

การควบคุมเครื่องจักรอัจฉริยะโดยใช้การสื่อสารระหว่างเครื่องจักรกับเครื่องจักร

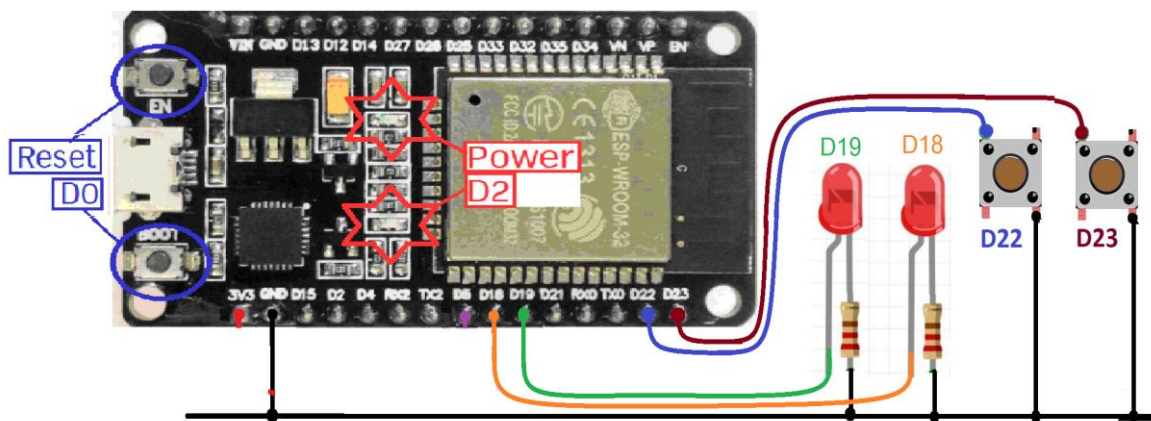
M2M - Intelligence Machine Control

ชื่อ-สกุล : นางสาวขวัญจิรา พันธุ์เกตุ รหัสนักศึกษา : B6321451

6/6 -- คำถามท้ายบทเพื่อทดสอบความเข้าใจ

Quiz_101 – กดติด กดดับ 2 ชุด

- หากต้องการให้ใช้ 1 สวิตช์ ควบคุม 1 LED แบบกดติด-กดดับ จำนวน 2 วงจรจะต้องวงจรและเขียนโปรแกรมอย่างไร {SW-D22 -- LED-D19, SW-D23 -- LED-D18}



```

Q101 | Arduino 1.8.19
File Edit Sketch Tools Help

Q101
1 //Quiz_101_กดติด กดดับ 2 ชุด
2 #define pushButton1 22
3 #define LEDPin1 19
4 #define pushButton2 23
5 #define LEDPin2 18
6 int buttonState1 = 0;
7 int buttonState2 = 0;
8
9 void setup() {
10   Serial.begin(115200);
11   pinMode(pushButton1, INPUT_PULLUP);
12   pinMode(LEDPin1, OUTPUT);
13   pinMode(pushButton2, INPUT_PULLUP);
14   pinMode(LEDPin2, OUTPUT);
15 }
16 void loop() {
17   if (digitalRead(pushButton1) == LOW) {
18     delay(20);
19     buttonState1 = 1 - buttonState1;
20     digitalWrite(LEDPin1, buttonState1);
21     while (digitalRead(pushButton1) == LOW);
22     delay(20);
23   }
24   if (digitalRead(pushButton2) == LOW) {
25     delay(20);
26     buttonState2 = 1 - buttonState2;
27     digitalWrite(LEDPin2, buttonState2);
28     while (digitalRead(pushButton2) == LOW);
29     delay(20);
30   }
31 }
32 }
33
Done Saving
Leaving...
Hard resetting via RTS pin...

