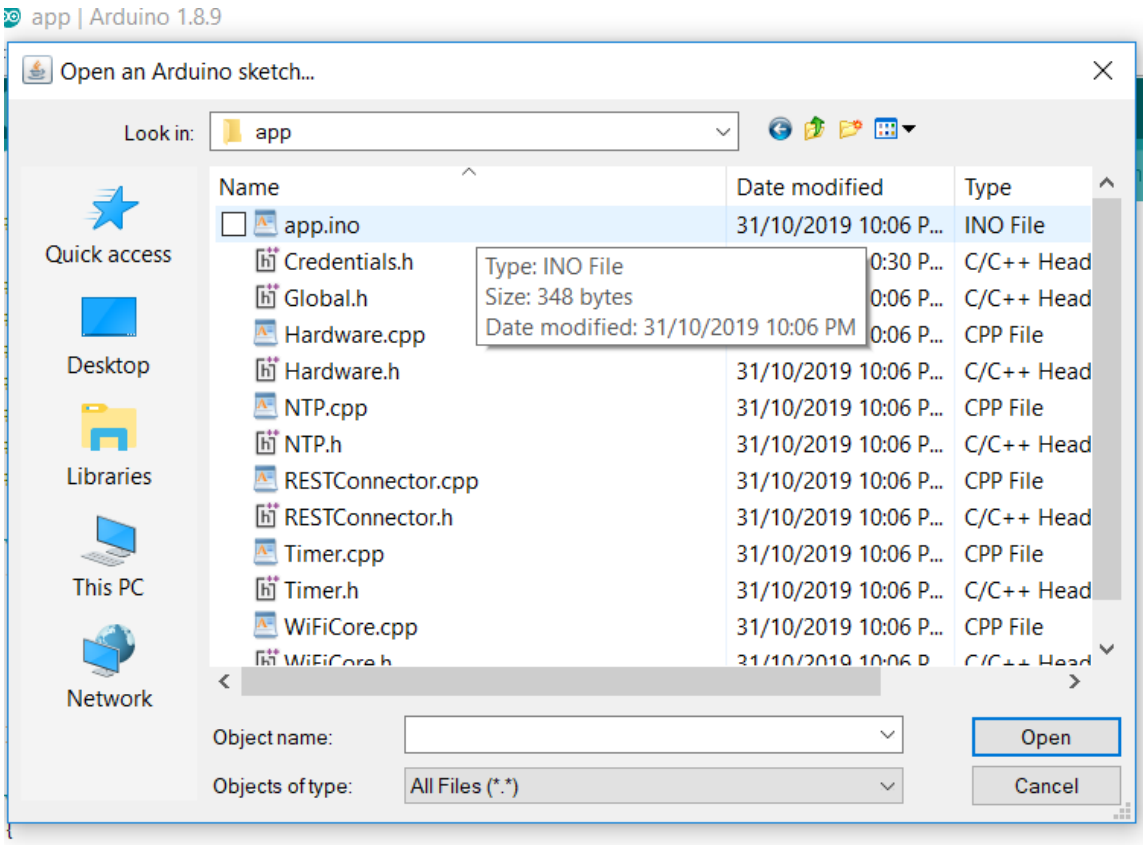

app | Arduino 1.8.9
File Edit Sketch Tools Help
Verify/Compile Ctrl+R
Upload Ctrl+U
Upload Using Programmer Ctrl+Shift+U
Export compiled Binary Ctrl+Alt+S
Show Sketch Folder Ctrl+K
Include Library
Add File...
Manage Libraries... Ctrl+Shift+I
Add .ZIP Library...
Arduino libraries
Bridge
Esplora
Ethernet
Firmata
GSM
Keyboard
LiquidCrystal
Mouse
NTPClient
Robot Control
Robot IR Remote
Robot Motor
SD
Servo
SpacebrewYun
Stepper
TFT
Temboo
WiFi
Contributed libraries
ArduinoOTA
DNSServer
EEPROM
ESP8266
ESP8266AVRISP
ESP8266HTTPClient
ESP8266HTTPUpdateServer
app
Hardware.h
NTP.cpp
NTP.h
RESTConnector.cpp
#include "RESTConnector.h"
#include "Timer.h"
#include "Global.h"
#include "Credentials.h"
void setup()
{
HWInit();
WiFiBegin(WIFI_SSID, WIFI_PASS);
NTPBegin();
TIMERInit(TIMER_PERIOD);
}
void loop()
{
NTPLoop();
TIMERLoop();
}



- Now you are ready to get the sample code. First, clone the TeraSysHUB client repository via download of the zip file from this link: https://github.com/gabod2000/Arduino_TerasysHUB or clone the project with the git link $ git clone https://github.com/gabod2000/Arduino_TerasysHUB.git

- Import **app.ino** file into the **Arduino IDE** via **File->Open** to get all other required files by following the below image for description.





