

SOURCE CODE:

Lampiran 1 3 Lampiran Source Code

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#define BLYNK_TEMPLATE_ID "TMPL6BQzp94M9"
#define BLYNK_TEMPLATE_NAME "Monitoring Skripsi Teguh"
#define BLYNK_AUTH_TOKEN "SuCYfPK159K6qgZHBhcjSR-Q9fe98061"
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
#include <DHT.h>
#include <DHT_U.h>

// Pin Definitions
#define MQ6_PIN 33
#define FLAME_PIN 13
#define DHT_PIN 32
#define BUZZER_PIN 4
#define RELAY1_PIN 23
#define RELAY2_PIN 22
#define LED_PIN 5 // Pin untuk lampu LED

// Wi-Fi Configuration
const char* ssid = "AndroidAP_4501";
const char* pass = "1234567890";

// Blynk auth token from the Blynk app
char auth[] = BLYNK_AUTH_TOKEN;

// DHT Configuration
#define DHTTYPE DHT11
DHT dht(DHT_PIN, DHTTYPE);

// Thresholds
#define GAS_THRESHOLD 3000 // Threshold for MQ6 gas sensor
(example value)

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

  // Initialize DHT sensor
  dht.begin();

  // Initialize pins
  pinMode(MQ6_PIN, INPUT);
  pinMode(FLAME_PIN, INPUT);
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pinMode(BUZZER_PIN, OUTPUT);
pinMode(RELAY1_PIN, OUTPUT);
pinMode(RELAY2_PIN, OUTPUT);
pinMode(LED_PIN, OUTPUT); // Set LED pin as output

// Turn off buzzer, relays, and LED initially
digitalWrite(BUZZER_PIN, LOW);
digitalWrite(RELAY1_PIN, LOW);
digitalWrite(RELAY2_PIN, LOW);
digitalWrite(LED_PIN, LOW); // Turn off LED

// Connect to Wi-Fi
Serial.print("Connecting to WiFi");
WiFi.begin(ssid, pass);
while (WiFi.status() != WL_CONNECTED) {
  delay(500);
  Serial.print(".");
}
Serial.println();
Serial.println("WiFi connected");
Serial.print("IP address: ");
Serial.println(WiFi.localIP());

// Turn on LED when Wi-Fi is connected
digitalWrite(LED_PIN, HIGH);

// Connect to Blynk
Blynk.begin(auth, ssid, pass);
while (Blynk.connect() == false) {
  // Wait until connected to Blynk
}
Serial.println("Blynk connected");
}

void loop() {
  Blynk.run(); // Run Blynk in the loop

  // Read Sensors
  int mq6_value = analogRead(MQ6_PIN);
  int flame_value = digitalRead(FLAME_PIN);
  float temperature = dht.readTemperature();

  // Suhu
  if (temperature > 35) {
    digitalWrite(BUZZER_PIN, LOW);
    digitalWrite(RELAY1_PIN, LOW);
    Serial.print("Temperature: ");

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Serial.println(temperature);
Blynk.logEvent("notif_suhu", "Suhu tinggi! diatas 35°, mohon
di cek!");

delay(5000);
} else {
digitalWrite(BUZZER_PIN, LOW);
digitalWrite(RELAY1_PIN, HIGH);
Serial.print("Temperature: ");
Serial.println(temperature);
}

bool gasDetected = false;
bool flameDetected = false;

// Check MQ6 Gas Sensor
if (mq6_value > GAS_THRESHOLD) {
digitalWrite(BUZZER_PIN, LOW);
digitalWrite(RELAY1_PIN, LOW);
Serial.print("MQ6: ");
Serial.print(mq6_value);
Serial.println(" = Ada Gas");
Blynk.logEvent("notif_gas", "Gas terdeteksi diatas 3000, mohon
di cek!");

// LED berkedip *
gasDetected = true;

delay(5000);
} else {
digitalWrite(BUZZER_PIN, LOW);
digitalWrite(RELAY1_PIN, HIGH);
Serial.print("MQ6: ");
Serial.print(mq6_value);
Serial.println(" = Tidak Ada Gas");
}

// Check Flame Sensor
if (flame_value == LOW) { // Assuming LOW means flame detected
digitalWrite(BUZZER_PIN, HIGH);
digitalWrite(RELAY2_PIN, LOW);
Serial.print("Flame Sensor = ");
Serial.println("Ada Api");
Blynk.logEvent("notif_api", "Api terdeteksi, mohon di cek!");

// LED berkedip
flameDetected = true;

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    delay(5000);
} else {
    digitalWrite(BUZZER_PIN, LOW);
    digitalWrite(RELAY2_PIN, HIGH);
    Serial.print("Flame Sensor = ");
    Serial.println("Tidak Ada Api");
}

// LED berkedip jika gas atau api terdeteksi
if (gasDetected || flameDetected) {
    for (int i = 0; i < 10; i++) { // Berkedip selama beberapa
detik
        digitalWrite(LED_PIN, HIGH);
        delay(250);
        digitalWrite(LED_PIN, LOW);
        delay(250);
    }
} else {
    // LED menyala terus
    digitalWrite(LED_PIN, HIGH);
}

// Update Blynk virtual pins
Blynk.virtualWrite(V1, mq6_value);
Blynk.virtualWrite(V2, flame_value);
Blynk.virtualWrite(V3, temperature);
// Blynk.virtualWrite(V4, humidity);

delay(500); // Delay for stability and sensor reading intervals
}

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