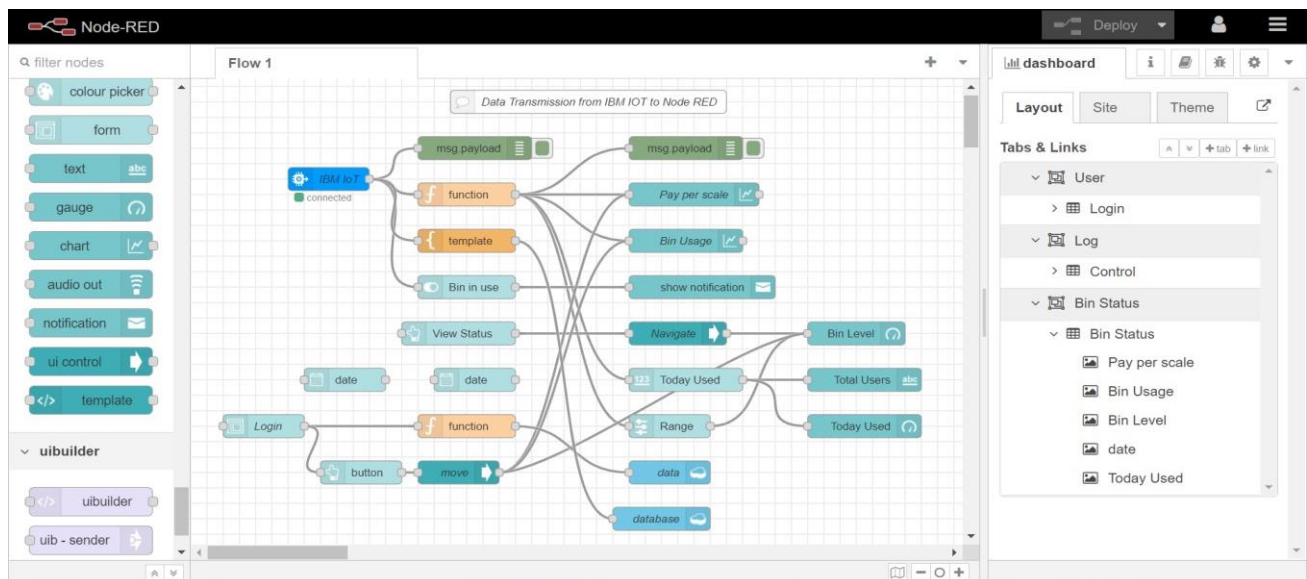
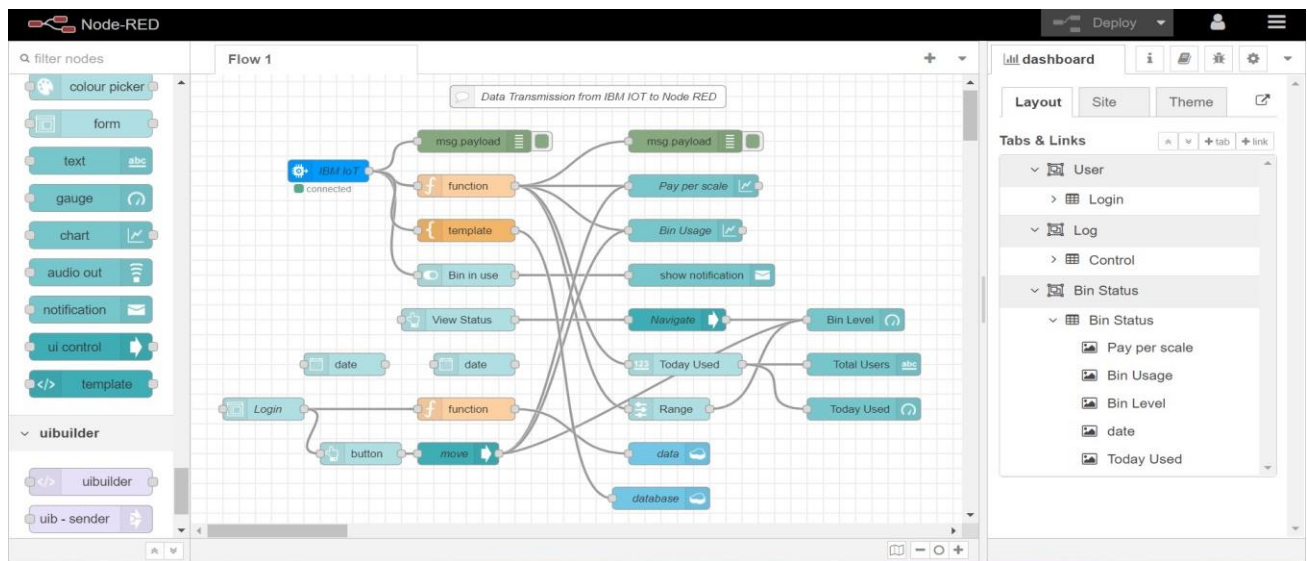