```

```
//กดติด กดดับ 2 ชุด

#define pushButton1 22

#define LEDPin1 19

#define pushButton2 23

#define LEDPin2 18

int buttonState1 = 0;

int buttonState2 = 0;


void setup() {

  Serial.begin(115200);

  pinMode(pushButton1, INPUT_PULLUP);

  pinMode(LEDPin1, OUTPUT);

  pinMode(pushButton2, INPUT_PULLUP);

  pinMode(LEDPin2, OUTPUT);

}

void loop() {

  if (digitalRead(pushButton1) == LOW) {

    delay(20);

    buttonState1 = 1 - buttonState1;

    digitalWrite(LEDPin1, buttonState1);

    while (digitalRead(pushButton1) == LOW);

    delay(20);}

}
```

```

if (digitalRead(pushButton2) == LOW) {

    delay(20);

    buttonState2 = 1 - buttonState2;

    digitalWrite(LEDPin2, buttonState2);

    while (digitalRead(pushButton2) == LOW);

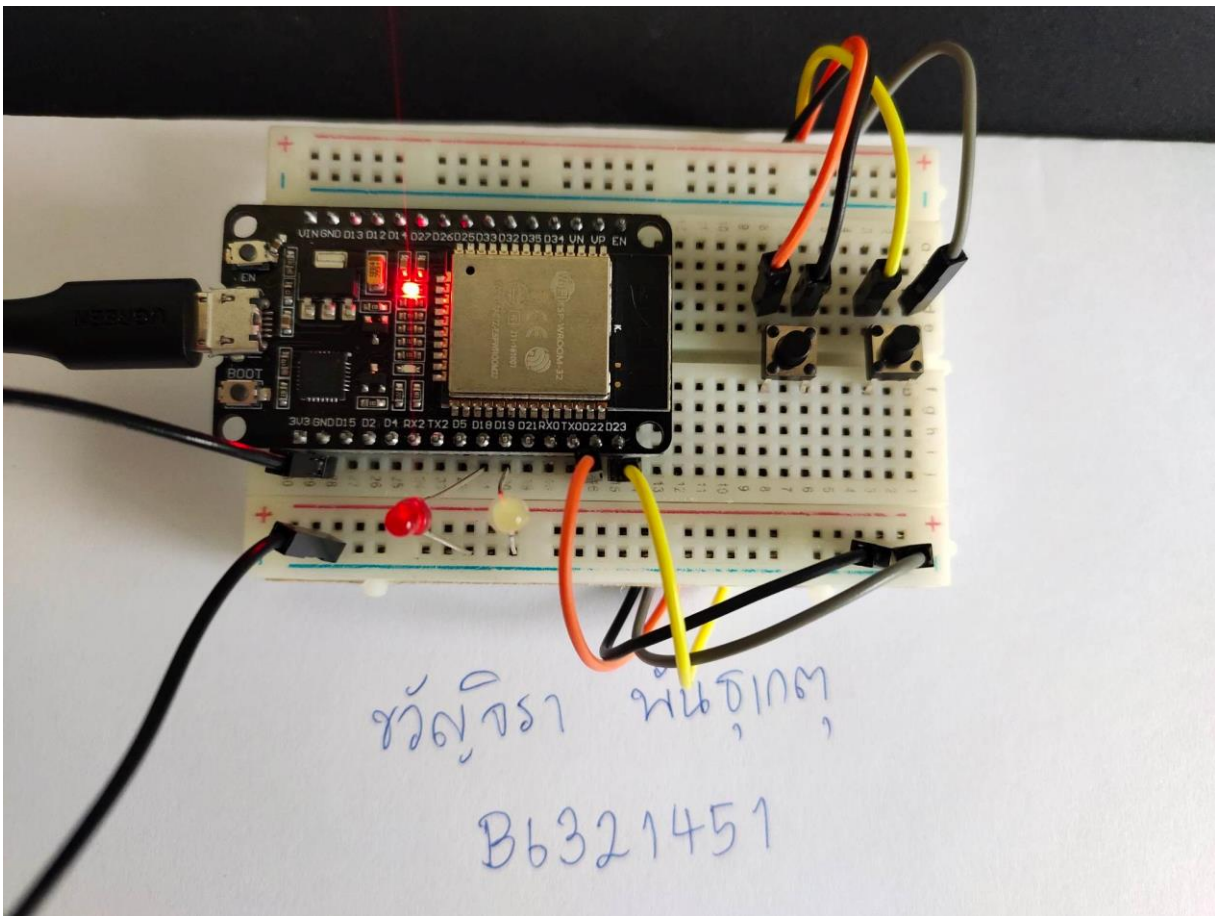
    delay(20);

}

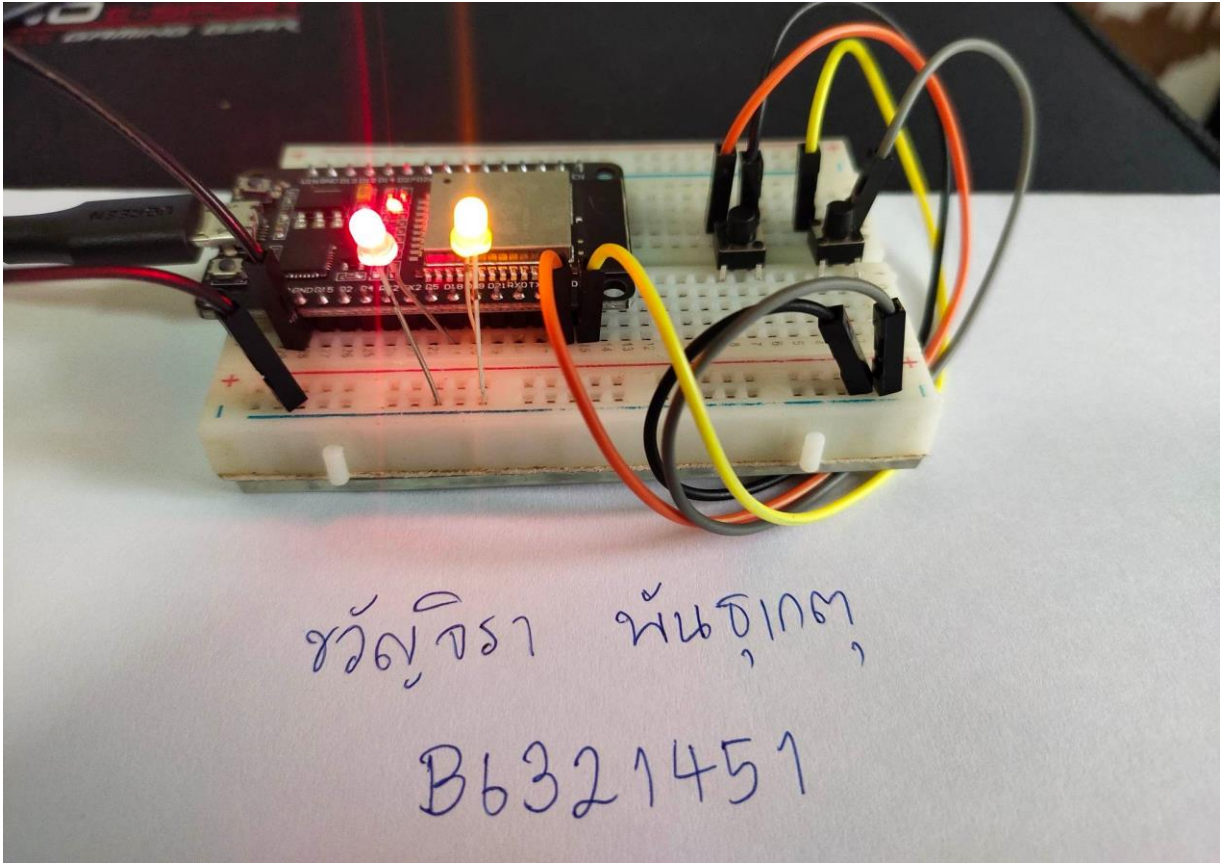
}

