PROJECT DEVELOPEMENT PHASE

DELIVERY OF SPRINT – 3

Date	08 November 2022
Team ID	PNT2022TMID43114
Project Name	Smart Waste Management System For Metropolitan Cities

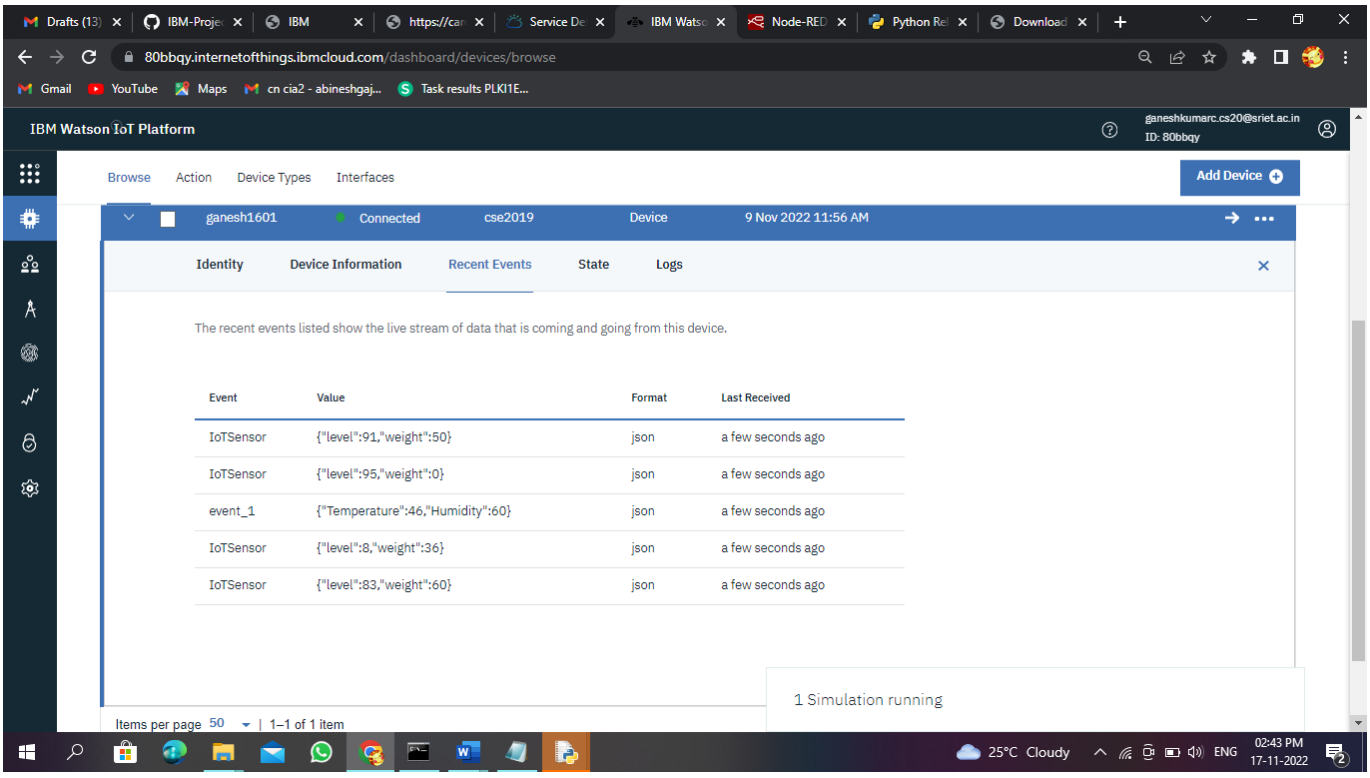
PYTHON CODE : [To connect IBM WATSON]

