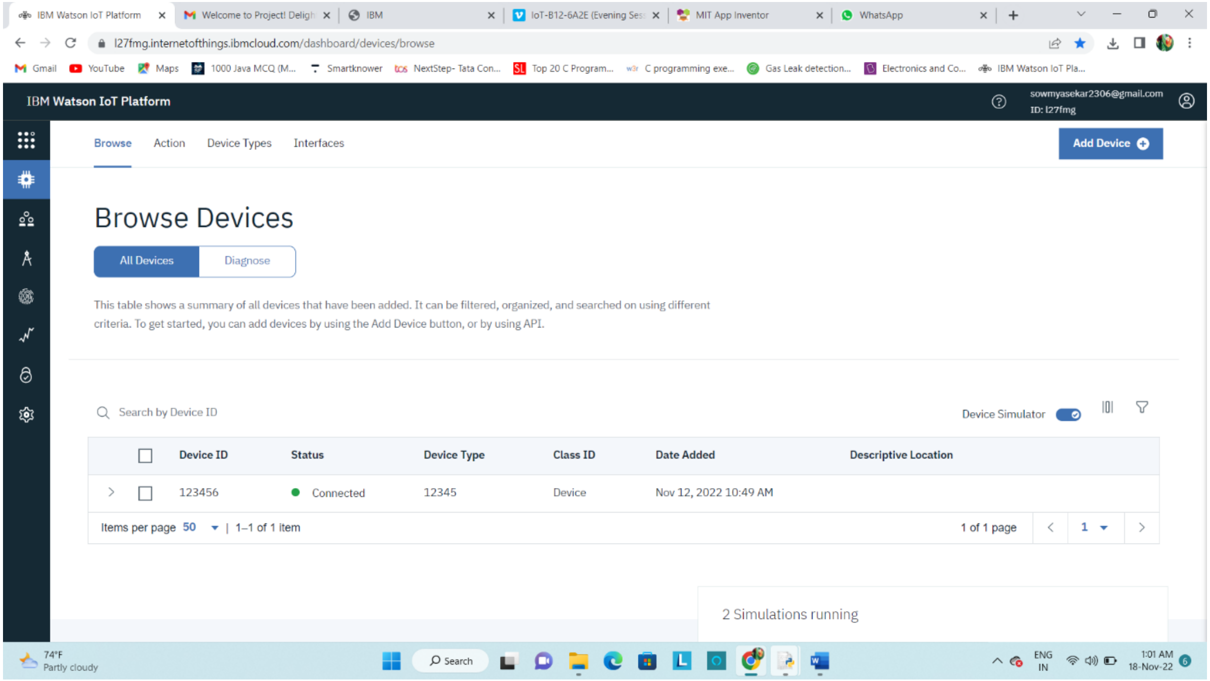
Create And Configure IBM Cloud Services

Create The IBM Watson IoT Platform And A Device

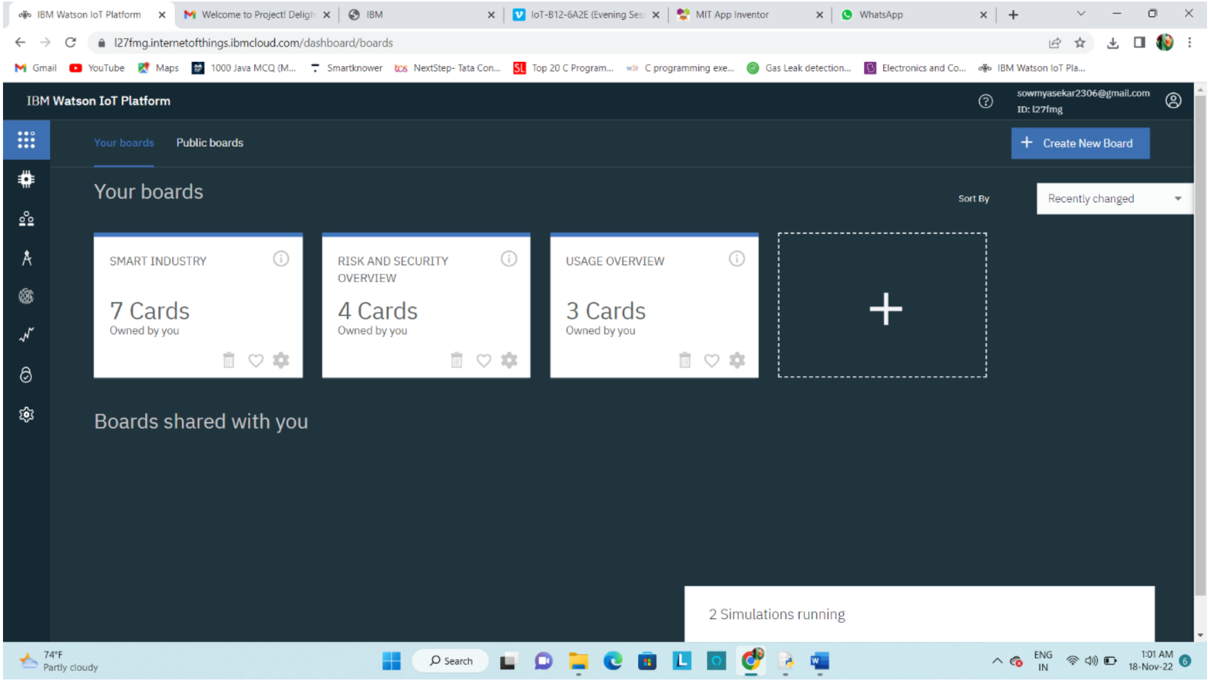
Date	18 November 2022
Team ID	PNT2022TMID13514
Project name	Gas Leakage Monitoring & Alerting System for Industries

