#include <ArduinoJson.h>

#include <WiFi.h>

#include <PubSubClient.h>

#include "DHT.h"

#define DHTPIN 15

#define DHTTYPE DHT22

// WiFi credentials

const char\* ssid = "Wokwi-GUEST";

const char\* password = "";

// MQTT broker configuration

const char\* mqttServer = "broker.emqx.io";

const int mqttPort = 1883;

const char\* mqttUsername = "";

const char\* mqttPassword = "";

// MQTT topics

const char\* topic = "cibie/device/task01";

WiFiClient espClient;

PubSubClient client(espClient);

DHT dht (DHTPIN, DHTTYPE);

void setup() {

**Serial**.begin(115200);

  dht.begin();

  delay(10);

**Serial**.println();

  connectWiFi();

  client.setServer(mqttServer, mqttPort);

}

void loop() {

  float h, t;

  h = dht.readHumidity();

  t = dht.readTemperature();

**Serial**.print("temp:");

**Serial**.println(t);

**Serial**.print("Humid:");

**Serial**.println(h);

  if (!client.connected()) {

    reconnect();

  }

StaticJsonDocument<200> jsonDocument;

jsonDocument["deviceId"] = "cibie/device/task01";

 JsonObject data = jsonDocument.createNestedObject("data");

 data["temperature"] = t;

data["humidity"] = h;

JsonArray tags = jsonDocument.createNestedArray("tags");

tags.add("temperatureSensor");

String payload;

serializeJson(jsonDocument, payload);

  client.publish(topic, payload.c\_str());

  delay(5000);

}

void connectWiFi() {

**Serial**.println("Connecting to WiFi...");

  WiFi.begin(ssid, password);

  while (WiFi.status() != WL\_CONNECTED) {

    delay(1000);

**Serial**.println("Connecting to WiFi...");

  }

**Serial**.println("Connected to WiFi");

}

void reconnect() {

  while (!client.connected()) {

**Serial**.println("Connecting to MQTT...");

    if (client.connect("YourClientID", mqttUsername, mqttPassword)) {

**Serial**.println("Connected to MQTT broker");

    } else {

**Serial**.print("Failed to connect to MQTT broker, retrying in 5 seconds...");

      delay(5000);

    }

  }

}

Wowki simulation link : <https://wokwi.com/projects/380399100802342913>



