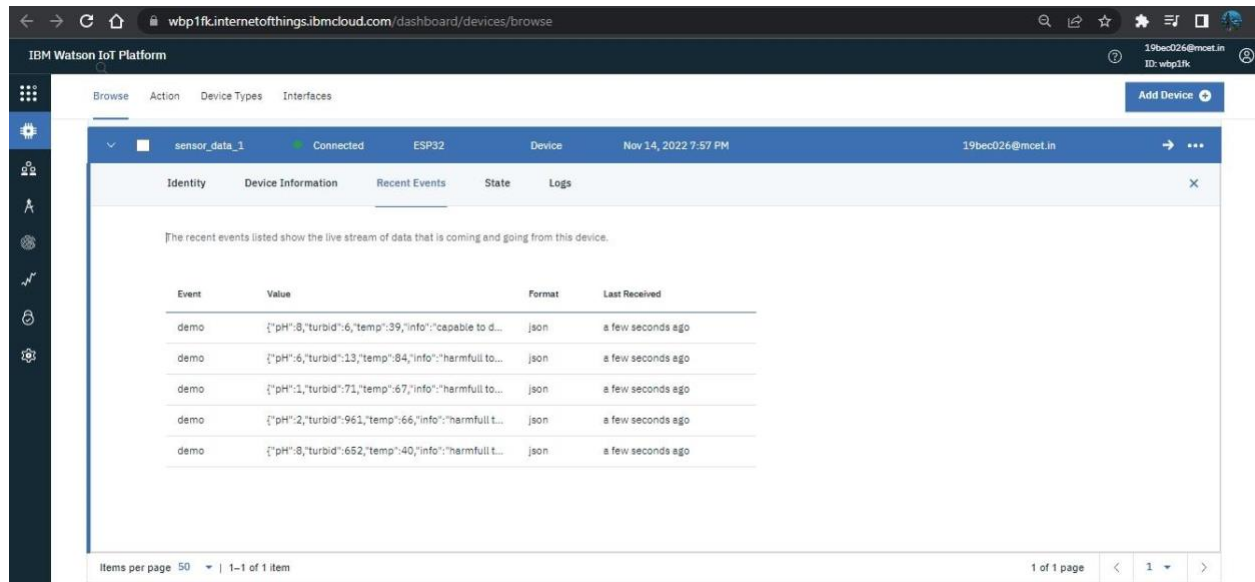


## Develop a python script

Team ID	PNT2022TMID08766
Project Name	Project - Real time River water quality monitoring and control system

## Published data to IBM cloud:



The screenshot shows the IBM Watson IoT Platform dashboard. The device 'sensor\_data\_1' is connected and is an ESP32. The 'Recent Events' tab is selected, showing a table of events. The table has columns for Event, Value, Format, and Last Received. The events are JSON objects containing pH, turbidity, and temperature data, along with an info field.

Event	Value	Format	Last Received
demo	{"pH":8,"turbid":6,"temp":39,"info":"capable to d..."}	json	a few seconds ago
demo	{"pH":6,"turbid":13,"temp":84,"info":"harmfull to..."}	json	a few seconds ago
demo	{"pH":1,"turbid":71,"temp":67,"info":"harmfull to..."}	json	a few seconds ago
demo	{"pH":2,"turbid":961,"temp":66,"info":"harmfull t..."}	json	a few seconds ago
demo	{"pH":8,"turbid":652,"temp":40,"info":"harmfull t..."}	json	a few seconds ago

## Develop a python program:

Import ibmiotf.application

Import ibmiotf.device

Import time

Import random

Import sys

From twilio.rest import Client

Account\_sid = 'AC18b4d7a136b9a07a181a837c23ad1358'

Auth\_token ='adc9782f6520041c84ac4930daad0625 '

Client = Client(account\_sid, auth\_token)

Organization = "wbp1fk"

deviceType = "ESP32"

```
deviceId = "sensor_data_1"
```

```
authMethod = "token"
```

```
authToken = "prototype_1"
```

```
pH = random.randint(1, 14)
```

```
turbidity = random.randint(1, 1000)
```

```
temperature = random.randint(0, 100)
```

```
info=""
```

```
def myCommandCallback(cmd):
```

```
    print("Command Received: %s" % cmd.data['command'])
```

```
    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()
```

```
deviceCli.connect()
```

```
while True:
```

```
    pH = random.randint(1, 14)
```

```
    turbidity = random.randint(1, 1000)
```

```
temperature = random.randint(0, 100)
```

```
if temperature>70 or pH<6 or pH>8 or turbidity>500:
```

```
    print("high")
```

```
    info="harmfull to drink"
```

```
    message = client.messages.create(from_='+14632588702',
```

```
                                     body ='This water is harmfull to drink',
```

```
                                     to =' +91 95856 17613')
```

```
else:
```

```
    info="capable to drinking"
```

```
    message = client.messages.create(from_='+14632588702',
```

```
                                     body ='This water is good to drink',
```

```
                                     to =' +91 95856 17613')
```

```
data = {'pH': pH, 'turbid': turbidity, 'temp': temperature, 'info': info}
```

```
def myOnPublishCallback():
```

```
    print("Published pH= %s" % pH, "Turbidity:%s" % turbidity,
```

```
          "Temperature:%s" % temperature)
```

```
Success = deviceCli.publishEvent("demo", "json", data, qos=0, on_publish=myOnPublishCallback)
```

```
If not success:
```

```
    print("Not Connected to ibmiot")
```

```
time.sleep(5)
```

```
deviceCli.commandCallback = myCommandCallback
```

```
deviceCli.disconnect()
```

```
===== RESTART: C:\Users\srinath\Desktop\IBM\final.py =====  
high2022-11-14 20:03:53,055 ibmiotf.device.Client INFO Connected succe  
ssfully: d:wbplfk:ESP32:sensor_data_1  
  
Published pH= 9 Turbidity:595 Temperature:24  
high  
Published pH= 10 Turbidity:259 Temperature:98  
Published pH= 14 Turbidity:163 Temperature:59  
high  
Published pH= 1 Turbidity:109 Temperature:56  
high  
Published pH= 8 Turbidity:527 Temperature:7  
high  
Published pH= 11 Turbidity:874 Temperature:62  
Published pH= 9 Turbidity:76 Temperature:40  
high  
Published pH= 12 Turbidity:478 Temperature:91  
high  
Published pH= 7 Turbidity:887 Temperature:54  
Published pH= 13 Turbidity:18 Temperature:64  
Published pH= 13 Turbidity:219 Temperature:47  
high  
Published pH= 10 Turbidity:764 Temperature:36  
high  
Published pH= 11 Turbidity:545 Temperature:88
```