TEAM ID	PNT2022TMID47365
PROJECT	Smart Waste Management System For Metropolitan Cities

SPRINT DELIVERY 4:
Python script:

```python
import random
import ibmiotf.application
import ibmiotf.device
import time
from time import sleep
import sys

#IBM Watson Device Credentials.
organization = "sl1jtd"
deviceType = "abcde"
deviceId = "08"
authMethod = "token"
authToken = "830119106008"

def myCommandCallback(cmd):
    print("Command         received:        %s"        %
cmd.data['command'])
    status = cmd.data['command']
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()

deviceCli.connect()
while True:
 distance= random.randint(10,70)
 loadcell= random.randint(5,15)
 data= {'dist':distance,'load':loadcell}

 #weight of the bin
 if loadcell <= 13 and loadcell >= 15:
    load = "90 %"

 elif loadcell <= 10 and loadcell >= 12:
    load = "75 %"

 elif loadcell <= 8 and loadcell >= 10:
    load = "75 %"
```

```python
    elif loadcell <= 4 and loadcell >= 7:
        load = "45 %"

    else:
        load = "20 %"

    #empty distance in the bin
    if distance <= 15:
        dist = '90 %'

    elif distance <= 30 and distance >= 16:
        dist = '75 %'

    elif distance <= 45 and distance >= 31 :
        dist = '60 %'

    elif distance <= 60 and distance >= 46:
        dist = '45 %'

    else:
        dist = '25 %'

    #alert and warning for garbage level and weight

    if load == "90 %" or dist == "90 %":
        warn = 'alert : Garbage level in the trash can is going
to be full, Time to collect '

    elif load == "75 %" or dist == "75 %":
        warn = 'alert : Garbage level is above 75%'

    elif load == "60 %" or dist == "60 %":
        warn = 'alert : Garbage level is above 60%'