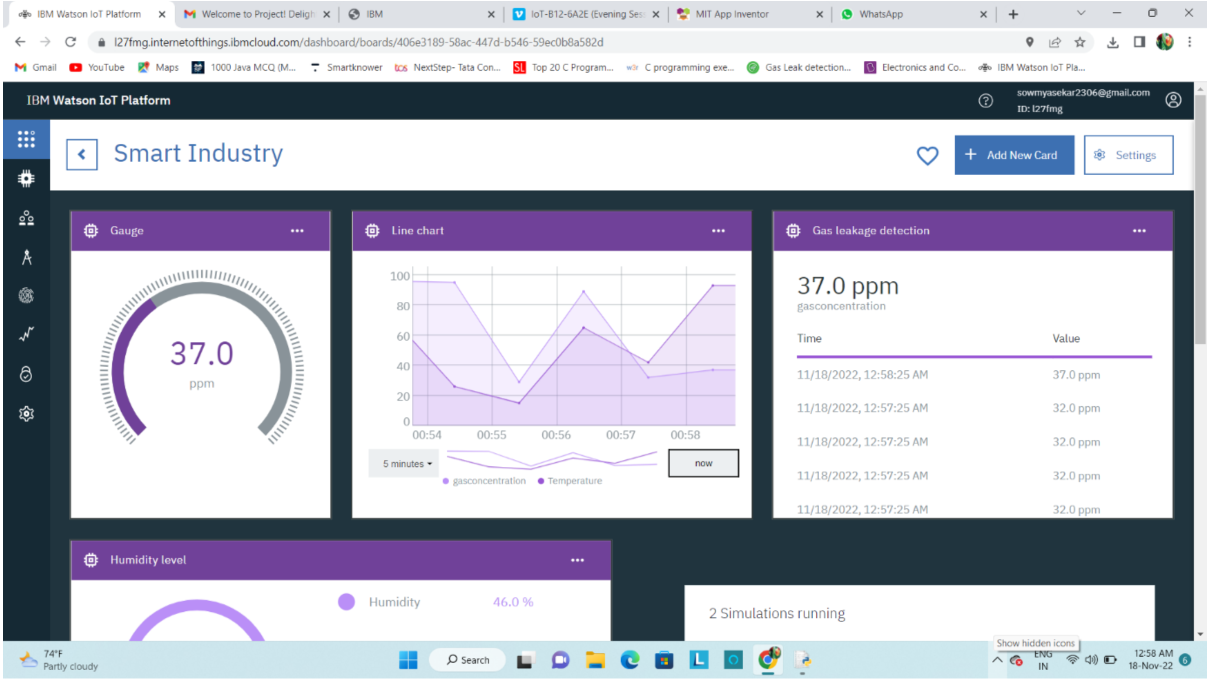
<u>IBM WATSON :</u>



This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
□	123456	● Connected	12345	Device	Nov 12, 2022 10:49 AM	

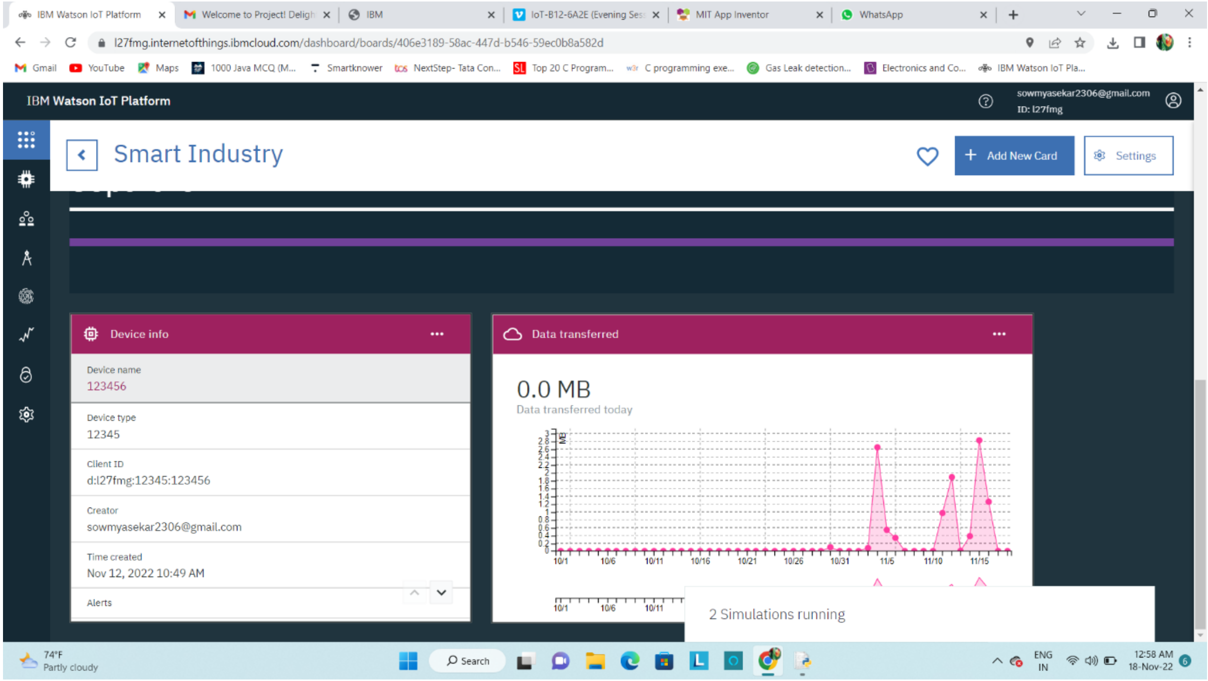




Gas leakage detection

37.0 ppm
gasconcentration

Time	Value
11/18/2022, 12:58:25 AM	37.0 ppm
11/18/2022, 12:57:25 AM	32.0 ppm
11/18/2022, 12:57:25 AM	32.0 ppm
11/18/2022, 12:57:25 AM	32.0 ppm
11/18/2022, 12:57:25 AM	32.0 ppm



