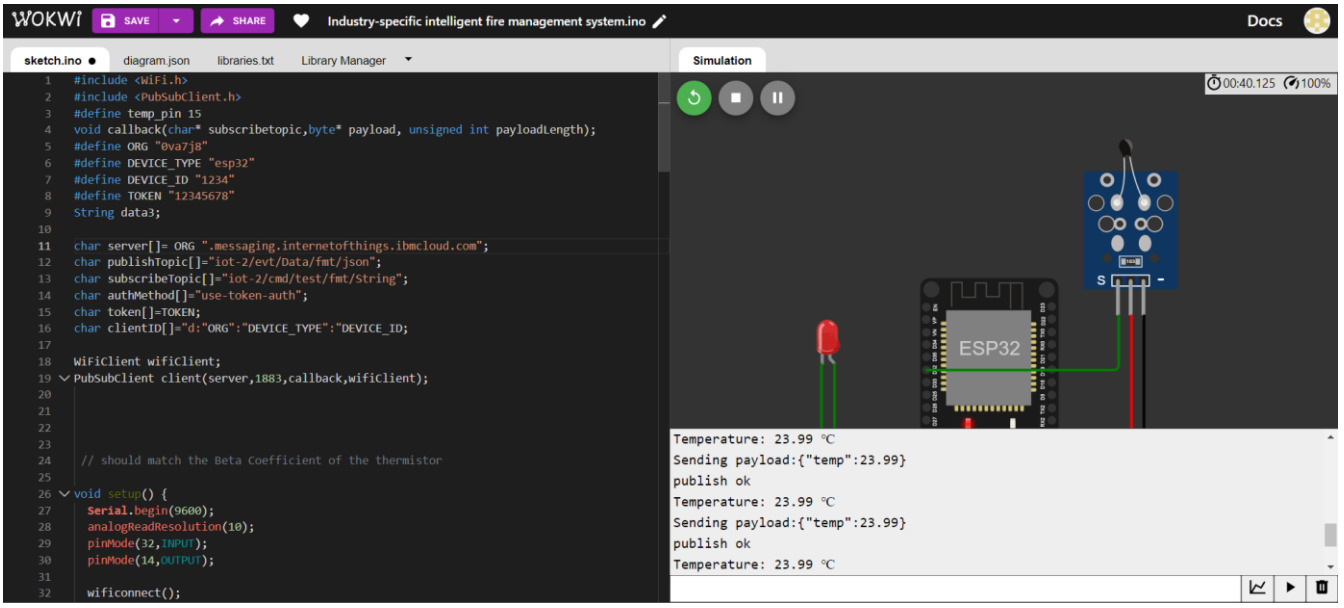
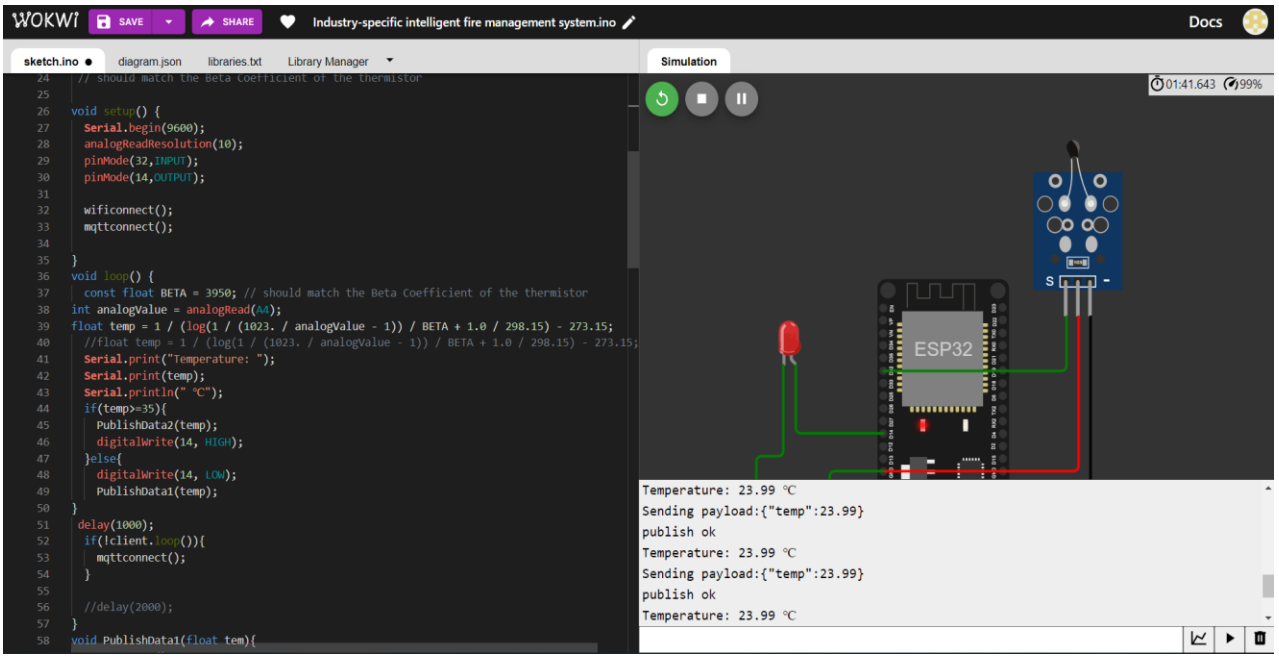
Date	01 November 2022
Team ID	PNT2022TMID17751
Project Name	Industry specific intelligent fire management system

