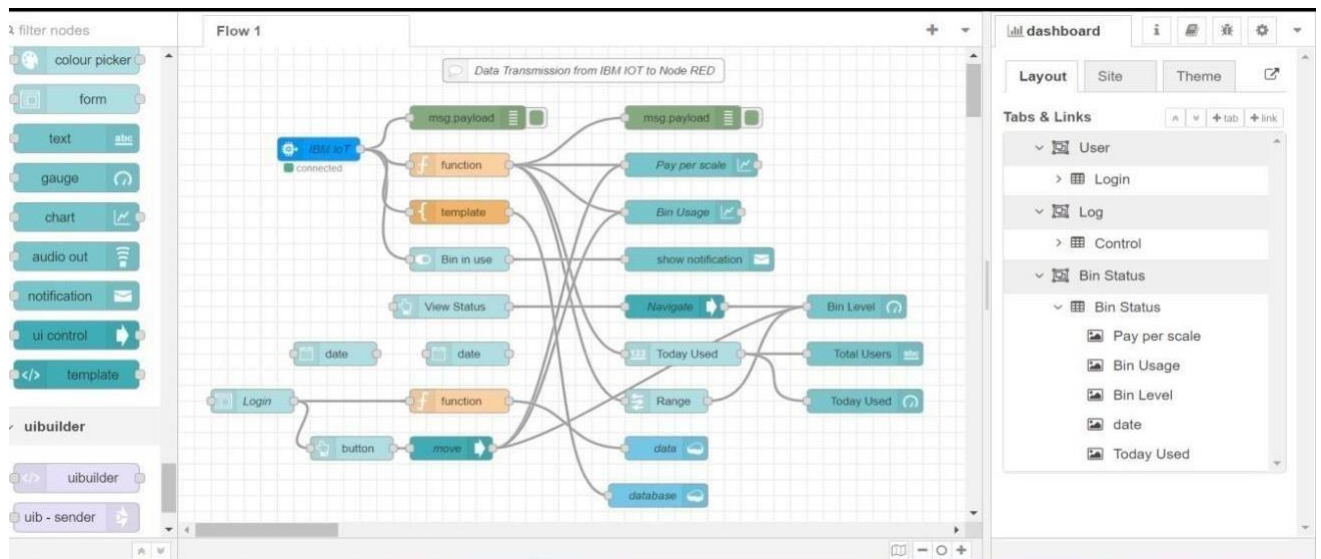
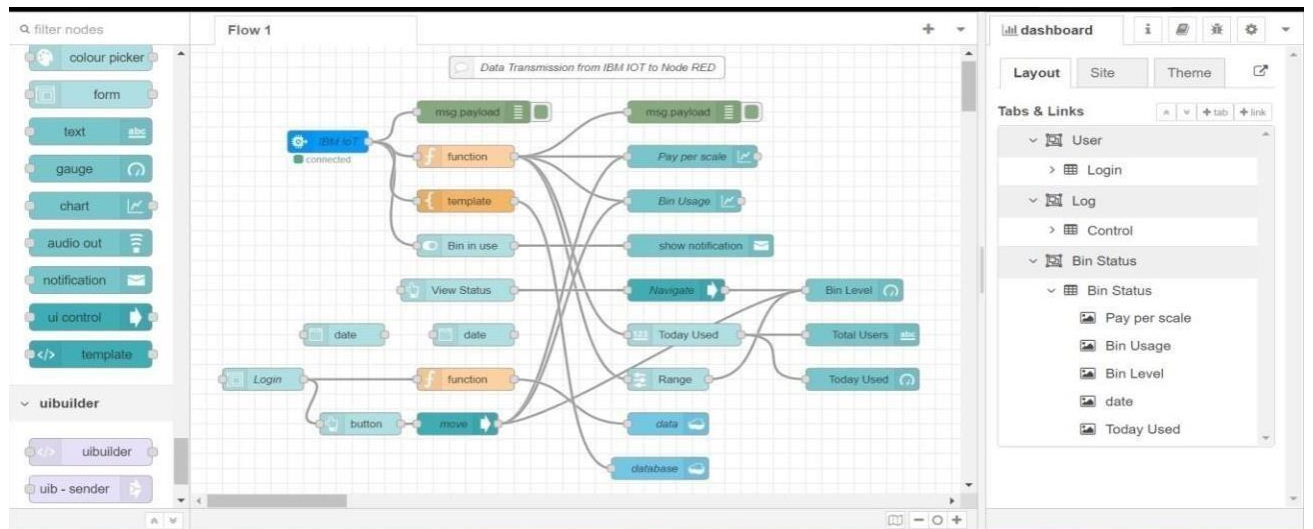


