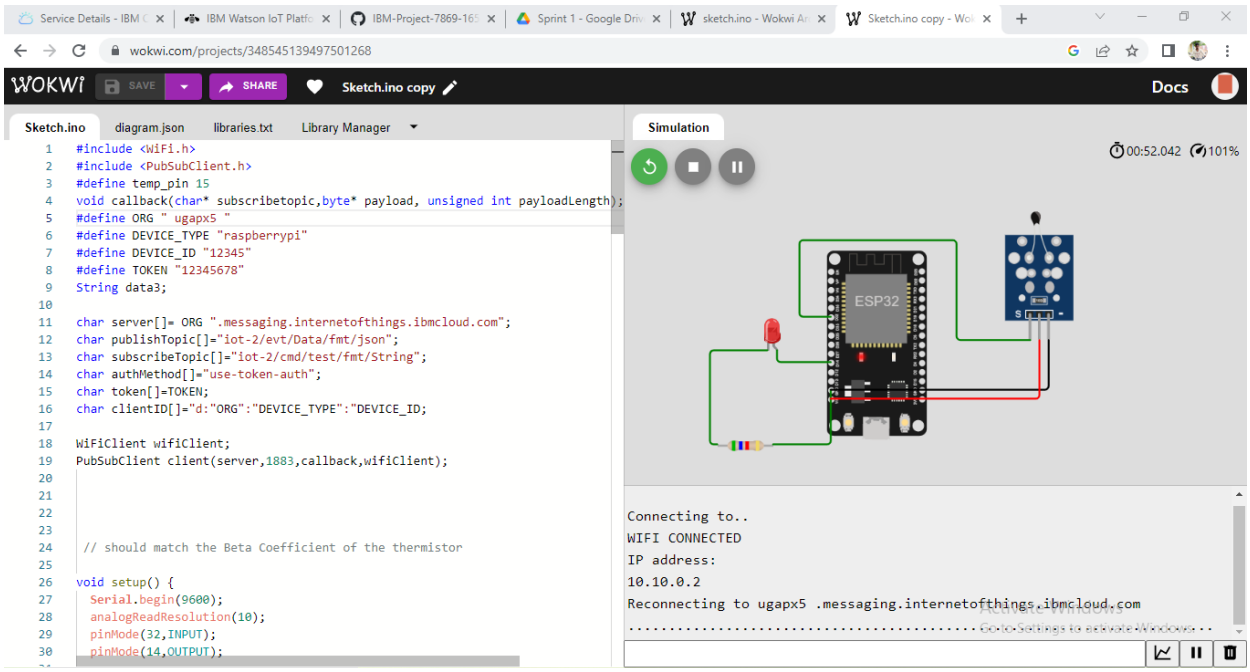
SPRINT - 1

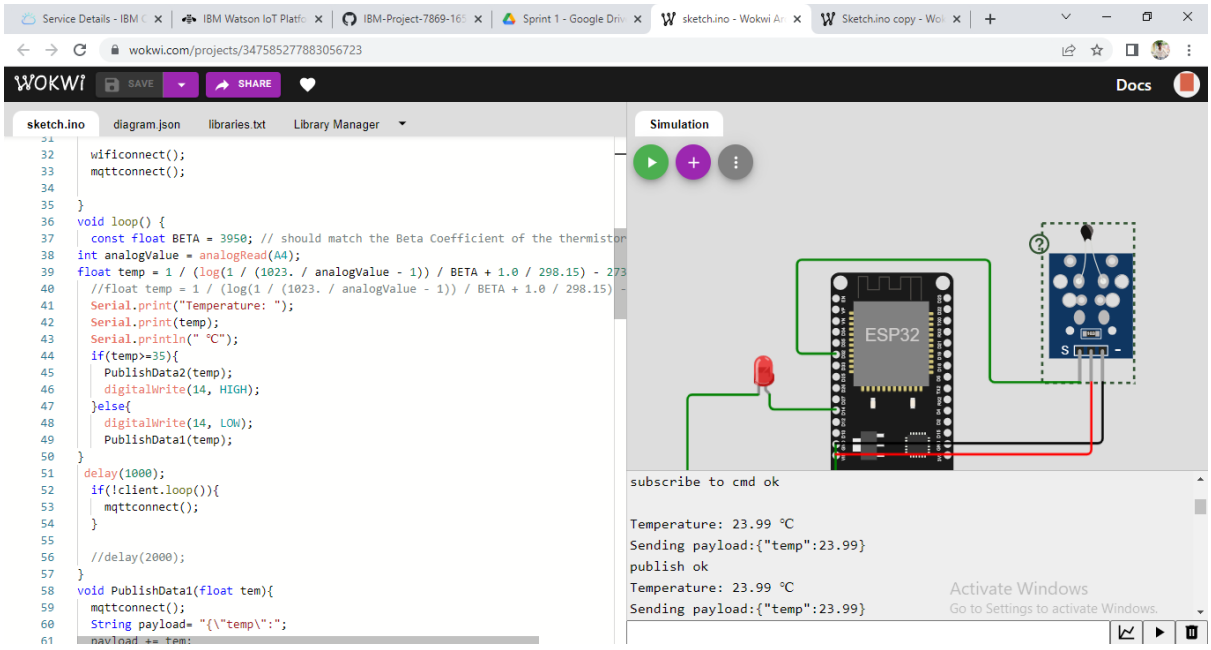
DATE	28 October 2022
TEAM ID	PNT2022TMID24952
PROJECT NAME	Industry specific intelligent fire management system

WOKWI WEB URL:

https://wokwi.com/projects/348547612897444435

SNAPSHOTS OF SIMULATION:

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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
//float temp = 1 / (log(1 / (1023. / analogValue - 1)) / BETA + 1.0 / 298.15) -
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){
mqttconnect();
String payload= "{\"temp\":";
subscribe to cmd ok
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
