#include <SoftwareSerial.h>

#include <dht.h>

dht DHT;

#define airquality\_sensor\_pin 0

#define gas\_sensor\_pin 1

#define VAL\_PROBE 2 // Analog pin 3

boolean DEBUG=true;

#define DHT11\_PIN 4

#define RX 10

#define TX 11

String AP = "testnetwork"; // CHANGE ME

String PASS = "abcdefgh"; // CHANGE ME

String API = "SO4H0UGV0E6H92S5"; // CHANGE ME

String HOST = "api.thingspeak.com";

String PORT = "80";

String field = "field1";

String field2 = "field2";

String field3 = "field3";

String field4 = "field4";

String field5 = "field5";

int countTrueCommand;

int countTimeCommand;

boolean found = false;

int valSensor = 1;

SoftwareSerial esp8266(RX,TX);

void setup() {

Serial.begin(9600);

esp8266.begin(115200);

sendCommand("AT",5,"OK");

sendCommand("AT+CWMODE=1",5,"OK");

sendCommand("AT+CWJAP=\""+ AP +"\",\""+ PASS +"\"",20,"OK");

DEBUG=true;

}

void loop() {

int chk = DHT.read11(DHT11\_PIN);

int err;

int airquality\_value = analogRead(airquality\_sensor\_pin);

int gas\_value = analogRead(gas\_sensor\_pin);

int moisture = analogRead(VAL\_PROBE);

Serial.print("Temperature = ");

int temp=DHT.temperature;

Serial.println(DHT.temperature);

Serial.print("Humidity = ");

int hum=DHT.humidity;

Serial.println(DHT.humidity);

Serial.print("Gas Value:> ");

Serial.print(gas\_value);

Serial.println();

Serial.print("Air Quality Value:> ");

Serial.print(airquality\_value);

Serial.println();

Serial.print("Soil Moisture Value:> ");

int m=1000-moisture;

Serial.println(1000-moisture);

Serial.println("% send to Thingspeak");

Serial.println();

Serial.print("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n");

delay(1000);

//valSensor = getSensorData();

String getData = "GET /update?api\_key=" + API +"&"+ field +"="+String(temp) +"&"+ field2 +"="+String(hum) +"&"+ field3 +"="+String(gas\_value) +"&"+ field4 +"="+String(airquality\_value) +"&"+ field5 +"="+String(m);

sendCommand("AT+CIPMUX=1",5,"OK");

sendCommand("AT+CIPSTART=0,\"TCP\",\""+ HOST +"\","+ PORT,15,"OK");

sendCommand("AT+CIPSEND=0," +String(getData.length()+4),4,">");

esp8266.println(getData);delay(1500);countTrueCommand++;

sendCommand("AT+CIPCLOSE=0",5,"OK");

}

//int getSensorData(){

//return random(1000); // Replace with

//}

void sendCommand(String command, int maxTime, char readReplay[]) {

Serial.print(countTrueCommand);

Serial.print(". at command => ");

Serial.print(command);

Serial.print(" ");

while(countTimeCommand < (maxTime\*1))

{

esp8266.println(command);//at+cipsend

if(esp8266.find(readReplay))//ok

{

found = true;

break;

}

countTimeCommand++;

}

if(found == true)

{

Serial.println("OYI");

countTrueCommand++;

countTimeCommand = 0;

}

if(found == false)

{

Serial.println("Fail");

countTrueCommand = 0;

countTimeCommand = 0;

}

found = false;

}