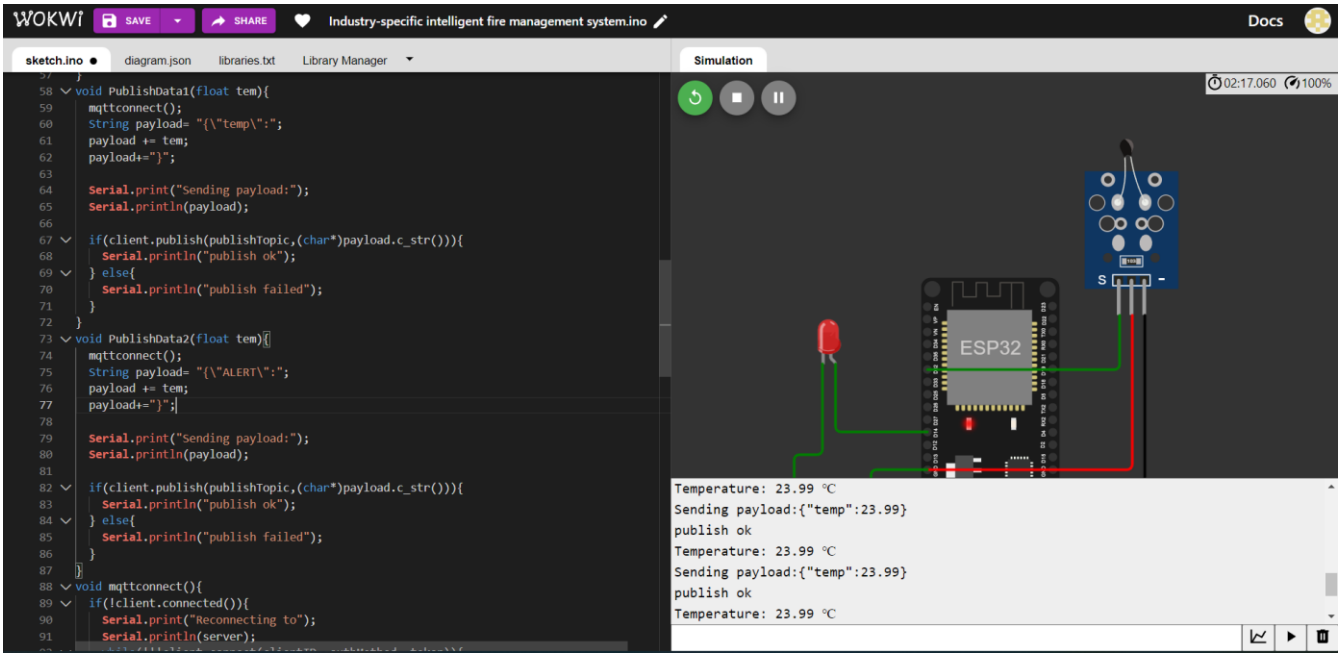
WOKWI WEB URL:

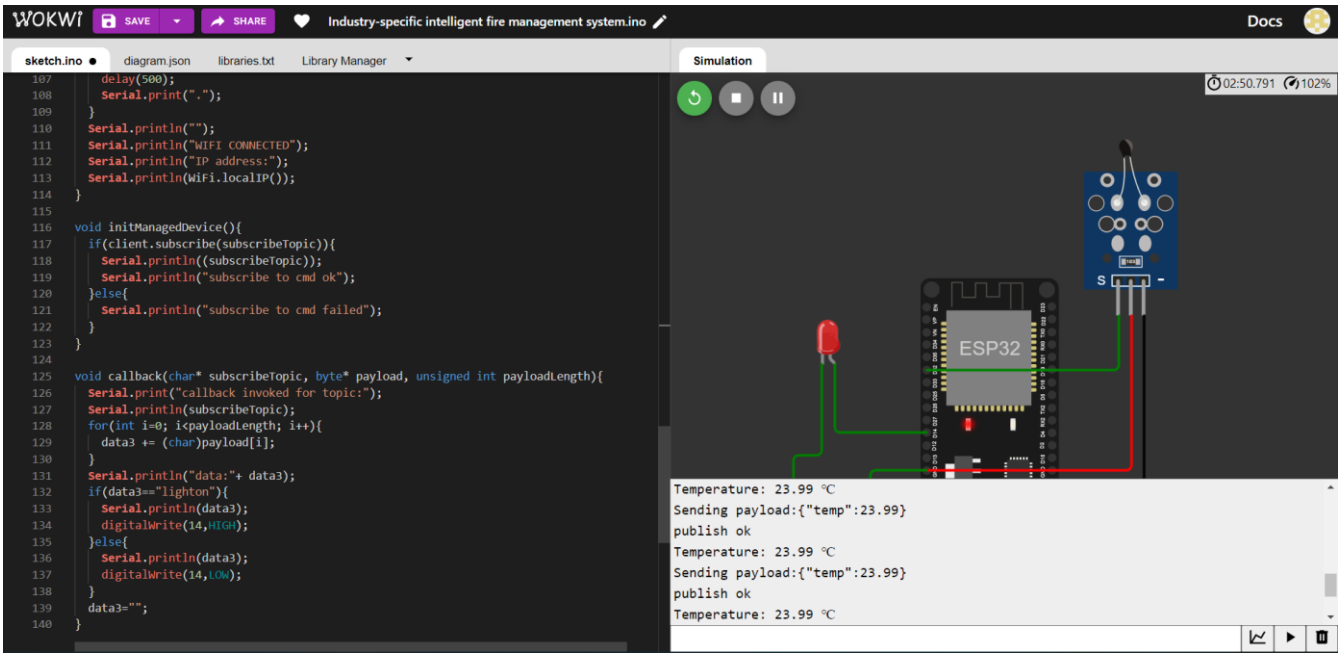
https://wokwi.com/projects/348021685670117971

SNAPSHOTS OF SIMULATION:




WOKWI
SAVE
SHARE
Industry-specific intelligent fire management system.ino
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
Simulation
01:41.643
99%
// should match the Beta Coefficient of the thermistor
void setup() {
Serial.begin(9600);
analogReadResolution(10);
pinMode(32,INPUT);
pinMode(14,OUTPUT);
wificonnect();
mqttconnect();
}
void loop() {
const float BETA = 3950; // should match the Beta Coefficient of the thermistor
int analogValue = analogRead(A4);
float temp = 1 / (log(1 / (1023. / analogValue - 1)) / BETA + 1.0 / 298.15) - 273.15;
//float temp = 1 / (log(1 / (1023. / analogValue - 1)) / BETA + 1.0 / 298.15) - 273.15;
Serial.print("Temperature: ");
Serial.print(temp);
Serial.println(" °C");
if(temp>=35){
PublishData2(temp);
digitalWrite(14, HIGH);
}else{
digitalWrite(14, LOW);
PublishData1(temp);
}
delay(1000);
if(!client.loop()){
mqttconnect();
}
//delay(2000);
}
void PublishData1(float tem){
ESP32
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
publish ok
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
publish ok
Temperature: 23.99 °C


WOKWI
SAVE
SHARE
Industry-specific intelligent fire management system.ino
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
Simulation
02:17.060
100%
void PublishData1(float tem){
mqttconnect();
String payload= "{\"temp\":";
payload += tem;
payload+="}";
Serial.print("Sending payload:");
Serial.println(payload);
if(client.publish(publishTopic,(char*)payload.c_str())){
Serial.println("publish ok");
} else{
Serial.println("publish failed");
}
}
void PublishData2(float tem){
mqttconnect();
String payload= "{\"ALERT\":";
payload += tem;
payload+="}";
Serial.print("Sending payload:");
Serial.println(payload);
if(client.publish(publishTopic,(char*)payload.c_str())){
Serial.println("publish ok");
} else{
Serial.println("publish failed");
}
}
void mqttconnect(){
if(!client.connected()){
Serial.print("Reconnecting to");
Serial.println(server);
ESP32
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
publish ok
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
publish ok
Temperature: 23.99 °C




```
    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++){
    data3 += (char)payload[i];
  }
  Serial.println("data:"+ data3);
  if(data3=="lighton"){
    Serial.println(data3);
    digitalWrite(14,HIGH);
  }else{
    Serial.println(data3);
    digitalWrite(14,LOW);
  }
  data3="";
}
```

Images of IBM Watson Iot Platform Recent events: