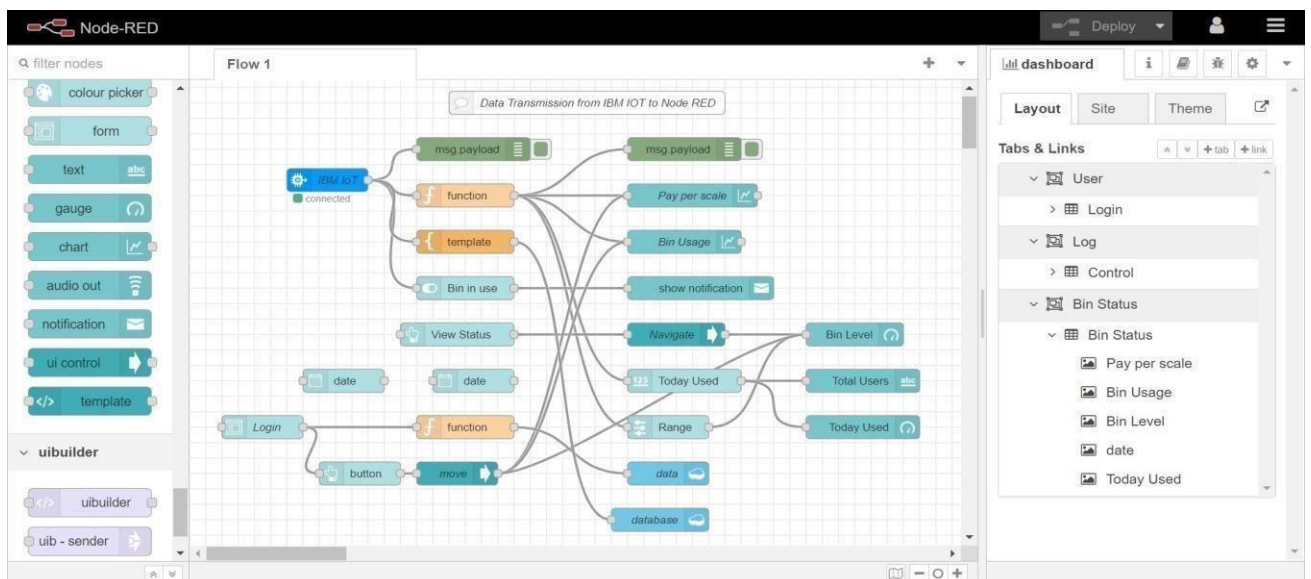
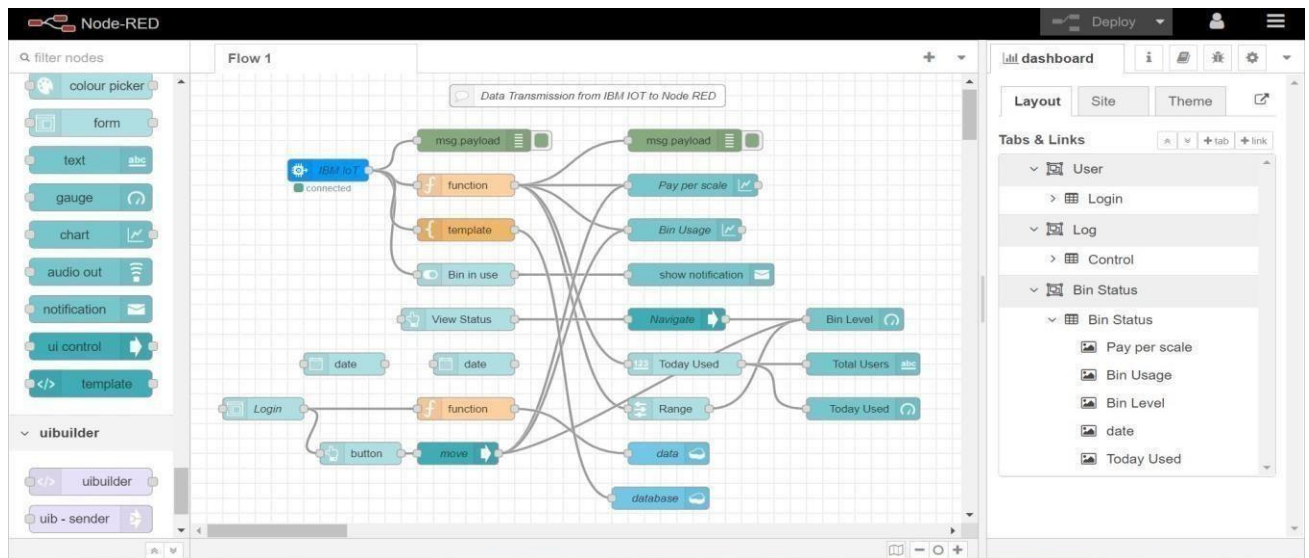


Delivery of Sprint – 3

Node Red Connection to IBM Cloudant

| | |
|--------------|--|
| Date | 10 November 2022 |
| Team ID | PNT2022TMID12757 |
| 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. Wokwi connection to transmit data from wokwi account to IBM Watson IOT platform and then Simulate to Node Red dashboard.

