

Delievery of Sprint-4

Date	15 November 2022
Team ID	PNT2022TMID42279
Project Name	SMART WASTE MANAGEMENT SYSTEM FORMETROPOLITAN CITIES
Maximum Marks	2 Marks

CODE:

```
import time
import wiotp.sdk.device
import sys
import ibmiotf.application
import ibmiotf.device
import random
import sys
#Provide your IBM Watson Device Credentials
organization = "udgvx5"
deviceType = "GPS"
deviceId = "1"
authMethod = "token"
authToken = "12345678"

myConfig = {
    "identity":{
        "orgId":"udgvx5",
        "typeId":"GPS",
        "deviceId":"1"
    },
    "auth":{
        "token":"12345678"
    }
}

def myCommandCallback2(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print("led in on")
    else :
        print ("led is off")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":authMethod,
"auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)
#.....
except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
```

```

sys.exit()

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

def pub(data):
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)

while True:
    time.sleep(2)
    ult_son=random.randint(0,80)
    weight=random.randint(0,100)
    lat = round(random.uniform(12.03, 13.50), 6)
    lon = round(random.uniform(80.80, 85.90), 6)
    data = {'Ultrasonic' : ult_son, 'Weight' : weight , 'lat' : lat,'lon':lon}
    #print data
    def myOnPublishCallback():
        print ("Published Ultrasonic :%s Cm" %ult_son, "Weight:%s kg " %weight, "lat: %s" %lat,"lon: %s"
        %lon)
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
    on_publish=myOnPublishCallback)
    if not success:5
    time.sleep(1)
    deviceCli.commandCallback = myCommandCallback

    myData={'name':'Bin1','lat': 13.08005,'lon': 80.27009}
    pub(myData)
    time.sleep(3)
    myData={'name':'Bin1','lat': 13.09005,'lon': 80.28009}
    pub(myData)
    time.sleep(3)
    myData={'name':'Bin1','lat': 13.08905,'lon': 80.27909}
    pub(myData)
    time.sleep(3)

    client.commandCallback = myCommandCallback2
# Disconnect the device and application from the cloud
deviceCli.disconnect()
client.disconnect()

```

IBM Watson Platform Output:

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. The main content area displays a table of device details for a single device (ID 1) with status 'Connected' and type 'GPS'. Below this, a 'Recent Events' section shows a stream of data events.

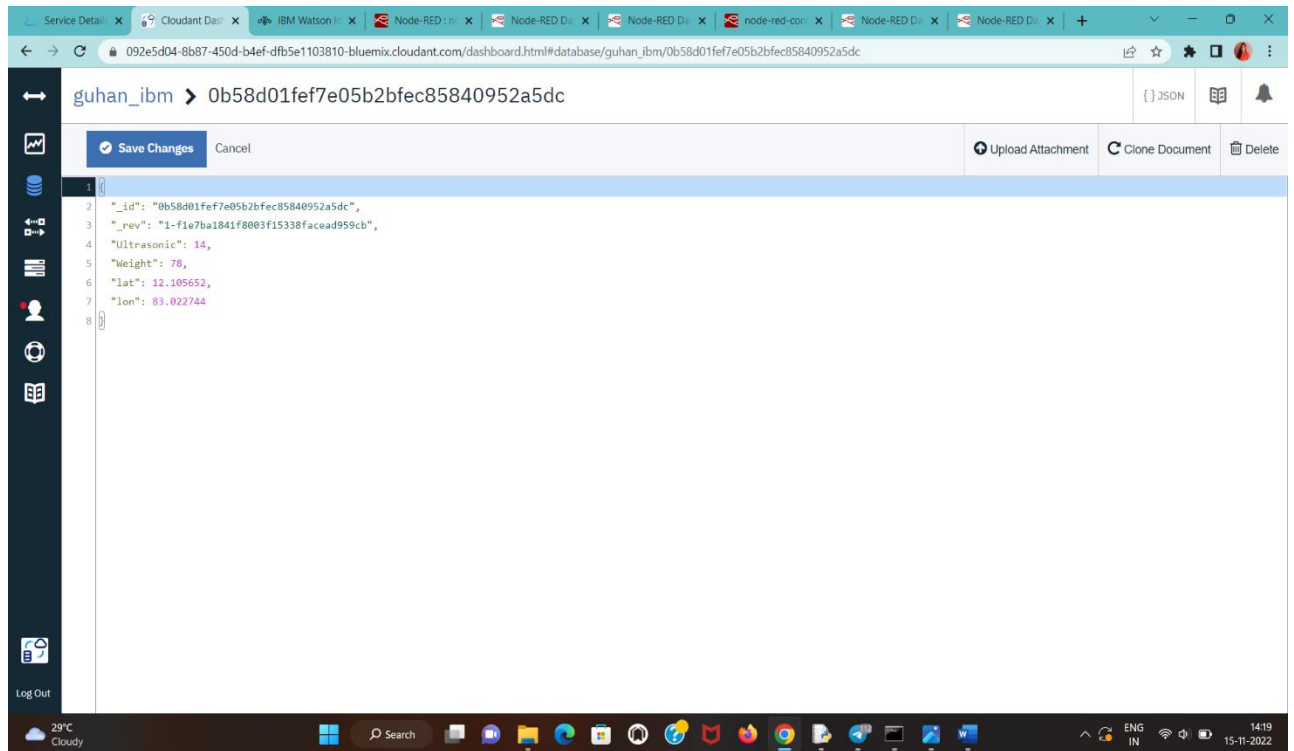
Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
1	Connected	GPS	Device	Nov 14, 2022 10:31 PM	

