

LAPORAN

Praaktek system IOT (Jumat 4 Oktober)

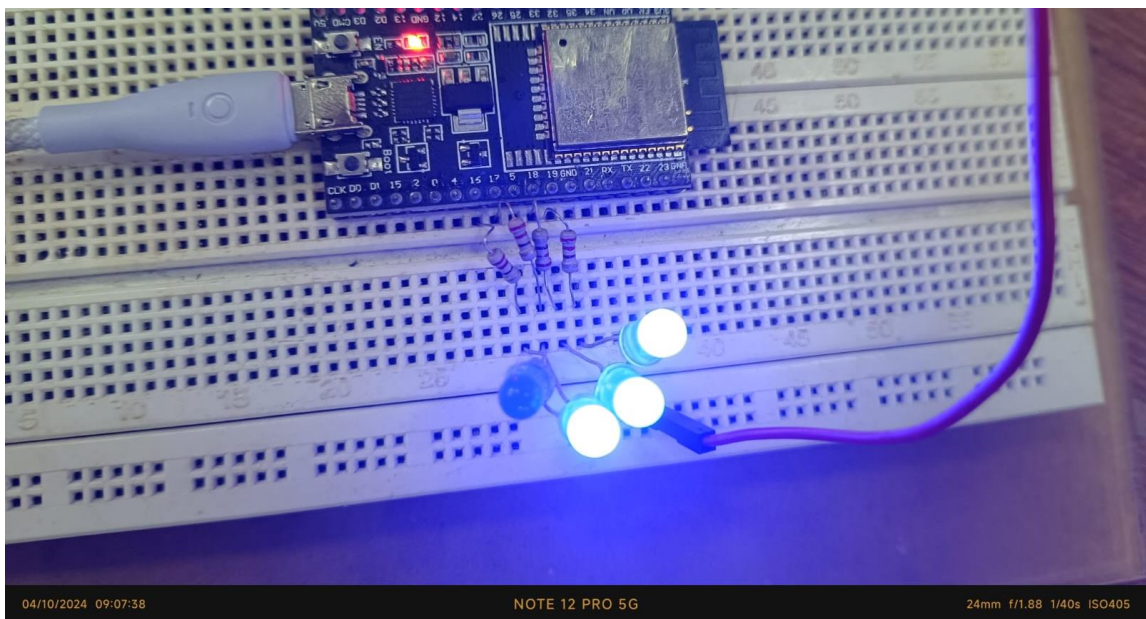
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Nim : 225510017
Matkul : Prak system IOT

[Teknik Komputer \(S1\)](#)

PRAKTEK

Praktek 1

- Bentuk rangkaia



Lampu yang paling timur matisoalnya di dalam code lampunya tidak di nyalakan

- Tulis program berikut ini dan upload terus dievaluasi. Coba dari Mqtt.Fix untuk publish sesuai Subscribe pada method reconnect();

```
#include <WiFi.h>
#include <PubSubClient.h>
#define LED1 19
#define LED2 18
#define LED3 5
#define LED4 17
const char* ssid = "RPLA_5";
const char* password = "utdijogja";
const char* mqtt_server = "broker.mqtt-dashboard.com";
WiFiClient espClient;
PubSubClient client(espClient);
```

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```
char msg[50];
String tpk = String(50);

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());
}

void callback(char* topic, byte* payload, unsigned int length) {
  String action;
  tpk = topic;

  if (tpk == "yogya/utara/lampu") {
    switch (char(payload[0])) {
      case '1':
        action = (char(payload[1]) == '1') ? "LED1 ON" : "LED1 OFF";
        digitalWrite(LED1, (char(payload[1]) == '1') ? HIGH : LOW);
        break;
      case '2':
        action = (char(payload[1]) == '1') ? "LED2 ON" : "LED2 OFF";
        digitalWrite(LED2, (char(payload[1]) == '1') ? HIGH : LOW);
        break;
    }
  }

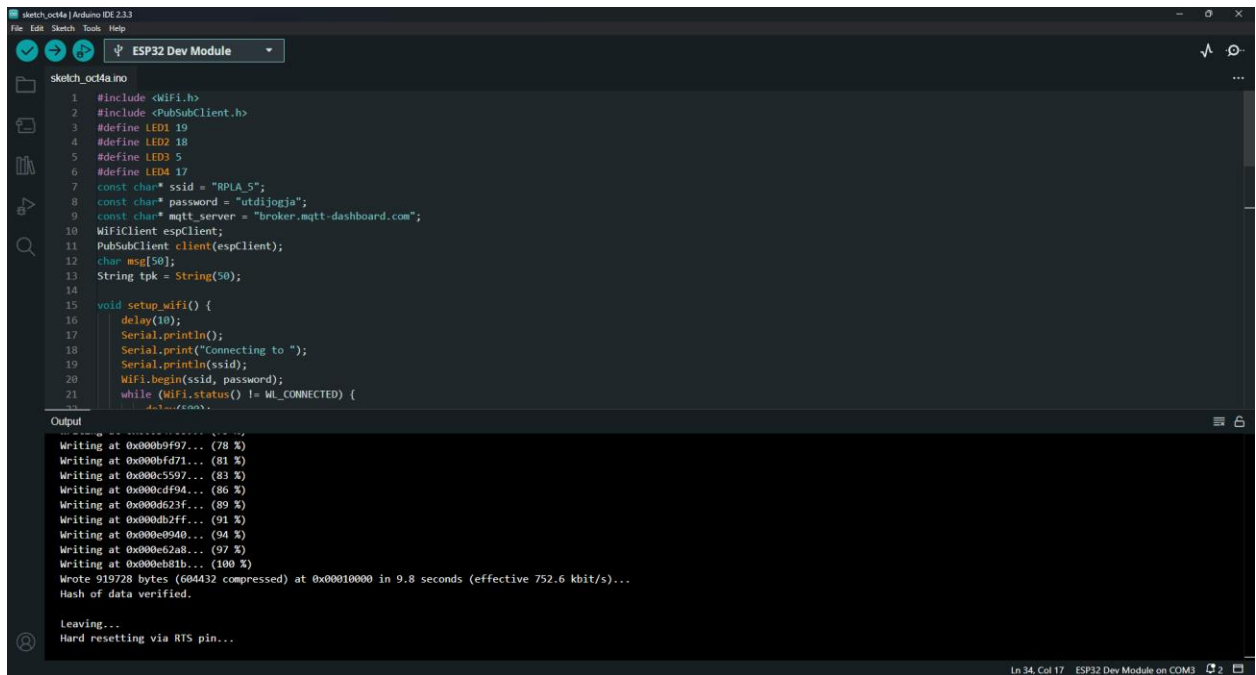
  if (tpk == "225510017/timur/lampu") {
    switch (char(payload[0])) {
      case '1':
        action = (char(payload[1]) == '1') ? "LED3 ON" : "LED3 OFF";
        digitalWrite(LED3, (char(payload[1]) == '1') ? HIGH : LOW);
        break;
      case '2':
        action = (char(payload[1]) == '1') ? "LED4 ON" : "LED4 OFF";
        digitalWrite(LED4, (char(payload[1]) == '1') ? HIGH : LOW);
        break;
    }
  }

