SPRINT 3:

In this Phase, I will explain about the flow of our project.

- As we mentioned in the Data flow graph, we are first using an online simulation tool to send the level of the dustbin with the help of an ultrasonic sensor using the WOKWI platform and we also send the required data such as location, bin name etc…

- This data is being sent to the IBM Watson IOT platform and with the help of IBM Watson IOT node we can get the data in node red.

- We designed few flows to make the data to be in a required format like maps, tables, gauge

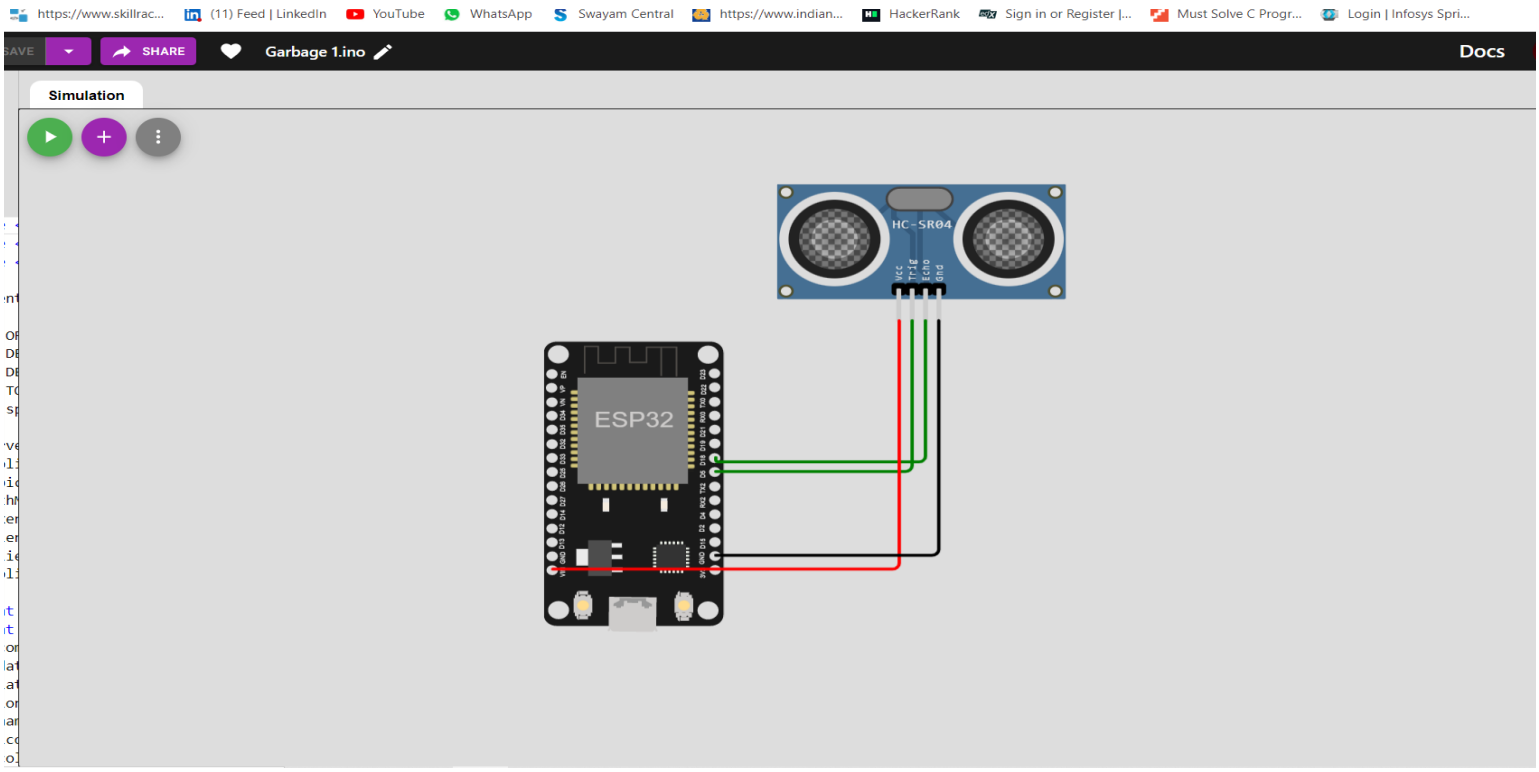
- Here we store the Admin, Co admin details in the database (Cloudant DB)

- We have also created a python script to generate random BIN values which can also be used instead of WOKWI to send data to the IBM Watson IOT platform.

