

Project Development Sprint -4

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IoT based safety gadget for child safety monitoring and notification

Aim:

To write a code and connections in Wokwi for temperature sensor and to display in device recent events in IBM IoT Watson

Code:

```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQTT
#include "DHT.h"// Library for dht11
#define DHTPIN 4    // what pin we're connected to
#define DHTTYPE DHT11    // define type of sensor DHT 11
#define LED 5
DHT dht (DHTPIN, DHTTYPE);// creating the instance by passing pin and typr of
dht connected

void callback(char* subscribetopic, byte* payload, unsigned int
payloadLength);

//-----credentials of IBM Accounts-----

#define ORG "IOT"//IBM ORGANITION ID
#define DEVICE_TYPE "MyDevice_Mahesh"//Device type mentioned in ibm watson
IOT Platform
#define DEVICE_ID "47272"//Device ID mentioned in ibm watson IOT
Platform
#define TOKEN "12345678"          //Token
String data3;
float h, t;

//----- Customise the above values -----
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of
event perform and format in which data to be send
char subscribetopic[] = "iot-2/cmd/test/fmt/String";// cmd REPRESENT command
type AND COMMAND IS TEST OF FORMAT STRING
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
```

```

char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id

//-----
WiFiClient wifiClient; // creating the instance for wificlient
PubSubClient client(server, 1883, callback ,wifiClient); //calling the
predefined client id by passing parameter like server id,portand
wificredential
void setup()// configureing the ESP32
{
  Serial.begin(115200);
  dht.begin();
  pinMode(LED,OUTPUT);
  delay(10);
  Serial.println();
  wificonnect();
  mqttconnect();
}

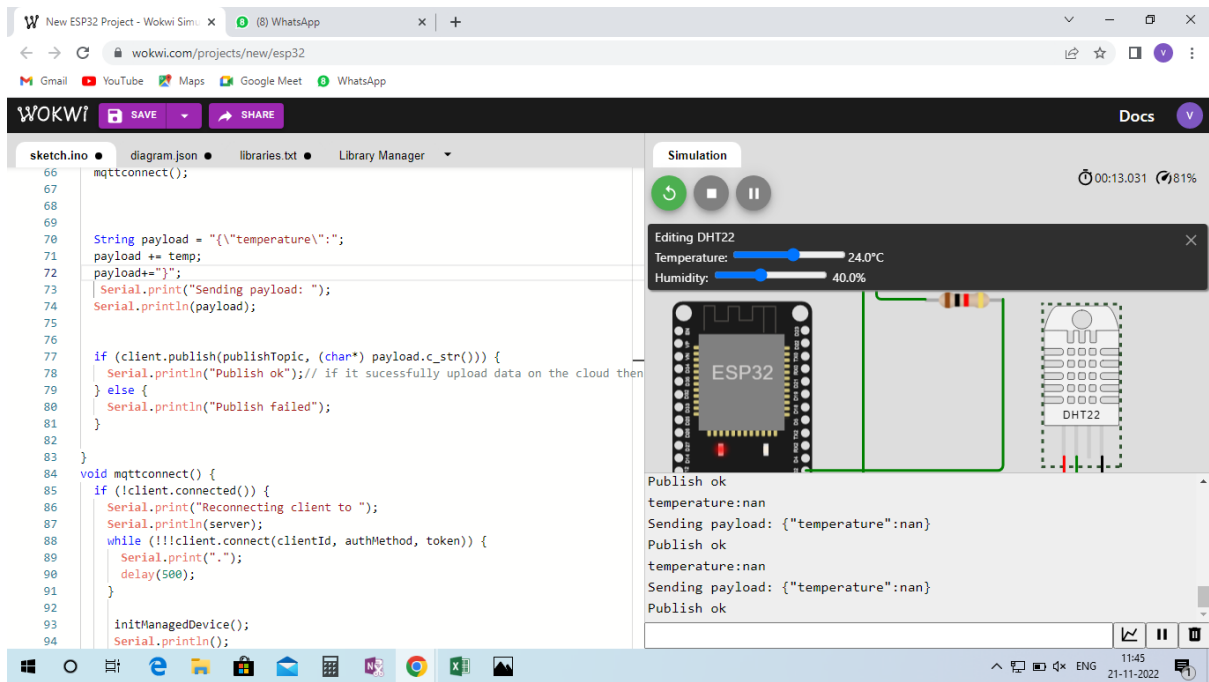
void loop()// Recursive Function
{

  t = dht.readTemperature();
  Serial.print("temperature:");
  Serial.println(t);

  PublishData(t);
  delay(1000);
  if (!client.loop()) {
    mqttconnect();
  }
}

```

Connections:



Output(IBM cloud):

The screenshot shows the IBM Cloud IoT Platform dashboard. The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{\"temperature\":66}	json	a few seconds ago
event_1	{\"temperature\":63}	json	a few seconds ago
event_1	{\"temperature\":41}	json	a few seconds ago

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1 Simulation running