```

รูปการต่อวงจร - 1

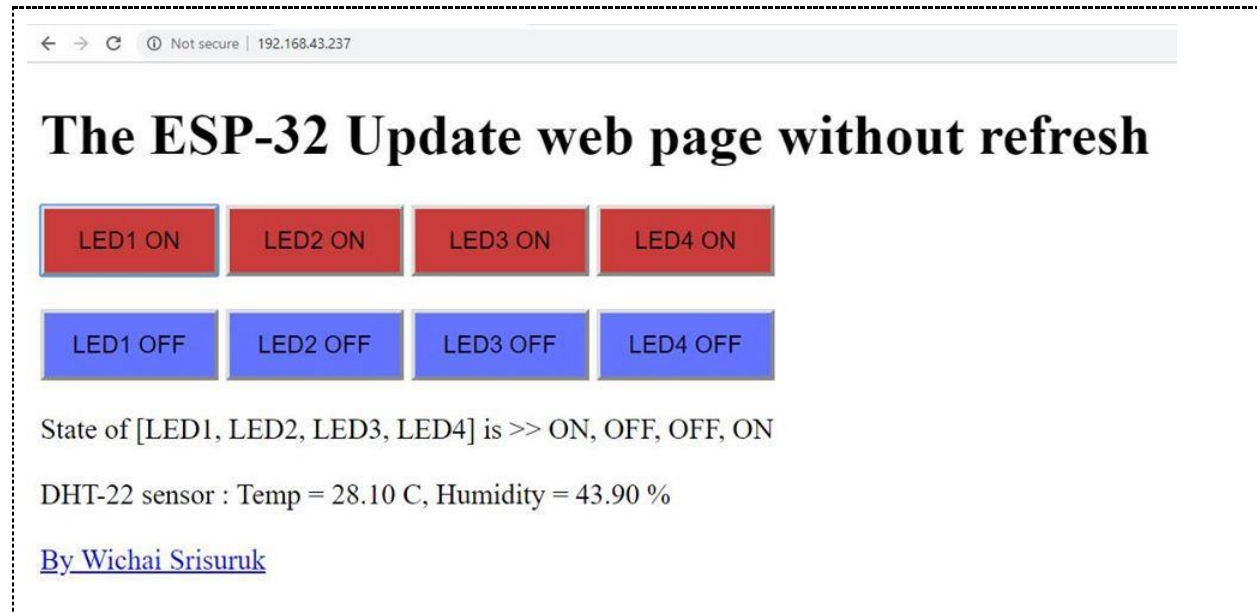


รูปการต่อวงจร - 2



Quiz_102 – Web Control 4 LED and Monitor Humid/Temperature

- เพิ่มเติมจาก Q202 อยากได้ปุ่มสำหรับคุมปิด-เปิด หลอดไฟ LED 4 ดวง
- อยากมีก๊าด Link ไปที่หน้า FB ของตัวเอง
- https://www.colorhexa.com/008cba?fbclid=IwAR3dIZ_gRgDWmREmnzknLbMxV3pOHY4YIPuLEz8-ZzTOX2VhWxcH2QjLGk



```
//Quize.ino
```

```
#include <WiFi.h>
```

```
#include <WiFiClient.h>
```

```
#include <WebServer.h>
```

```
#include "DHTesp.h"
```

```
#include "index.h" //Our HTML webpage contents with javascripts
```

```
#define DHT_Pin 4
```

```
#define testLED1 18
```

```
#define testLED2 19
```

```
#define testLED3 22
```

```

#define testLED4 23

//SSID and Password of your WiFi router

const char* ssid = "105/766-2.4G";

const char* password = "0999128910";

WebServer server(80); //Server on port 80

DHTesp dht;

String ledState1 = "NA";

String ledState2 = "NA";

String ledState3 = "NA";

String ledState4 = "NA";

//=====

// This routine is executed when you open its IP in browser

//=====

void handleRoot() {

    String s = MAIN_page; //Read HTML contents

    server.send(200, "text/html", s); //Send web page

}

void handleADC() {

    float h = dht.getHumidity();

    float t = dht.getTemperature();

    String tmpValue = "Temp = ";

    tmpValue += String(t) + " C, Humidity = ";

    tmpValue += String(h) + " %";

    server.send(200, "text/plain", tmpValue); //Send value to client ajax request

```

```
}

void handleLED() {

  String t_state = server.arg("LEDstate"); //Refer xhttp.open("GET",
"setLED?LEDstate="+led, true);

  Serial.println(t_state);

  if (t_state == "11") {

    digitalWrite(testLED1, HIGH); //Feedback parameter

    ledState1 = "ON";

  }

  if (t_state == "10") {

    digitalWrite(testLED1, LOW); //Feedback parameter

    ledState1 = "OFF";

  }

  if (t_state == "21") {

    digitalWrite(testLED2, HIGH); //Feedback parameter

    ledState2 = "ON";

  }

  if (t_state == "20") {

    digitalWrite(testLED2, LOW); //Feedback parameter

    ledState2 = "OFF";

  }

  if (t_state == "31") {

    digitalWrite(testLED3, HIGH); //Feedback parameter
```

```

    ledState3 = "ON";
}

if (t_state == "30") {
    digitalWrite(testLED3, LOW); //Feedback parameter
    ledState3 = "OFF";
}

if (t_state == "41") {
    digitalWrite(testLED4, HIGH); //Feedback parameter
    ledState4 = "ON";
}

if (t_state == "40") {
    digitalWrite(testLED4, LOW); //Feedback parameter
    ledState4 = "OFF";}

server.send(200, "text/plain", ledState1 + ", " + ledState2 + ", " + ledState3 + ", " +
ledState4); //Send web page
}

void setup(void) {
    Serial.begin(115200);

    dht.setup(DHT_Pin, DHTesp::DHT22); // DHT_Pin D4, DHT22

    pinMode(testLED1, OUTPUT);

    pinMode(testLED2, OUTPUT);

    pinMode(testLED3, OUTPUT);

    pinMode(testLED4, OUTPUT);

    Serial.print("\n\nConnect to ");

```



```

Serial.println(ssid);

WiFi.begin(ssid, password);

while (WiFi.status() != WL_CONNECTED) {

    delay(500); Serial.print(".");

}

Serial.print("\nConnected "); Serial.println(ssid);

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

server.on("/", handleRoot);

server.on("/setLED", handleLED);

server.on("/readADC", handleADC);

server.begin();

Serial.println("HTTP server started");

}

void loop(void) {

    server.handleClient(); //Handle client requests

}

```

```

//index.h

const char MAIN_page[] PROGMEM = R"=====(

<!DOCTYPE html>

<html>

<body>

<div id="demo">

```

```

<h1>The ESP-32 Update web page without refresh</h1>

<button type="button" onclick="sendData(11)" style="background: rgb(202, 60, 60);">LED1
ON_ </button>

<button type="button" onclick="sendData(21)" style="background: rgb(202, 60, 60);">LED2
ON_ </button>

<button type="button" onclick="sendData(31)" style="background: rgb(202, 60, 60);">LED3
ON_ </button>

<button type="button" onclick="sendData(41)" style="background: rgb(202, 60, 60);">LED4
ON_ </button><br><br>

<button type="button" onclick="sendData(10)" style="background:
rgb(100,116,255);">LED1 OFF</button>

<button type="button" onclick="sendData(20)" style="background:
rgb(100,116,255);">LED2 OFF</button>

<button type="button" onclick="sendData(30)" style="background:
rgb(100,116,255);">LED3 OFF</button>

<button type="button" onclick="sendData(40)" style="background:
rgb(100,116,255);">LED4 OFF</button><br><br>

State of [LED1, LED2, LED3, LED4] is >> <span id="LEDState">NA</span><br>

</div>

<div>

<br>DHT-22 sensor : <span id="ADCValue">0</span><br>

</div>

<script>

function sendData(led) {

var xhttp = new XMLHttpRequest();

```

```

xhttp.onreadystatechange = function() {

if (this.readyState == 4 && this.status == 200) {

document.getElementById("LEDState").innerHTML =

this.responseText;

}

};

xhttp.open("GET", "setLED?LEDstate="+led, true);

xhttp.send();

}

setInterval(function() {

// Call a function repetatively with 2 Second interval

getData();

}, 2000); //2000mSeconds update rate

function getData() {

var xhttp = new XMLHttpRequest();

xhttp.onreadystatechange = function() {

if (this.readyState == 4 && this.status == 200) {

document.getElementById("ADCValue").innerHTML =

this.responseText;

}

};

xhttp.open("GET", "readADC", true);

xhttp.send();

}

