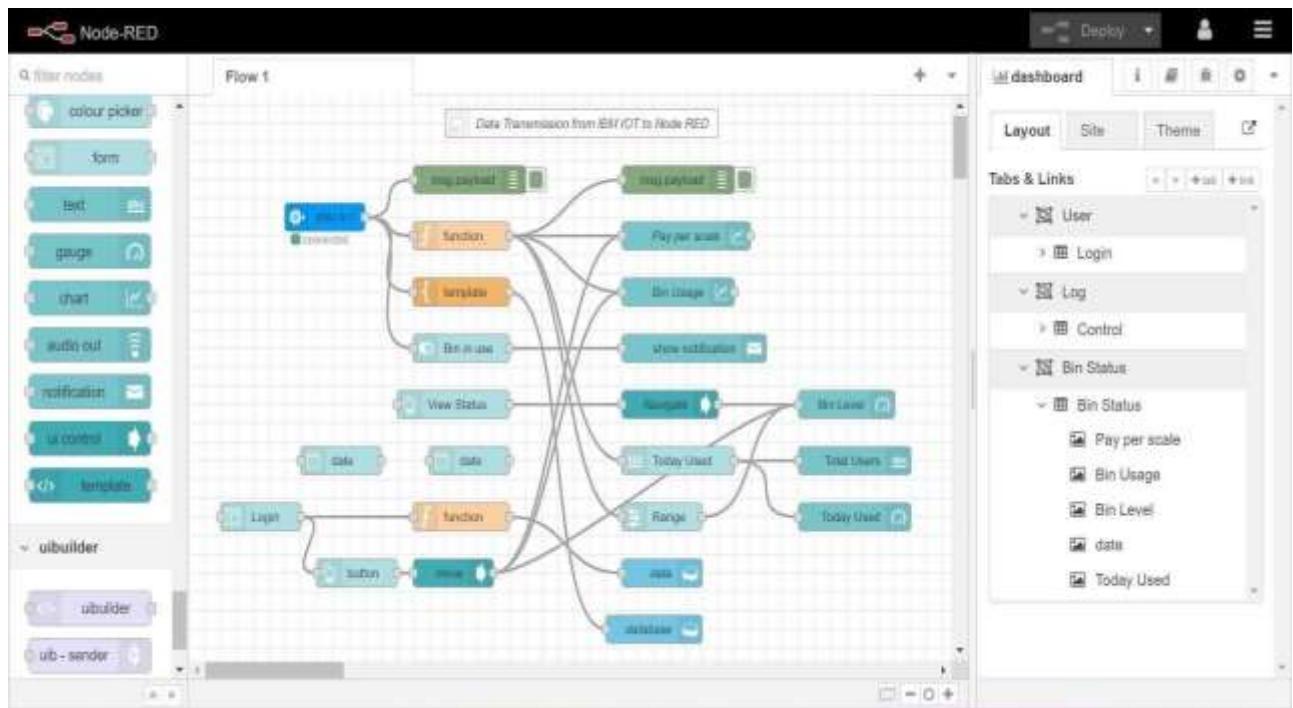


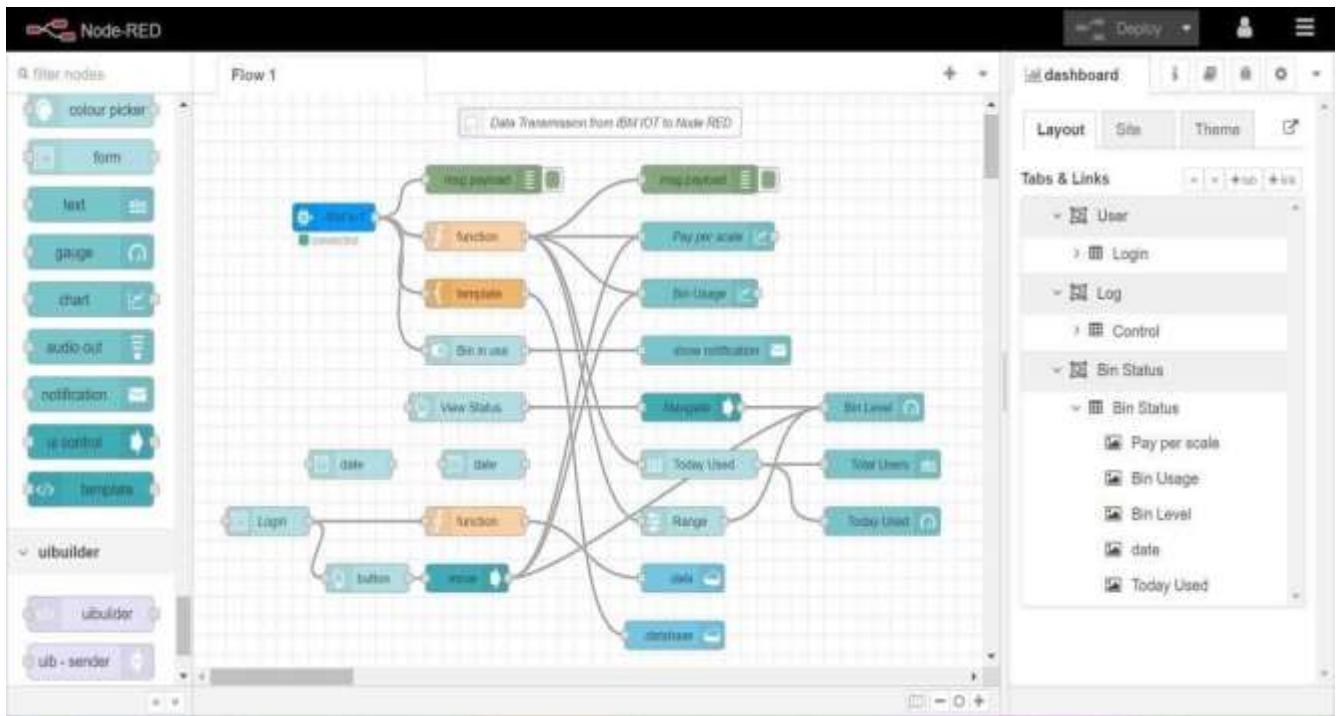
## Delivery of Sprint – 4

### Web UI Design and Deploy

Date	09 November 2022
Team ID	PNT2022TMID53722
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.





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

```

esp32-blink.ino
177
178
179
180
181
182     if(cm <= 20)
183     {
184         digitalWrite(23,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");

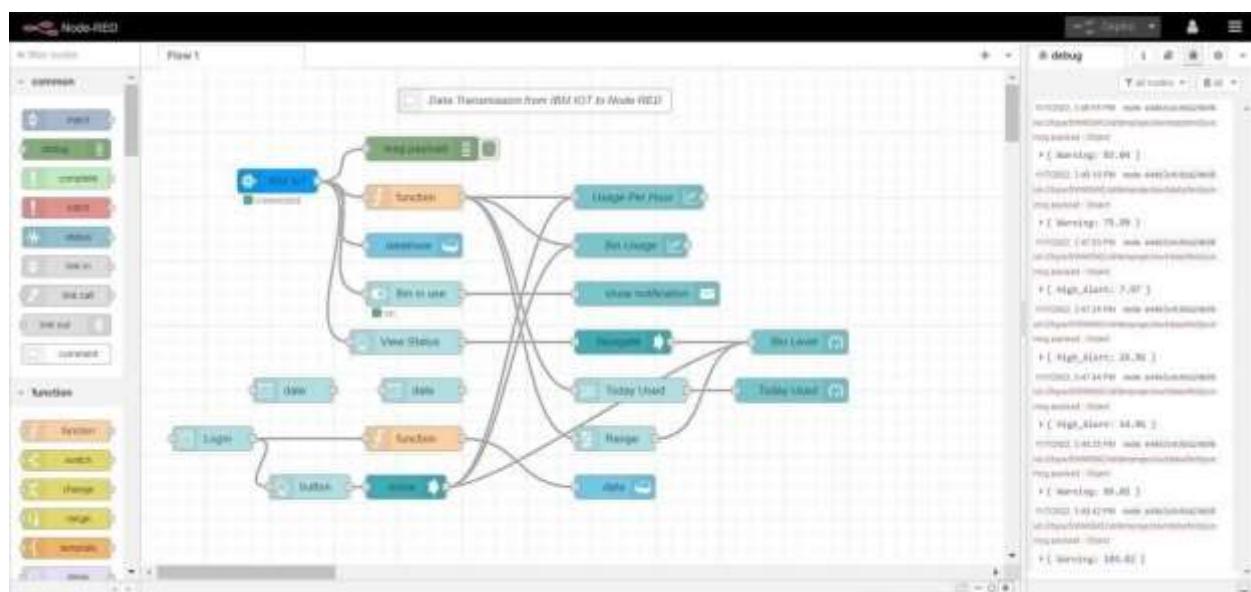
```

### 3. Data transfer to Watson IOT platform.

The screenshot shows the IBM Watson IoT Platform interface. At the top, there are tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. On the far right, there is a blue button labeled 'Add Device'. The main area displays a table of recent events:

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.

The screenshot shows the 'Databases' section of the IBM Cloudant interface. On the left is a sidebar with icons for Home, Databases, Views, Replicators, Changes, Design Documents, and Log Out. The main area has a header 'Databases' with filters for 'Database name', 'Create Database', 'JSON', and a refresh icon. Below is a table titled 'Your Databases' with columns: Name, Size, # of Docs, Partitioned, and Actions. The table lists four databases:

Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	[Edit, Lock, Delete]
nodeinfo@172.22.1.5	37.4 KB	4	No	[Edit, Lock, Delete]
sample	59.4 KB	351	No	[Edit, Lock, Delete]
sensor_data	15.7 KB	90	No	[Edit, Lock, Delete]

At the bottom, it says 'Showing 1-4 of 4 databases' and 'Databases per page: 20'.

The screenshot shows the 'sensor\_data' database interface. On the left is a sidebar with icons for Home, Databases, Views, Replicators, Changes, Design Documents, and Log Out. The main area has a header 'sensor\_data' with filters for 'Document ID', 'JSON', 'CSV', and a refresh icon. Below is a table with columns: id, key, and value. The table lists 20 documents, each with a small preview icon and a delete icon. The 'value' column shows JSON data for each document.

id	key	value
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2d8f17c519394df..."}
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-d28c5b40891e13c6c..."}
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2d8f17c519394df..."}
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-996ab04608c16cfab0..."}
1a921f21cbe22998bf599acbd5...	1a921f21cbe22998bf599acbd5...	{ "rev": "1-72226d08794cd47b7c..."}
1a921f21cbe22998bf599acbd5...	1a921f21cbe22998bf599acbd5...	{ "rev": "1-1bbdd9a985hd5bcf9..."}
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-72226d08794cd47b7c..."}
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-3ad2b88ecad57f039e..."}
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-3bbdd9a985hd5bcf9..."}
298ed6fbfd9fb3bf1525ac7c7ff61e...	298ed6fbfd9fb3bf1525ac7c7ff61e...	{ "rev": "1-4e272d09e530374310..."}

At the bottom, it says 'Showing document 1 - 20' and 'Documents per page: 20'.

## 6. Data is stored in JSON format

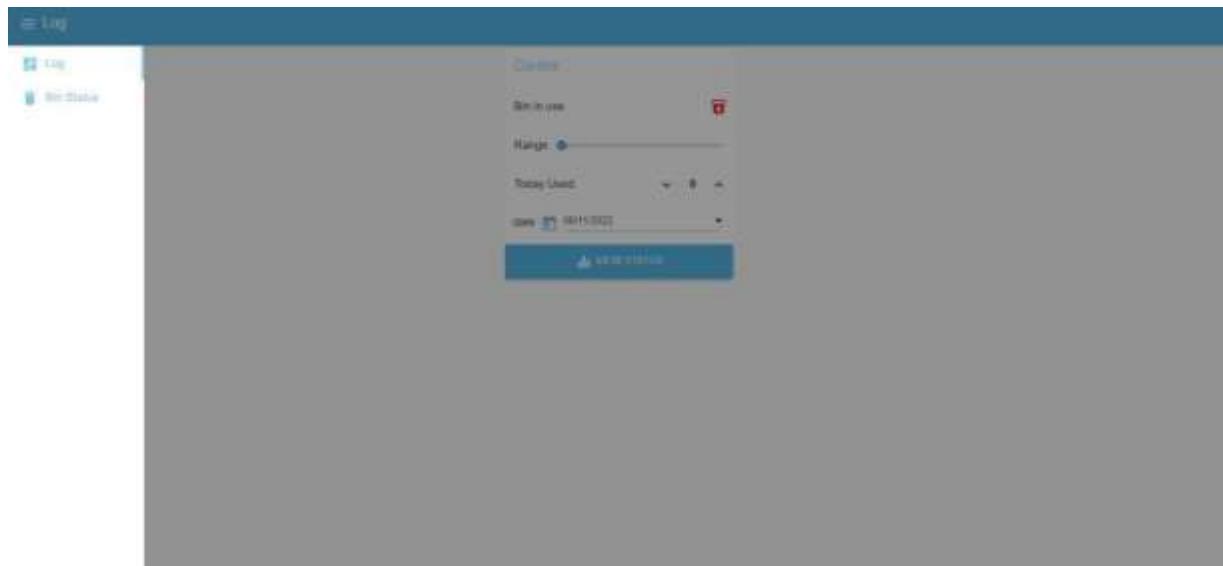
sensor\_data > 0198213c192cb2c244cc2433f1802b91

Save Changes Cancel Upload Attachment Clone Document Delete

```
1-1
2  "_id": "0198213c192cb2c244cc2433f1802b91",
3  "_rev": "1-cde2dd17c510394dfeb774738c409#02",
4  "entity": "iot-2/type/SWSPC/1d/lbmp-project/avt/data/Fet/json",
5  "payload": {
6    "warning": {
7      "warning": "244.07left"
8    },
9    "deviceId": "lbmp-project",
10   "deviceType": "Sensors",
11   "eventtype": "data",
12   "format": "json"
13 }
```

Log Out

## 7. Web UI



Log

Control

Bin In use:

Range:

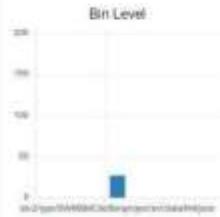
Today Used:  9

Date:  06/11/2022

VIEW STATUS

Bin Status

Bin Status



Date:  06/11/2022

