SPRINT – 3

DATE	7 NOVEMBER 2022
TEAM ID	PNT2022TMID15915
PROJECT NAME	Smart Waste Management System for Metropolitan Cities

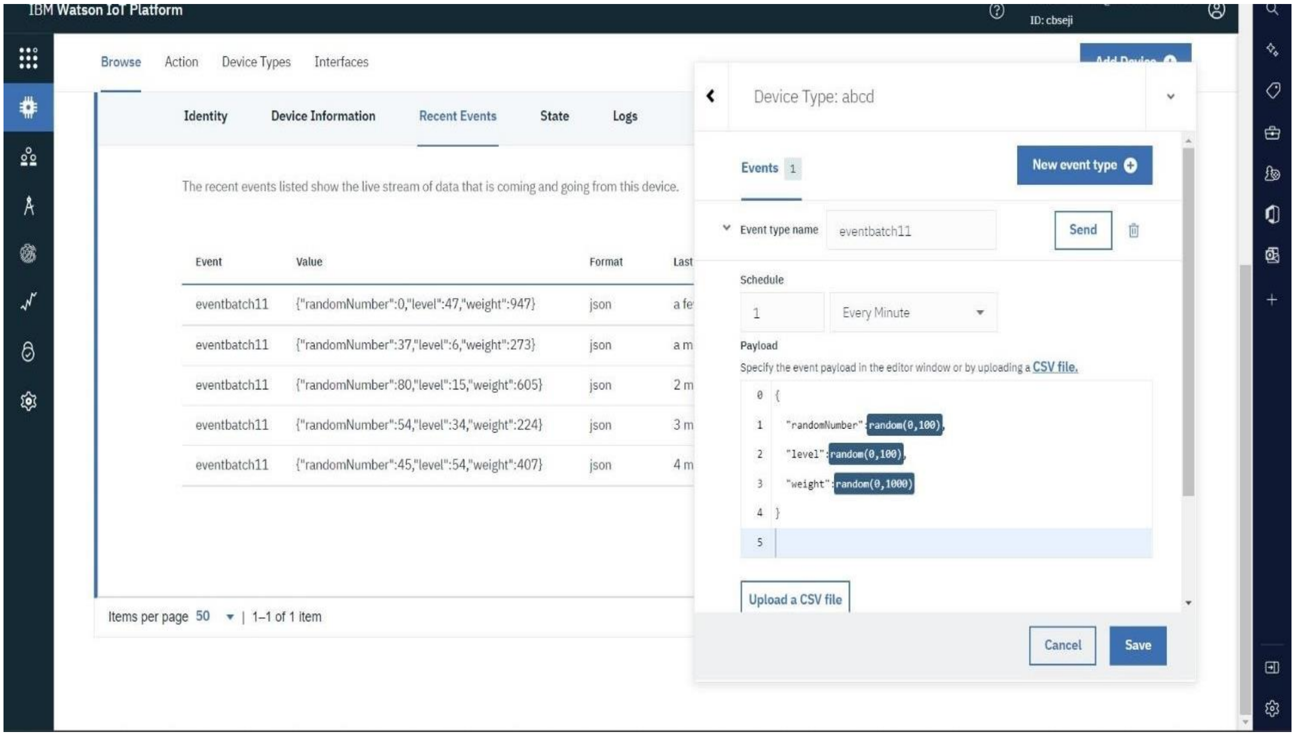
PYTHON CODE : [To connect IBM WATSON]

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

#Provide your IBM Watson Device Credentialsorganization =
"w5tblg"
deviceType = "PROJECT"
deviceId = "12345678"
authMethod = "use-token-
auth"
 authToken =
"o7H&mieHAyvu?(RUyE"

