SPRINT - 3

Date	12 NOVEMBER 2022
Team ID	PNT2022TMID41897
Project Name	Smart waste management system for metropolitan cities
Points	20

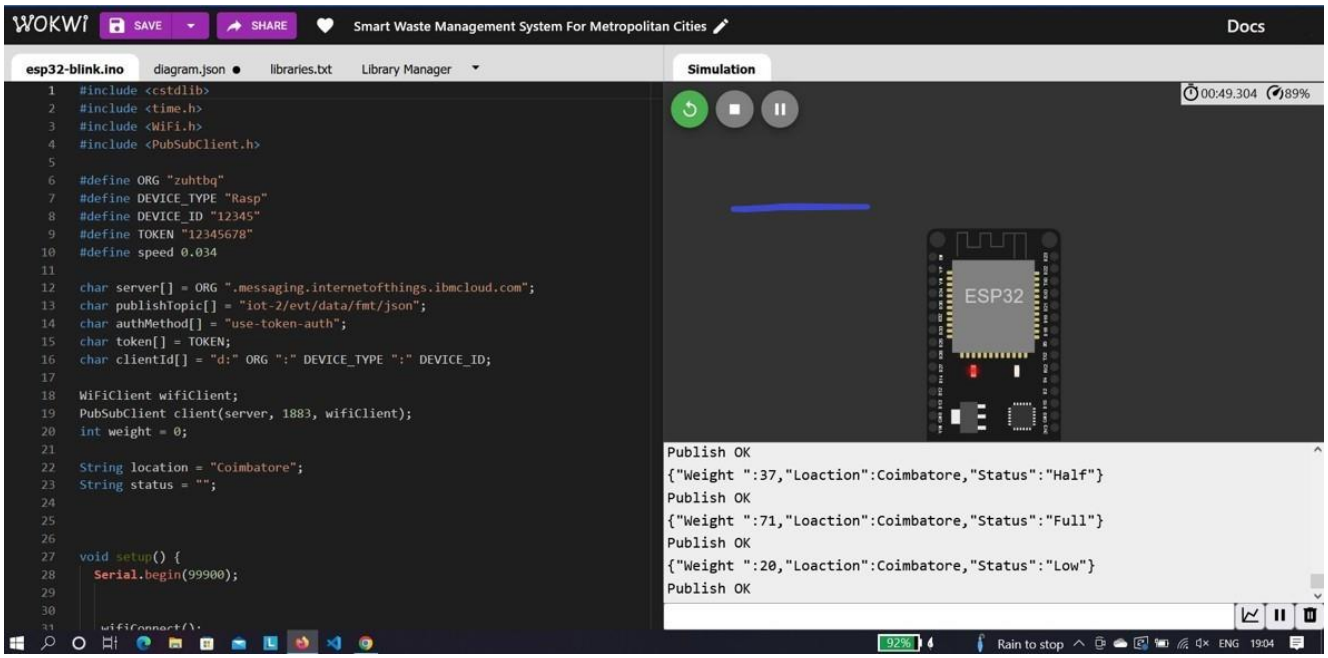
Created a IOT device to sense the level of bins and do code for device and send to Node Red using the API keys from Watson platform

CODE:

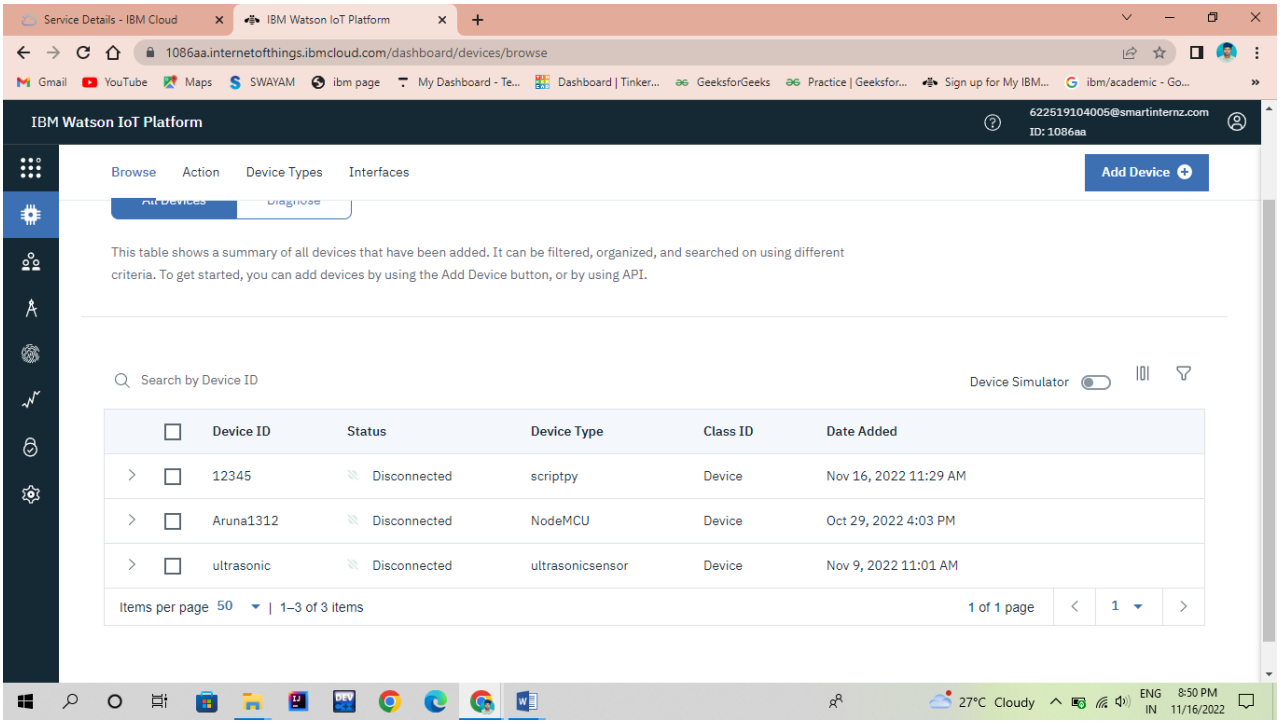
```
#include <cstdlib>
#include <time.h>
#include <WiFi.h>
#include <PubSubClient.h>



#define ORG "1086aa"

#define DEVICE_TYPE "scriptpy"
#define DEVICE_ID "12345"
#define TOKEN "123456789"

#define speed 0.034


char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/data/fmt/json";
char authMethod[] = "use-token-auth";
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;



WiFiClient wifiClient;

PubSubClient client(server, 1883, wifiClient); int weight = 0;
String location = "Paramathi velur";
 String status = "";
void setup() {
        Serial.begin(99900);
        wifiConnect();
         mqttConnect();
}
void loop() {
              srand(time(0));
              int p;
              weight = random(0,80);
if(weight > 0 && weight < 25)
{
   p = 0;
}
 else if(weight > 25 && weight < 50)
```