  Serial.print("Message arrived [");
  Serial.print(topic);
  Serial.print("] Payload: ");
  for (int i = 0; i < length; i++) {
    Serial.print((char)payload[i]);
  }
}
```

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```
}  
Serial.print(" Action: ");  
Serial.println(action);  
}  
  
void setup() {  
  Serial.begin(115200);  
  pinMode(LED1, OUTPUT);  
  pinMode(LED2, OUTPUT);  
  pinMode(LED3, OUTPUT);  
  pinMode(LED4, OUTPUT);  
  setup_wifi();  
  client.setServer(mqtt_server, 1883);  
  client.setCallback(callback);  
}  
  
void loop() {  
  if (!client.connected()) {  
    // Reconnect logic  
  }  
  client.loop();  
}
```



```
sketch_oct4a.ino  
1 #include <WiFi.h>  
2 #include <PubSubClient.h>  
3 #define LED1 19  
4 #define LED2 18  
5 #define LED3 5  
6 #define LED4 17  
7 const char* ssid = "RPLA_5";  
8 const char* password = "utdijogja";  
9 const char* mqtt_server = "broker.mqtt-dashboard.com";  
10 WiFiClient espClient;  
11 PubSubClient client(espClient);  
12 char msg[50];  
13 String tpk = String(50);  
14  
15 void setup_wifi() {  
16   delay(10);  
17   Serial.println();  
18   Serial.print("Connecting to ");  
19   Serial.println(ssid);  
20   WiFi.begin(ssid, password);  
21   while (WiFi.status() != WL_CONNECTED) {  
22     delay(1000);  
23     continue;  
24   }  
25 }  
26  
27 void loop() {  
28   digitalWrite(LED1, HIGH);  
29   digitalWrite(LED2, HIGH);  
30   digitalWrite(LED3, HIGH);  
31   digitalWrite(LED4, HIGH);  
32   delay(1000);  
33   digitalWrite(LED1, LOW);  
34   digitalWrite(LED2, LOW);  
35   digitalWrite(LED3, LOW);  
36   digitalWrite(LED4, LOW);  
37   delay(1000);  
38 }  
39  
40 void callback(char* topic, byte* payload, unsigned int length) {  
41   Serial.print("Message arrived on topic: ");  
42   Serial.print(topic);  
43   Serial.print(" Payload: ");  
44   while (length--) {  
45     Serial.print((char) *payload++);  
46   }  
47   Serial.println();  
48 }  
49  
50 void reconnect() {  
51   if (!client.connected()) {  
52     Serial.print("Attempting non-persistent reconnect...");  
53     delay(5000);  
54     setup_wifi();  
55     client.setServer(mqtt_server, 1883);  
56     client.setCallback(callback);  
57     if (client.connect()) {  
58       Serial.println("reconnected.");  
59     } else {  
60       Serial.println("failed to connect. (retrying)");  
61     }  
62   }  
63 }  
64  
65 void loop() {  
66   reconnect();  
67   if (client.connected()) {  
68     client.publish(topic, msg, tpk.c_str(), true);  
69     Serial.println("Published");  
70     delay(1000);  
71   }  
72 }
```

Output

```
Writing at 0x000b0f97... (78 %)
Writing at 0x000b0fd1... (81 %)
Writing at 0x000c5597... (83 %)
Writing at 0x000c0f94... (86 %)
Writing at 0x000d623f... (89 %)
Writing at 0x000db2ff... (91 %)
Writing at 0x000e0940... (94 %)
Writing at 0x000e62a8... (97 %)
Writing at 0x000eb81b... (100 %)
Wrote 919728 bytes (604432 compressed) at 0x00010000 in 9.8 seconds (effective 752.6 kbit/s)...
Hash of data verified.

Leaving...
Hard resetting via RTS pin...
```

