20BCE10471 | VIT Bhopal Campus

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Assignment : 2

In Wokwi connect push button and upload 0 and 1 to ibm cloud

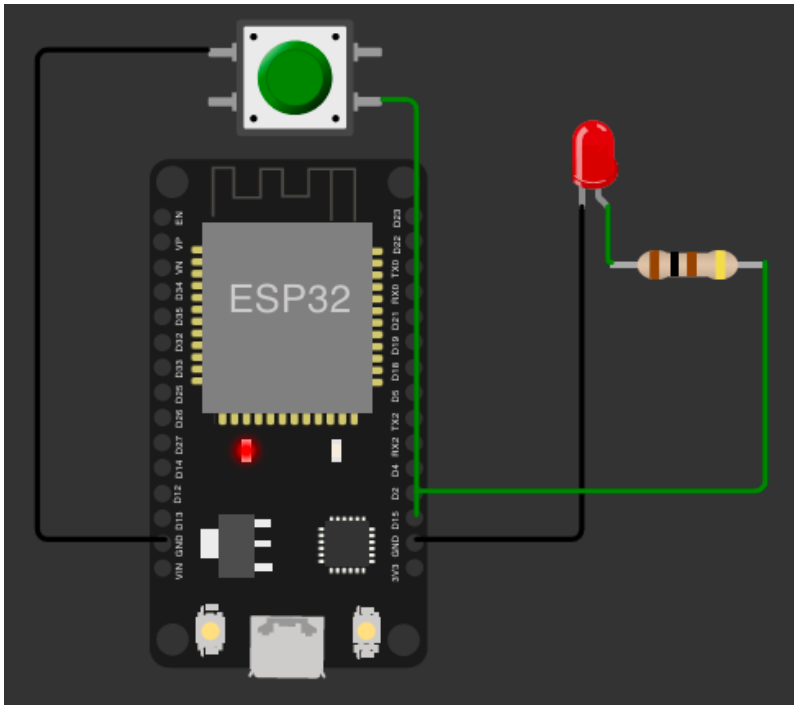
Implementation

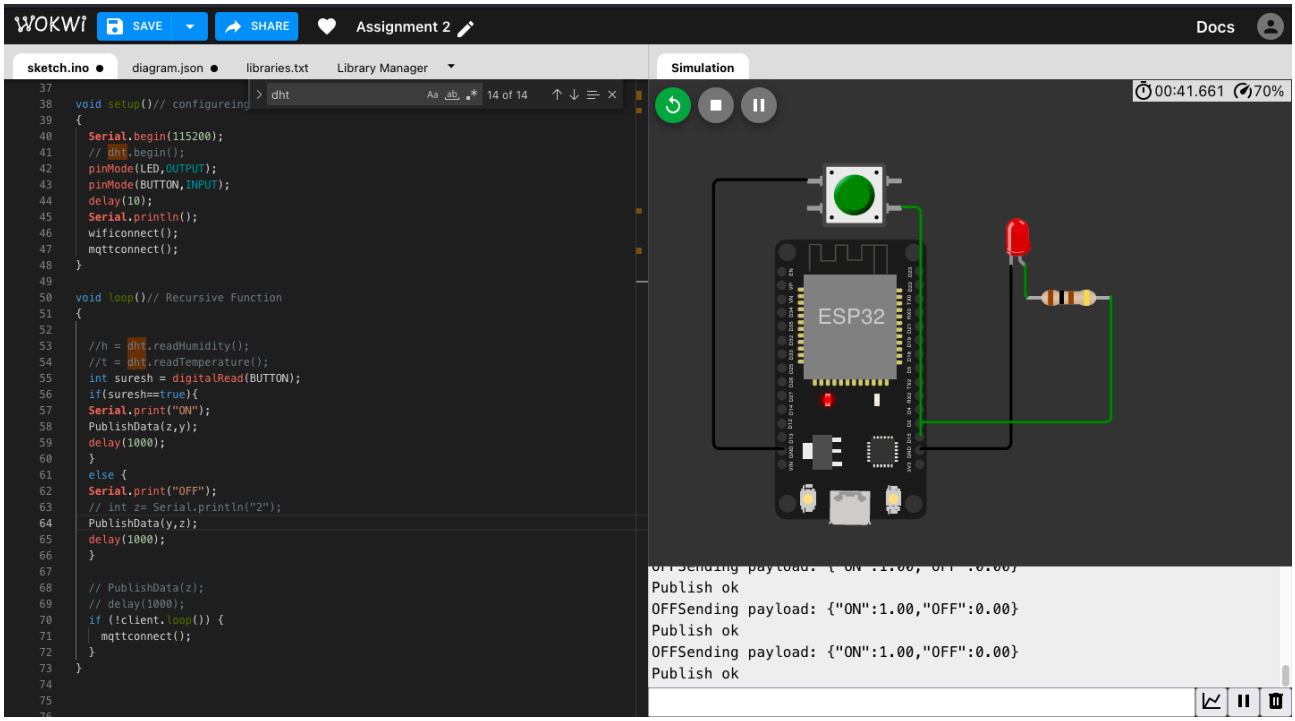
Code :

```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQtt
#include "DHT.h"// Library for dht11
//#define DHTPIN 15     // what pin we're connected to
// #define DHTTYPE DHT22   // define type of sensor DHT 11
#define BUTTON 15
#define LED 2

//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 "2wwjtl"//IBM ORGANITION ID
#define DEVICE_TYPE "Demo_Device"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "1234"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "12345678"      //Token
String data3;
float z =1 ,y=0 ;
// int z, y;


//-------- 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/command/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
```

