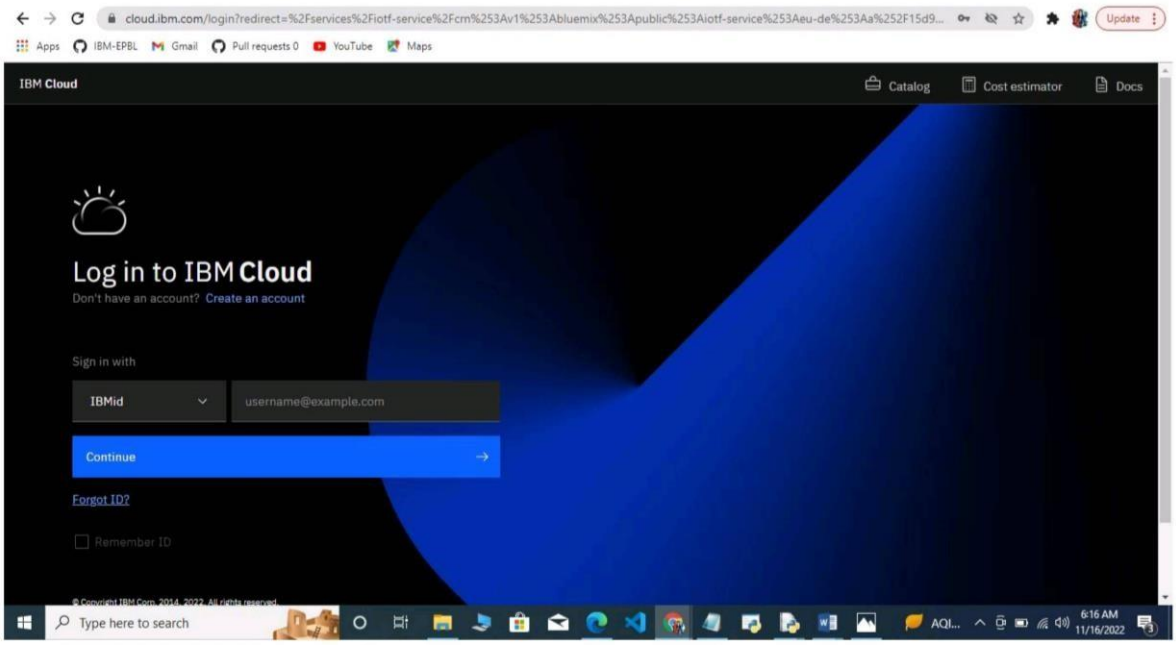
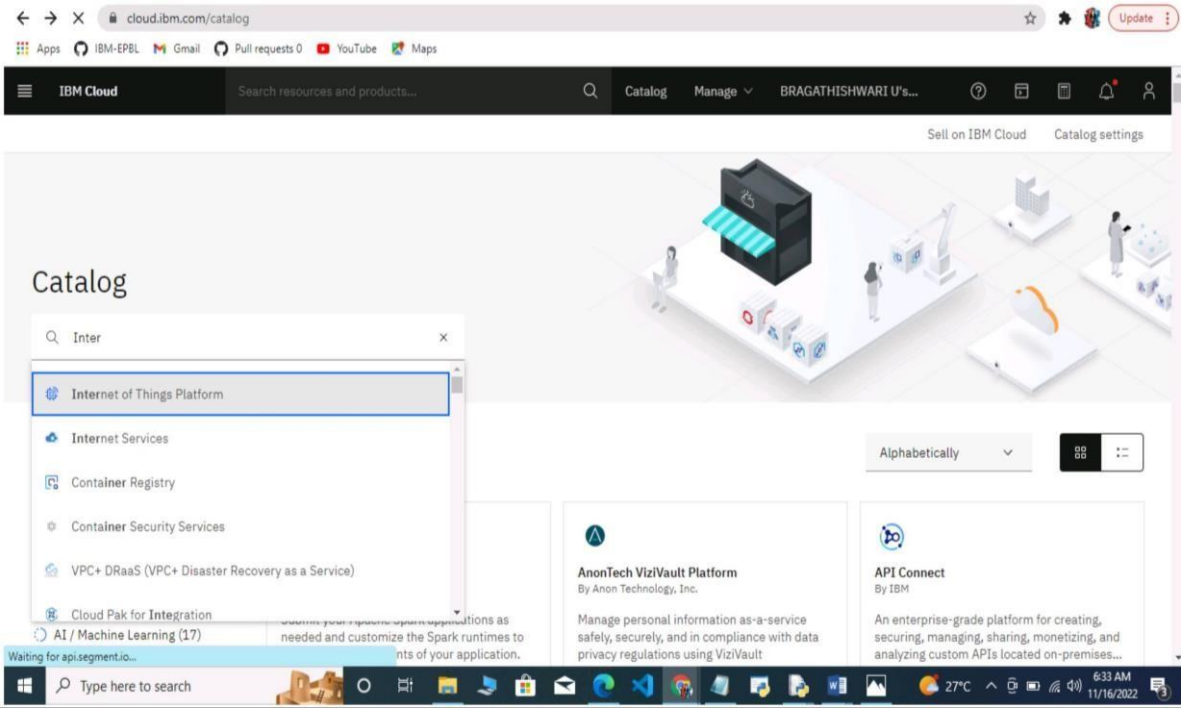
SPRINT 2

Team ID	PNT2022TMID46404
Project Name	Smart Farmer - IOT Enabled Smart Farming Application

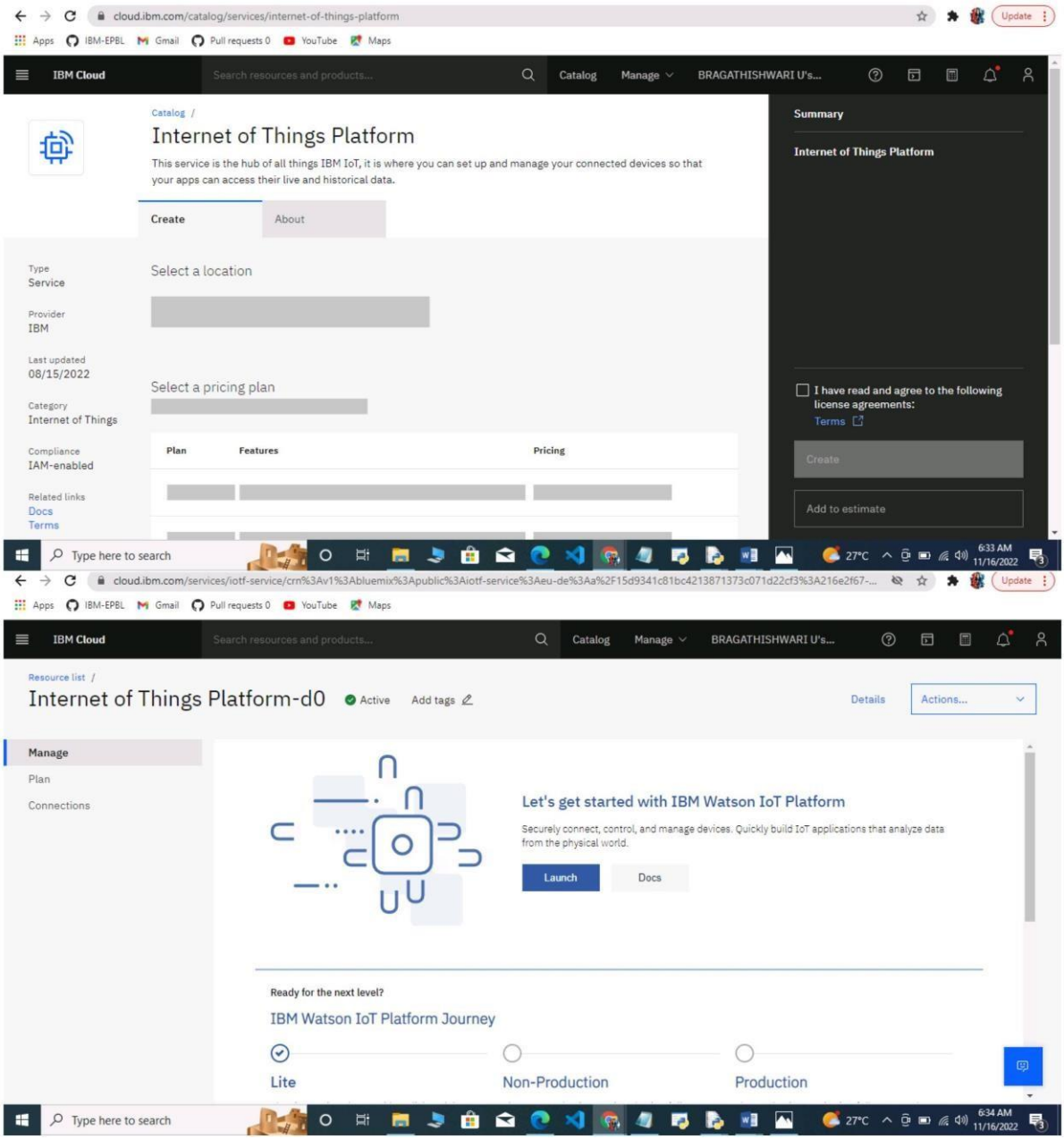
Step1: log in your registered id



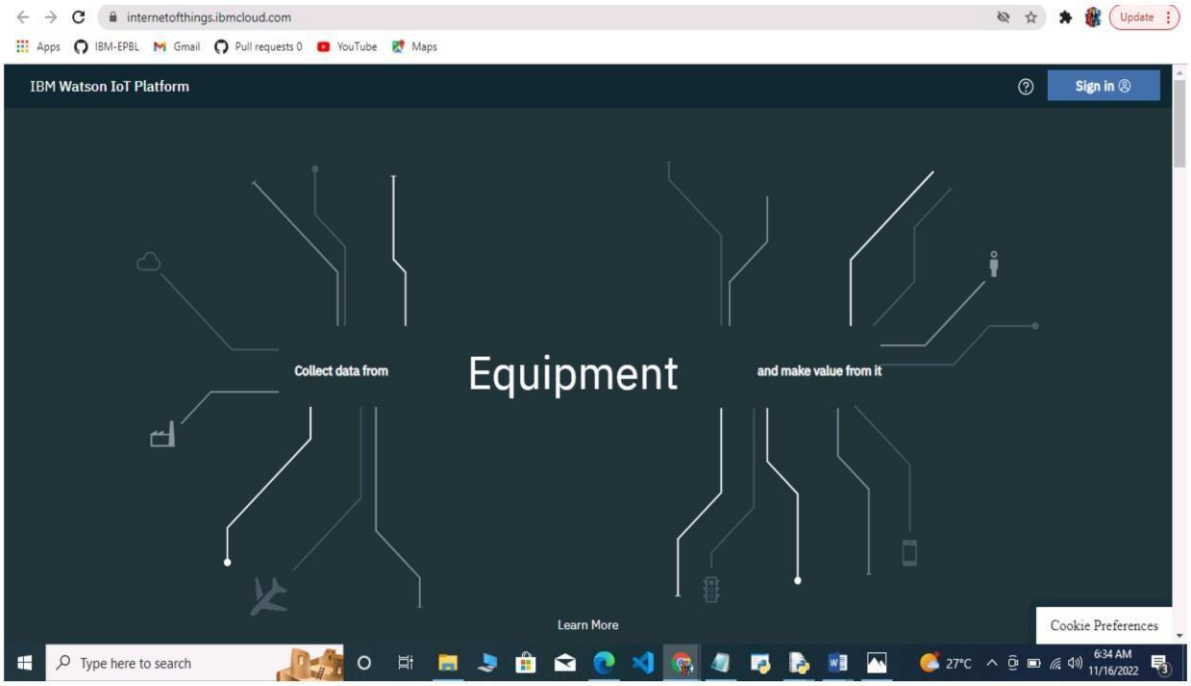
