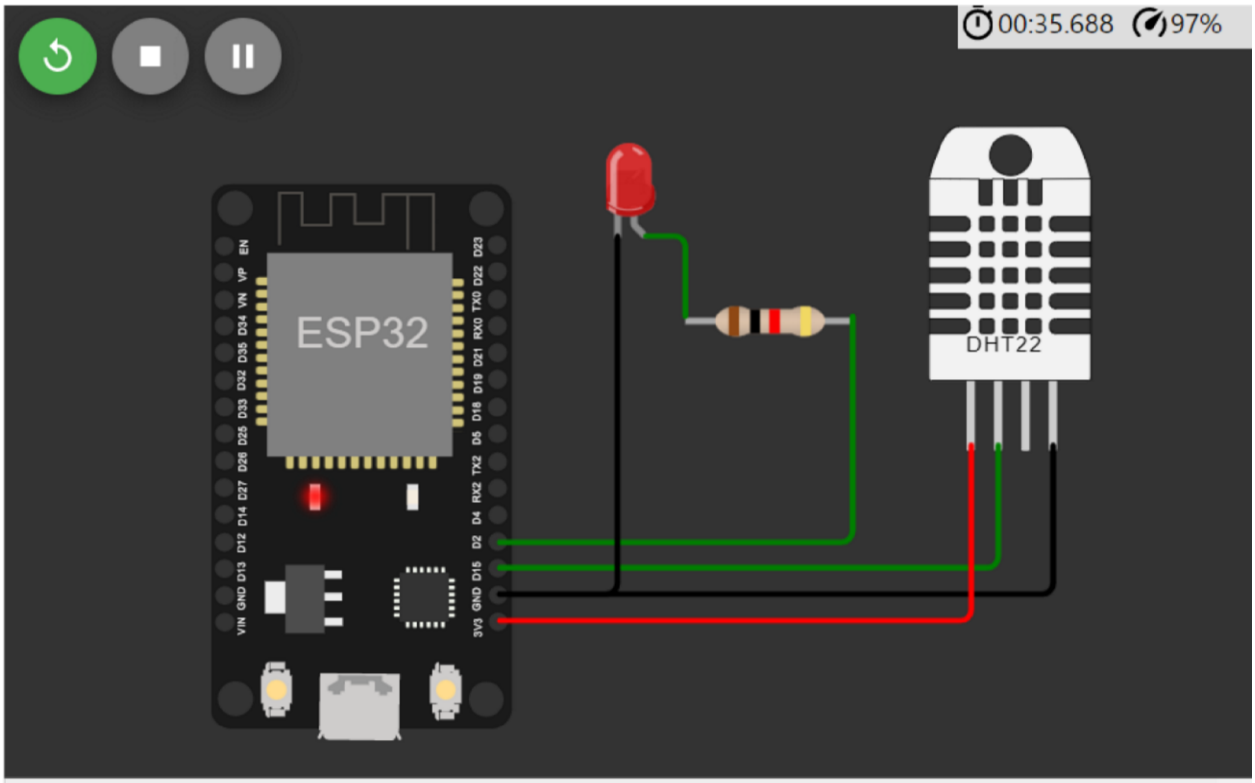
Project Development Delivery Of Sprint-1

Date	6 November 2022
Team ID	PNT2022TMID19682
Project Name	Industry-Specific Intelligent Fire Management System

Display the temperature values:
Submitted by: Dinesh S ,Karuppusamy A ,Balavenkatesh R ,Karthick C
Student Roll number:732219EC025 ,732219EC042 ,732219ECL01 ,732219ECL03



Program:

```
#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 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 "zbgr67"//IBM ORGANITION ID

 #define DEVICE_TYPE "fershidevicetype"//Device type mentioned in ibm
 watson IOT Platform

 #define DEVICE_ID "fershideviceid"//Device ID mentioned in ibm watson IOT
 Platform

 #define TOKEN "fershiageona"      //Token
 String data3; float 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/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 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);
```