```

```
</script>
```

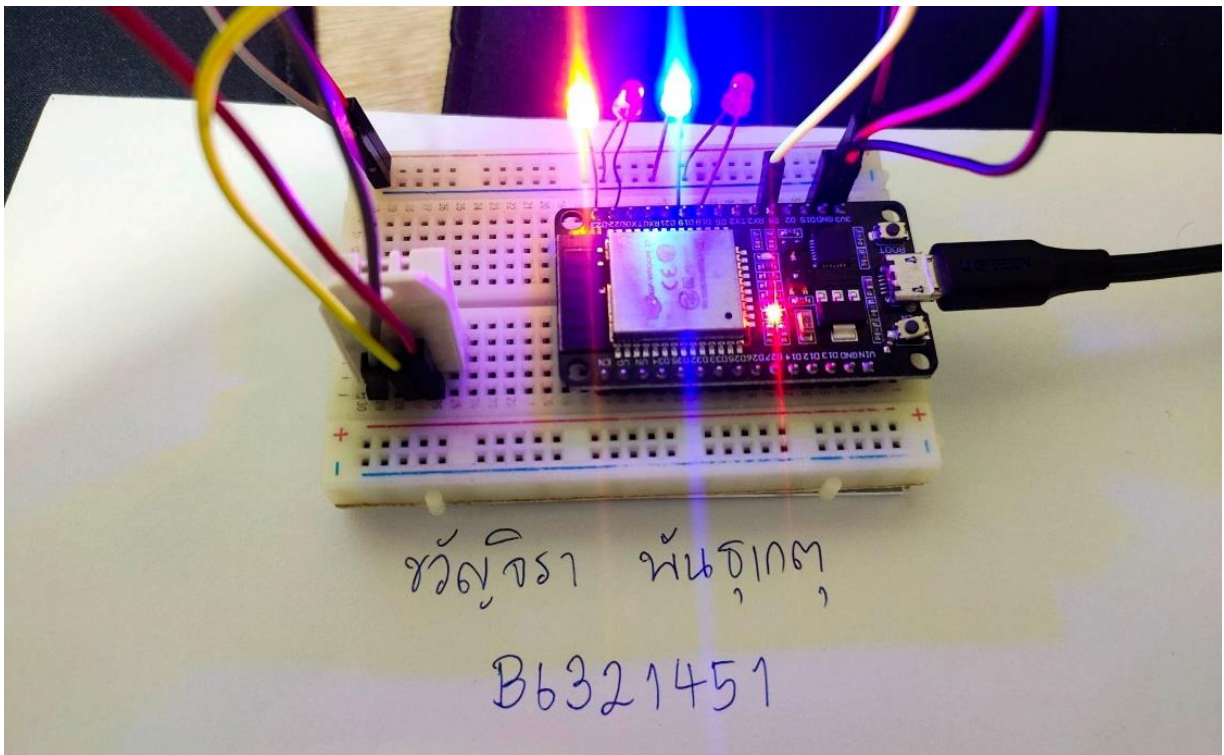
```
<br><a href="https://www.facebook.com/profile.php?id=100007842571414">By Khunjira  
Pantuket</a>
```

```
</body>
```

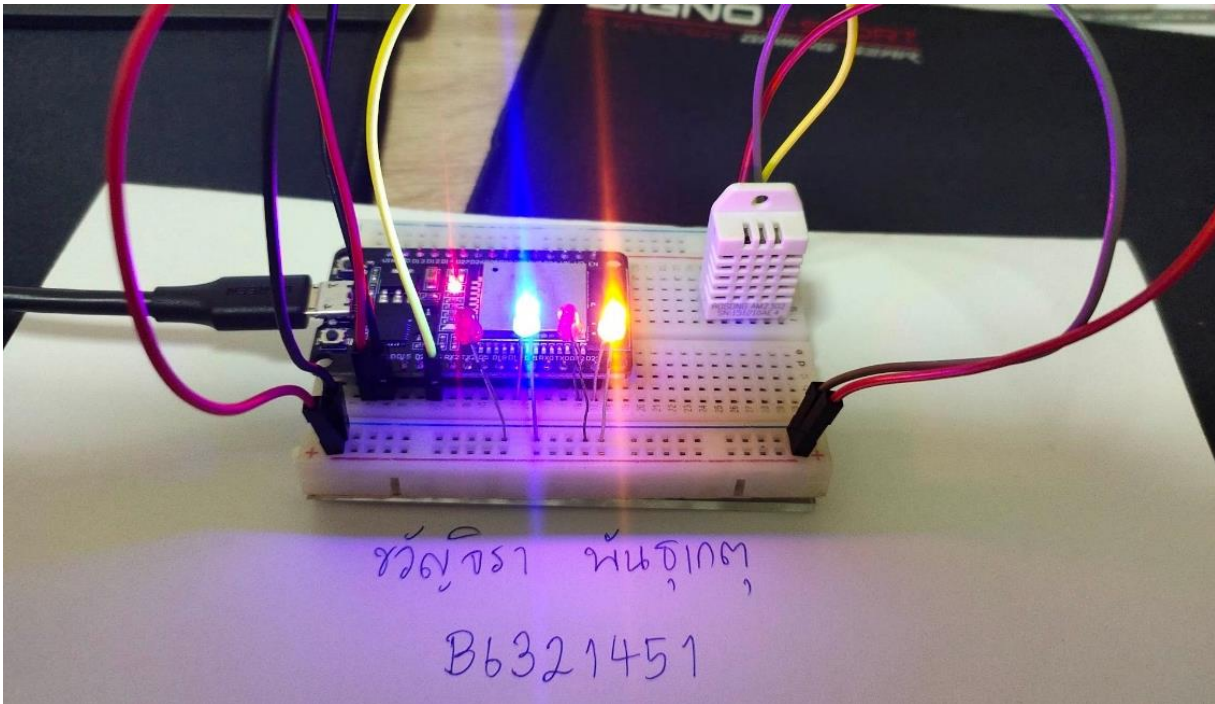
```
</html>
```

```
)=====";
```

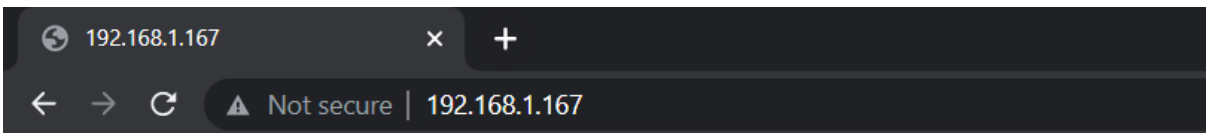
รูปการต่อวงจร - 1



รูปการต่อวงจร – 2



หน้าจอ Web Control



The ESP-32 Update web page without refresh

LED1 ON_ LED2 ON_ LED3 ON_ LED4 ON_

LED1 OFF LED2 OFF LED3 OFF LED4 OFF

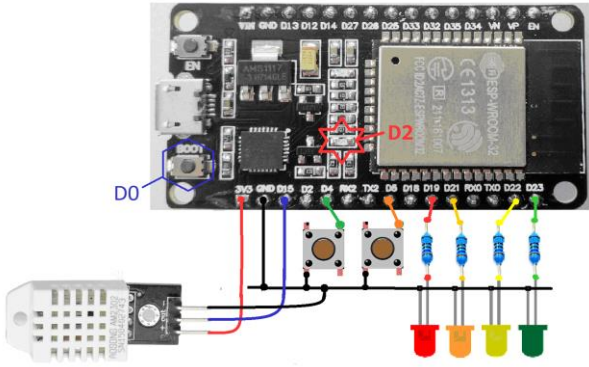

State of [LED1, LED2, LED3, LED4] is >> OFF, ON, OFF, ON

DHT-22 sensor : Temp = 33.80 C, Humidity = 51.40 %

By [Khunjira Pantuket](#)

Quiz_103 – Pub/Sub Data from (DHT22 + 4 LED + 2 Switch)

- อ่านค่า DHT-22 แล้วส่งไปยัง MQTT Broker ทุกๆ 5 วินาที
- กำหนดให้ใช้ mqtt.eclipse.org เป็น Broker
- ควบคุมการปิดเปิด 4 LED
- รับค่าสวิตช์กำหนด SW1 แจ้ง Overheat Alarm, SW2 แจ้ง Intruders Alarm

