# **DHT 11 Code Source:** [**https://randomnerdtutorials.com/esp32-dht11-dht22-temperature-humidity-sensor-arduino-ide/**](https://randomnerdtutorials.com/esp32-dht11-dht22-temperature-humidity-sensor-arduino-ide/) **Code :**

#include "DHT.h"

#define DHTPIN 18

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

void setup() {

**Serial**.begin(9600);

**Serial**.println(F("DHTxx test!"));

  dht.begin();

}

void loop() {

  delay(2000);

  float h = dht.readHumidity();

  // Read temperature as Celsius (the default)

  float t = dht.readTemperature();

  // Read temperature as Fahrenheit (isFahrenheit = true)

  float f = dht.readTemperature(true);

  if (isnan(h) || isnan(t) || isnan(f)) {

**Serial**.println(F("Failed to read from DHT sensor!"));

    return;

  }

  float hif = dht.computeHeatIndex(f, h);

  float hic = dht.computeHeatIndex(t, h, false);

**Serial**.print(F("Humidity: "));

**Serial**.print(h);

**Serial**.print(F("%  Temperature: "));

**Serial**.print(t);

**Serial**.print(F("°C "));

**Serial**.print(f);

**Serial**.print(F("°F  Heat index: "));

**Serial**.print(hic);

**Serial**.print(F("°C "));

**Serial**.print(hif);

**Serial**.println(F("°F"));

}

# **Soil moisture sensor (YL-69) source code :**

## [**https://www.electronicwings.com/esp32/soil-moisture-sensor-interfacing-with-esp32**](https://www.electronicwings.com/esp32/soil-moisture-sensor-interfacing-with-esp32)

## **Code** :

int \_moisture,sensor\_analog;

const int sensor\_pin = A0;

void setup(void){

Serial.begin(115200);

}

void loop(void){

sensor\_analog = analogRead(sensor\_pin);

\_moisture = ( 100 - ( (sensor\_analog/4095.00) \* 100 ) );

Serial.print("Moisture = ");

Serial.print(\_moisture);

Serial.println("%");

delay(1000);

}

# **Gas Sensor MQ2 source**

[**https://diyi0t.com/mq2-gas-sensor-arduino-esp8266-esp32/**](https://diyi0t.com/mq2-gas-sensor-arduino-esp8266-esp32/)

**Code :**

**int Gas\_analog = 4; // used for ESP32**

**int Gas\_digital = 2; // used for ESP32**

**void setup() {**

**Serial.begin(115200);**

**pinMode(Gas\_digital, INPUT);**

**}**

**void loop() {**

**int gassensorAnalog = analogRead(Gas\_analog);**

**int gassensorDigital = digitalRead(Gas\_digital);**

**Serial.print("Gas Sensor: ");**

**Serial.print(gassensorAnalog);**

**Serial.print("\t");**

**Serial.print("Gas Class: ");**

**Serial.print(gassensorDigital);**

**Serial.print("\t");**

**Serial.print("\t");**

**if (gassensorAnalog > 1000) {**

**Serial.println("Gas");**

**delay(1000);**

**}**

**else {**

**Serial.println("No Gas");**

**}**

**delay(100);**

**}**

# **Servo Motor Code:**

**#include <ESP32Servo.h>**

**Servo myServo;  // إنشاء كائن لمحرك السيرفو**

**int servoPin = 17;  // تحديد دبوس الـ PWM الخاص بالسيرفو**

**void setup() {**

**Serial.begin(115200);  // تهيئة الاتصال التسلسلي**

**myServo.attach(servoPin);  // توصيل المحرك بالدبوس المحدد**

**}**

**void loop() {**

**myServo.write(0);  // تحريك السيرفو إلى 0 درجة**

**Serial.println("Servo at 0 degrees");**

**delay(2000);       // الانتظار لمدة ثانيتين**

**myServo.write(180); // تحريك السيرفو إلى 180 درجة**

**Serial.println("Servo at 180 degrees");**

**delay(2000);        // الانتظار لمدة ثانيتين**

**}**