Device name
123456

Device type
12345

Client ID
d:l27fmg:12345:123456

Creator
sowmyasekar2306@gmail.com

Time created
Nov 12, 2022 10:49 AM

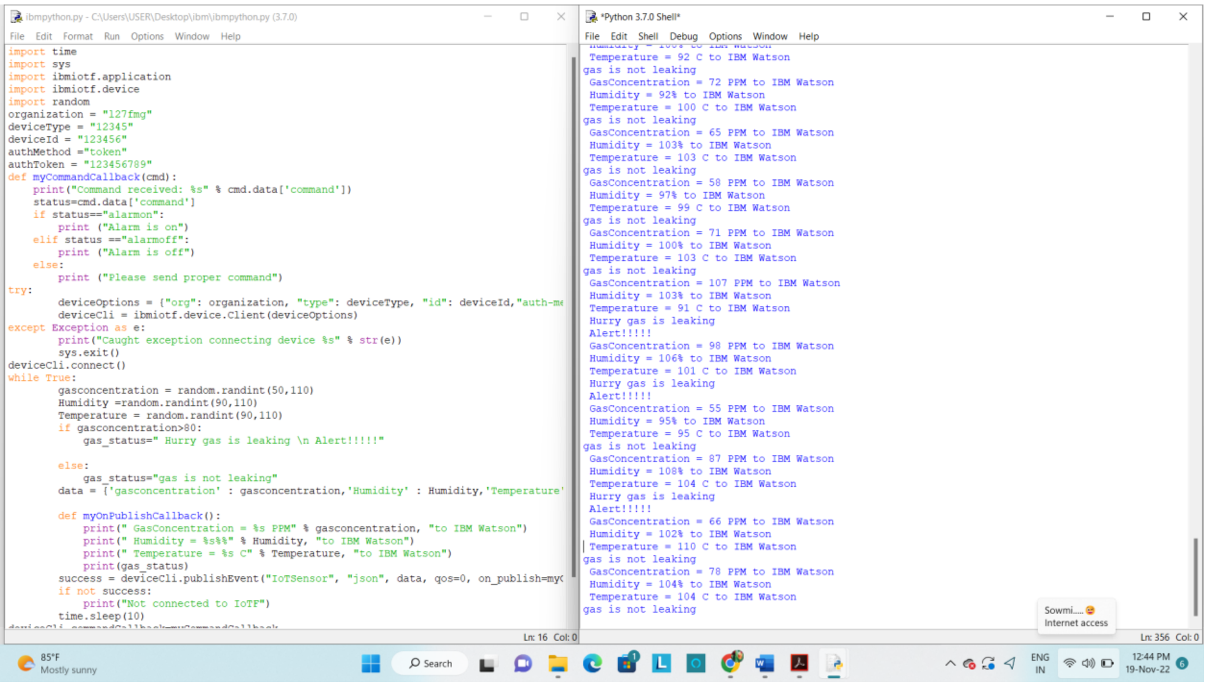
Alerts

0.0 MB
Data transferred today

2 Simulations running

PYTHON CODE CONNECTED WITH WATSON :

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random

organization = "l27fmg"

deviceType = "12345"

deviceId = "123456"

authMethod ="token"

authToken = "123456789"

def myCommandCallback(cmd):

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

    status=cmd.data['command']

    if status=="alarmon":

        print ("Alarm is on")

    elif status =="alarmoff":
        print ("Alarm is off")
    else:
        print ("Please send proper command")
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:
        gasconcentration = random.randint(50,110)
        Humidity =random.randint(90,110)
        Temperature = random.randint(90,110)
        if gasconcentration>80:
            gas_status=" Hurry gas is leaking \n Alert!!!!!"

