

DELIVERY OF SPRINT – 2

DATE	18- NOVEMBER 2022
TEAM ID	PNT2022TMID48657
PROJECT NAME	SMART WASTE MANAGEENT FOR METROPOLITAN CITIES

Code :

```
import time
```

```
import sys
```

```
import ibmiotf.application
```

```
import ibmiotf.device
```

```
import random
```

```
#Provide your IBM Watson Device Credentials
```

```
organization = "9opizh"
```

```
deviceType = "NodeMCU"
```

```
deviceId = "123456"
```

```
authMethod = "token"
```

```
authToken = "8098439666"
```

```
# 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
```

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

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

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

```
    #print data
```

```
    def myOnPublishCallback():
```

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

```
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
```

```
    if not success:
```

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

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

```
deviceCli.commandCallback = myCommandCallback
```

Disconnect the device and application from the cloud

OUTPUT :

The screenshot displays the Node-RED web interface in a browser. The main workspace shows a flow named 'Flow 2' with the following components:

- Input:** An 'IBM IoT' node (green) with a 'connected' status.
- Processing:** Two function nodes, 'bin level' and 'bin weight', both labeled with 'f'.
- Outputs:**
 - The 'bin level' node connects to two 'distance' nodes (labeled '123') and a 'msg payload' node (labeled '123').
 - The 'bin weight' node connects to two 'weight' nodes (labeled '123') and a 'msg payload' node (labeled '123').
- Visualizations:** The 'distance' nodes connect to 'level of bin' and 'level of chart' nodes. The 'weight' nodes connect to 'weight of bin' and 'weight of waste' nodes.

The right-hand 'debug' console shows a log of messages received from the IoT device. The messages are JSON objects containing 'weight' and 'level' data:

```
{ "weight": 81, "level": 30 }
```

The log shows multiple messages with varying weights (81, 78) and levels (30, 73) over time.