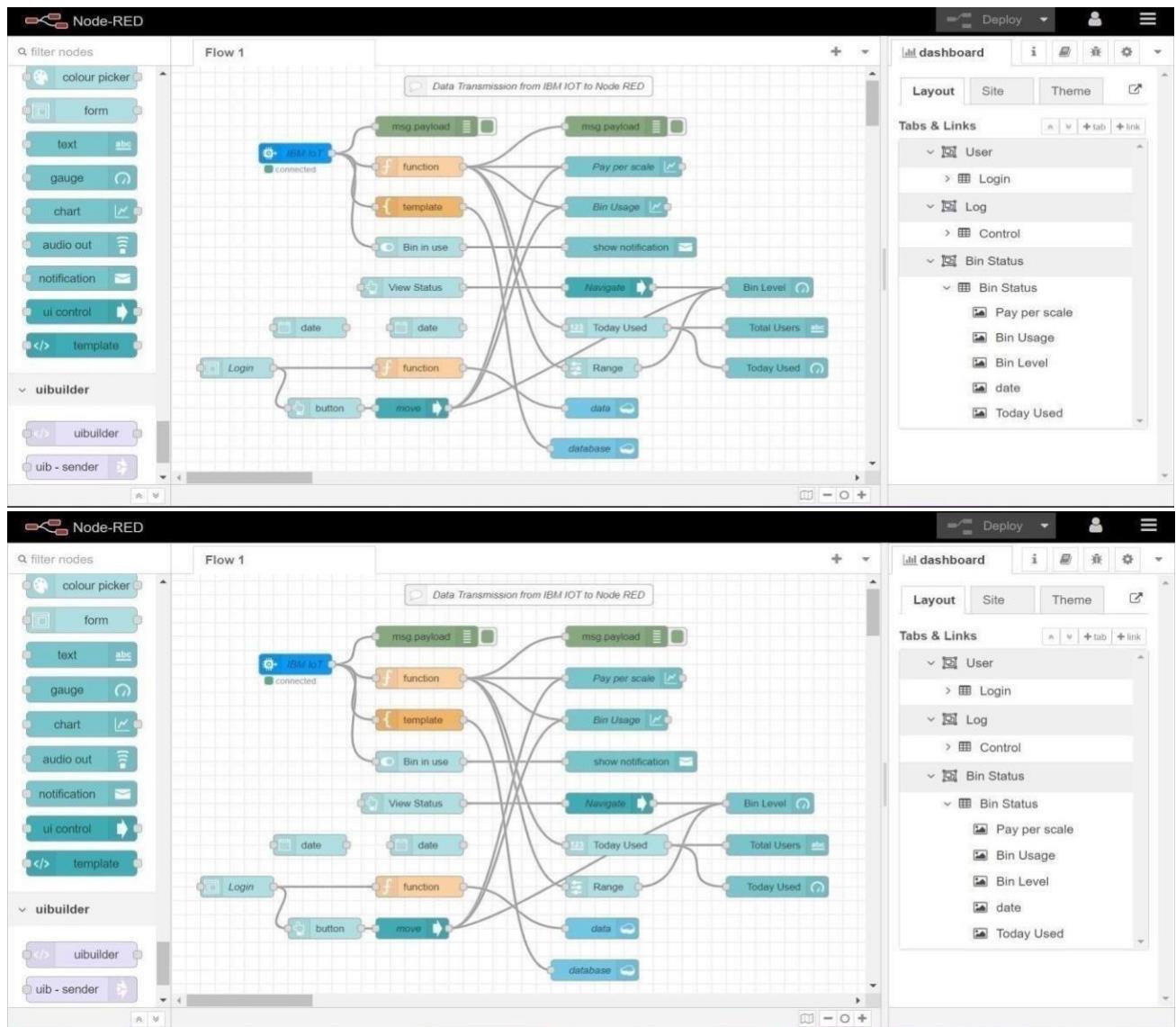


## **Delivery of Sprint – 3**

### **Node Red Connection to IBM Cloudant**

<b>Date</b>	<b>10 November 2022</b>
<b>Team ID</b>	<b>PNT2022TMID16061</b>
<b>Project Name</b>	<b>Smart Waste Management for Metropolitan Cities</b>