Step 2: click catalog where you find the services and internet of thing you can select and make location as London



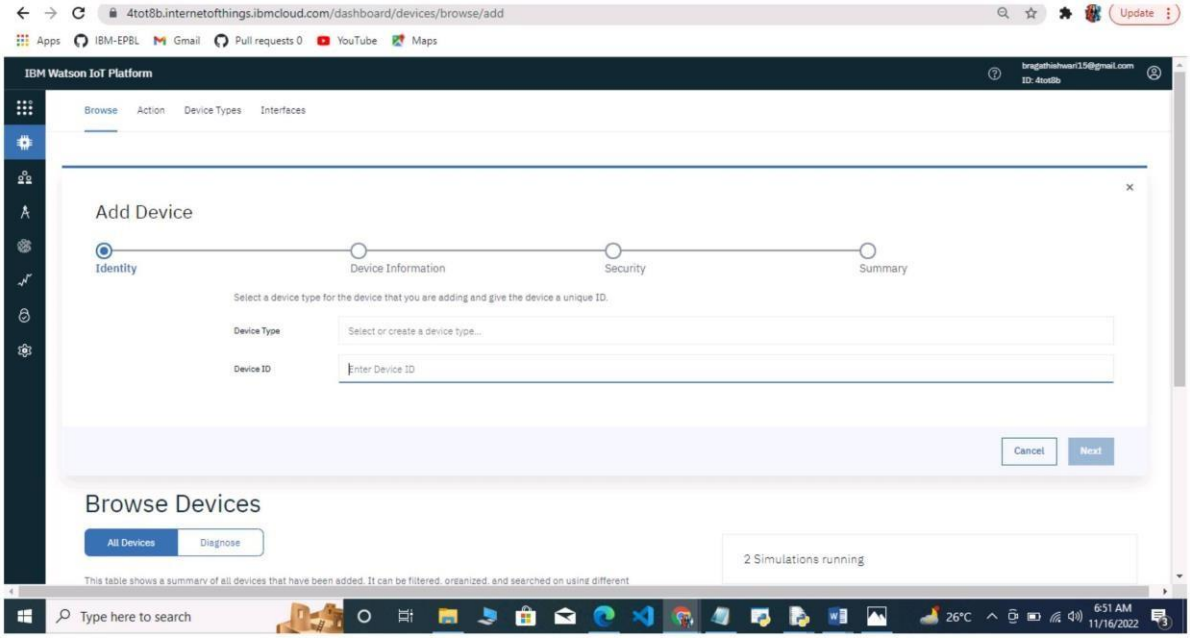
Step 3: click create and the launch tab get open, then click launch



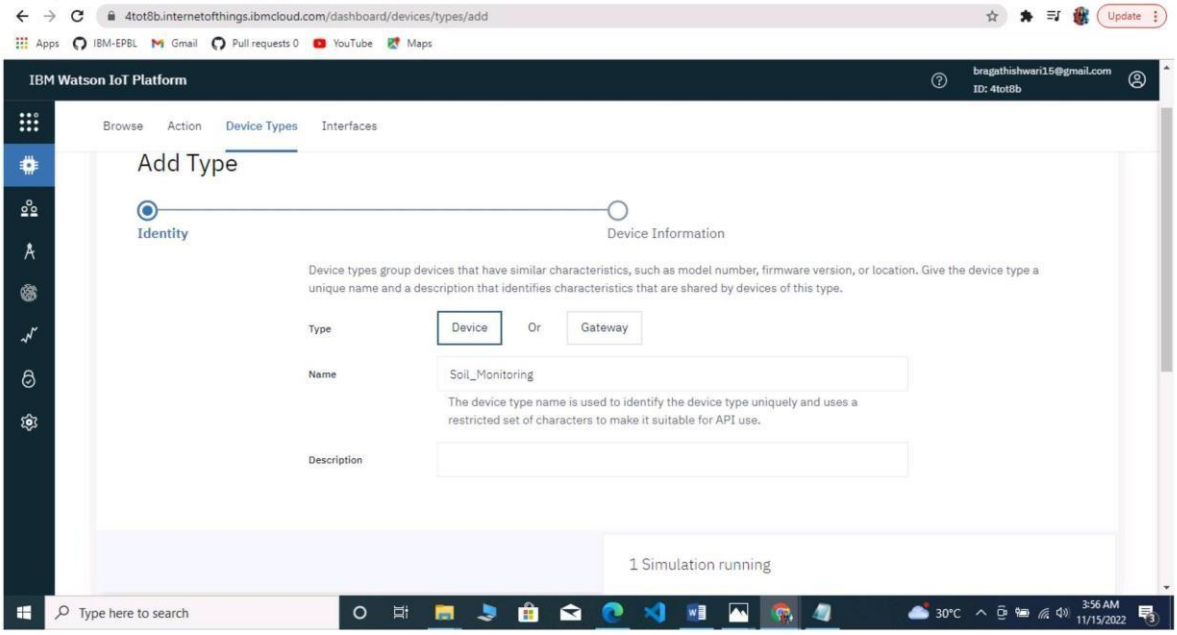