        else:
            gas_status="gas is not leaking"
        data = {'gasconcentration' : gasconcentration,'Humidity' : Humidity,'Temperature' :Temperature,'gas_status':gas_status}

        def myOnPublishCallback():
            print(" GasConcentration = %s PPM" % gasconcentration, "to IBM Watson")
            print(" Humidity = %s%%" % Humidity, "to IBM Watson")
            print(" Temperature = %s C" % Temperature, "to IBM Watson")
            print(gas_status)
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoTF")
    time.sleep(10)
deviceCli.commandCallback=myCommandCallback
deviceCli.disconnect()
```


ibmpython.py - C:\Users\USER\Desktop\ibm\ibmpython.py (3.7.0)
File Edit Format Run Options Window Help
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Ln: 16 Col: 0
Ln: 356 Col: 0
Sowmi.....
Internet access
85°F
Mostly sunny
Search
ENG
IN
12:44 PM
19-Nov-22

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
organization = "127fmg"
deviceType = "12345"
deviceId = "123456"
authMethod ="token"
authToken = "123456789"
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="alarmon":
        print ("Alarm is on")
    elif status =="alarmoff":
        print ("Alarm is off")
    else:
        print ("Please send proper command")
try:
        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId,"auth-me
        deviceCli = ibmiotf.device.Client(deviceOptions)
except Exception as e:
        print("Caught exception connecting device %s" % str(e))
        sys.exit()
deviceCli.connect()
while True:
        gasconcentration = random.randint(50,110)
        Humidity =random.randint(90,110)
        Temperature = random.randint(90,110)
        if gasconcentration>80:
            gas_status=" Hurry gas is leaking \n Alert!!!!!"

        else:
            gas_status="gas is not leaking"
        data = {'gasconcentration' : gasconcentration,'Humidity' : Humidity,'Temperature'

        def myOnPublishCallback():
            print(" GasConcentration = %s PPM" % gasconcentration, "to IBM Watson")
            print(" Humidity = %s%%" % Humidity, "to IBM Watson")
            print(" Temperature = %s C" % Temperature, "to IBM Watson")
            print(gas_status)
        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=my(
        if not success:
            print("Not connected to IoTF")
        time.sleep(10)
```

```
 Temperature = 92 C to IBM Watson
gas is not leaking
 GasConcentration = 72 PPM to IBM Watson
 Humidity = 92% to IBM Watson
 Temperature = 100 C to IBM Watson
gas is not leaking
 GasConcentration = 65 PPM to IBM Watson
 Humidity = 103% to IBM Watson
 Temperature = 103 C to IBM Watson
gas is not leaking
 GasConcentration = 58 PPM to IBM Watson
 Humidity = 97% to IBM Watson
 Temperature = 99 C to IBM Watson
gas is not leaking
 GasConcentration = 71 PPM to IBM Watson
 Humidity = 100% to IBM Watson
 Temperature = 103 C to IBM Watson
gas is not leaking
 GasConcentration = 107 PPM to IBM Watson
 Humidity = 103% to IBM Watson
 Temperature = 91 C to IBM Watson
 Hurry gas is leaking
 Alert!!!!!
 GasConcentration = 98 PPM to IBM Watson
 Humidity = 106% to IBM Watson
 Temperature = 101 C to IBM Watson
 Hurry gas is leaking
 Alert!!!!!
 GasConcentration = 55 PPM to IBM Watson
 Humidity = 95% to IBM Watson
 Temperature = 95 C to IBM Watson
gas is not leaking
 GasConcentration = 87 PPM to IBM Watson
 Humidity = 108% to IBM Watson
 Temperature = 104 C to IBM Watson
 Hurry gas is leaking
 Alert!!!!!
 GasConcentration = 66 PPM to IBM Watson
 Humidity = 102% to IBM Watson
 Temperature = 110 C to IBM Watson
gas is not leaking
 GasConcentration = 78 PPM to IBM Watson
 Humidity = 104% to IBM Watson
 Temperature = 104 C to IBM Watson
gas is not leaking
```