

SPRINT – 3

| | |
|--------------|--|
| DATE | 15 NOVEMBER 2022 |
| TEAM ID | PNT2022TMID05331 |
| PROJECT NAME | SMART WASTE MANAGEMENT FOR METROPOLITAN CITIES-IOT |

PYTHON CODE : [To connect IBM WATSON]

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
```

```
#Provide your IBM Watson Device Credentials
organization = "cbseji"
deviceType = "abcd"
deviceId = "1234"
authMethod = "token"
authToken = "12345678"
```

```
# Initialize GPIO
```

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

```
#print(cmd)
```

```
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()
```

```
# Connect and send a datapoint "hello" with value "world" into the  
cloud as an event of type "greeting" 10 times  
deviceCli.connect()
```

```
while True:
```

```
    #Get Sensor Data from DHT11
```

```
    level=random.randint(0,100)  
    weight=random.randint(0,100)
```

```
    data = { 'level' : level, 'weight': weight }  
    #print data
```

```
    def myOnPublishCallback():
```

```
        print ("Published level = %s C" % level, "weight = %s %%"  
% weight, "to IBM Watson")
```

```
    success = deviceCli.publishEvent("IoTSensor", "json", data,
```

```
qos=0, on_publish=myOnPublishCallback)
```

```
if not success:
```

```
    print("Not connected to IoTf")
```

```
    time.sleep(1)
```

```
deviceCli.commandCallback = myCommandCallback
```

```
if (level>=75):
```

```
    print("Full LED ON")
```

```
# Disconnect the device and application from the cloud
```

```
deviceCli.disconnect()
```

OUTPUT :

The screenshot displays the IBM Watson IoT Platform dashboard. The main view shows a table of recent events for a device named 'eventbatch11'. The table has columns for Event, Value, Format, and Last. The events are listed as follows:

| Event | Value | Format | Last |
|--------------|---|--------|------|
| eventbatch11 | {"randomNumber":0,"level":47,"weight":947} | json | a fe |
| eventbatch11 | {"randomNumber":37,"level":6,"weight":273} | json | a m |
| eventbatch11 | {"randomNumber":80,"level":15,"weight":605} | json | 2 m |
| eventbatch11 | {"randomNumber":54,"level":34,"weight":224} | json | 3 m |
| eventbatch11 | {"randomNumber":45,"level":54,"weight":407} | json | 4 m |

A modal window titled 'Device Type: abcd' is open, showing the configuration for a new event type named 'eventbatch11'. The modal includes a 'Schedule' section set to 'Every Minute' and a 'Payload' section with a JSON payload:

```
{ 0: { 1: "randomNumber": random(0,100), 2: "level": random(0,100), 3: "weight": random(0,1000) 4: } 5: }
```

. The modal also has buttons for 'Send', 'Upload a CSV file', 'Cancel', and 'Save'.

```
ibmiotpublishsubscribe (1).py - C:\Users\ navee\Dropbox\PC\Downloads\ibmiotpublishsubscribe (1).py (3.7.0)
File Edit Format Run Options Window Help

import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "cbseji"
deviceType = "abcd"
deviceId = "1234"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO

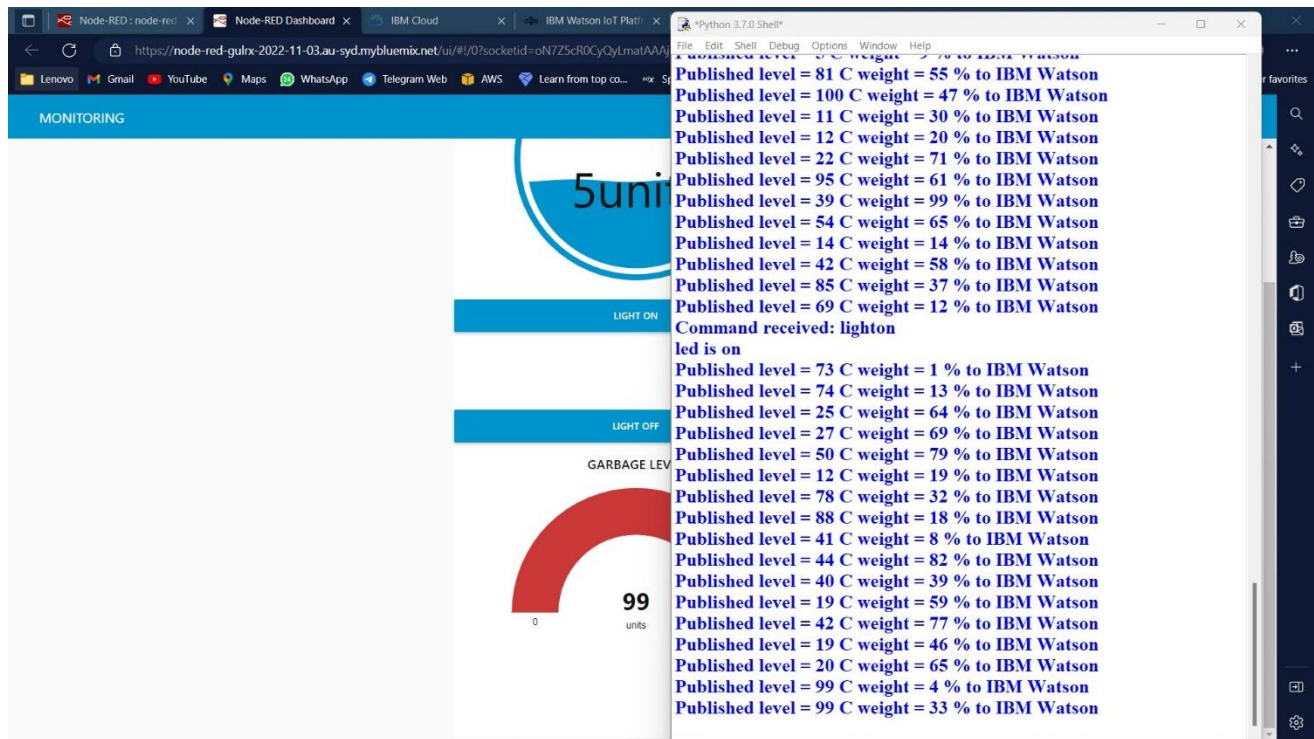
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    else :
        print ("led is off")

    #print(cmd)

try:
    deviceOptions = {"org": organization, "type": de
```

```
*Python 3.7.0 Shell*
File Edit Shell Debug Options Window Help


Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\ navee\Dropbox\PC\Downloads\ibmiotpublishsubscribe (1).py =
2022-11-13 11:52:44,654 ibmiotf.device.Client INFO Connected successfully: d:cbseji:abc
d:1234
Published level = 82 C weight = 64 % to IBM Watson
Full LED ON
Published level = 5 C weight = 2 % to IBM Watson
Published level = 22 C weight = 57 % to IBM Watson
Published level = 83 C weight = 60 % to IBM Watson
Full LED ON
Published level = 16 C weight = 12 % to IBM Watson
Published level = 19 C weight = 91 % to IBM Watson
Published level = 35 C weight = 77 % to IBM Watson
Published level = 22 C weight = 46 % to IBM Watson
Published level = 85 C weight = 68 % to IBM Watson
Full LED ON
Published level = 36 C weight = 88 % to IBM Watson
Published level = 69 C weight = 72 % to IBM Watson
Published level = 14 C weight = 3 % to IBM Watson
Published level = 99 C weight = 0 % to IBM Watson
```



[illegible]

MONITORING

TRASH WEIGHT

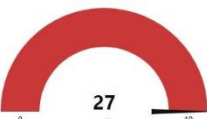


385units

LIGHT ON

LIGHT OFF

GARBAGE LEVEL



27
units

0 10