

## SPRINT - 3

DATE	12 NOV 2022
TEAM ID	PNT2022TMID37949
PROJECT NAME	SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

1. Simulate python code in Python IDE software to transmit data to IBM Watson IOT platform

### Python code:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "cdmqwf",
        "typeId": "pythoncode",
        "deviceId": "252525"
    },
    "auth": {
        "token": "12345678"
    }
}
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:
    latitude=random.uniform(27.2046,125.25)
    longitude=random.uniform(77.4977,100.1526)
    binlevel=random.randint(10,100)
    binweight = random.randint(50,1500)
```

```

if binweight>=1000 and binlevel>80:
    myData={'latitude':latitude,
'longitude':longitude,'binlevel':binlevel,'binweight':binweight}
    client.publishEvent(eventId="status", msgFormat="json",
data=myData, qos=0,onPublish=None)
    ##print("Published data Successfully: %s", myData)
    print("BIN IS FULL..TIME TO EMPTY IT!!!!\n",myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)
else :
    print("BIN IS IN NORMAL LEVEL...")
    time.sleep(2)
client.disconnect()

```

## Python IDE output:

```

p1.py - C:\Users\Kalaivani\AppData\Local\Programs\Python\Python37\p1.py (3.7.9)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "cdmqwf",
        "typeId": "pythoncode",
        "deviceId": "252525"
    },
    "auth": {
        "token": "12345678"
    }
}
def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform")
    m=cmd.data['command']
client = wiotp.sdk.device.DeviceClient(config=myConfig)
client.connect()
while True:
    latitude=random.uniform(27.2046,125.25)
    longitude=random.uniform(77.4977,100.1526)
    binlevel=random.randint(10,100)
    binweight = random.randint(50,1500)
    if binweight>=1000 and binlevel>80:
        myData={'latitude':latitude, 'longitude':longitude, 'binlevel':binlevel, 'binweight':binweight}
        client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
        print("BIN IS FULL..TIME TO EMPTY IT!!!!\n",myData)
    else :
        print("BIN IS IN NORMAL LEVEL...")
    time.sleep(2)
client.disconnect()
Ln: 1 Col: 0

```

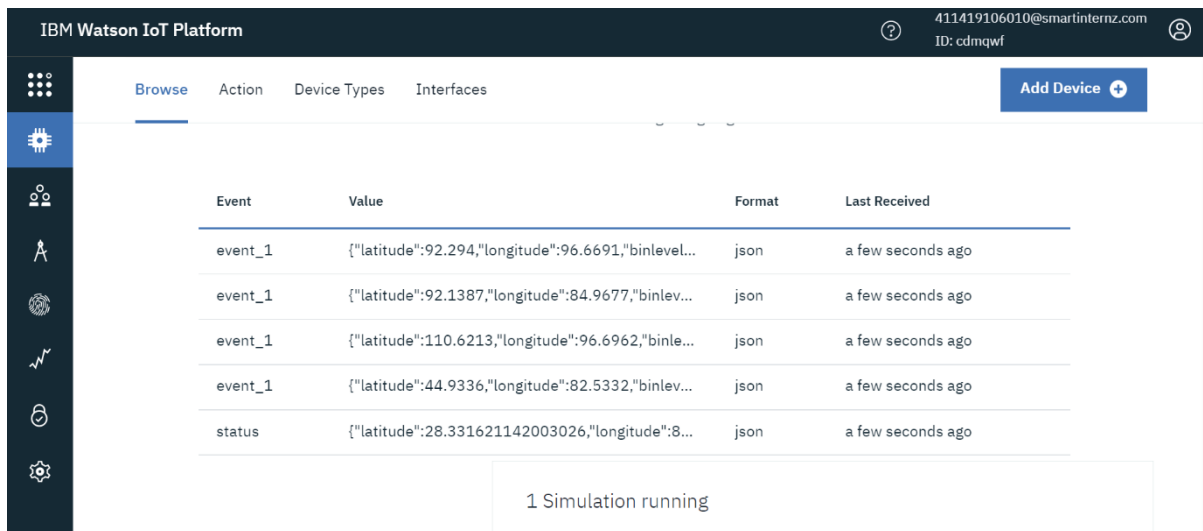
```

Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 18:58:18) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Kalaivani\AppData\Local\Programs\Python\Python37\p1.py ===
2022-11-24 21:04:59,928 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:cdmqwf:pythoncode:252525
BIN IS IN NORMAL LEVEL...
BIN IS IN NORMAL LEVEL...
BIN IS IN NORMAL LEVEL...
BIN IS IN NORMAL LEVEL...
BIN IS IN NORMAL LEVEL...
BIN IS IN NORMAL LEVEL...
BIN IS FULL..TIME TO EMPTY IT!!!!
{'latitude': 78.71579497970454, 'longitude': 90.4366965492068, 'binlevel': 81, 'binweight': 1201}
BIN IS IN NORMAL LEVEL...
BIN IS IN NORMAL LEVEL...
Ln: 5 Col: 0

```

## 2. Data is transferred to IBM Watson IoT platform.

### IBM PLATFORM OUTPUT:



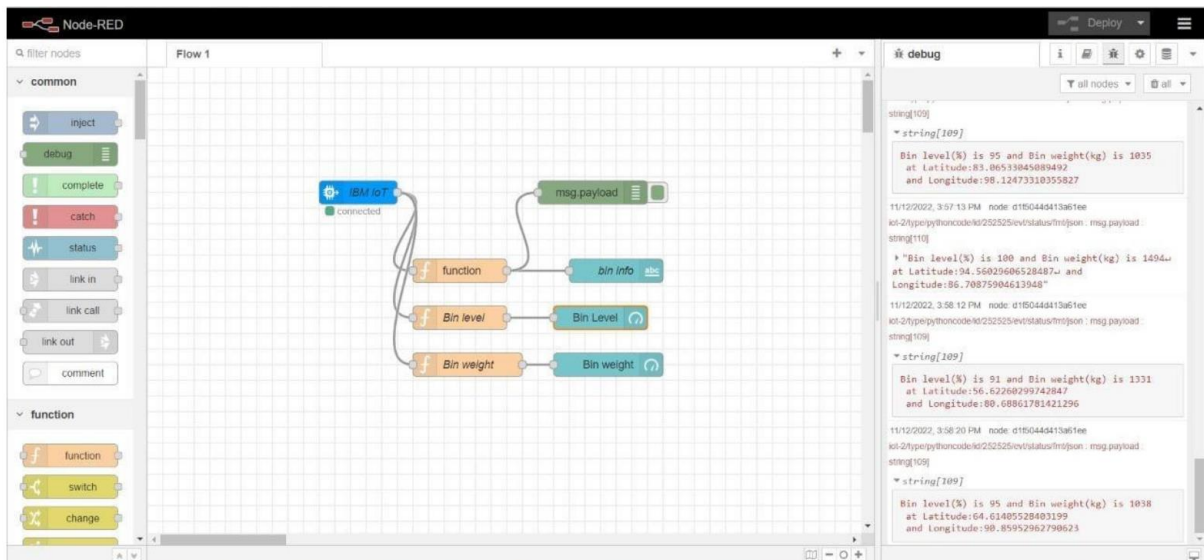
The screenshot displays the IBM Watson IoT Platform interface. At the top, the header shows the platform name, a user ID, and an email address. Below the header, there is a navigation bar with tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area features a table with four columns: 'Event', 'Value', 'Format', and 'Last Received'. The table lists five events, all in JSON format, with the last received time being 'a few seconds ago'. Below the table, a status box indicates '1 Simulation running'.

Event	Value	Format	Last Received
event_1	{"latitude":92.294,"longitude":96.6691,"binlevel..."}	json	a few seconds ago
event_1	{"latitude":92.1387,"longitude":84.9677,"binlev..."}	json	a few seconds ago
event_1	{"latitude":110.6213,"longitude":96.6962,"binle..."}	json	a few seconds ago
event_1	{"latitude":44.9336,"longitude":82.5332,"binlev..."}	json	a few seconds ago
status	{"latitude":28.331621142003026,"longitude":8...	json	a few seconds ago

1 Simulation running

### 3. Node-RED Connection setup for data transmission from IBM Watson IoT platform to Node-RED dashboard and viewing in Web UI .

#### Node-RED:



#### Web UI:

