SPRINT – 3

DATE	7 NOVEMBER 2022
TEAM ID	PNT2022TMID11512
PROJECT NAME	SMART WASTE MANAGEMENT FOR METROPOLITAN CITIES-IOT

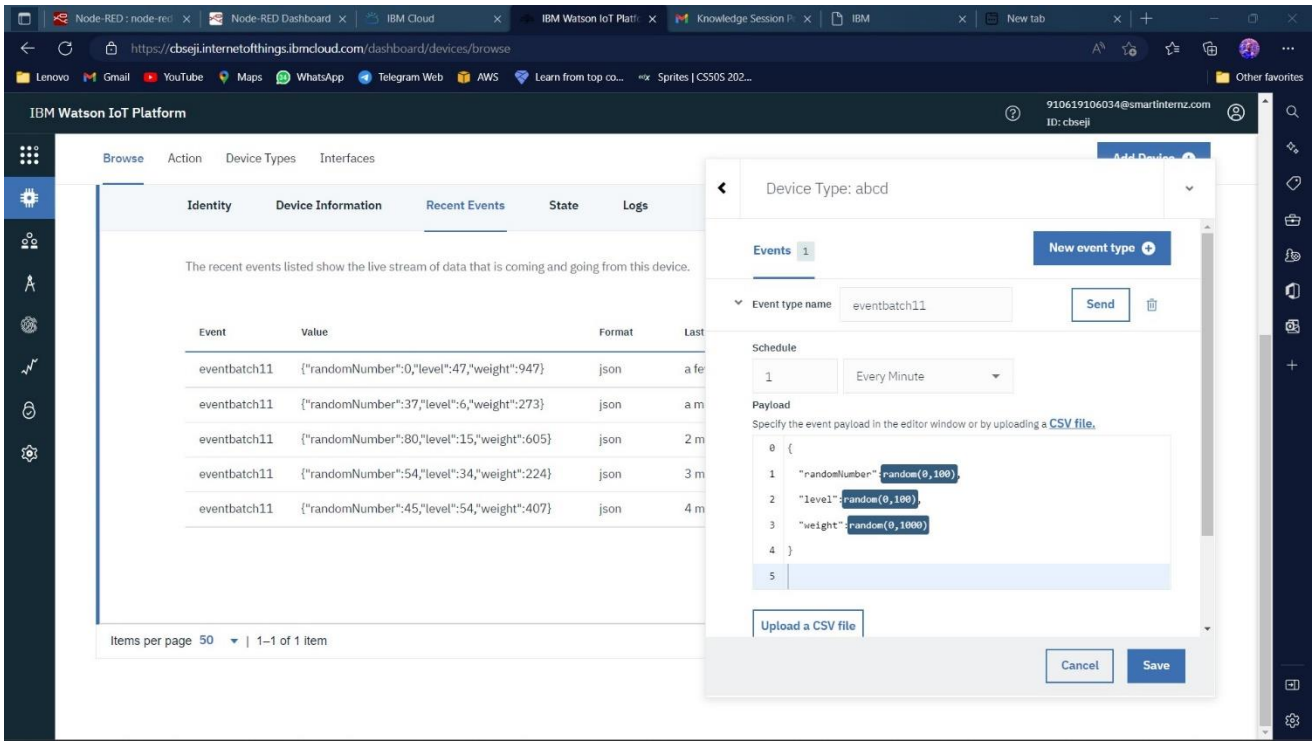
PYTHON CODE : [To connect IBM WATSON]

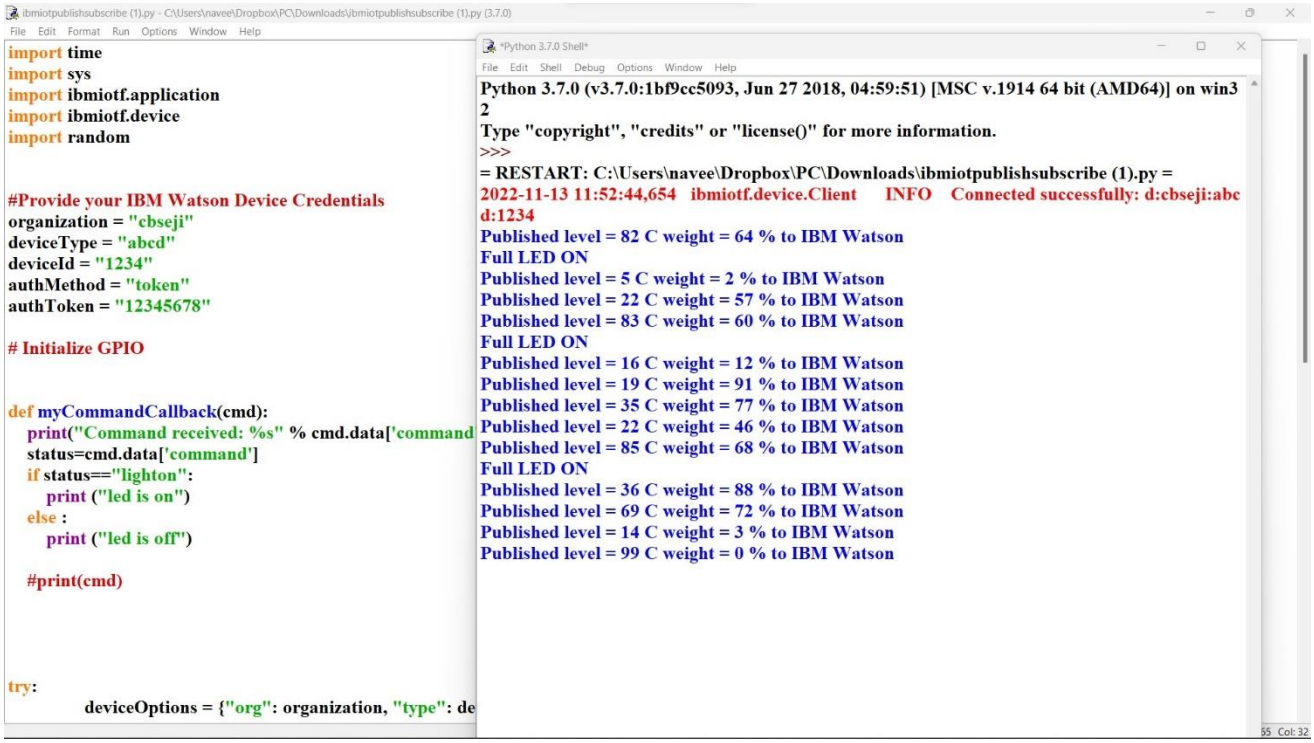
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


#Provide your IBM Watson Device Credentials
organization = "cbseji"
deviceType = "abcd"
deviceId = "1234"
authMethod = "token"
authToken = "12345678"

# 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

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

        data = { 'level' : level, 'weight': weight }
        #print data
        def myOnPublishCallback():
            print ("Published level = %s C" % level, "weight = %s %%"
% weight, "to IBM Watson")

        success = deviceCli.publishEvent("IoTSensor", "json", data,
```

```
qos=0, on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(1)

        deviceCli.commandCallback = myCommandCallback

if (level>=75):
            print("Full LED ON")

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

OUTPUT :