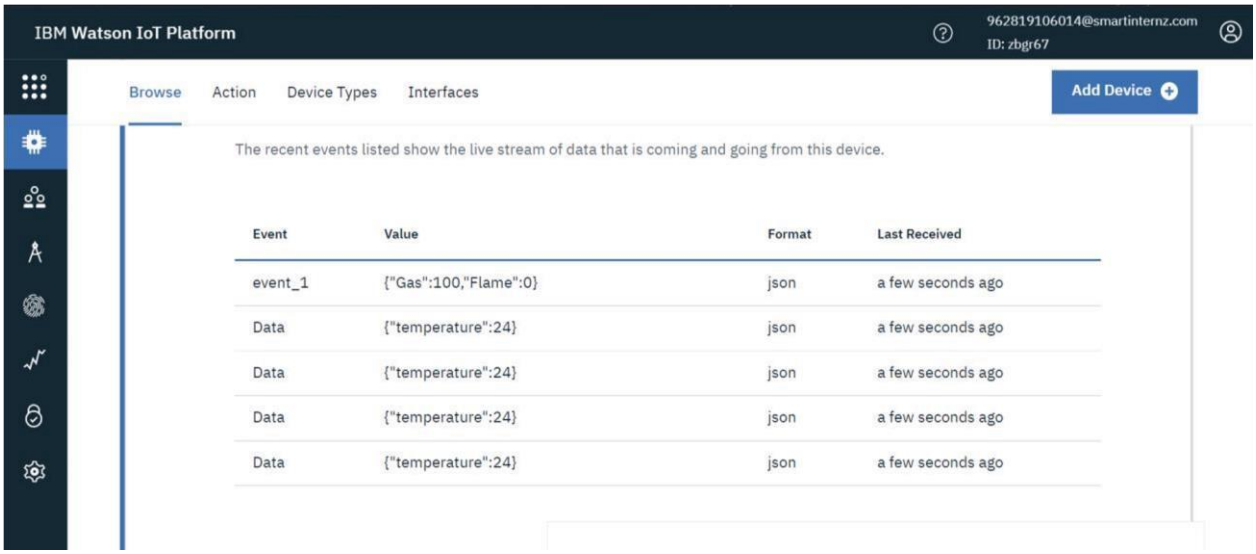
```
  PublishData(t);   delay(1000);
 if (!client.loop()) {
 mqttconnect();


  }

 }

/*.....................................retrieving to
 Cloud ............................. */

  void PublishData(float temp) {
 mqttconnect();//function call for connecting to ibm

  /*      creating the String in in form JSon to update the data to ibm
 cloud    */



  String payload = "{\"temperature\":";   payload
 += temp;   payload += "}";


   Serial.print("Sending payload: ");

   Serial.println(payload);


     if (client.publish(publishTopic, (char*) payload.c_str()))
 {



Serial.println("Publish ok");// if it sucessfully upload data on thecloud
then it will print publish ok in Serial monitor or else it will print
publish failed

  } else {

    Serial.println("Publish failed");

  }
```

```
  } void mqttconnect() {   if
(!client.connected()) {

    Serial.print("Reconnecting client to ");
Serial.println(server);     while
(!!!client.connect(clientId, authMethod, token)) {
Serial.print(".");       delay(500);

    }             initManagedDevice();
Serial.println();


  } } void wificonnect() //function defination for wificonnect
{

  Serial.println();


  Serial.print("Connecting to ");


  WiFi.begin("Wokwi-GUEST", "", 6);//passing the wifi credentials to
establish the connection   while (WiFi.status() != WL_CONNECTED) {
delay(500);

    Serial.print(".");


  }

  Serial.println("");


  Serial.println("WiFi connected");

  Serial.println("IP address: ");
Serial.println(WiFi.localIP());
```

