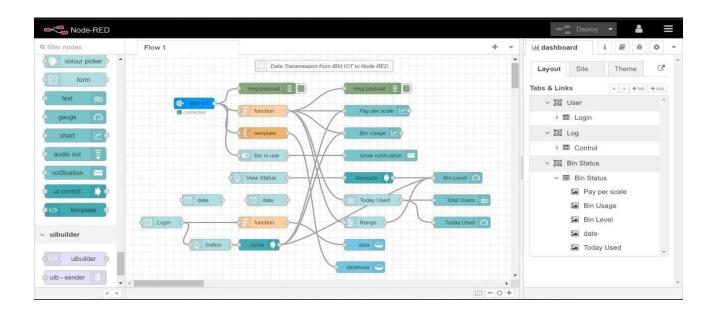
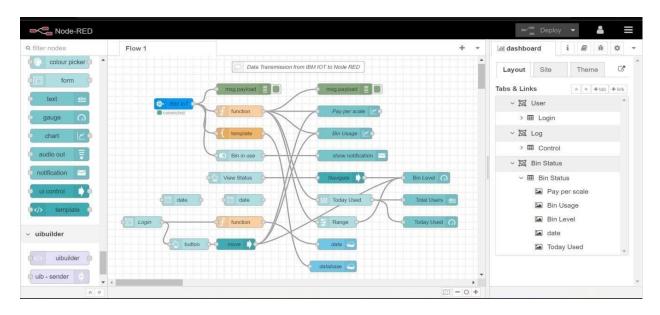
Delivery of Sprint – 3

Node Red Connection to IBM Cloudant

Date	9 November 2022		
Team ID	PNT2022TMID46604		
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.

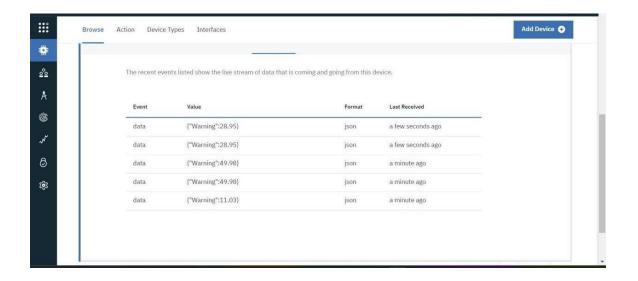




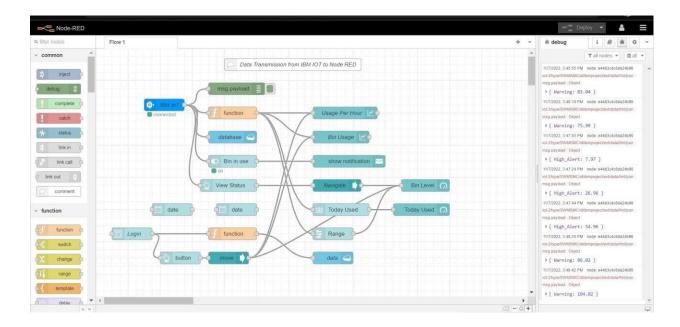
2. Simulate Wokwi connection to transmit data from wokwi account to IBM Watson IOT platform and then to Node Red dashboard.

```
WOKWI 🔒 SAVI
                                                  ESP32-IBMconnection[original] 🥕
 esp32-blink.ino
                                                                                              Simulation
                   diagram.json
                                   libraries.txt Library Manager ▼
  177
                                                                                                                                                                 Ō00:35.846 (€)99%
  178
  180
  181
                                                                                             Simulate motion
           if(cm <= 25)
  183
         digitalWrite(21,HIGH);
String payload = "{\"High_Alert\":";
  184
         payload += cm;
payload += " }";
  186
  187
         Serial.print("\n");
         Serial.print("Sending payload: ");
Serial.println(payload);
  189
  190
  191
         if (client.publish(publishTopic, (char*) payload.c_str()))
  192
          Serial.println("Publish OK");
  194
                                                                                          Sending distance: 26.94
  195
                                                                                        - Publish OK
  197
         if(cm <= 50)
                                                                                          Motion Detected
         digitalWrite(22,HIGH);
String payload = "{\"Warning\":";
                                                                                          Lid Opened
  199
                                                                                          High Alert!!!, Trash bin is about to be full
  200
         payload += cm;
payload += " }";
Serial.print("\n");
                                                                                          Lid Closed
  202
                                                                                                                                                                       203
```

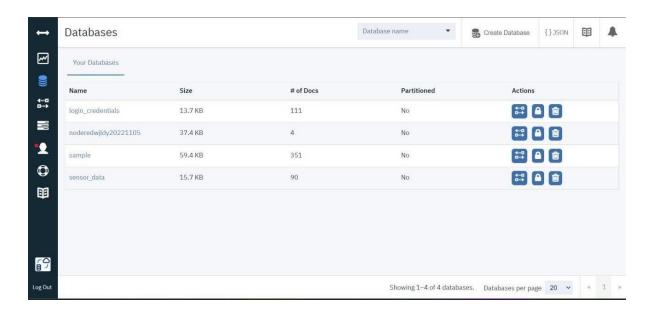
3. Data transfer to Watson IOT platform.

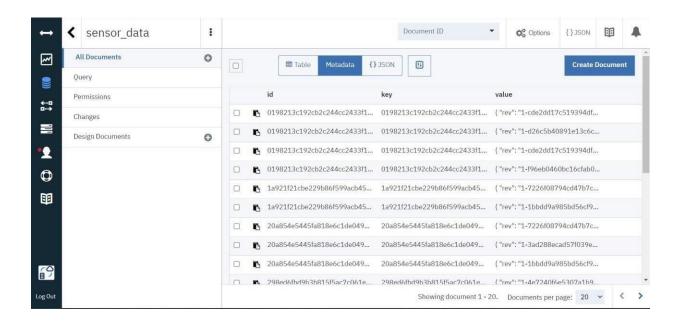


4. Data transfer from IBM Watson IOT platform and wokwi to Node red.



5. Storing database in IBM cloudant DB.





```
sensor data > 0198213c192cb2c244cc2433f1802b91
                                                                                                                                   {}JSON
                                                                                                                                             囯
~
          Save Changes
                           Cancel
                                                                                                           O Upload Attachment C Clone Document Delete
             "_id": "0198213c192cb2c244cc2433f1802b91",
             "_rev": "1-cde2dd17c519394dfeb774730c495f8b",
             "topic": "iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json",
             "payload": {
               "Warning!!": "244.97left"
             "deviceId": "ibmproject",
             "deviceType": "SWMSMC",
        10
             "eventType": "data",
       11
            "format": "json"
囲
```

6.Data is stored in JSON format