ibmiotpublishsubscribe (1).py - C:\Users\navee\Dropbox\PC\Downloads\ibmiotpublishsubscribe (1).py (3.7.0)
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
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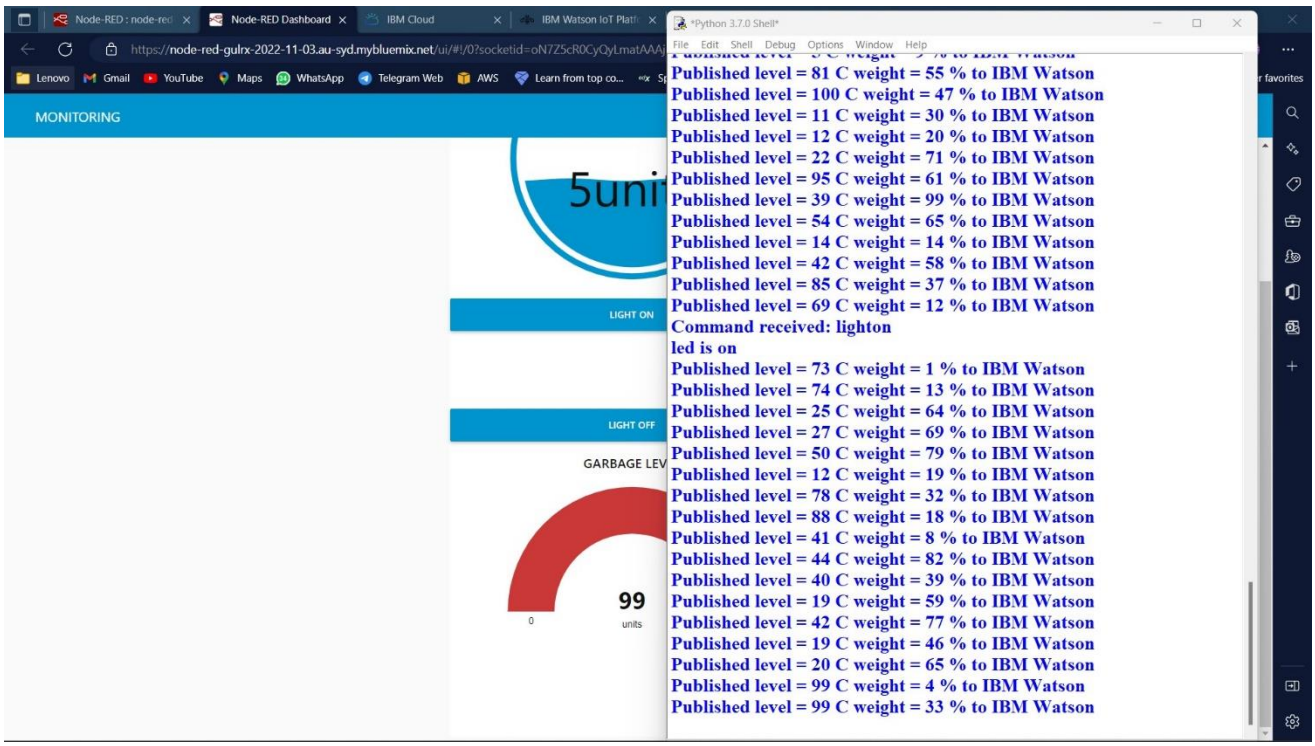
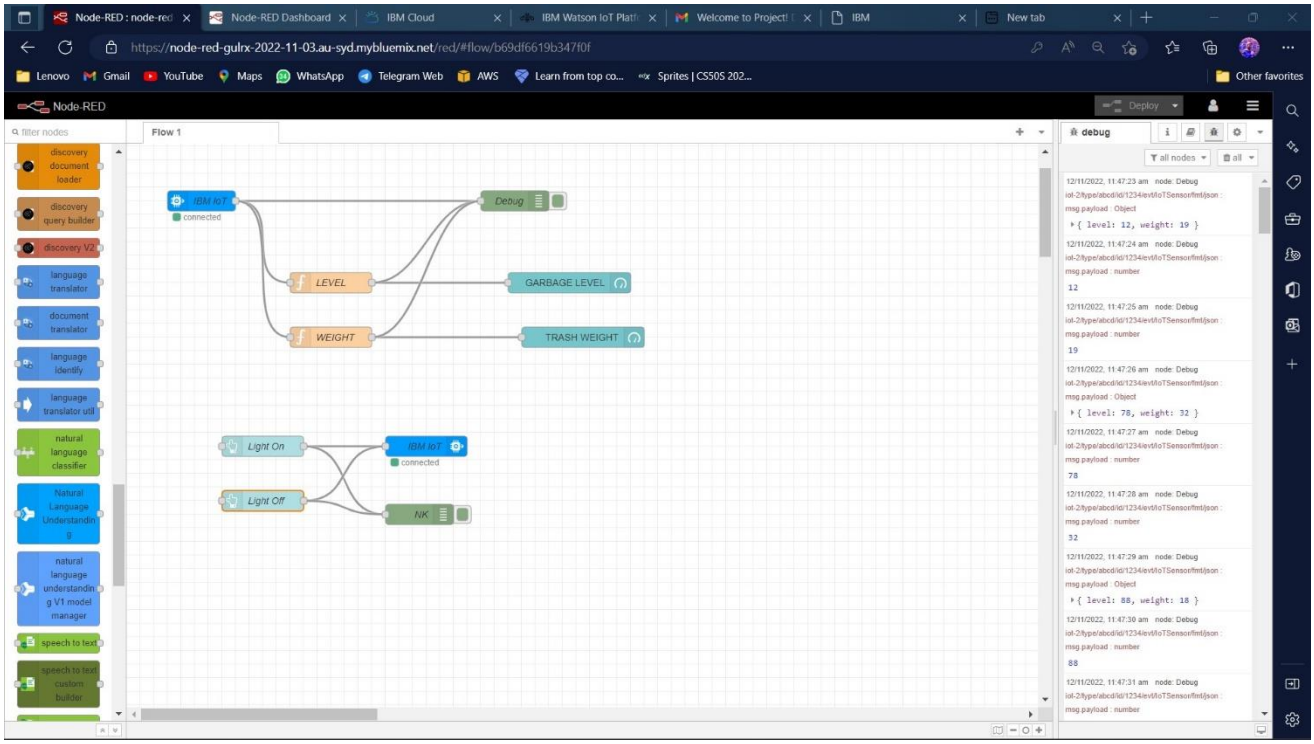
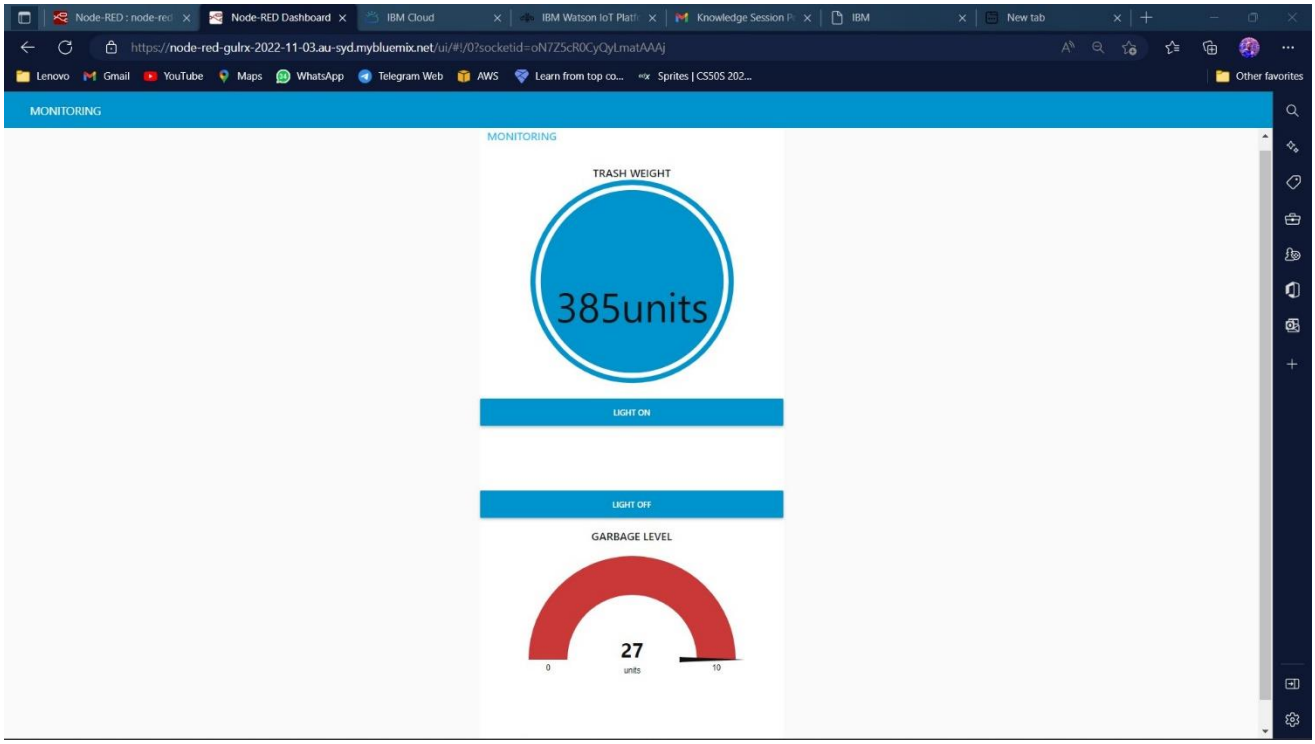
#print(cmd)
try:
deviceOptions = {"org": organization, "type": de
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\navee\Dropbox\PC\Downloads\ibmiotpublishsubscribe (1).py =
2022-11-13 11:52:44,654 ibmiotf.device.Client INFO Connected successfully: d:cbseji:abcd:1234
Published level = 82 C weight = 64 % to IBM Watson
Full LED ON
Published level = 5 C weight = 2 % to IBM Watson
Published level = 22 C weight = 57 % to IBM Watson
Published level = 83 C weight = 60 % to IBM Watson
Full LED ON
Published level = 16 C weight = 12 % to IBM Watson
Published level = 19 C weight = 91 % to IBM Watson
Published level = 35 C weight = 77 % to IBM Watson
Published level = 22 C weight = 46 % to IBM Watson
Published level = 85 C weight = 68 % to IBM Watson
Full LED ON
Published level = 36 C weight = 88 % to IBM Watson
Published level = 69 C weight = 72 % to IBM Watson
Published level = 14 C weight = 3 % to IBM Watson
Published level = 99 C weight = 0 % to IBM Watson


