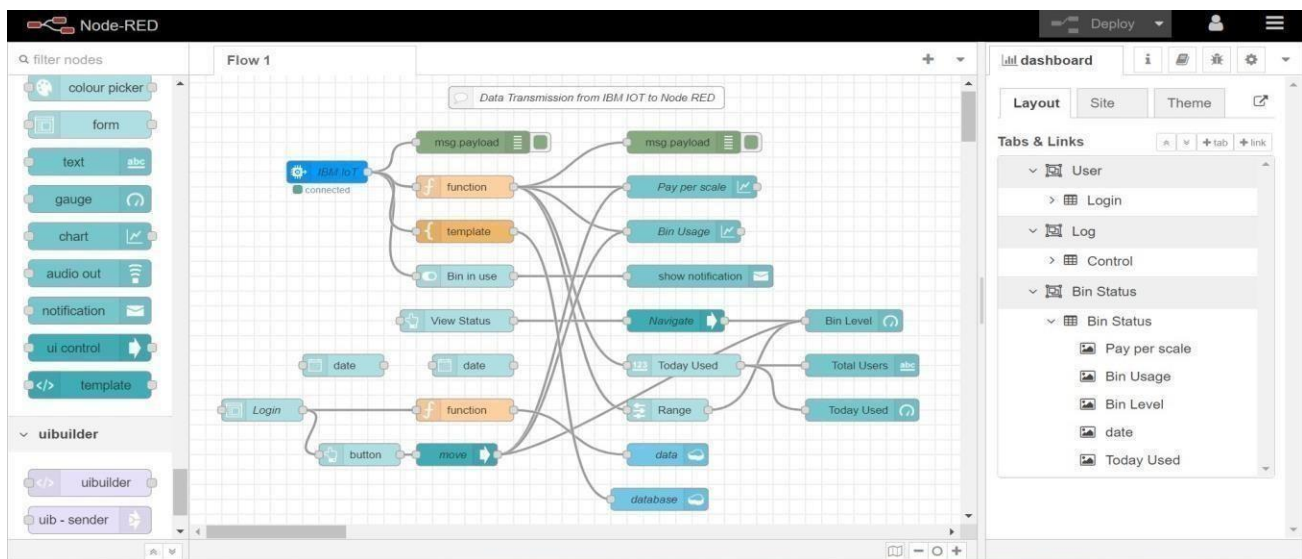


Delivery of Sprint – 2

Node Red Connection to IBM Cloudant

Date	4 November 2022
Team ID	PNT2022TMID11010
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

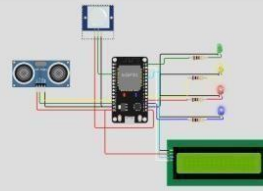
```
177
178
179
180
181
182     if(cm <= 25)
183     {
184         digitalWrite(21,HIGH);
185         String payload = "{\"High_Alert\":\"";
186         payload += cm;
187         payload += " }";
188         Serial.print("\n");
189         Serial.print("Sending payload: ");
190         Serial.println(payload);
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

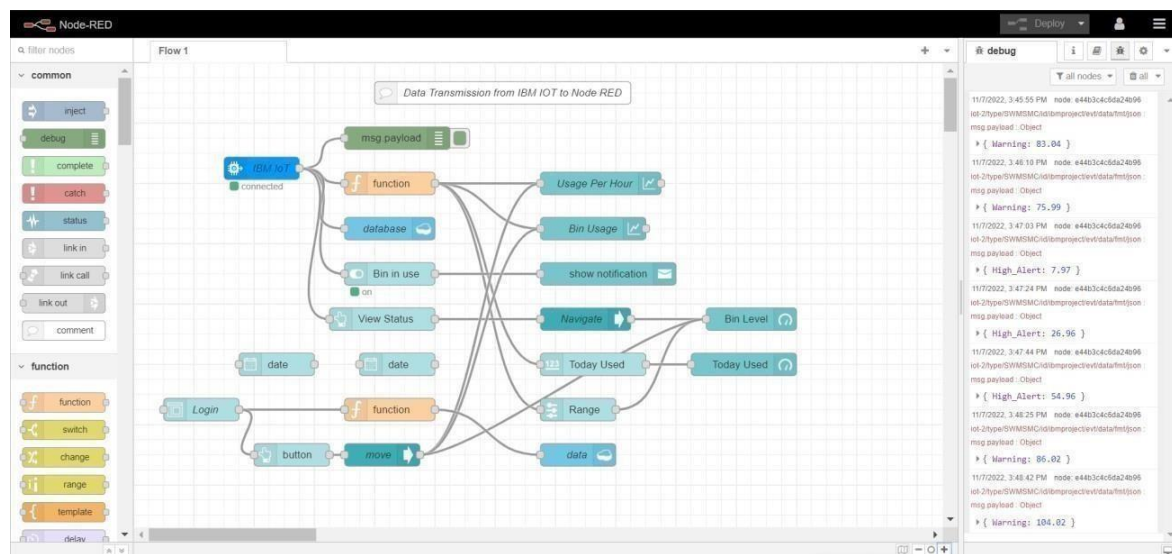
3. Data transfer from IBM Watson IOT platform and wokwi to Node red.

BrowseActionDevice TypesInterfaces

Add Device +

The recent events listed show the live stream of data that is coming and going from this device.

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. Storing database in IBM cloudant DB.

Database name

Create Database

{ } JSON

Your Databases

Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	<div></div> <div></div> <div></div>
noderedwjlidy20221105	37.4 KB	4	No	<div></div> <div></div> <div></div>
sample	59.4 KB	351	No	<div></div> <div></div> <div></div>
sensor_data	15.7 KB	90	No	<div></div> <div></div> <div></div>

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

sensor_data

Document ID

Options

{ } JSON

All Documents

Query

Permissions

Changes

Design Documents

Table

Metadata

{ } JSON

Create Document

	id	key	value
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2dd17c519394df...
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-d26c5b40891e13c6c...
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-cde2dd17c519394df...
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{ "rev": "1-f96eb0460bc16cfab0...
<input type="checkbox"/>	1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{ "rev": "1-7226f08794cd47b7c...
<input type="checkbox"/>	1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{ "rev": "1-1bbdd9a985bd56cf9...
<input type="checkbox"/>	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-7226f08794cd47b7c...
<input type="checkbox"/>	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-3ad288ecad57f039e...
<input type="checkbox"/>	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-1bbdd9a985bd56cf9...
<input type="checkbox"/>	298ed6fbd9h3b815f5ac7c061e...	298ed6fbd9h3b815f5ac7c061e...	{ "rev": "1-4e7240f6e5307a1b9...

Showing document 1 - 20. Documents per page: 20

5. Data is stored in JSON format

The screenshot displays a web application for managing documents. The main area shows a JSON document titled "sensor_data" with ID "0198213c192cb2c244cc2433f1802b91". The document content is as follows:

```
{
  "_id": "0198213c192cb2c244cc2433f1802b91",
  "_rev": "1-cde2dd17c519394dfeb774730c495f8b",
  "topic": "iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json",
  "payload": {
    "Warning!!": "244.971eft"
  },
  "deviceId": "ibmproject",
  "deviceType": "SWMSMC",
  "eventType": "data",
  "format": "json"
}
```

The interface includes a sidebar on the left with various icons for navigation and a top bar with a "Save Changes" button and a right sidebar with "Upload Attachment", "Clone Document", and "Delete" buttons.