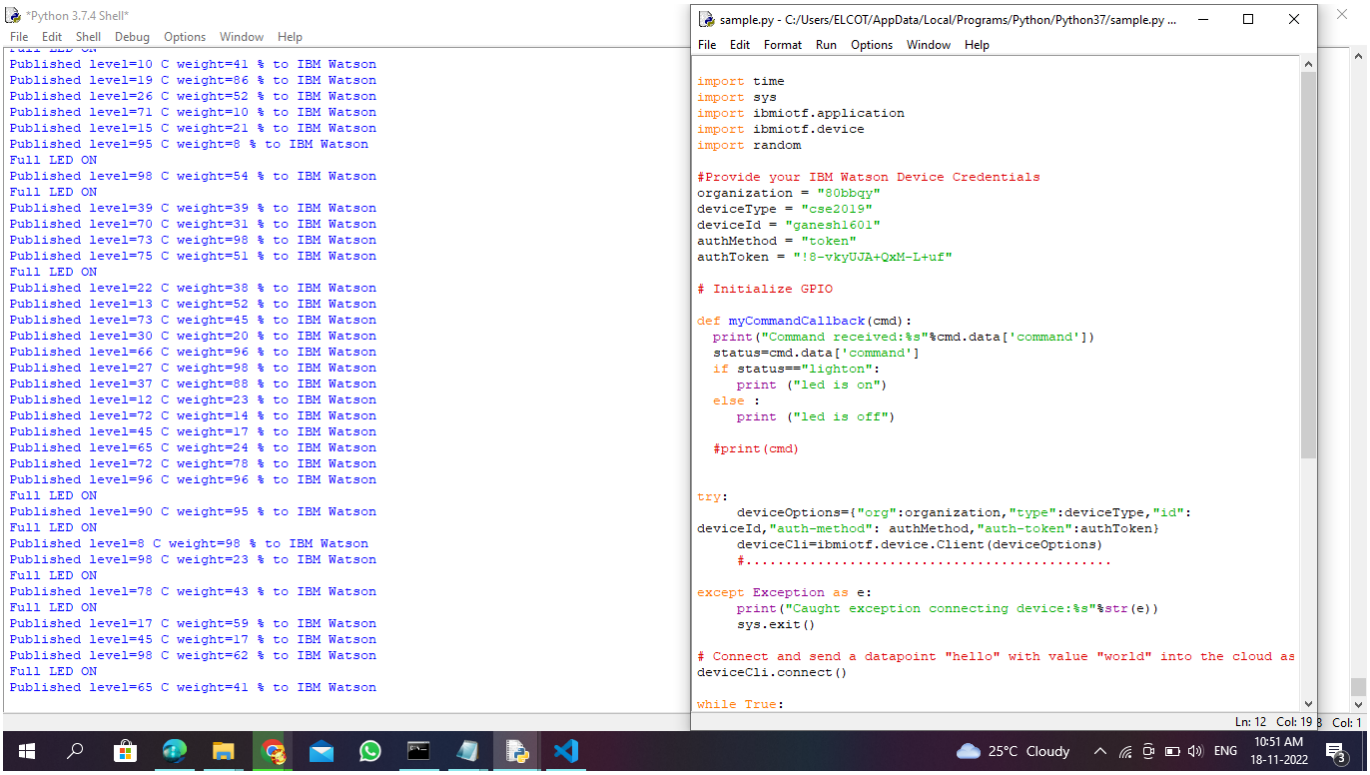
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


#Provide your IBM Watson Device Credentials
organization = "80bbqy "
deviceType = "cse2019"
deviceId = "ganesh1601"
authMethod = "token"
authToken = "!8-vkyUJA+QxM-L+uf "