- I've also added a few Screenshots of the things we have done.

- We used a world map node for displaying the latitude and longitude in the Map.

SCREENSHOTS:
WOKWI Platform



Python Code:

Here we can see the Python Code which is used to connect with IBM Watson IOT platform.

ibm dustbin.py - C:\Users\Praveen\Desktop\ibm dustbin.py (3.7.4)

File Edit Format Run Options Window Help

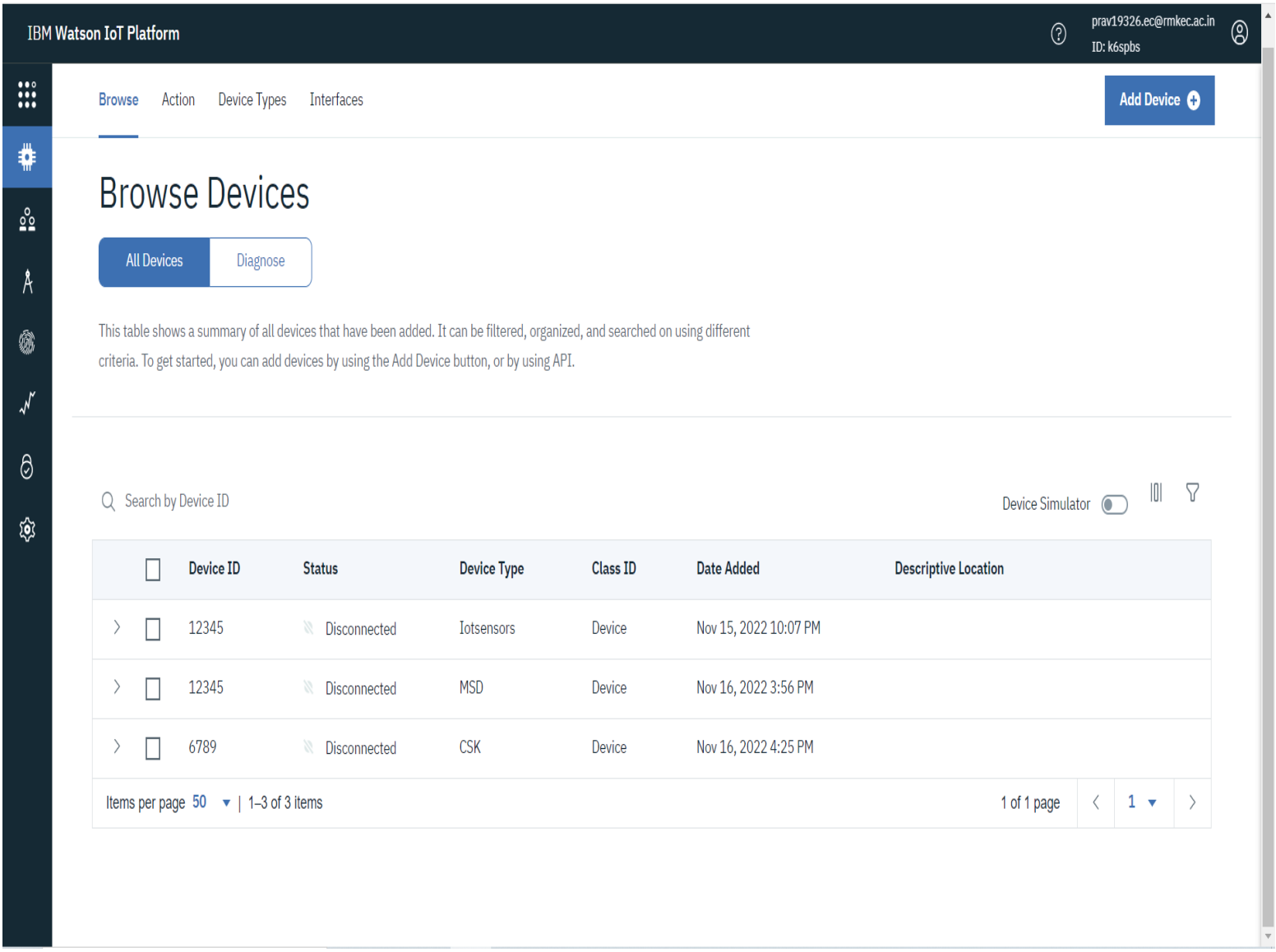
```
#IBM Watson IOT Platform
#pip install wiotp-sdk
import wiotp.sdk
import time
import random
myConfig = {
    "identity": {
        "orgId": "k6spbs",
        "typeId": "MSD",
        "deviceId":"12345"
    },
    "auth": {
        "token": "123456789"
    }
}
lat="13.167589"
lon="80.248510"
name="point1"
icon="fa-trash-o"
color="green"
def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    temp=random.randint(0,100)
    if temp>60:
        icon="fa-trash"
        color = "red"
    else:
        icon = "fa-trash-o"
        color = "green"
    myData={"Name":name,"Latitude":lat,"Longitude":lon,"Icon":icon,"FillPercent":temp,"Color":color}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(10)
client.disconnect()
```

