

Project Development: Delivery of Sprint 2

Node-red

Date	5 th November 2022
Team ID	PNT2022TMID30692
Project name	Smart waste management system for metropolitan cities
Marks	

PYTHON CODE FOR BIN CREATION:

```
import requests
import json
import ibmiotf.application
import ibmiotf.device
import time
import random
import sys
```

```
# watson device details
```

```
organization = "niqzrg"
devicType = "DUSTBIN"
deviceId = "DUSTBINID1"
authMethod= "token"
authToken= "123456789"
```

```
#generate random values for random variables (temperature&humidity)
```

```
def myCommandCallback(cmd):
```

```
    global a
    print("command recieved:%s" %cmd.data['command'])
    control=cmd.data['command']
    print(control)
```

```
try:
```

```
    deviceOptions={"org": organization, "type": devicType,"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()
```

```
deviceCli.connect()
```

```
while True:
```

```

ultrasonic= random.randint(10,70)
loadcell= random.randint(5,15)
data= {'dist':ultrasonic,'load':loadcell}

if loadcell < 13 and loadcell > 15:
    load = "90 %"

elif loadcell < 8 and loadcell > 12:
    load = "60 %"

elif loadcell < 4 and loadcell > 7:
    load = "40 %"
else:
    load = "0 %"

if ultrasonic < 10:
    dist = ' 90 %'

elif ultrasonic < 20 and ultrasonic >11:
    dist = 'alert : ' ' Dumpster poundage getting high, Time to collect :)40 %'

elif ultrasonic < 60 and ultrasonic > 41:
    dist = 'alert : ' 'dumpster is above 60%'
elif ultrasonic < 80 and ultrasonic > 61:
    dist = 'alert : ' 'Not in risk state  20 %'


if load == "90 %" or ultrasonic == "90 %":
    warn = 'alert : ' ' Risk warning'

elif load == "60 %" or ultrasonic == "60 %":

    warn = 'alert: 60% accuracy'
else :
    warn = 'alert: below 20% trash'
def myOnPublishCallback(lat=10.678991,long=78.177731):

    print("published distance = %s " %ultrasonic,"loadcell:%s " %loadcell,"lon = %s " %long,"lat
= %s" %lat)
    print(load)
    print(dist)
    print(warn)

time.sleep(5)

```

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

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

```
if not success:
```

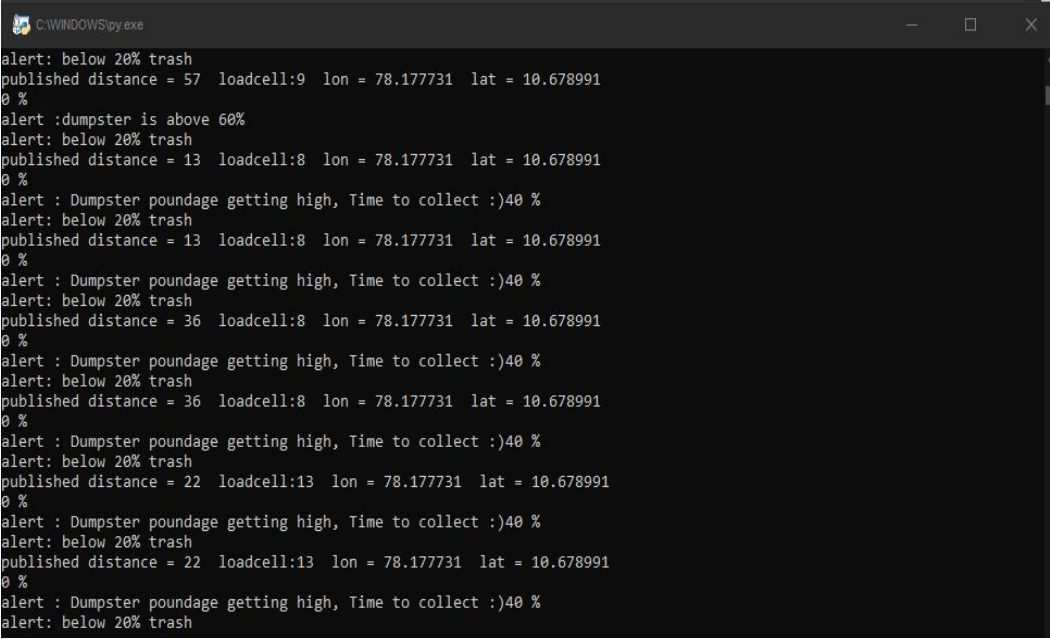
```
    print("not connected to ibmiot")
    time.sleep(5)
```

```
deviceCli.commandCallback=myCommandCallback
```

```
#disconnect the device
```

```
deviceCli.disconnect()
```

OUTPUT:



```
C:\WINDOWS\ipyp.exe
alert: below 20% trash
published distance = 57 loadcell:9 lon = 78.177731 lat = 10.678991
0 %
alert : dumpster is above 60%
alert: below 20% trash
published distance = 13 loadcell:8 lon = 78.177731 lat = 10.678991
0 %
alert : Dumpster poundage getting high, Time to collect :)40 %
alert: below 20% trash
published distance = 13 loadcell:8 lon = 78.177731 lat = 10.678991
0 %
alert : Dumpster poundage getting high, Time to collect :)40 %
alert: below 20% trash
published distance = 36 loadcell:8 lon = 78.177731 lat = 10.678991
0 %
alert : Dumpster poundage getting high, Time to collect :)40 %
alert: below 20% trash
published distance = 36 loadcell:8 lon = 78.177731 lat = 10.678991
0 %
alert : Dumpster poundage getting high, Time to collect :)40 %
alert: below 20% trash
published distance = 22 loadcell:13 lon = 78.177731 lat = 10.678991
0 %
alert : Dumpster poundage getting high, Time to collect :)40 %
alert: below 20% trash
published distance = 22 loadcell:13 lon = 78.177731 lat = 10.678991
0 %
alert : Dumpster poundage getting high, Time to collect :)40 %
alert: below 20% trash
```