

## SPRINT – 2

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### 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("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)
```

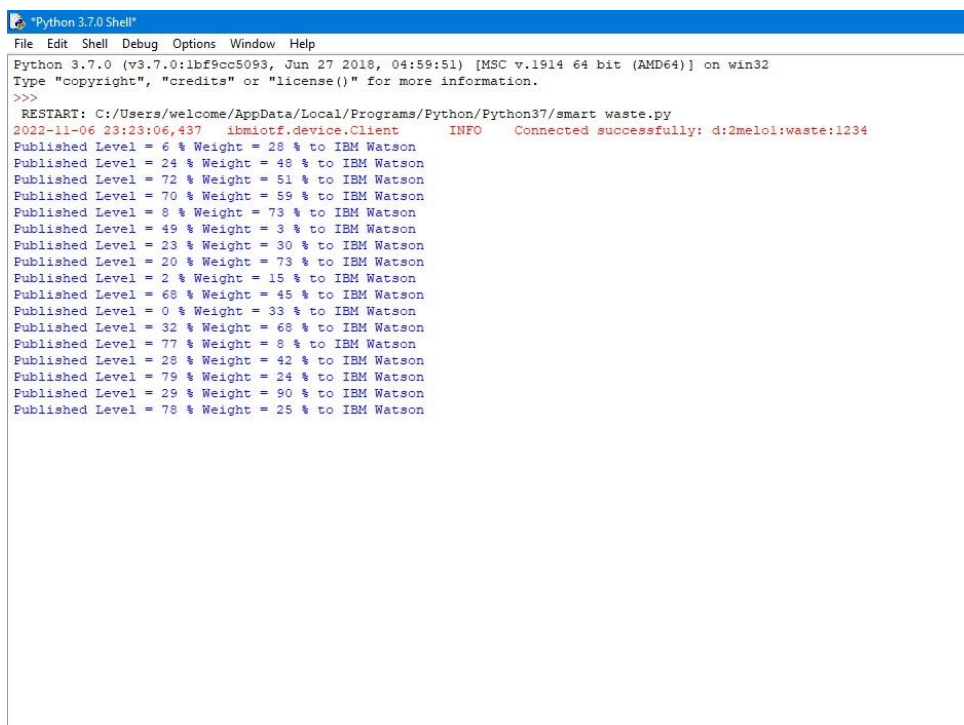
```
        if not success:            print("Not
connected          to          IoT")

time.sleep(20)
```

```
deviceCli.commandCallback = myCommandCallback
```

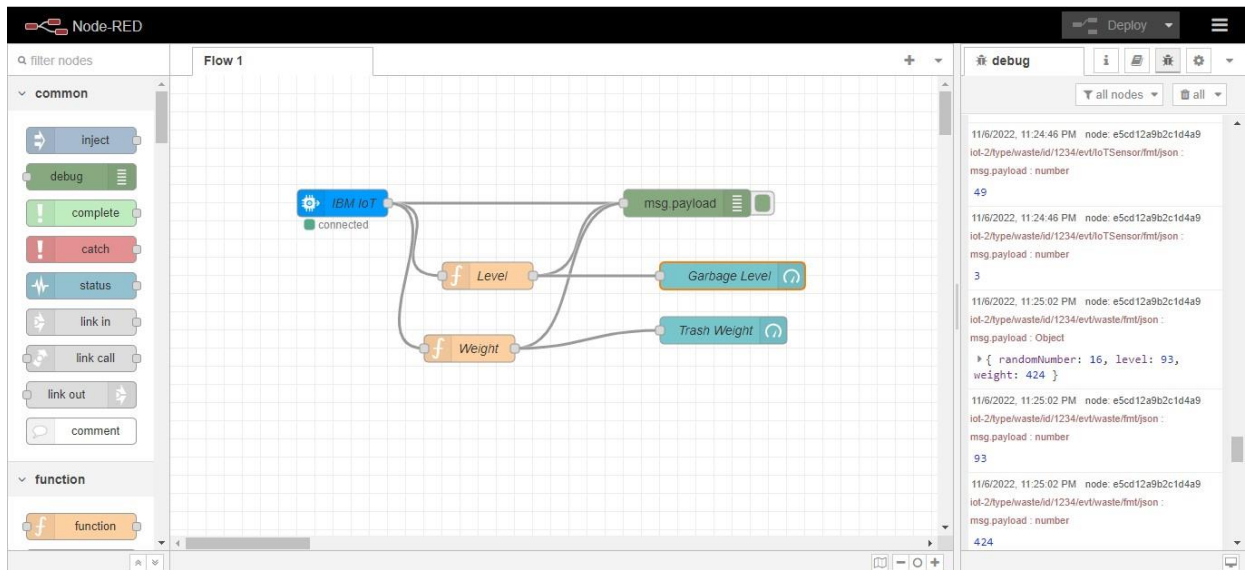
```
# Disconnect the device and application from the cloud deviceCli.disconnect()
```

## OUTPUT:



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

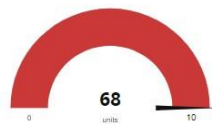
## NODE RED INPUT AND OUPUT:



## Smart Waste

### Garbage Monitoring

#### Trash Weight



#### Garbage Level