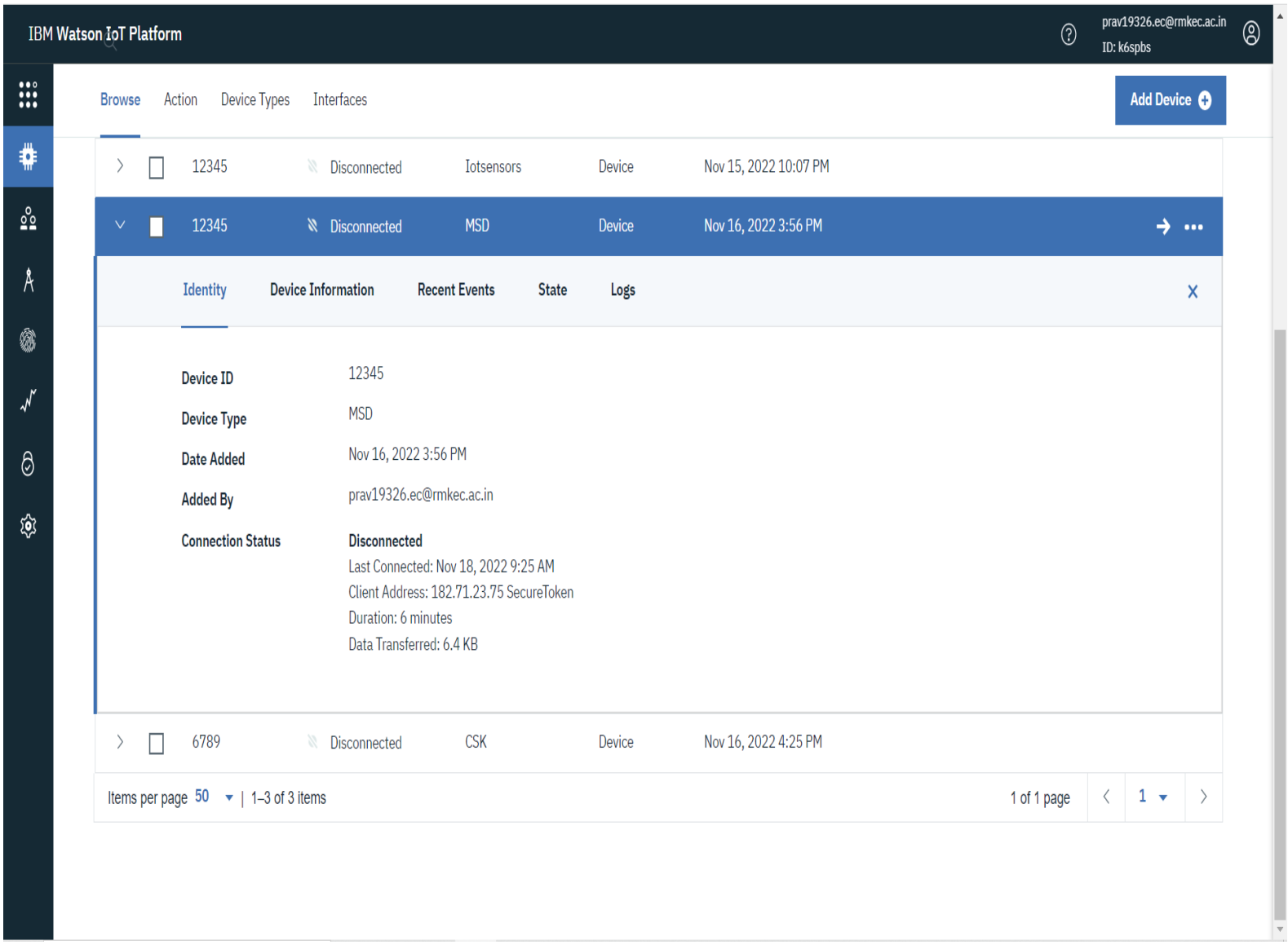
Ln: 1 Col: 0

IBM Watson IoT Platform:
The information about the devices are being displayed here