	
<pre> #include <WiFi.h> #include <Wire.h> #include <PubSubClient.h> #include "DHTesp.h" DHTesp dht; #define LED1 2 #define LED2 4 #define LED3 18 #define LED4 19 #define DHT22_Pin 15 int pushButton1 = 22; int pushButton2 = 23; const char* ssid = "105/766-2.4G"; const char* password = "0999128910"; </pre>	

```
const char* mqtt_server = "test.mosquitto.org";
```

```
const char* topic1 = "QUIZ204";
```

```
String ledState1 = "NA";
```

```
WiFiClient espClient;
```

```
PubSubClient client(espClient);
```

```
long lastMsg = 0;
```

```
char msg[50];
```

```
int value = 0;
```

```
void setup_wifi() {
```

```
    delay(10);
```

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

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

```
    Serial.println(ssid);
```

```
    WiFi.begin(ssid, password);
```

```
    while (WiFi.status() != WL_CONNECTED) {
```

```
        delay(500); Serial.print(".");
```

```
    }
```

```
    randomSeed(micros());
```

```
    Serial.println("");
```

```
    Serial.println("WiFi connected");
```

```
    Serial.println("IP address: ");
```

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

```
    pinMode(LED1, OUTPUT);
```

```
    pinMode(LED2, OUTPUT);
```

```

pinMode(LED3, OUTPUT);

pinMode(LED4, OUTPUT);
}

void callback(char* topic, byte* payload, unsigned int length)
{
  char myPayload[50];

  Serial.print("Message arrived [");

  Serial.print(topic);

  Serial.print("] ");

  for (int i = 0; i < length; i++)
  {
    Serial.print((char)payload[i]);

    myPayload[i] = payload[i];

    myPayload[i + 1] = '\0'; // End of String
  }

  Serial.print("\n"); Serial.println(myPayload);

  myPayload[4] = '\0'; // String less than 4 characters

  if ((String)myPayload == "ON1") digitalWrite(LED1, HIGH);
  if ((String)myPayload == "OFF1") digitalWrite(LED1, LOW);
  if ((String)myPayload == "ON2") digitalWrite(LED2, HIGH);
  if ((String)myPayload == "OFF2") digitalWrite(LED2, LOW);
  if ((String)myPayload == "ON3") digitalWrite(LED3, HIGH);
  if ((String)myPayload == "OFF3") digitalWrite(LED3, LOW);
  if ((String)myPayload == "ON4") digitalWrite(LED4, HIGH);
  if ((String)myPayload == "OFF4") digitalWrite(LED4, LOW);
}

```



```
void reconnect()

{ while (!client.connected()) // Loop until we're reconnected

  { Serial.print("Attempting MQTT connection...");

    String clientId = "ESP32Client-";

    clientId += String(random(0xffff), HEX); // Create a random client ID

    if (client.connect(clientId.c_str())) // Attempt to connect

    { Serial.println("connected"); // Once connected, publish an announcement...

      client.publish(topic1, "Hello World "); // ... and resubscribe

      client.subscribe(topic1);

    } else

    { Serial.print("failed, rc=");

      Serial.print(client.state());

      Serial.println(" try again in 5 seconds");

      delay(5000);

    }

  }

}

void setup()

{ Serial.begin(115200);

  setup_wifi();

  dht.setup(DHT22_Pin, DHTesp::DHT22);

  pinMode(pushButton1, INPUT_PULLUP);

  pinMode(pushButton2, INPUT_PULLUP);

  client.setServer(mqtt_server, 1883);
```

```
client.setCallback(callback);

pinMode(LED1, OUTPUT);

pinMode(LED2, OUTPUT);

pinMode(LED3, OUTPUT);

pinMode(LED4, OUTPUT);

}

void loop()

{

    if (!client.connected()) reconnect();

    client.loop();

    long now = millis();

    if (now - lastMsg > 5000)

    { lastMsg = now;

        ++value;

        float h = dht.getHumidity();

        float t = dht.getTemperature();

        sprintf (msg, "TempC: %.2f C, Humidity: %.2f %%", t, h);

        Serial.print("Publish message: ");

        Serial.println(msg);

        client.publish(topic1, msg);

    }

    if (digitalRead(pushButton1) == 0) {

        sprintf (msg, "Overheat Alarm");

        Serial.println(msg);

    }
```

```

client.publish(topic1, msg);

delay(500);

}

if (digitalRead(pushButton2) == 0) {

    sprintf (msg, "Intruders Alarm");

    Serial.println(msg);

    client.publish(topic1, msg);

    delay(500);

}

}

