

## **LAMPIRAN**

## Lampiran 1. Coding

```

#include <Wire.h>
#include <SPI.h>
#include <Adafruit_BMP280.h>
#include "DHT.h"
#include <MD_Parola.h>
#include <MD_MAX72xx.h>
#include <ESP8266WiFi.h> //ESP8266 WiFi connection library
#include <ThingyESP8266.h> //THINGER.IO library

#define HARDWARE_TYPE MD_MAX72XX::FC16_HW

#define pinMerah D0
#define pinKuning D3
#define pinHijau D6
#define DHTPIN D4
#define CS_PIN 15
#define MAX_DEVICES 4
#define DHTTYPE DHT22

MD_Parola Display = MD_Parola(HARDWARE_TYPE, CS_PIN,
MAX_DEVICES);
DHT dht(DHTPIN, DHTTYPE);
Adafruit_BMP280 bmp; // I2C

// Thingy.io connection parameters
#define user "robotgagah"
#define device_Id "nodemcu_dht11"
#define device_credentials "zaSMf6s1!X0I1LOm"
ThingyESP8266 thing(user, device_Id, device_credentials);

const char* ssid = "Samsung Galaxy A80";
const char* password = "erika2208";

String kondisi = "";
String kondisiLED = "";

void setup() {
  Serial.begin(9600);
  delay(500);
  // Setup WiFi
  WiFi.begin (ssid, password);
  Serial.println("Connecting");
  Display.begin();
  Display.setIntensity(0);

```

```

Display.displayClear();
Display.setTextAlignment(PA_CENTER);
Display.print("Init");
while (WiFi.status() != WL_CONNECTED) {
  Serial.print(".");
  delay(1000);
}
thing.add_wifi(ssid, password);

dht.begin();
pinMode(pinMerah, OUTPUT);
pinMode(pinKuning, OUTPUT);
pinMode(pinHijau, OUTPUT);

Serial.println(F("BMP280 test"));
if (!bmp.begin(0x76))
{
  Serial.println(F("Could not find a valid BMP280 sensor, check wiring!"));
  while (1);
}

bmp.setSampling(Adafruit_BMP280::MODE_NORMAL, /* Operating Mode.
*/
  Adafruit_BMP280::SAMPLING_X2, /* Temp. oversampling */
  Adafruit_BMP280::SAMPLING_X16, /* Pressure oversampling */
  Adafruit_BMP280::FILTER_X16, /* Filtering. */
  Adafruit_BMP280::STANDBY_MS_500); /* Standby time. */

thing["dht11"] >> [(pson & out) {
  // Add the values and the corresponding code
  out["humidity"] = dht.readHumidity();
  out["celsius"] = dht.readTemperature();
  out["cuaca"] = bmp.readPressure(), 0;
  out["kondisi"] = kondisi;
  out["kondisiLED"] = kondisiLED;
};
delay(500);
}

void loop() {
  thing.handle();
  float humidity = dht.readHumidity();
  // float humidity = 80;

  float temperature = dht.readTemperature();
  // float temperature = 21.0;

  float tekanan = bmp.readPressure();
  // float tekanan = 10000;

```

```

//-----
Display.setTextAlignment(PA_CENTER);
Display.print("Suhu :");
Serial.println("Suhu");
delay(2000);

Display.setTextAlignment(PA_CENTER);
Display.print(temperature);
Serial.println(temperature);
delay(2000);

Display.setTextAlignment(PA_CENTER);
Display.print("Hum :");
Serial.println("Hum");
delay(2000);

Display.setTextAlignment(PA_CENTER);
Display.print(humidity);
Serial.println(humidity);
delay(2000);

Display.setTextAlignment(PA_CENTER);
Display.print("TKN :");
Serial.println("TKN");
delay(2000);

Display.setTextAlignment(PA_CENTER);
Display.print(tekanan);
Serial.println(tekanan);
delay(2000);

if (temperature >= 20.5 && temperature <= 25.8) {
  digitalWrite(pinHijau, HIGH); //nyala
  Serial.println("Lampu Hijau Hidup");
  kondisiLED = "Lampu Hijau Hidup";
  kondisi = "Oke";
  Display.setTextAlignment(PA_CENTER);
  Display.print("Oke");
} else if (temperature >= 25.8 && temperature <= 27.1) {
  digitalWrite(pinKuning, HIGH); //nyala
  Serial.println("Lampu Kuning Hidup");
  kondisiLED = "Lampu Kuning Hidup";
  kondisi = "Siaga";
  Display.setTextAlignment(PA_CENTER);
  Display.print("Siaga");
} else if (temperature >= 27.1 && temperature <= 35.0) {
  digitalWrite(pinMerah, HIGH); //nyala

```

```
Serial.println("Lampu Merah Hidup");  
kondisiLED = "Lampu Merah Hidup";  
kondisi = "Bahaya";  
Display.setTextAlignment(PA_CENTER);  
Display.print("Bahaya");  
}  
delay(3000);  
digitalWrite(pinMerah, LOW);  
delay(3000);  
}
```