Delivery of Sprint – 3
Node Red Connection to IBM
Cloudant

Date	11 November 2022
Team ID	PNT2022TMID12601
Project Name	Smart Waste Management for Metropolitan Cities - IOT

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 IBM Watson IoT Platform interface. The top section shows a table of recent events, which are live stream data points from a device. The table has four columns: Event, Value, Format, and Last Received. The events are listed as follows:

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

The bottom section shows the simulation of an ESP32 device. The left pane displays the code for the `esp32-blink.ino` file, which includes logic for publishing data to the Watson IoT platform. The right pane shows the simulation environment with a PIR Motion Sensor and a display screen. The simulation output 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.

← →

Databases

Database name

Create Database

{ } JSON

Your Databases

Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	
noderedwjdjdy20221105	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

Filter nodes

common

function

delay

Flow 1

Data Transmission from IBM IOT to Node RED

debug

all nodes

all

```

11/7/2022, 3:45:55 PM  node e44b3c4c6da24b96
io1-2hype5WfMSMCIdIomprojectevivdata/fmtjson
msg.payload: Object
* { Warning: 83.04 }

11/7/2022, 3:46:10 PM  node e44b3c4c6da24b96
io1-2hype5WfMSMCIdIomprojectevivdata/fmtjson
msg.payload: Object
* { Warning: 75.99 }

11/7/2022, 3:47:03 PM  node e44b3c4c6da24b96
io1-2hype5WfMSMCIdIomprojectevivdata/fmtjson
msg.payload: Object
* { High_Alert: 7.97 }

11/7/2022, 3:47:24 PM  node e44b3c4c6da24b96
io1-2hype5WfMSMCIdIomprojectevivdata/fmtjson
msg.payload: Object
* { High_Alert: 26.96 }

11/7/2022, 3:47:44 PM  node e44b3c4c6da24b96
io1-2hype5WfMSMCIdIomprojectevivdata/fmtjson
msg.payload: Object
* { High_Alert: 54.96 }

11/7/2022, 3:48:25 PM  node e44b3c4c6da24b96
io1-2hype5WfMSMCIdIomprojectevivdata/fmtjson
msg.payload: Object
* { Warning: 86.02 }

11/7/2022, 3:48:42 PM  node e44b3c4c6da24b96
io1-2hype5WfMSMCIdIomprojectevivdata/fmtjson
msg.payload: Object
* { Warning: 104.02 }

```

5.Storing database in IBM cloudant DB.

sensor_data > 0198213c192cb2c244cc2433f1802b91

Save Changes Cancel Upload Attachment Clone Document Delete

```
1 {
2   "_id": "0198213c192cb2c244cc2433f1802b91",
3   "_rev": "1-cde2dd17c519394dfb774730c495f8b",
4   "topic": "iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json",
5   "payload": {
6     "Warning!!": "244.971e1ft"
7   },
8   "deviceId": "ibmproject",
9   "deviceType": "SWMSMC",
10  "eventType": "data",
11  "format": "json"
12 }
```

sensor_data

Document ID Options {} JSON

All Documents Query Permissions Changes Design Documents

	id	key	value
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-cde2dd17c519394df...
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-d26c5b40891e13c6c...
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-cde2dd17c519394df...
<input type="checkbox"/>	0198213c192cb2c244cc2433f1...	0198213c192cb2c244cc2433f1...	{"rev": "1-f96eb0460bc16cfab0...
<input type="checkbox"/>	1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{"rev": "1-7226f08794cd47b7c...
<input type="checkbox"/>	1a921f21cbe229b86f599acb45...	1a921f21cbe229b86f599acb45...	{"rev": "1-1bbdd9a985bd56cf9...
<input type="checkbox"/>	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{"rev": "1-7226f08794cd47b7c...
<input type="checkbox"/>	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{"rev": "1-3ad288ecad57f039e...
<input type="checkbox"/>	20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{"rev": "1-1bbdd9a985bd56cf9...
<input type="checkbox"/>	298ed6fbd9h3b815f5ac7c061e...	298ed6fbd9h3b815f5ac7c061e...	{"rev": "1-4e7240f6e5307a1b9...

Showing document 1 - 20. Documents per page: 20

6.Data is stored in JSON format