# 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 thecloud 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 cloud
  deviceCli.disconnect()
```

OUTPUT :



The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last
eventbatch11	{"randomNumber":0,"level":47,"weight":947}	json	a fe
eventbatch11	{"randomNumber":37,"level":6,"weight":273}	json	a m
eventbatch11	{"randomNumber":80,"level":15,"weight":605}	json	2 m
eventbatch11	{"randomNumber":54,"level":34,"weight":224}	json	3 m
eventbatch11	{"randomNumber":45,"level":54,"weight":407}	json	4 m

Items per page 50 | 1–1 of 1 item

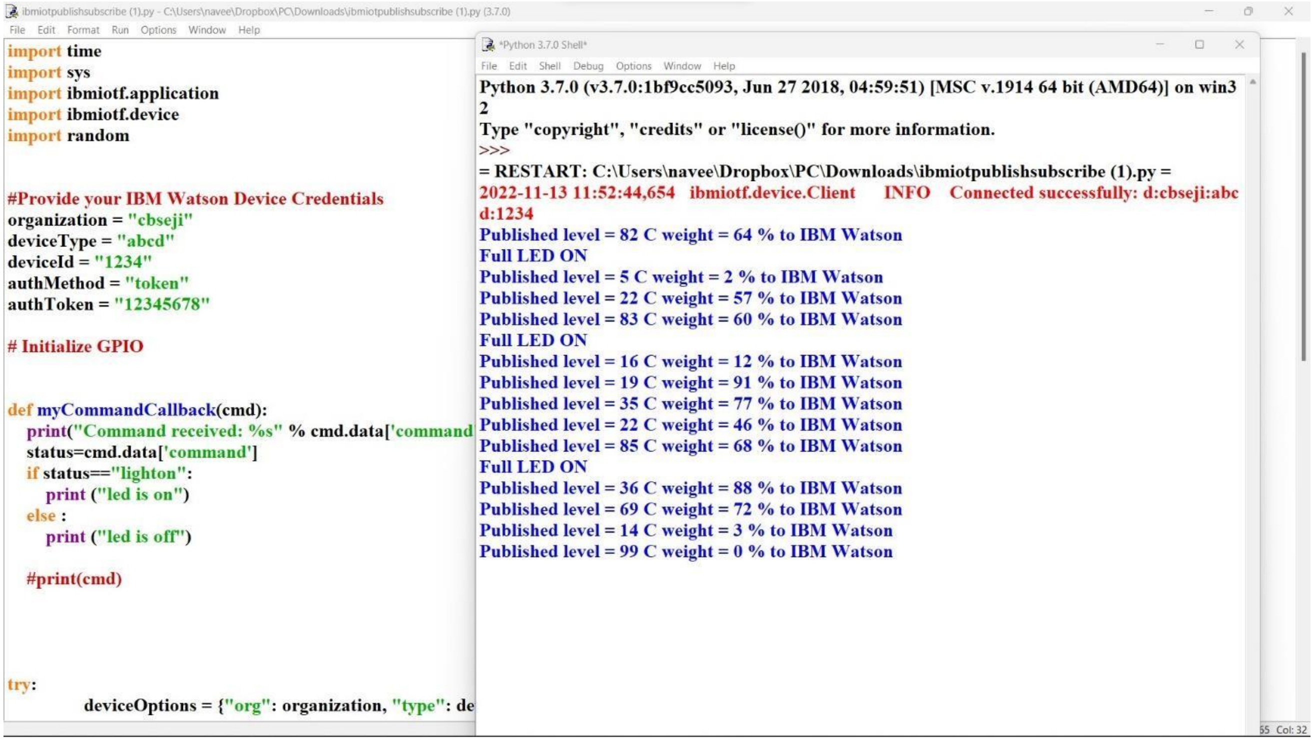
Event type name: eventbatch11

Schedule: 1 Every Minute

Payload

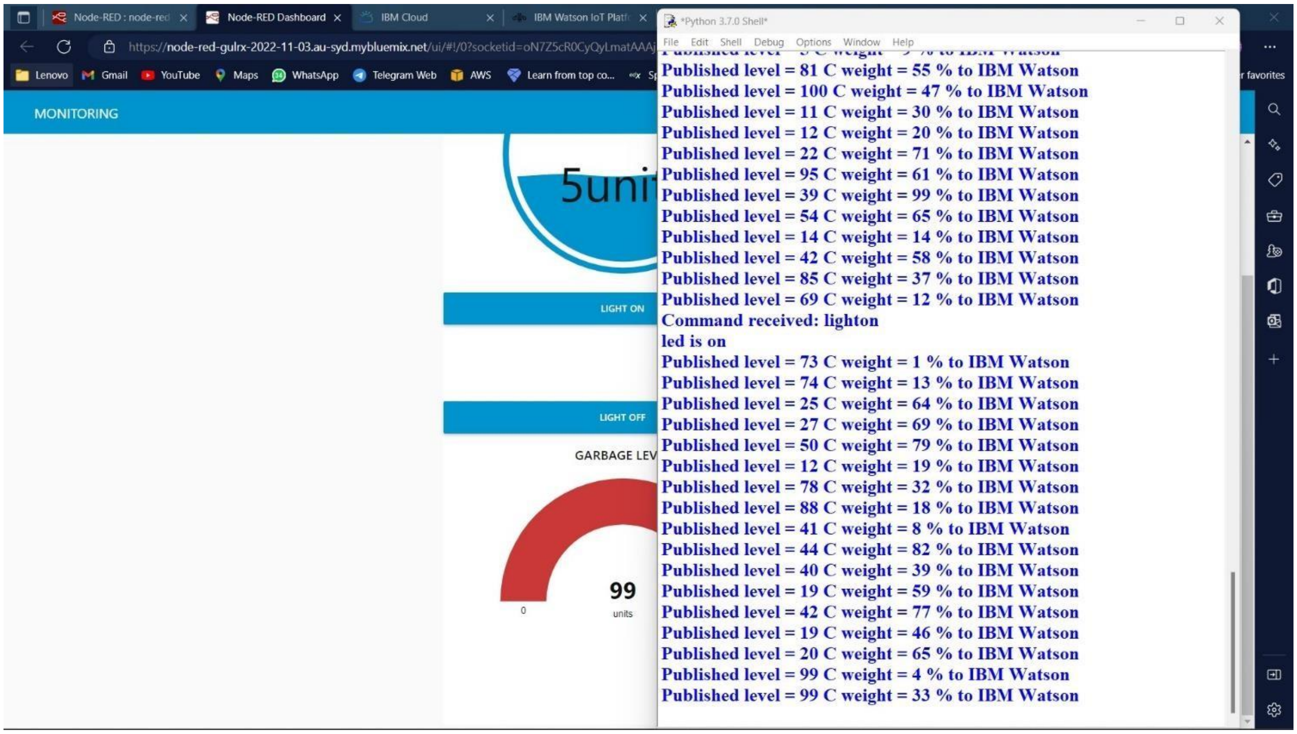
Specify the event payload in the editor window or by uploading a CSV file.

