

## SPRINT – 2

Date	17 October 2022
Team ID	PNT2022TMID05381
Project Name	Project – Smart Waste Management system for metropolitan cities

### Python Code

```
import time
import sys

import ibmiotf.application

import ibmiotf.device

import random

#Provide your IBM Watson

Device Credentials

organization

= "2melo1"
deviceType =

"waste"
deviceId = "1234"
authMethod =

"token"
authToken = "12345678"

# Initialize GPIO

def myCommandCallback(cmd):

    print("Commandreceived: %s" % cmd.data['command'])

    status=cmd.data['command']

    if status=="waste level":

        print ("waste level monitored")

    else :

        print ("weight level monitored")
```

```

#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 %" % level, "Weight = %s %" % weight, "to IBM Watson")

```

```
        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
```

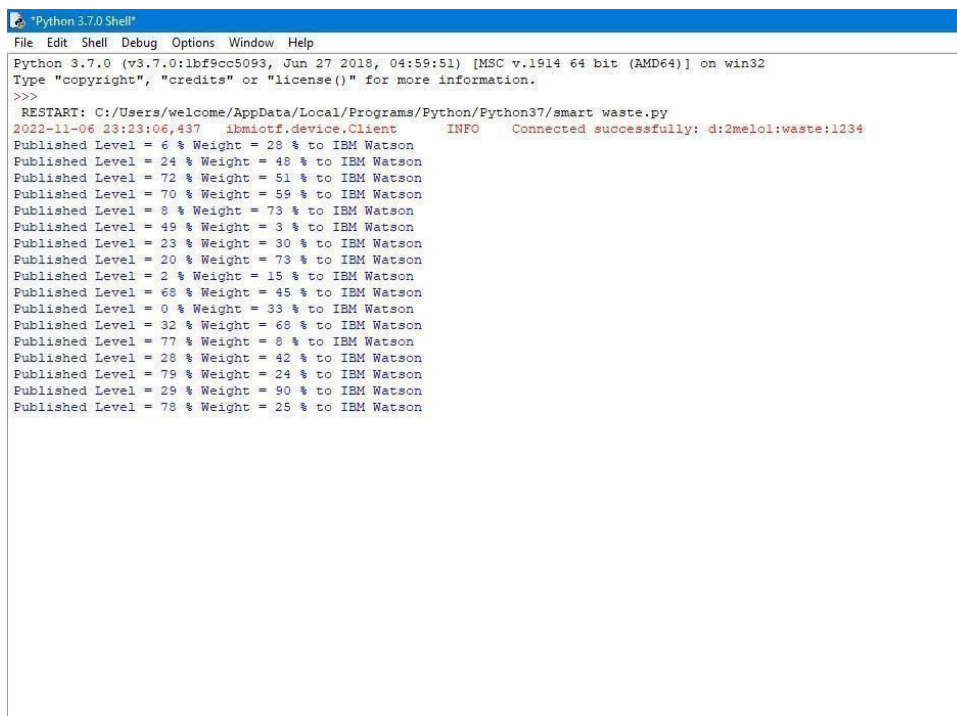
```
            print("Not connected to IOTF")
```

```
time.sleep(20)
```

```
deviceCli.commandCallback = myCommandCallback
```

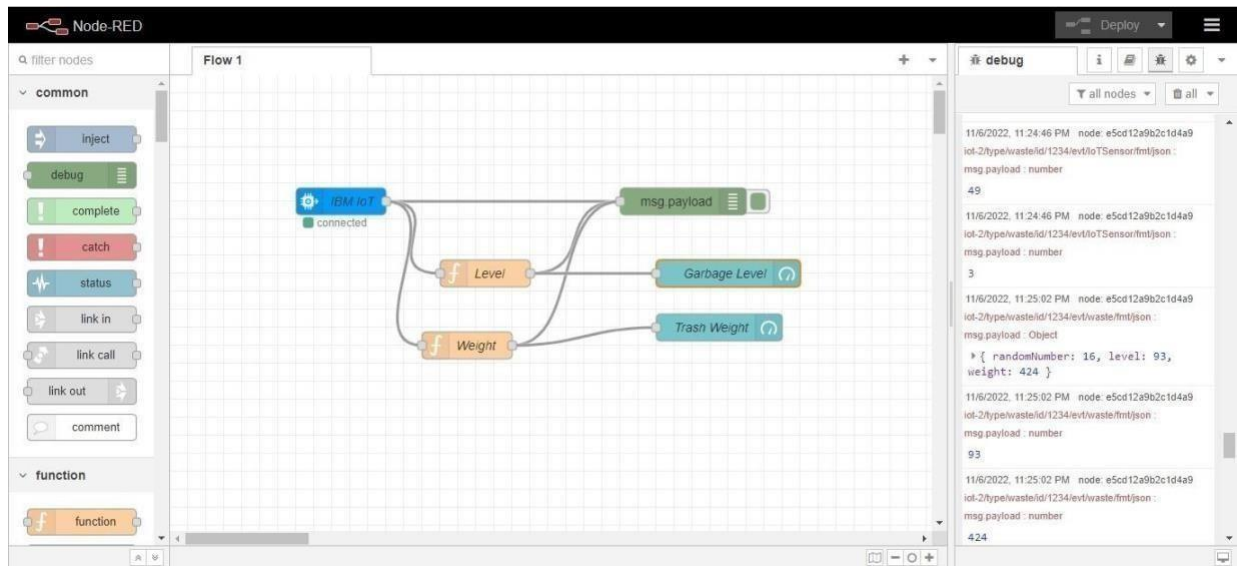
```
# Disconnect the device and application from the cloud deviceCli.disconnect()
```

## OUTPUT:



```
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/welcome/AppData/Local/Programs/Python/Python37/smart_waste.py
2022-11-06 23:23:06,437 ibmiotf.device.Client INFO Connected successfully: d:2melol:waste:1234
Published Level = 6 % Weight = 28 % to IBM Watson
Published Level = 24 % Weight = 48 % to IBM Watson
Published Level = 72 % Weight = 51 % to IBM Watson
Published Level = 70 % Weight = 59 % to IBM Watson
Published Level = 8 % Weight = 73 % to IBM Watson
Published Level = 49 % Weight = 3 % to IBM Watson
Published Level = 23 % Weight = 30 % to IBM Watson
Published Level = 20 % Weight = 73 % to IBM Watson
Published Level = 2 % Weight = 15 % to IBM Watson
Published Level = 68 % Weight = 45 % to IBM Watson
Published Level = 0 % Weight = 33 % to IBM Watson
Published Level = 32 % Weight = 68 % to IBM Watson
Published Level = 77 % Weight = 8 % to IBM Watson
Published Level = 28 % Weight = 42 % to IBM Watson
Published Level = 79 % Weight = 24 % to IBM Watson
Published Level = 29 % Weight = 90 % to IBM Watson
Published Level = 78 % Weight = 25 % to IBM Watson
```

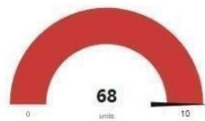
## NODE RED INPUT AND OUPUT:



## Smart Waste

### Garbage Monitoring

#### Trash Weight



#### Garbage Level