Step 4: It redirect you to IBM WATSON platform where you need to click sign in**.**

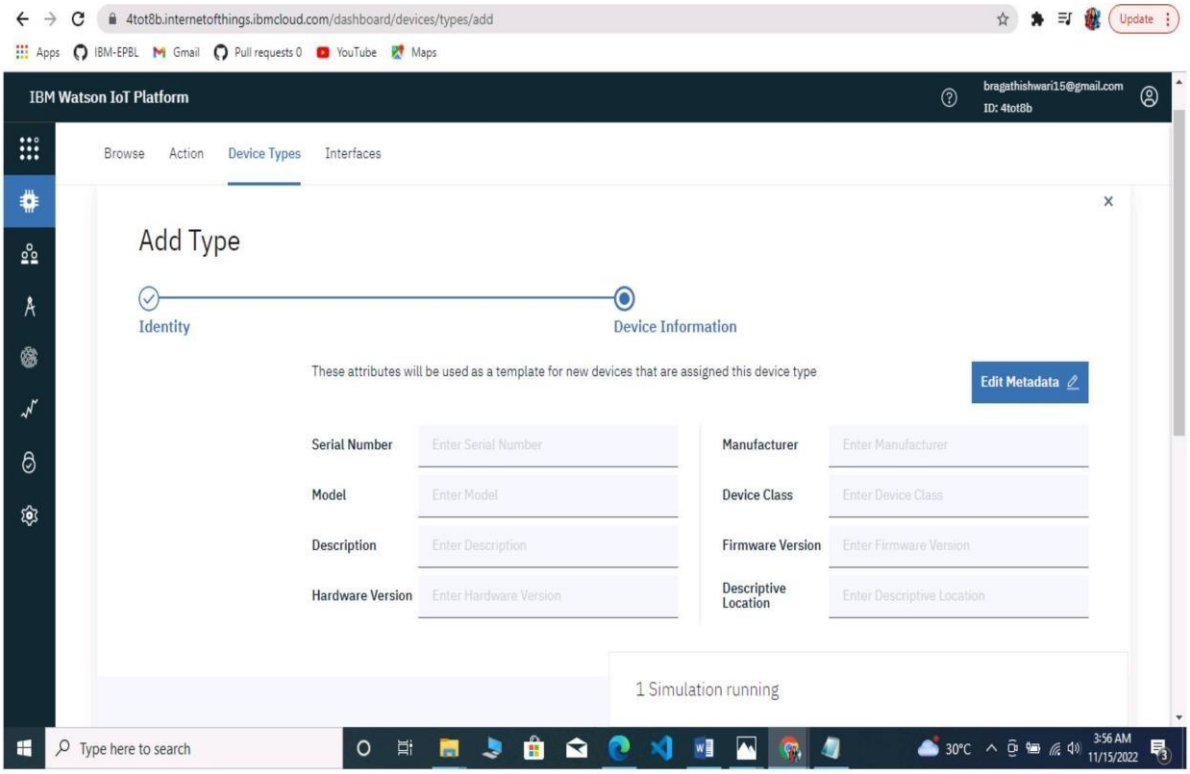


