SPRINT – 3

DATE	15 NOVEMBER 2022
TEAM ID	PNT2022TMID40955
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")

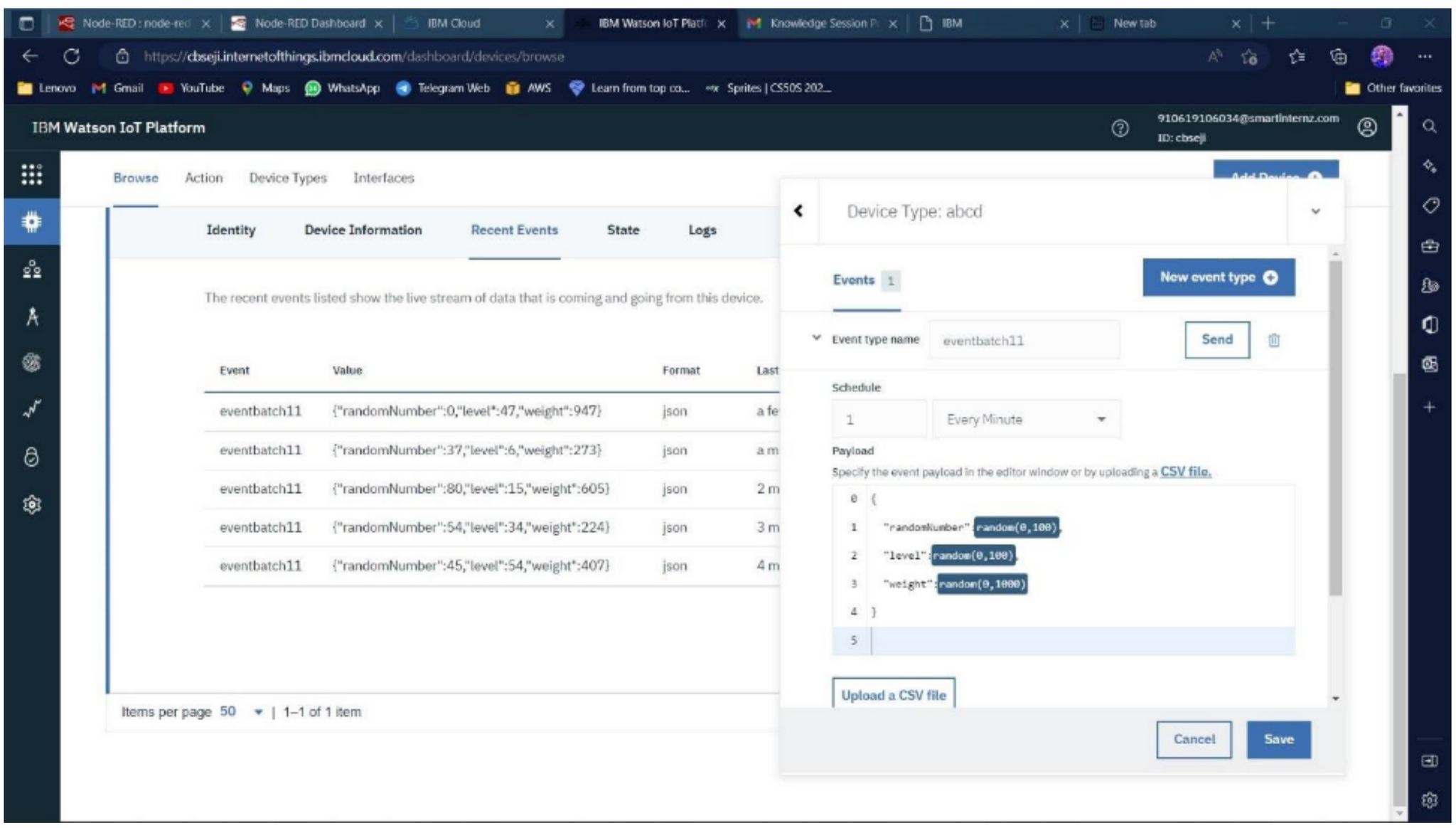
        success = deviceCli.publishEvent("IoTSensor", "json", data,
```

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

        deviceCli.commandCallback =
myCommandCallbackif (level>=75):
                print("Full LED ON")

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

OUTPUT :



ibmiotpublishsubscribe (1).py - C:\Users\navee\Dropbox\PC\Downloads\ibmiotpublishsubscribe (1).py (3.7.0)

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try:
        deviceOptions = {"org": organization, "type": de
```

Python 3.7.0 Shell

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```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win3
2