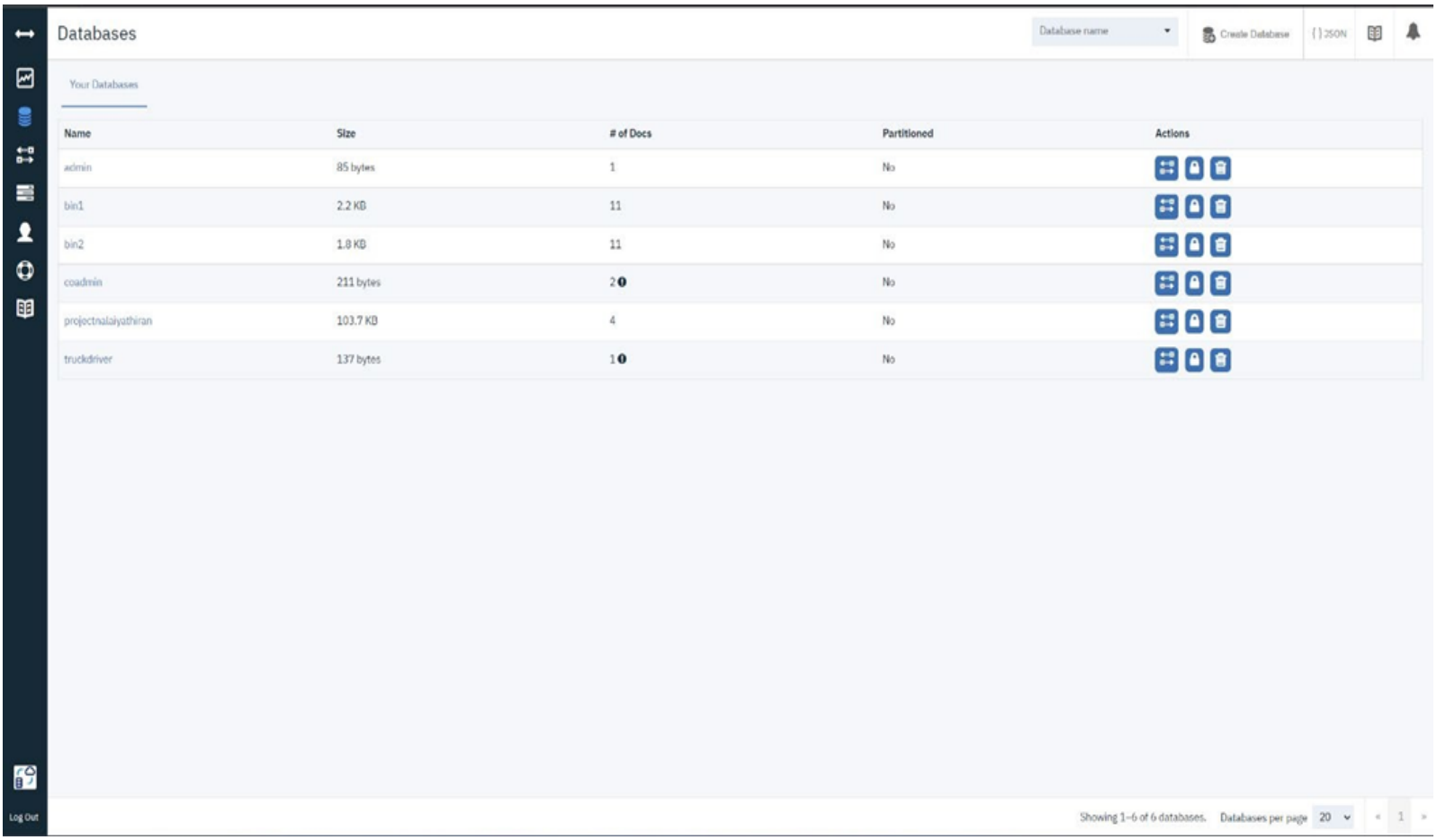


- Here we can see the output which has been passed from WOKWI Platform or Python Script to IBM Watson IOT platform.

