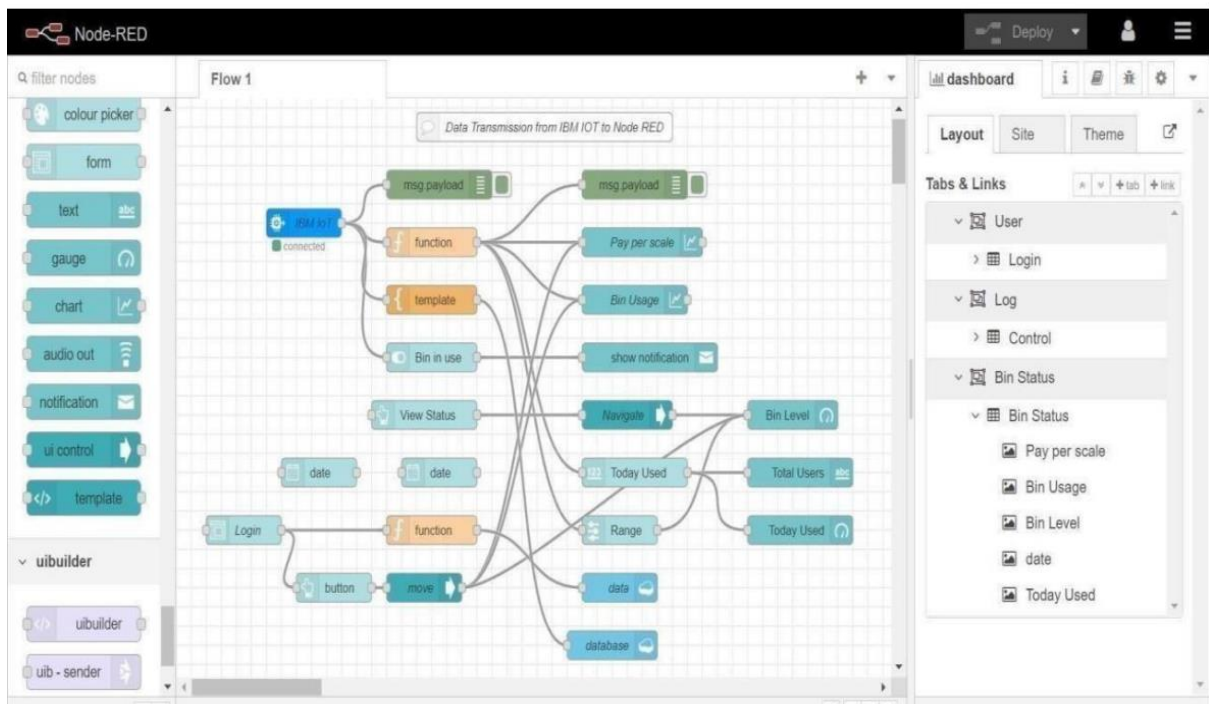


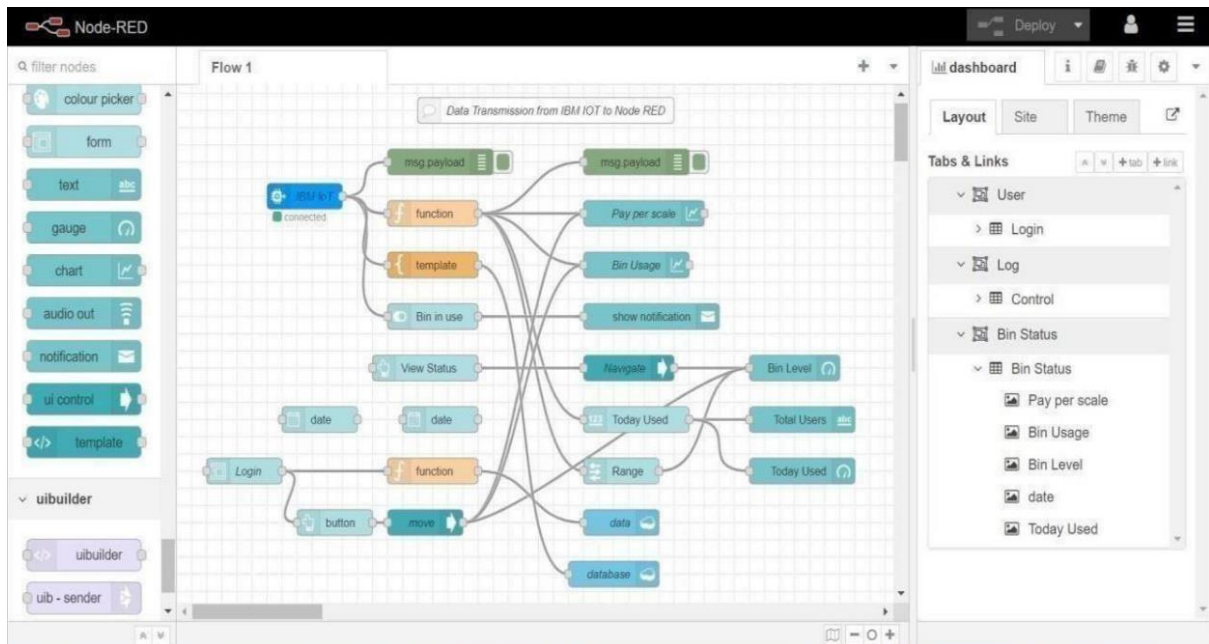
## Delivery of Sprint – 3

### Node Red Connection With ibm Cloudant

Date	November 19 2022
Team ID	PNT2022TMID15274
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**