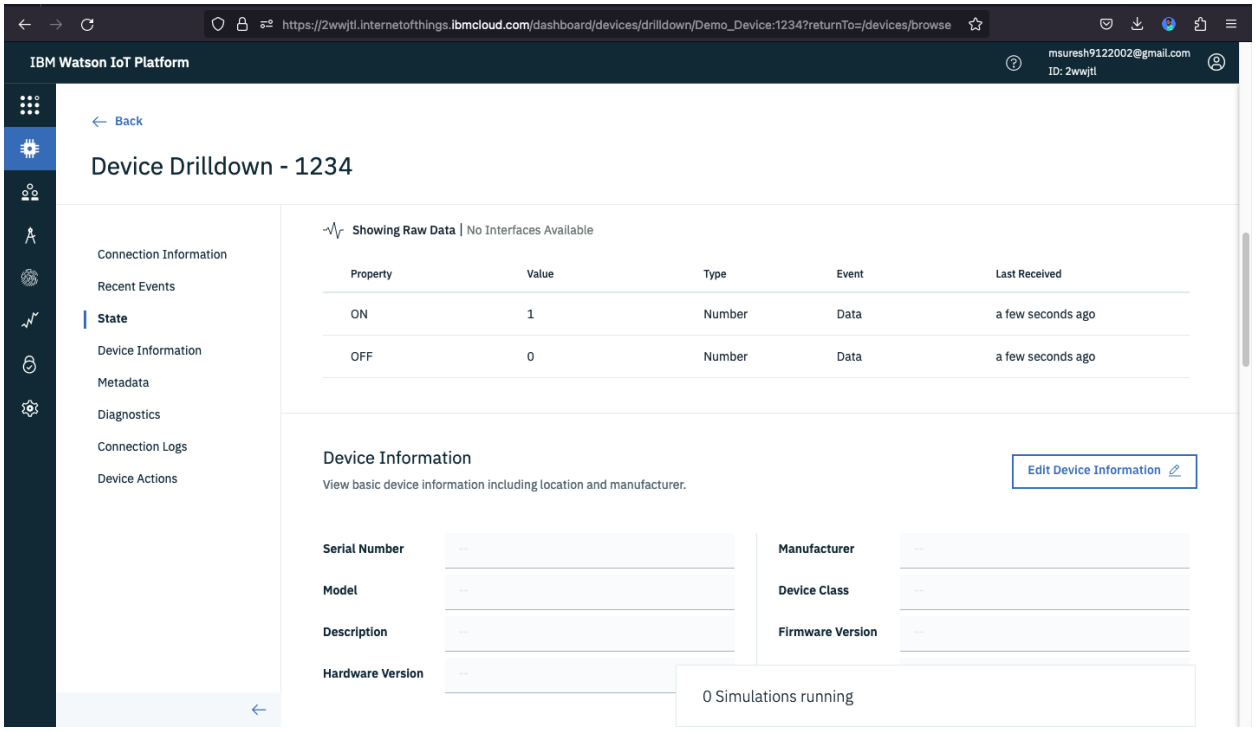
```
38  void setup()// configureing the ESP32
39  {
40    Serial.begin(115200);
41    // dht.begin();
42    pinMode(LED,OUTPUT);
43    pinMode(BUTTON,INPUT);
44    delay(10);
45    Serial.println();
46    wificonnect();
47    mqttconnect();
48  }
49
50  void loop()// Recursive Function
51  {
52
53    //h = dht.readHumidity();
54    //t = dht.readTemperature();
55    int suresh = digitalRead(BUTTON);
56    if(suresh==true){
57    Serial.print("ON");
58    PublishData(z,y);
59    delay(1000);
60    }
61    else {
62    Serial.print("OFF");
63    // int z= Serial.println("2");
64    PublishData(y,z);
65    delay(1000);
66    }
67
68    // PublishData(z);
69    // delay(1000);
70    if (!client.loop()) {
71      mqttconnect();
72    }
73  }
```