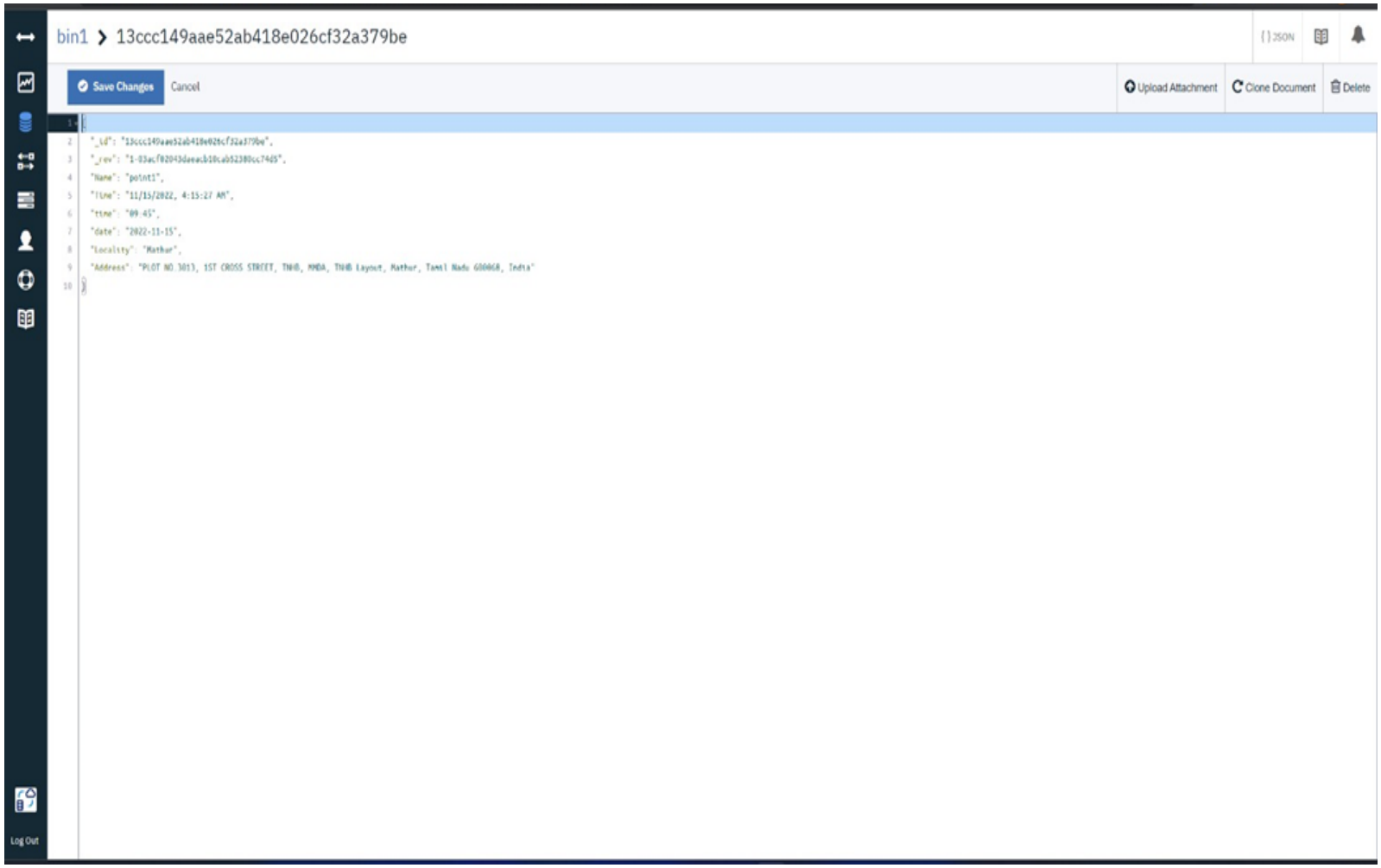
- It will provide the necessary information by the means of API Key. By placing this API Keys to the simulation devices source code, It will acts as an mediator between the simulator tool and the Node-Red platform


IBM Watson IoT Platform
prav19326.ec@rmkec.ac.in
ID: k6spbs
Browse
Action
Device Types
Interfaces
Add Device
12345 Disconnected Iotsensors Device Nov 15, 2022 10:07 PM
12345 Disconnected MSD Device Nov 16, 2022 3:56 PM
Identity
Device Information
Recent Events
State
Logs
Device ID 12345
Device Type MSD
Date Added Nov 16, 2022 3:56 PM
Added By prav19326.ec@rmkec.ac.in
Connection Status Disconnected
Last Connected: Nov 18, 2022 9:25 AM
Client Address: 182.71.23.75 SecureToken
Duration: 6 minutes
Data Transferred: 6.4 KB
6789 Disconnected CSK Device Nov 16, 2022 4:25 PM
Items per page 50 | 1–3 of 3 items
1 of 1 page
1