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

    def
myOnPublishCallback(lat=10.677849504740825,long=
78.59966411452089):
        print("Sethurapatti, Trichy")
        print("distance = %s " %distance,"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)
```
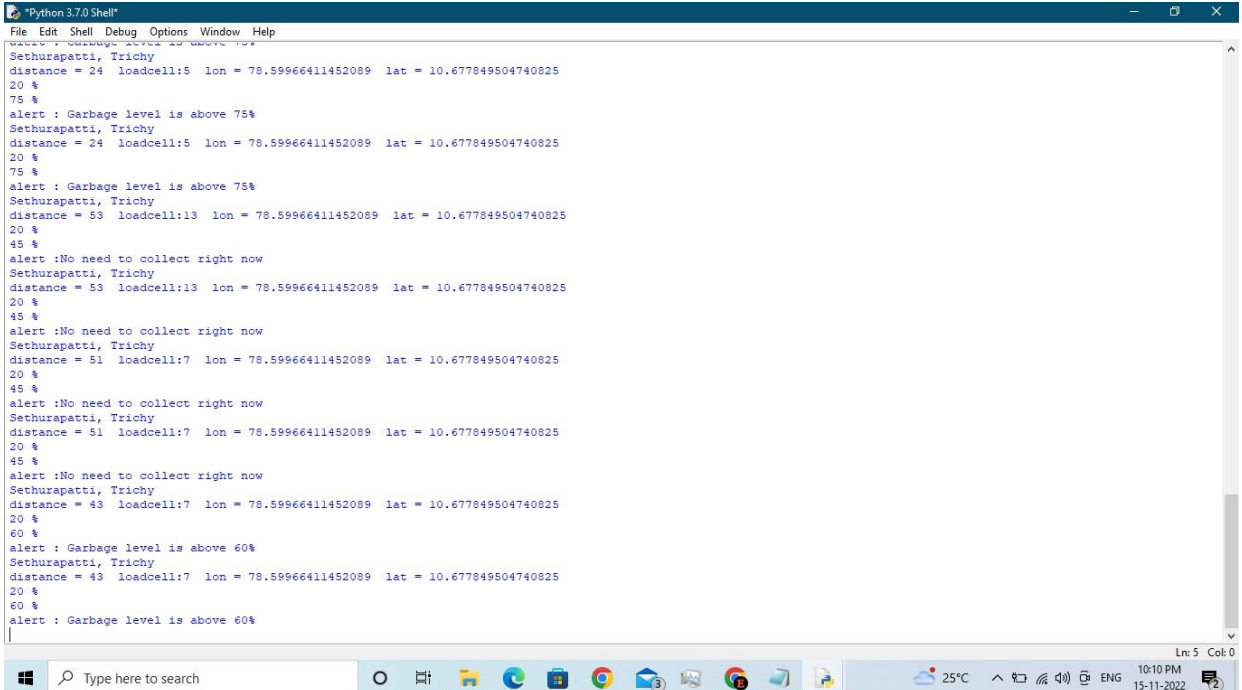
```
 success=deviceCli.publishEvent
("IoTSensor","json",data,qos=0,on_publish=
myOnPublishCallback)


 if not success:
    print("not connected to ibmiot")
time.sleep(20)



 deviceCli.commandCallback=myCommandCallback
#disconnect the device
deviceCli.disconnect
```
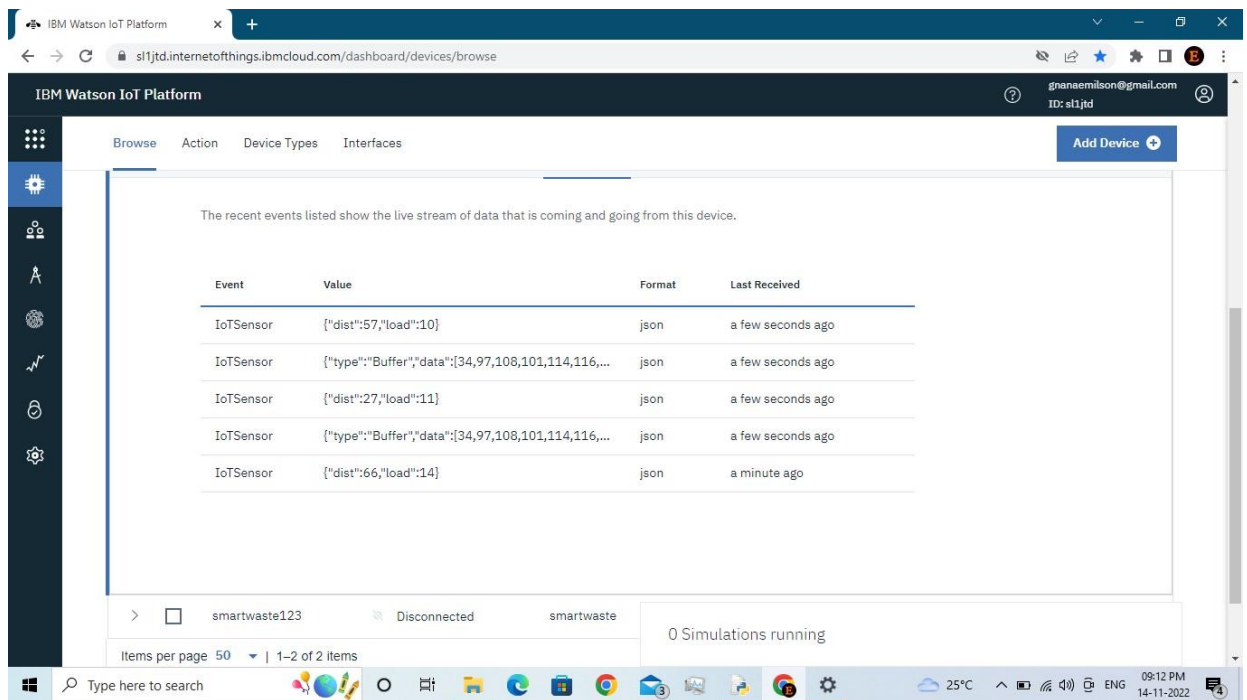
OUTPUT:
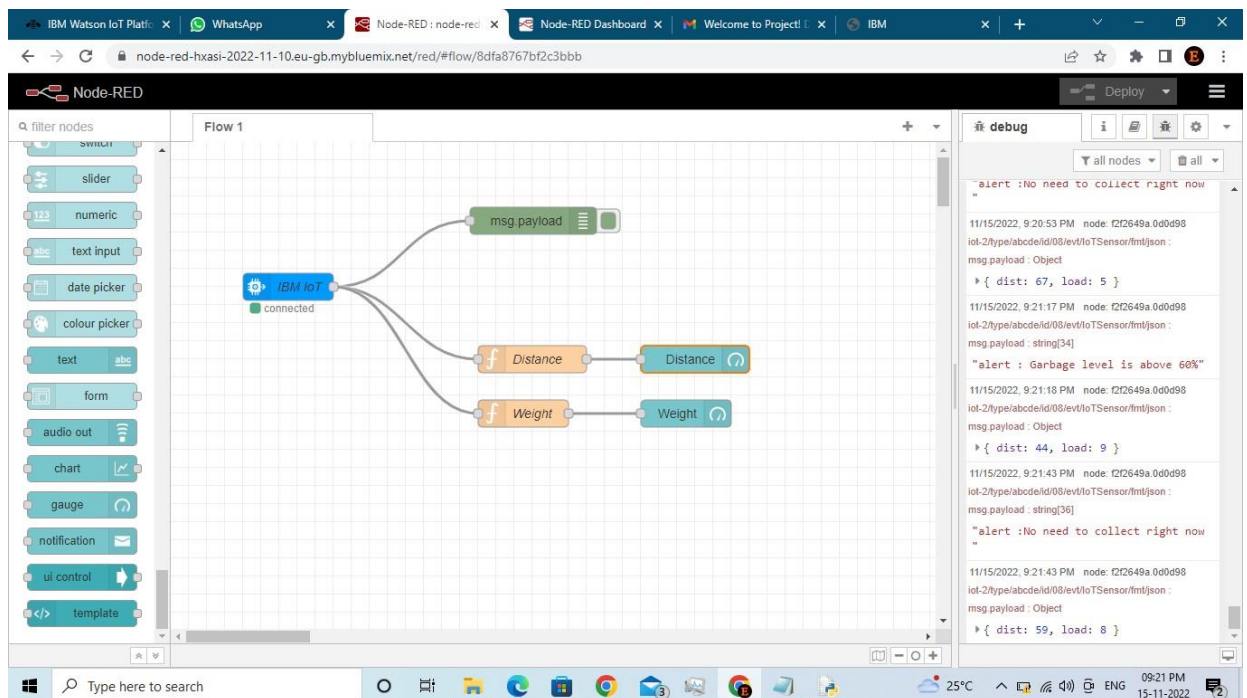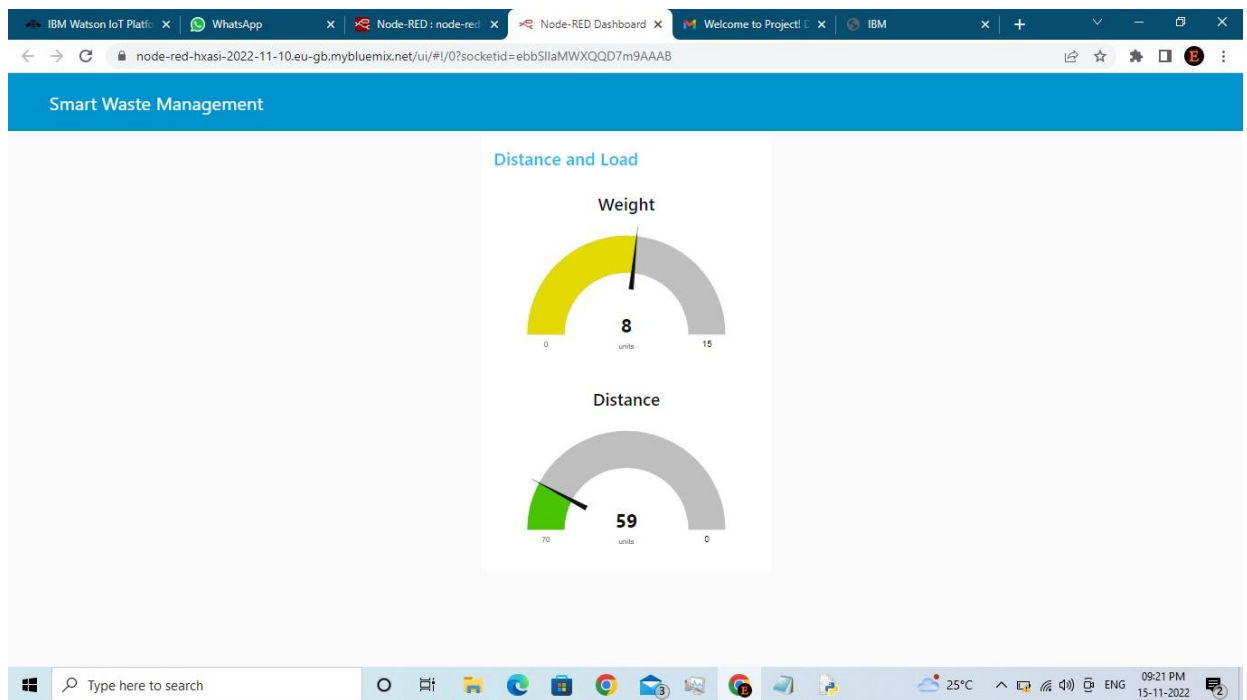

IBM WATSON:

NODE RED

WEB UI:
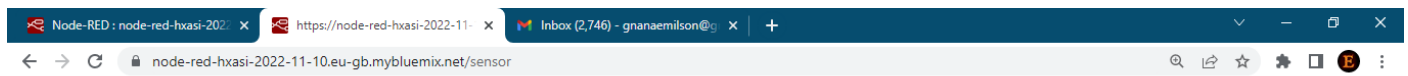
{"dist":70,"load":10}

MIT APP INVENTOR:

User Name   *JEMM*

Password   •••••

Submit

Bin Status
Distance 62
Weight 13