Event	Value	Format	Last Received
IoTSensor	{"Ultrasonic":71,"Weight":31,"lat":12.253074,"lo...	json	a few seconds ago
status	{"name":"Bin1","lat":13.08005,"lon":80.27009}	json	a few seconds ago
status	{"name":"Bin1","lat":13.08905,"lon":80.27909}	json	a few seconds ago
status	{"name":"Bin1","lat":13.09005,"lon":80.28009}	json	a few seconds ago

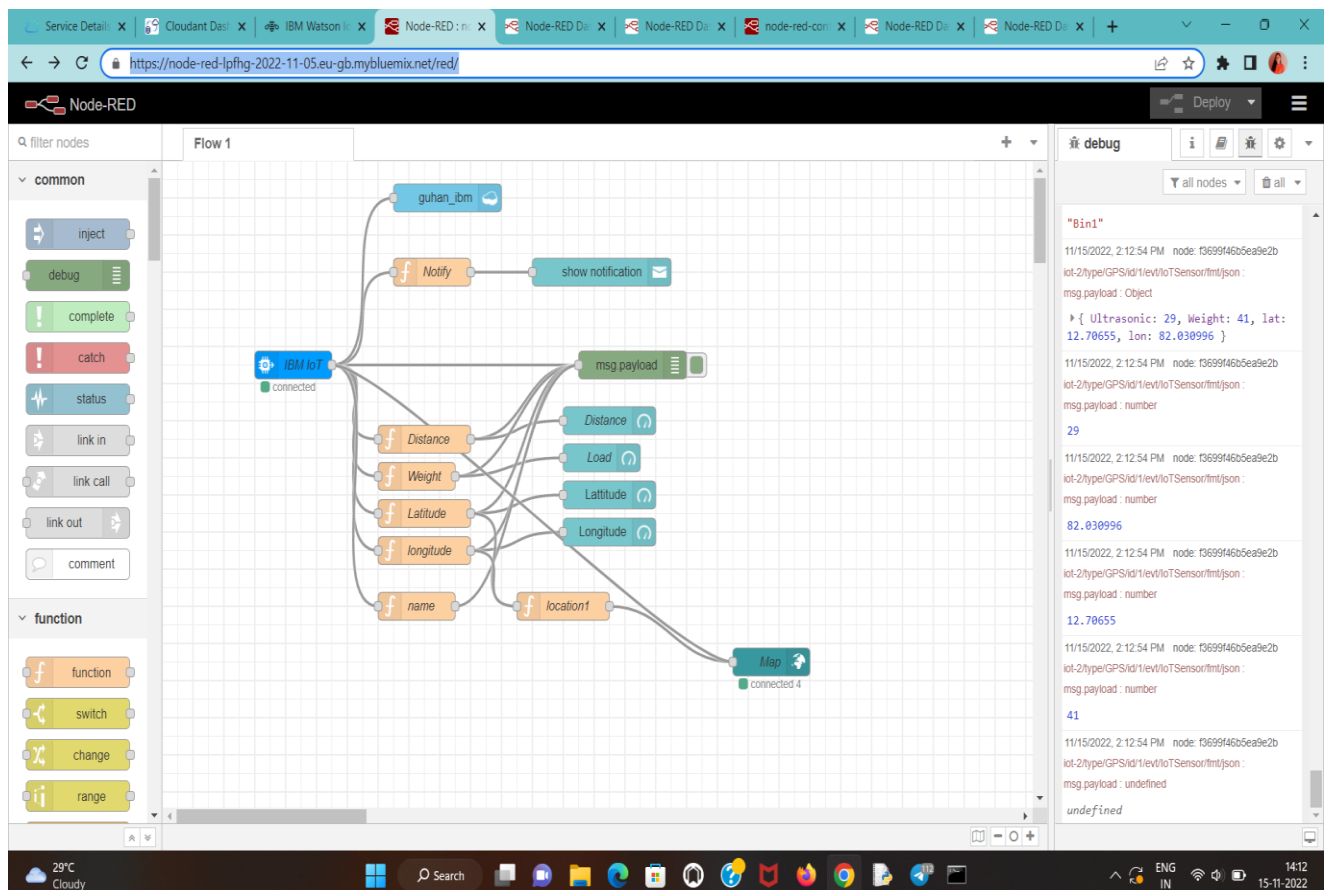
Cloudant Output:

The screenshot shows the Cloudant dashboard for a database named 'guhan_ibm'. The left sidebar contains navigation options like 'All Documents', 'Query', 'Permissions', 'Changes', and 'Design Documents'. The main area displays a table of documents with columns 'id', 'key', and 'value'.

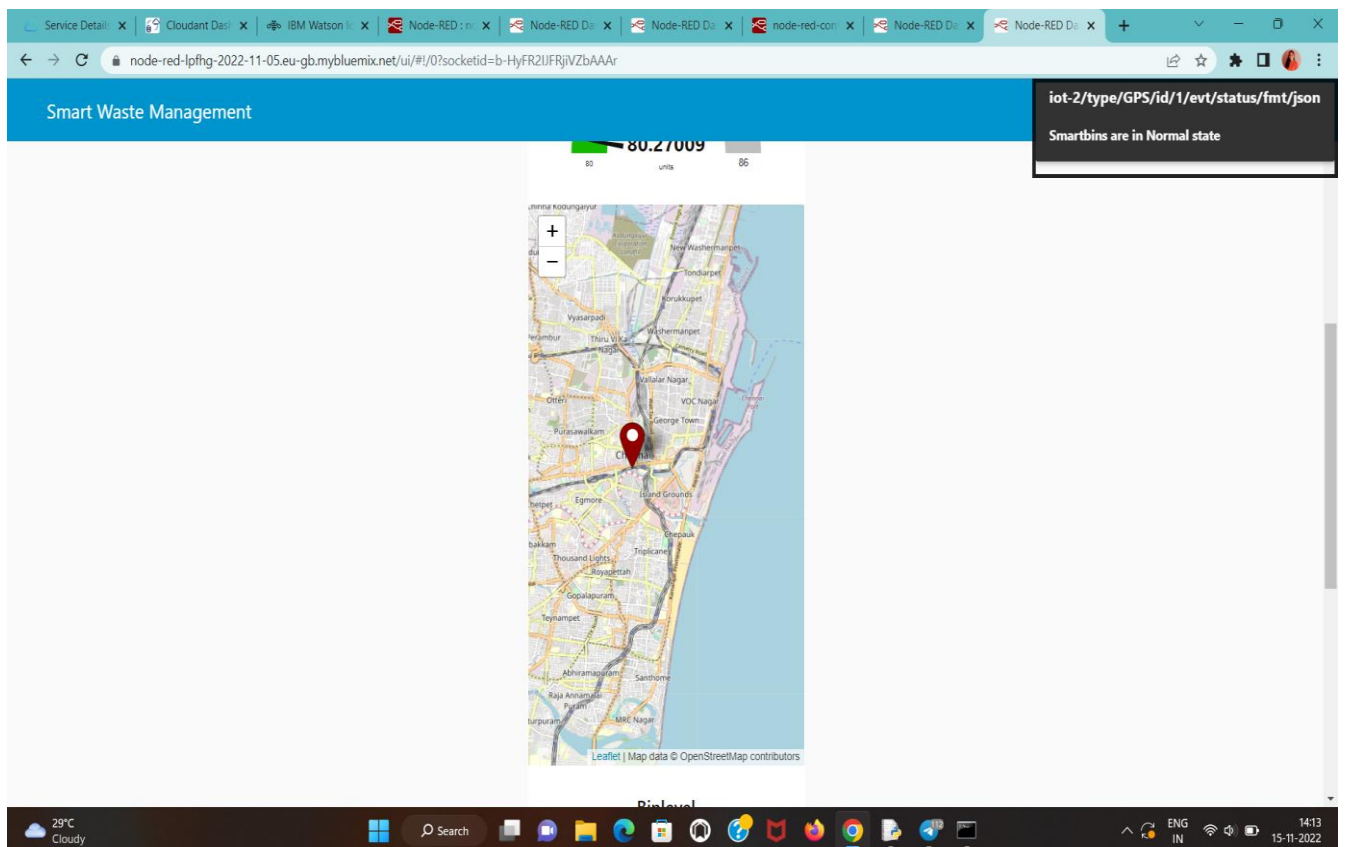
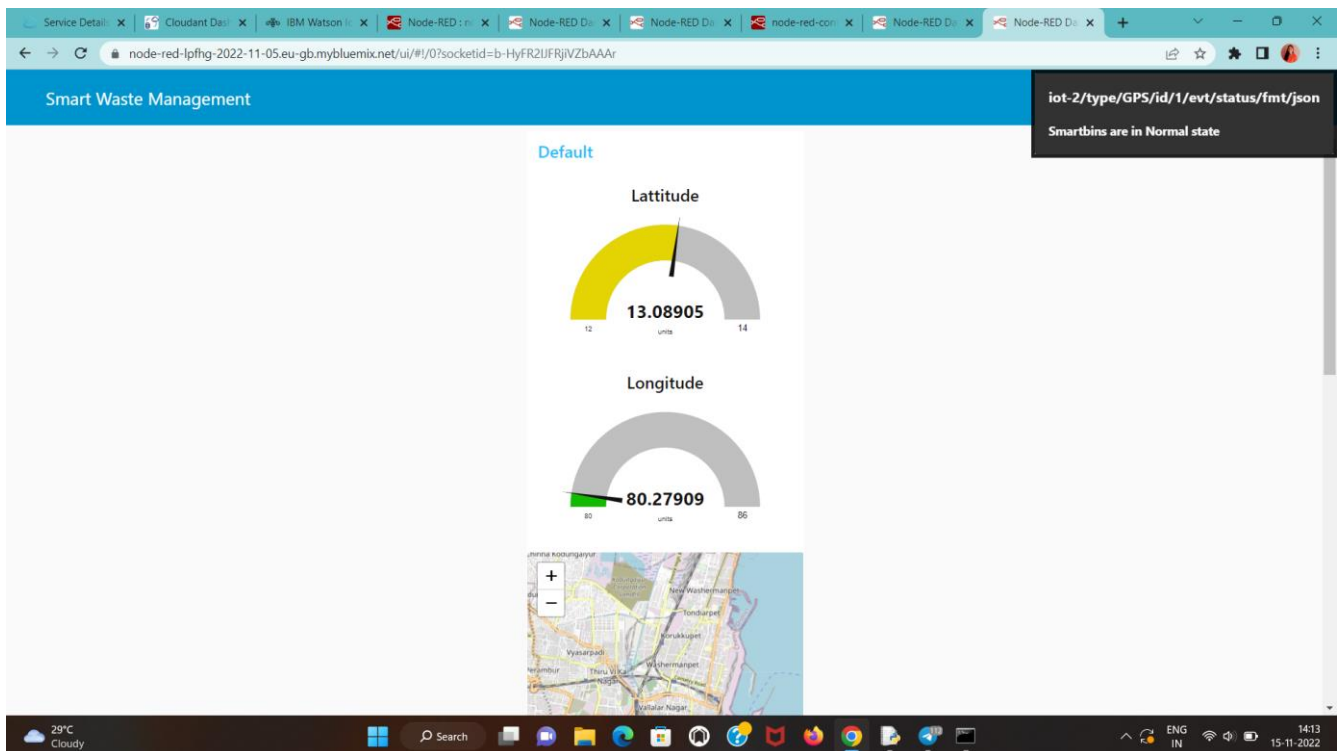
id	key	value
0790563a88b2c156a0368131d6cd107d	0790563a88b2c156a0368131d6cd107d	{"rev": "1-25339ac7cd2f089d54750799e106..."}
0790563a88b2c156a0368131d6ce747b	0790563a88b2c156a0368131d6ce747b	{"rev": "1-74ec095625d53896e5a9ba5aa19..."}
0790563a88b2c156a0368131d6d525fa	0790563a88b2c156a0368131d6d525fa	{"rev": "1-794d63fc1ba200c26a05f045c23..."}
0790563a88b2c156a0368131d6d608e8	0790563a88b2c156a0368131d6d608e8	{"rev": "1-a1c13e9d94794dbd843700c64e6..."}
