Exp 2 : humidity and temprature sensor

Code :

```
#include <ESP8266WiFi.h>

#include <DHT.h>

#include "Ubidots.h"

#define TOKEN "BBUS-yMuvAnWsfkbxKlGxulTaevuDdq6Zca"

#define WIFISSID "OnePlus Nord CE3 5G"

#define PASSWORD "1234567890"

#define DHTPIN D1

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

Ubidots client(TOKEN);

Void wifiConnect() {

  Serial.print("Connecting to WiFi");

  WiFi.begin(WIFISSID, PASSWORD);

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

    Serial.print(".");

    Delay(500);

  }

  Serial.println();

  Serial.print("Connected! IP: ");

  Serial.println(WiFi.localIP());

  Client.wifiConnect(WIFISSID, PASSWORD);

}

Void setup() {
```

```
  Serial.begin(9600);

  Dht.begin();

  wifiConnect();

}

Void loop() {

  Float h = dht.readHumidity();

  Float t = dht.readTemperature();

  Serial.print("Humidity: ");

  Serial.print(h);

  Serial.print("%   Temp: ");

  Serial.print(t);

  Serial.println("°C");

  Client.add("temperature", t);

  Client.add("humidity", h);

  Client.send();

  Delay(2000);

}
```

Process :

1. Open Arduino IDE

Just start the Arduino IDE on your laptop.

---

2. Install ESP8266 Board

Go to:

File → Preferences → Additional Boards Manager URLs

Paste this:

http://arduino.esp8266.com/stable/package_esp8266com_index.json

Now:

Tools → Board → Boards Manager

Search "ESP8266" → Install

Then select:

✓ NodeMCU 1.0 (ESP-12E Module)

---

3. Install Required Libraries

Go to:

Sketch → Include Library → Manage Libraries

Search and install:

✓ DHT libraries:

DHT sensor library by Adafruit

Adafruit Unified Sensor

✓ Ubidots:

Search "Ubidots" and install:

Ubidots MQTT ESP8266 Library

---

4. Connect Your NodeMCU

Plug it into your laptop using a USB cable.

5. Select the Correct COM Port

Go to:

Tools → Port → COM3 / COM4

(Mac/Linux will show a different port)

6. Paste the Code

Delete everything in your Arduino IDE window.

Paste the correct final code.

7. Click VERIFY (✓)

This compiles the code.

If libraries are installed correctly → it will compile.

8. Click UPLOAD (→)

Wait for:

"Done Uploading"

9. Open Serial Monitor

Go to:

Tools → Serial Monitor

Set baud rate = 9600

You will now see:

Connecting to WiFi......

Connected! IP: 192.168.x.x

Humidity: 55%   Temp: 28°C

Sending to Ubidots...

🟢 Your data will now appear on Ubidots Dashboard

Go to Ubidots → Devices → Your Device → Variables

You will see:

Temperature

Humidity