```

หน้าจอ MQTT Lens

Connection: QUIZ204

Subscribe

0 - at most once ▾

SUBSCRIBE

Publish

0 - at most once ▾

☐ Retained

PUBLISH

Message

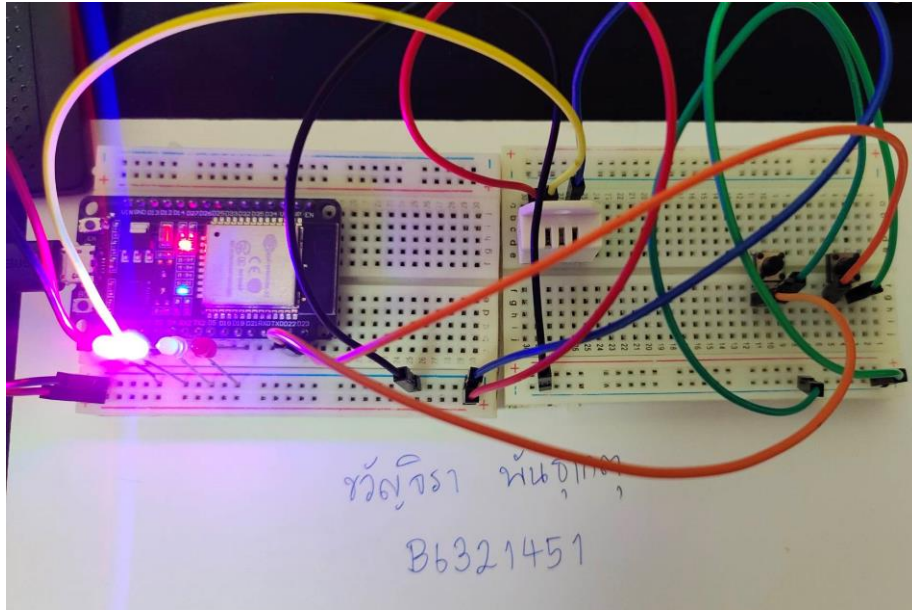
ON3

Subscriptions

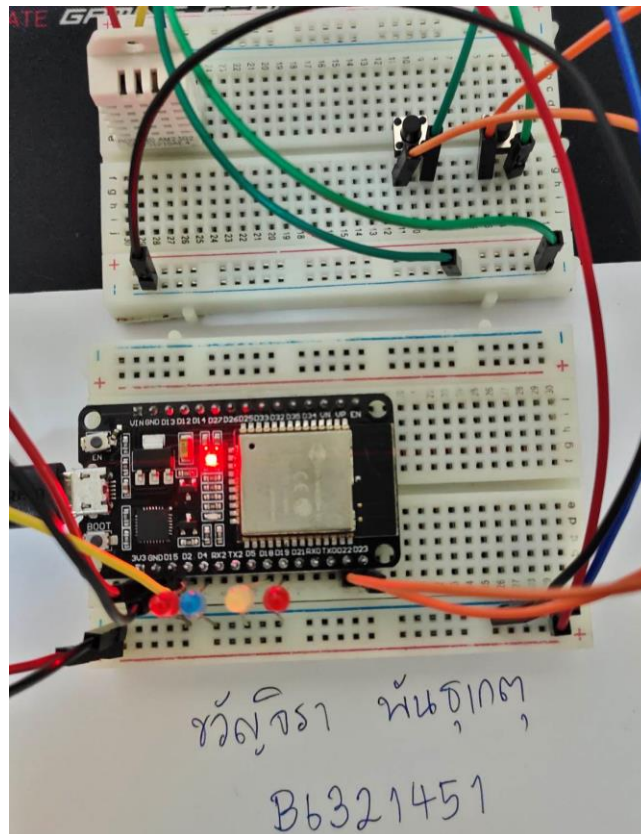
Topic: "QUIZ204" Showing the last 5 messages — + Messages: 0/233

#	Time	Topic	QoS	Message	Info	Copy
228	6:41:53	QUIZ204	0	Message: ON3		
229	6:41:55	QUIZ204	0	Message: Intruders Alarm		
230	6:41:56	QUIZ204	0	Message: Overheat Alarm		
231	6:41:57	QUIZ204	0	Message: TempC: 37.80 C, Humidity: 48.00 %		

รูปการต่อวงจร - 1

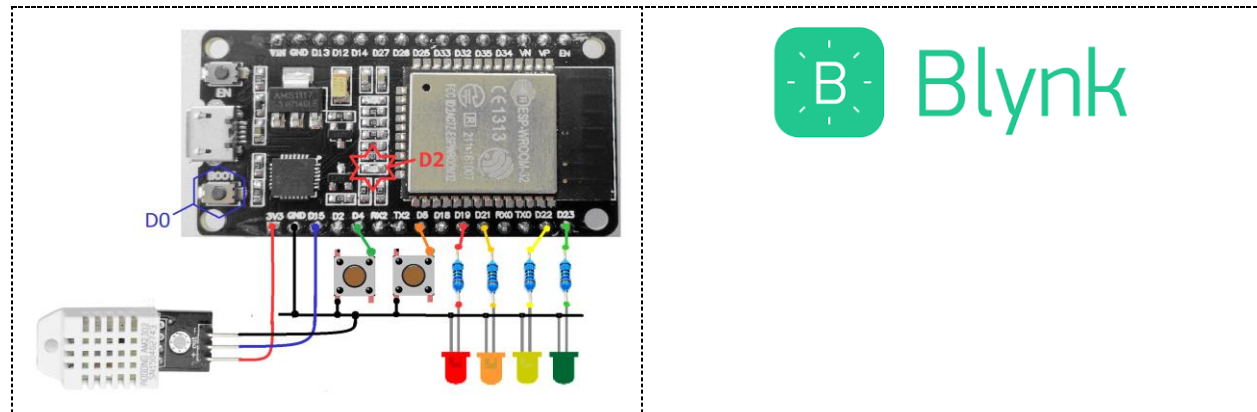


รูปการต่อวงจร - 2



Quiz_104 – Blynk and LINE from (DHT22 + 4 LED + 2 Switch)

- ควบคุมการปิดเปิด 4 LED
- อ่านค่า DHT-22 แล้วส่งไปยัง Blynk ทุกๆ 5 วินาที
- บันทึกค่าไปยัง Google Sheet
- หากอุณหภูมิเกิน 28°C ให้แจ้งไปยัง LINE (ขอแก้เป็น >35 °C)
- รับคำสั่งสวิตช์กำหนด SW1 แจ้ง Overheat Alarm, SW2 แจ้ง Intruders Alarm ไปยัง LINE



โปรแกรมที่ใช้ทดสอบ

```
//Blynk
```

```
#define BLYNK_PRINT Serial
```

```
#define BLYNK_TEMPLATE_ID "TMPL6ehgcTddD"
```

```
#define BLYNK_TEMPLATE_NAME "D3Q2"
```

```
#define BLYNK_AUTH_TOKEN "rKj2ZIYLE9012zLsu3rA2BuT7SWjbk46"
```

```
#include <WiFi.h>
```

```
#include <WiFiClient.h>
```

```
#include <BlynkSimpleEsp32.h>
```

```
#include "DHTesp.h"
```

```
#define DHT22_Pin 15
```

```
const int btnPin = 18; //
```

```
const int btnPin2 = 19; //
```

```
#include <HTTPClient.h>
```

```

#define WebHooksKey "dbrBCoc3b7tMyPoF__5yjk"

#define WebHooksEventNane "Test_Key"

#define WebHooksEventNane "gg"

#define WebHooksEventNane_LINE "Test_Key"

#define My_NAME "B6321451"

#define testSwitch0 22 //

#define testSwitch1 23 //

boolean btnState = false;

bool high_freq = true;

WidgetLED blynk_LED(V5);

BlynkTimer timer; // Announcing the timer

boolean btnState2 = false;

WidgetLED blynk_LED2(V6);

// Your WiFi credentials.

// Set password to "" for open networks.

char ssid[] = "105/766-2.4G";

char pass[] = "0999128910";

DHTesp dht;

//boolean btnState = false;

void setup()

{

  // Debug console

  Serial.begin(9600);

  dht.setup(DHT22_Pin, DHTesp::DHT22); // Connect DHT sensor to GPIO 15

  Blynk.begin(BLYNK_AUTH_TOKEN, ssid, pass);

  timer.setInterval(1000L, myTimerEvent);

```

```
pinMode(btnPin, INPUT_PULLDOWN);

pinMode(btnPin2, INPUT_PULLDOWN);

pinMode(testSwitch0, INPUT_PULLUP);

pinMode(testSwitch1, INPUT_PULLUP);

randomSeed(analogRead(33));

}

void myTimerEvent() {

    float humidity = dht.getHumidity();

    float temperature = dht.getTemperature();

    Blynk.virtualWrite(V0, temperature);

    Blynk.virtualWrite(V1, humidity);

    boolean isPressed = (digitalRead(btnPin) == LOW);

    if (isPressed != btnState)

    { if (isPressed)

        blynk_LED.on();

        else

        blynk_LED.off();

        btnState = isPressed;

        Serial.print(" LED Status = ");

        Serial.println(btnState);

        if (isPressed)

        blynk_LED2.on();

        else

        blynk_LED2.off();

        btnState2 = isPressed;

        Serial.print(" LED Status = ");
```

```

    Serial.println(btnState2);

}

Serial.print(" Temp('C) >> "); Serial.print(temperature, 1);

Serial.print(", Humidity(%) >> "); Serial.println(humidity, 1);

}

void loop() {

    Blynk.run();

    timer.run();

    float humidity = dht.getHumidity();

    float temperature = dht.getTemperature();

    Serial.println();

    Serial.print("\nTemperature('C) = ");

    Serial.print(temperature, 1);

    Serial.print("\tHumidity(%) = ");

    Serial.print(humidity, 1);

    String serverName = "http://maker.ifttt.com/trigger/" + String(WebHooksEventName) + "/with/key/" +

        String(WebHooksKey);

    String httpRequestData = "value1=" + String(My_NAME) + "&value2=" + String(temperature) +

        "&value3=" +

            String(humidity);

    Serial.println();

    if (WiFi.status() == WL_CONNECTED) {

        HTTPClient http;

        http.begin(serverName);

        http.addHeader("Content-Type", "application/x-www-form-urlencoded");

        int httpResponseCode = http.POST(httpRequestData);

