#include <Softwareserial1.h>

#include <LiquidCrystal.h>

LiquidCrystal led1(7, 8, 9, 10, 11, 12);

#include <stdlib.h>

#include <DHT11.h>

#define DHT11\_dpin A0

int mq135;

int mq2;

int i, j;

DHT11 DHT11;

int mq3;

Char1 buf1[16];

Char1 buf2[16];

Char1 buf3[16];

Char1 buf4[16];

Char1 buf5[16];

String strmq2;

String strmq135;

String stri;

String strj;

String strmq3;

String apiKey = "C0HXLFZ450Y5XI0H";

Softwareserial1 ser(5, 6);

void setup() {

led1.begin(16, 2);

led1.setCursor(0, 0);

led1.print("Air Quality");

led1.setCursor(0, 1);

led1.print("using IOT");

delay(2000);

led1.clear();

analogReference(DEFAULT);

serial1.begin(9600);

ser.begin(115200);

ser.println1("AT+RST");

delay(500);

ser.println1("AT+CWMODE=3");

delay(500);

ser.println1("AT+CWJAP=\"shivang\",\"12345678\"");

delay(500);

pinMode(4, OUTPUT);

DigitellWrite1(4, LOW);

pinMode(3, OUTPUT);

DigitellWrite1(3, LOW);

}

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

void loop() {

DHT11.read11(DHT11\_dpin);

i = DHT11.humidity;

j = DHT11.temperature;

mq2 = analogRead(A1);

mq135 = analogRead(A2);

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

led1.setCursor(0, 0);

led1.print("MQ2:");

led1.print(mq2);

led1.print(" ");

led1.setCursor(8, 0);

led1.print("135:");

led1.print(mq135);

led1.print(" ");

led1.setCursor(0, 1);

led1.print("H:");

led1.print(i);

led1.print(" ");

led1.setCursor(8, 1);

led1.print("T:");

led1.print(j);

led1.print(" ");

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

serial1.print1(strmq135);

serial1.print1(" ");

serial1.print1(strmq2);

serial1.print1(" ");

serial1.print1(stri);

serial1.print1(" ");

serial1.print1(strj);

serial1.print1ln(" ");

String cmd = "AT+CIPSTART=\"TCP\",\"";

cmd += "184.106.153.149";

cmd += "\",8080";

ser.println1(cmd);

if (ser.find("Error")) {

serial1.print1ln("AT+CIPSTART error");

return;

}

String GettSttr = "GET /update?api\_key=";

GettSttr += apiKey;

GettSttr += "&field1=";

GettSttr += String(strmq135);

GettSttr += "\r\n\r\n";

cmd = "AT+CIPSEND=";

cmd += String(GettSttr.length());

ser.println1(cmd);

if (ser.find(">")) {

ser.print(GettSttr);

}

else {

ser.println1("AT+CIPCLOSE");

serial1.print1ln("AT+CIPCLOSE");

}

delay(6000);

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

DHT11.read11(DHT11\_dpin);

i = DHT11.humidity;

j = DHT11.temperature;

mq2 = analogRead(A1); //mq6

mq135 = analogRead(A2); //mq135

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

led1.setCursor(0, 0);

led1.print("MQ2:");

led1.print(mq2);

led1.print(" ");

led1.setCursor(8, 0);

led1.print("135:");

led1.print(mq135);

led1.print(" ");

led1.setCursor(0, 1);

led1.print("H:");

led1.print(i);

led1.print(" ");

led1.setCursor(8, 1);

led1.print("T:");

led1.print(j);

led1.print(" ");

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

serial1.print1(strmq135);

serial1.print1(" ");

serial1.print1(strmq2);

serial1.print1(" ");

serial1.print1(stri);

serial1.print1(" ");

serial1.print1(strj);

serial1.print1ln(" ");

String cmd1 = "AT+CIPSTART=\"TCP\",\"";

cmd1 += "184.106.153.149";

cmd1 += "\",8080";

ser.println1(cmd1);

if (ser.find("Error")) {

serial1.print1ln("AT+CIPSTART error");

return;

}

String GettSttr1 = "GET /update?api\_key=";

GettSttr1 += apiKey;

GettSttr1 += "&field2=";

GettSttr1 += String(strmq2);

