

```
#include <ESP8266WiFi.h>

#include <ThingSpeak.h>


// Replace with your WiFi credentials

const char* ssid = "Galaxy";

const char* password = "omsairam";


// ThingSpeak details

unsigned long channelID = 3088407;    // e.g. 123456

const char* writeAPIKey = "XC5V1GOMDRFW4DB9";


WiFiClient client;


const int soilMoisturePin = A0;


void setup() {

  Serial.begin(115200);

  delay(10);


  // Connect to WiFi

  WiFi.begin(ssid, password);

  Serial.print("Connecting to WiFi");

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

    delay(500);

    Serial.print(".");

  }

}
```

```
Serial.println("\nWiFi connected");

// Initialize ThingSpeak
ThingSpeak.begin(client);
}

void loop() {
    int sensorValue = analogRead(soilMoisturePin);

    // Map raw sensor value to moisture percentage (100% wet, 0% dry)
    int moisturePercent = map(sensorValue, 1024, 346, 0, 100);
    moisturePercent = constrain(moisturePercent, 0, 100);

    Serial.print("Raw Sensor Value: ");
    Serial.print(sensorValue);
    Serial.print(" | Soil Moisture: ");
    Serial.print(moisturePercent);
    Serial.println("%");

    // Send to ThingSpeak
    ThingSpeak.setField(1, moisturePercent);

    int response = ThingSpeak.writeFields(channelID, writeAPIKey);

    if(response == 200) {
        Serial.println("Data sent to ThingSpeak successfully.");
    }
}
```

```
} else {  
  Serial.print("Error sending data. HTTP response code: ");  
  Serial.println(response);  
}
```

```
delay(15000); // Send data every 15 seconds  
}
```