PROJECT DEVELOPMENT PHASE

SPRINT-4

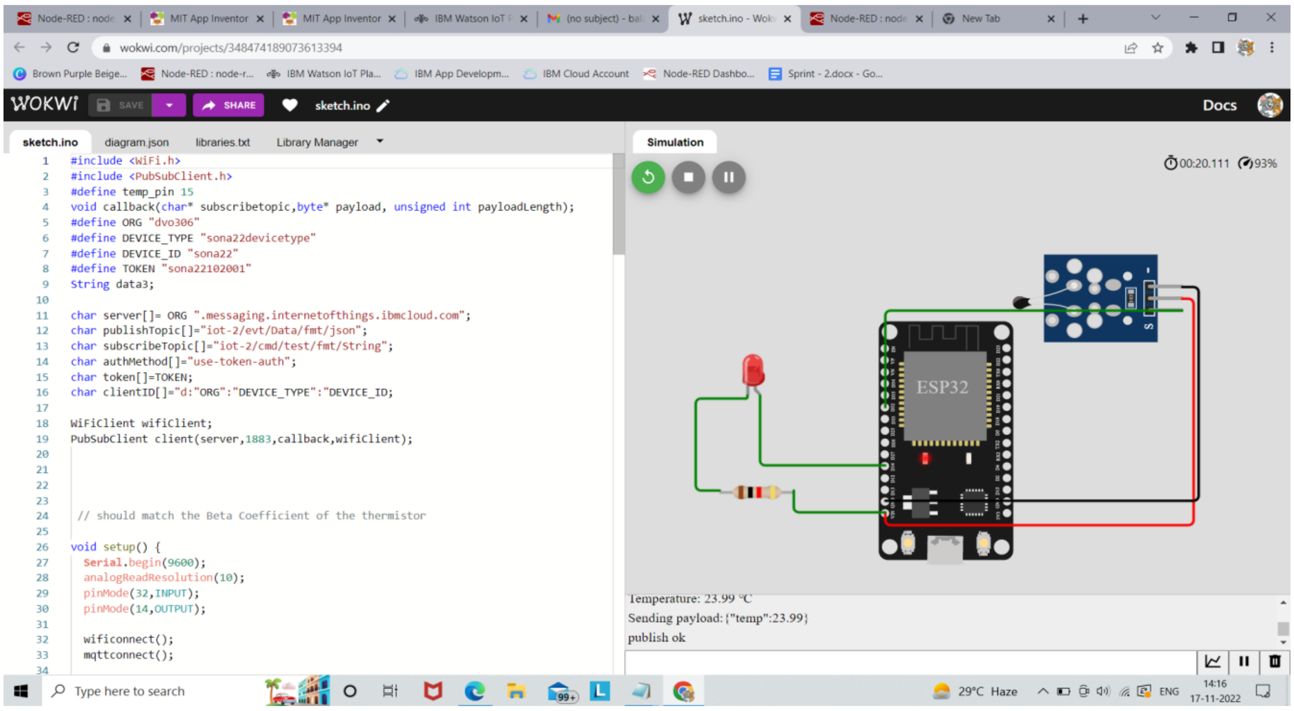
TEAM ID :	PNT2022TMID26511
PROJECT NAME :	**INDUSTRY SPECIFIC INTELLIGENT FIRE MANGEMENT SYSTEM**

```
#include <WiFi.h>
#include <PubSubClient.h>
#define temp_pin 15
void callback(char* subscribetopic,byte* payload, unsigned int payloadLength);
#define ORG "dvo306"
#define DEVICE_TYPE "sona22devicetype"
#define DEVICE_ID "sona22"
#define TOKEN "sona22102001" String
data3;

char server[]= ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[]="iot-2/evt/Data/fmt/json";
char subscribeTopic[]="iot-2/cmd/test/fmt/String";
char authMethod[]="use-token-auth";
char token[]=TOKEN;
char clientID[]="d:"ORG":"DEVICE_TYPE":"DEVICE_ID;

WiFiClient wifiClient;
PubSubClient client(server,1883,callback,wifiClient);



 // 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(" ℃");
  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){ 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);
    while(!!!client.connect(clientID, authMethod, token)){
      Serial.print(".");
      delay(500);
    }
    initManagedDevice();
    Serial.println();
  }
}

void wificonnect(){
  Serial.println();
  Serial.print("Connecting to");

  WiFi.begin("Wokwi-GUEST","",6);
  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++){
    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="";
}
```

DIAGRAM:



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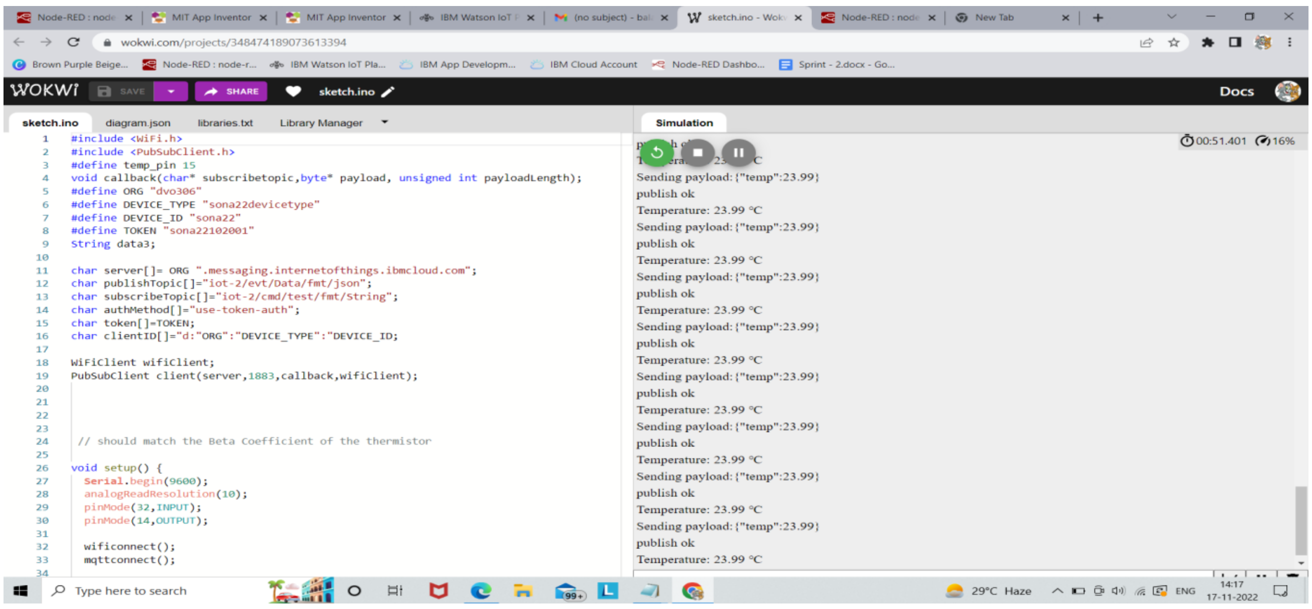
```
Temperature: 23.99 °C
Sending payload: {"temp":23.99}
publish ok
```



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Sending payload: {"temp":23.99}
publish ok
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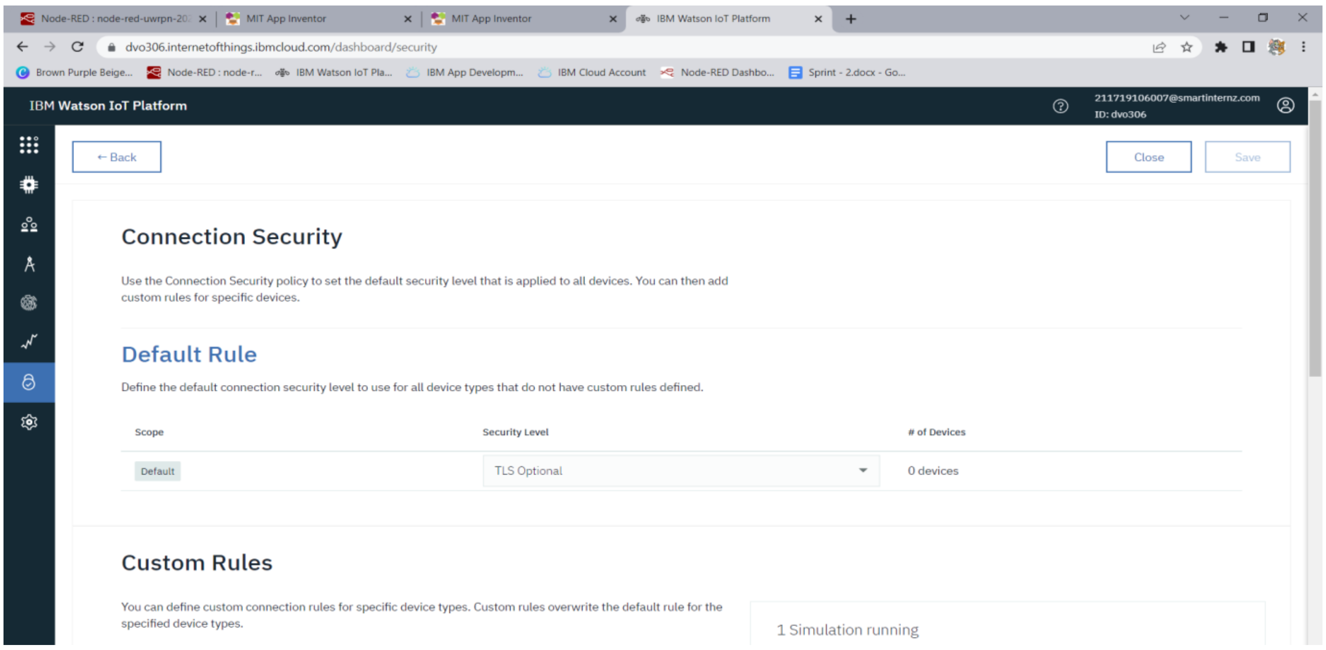
Node-RED : node-red-uwrpn-20 | MIT App Inventor | MIT App Inventor | IBM Watson IoT Platform

dvo306.internetofthings.ibmcloud.com/dashboard/security

IBM Watson IoT Platform

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ID: dvo306

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Connection Security

Use the Connection Security policy to set the default security level that is applied to all devices. You can then add custom rules for specific devices.

Default Rule

Define the default connection security level to use for all device types that do not have custom rules defined.

Scope	Security Level	# of Devices
Default	TLS Optional	0 devices

Custom Rules

You can define custom connection rules for specific device types. Custom rules overwrite the default rule for the specified device types.

1 Simulation running

Wowki link:

https://wokwi.com/projects/347767927273947730