esp32-blink.ino

diagram.json

libraries.txt

Library Manager

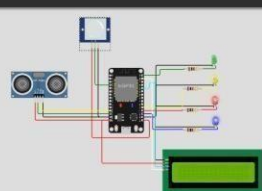
```
177
178
179
180
181
182   if(cm <= 25)
183   {
184     digitalWrite(21,HIGH);
185     String payload = "{\"High_Alert\":\"";
186     payload += cm;
187     payload += " }";
188     Serial.print("\n");
189     Serial.print("Sending payload: ");
190     Serial.println(payload);
191
192     if (client.publish(publishTopic, (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 = "{\"Wanning\":\"";
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

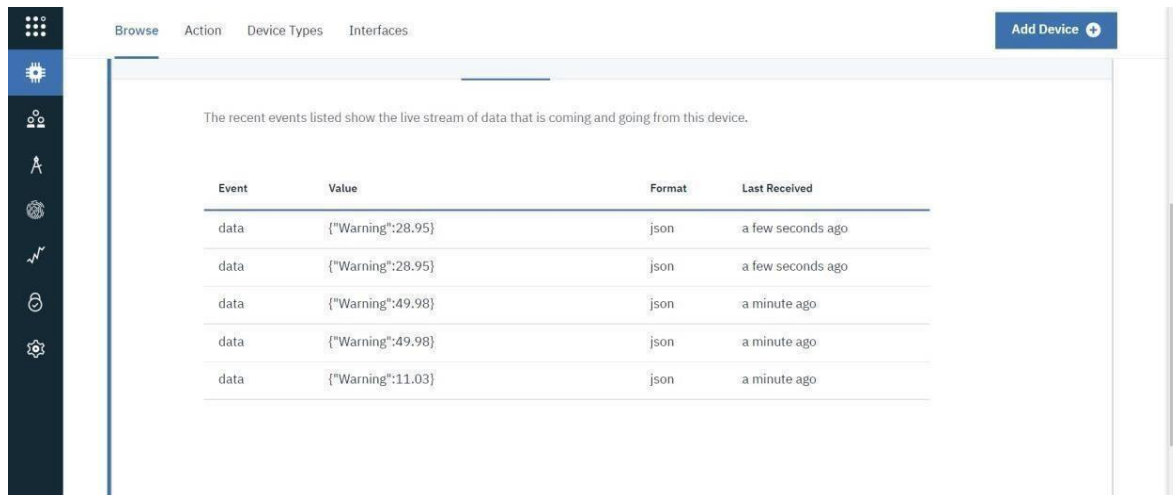
Motion Detected

Lid Opened

High Alert!!!,Trash bin is about to be full

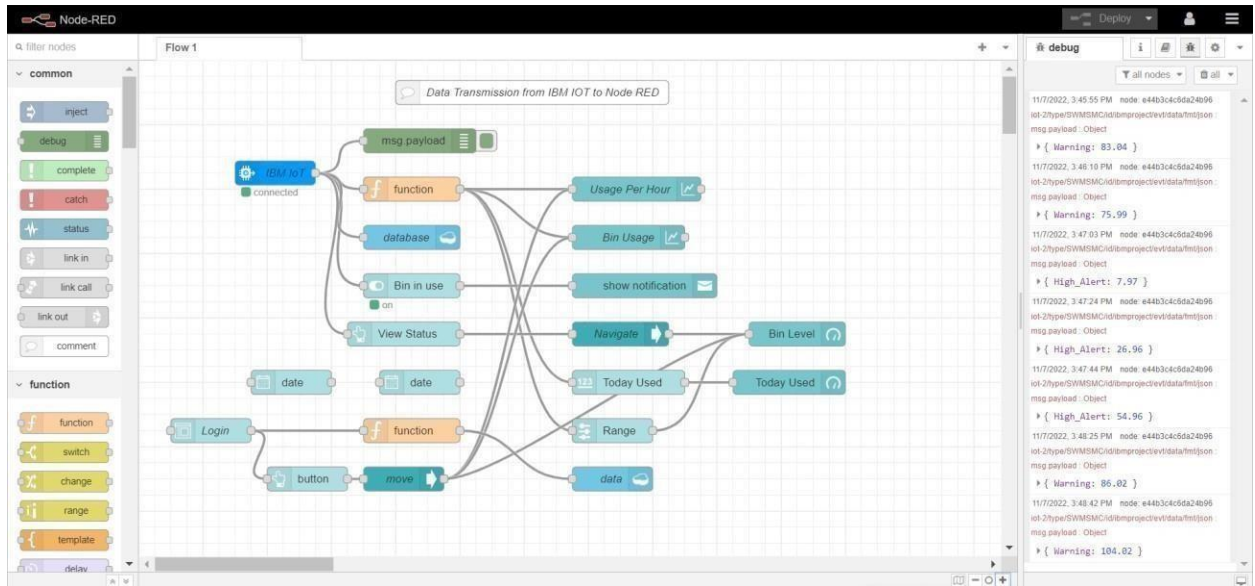
Lid Closed

1. Data transfer to Watson IOT platform.
2. 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 icons for various functions. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A blue 'Add Device' button with a plus icon is on the right. 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 and a temperature reading. The 'Last Received' times range from 'a few seconds ago' to 'a minute ago'.

| 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 |



3. Storing database in IBM cloudant DB.

Databases

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> |
| noderedwjldy20221105 | 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 1

4. Data is stored in JSON format