# 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 :




Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Published level=10 C weight=41 % to IBM Watson
Published level=19 C weight=86 % to IBM Watson
Published level=26 C weight=52 % to IBM Watson
Published level=71 C weight=10 % to IBM Watson
Published level=15 C weight=21 % to IBM Watson
Published level=95 C weight=8 % to IBM Watson
Full LED ON
Published level=98 C weight=54 % to IBM Watson
Full LED ON
Published level=39 C weight=39 % to IBM Watson
Published level=70 C weight=31 % to IBM Watson
Published level=73 C weight=98 % to IBM Watson
Published level=75 C weight=51 % to IBM Watson
Full LED ON
Published level=22 C weight=38 % to IBM Watson
Published level=13 C weight=52 % to IBM Watson
Published level=73 C weight=45 % to IBM Watson
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Published level=66 C weight=96 % to IBM Watson
Published level=27 C weight=98 % to IBM Watson
Published level=37 C weight=88 % to IBM Watson
Published level=12 C weight=23 % to IBM Watson
Published level=72 C weight=14 % to IBM Watson
Published level=45 C weight=17 % to IBM Watson
Published level=65 C weight=24 % to IBM Watson
Published level=72 C weight=78 % to IBM Watson
Published level=96 C weight=96 % to IBM Watson