➢ Open ****Credentials.h**** tab to update the given credentials with yours, like below:

/* User credentials, change them before proceeding! */

/* WiFi Credentials*/

#define WIFI_SSID "YOUR-WIFI-SSID"

#define WIFI_PASS "YOUR-WIFI-PASS"

/* Location info*/

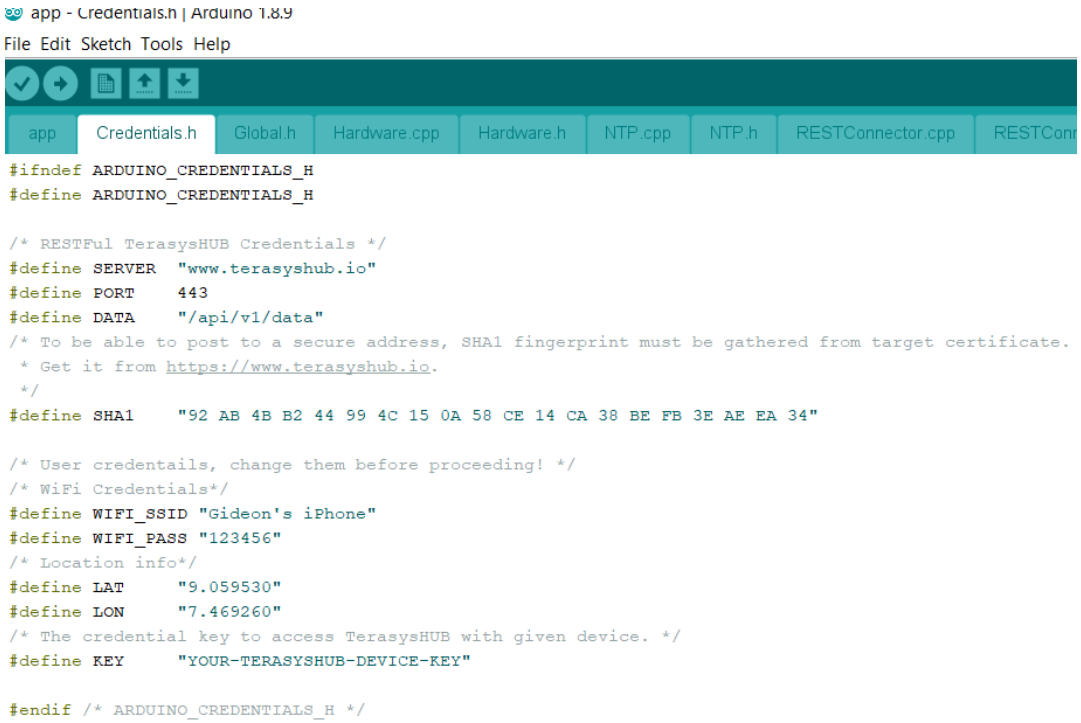
#define LAT "YOUR-LOCATION-LATITUDE"

#define LON "YOUR-LOCATION-LONGITUDE"

/* The credential key to access TerasysHUB with given device. */

#define KEY "YOUR-TERASYSHUB-DEVICE-KEY"

```
* After your credentials have been update, compile the code (Ctrl + R) and
upload (Ctrl + U) into your device. Please do not forget to select your
ESP8266's serial device from the **Tools->Port** section.
* After you have successfully connect to your WiFi Network, the sample code
will measure temperature and humidity and will post it to Terasys HUB
periodically within 20 seconds.
* To see the data post to the TerasysHub, from your device, you can enable
**Serial Monitor** and check the logs.
```



- After your credentials have been update, compile the code **(Ctrl + R)** and **upload (Ctrl + U)** into your device. Please do not forget to select your ESP8266's serial device from the ****Tools->Port**** section.
- After you have successfully connected to your WiFi Network, the sample code will measure temperature and humidity and will post it to Terasys HUB periodically within 20 seconds.
- To see the data post to the TerasysHub, from your device, you can enable ****Serial Monitor**** and check the logs.