

Delivery of Sprint – 3

Node Red Connection to IBM Cloudant

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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.

The screenshot shows the Wokwi IDE interface. On the left, the code editor displays an Arduino sketch for an ESP32. The code includes a PIR motion sensor simulation and logic to send data to an MQTT topic. The right panel shows a simulation of the sensor and a terminal window with the following output:

```

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

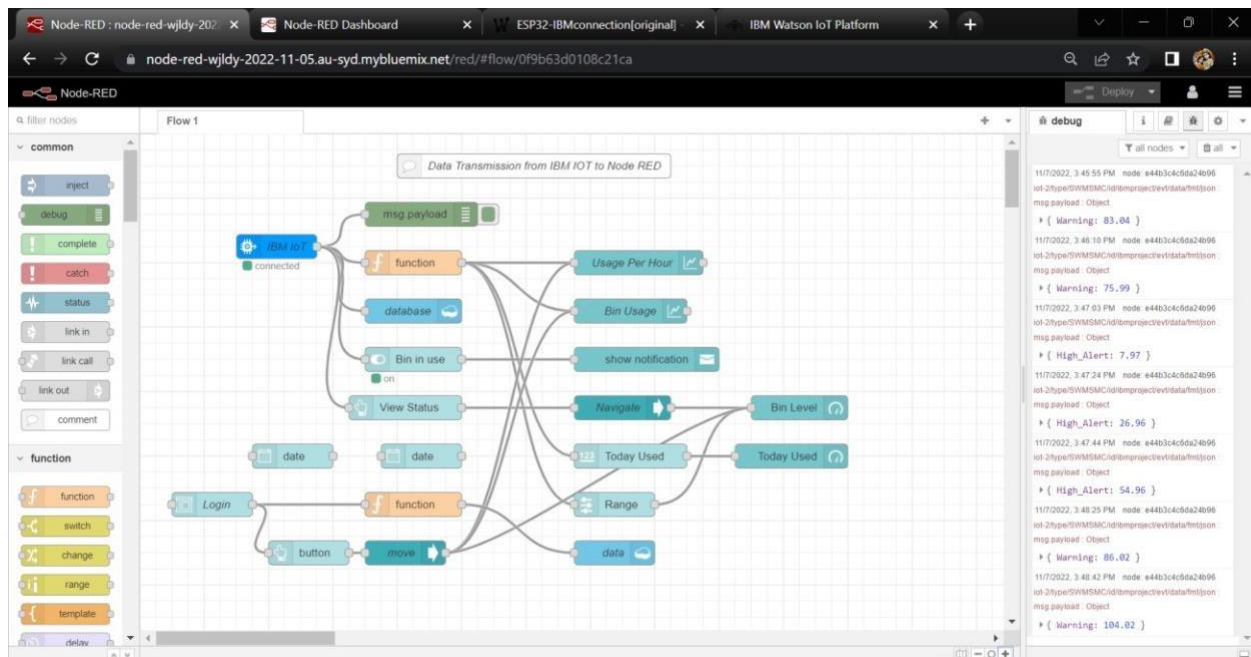
```

3.Data transfer to Watson IOT platform.

The screenshot shows the IBM Watson IoT Platform dashboard. The 'Browse' tab is selected, and the 'Recent events' section displays a table of data received from the device. The table has four columns: Event, Value, Format, and Last Received.

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

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



5. Storing database in IBM cloudant DB.

ee6aeb4a-3006-499e-940e-af19edf953bf-bluemix.cloudant.com/dashboard.html#/all_dbs

Databases

Database name

Create Database

{ } JSON

Log Out

Your Databases

Name	Size	# of Docs	Partitioned	Actions
login_credentials	13.7 KB	111	No	
noderedwjldy20221105	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

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": "1-3ad288ecad57f039e...",
20a854e5445fa818e6c1de049...	20a854e5445fa818e6c1de049...	{"rev": "1-1bbdd9a985bd56cf9...",
298ed6fbd9b3b815f5ac7c061e...	298ed6fbd9b3b815f5ac7c061e...	{"rev": "1-4e7240f6e5307a1b9...",

6.Data is stored in JSON format

```

1 {
2   "_id": "0198213c192cb2c244cc2433f1802b91",
3   "_rev": "1-cde2dd17c519394df774738c495f8b",
4   "topic": "iot-2/type/SWMSMC/id/ibmproject/evt/data/fmt/json",
5   "payload": {
6     "Warning!!": "244.971left"
7   },
8   "deviceId": "ibmproject",
9   "deviceType": "SWMSMC",
10  "eventType": "data",
11  "format": "json"
12 }

```