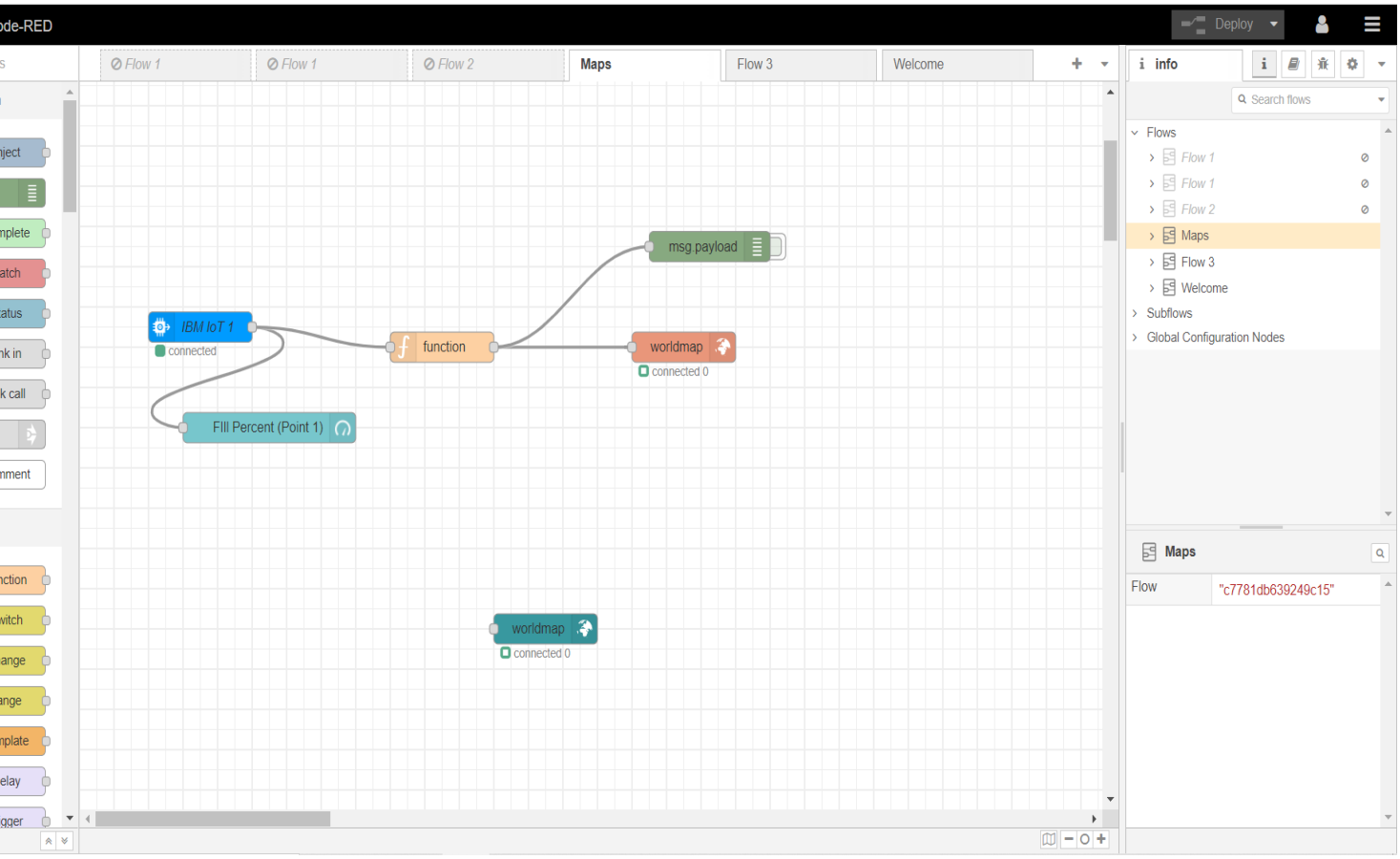
Cloudant DB:


Databases
Database name
Create Database
{ } JSON
Your Databases
Name
Size
# of Docs
Partitioned
Actions
admin
85 bytes
1
No
bin1
2.2 KB
11
No
bin2
1.8 KB
11
No
coadmin
211 bytes
2
No
projectnalaiyathiran
103.7 KB
4
No
truckdriver
137 bytes
1
No
Log Out
Showing 1–6 of 6 databases.
Databases per page
20
1

