

PYTHON CODE

DATE	19 NOVEMBER 2022
TEAM ID	PNT2022MID34892
PROJECT NAME	Smart Waste Management System For Metropolitan Cities

```
import requests
```

```
import json
```

```
import ibmiotf.application
```

```
import ibmiotf.device
```

```
import time
```

```
import random
```

```
import sys
```

```
# watson device details
```

```
organization = "4yi0vc"
```

```
devicType = "BIN1"
```

```
deviceId = "BIN1ID"
```

```
authMethod= "token"
```

```
authToken= "123456789"
```

```
#generate random values for randomo 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()
```

```
#connect and send a datapoint "temp" with value integer value into the cloud as a type of event for  
every 10 seconds
```

```
deviceCli.connect()
```

```
while True:
```

```
    distance= random.randint(10,70)
```

```
    loadcell= random.randint(5,15)
```

```
    data= {'dist':distance,'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 distance < 15:
```

```
dist = 'Risk warning:' 'Dumpster poundage getting high, Time to collect :) 90 %'
```

```
elif distance < 40 and distance >16:
```

```
dist = 'Risk warning:' 'dumpster is above 60%'
```

```
elif distance < 60 and distance > 41:
```

```
dist = 'Risk warning:' '40 %'
```

```
else:
```

```
dist = 'Risk warning:' '17 %'
```

```
if load == "90 %" or distance == "90 %":
```

```
warn = 'alert : ' ' Dumpster poundage getting high, Time to collect : )'
```

```
elif load == "60 %" or distance == "60 %":
```

```
    warn = 'alert : ' ' dumpster is above 60%'
```

```
else :
```

```
    warn = 'alert : ' 'No need to collect right now '
```

```
def myOnPublishCallback(lat=10.678991,long=78.177731):
```

```
    print("Gandigramam, Karur")
```

```
    print("published distance = %s " %distance,"loadcell:%s " %loadcell,"lon = %s " %long,"lat = %s" %lat)
```

```
    print(load)
```

```
    print(dist)
```

```
    print(warn)
```

```
time.sleep(10)
```

```
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(30)
```

```
deviceCli.commandCallback=myCommandCallback
```

```
#disconnect the device
```

```
deviceCli.disconnect()
```