SPRINT 3

TEAM ID	PNT2022TMID30616
PROJECT NAME	Gas leakage monitoring and alerting system for industries.

```
#include <WiFi.h> #include <PubSubClient.h>
void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
//-------credentials of IBM Accounts------
#define ORG "ohyeah"//IBM ORGANITION ID
#define DEVICE_TYPE "NODEMCU"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "ASHFAQ1824"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "ashlord" //Token String
data3;
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/Gas/fmt/json"; char
publishTopic2[] = "iot-2/evt/Loc/fmt/json"; char subscribetopic[]
= "iot-2/cmd/home/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);
const int gasSensor = A0; #define SOUND_SPEED 0.034
int gasValue = 0;
String latitude = "0.000000";
String longitude = "0.000000";
void setup()
{
  Serial.begin(115200);
wificonnect();
mqttconnect(); } void
loop() {
```

```
gasValue = random(600,750);
Serial.print("Gas Value: ");
Serial.println(gasValue);
delay(1000);
PublishData(gasValue);
delay(1000); if(gasValue >
700)
{
latitude = "13.148760";
longitude = "80.229100";
PublishString(latitude, longitude);
}
if (!client.loop())
{
mqttconnect();
}
Serial.println();
Serial.println("-------------------------------------------------------------------");
Serial.println(); delay(3000); }
void PublishData(int gas)
{
mqttconnect();
String payload = "{\"Gas Value\":";
payload += gas; payload += "}";
Serial.print("Sending payload Gas: ");
Serial.println(payload);
if (client.publish(publishTopic, (char*) payload.c_str()))
{
Serial.println("Gas is Published");
}
else
{
```

```
Serial.println("Gas is not Published");
} }
void PublishString(String lat, String lon)
{
mqttconnect();
String payload2 = "{\"d\":{\"Latitude\":";
payload2 += lat; payload2 +=
","\"Longitude\":"; payload2 +=lon;
payload2 +="}}";
Serial.print("Sending Payload Location: "); Serial.println(payload2);
if (client.publish(publishTopic2, (char*) payload2.c_str()))
{
Serial.println("Location is Published");
}
else
{
Serial.println("Location is not Published");
} } 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() {
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++)
{
//Serial.print((char)payload[i]);
data3 += (char)payload[i];
}
Serial.println("data: "+ data3);
data3="";
```

```
}
```