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:abc
d: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
```

Ln: 55 Col: 32

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

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MONITORING

5unit

LIGHT ON

LIGHT OFF

GARBAGE LEV

99

units

0

Python 3.7.0 Shell

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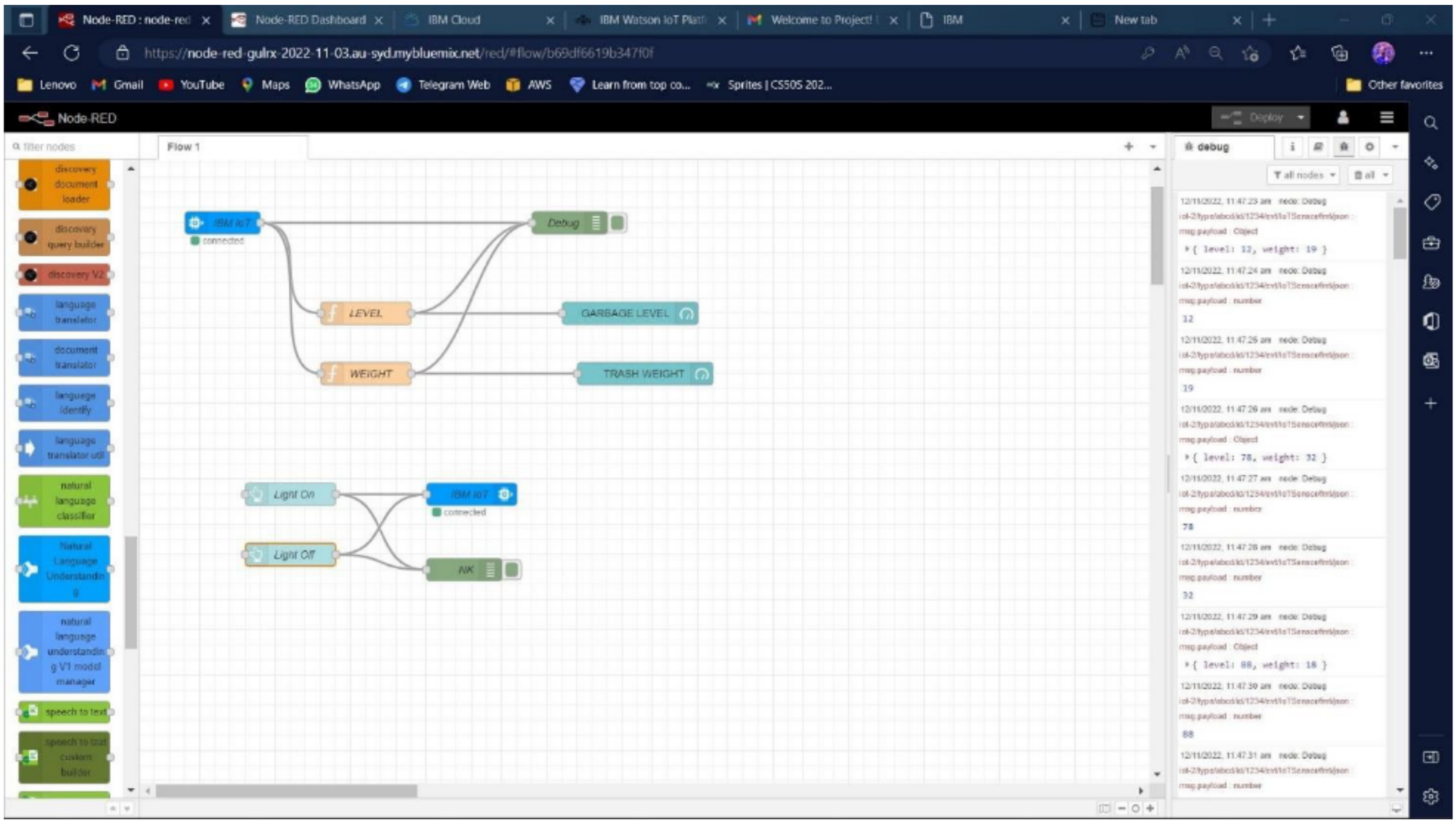
```
Published level = 81 C weight = 55 % to IBM Watson
Published level = 100 C weight = 47 % to IBM Watson
Published level = 11 C weight = 30 % to IBM Watson
Published level = 12 C weight = 20 % to IBM Watson
Published level = 22 C weight = 71 % to IBM Watson
Published level = 95 C weight = 61 % to IBM 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 : node-red
Node-RED Dashboard
IBM Cloud
IBM Watson IoT Platf
Welcome to Project!
