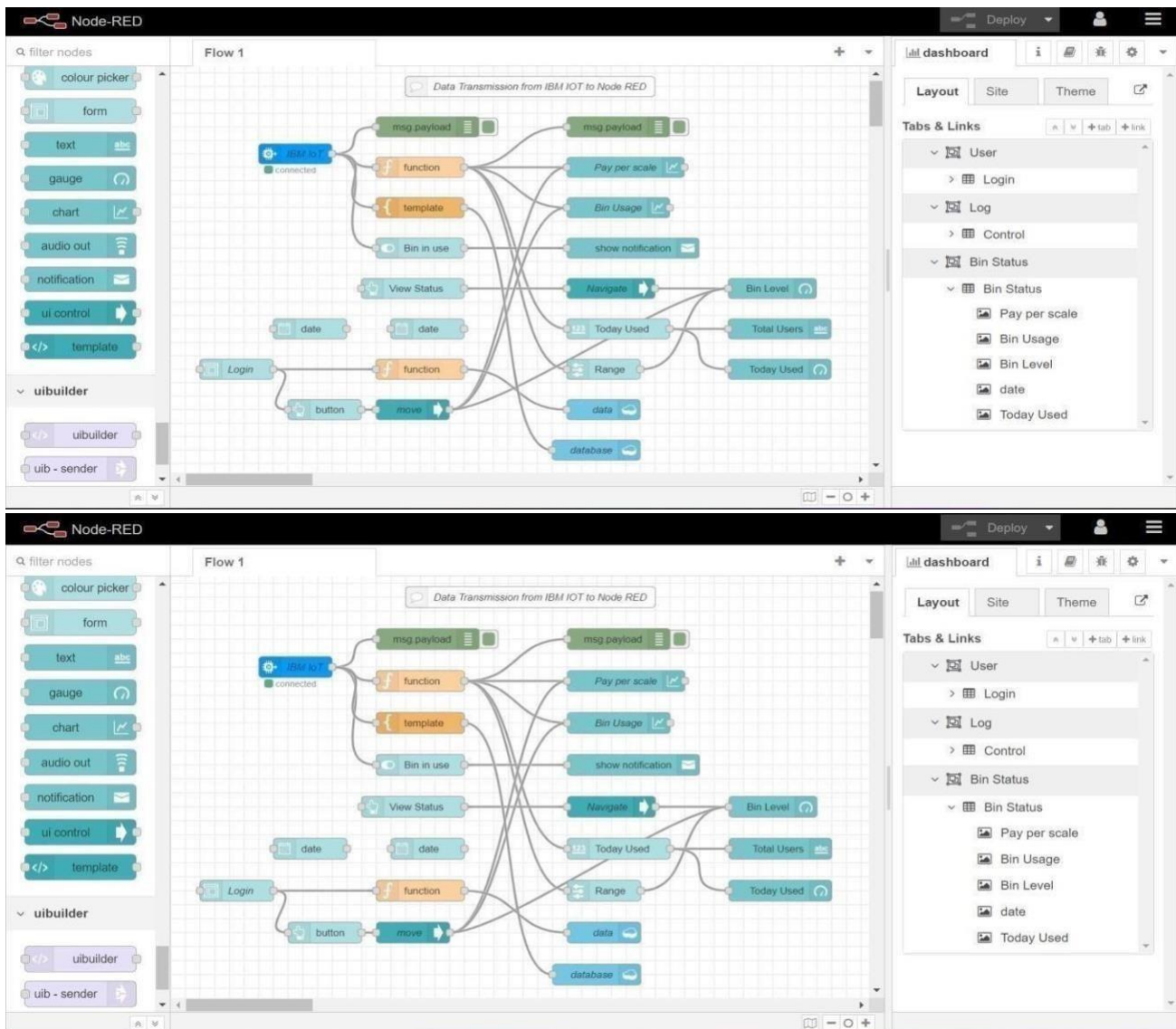


Delivery of Sprint – 3

Node Red Connection to IBM Cloudant

Date	18November 2022
Team ID	PNT2022TMID47006
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.

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

The image displays two screenshots related to data transfer and processing. The top screenshot shows the IBM Watson IoT Platform interface, specifically the 'Events' tab for a device. It lists recent events with columns for Event, Value, Format, and Last Received. The bottom screenshot shows the Node-RED web interface with a flow titled 'Data Transmission from IBM IOT to Node RED'. The flow starts with a 'msg.payload' node, followed by a 'function' node that processes the data. The processed data is then split into multiple outputs: 'Usage Per Hour', 'Bin Usage', 'show notification', 'Navigate', 'Bin Level', 'Today Used', 'Range', and 'data'. The flow also includes a 'Login' node and a 'button' node. The right sidebar shows the debug console with logs for the 'msg.payload' and 'Warning' values.

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

5. Storing database in IBM cloudant DB.

6. Data is stored in JSON format

sensor_data > 0198213c192cb2c244cc2433f1802b91

Save Changes Cancel Upload Attachment Clone Document Delete

```
1 {
2   "_id": "0198213c192cb2c244cc2433f1802b91",
3   "_rev": "1-cde2dd17c519394dfeb774730c495f8b",
4   "topic": "iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json",
5   "payload": {
6     "Warning!!": "244.971left"
7   },
8   "deviceId": "ibmproject",
9   "deviceType": "SWMSMC",
10  "eventType": "data",
11  "format": "json"
12 }
```

Log Out