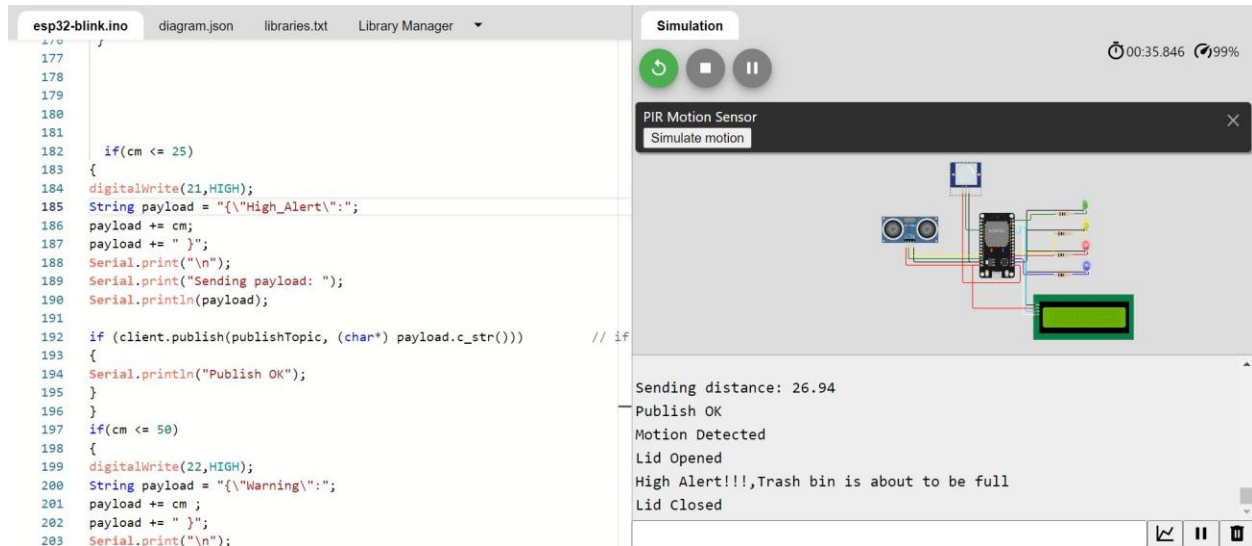
Node Red Connection to IBM Cloudant

Date	8 November 2022
Team ID	PNT2022TMID17698
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.



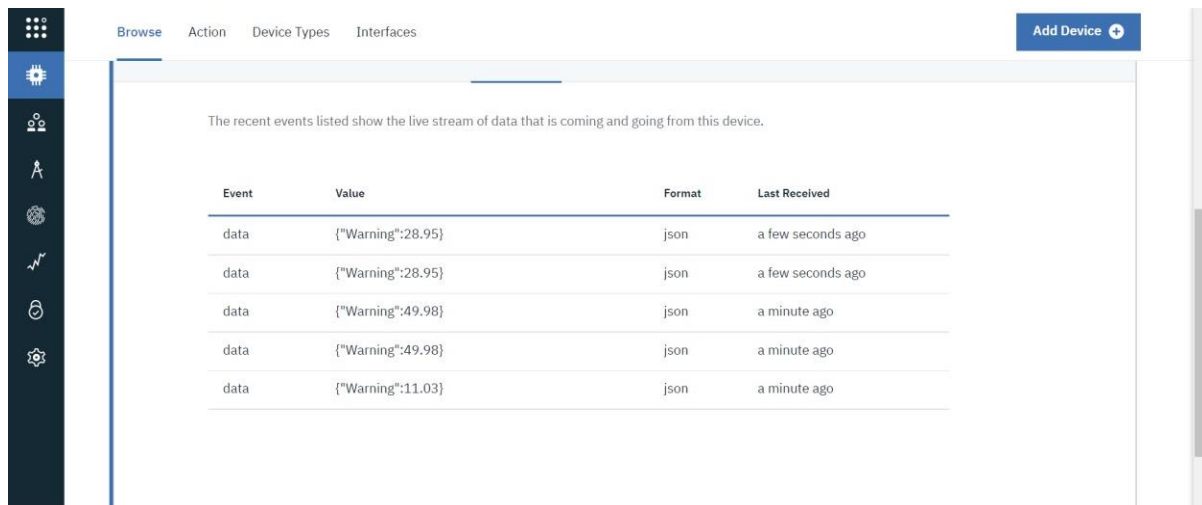
2.Simulate Wokwi connection to transmit data from wokwi account to IBM Watson IOT platform and then to Node Red dashboard.



