Adafruit MQTT Library ESP8266 Example

Must use ESP8266 Arduino from:

https://github.com/esp8266/Arduino

Works great with Adafruit's Huzzah ESP board & Feather

----> https://www.adafruit.com/product/2471

----> https://www.adafruit.com/products/2821

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\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

#include <ESP8266WiFi.h>

#include "Adafruit\_MQTT.h"

#include "Adafruit\_MQTT\_Client.h"

#include <Servo.h>

Servo myservo;

/\*\*\*\*\*\*\*\*\* WiFi Access Point \*\*\*\*\*\*\*\*\*\*\*/

#define WLAN\_SSID "Unknown"

#define WLAN\_PASS "43214321"

/\*\*\*\*\*\*\*\*\* Adafruit.io Setup \*\*\*\*\*\*\*\*\*\*\*/

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

#define AIO\_SERVERPORT 1883 // use 8883 for SSL

#define AIO\_USERNAME "jeff\_ffej"

#define AIO\_KEY "aio\_FHiZ24aKH9yGztbDTg8PSKlfwrt0"

/\*\*\*\* Global State (you don't need to change this!) \*\*\*\*\*\*/

// Create an ESP8266 WiFiClient class to connect to the MQTT server.

WiFiClient client;

// or... use WiFiClientSecure for SSL

//WiFiClientSecure client;

// Setup the MQTT client class by passing in the WiFi client and MQTT server and login details.

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

/\*\*\*\*\*\*\*\*\*\* Feeds \*\*\*\*\*\*\*\*\*\*\*\*\*/

// Setup a feed called 'photocell' for publishing.

// Notice MQTT paths for AIO follow the form: <username>/feeds/<feedname>

Adafruit\_MQTT\_Publish photocell = Adafruit\_MQTT\_Publish(&mqtt, AIO\_USERNAME "/feeds/photocell");

/\*\*\*\*\*\*\*\*\* Sketch Code \*\*\*\*\*\*\*\*\*\*\*\*/

// Bug workaround for Arduino 1.6.6, it seems to need a function declaration

// for some reason (only affects ESP8266, likely an arduino-builder bug).

void MQTT\_connect();

int pos=90;

void setup() {

Serial.begin(115200);

delay(10);

Serial.println(F("Adafruit MQTT demo"));

// Connect to WiFi access point.

Serial.println(); Serial.println();

Serial.print("Connecting to ");

Serial.println(WLAN\_SSID);

WiFi.begin(WLAN\_SSID, WLAN\_PASS);

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

delay(500);

Serial.print(".");

}

Serial.println();

Serial.println("WiFi connected");

Serial.println("IP address: "); Serial.println(WiFi.localIP());

myservo.attach(D6); // attaches the servo on GIO2 to the servo object

pinMode(D5,INPUT\_PULLUP);

pinMode(D2,INPUT\_PULLUP);

myservo.write(pos);

}

uint32\_t x=0;

void loop() {

// Ensure the connection to the MQTT server is alive (this will make the first

// connection and automatically reconnect when disconnected). See the MQTT\_connect

// function definition further below.

MQTT\_connect();

// this is our 'wait for incoming subscription packets' busy subloop

// try to spend your time here

if(!digitalRead(D5)){

if(!digitalRead(D2)){

for (pos = 90; pos <= 180; pos += 1) { // goes from 0 degrees to 180 degrees

// in steps of 1 degree

myservo.write(pos); // tell servo to go to position in variable 'pos'

delay(15); // waits 15ms for the servo to reach the position

}

photocell.publish("wet");

delay(3000);

for (pos = 180; pos >= 90; pos -= 1) { // goes from 180 degrees to 0 degrees

myservo.write(pos); // tell servo to go to position in variable 'pos'

delay(15); // waits 15ms for the servo to reach the position

}

}

else{

for (pos = 90; pos >= 0; pos -= 1) { // goes from 180 degrees to 0 degrees

myservo.write(pos); // tell servo to go to position in variable 'pos'

delay(15); // waits 15ms for the servo to reach the position

}

photocell.publish("dry");

delay(3000);

for (pos = 0; pos <= 90; pos += 1) { // goes from 0 degrees to 180 degrees

// in steps of 1 degree

myservo.write(pos); // tell servo to go to position in variable 'pos'

delay(15); // waits 15ms for the servo to reach the position

}

}

}

// Now we can publish stuff!

// ping the server to keep the mqtt connection alive

// NOT required if you are publishing once every KEEPALIVE seconds

/\*

if(! mqtt.ping()) {

mqtt.disconnect();

}

\*/

}

// Function to connect and reconnect as necessary to the MQTT server.

// Should be called in the loop function and it will take care if connecting.

void MQTT\_connect() {

int8\_t ret;

// Stop if already connected.

if (mqtt.connected()) {

return;

}

Serial.print("Connecting to MQTT... ");

uint8\_t retries = 3;

while ((ret = mqtt.connect()) != 0) { // connect will return 0 for connected

Serial.println(mqtt.connectErrorString(ret));

Serial.println("Retrying MQTT connection in 5 seconds...");

mqtt.disconnect();

delay(5000); // wait 5 seconds

retries--;

if (retries == 0) {

// basically die and wait for WDT to reset me

while (1);

}

}

Serial.println("MQTT Connected!");

}