#define BLYNK\_PRINT Serial

#include <ESP8266WiFi.h>

#include <BlynkSimpleEsp8266.h>

#include <DHT.h>

#include "Adafruit\_MQTT.h"

#include "Adafruit\_MQTT\_Client.h"

#define AIO\_SERVER "io.adafruit.com"

#define AIO\_SERVERPORT 1883

#define AIO\_USERNAME "fatsfish"

#define AIO\_KEY "aio\_urXk57GjAWX7xzb6Pv11lR75HITl"

WiFiClient client;

Adafruit\_MQTT\_Client mqtt(&client, AIO\_SERVER, AIO\_SERVERPORT, AIO\_USERNAME, AIO\_KEY);

Adafruit\_MQTT\_Subscribe myWateringSystem = Adafruit\_MQTT\_Subscribe(&mqtt, AIO\_USERNAME "/feeds/myWateringSystem");

String request;

boolean MQTT\_connect();

boolean MQTT\_connect() { int8\_t ret; if (mqtt.connected()) { return true; } uint8\_t retries = 3; while ((ret = mqtt.connect()) != 0) { mqtt.disconnect(); delay(2000); retries--;if (retries == 0) { return false; }} return true;}

char auth[] = "QLdnnAFtpQwJVF6Zvw21t3LfyUBlhL1b"; //AuthToken copy ở Blynk Project

char ssid[] = "Cá béo"; //Tên wifi

char pass[] = "12asdfghjk"; //Mật khẩu wifi

#define DHTPIN 5 // Pin ket noi voi DHT

#define DHTTYPE DHT22 // Su dung cam bien DHT11

DHT dht(DHTPIN, DHTTYPE); // Cau hinh chan DHT

SimpleTimer timer; // Su dung timer

//Ham gui du lieu

void sendSensor()

{

float h = dht.readHumidity(); //Doc gia tri do am

float t = dht.readTemperature(); //Doc gia tri nhiet do

// Gan du lieu vao bien virtual de hien thi len blynk

// Chi nen gan 10 bien tro xuong

delay(10);

Blynk.virtualWrite(V1, h);

Blynk.virtualWrite(V0, t);

}

void setup() {

Serial.begin(9600); // Mo Serial

pinMode(4, INPUT); // Cam bien do am dat

pinMode(3, OUTPUT); //May bom

dht.begin(); // Khoi tao DHT

timer.setInterval(1000L, sendSensor); //1s doc cam bien dht 1 lan

request = "";

WiFi.disconnect();

WiFi.begin("Cá béo","12asdfghjk");

Blynk.begin(auth, ssid, pass); // Ket noi voi blynk

while ((!(WiFi.status() == WL\_CONNECTED))){

delay(300);

Serial.print("");

}

Serial.println("connected!");

Serial.println((WiFi.localIP().toString()));

mqtt.subscribe(&myWateringSystem);

}

void loop() {

float d = 100-analogRead(4)/1023\*100; //Doc gia tri do am dat

float h = dht.readHumidity(); //Doc gia tri do am

float t = dht.readTemperature(); //Doc gia tri nhiet do

Serial.print("Do am dat: ");

Serial.println(d);

Serial.print("Do am khong khi: ");

Serial.println(h);

Serial.print("Nhiet do: ");

Serial.println(t);

delay(10);

Blynk.virtualWrite(V2,d);

Blynk.run(); // Chay Blynk

timer.run(); // Chay SimpleTimer

if(d<=50 || h<=50){

digitalWrite(3, HIGH);

}else if (d>50 && h>=50){

digitalWrite(3, LOW);

}

if (MQTT\_connect()) {

Adafruit\_MQTT\_Subscribe \*subscription\_name;

while ((subscription\_name = mqtt.readSubscription(5000))) {

if (subscription\_name == &myWateringSystem) {

request = ((char \*)myWateringSystem.lastread);

}

if (request == "on") {

digitalWrite(3,HIGH);

Serial.println("System on");

}

if (request == "off") {

digitalWrite(3,LOW);

Serial.println("System off");

}

}

}

// Debug

// Serial.print("Do am: ");

// Serial.print(h);

// Serial.print(" %\t");

// Serial.print("Nhiet do: ");

// Serial.print(t);

// Serial.println(" \*C ");

// delay(2000); // Doi chuyen doi.

}