```



```

Serial.print("HTTP Response code: ");

Serial.println(httpResponseCode);

http.end();

if (httpResponseCode == 1000)

    Serial.println(" --> Successfully sent");

else

    Serial.println(" --> Failed!");

}

else {

    Serial.println("WiFi Disconnected");

}

if (temperature > 35) {

    String serverName = "http://maker.ifttt.com/trigger/" + String(WebHooksEventName_LINE) +
"/with/key/" + String(WebHooksKey);

    String httpRequestData = "value1=" + String(temperature);

    Serial.println();

    Serial.println("Server Name >> " + serverName);

    Serial.println("json httpRequestData >> " + httpRequestData);

    if (WiFi.status() == WL_CONNECTED) {

        HTTPClient http;

        http.begin(serverName);

        http.addHeader("Content-Type", "application/x-www-form-urlencoded");

        int httpResponseCode = http.POST(httpRequestData);

        Serial.print("HTTP Response code: ");

        Serial.println(httpResponseCode);

```

```

    http.end();

    if (httpResponseCode == 1000)

        Serial.println("[Line] --> Successfully sent");

    else

        Serial.println("[Line] --> Failed!");

    }

    else {

        Serial.println("WiFi Disconnected");

    }

}

if (digitalRead(testSwitch0) == LOW) {

    String serverName = "http://maker.ifttt.com/trigger/" + String(WebHooksEventName_LINE) +
"/with/key/" + String(WebHooksKey);

    String httpRequestData = "value1=" + String("Door Open Alarm");

    Serial.println("Server Name : " + serverName);

    Serial.println("json httpRequestData : " + httpRequestData);

    if (WiFi.status() == WL_CONNECTED) {

        HTTPClient http;

        http.begin(serverName);

        http.addHeader("Content-Type", "application/x-www-form-urlencoded");

        int httpResponseCode = http.POST(httpRequestData);

        Serial.print("HTTP Response code: ");

        Serial.println(httpResponseCode);

        http.end();

        if (httpResponseCode == 200)

            Serial.println("Successfully sent");

```

```

else

    Serial.println("Failed!");

}

else {

    Serial.println("WiFi Disconnected");

}

Serial.print(" >> Wait for 10 Sec --> ");

for (int i = 9; i >= 0; i--) {

    Serial.print(i);

    delay(1000);

}

Serial.println(" >> Ready");

}

if (digitalRead(testSwitch1) == LOW) {

    String serverName = "http://maker.ifttt.com/trigger/" + String(WebHooksEventName_LINE) +
"/with/key/" + String(WebHooksKey);

    String httpRequestData = "value1=" + String("Intruders Alarm");

    Serial.println("Server Name : " + serverName);

    Serial.println("json httpRequestData : " + httpRequestData);

    if (WiFi.status() == WL_CONNECTED) {

        HTTPClient http;

        http.begin(serverName);

        http.addHeader("Content-Type", "application/x-www-form-urlencoded");

        int httpResponseCode = http.POST(httpRequestData);

        Serial.print("HTTP Response code: ");

        Serial.println(httpResponseCode);

```

```
http.end();

if (httpResponseCode == 200)

    Serial.println("Successfully sent");

else

    Serial.println("Failed!");

}

else {

    Serial.println("WiFi Disconnected");

}

Serial.print(" >> Wait for 10 Sec --> ");

for (int i = 9; i >= 0; i--) {

    Serial.print(i);

    delay(1000);

}

Serial.println(" >> Ready");

}

delay(10000);

}
```

รูปหน้าจอ Blynk

The screenshot shows the Blynk Cloud console interface. The top navigation bar includes links for Home, Metadata, Datastreams (active), Events, Automations, Web Dashboard, and Mobile Dashboard. A search bar is present above a table of datastreams.

Id	Name	Alias	Color	Pin	Data Type	Units	Is Raw	Min	Max	Decimals	Default Value
1	LED2	LED2	Green	2	Integer		False	0	1	-	0
2	LED4	LED4	Red	4	Integer		False	0	1	-	0
3	LED5	LED5	Yellow	5	Integer		False	0	1	-	0
4	LED3	LED3	Blue	3	Integer		False	0	1	-	0
5	Integer V2	Integer V2	Purple	V5	Integer		False	0	1	-	0
6	Integer V3	Integer V3	Grey	V6	Integer		False	0	1	-	0
7	Integer V0	Integer V0	Light Green	V0	Integer		False	0	100	-	0
8	Integer V1	Integer V1	Brown	V1	Integer		False	0	100	-	0

Region: sg1 Privacy Policy

The screenshot shows the Blynk mobile app interface for device D3Q2. The top status bar displays the time as 23:57, battery level at 73%, and signal strength. The app title is D3Q2.

Controls for four LEDs are shown:

- LED1: ON (Blue circle)
- LED2: OFF (White circle)
- LED3: ON (Blue circle)
- LED4: OFF (White circle)

Two switches are also visible:

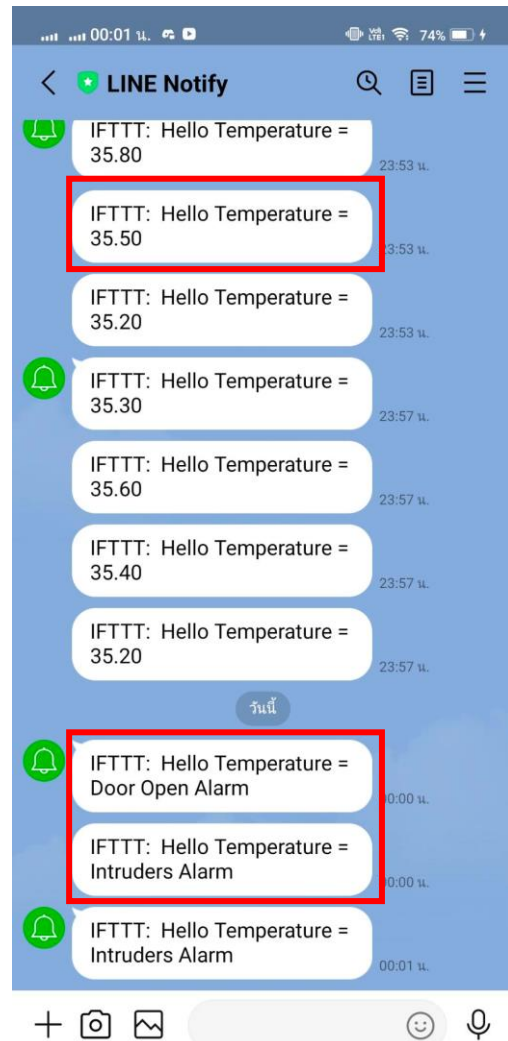
- sw1: Orange circle (ON)
- sw2: Red circle (ON)

Two gauges are displayed:

- Temperature: A semi-circular gauge showing a value of 35, with a scale from 0 to 100.
- Humidity: A semi-circular gauge showing a value of 46, with a scale from 0 to 100.