publish ok
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
Activate Windows
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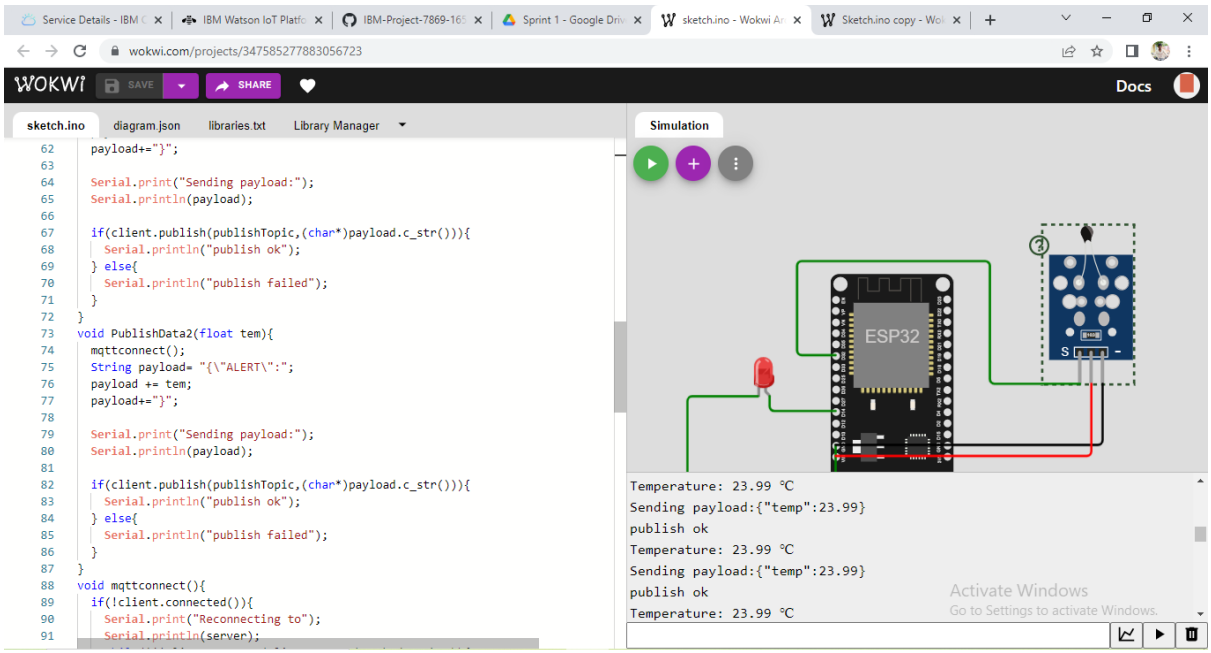
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payload+="}";
Serial.print("Sending payload:");
Serial.println(payload);
if(client.publish(publishTopic,(char*)payload.c_str())){
Serial.println("publish ok");
} else{
Serial.println("publish failed");
}
}
void PublishData2(float tem){
mqttconnect();
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);
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