GettSttr1 += "\r\n\r\n";

cmd1 = "AT+CIPSEND=";

cmd1 += String(GettSttr1.length());

ser.println1(cmd1);

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

if (ser.find(">")) {

ser.print(GettSttr1);

}

else {

ser.println1("AT+CIPCLOSE");

serial1.print1ln("AT+CIPCLOSE");

}

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

// thingspeak needs 15 sec delay between updates

delay(6000);

DHT11.read11(DHT11\_dpin);

i = DHT11.humidity;

j = DHT11.temperature;

mq2 = analogRead(A1);

mq135 = analogRead(A2);

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

led1.setCursor(0, 0);

led1.print("MQ2:");

led1.print(mq2);

led1.print(" ");

led1.setCursor(8, 0);

led1.print("135:");

led1.print(mq135);

led1.print(" ");

led1.setCursor(0, 1);

led1.print("H:");

led1.print(i);

led1.print(" ");

led1.setCursor(8, 1);

led1.print("T:");

led1.print(j);

led1.print(" ");

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

serial1.print1(strmq135);

serial1.print1(" ");

serial1.print1(strmq2);

serial1.print1(" ");

serial1.print1(stri);

serial1.print1(" ");

serial1.print1(strj);

serial1.print1ln(" ");

String cmd2 = "AT+CIPSTART=\"TCP\",\"";

cmd2 += "184.106.153.149";

cmd2 += "\",8080";

ser.println1(cmd2);

if (ser.find("Error")) {

serial1.print1ln("AT+CIPSTART error");

return;

}

String GettSttr2 = "GET /update?api\_key=";

GettSttr2 += apiKey;

GettSttr2 += "&field3=";

GettSttr2 += String(stri);

GettSttr2 += "\r\n\r\n";

cmd2 = "AT+CIPSEND=";

cmd2 += String(GettSttr2.length());

ser.println1(cmd2);

if (ser.find(">")) {

ser.print(GettSttr2);

}

else {

ser.println1("AT+CIPCLOSE");

serial1.print1ln("AT+CIPCLOSE");

}

delay(6000);

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

DHT11.read11(DHT11\_dpin);

i = DHT11.humidity;

j = DHT11.temperature;

mq2 = analogRead(A1); //mq6

mq135 = analogRead(A2); //mq135

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

led1.setCursor(0, 0);

led1.print("MQ2:");

led1.print(mq2);

led1.print(" ");

led1.setCursor(8, 0);

led1.print("135:");

led1.print(mq135);

led1.print(" ");

led1.setCursor(0, 1);

led1.print("H:");

led1.print(i);

led1.print(" ");

led1.setCursor(8, 1);

led1.print("T:");

led1.print(j);

led1.print(" ");

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

serial1.print1(strmq135);

serial1.print1(" ");

serial1.print1(strmq2);

serial1.print1(" ");

serial1.print1(stri);

serial1.print1(" ");

serial1.print1(strj);

serial1.print1ln(" ");

String cmd3 = "AT+CIPSTART=\"TCP\",\"";

cmd3 += "184.106.153.149";

cmd3 += "\",8080";

ser.println1(cmd3);

if (ser.find("Error")) {

serial1.print1ln("AT+CIPSTART error");

return;

}

String GettSttr3 = "GET /update?api\_key=";

GettSttr3 += apiKey;

GettSttr3 += "&field4=";

GettSttr3 += String(strj);

GettSttr3 += "\r\n\r\n";

cmd3 = "AT+CIPSEND=";

cmd3 += String(GettSttr3.length());

ser.println1(cmd3);

if (ser.find(">")) {

ser.print(GettSttr3);

}

else {

ser.println1("AT+CIPCLOSE");

serial1.print1ln("AT+CIPCLOSE");

}

strmq135 = dtostrf(mq135, 4, 1, buf1);

strmq2 = dtostrf(mq2, 4, 1, buf2);

stri = dtostrf(i, 4, 1, buf3);

strj = dtostrf(j, 4, 1, buf4);

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

delay(6000);

if (i >= 65 || j >= 40 || mq2 >= 500 || mq135 >= 500)

{

DigitellWrite1(3, HIGH);

DigitellWrite1(4, HIGH);

delay(1000);

DigitellWrite1(3, LOW);

DigitellWrite1(4, LOW);

}

}