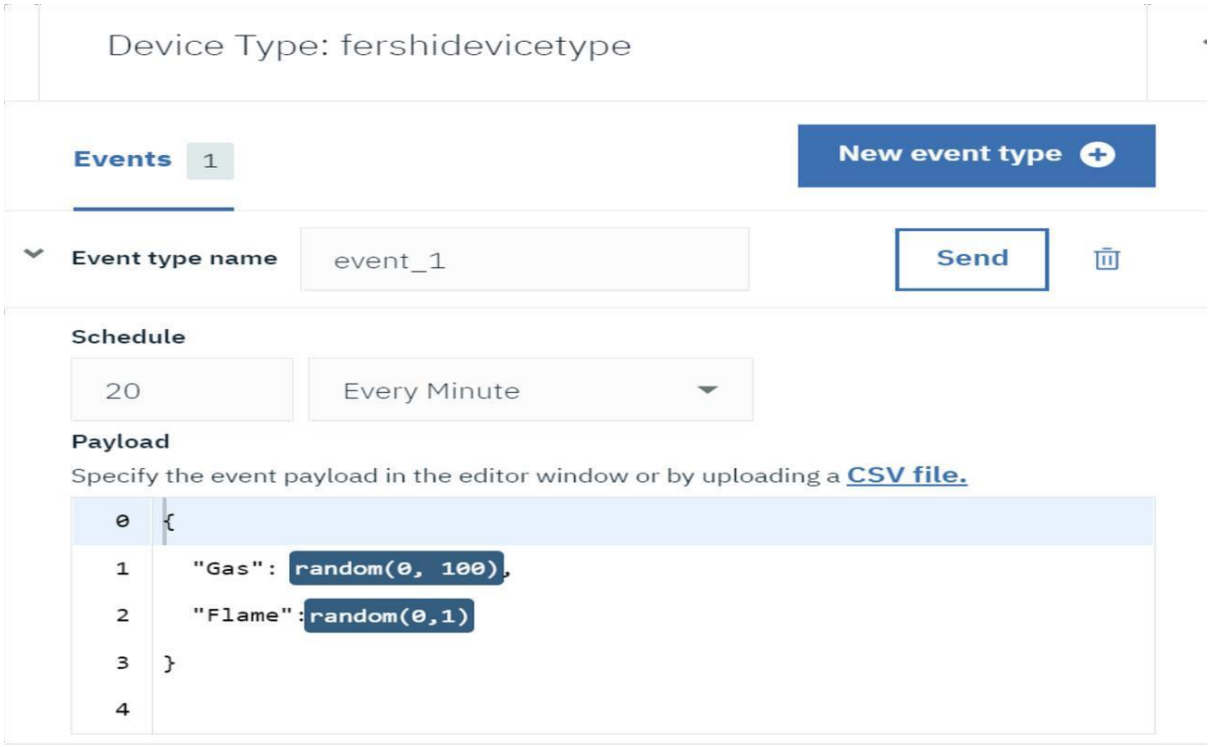
```
} void initManagedDevice() { if
(client.subscribe(subscribetopic)) {
Serial.println((subscribetopic));

    Serial.println("subscribe to cmd OK");
  } else {
    Serial.println("subscribe to cmd FAILED");
  }

  }

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

{

     Serial.print("callback invoked for topic: ");
Serial.println(subscribetopic);   for (int i =
0; i < payloadLength; i++) {
//Serial.print((char)payload[i]);     data3 +=
(char)payload[i];

  }

Serial.println("data: "+ data3);      if(data3=="lighton")
{
Serial.println(data3); digitalWrite(LED,HIGH);
  }    else

  {
Serial.println(data3); digitalWrite(LED,LOW);

   } data3="";
}
```

Displaying flame sensor values:

Submitted by : Dinesh S ,Karuppusamy A ,Balavenkatesh R ,Karthick C
Student Roll number :732219EC025 ,732219EC042 ,732219ECL01 ,732219ECL03



Code:



Displaying gas sensor values:

Submitted by : Dinesh S ,Karuppusamy A ,Balavenkatesh R ,Karthick C
Student Roll number :732219EC025 , 732219EC042 ,
732219ECL01 , 732219ECL03