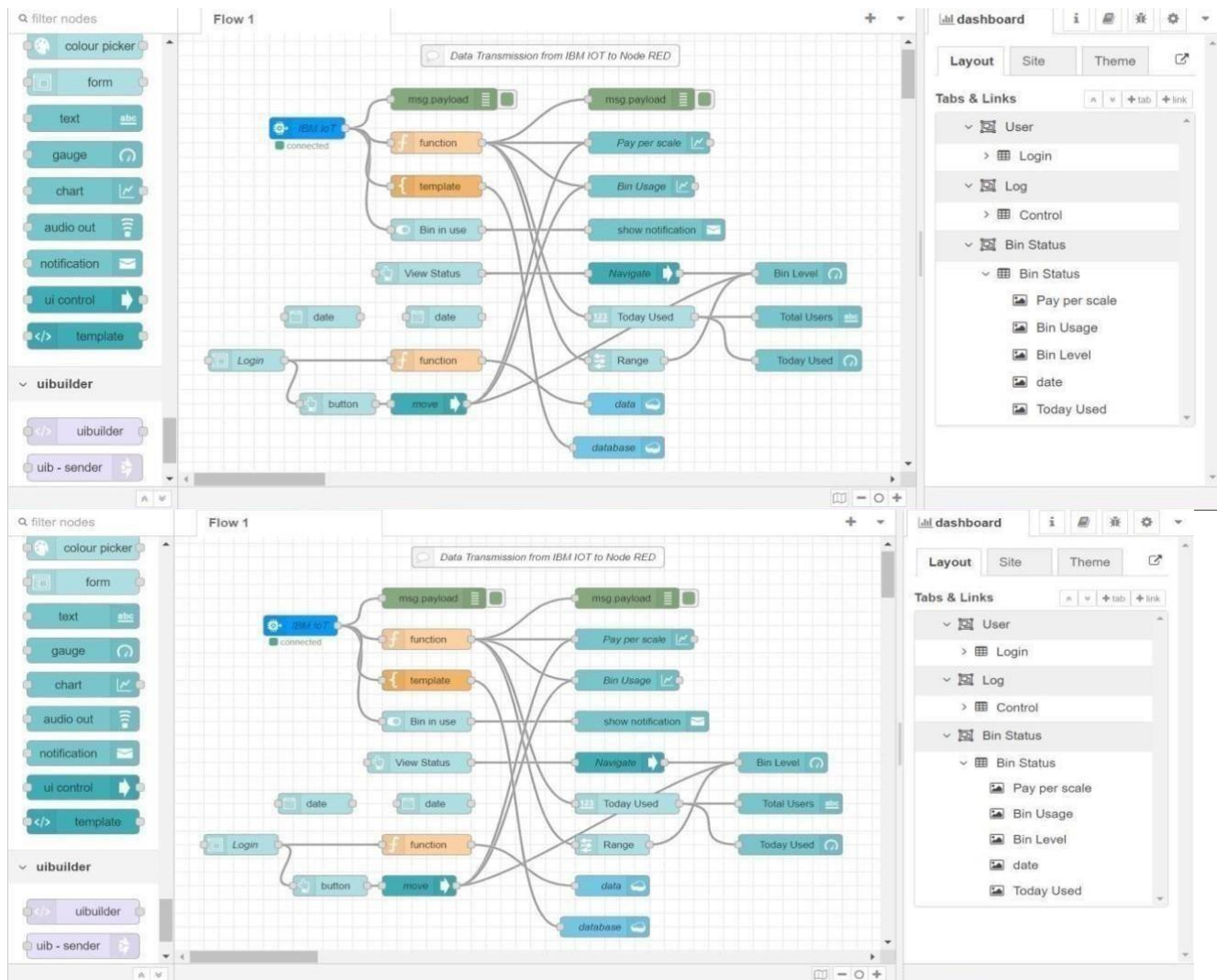


Delivery of Sprint – 3

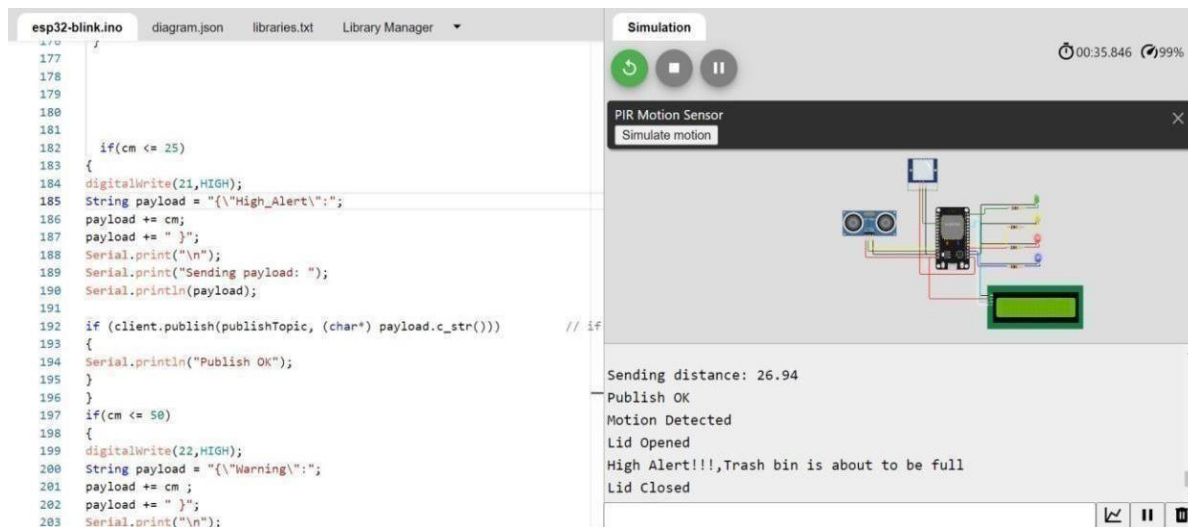
Node Red Connection to IBM Clouant

Date	16 November 2022
Team ID	PNT2022TMID26515
Project Name	Smart Waste Management System
Maximum Marks	4 Marks