The screenshot displays the Wokwi IDE interface. On the left, the 'esp32-blink.ino' file is open, showing an Arduino sketch. The sketch includes logic for a PIR motion sensor (pin 21) and an ultrasonic sensor (pin 22). It sends JSON payloads to an MQTT topic 'publishTopic' when motion is detected or a high alert is triggered. The right panel shows a 'Simulation' window with a circuit diagram of the ESP32, PIR sensor, and ultrasonic sensor. Below the diagram, a log window shows the following output:

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

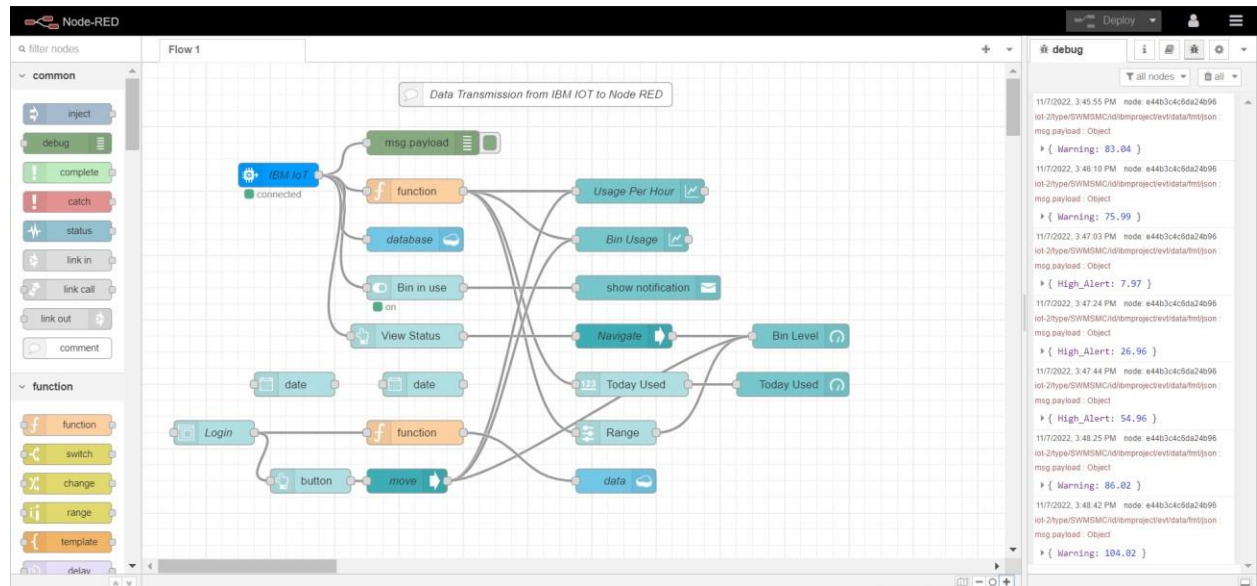
3.Data transfer to Watson IOT platform.



The screenshot shows the IBM Watson IoT Platform dashboard. The 'Browse' tab is selected, and the 'Add Device' button is visible. The main area displays a message: 'The recent events listed show the live stream of data that is coming and going from this device.' Below this message is a table with the following data:

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.

↔

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 ▾

« 1 »

6.Data is stored in JSON format

sensor_data	0198213c192cb2c244cc2433f1802b91	JSON	🔔
<div>Save Changes</div> <div>Cancel</div> <div>Upload Attachment</div> <div>Clone Document</div> <div>Delete</div>	<pre> 1 { 2 "_id": "0198213c192cb2c244cc2433f1802b91", 3 "_rev": "1-cde2dd17c519394df774730c495f8b", 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 }</pre>		

