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| 2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72  73  74  75  76  77  78  79  80  81  82  83  84  85  86  87  88  89  90  91  92 | #include <ESP8266WiFi.h>    **String** apiKey = "\*\*\*\*\*\*\*\*\*\*\*\*\*\*";  const **char**\* ssid =  "\*\*\*\*\*\*\*\*\*\*\*\*\*\*";     *// Enter your WiFi Network's SSID*  const **char**\* pass =  "\*\*\*\*\*\*\*\*\*\*\*\*\*\*"; *// Enter your WiFi Network's Password*  const **char**\* server = "api.thingspeak.com";    **int** analogInPin  = A0;    *// Analog input pin*  **int** sensorValue;          *// Analog Output of Sensor*  **float** calibration = 0.36; *// Check Battery voltage using multimeter & add/subtract the value*  **int** bat\_percentage;    WiFiClient client;    **void** setup()  {    Serial.begin(115200);    Serial.println("Connecting to ");    Serial.println(ssid);    WiFi.begin(ssid, pass);    **while** (WiFi.status() != WL\_CONNECTED)    {      delay(100);      Serial.print("\*");    }    Serial.println("");    Serial.println("WiFi connected");  }    **void** loop()  {    sensorValue = analogRead(analogInPin);  **float** voltage = (((sensorValue \* 3.3) / 1024) \* 2 + calibration); *//multiply by two as voltage divider network is 100K & 100K Resistor*      bat\_percentage = mapfloat(voltage, 2.8, 4.2, 0, 100); *//2.8V as Battery Cut off Voltage & 4.2V as Maximum Voltage*    **if** (bat\_percentage >= 100)    {      bat\_percentage = 100;    }  **if** (bat\_percentage <= 0)    {      bat\_percentage = 1;    }      Serial.print("Analog Value = ");    Serial.print(sensorValue);    Serial.print("\t Output Voltage = ");    Serial.print(voltage);    Serial.print("\t Battery Percentage = ");    Serial.println(bat\_percentage);    delay(1000);    **if** (client.connect(server, 80))    {    **String** postStr = apiKey;      postStr += "&field1=";      postStr += **String**(voltage);      postStr += "&field2=";      postStr += **String**(bat\_percentage);      postStr += "\r\n\r\n";        client.print("POST /update HTTP/1.1\n");      delay(100);      client.print("Host: api.thingspeak.com\n");      delay(100);      client.print("Connection: close\n");      delay(100);      client.print("X-THINGSPEAKAPIKEY: " + apiKey + "\n");      delay(100);      client.print("Content-Type: application/x-www-form-urlencoded\n");      delay(100);      client.print("Content-Length: ");      delay(100);      client.print(postStr.length());      delay(100);      client.print("\n\n");      delay(100);      client.print(postStr);      delay(100);    }    client.stop();    Serial.println("Sending....");    delay(15000);  }    **float** mapfloat(**float** x, **float** in\_min, **float** in\_max, **float** out\_min, **float** out\_max)  {  **return** (x - in\_min) \* (out\_max - out\_min) / (in\_max - in\_min) + out\_min;  } |