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      diagram.json    libraries.txt    Library Manager
176
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");

```

PIR Motion Sensor  
Simulate motion

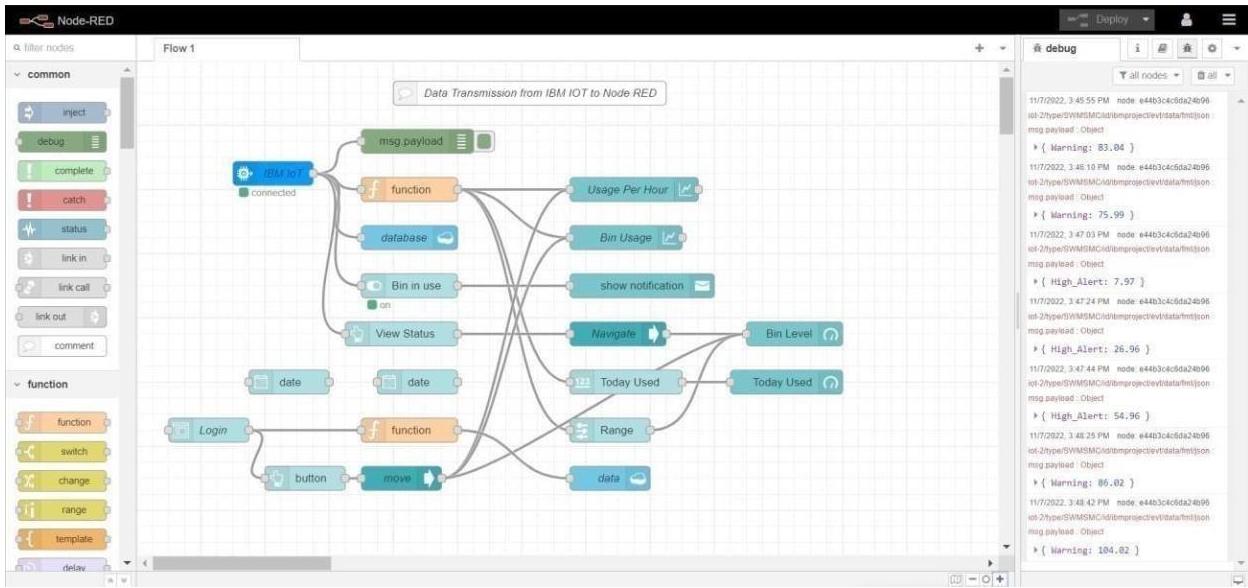
00:35.846 99%

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.

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.

Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	
noderedwjldy20221105	37.4 KB	4	No	
sample	59.4 KB	351	No	
sensor_data	15.7 KB	90	No	

Showing 1–4 of 4 databases. Databases per page: 20

The screenshot shows the Apache CouchDB Futon interface. On the left is a sidebar with icons for Home, All Documents, Query, Permissions, Changes, Design Documents, and Log Out. The main area has a title bar with 'sensor\_data' and a 'Document ID' dropdown. Below is a table view with columns: id, key, and value. The table lists 20 documents, each with a small icon and a link. The 'key' column contains document IDs like '0198213c192cb2c244cc2433f1...' and '1a921f21cbe229b86f599acb45...'. The 'value' column shows JSON objects. At the bottom, it says 'Showing document 1 - 20. Documents per page: 20'.

	id	key	value
1	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2dd17c519394df..." }
2	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-d26c5b40891e13c6c..." }
3	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2dd17c519394df..." }
4	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-f96eb0460bc16cfab0..." }
5	1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{ "rev": "1-7226f08794cd47b7c..." }
6	1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{ "rev": "1-1bbdd9a985bd56cf9..." }
7	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-7226f08794cd47b7c..." }
8	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-3ad288ecad57f039e..." }
9	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-1bbdd9a985bd56cf9..." }
10	298ed6fh9h3b815f5ac7c061e...	298ed6fh9h3b815f5ac7c061e...	{ "rev": "1-4e7240f6e5307a1b9..." }
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

## 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-cde2dd17c519394dfeb774730c495f8b",
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