Node-RED : node-red
Node-RED Dashboard
IBM Cloud
IBM Watson IoT Platf
https://node-red-gulrx-2022-11-03.au-syd.mybluemix.net/ui/#!/0?socketid=oN7Z5cR0CyQyLmatAAAj
Lenovo Gmail YouTube Maps WhatsApp Telegram Web AWS Learn from top co...
MONITORING
LIGHT ON
LIGHT OFF
GARBAGE LEV
99
units
0
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Published level = 81 C weight = 55 % to IBM Watson
Published level = 100 C weight = 47 % to IBM Watson
Published level = 11 C weight = 30 % to IBM Watson
Published level = 12 C weight = 20 % to IBM Watson
Published level = 22 C weight = 71 % to IBM Watson
Published level = 95 C weight = 61 % to IBM Watson
Published level = 39 C weight = 99 % to IBM Watson
Published level = 54 C weight = 65 % to IBM Watson
Published level = 14 C weight = 14 % to IBM Watson
Published level = 42 C weight = 58 % to IBM Watson
Published level = 85 C weight = 37 % to IBM Watson
Published level = 69 C weight = 12 % to IBM Watson
Command received: lighton
led is on
Published level = 73 C weight = 1 % to IBM Watson
Published level = 74 C weight = 13 % to IBM Watson
Published level = 25 C weight = 64 % to IBM Watson
Published level = 27 C weight = 69 % to IBM Watson
Published level = 50 C weight = 79 % to IBM Watson
Published level = 12 C weight = 19 % to IBM Watson
Published level = 78 C weight = 32 % to IBM Watson
Published level = 88 C weight = 18 % to IBM Watson
Published level = 41 C weight = 8 % to IBM Watson
Published level = 44 C weight = 82 % to IBM Watson
Published level = 40 C weight = 39 % to IBM Watson
Published level = 19 C weight = 59 % to IBM Watson
Published level = 42 C weight = 77 % to IBM Watson
Published level = 19 C weight = 46 % to IBM Watson
Published level = 20 C weight = 65 % to IBM Watson
Published level = 99 C weight = 4 % to IBM Watson
Published level = 99 C weight = 33 % to IBM Watson


Node-RED
Flow 1
IBM IoT
connected
Debug
LEVEL
GARBAGE LEVEL
WEIGHT
TRASH WEIGHT
Light On
Light Off
IBM IoT
connected
NK
debug


MONITORING
MONITORING
TRASH WEIGHT
385units
LIGHT ON
LIGHT OFF
GARBAGE LEVEL
27
units
0
10