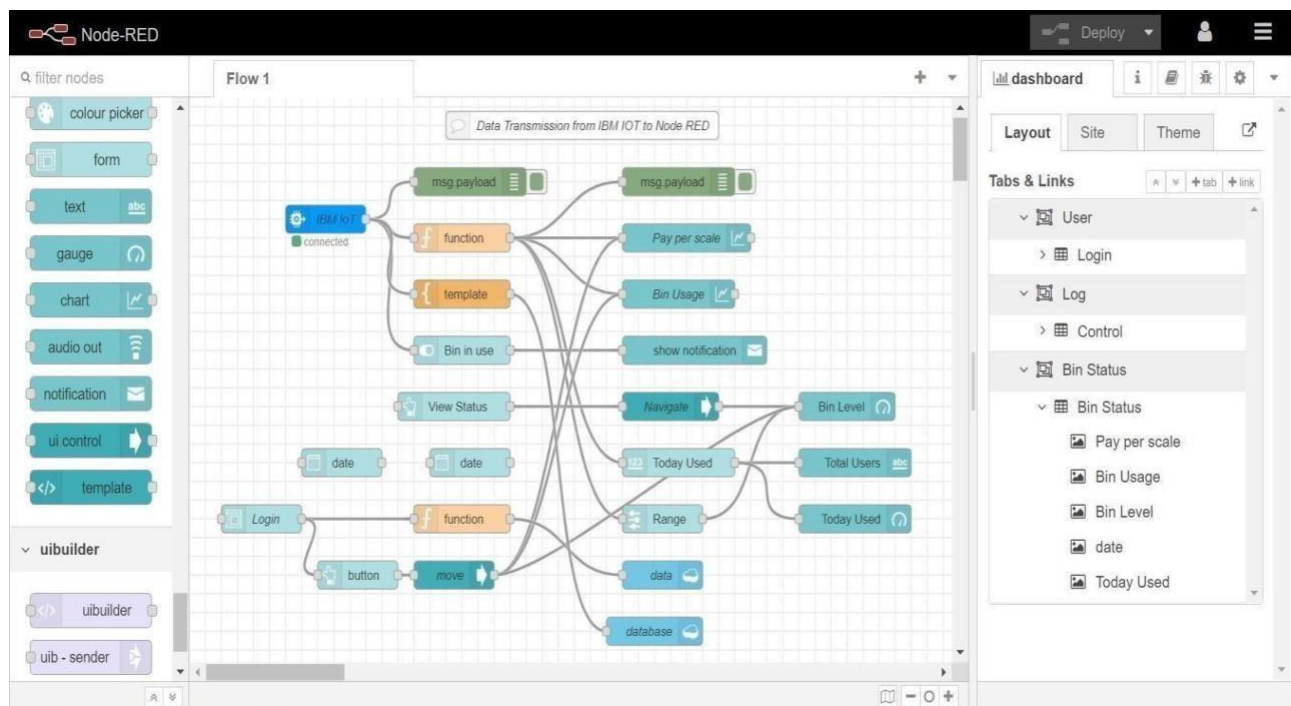# Sprint – 4

Team ID	PNT2022TMID22821
Project Name	Smart Waste Management for Metropolitan Cities

1. Node-RED Connection setup for data transmission from IBM Watson IOT platform to Node-RED dashboard.

2. Simulate Wokwi connection to transmit data from wokwi account to IBM Watson IOT platform and then to Node Red dashboard.

```
esp32-blink.ino    diagram.json    libraries.txt    Library Manager    ▼
177    }
178
179
180
181
182    if(cm <= 25)
183    {
184    digitalWrite(21,HIGH);
185    String payload = "{\"High_Alert\":";
186    payload += cm;
187    payload += " }";
188    Serial.print("\n");
189    Serial.print("Sending payload: ");
190    Serial.println(payload);
191
192    if (client.publish(publishTopic, (char*) payload.c_str()))    // if
193    {
194    Serial.println("Publish OK");
195    }
196    }
197    if(cm <= 50)
198    {
199    digitalWrite(22,HIGH);
200    String payload = "{\"Warning\":";
201    payload += cm ;
202    payload += " }";
203    Serial.print("\n");
```

Simulation

00:35.846   99%

PIR Motion Sensor
Simulate motion

Sending distance: 26.94
Publish OK
Motion Detected
Lid Opened
High Alert!!!,Trash bin is about to be full
Lid Closed

3. Data transfer to Watson IOT platform.
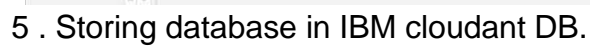
Browse   Action   Device Types   Interfaces   Add Device ➕

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
data	{"Warning":28.95}	json	a few seconds ago
data	{"Warning":28.95}	json	a few seconds ago
data	{"Warning":49.98}	json	a minute ago
data	{"Warning":49.98}	json	a minute ago
data	{"Warning":11.03}	json	a minute ago

4. Data transfer from IBM Watson IOT platform and wokwi to Node red.

5 . Storing database in IBM cloudant DB.

6. Data is stored in JSON format

7. Web UI

Log

Bin Status

Control

Bin in use 🗑

Range ●──────────

Today Used ∨ 0 ∧

date 📅 06/11/2022 ▼

📊 VIEW STATUS

☰ Log

Control

Bin in use 🗑

Range ●──────────

Today Used ∨ 0 ∧

date 📅 06/11/2022 ▼

📊 VIEW STATUS

Bin Status

Bin Level

200

150

100

50

0

iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json

date 📅 06/11/2022

Today Used

☐ iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json

100

75

50

25

0

6/11 6/11 6/11 6/11 6/11 6/11

Bin Level

27

0 gallons 100

Today Used

27gallons