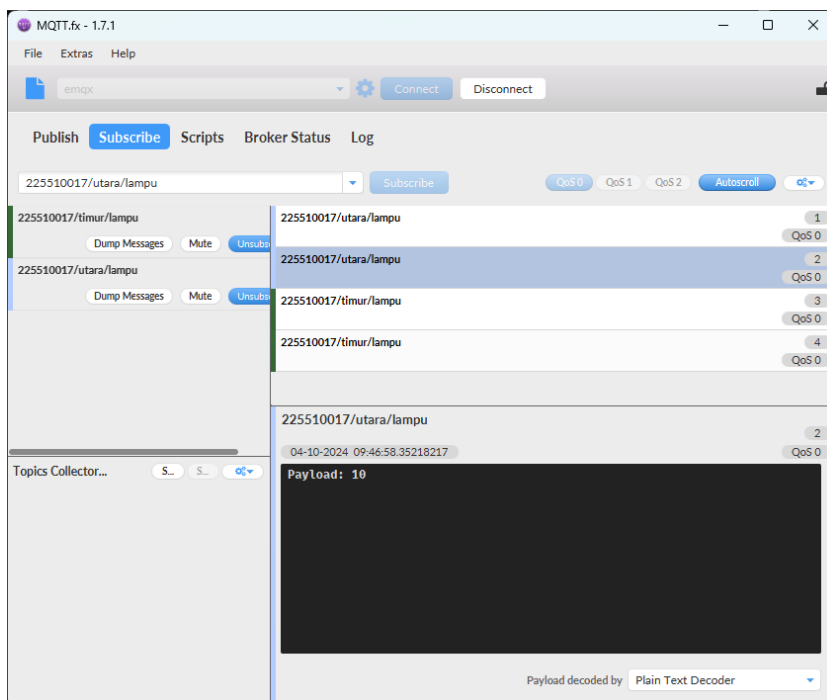
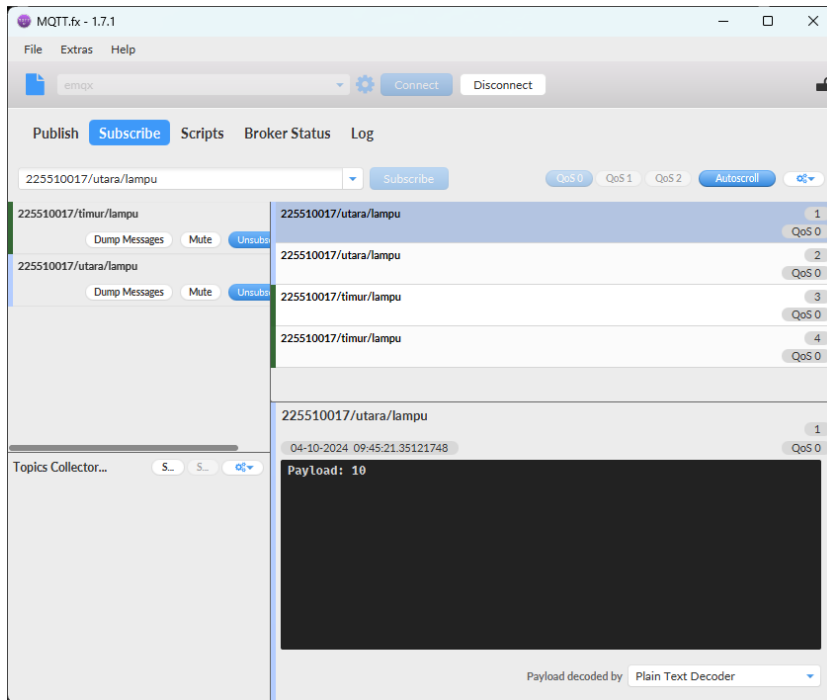
Ln 34, Col 17 ESP32 Dev Module on COM3 2

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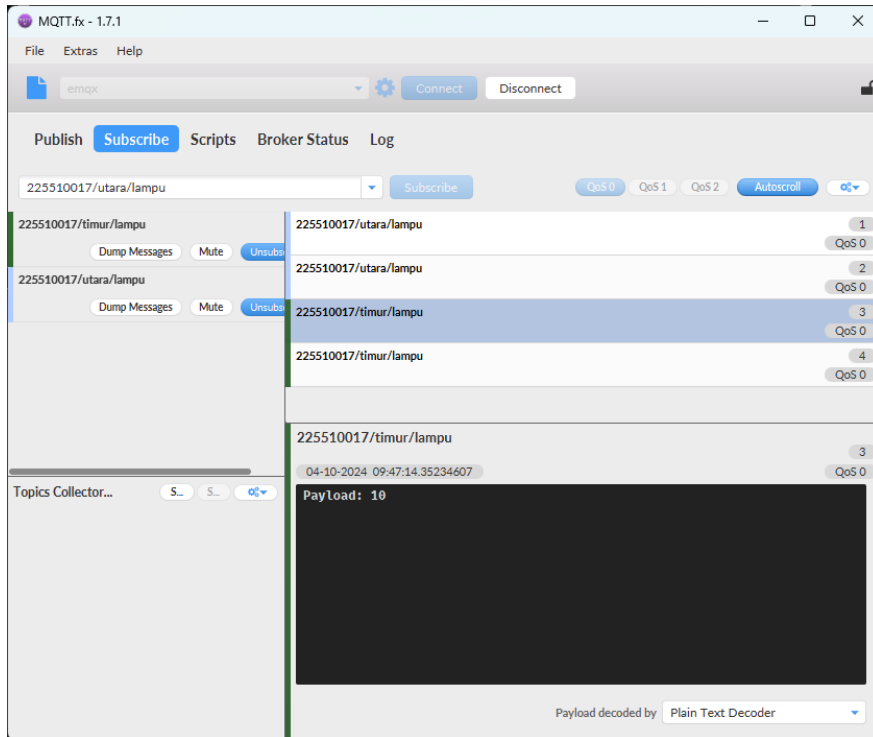
- Keluaran di MQTT