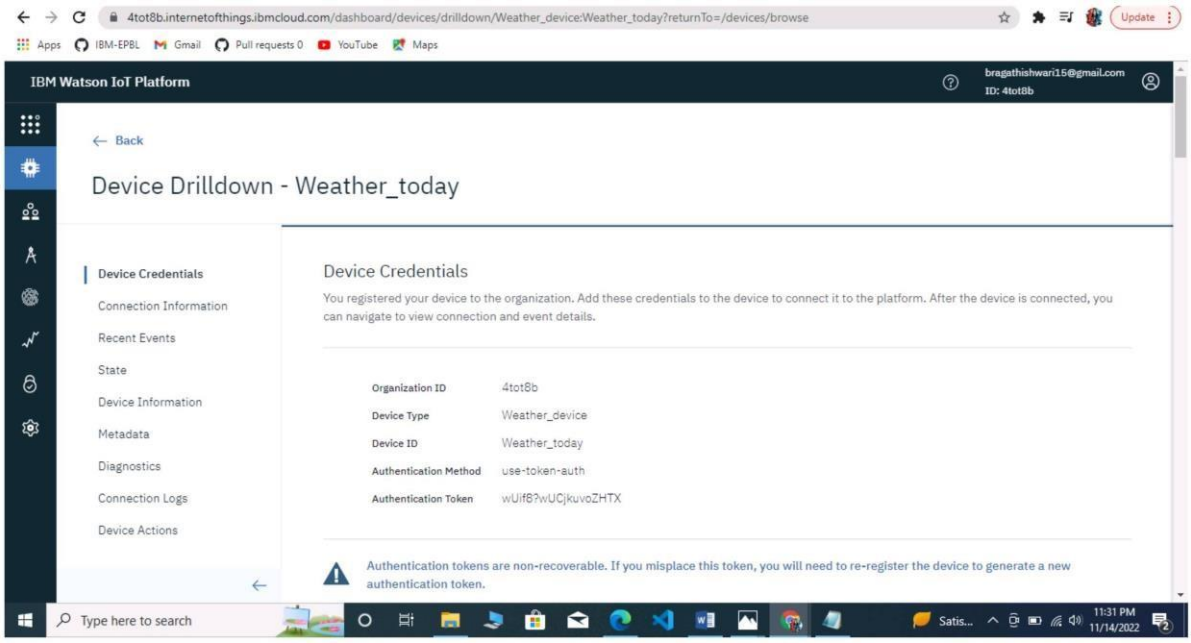
Step 5: where you find this tab which is used to add device, app, member ,usage , security can be worked.