รูปหน้าจอ LINE --- อุณหภูมิเกิน 35°C แจ้งไปยัง LINE

--- กด SW แจ้ง Alarm ไปยัง LINE



บันทึกค่าไปยัง Google Sheet

IFTTT_Maker_Webhooks_Events

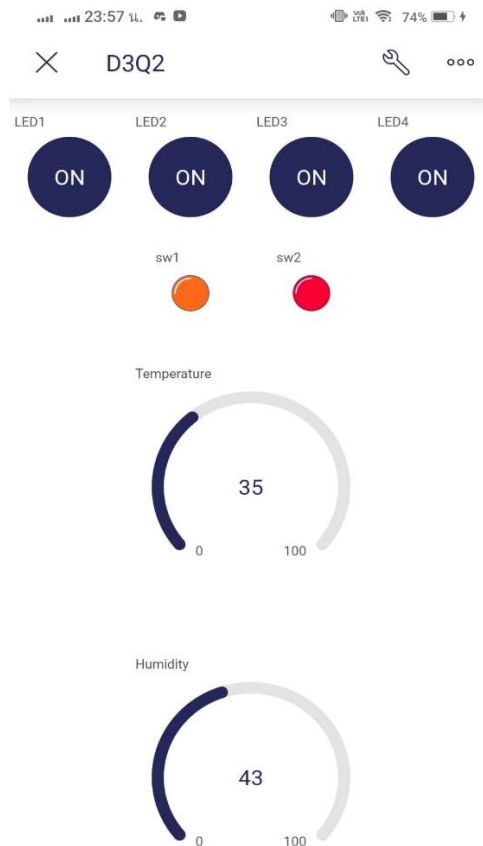
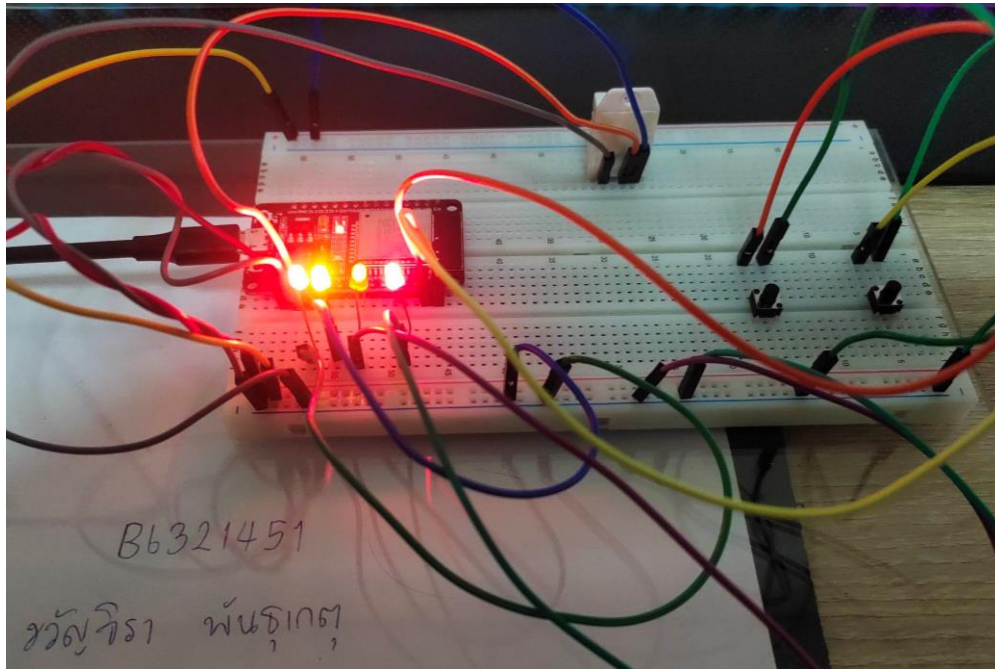
ไฟล์ แก้ไข ดู แทรก รูปแบบ ข้อมูล เครื่องมือ ส่วนขยาย ความช่วยเหลือ

100% 123 คำเริ่มต้น... 10 B I A

A1 | April 8, 2023 at 01:44PM

	A	B	C	D	E	F	G	H
1295	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.7			
1296	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.6			
1297	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.6			
1298	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.6			
1299	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.7			
1300	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.7			
1301	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.7			
1302	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.8			
1303	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.8			
1304	June 13, 2023 at 11:44PM	gg	B6321451	32.4	50.5			
1305	June 13, 2023 at 11:46PM	gg	B6321451	32.1	49.6			
1306	June 13, 2023 at 11:46PM	gg	B6321451	32.1	51.2			
1307	June 13, 2023 at 11:47PM	gg	B6321451	32	50.5			
1308	June 13, 2023 at 11:47PM	gg	B6321451	32	50.8			
1309	June 13, 2023 at 11:48PM	gg	B6321451	32	52.6			
1310	June 13, 2023 at 11:48PM	gg	B6321451	32	52.7			
1311	June 13, 2023 at 11:48PM	gg	B6321451	32	52.6			
1312	June 13, 2023 at 11:48PM	gg	B6321451	31.9	52.2			
1313	June 13, 2023 at 11:49PM	gg	B6321451	31.9	51.4			
1314	June 13, 2023 at 11:49PM	gg	B6321451	32	51			
1315	June 13, 2023 at 11:49PM	gg	B6321451	32	51.7			
1316	June 13, 2023 at 11:49PM	gg	B6321451	32.6	51.6			
1317	June 13, 2023 at 11:50PM	gg	B6321451	33.5	52.3			
1318	June 13, 2023 at 11:50PM	gg	B6321451	34.7	50.3			
1319	June 13, 2023 at 11:50PM	gg	B6321451	36.1	49.1			
1320	June 13, 2023 at 11:50PM	gg	B6321451	37.3	45			
1321	June 13, 2023 at 11:50PM	gg	B6321451	38.2	43.6			
1322	June 13, 2023 at 11:51PM	gg	B6321451	38.1	42.3			
1323	June 13, 2023 at 11:51PM	gg	B6321451	38	42.1			
1324	June 13, 2023 at 11:51PM	gg	B6321451	38.8	41			
1325	June 13, 2023 at 11:52PM	gg	B6321451	38.5	40.6			
1326	June 13, 2023 at 11:52PM	gg	B6321451	37.6	40.7			
1327	June 13, 2023 at 11:52PM	gg	B6321451	37.2	41.6			
1328								
1329								
1330								

รูปการต่อวงจร - 1



รูปการต่อวงจร - 2