0b58d01fef7e05b2bfec8584093f918f	0b58d01fef7e05b2bfec8584093f918f	{"rev": "1-e5ad40d96f031af968548c0bc6ce..."}
0b58d01fef7e05b2bfec85840940a89b	0b58d01fef7e05b2bfec85840940a89b	{"rev": "1-47e1e306ccbd2106084bd50d90..."}
0b58d01fef7e05b2bfec85840948e711	0b58d01fef7e05b2bfec85840948e711	{"rev": "1-77f56f23ff2e09566d8afb72aa6c5..."}
0b58d01fef7e05b2bfec85840949b89c	0b58d01fef7e05b2bfec85840949b89c	{"rev": "1-0ce2696eb94c9fafdb3c3384e325..."}
0b58d01fef7e05b2bfec858409508b78	0b58d01fef7e05b2bfec858409508b78	{"rev": "1-d19c8b7030fa844e3fc0fd7f34fb60..."}
0b58d01fef7e05b2bfec85840952a5dc	0b58d01fef7e05b2bfec85840952a5dc	{"rev": "1-f1e7ba1841f8003f15338facead95..."}
0b58d01fef7e05b2bfec858409548215	0b58d01fef7e05b2bfec858409548215	{"rev": "1-52348152e0a5777b0ff37a0a18f9..."}
0b58d01fef7e05b2bfec858409564ce4	0b58d01fef7e05b2bfec858409564ce4	{"rev": "1-f1fb08b2c444af0522b95eac8f12d4f..."}
0b58d01fef7e05b2bfec8584095cd175	0b58d01fef7e05b2bfec8584095cd175	{"rev": "1-a8e057a3e8ee6ec9d7dbb0dbbc66..."}



NodeRed Platform:



Web UI Output:




Service Details x Cloudant Dashboard x IBM Watson IoT x Node-RED : n x Node-RED Dashboard x Node-RED Dashboard x node-red-console x Node-RED Dashboard x Node-RED Dashboard x

node-red-lpfhg-2022-11-05.eu-gb.mybluemix.net/ui/#/0?socketid=b-HyFR2UFRjiVZbAAAr

Smart Waste Management

iot-2/type/GPS/id/1/evt/IoTSensor/fmt/json
Smartbins are in Normal state



Binlevel

71

centimetre

Weight

31

grams

29°C Cloudy

Search

ENG IN

14:13 15-11-2022