BIN 1 DATABASE:



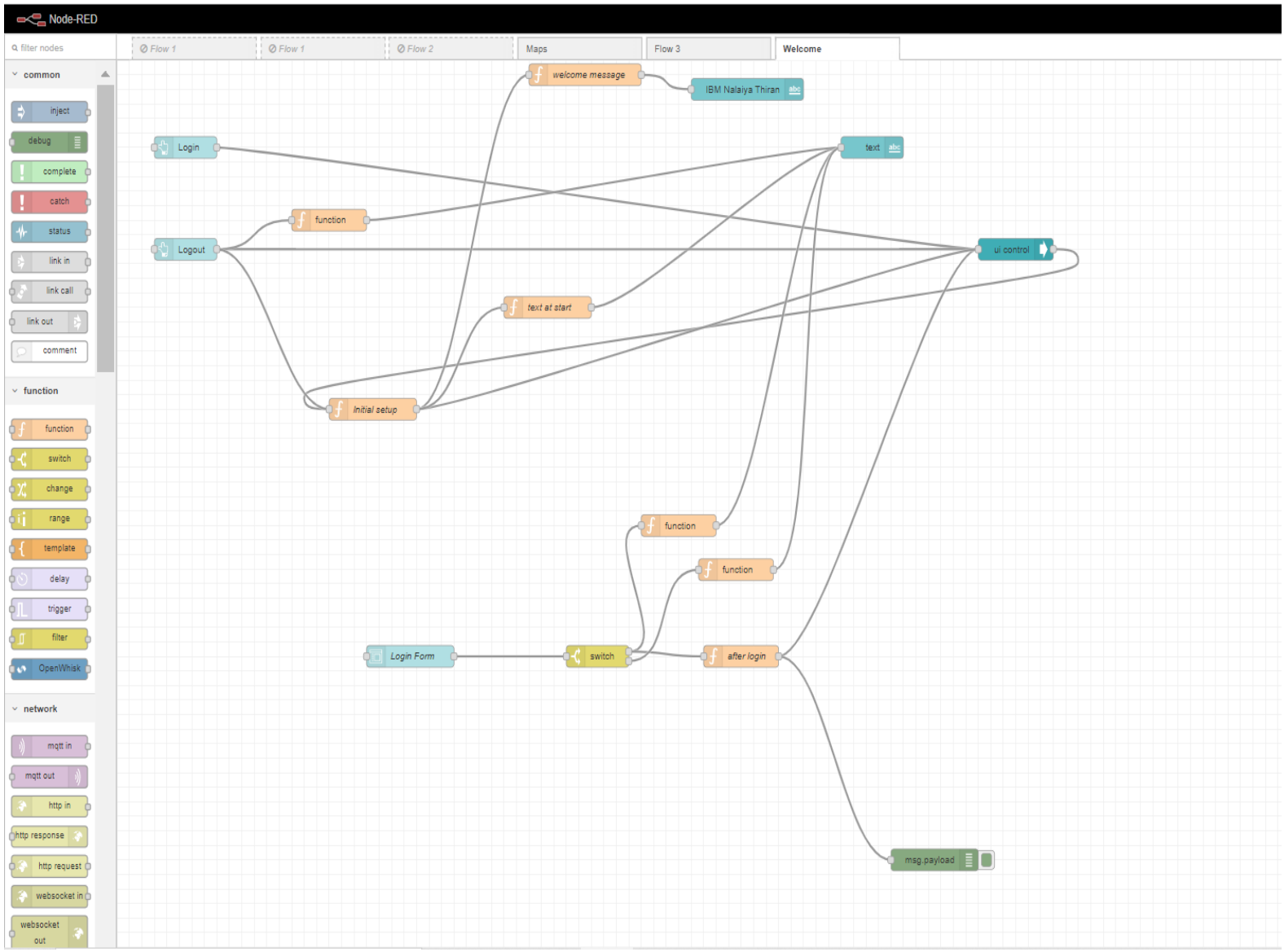
NODE RED FLOW:



- This is the Node Red flow to connecting to the IBM Watson IoT Platform, It use IBM IoT 1 Node for the process of connecting to the simulator

