

SPRINT – 2
TEAM ID:PNT2022TMID36751
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 = "dxjch6"
deviceType = "sprint2"
deviceId = "abcd"
authMethod = "token"
authToken = "fkX6j?2deWAL)Nsz9h"

# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %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        IoT")

time.sleep(20)

```

```

deviceCli.commandCallback = myCommandCallback

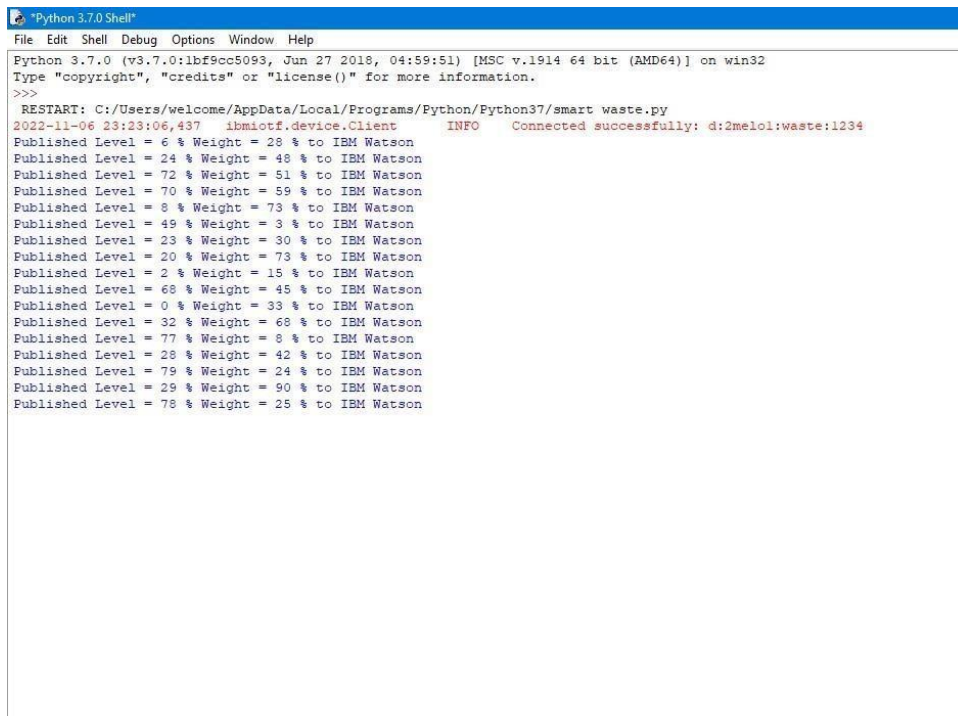
```

```

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

```

OUTPUT:

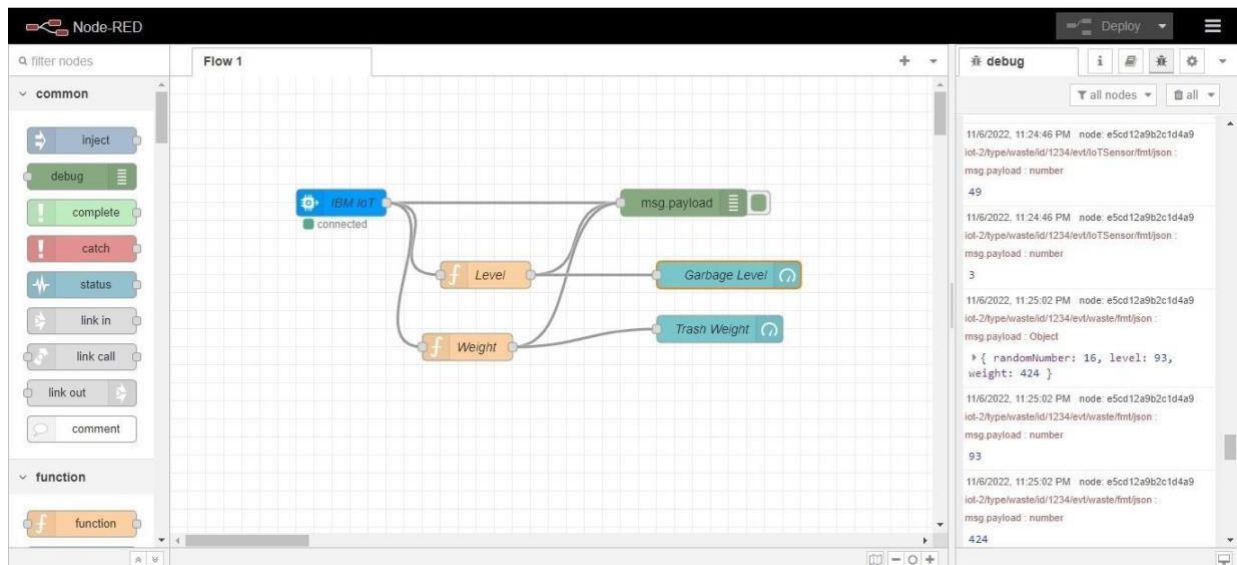


```

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (tags/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

```

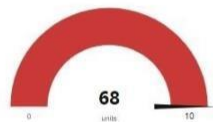
NODE RED INPUT AND OUPUT:



Smart Waste

Garbage Monitoring

Trash Weight



Garbage Level