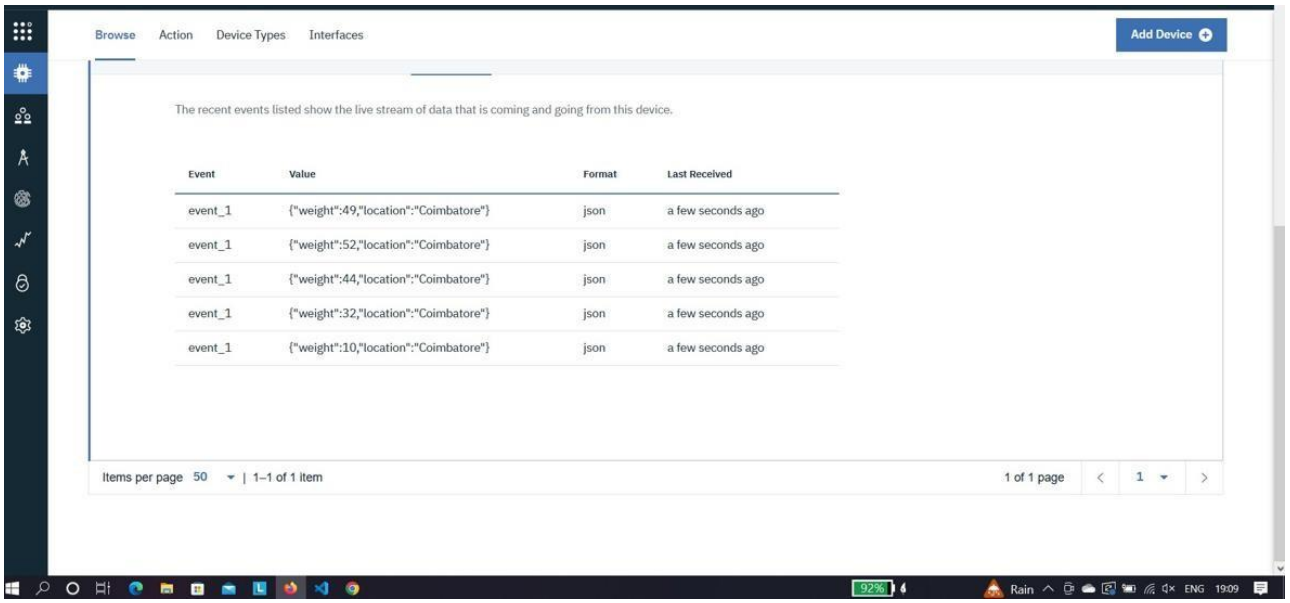
```
 {
    p = 1;
}
else
{
    p = 2;
}
 switch (p)
 {
   case 0:
     status = "Low";
    break;
   case 1:
     status = "Half";
     break;
   case 2:
     status = "Full";
     break;
}
String payload = "{";
payload+="\"Weight \":";
payload+=weight;
 payload+=",";
payload+="\"Loaction\":";
payload+="Coimbatore";
payload+=",";
payload+="\"Status\":\""+status+"\"}";
Serial.println(payload);

if(client.publish(publishTopic, (char*) payload.c_str())) {
Serial.println("Publish OK");
} else{
Serial.println("Publish failed");
} delay(1000);
if (!client.loop())
{
   mqttConnect();
}
}
void wifiConnect()
{
Serial.print("Connecting to ");
Serial.print("Wifi");
WiFi.begin("Wokwi-GUEST", "", 6);
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);
}
Serial.println()
```

Sensor circuit:



Watson IOT Platform:





Node-RED Connections :