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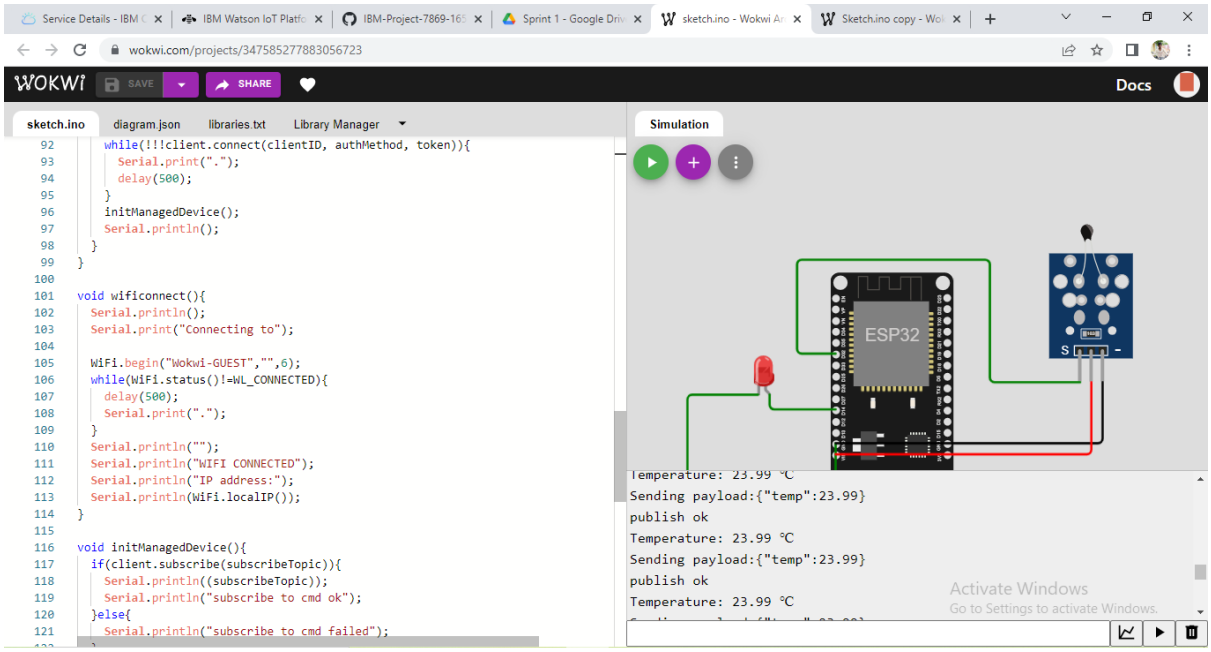
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while(!!!client.connect(clientID, authMethod, token)){
Serial.print(".");
delay(500);
}
initManagedDevice();
Serial.println();
}
}
void wificonnect(){
Serial.println();
Serial.print("Connecting to");
WiFi.begin("Wokwi-GUEST","",6);
while(WiFi.status()!=WL_CONNECTED){
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");
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
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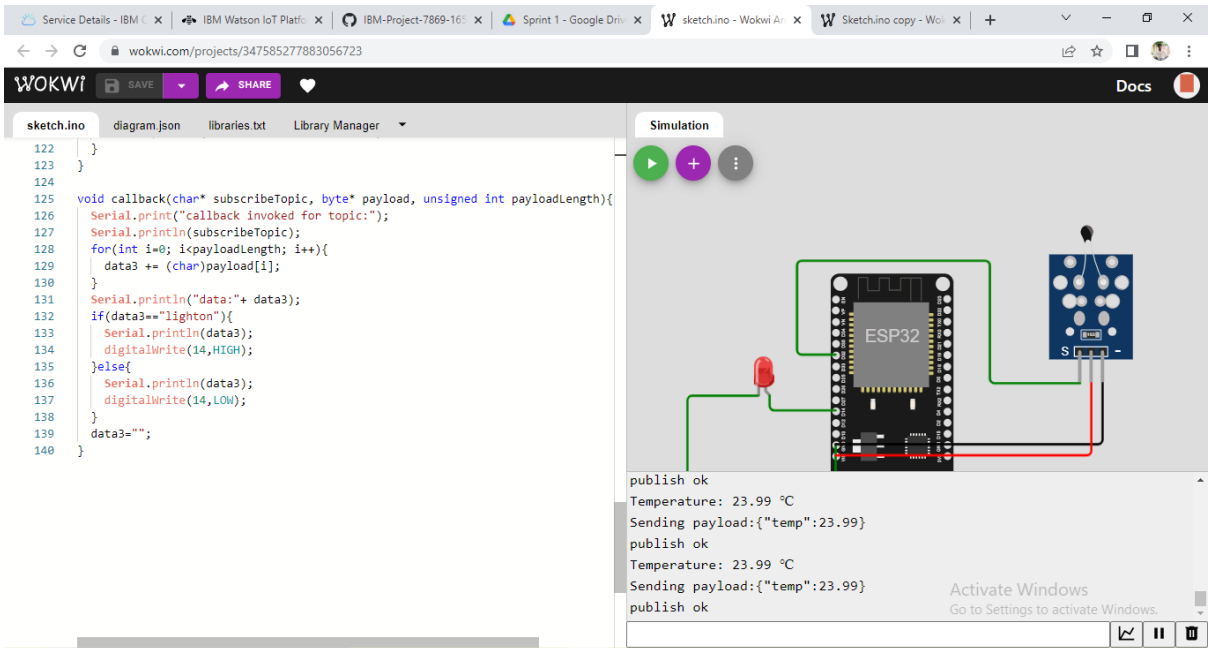
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}
}
