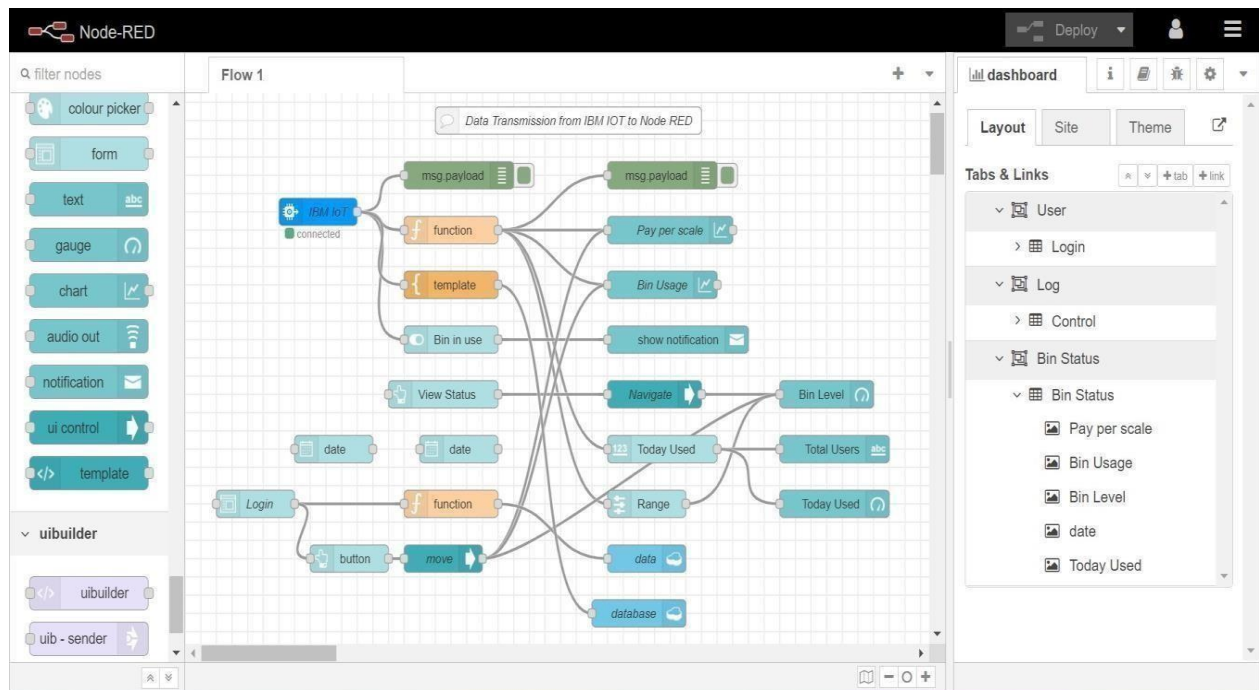


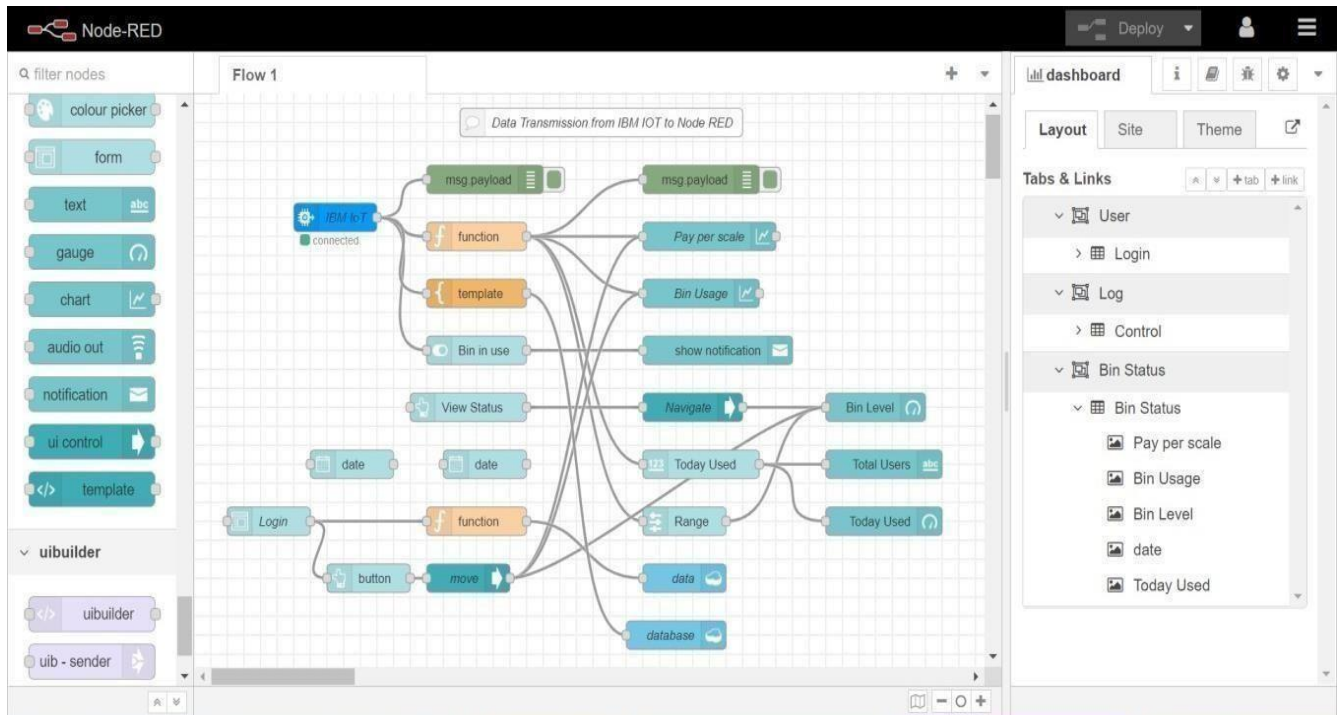
## Delivery of Sprint – 4

Date	18 November 2022
Team ID	PNT2022TMID26725
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.

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2. Simulate Wokwi connection to transmit data from wokwi account to IBM Watson IOT platform and then to Node Red dashboard.

The image shows a screenshot of an Arduino IDE with a C++ sketch for an ESP32. The sketch is titled 'esp32-blink.ino' and contains code for a PIR motion sensor and a distance sensor. The code is as follows:

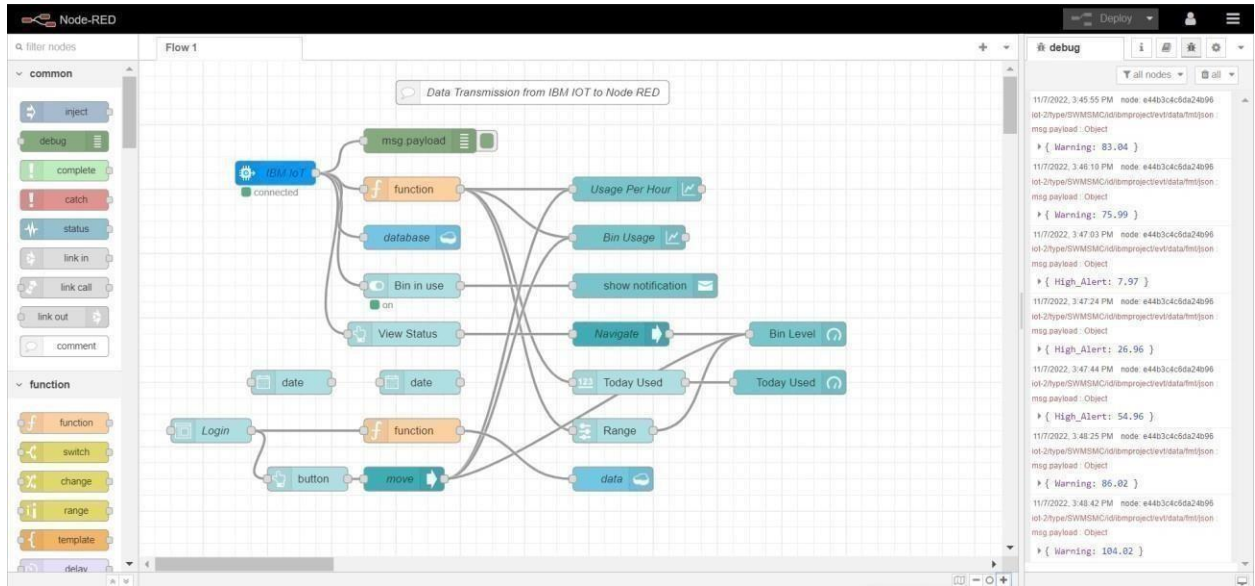
```
177
178
179
180
181
182   if(cm <= 25)
183   {
184     digitalWrite(21,HIGH);
185     String payload = "{\"High_Alert\":\"";
186     payload += cm;
187     payload += " }";
188     Serial.print("\n");
189     Serial.print("Sending payload: ");
190     Serial.println(payload);
191
192     if (client.publish(publishTopic, (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 Wokwi simulation of the ESP32 board. It includes a PIR Motion Sensor and a distance sensor. The simulation is running, and the output window shows 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.

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



## 5. Storing database in IBM cloudant DB.

Your Databases				
Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	
noderedwjlidy20221105	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 1

## 6. Data is stored in JSON format

## 7. Web UI