Full LED ON
Published level=90 C weight=95 % to IBM Watson
Full LED ON
Published level=8 C weight=98 % to IBM Watson
Published level=98 C weight=23 % to IBM Watson
Full LED ON
Published level=78 C weight=43 % to IBM Watson
Full LED ON
Published level=17 C weight=59 % to IBM Watson
Published level=45 C weight=17 % to IBM Watson
Published level=98 C weight=62 % to IBM Watson
Full LED ON
Published level=65 C weight=41 % to IBM Watson
sample.py - C:/Users/ELCOT/AppData/Local/Programs/Python/Python37/sample.py ...
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
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deviceId = "ganesh1601"
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authToken = "!8-vkyUJA+QxM-L+uf"
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deviceId,"auth-method": authMethod,"auth-token":authToken}
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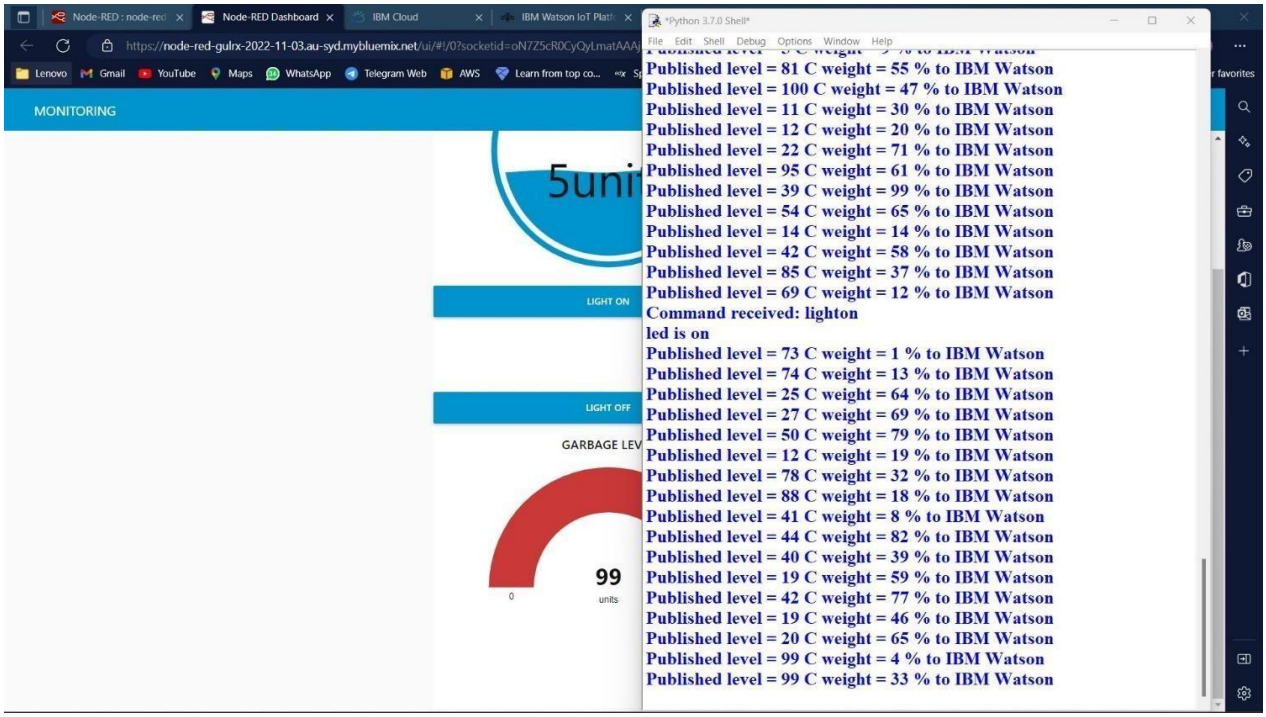
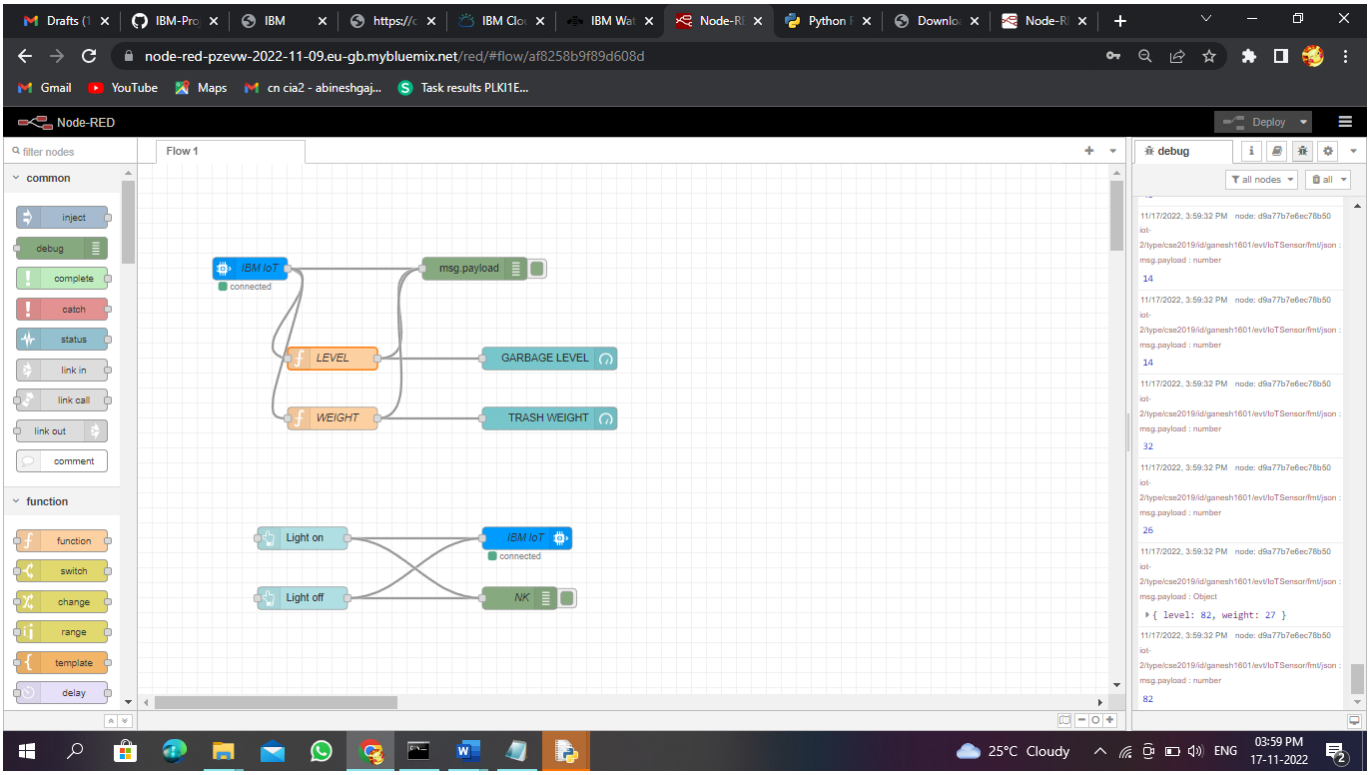
#.....
except Exception as e:
print("Caught exception connecting device:%s"%str(e))
sys.exit()
# Connect and send a datapoint "hello" with value "world" into the cloud as
deviceCli.connect()
while True:
Ln: 12 Col: 19
Col: 1
25°C Cloudy
ENG
10:51 AM
18-11-2022


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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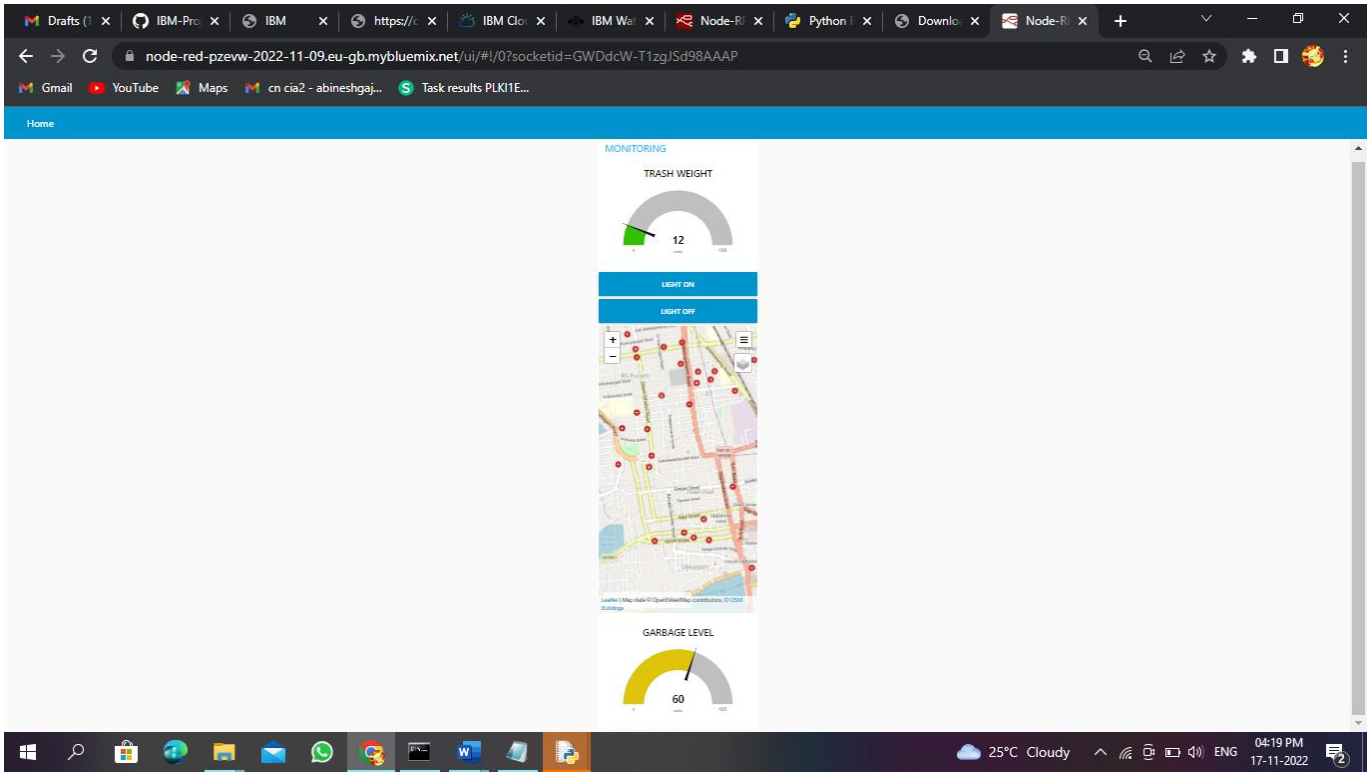
Node-RED
Deploy
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
range
template
delay
IBM IoT
connected
msg payload
LEVEL
GARBAGE LEVEL
WEIGHT
TRASH WEIGHT
Light on
Light off
IBM IoT
connected
NK
debug
all nodes
all
{ level: 82, weight: 27 }
25°C Cloudy
ENG
03:59 PM
17-11-2022


node-red-pzevw-2022-11-09.eu-gb.mybluemix.net/ui/#!/0?socketid=GWDdcW-T1zgJSd98AAAP
Home
MONITORING
TRASH WEIGHT
12
LIGHT ON
LIGHT OFF
GARBAGE LEVEL
60
25°C Cloudy
ENG
04:19 PM
17-11-2022