IBMCLOUDESP32BEACON

Team Id	**PNT2022TMID17322**
Project Name	**Hazardous area monitoring for industrial plant powered by IOT**
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```
#include <WiFi.h>
#include <PubSubClient.h>
#include <DHT.h>
WiFiClient wifiClient;
String data3;
#define DHTTYPE DHT11
#define DHTPIN 4
#define MQTPIN 34
DHT dht(DHTPIN, DHTTYPE);

#define ORG "v6wg8x"
#define DEVICE_TYPE "projectFinal"
#define DEVICE_ID "FinalDeliverable"
#define TOKEN "A1ymH))p*JB&iMWNpY"
#define speed 0.034 void callback(char* topic, byte* playload,

unsigned int payloadLength);

char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/Data/fmt/json"; char topic[] =
"iot-2/cmd/test/fmt/String"; char authMethod[] = "use-token-
auth"; char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
PubSubClient client(server, 1883, callback , wifiClient); void
publishData();

String command;
String data = "";

long duration;
float dist;
void setup()
{
```

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```
  Serial.begin(115200);
  dht.begin();
  wifiConnect();
  mqttConnect();
}

void loop() {
  publishData();
  delay(500);

  if (!client.loop()) {
    mqttConnect();
  }
}

void wifiConnect() {
  Serial.print("Connecting to "); Serial.print("Wifi");
  WiFi.begin("JerroldWi-Fi","75779901");
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
  Serial.print("WiFi connected, IP address: "); Serial.println(WiFi.localIP());
}

void mqttConnect() {
  if (!client.connected()) {
    Serial.print("Reconnecting MQTT client to "); Serial.println(server);
    while (!client.connect(clientId, authMethod, token)) {
      Serial.print(".");
    delay(500); }
    initManagedDevice()
    ; Serial.println();
  }
}

void initManagedDevice() {
  if (client.subscribe(topic)) {
    Serial.println("IBM subscribe to cmd OK");
  } else {
    Serial.println("subscribe to cmd FAILED");
  }
}
```

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```
void publishData()
{ int sensorValue = analogRead(MQTPIN); //MQT 135 connected to GPIO
  34
(Analog ADC1_CH6)
  Serial.print("AirQua=");
  Serial.print(sensorValue, DEC);
  Serial.println(" PPM"); float humid =
  dht.readHumidity(); float temp =
  dht.readTemperature(true); String
  payload = "{\"Humidity\":";
  payload += humid; payload += "}"; if
  (client.publish(publishTopic, (char*) payload.c_str())) {
  Serial.println("Publish OK");
  }
  payload = "{\"Temperature\":"; payload += temp;
  payload += "}"; if (client.publish(publishTopic, (char*)
  payload.c_str())) { Serial.println("Publish OK");
  } payload = "{\"AirQuality\":";
  payload +=
  String(sensorValue);
  payload += "}"; if (client.publish(publishTopic, (char*)
  payload.c_str())) { Serial.println("Publish OK");
  }
}
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++) {
    dist += (char)payload[i];
  }
  Serial.println("data:" + data3);
  if (data3 == "lighton") {
  Serial.println(data3);
  } data3 =
  "";
}
```