void callback(char* subscribeTopic, byte* payload, unsigned int payloadLength){
Serial.print("callback invoked for topic:");
Serial.println(subscribeTopic);
for(int i=0; i<payloadLength; i++){
data3 += (char)payload[i];
}
Serial.println("data:"+ data3);
if(data3=="lighton"){
Serial.println(data3);
digitalWrite(14,HIGH);
}else{
Serial.println(data3);
digitalWrite(14,LOW);
}
data3="";
}
publish ok
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
publish ok
Temperature: 23.99 °C
Sending payload:{"temp":23.99}
publish ok
Activate Windows
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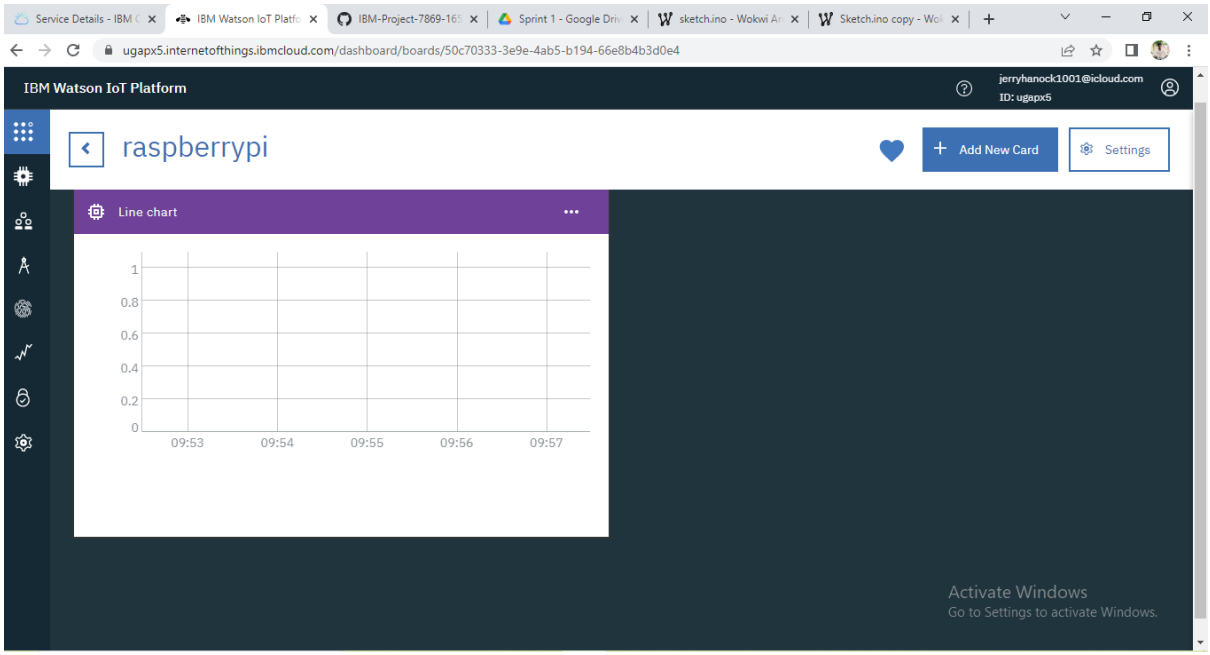

IMAGES OF IBM CLOUD: