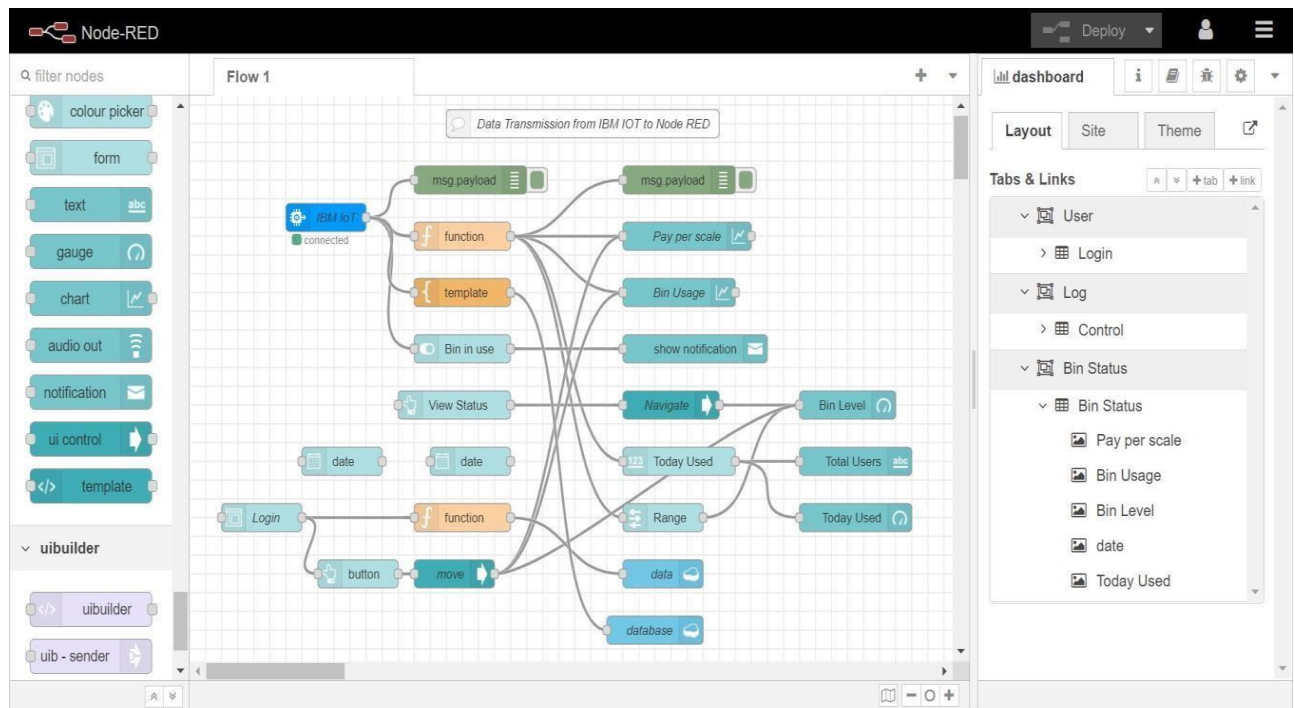


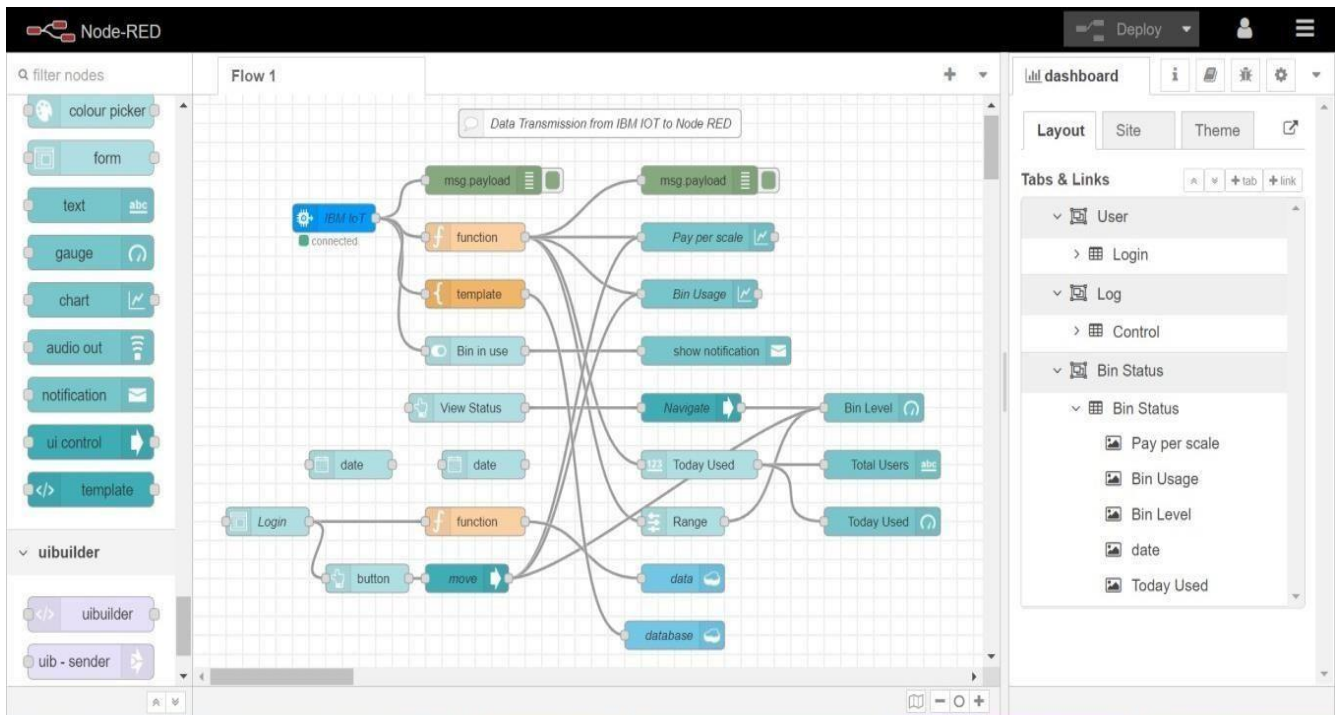
Delivery of Sprint – 4

Web UI Design and Deploy

Date	09 November 2022
Team ID	PNT2022TMID28837
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

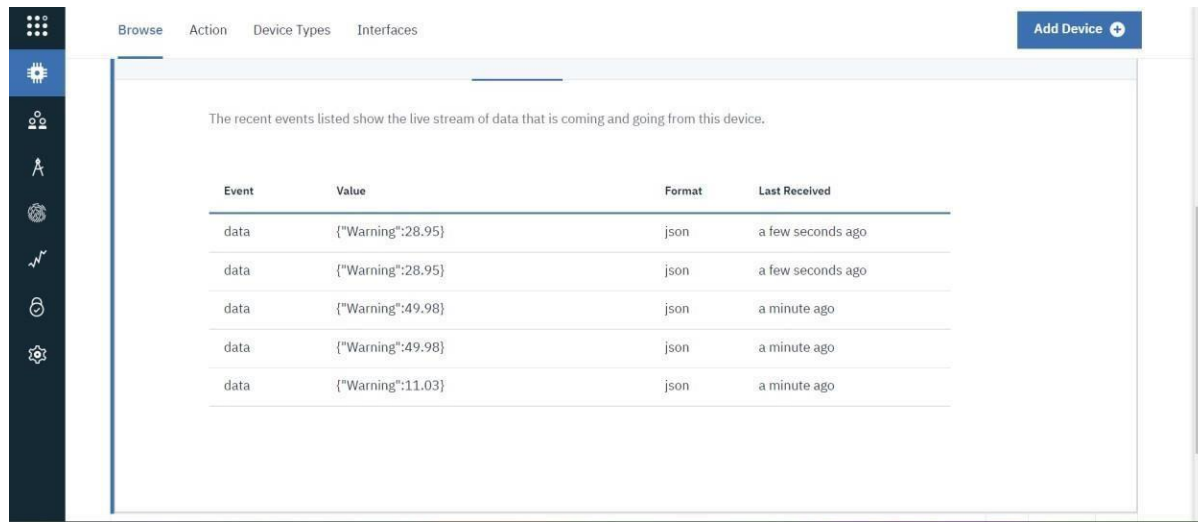
Motion Detected

Lid Opened

High Alert!!!,Trash bin is about to be full

Lid Closed

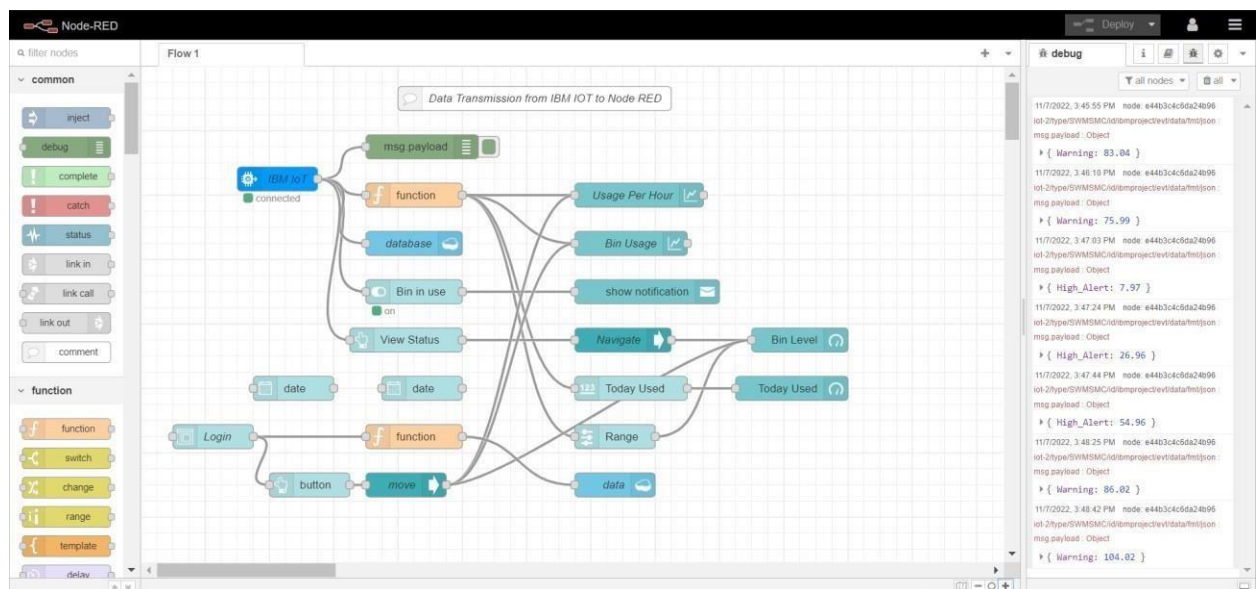
3. Data transfer to Watson IOT platform.



The screenshot shows the IBM Watson IoT Platform interface. At the top, there are tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A blue 'Add Device' button is in the top right. Below the tabs, a message states: 'The recent events listed show the live stream of data that is coming and going from this device.' Below this message is a table with the following data:

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 IBM Cloudant 'Databases' page. At the top, there's a 'Database name' dropdown, a 'Create Database' button, and icons for JSON, a book, and a bell. Below this is a section titled 'Your Databases' containing a table with the following data:

Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	[Icons for edit, lock, delete]
noderedwjldy20221105	37.4 KB	4	No	[Icons for edit, lock, delete]
sample	59.4 KB	351	No	[Icons for edit, lock, delete]
sensor_data	15.7 KB	90	No	[Icons for edit, lock, delete]

At the bottom, it says 'Showing 1–4 of 4 databases.' and 'Databases per page: 20' with a dropdown arrow. There are also navigation arrows and a page number '1'.

The screenshot shows the 'sensor_data' document view in IBM Cloudant. The left sidebar has a menu with 'All Documents', 'Query', 'Permissions', 'Changes', and 'Design Documents'. The main area has tabs for 'Table', 'Metadata', and 'JSON', with a 'Create Document' button. The 'Table' tab is active, showing a list of documents with columns 'id', 'key', and 'value'. The first few rows are:

id	key	value
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2dd17c519394df...
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-d26c5b40891e13c6c...
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2dd17c519394df...
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-f96eb0460bc16cfab0...

At the bottom, it says 'Showing document 1 - 20.' and 'Documents per page: 20' with a dropdown arrow. There are also navigation arrows.

6. Data is stored in JSON format

↔

sensor_data > 0198213c192cb2c244cc2433f1802b91

{ } JSON

Save Changes Cancel

Upload Attachment Clone Document Delete

1- {

2 "_id": "0198213c192cb2c244cc2433f1802b91",

3 "_rev": "1-cde2dd17c519394dfcb774730c495f8b",

4 "topic": "iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json",

5 "payload": {

6 "Warning!!": "244.97left"

7 },

8 "deviceId": "ibmproject",

9 "deviceType": "SWMSMC",

10 "eventType": "data",

11 "format": "json"

12 }

Log Out


7. Web UI


Log



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

