SPRINT – 2
Date:05 November 2022
Team ID:PNT2022TMID19083

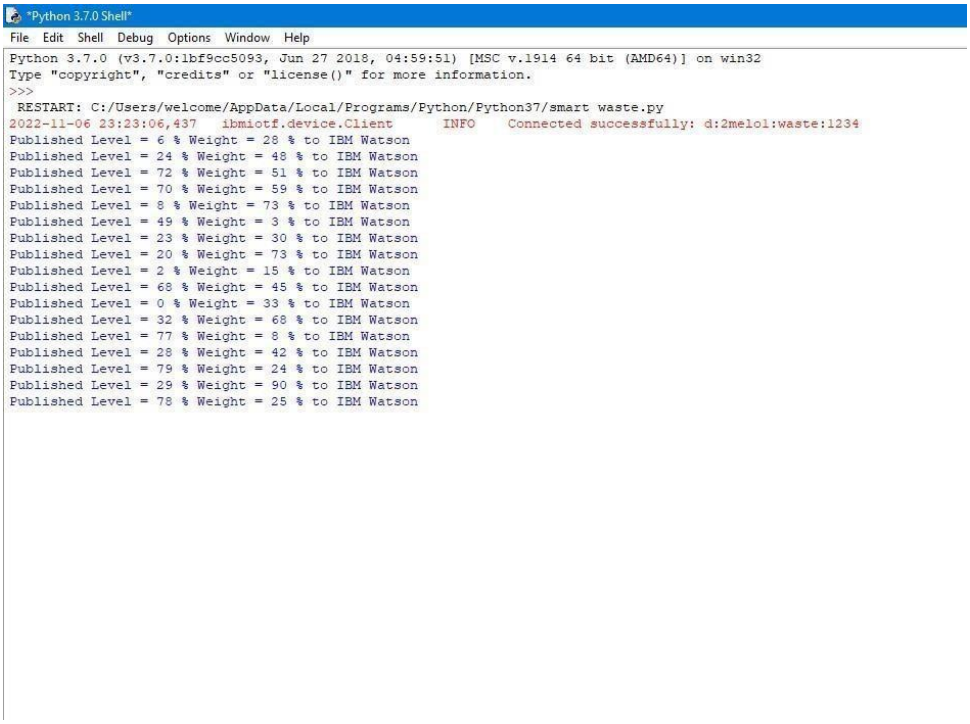
Python Code

```
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")
```

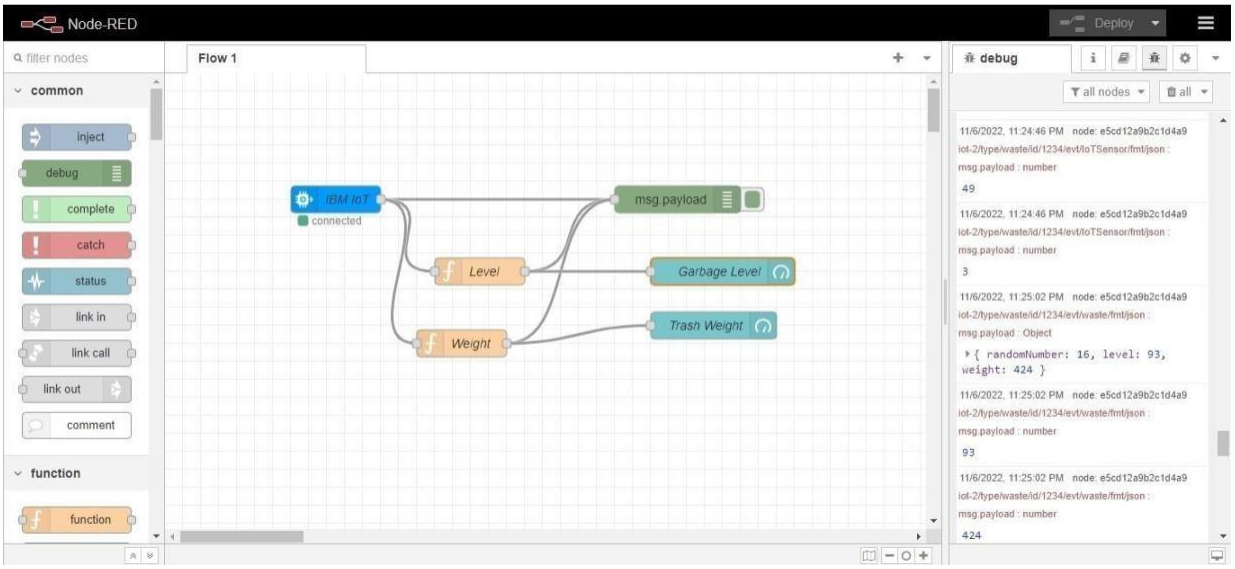
```
   #print(cmd)


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("Notconnected   to IoTF")

    time.sleep(20)

    deviceCli.commandCallback=

    myCommandCallback


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

OUTPUT:



NODE RED INPUT AND OUPUT:


Node-RED
Deploy
filter nodes
Flow 1
debug
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
IBM IoT
connected
Level
Weight
msg.payload
Garbage Level
Trash Weight
all nodes
all
11/6/2022, 11:24:46 PM node: e5cd12a9b2c1d4a9
iot-2/type/waste/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
49
11/6/2022, 11:24:46 PM node: e5cd12a9b2c1d4a9
iot-2/type/waste/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
3
11/6/2022, 11:25:02 PM node: e5cd12a9b2c1d4a9
iot-2/type/waste/id/1234/evt/waste/fmt/json :
msg.payload : Object
{ randomNumber: 16, level: 93, weight: 424 }
11/6/2022, 11:25:02 PM node: e5cd12a9b2c1d4a9
iot-2/type/waste/id/1234/evt/waste/fmt/json :
msg.payload : number
93
11/6/2022, 11:25:02 PM node: e5cd12a9b2c1d4a9
iot-2/type/waste/id/1234/evt/waste/fmt/json :
msg.payload : number
424


Smart Waste
Garbage Monitoring
Trash Weight
68
0
units
10
Garbage Level
32
0
units
10