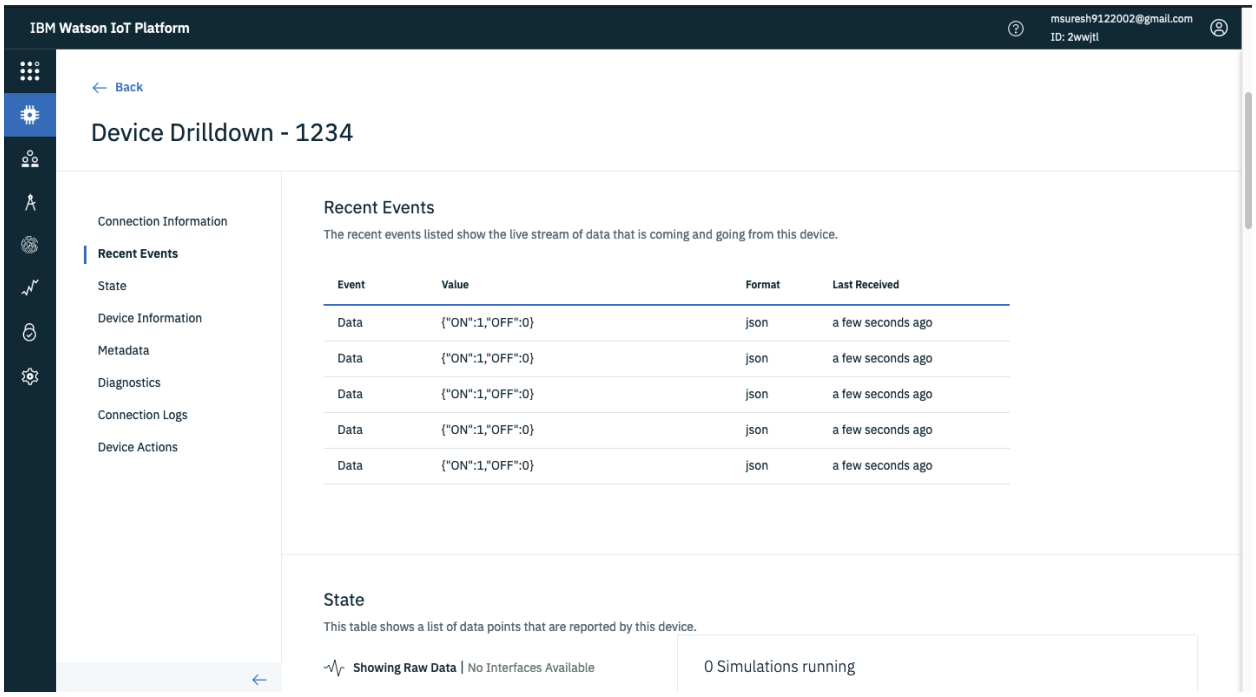
Simulation:


ESP32


WOKWI
SAVE
SHARE
Assignment 2
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
Simulation
00:41.661
70%
ESP32
Publish ok
OFFSending payload: {"ON":1.00,"OFF":0.00}
Publish ok
OFFSending payload: {"ON":1.00,"OFF":0.00}
Publish ok

IBM Cloud Platform Data:





Wokwi Link

Assignemnt Open link : Link