```
{
  "randomNumber":random(0,100),
  "level":random(0,100),
  "weight":random(0,1000)
}
```

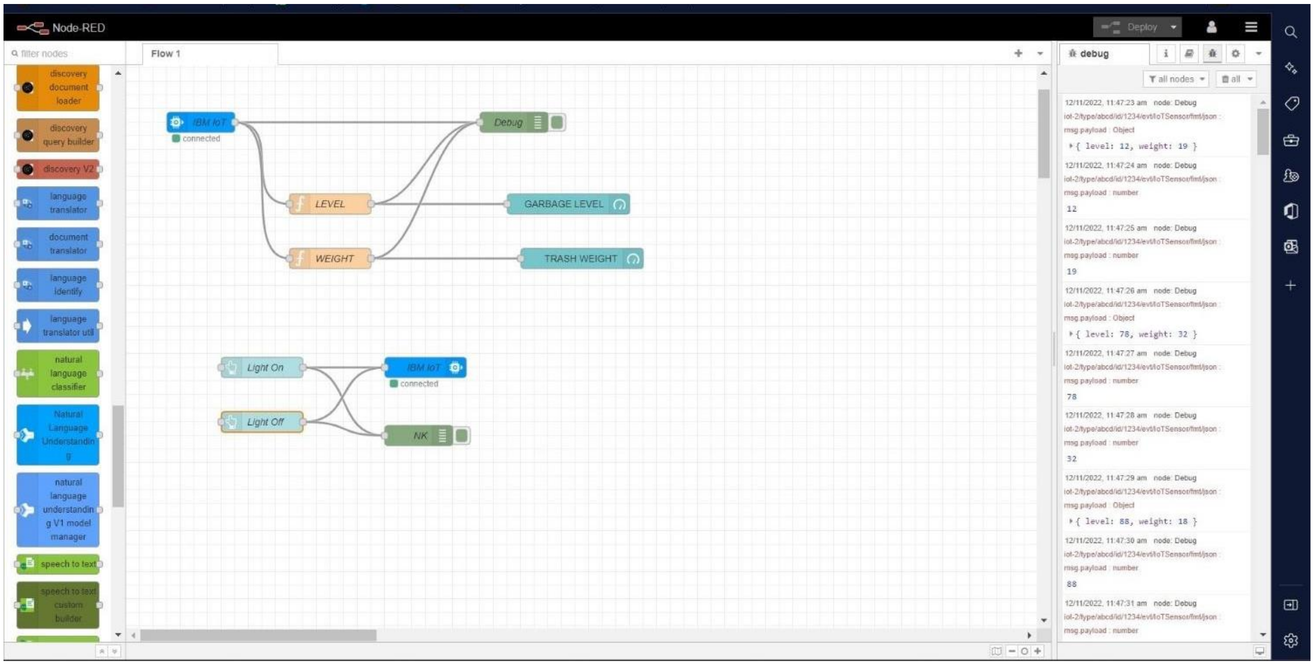

ibmiotpublishsubscribe (1).py - C:\Users\navee\Dropbox\PC\Downloads\ibmiotpublishsubscribe (1).py (3.7.0)
File Edit Format Run Options Window Help
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
55 Col: 32

