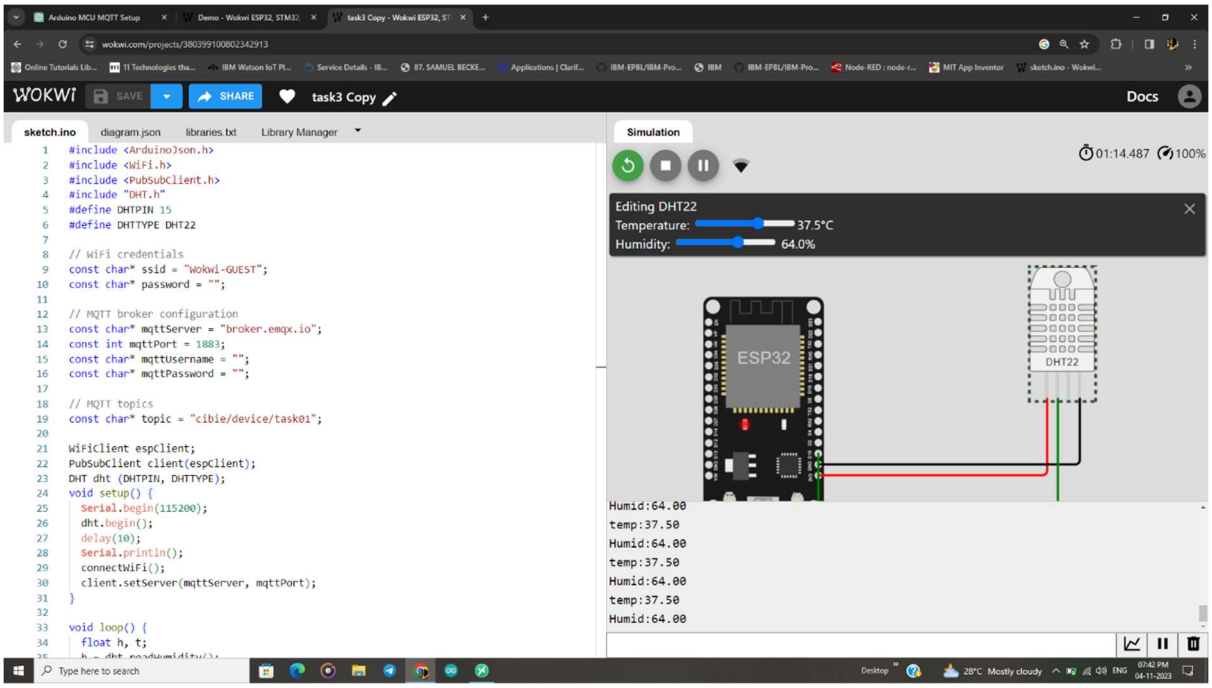
```
#include <ArduinoJson.h>
#include <WiFi.h>
#include <PubSubClient.h>
#include "DHT.h"
#define DHTPIN 15
#define DHTTYPE DHT22

// 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


WOKWI
SAVE
SHARE
task3 Copy
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
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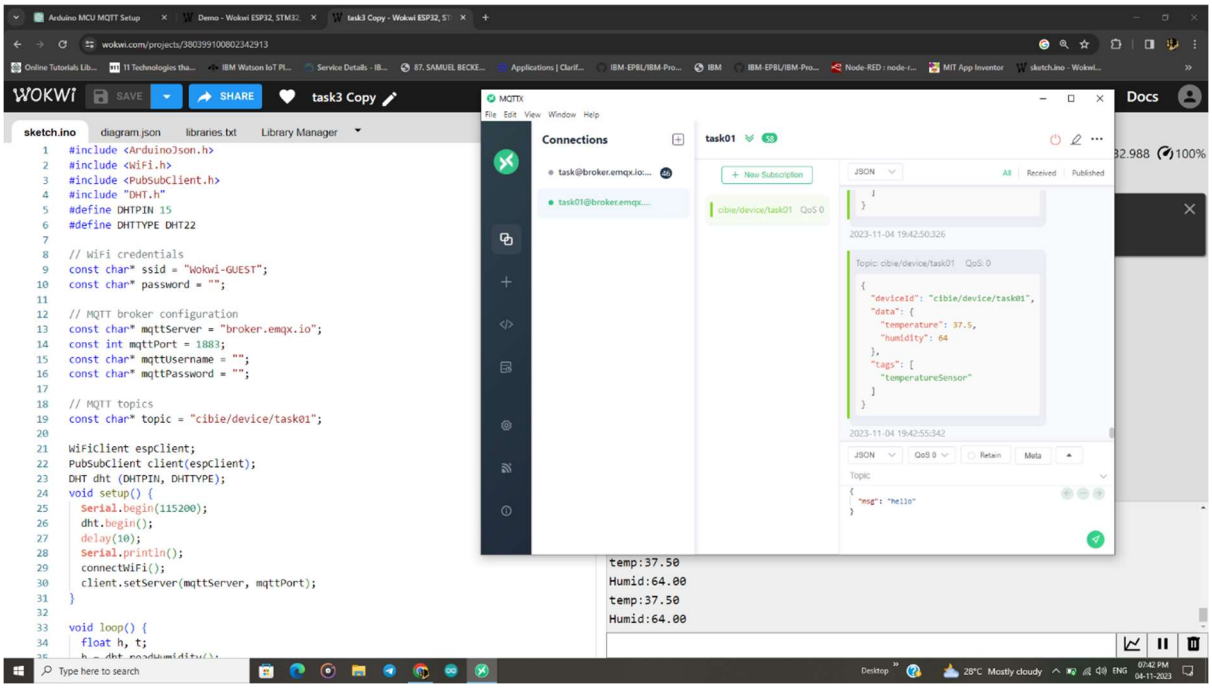
dht.begin();
delay(10);
Serial.println();
connectWiFi();
client.setServer(mqttServer, mqttPort);
}
void loop() {
float h, t;
Simulation
01:14.487
100%
Editing DHT22
Temperature: 37.5°C
Humidity: 64.0%
ESP32
DHT22
Humid:64.00
temp:37.50
Humid:64.00
temp:37.50
Humid:64.00
temp:37.50
Humid:64.00
Type here to search
28°C Mostly cloudy
ENG
07:42 PM
04-11-2023


WOKWI
SAVE
SHARE
task3 Copy
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
MQTTX
Connections
task01
New Subscription
cibie/device/task01
2023-11-04 19:42:50.326
Topic: cibie/device/task01
{
"deviceId": "cibie/device/task01",
"data": {
"temperature": 37.5,
"humidity": 64
},
"tags": [
"temperatureSensor"
]
}
2023-11-04 19:42:55.342
{
"msg": "hello"
}
temp:37.50
Humid:64.00
temp:37.50
Humid:64.00
Type here to search
28°C Mostly cloudy
ENG
07:42 PM
04-11-2023