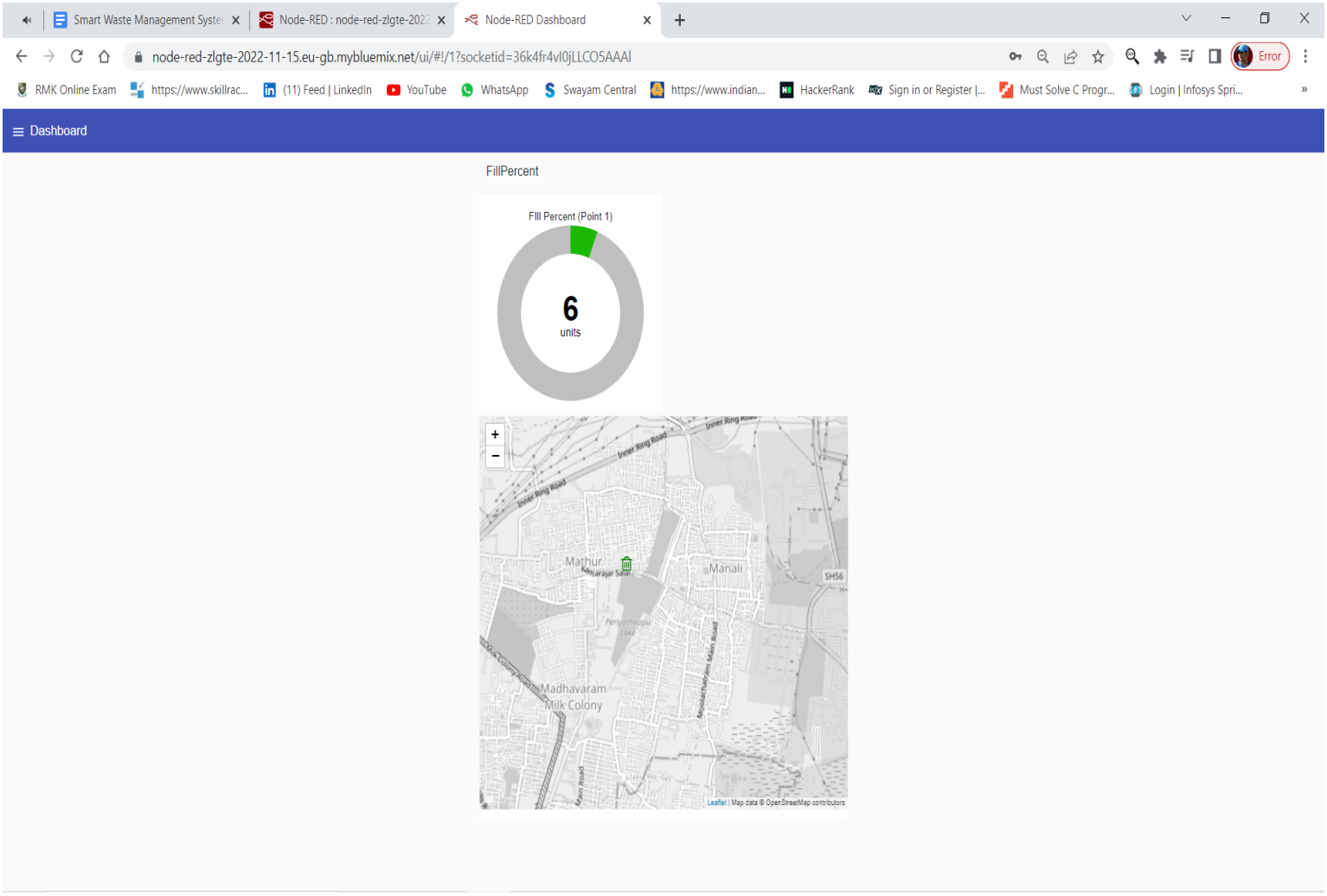
- The World Map node is used to show the geographical locations of each smart bins across the Smart Cities

Welcome Page:



- This Node is used to create a Login page for our dashboard. This is a Non - functional requirement for our project used for authorization purposes.

OUTPUT:


Smart Waste Management Syste
Node-RED : node-red-zlgte-202
Node-RED Dashboard
node-red-zlgte-2022-11-15.eu-gb.mybluemix.net/ui/#!/1?socketid=36k4fr4vl0jLLCO5AAAI
Error
RMK Online Exam
https://www.skillrac...
(11) Feed | LinkedIn
YouTube
WhatsApp
Swayam Central
https://www.indian...
HackerRank
Sign in or Register |...
Must Solve C Progr...
Login | Infosys Spri...
Dashboard
FillPercent
Fill Percent (Point 1)
6
units
Inner Ring Road
Mathur
Manali
SH56
Madhavaram
Milk Colony
Leaflet | Map data © OpenStreetMap contributors