1. Node-RED Connection setup for data transmission from IBM Watson IOT platform to Node-REDDashboard.



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



The screenshot displays the Wokwi IDE interface. On the left, the code editor shows an `esp32-blink.ino` file with 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");
```

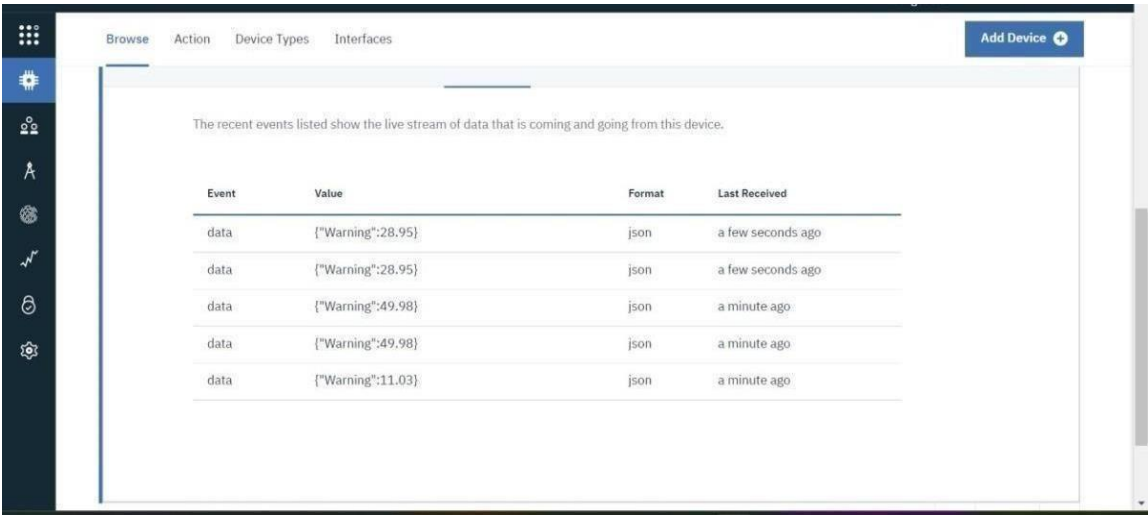
On the right, the 'Simulation' window is active, showing a hardware diagram of an ESP32 board connected to a PIR Motion Sensor and a green LCD display. Below the diagram, the serial output log displays the following messages:

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

The simulation window also includes a 'PIR Motion Sensor' control panel with a 'Simulate motion' button and a status indicator.

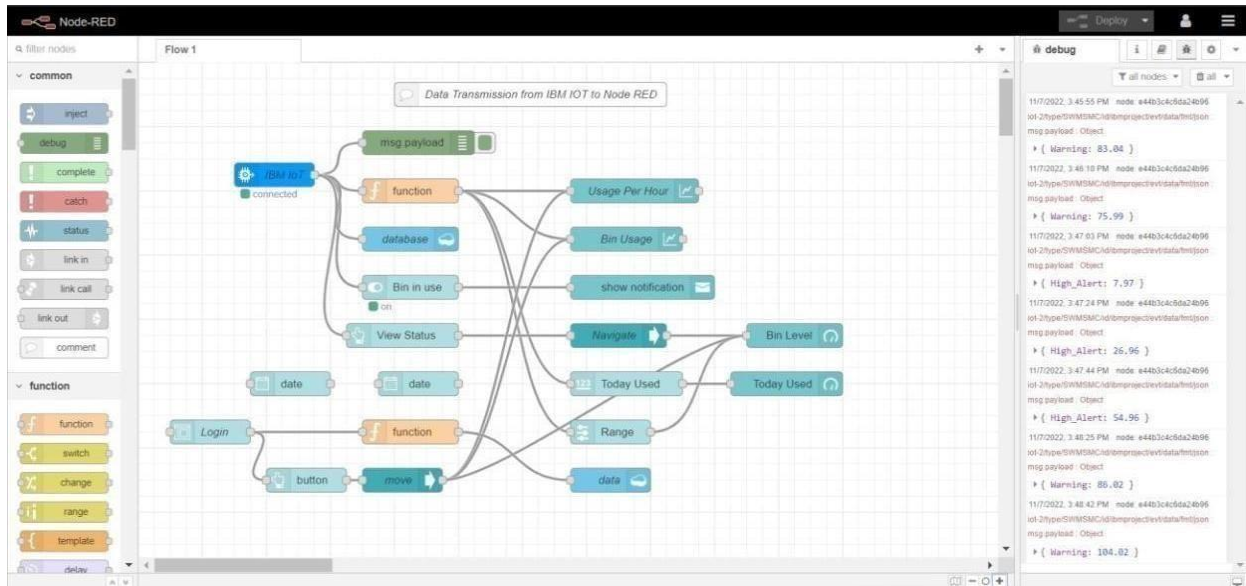
3.Data transfer to Watson IOT platform.

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















The screenshot shows the IBM Watson IoT Platform interface. On the left is a dark sidebar with various icons. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces', along with an 'Add Device' button. The main content area displays a message: 'The recent events listed show the live stream of data that is coming and going from this device.' Below this is a table with four columns: 'Event', 'Value', 'Format', and 'Last Received'. The table contains five rows of data, all with the event type 'data' and a JSON value containing a 'Warning' field. The 'Last Received' times are 'a few seconds ago' for the first two rows and 'a minute ago' for the last three rows.

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	  
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

sensor_data

Document ID

Options

JSON

Create Document

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": "1-3ad288ead57f039e...
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{ "rev": "1-1bbdd9a985bd56cf9...
298ed6fhd9b3b815f5ac7c061e...	298ed6fhd9b3b815f5ac7c061e...	{ "rev": "1-4e7240f6e5307a1h9...

Showing document 1 - 20. Documents per page: 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-cde2dd17c519394df774738c495f8b",
4   "topic": "iot-2/type/SIMSMC/id/ibmproject/evt/data/fmt/json",
5   "payload": {
6     "Warning!!": "244.97left"
7   },
8   "deviceId": "ibmproject",
9   "deviceType": "SIMSMC",
10  "eventType": "data",
11  "format": "json"
12 }

```

Log Out