Saat lampu menyala

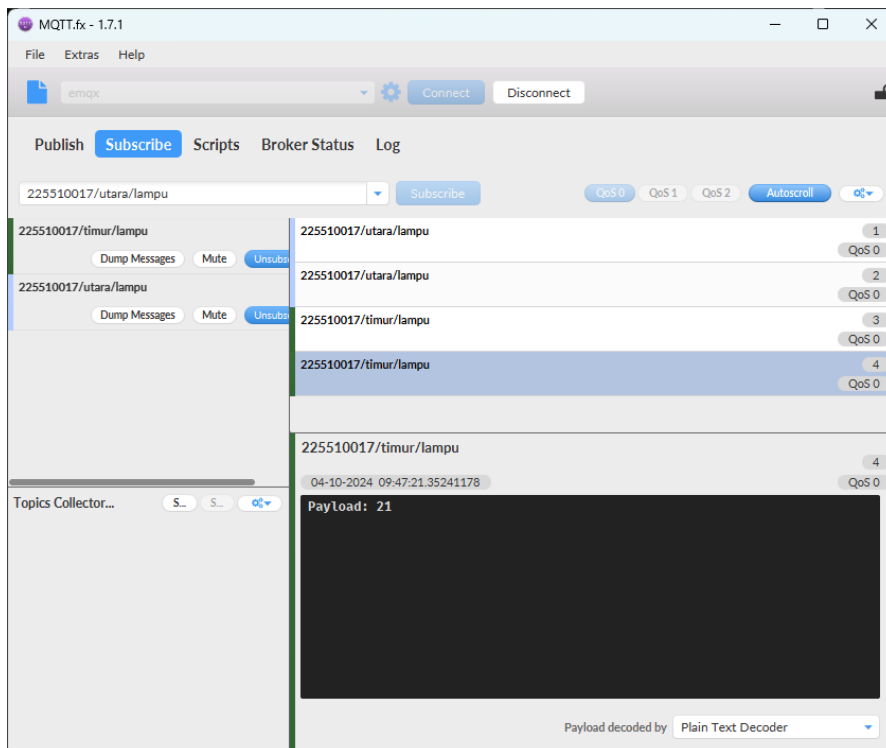


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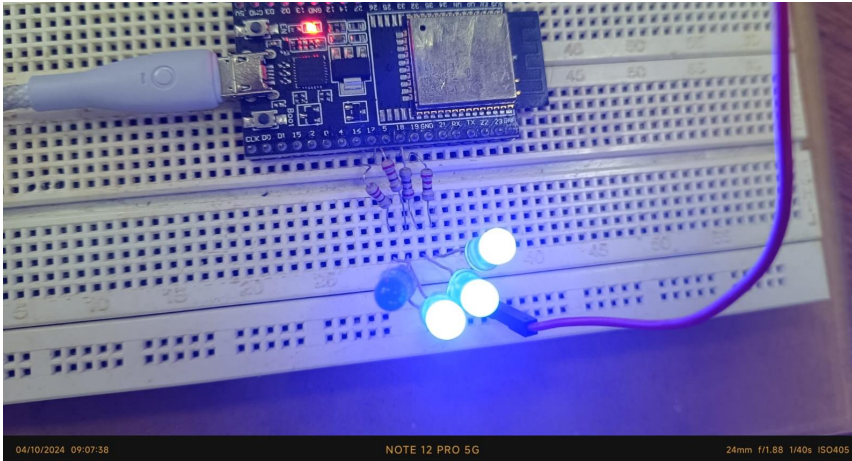


Saat memasukan Perintah untuk mematikan Lampu



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Lampu bagian kiri mati

LATIHAN

Latihan 1

TUGAS

Tugas