IBM
New tab
https://node-red-gulrx-2022-11-03.au-syd.mybluemix.net/red/#flow/b69df6619b347f0f
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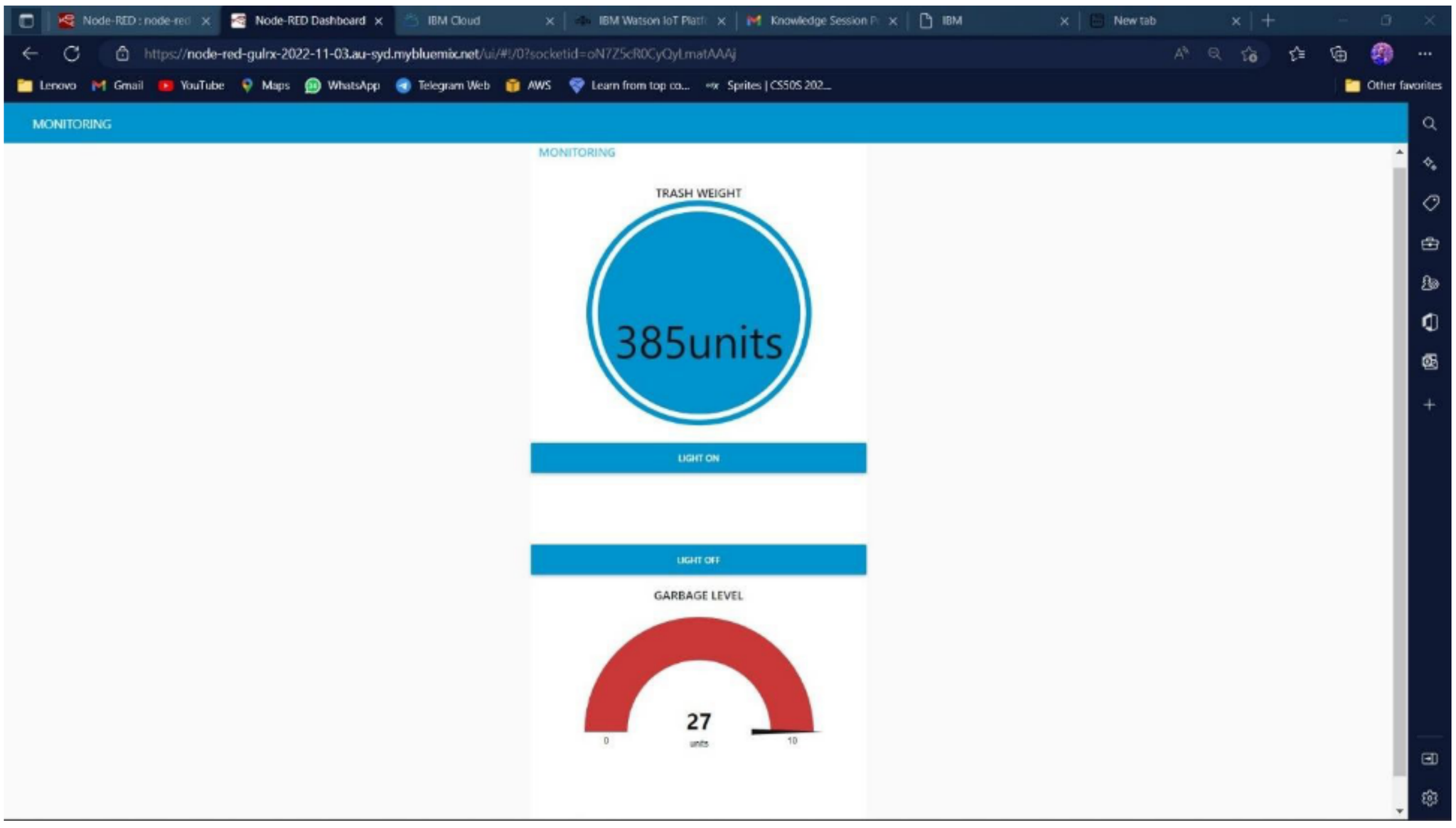
Other favorites
Node-RED
Deploy
filter nodes
Flow 1
discovery document loader
discovery query builder
discovery V2
language translator
document translator
language identify
language translator util
natural language classifier
Natural Language Understanding
natural language understanding V1 model manager
speech to text
speech to text custom builder
IBM IoT
connected
Debug
LEVEL
GARBAGE LEVEL
WEIGHT
TRASH WEIGHT
Light On
Light Off
IBM IoT
connected
NK
debug
all nodes
all
12/11/2022, 11:47:23 am node: Debug
msg.payload : Object
{ level: 12, weight: 19 }
12/11/2022, 11:47:24 am node: Debug
msg.payload : number
12
12/11/2022, 11:47:26 am node: Debug
msg.payload : number
19
12/11/2022, 11:47:26 am node: Debug
msg.payload : Object
{ level: 78, weight: 32 }
12/11/2022, 11:47:27 am node: Debug
msg.payload : number
78
12/11/2022, 11:47:28 am node: Debug
msg.payload : number
32
12/11/2022, 11:47:29 am node: Debug
msg.payload : Object
{ level: 88, weight: 18 }
12/11/2022, 11:47:30 am node: Debug
msg.payload : number
88
12/11/2022, 11:47:31 am node: Debug
msg.payload : number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Node-RED Dashboard
IBM Cloud
IBM Watson IoT Platf
Knowledge Session P
IBM
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AWS
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Sprites | CS50S 202...
Other favorites
MONITORING
MONITORING
TRASH WEIGHT
385units
LIGHT ON
LIGHT OFF
GARBAGE LEVEL
27
units
0
10