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#include <WiFi.h>
#include <HTTPClient.h>

#include "DHT.h"

#define DHTTYPE DHT11 // type of the temperature sensor
const int DHTPin = 14; //--> The pin used for the DHT11 sensor is
Pin D1 = GPIO5
DHT dht(DHTPin, DHTTYPE); //--> Initialize DHT sensor, DHT
dht(Pin_used, Type_of_DHT_Sensor);

const int soilMoisturePin = 33;

const int airQualityPin = 35;
const char* sensorType = "MQ-135";
float Rclean = 10; // Rclean in Kilo Ohms (adjust based on your
sensor datasheet and setup)
float Vheat = 5; // Heating voltage (adjust based on your sensor
datasheet)

const char* ssid = "Galaxy M12 F160"; //--> Your wifi name or SSID.
const char* password = "sfkl8292"; //--> Your wifi password.

const char* host = "script.google.com";
const int httpsPort = 443;

String GAS_ID =
"AKfycbxiXWms2R8jJ0_COniT6llxUh9bKeLpN60auMmkV-Z8-_bJLhxx3lDQmWUbUHH
sXlHFeA"; //--> spreadsheet script ID

void setup() {
  // put your setup code here, to run once:
  Serial.begin(115200);
  Serial.println("Starting...");
  delay(500);

  dht.begin(); //--> Start reading DHT11 sensors

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delay(500);

WiFi.begin(ssid, password); //--> Connect to your WiFi router
Serial.println("");
//-----Wait for connection
Serial.print("Connecting");
while (WiFi.status() != WL_CONNECTED) {
    Serial.print(".");
}
Serial.print("Successfully connected to : ");
Serial.println(ssid);
Serial.print("IP address: ");
Serial.println(WiFi.localIP());
Serial.println();
}

void loop() {
    Serial.print("MQ-135");
    int airQuality = analogRead(airQualityPin);

    Serial.print("AIR Quality : ");
    Serial.println(airQuality);
    float Rs = (float)(Rclean * (1023.0 - airQuality) / airQuality);
    // Calculate sensor resistance

    // Equation for estimating VOC concentration (adjust based on
    sensor datasheet and calibration)
    float VOC = (Vheat / Rs - Vheat / Rclean) / Vheat * 1000; // VOC
    in ppm (assuming a linear relationship)
    Serial.print("Estimated VOC concentration: ");
    Serial.print(VOC);
    Serial.println(" ppm");

    Serial.print("DHT");
    float temp = dht.readTemperature();
    float hum = dht.readHumidity();
    if (isnan(temp) || isnan(hum)) {

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        Serial.println("Failed to read from DHT sensor!");
        return;
    }

    Serial.print("Temperature: ");
    Serial.println(temp);
    Serial.print("°C, Humidity: ");
    Serial.println(hum);
    Serial.println("%");

    Serial.print("Soil Moisture : ");
    int moistValue = analogRead(soilMoisturePin);
    float moisturePercentage = map(moistValue, 0, 4095, 100, 0);
    Serial.print("Moisture (%): ");
    Serial.println(moisturePercentage);

    sendData(temp, hum, moisturePercentage, airQuality, VOC);
}

// Subroutine for sending data to Google Sheets
void sendData(float temp, float hum, float moistPercent, int
airQuality, float voc) {
    String scriptUrl = "https://script.google.
com/macros/s/AKfycbyraPOk5wQ8zDMTv9JYYOWDd0Qp2kyXGRt4OjuJ-pSsZqe2eUg
fn6uJ-PNwmVqDT6p3Yw/exec?";
    scriptUrl += "?temperature=" + String(temp);
    scriptUrl += "&humidity=" + String(hum);
    scriptUrl += "&moisture=" + String(moistPercent);
    scriptUrl += "&airQuality=" + String(airQuality);
    scriptUrl += "&voc=" + String(voc);
    scriptUrl += "&temperature=" + String(temp);
    Serial.print(scriptUrl);
    HTTPClient https;
    https.begin(scriptUrl);

    int httpResponseCode = https.GET();

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if (httpResponseCode > 0) {  
    String payload = https.getString();  
} else {  
    Serial.print("Error code: ");  
}  
  
}
```