## 5. Storing database in IBM cloudant DB.

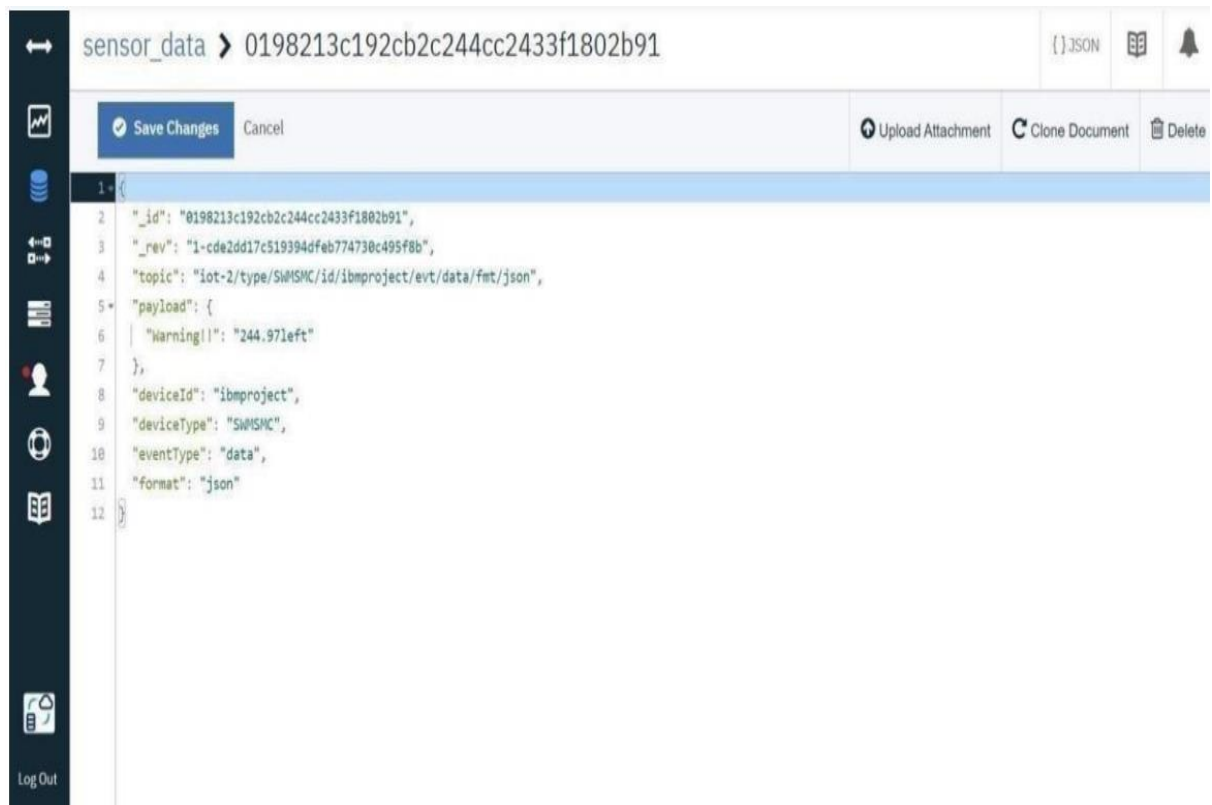
The screenshot shows the IBM Cloudant Databases page. At the top, there's a header with 'Databases', a 'Database name' dropdown, a 'Create Database' button, and icons for JSON, a book, and a bell. Below the header, there's a section titled 'Your Databases' containing a table with the following data:

Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	[Icons for edit, lock, delete]
noderedwjlidy20221105	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 of the page, it says 'Showing 1–4 of 4 databases. Databases per page 20' with navigation arrows.

The screenshot shows the IBM Cloudant 'sensor\_data' database document view. The left sidebar has a search bar with 'sensor\_data' and a list of menu items: 'All Documents', 'Query', 'Permissions', 'Changes', and 'Design Documents'. The main area has a header with 'Document ID' dropdown, 'Options' icon, JSON icon, book icon, and bell icon. Below the header, there's a tabbed interface with 'Table', 'Metadata', and 'JSON' tabs, and a 'Create Document' button. The 'Table' tab is active, showing a table with columns 'id', 'key', and 'value'. The table contains 10 rows of document data, each with a checkbox, a document icon, and truncated IDs, keys, and values. At the bottom, it says 'Showing document 1 - 20. Documents per page: 20' with navigation arrows.

## 6.Data is stored in JSON format.



The screenshot displays a web-based JSON editor interface. At the top, the document is titled "sensor\_data" followed by a long alphanumeric ID. Below the title bar, there are buttons for "Save Changes", "Cancel", "Upload Attachment", "Clone Document", and "Delete". The main editing area shows a JSON document with the following structure:

```
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 }
```

The interface also features a vertical sidebar on the left with various icons for navigation and a "Log Out" button at the bottom.