```
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": de
```

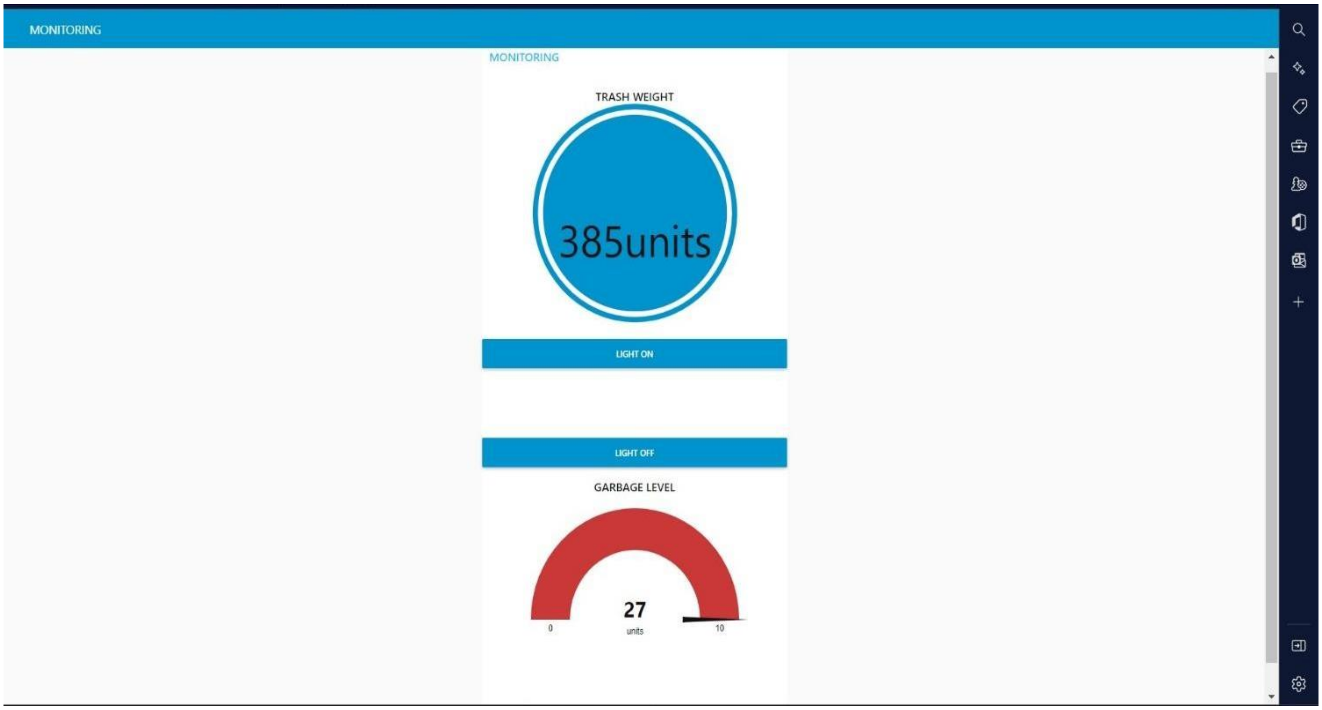
```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win3
2
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\navee\Dropbox\PC\Downloads\ibmiotpublishsubscribe (1).py =
2022-11-13 11:52:44,654  ibmiotf.device.Client     INFO    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
```



```
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
```



```
12/11/2022, 11:47:23 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : Object
 ▸{ level: 12, weight: 19 }
12/11/2022, 11:47:24 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
 12
12/11/2022, 11:47:25 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
 19
12/11/2022, 11:47:26 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : Object
 ▸{ level: 78, weight: 32 }
12/11/2022, 11:47:27 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
 78
12/11/2022, 11:47:28 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
 32
12/11/2022, 11:47:29 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : Object
 ▸{ level: 88, weight: 18 }
12/11/2022, 11:47:30 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
 88
12/11/2022, 11:47:31 am   node: Debug
iot-2/type/abcd/id/1234/evt/IoTSensor/fmt/json :
msg.payload : number
```


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