

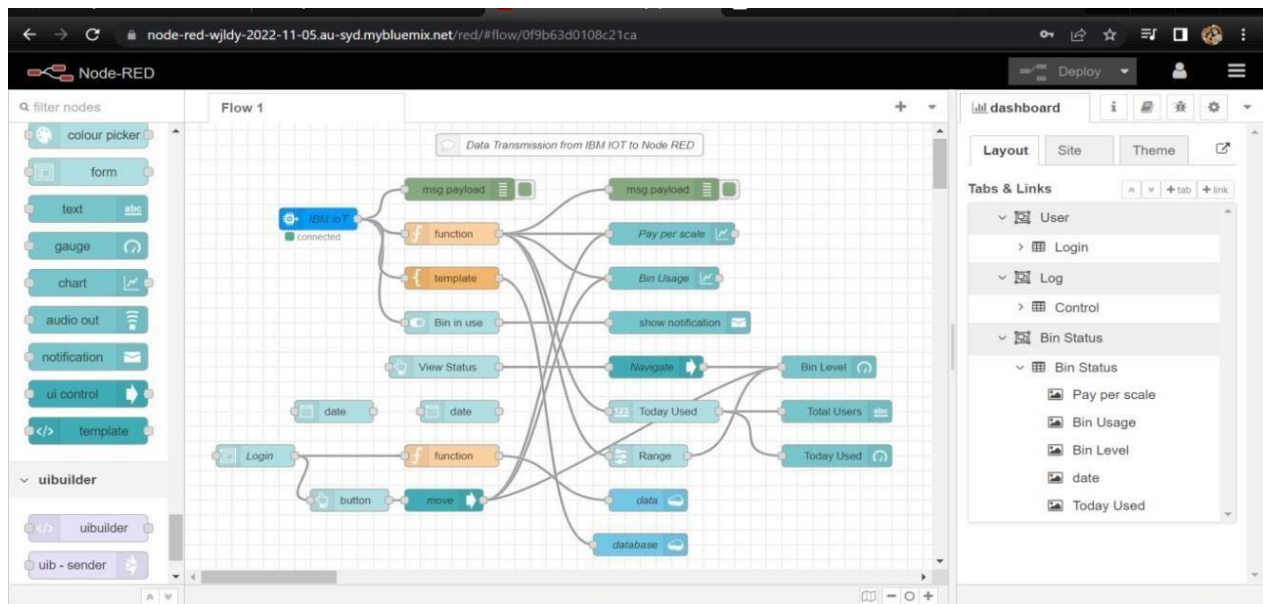
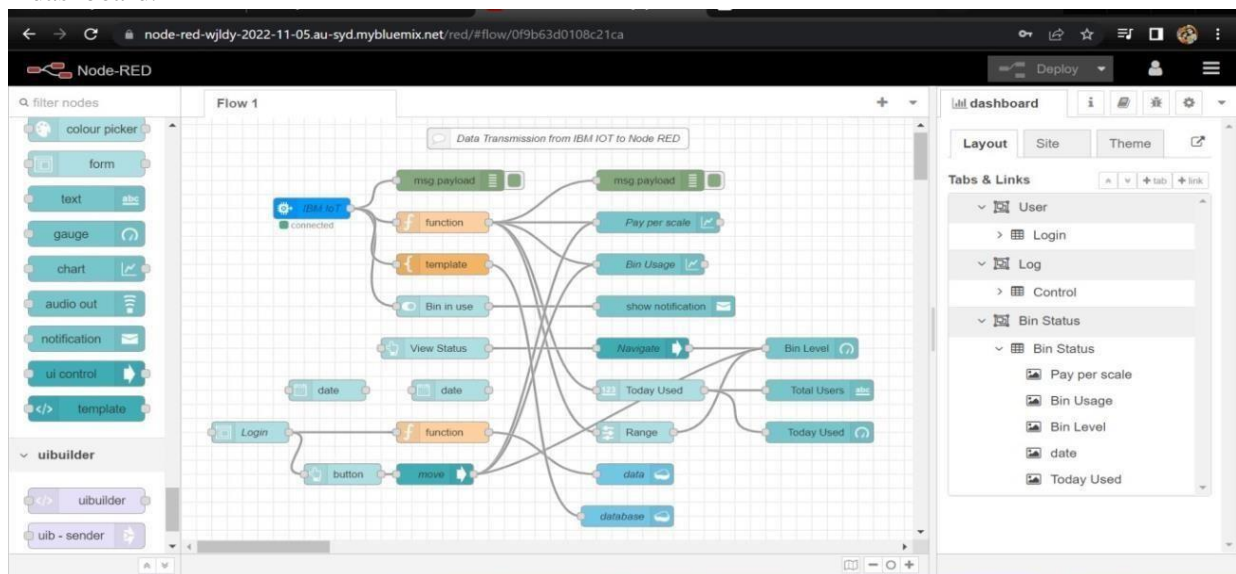
# DELIVERY OF SPRINT – 3

## Node Red Connection to IBM Cloudant

<b>Date</b>	04 November 2022
<b>Team ID</b>	PNT2022TMID39755
<b>Project Name</b>	Smart Waste Management System 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.

The screenshot shows the Wokwi web interface for an ESP32 project. The code editor on the left contains the following code:

```
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");
```

The simulation window on the right shows a circuit diagram of an ESP32 with a PIR Motion Sensor and a buzzer. Below the diagram, the simulation output displays the following messages:

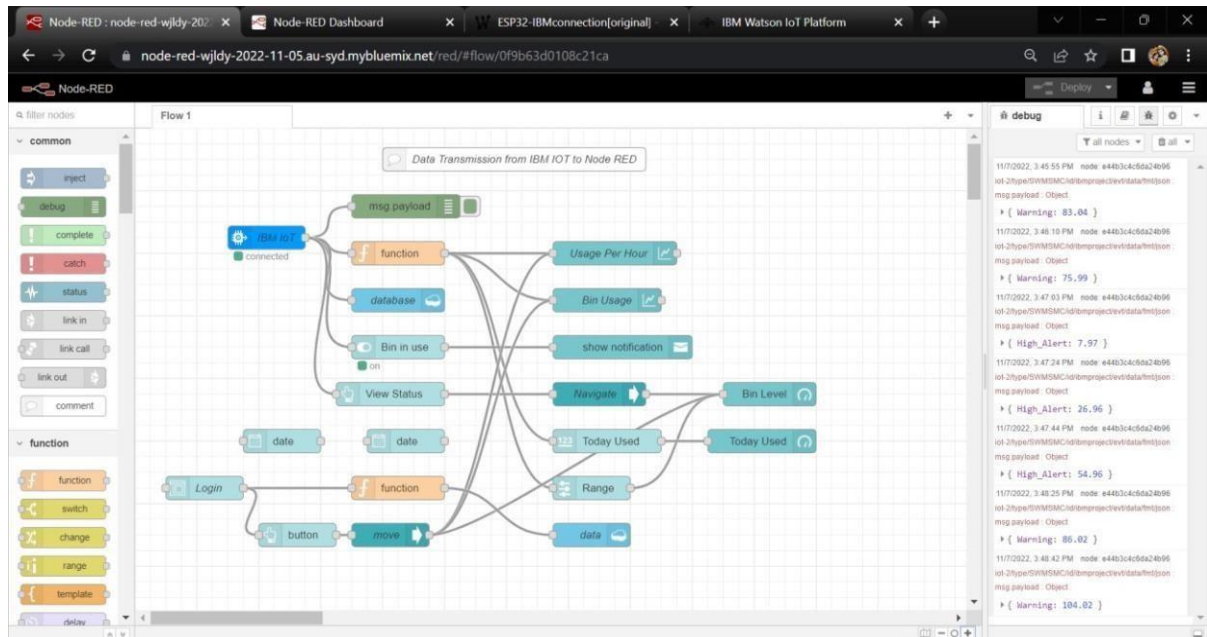
```
Sending distance: 26.94
Publish OK
Motion Detected
Lid Opened
High Alert!!!,Trash bin is about to be full
Lid Closed
```

3.Data transfer to Watson IOT platform.

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes "Browse", "Action", "Device Types", and "Interfaces". The main content area displays a table of recent events for a device with ID 9gbe4w.

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 dashboard. At the top, there's a "Databases" header with a "Database name" dropdown and a "Create Database" button. Below this, a table lists the existing databases. The table has columns for Name, Size, # of Docs, Partitioned, and Actions. The databases listed are login\_credentials, noderedwjldy20221105, sample, and sensor\_data. Each database has a size, a number of documents, and a partitioned status. The Actions column contains icons for editing, deleting, and other database management tasks.

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

id	key	value
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-cde2dd17c519394df..."}
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-d26c5b40891e13c6c..."}
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-cde2dd17c519394df..."}
0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-f96eb0460bc16cfab0..."}
1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{"rev": "1-7226f08794cd47b7c..."}
1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{"rev": "1-1bbdd9a985bd56cf9..."}
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{"rev": "1-7226f08794cd47b7c..."}
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{"rev": "1-3ad288ecad57f039e..."}
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{"rev": "1-1bbdd9a985bd56cf9..."}
298ed6fbd9b3b815f5ac7c061e...	298ed6fbd9b3b815f5ac7c061e...	{"rev": "1-4e7240f6e5307a1b9..."}

6.Data is stored in JSON format

```

1 {
2   "_id": "0198213c192cb2c244cc2433f1802b91",
3   "_rev": "1-cde2dd17c519394df774738c495f8b",
4   "topic": "iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json",
5   "payload": {
6     "Warning!!": "244.971eleft"
7   },
8   "deviceId": "ibmproject",
9   "deviceType": "SWMSMC",
10  "eventType": "data",
11  "format": "json"
12 }

```