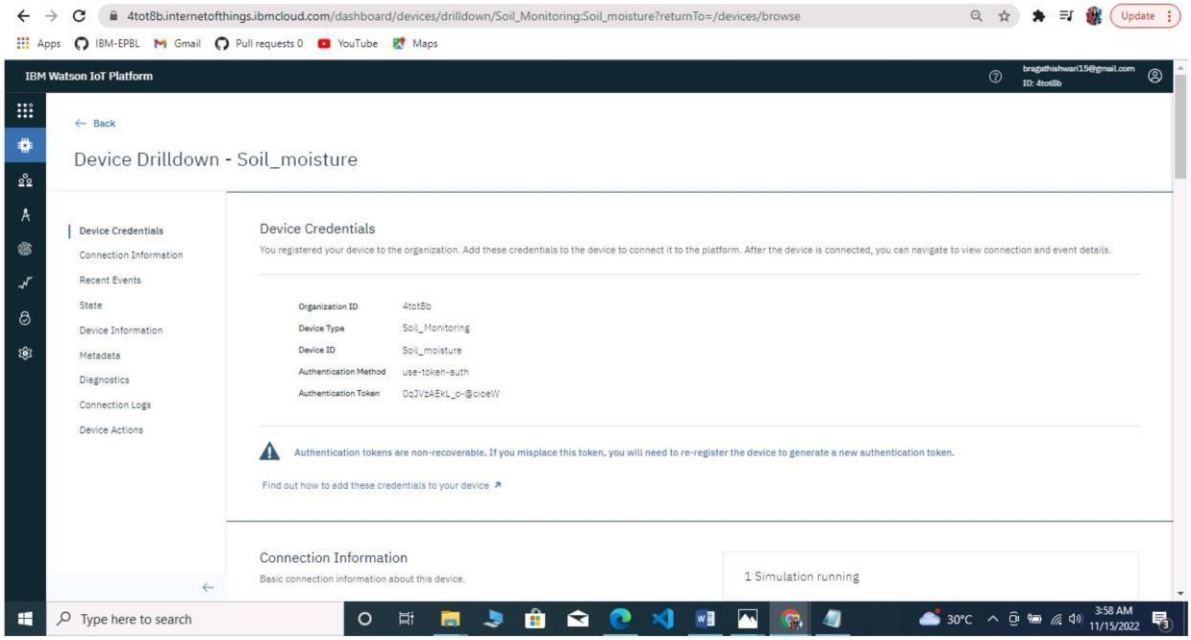


Step 6: after clicking create a new device / add device you can choose an device type and device id and complete the following information to create a device

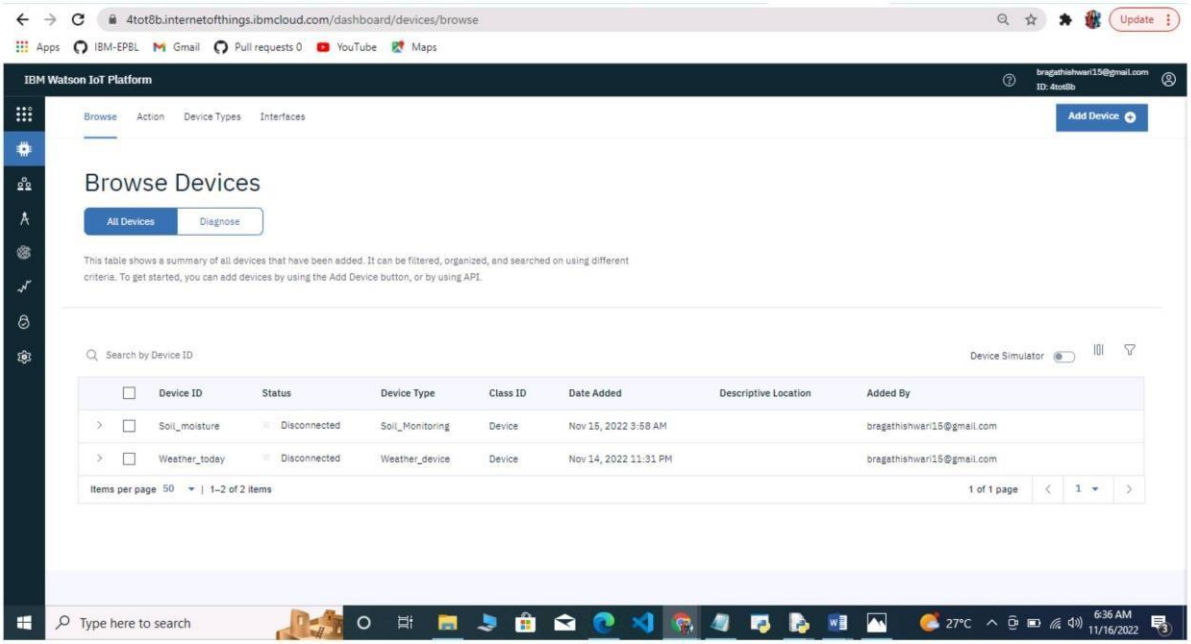




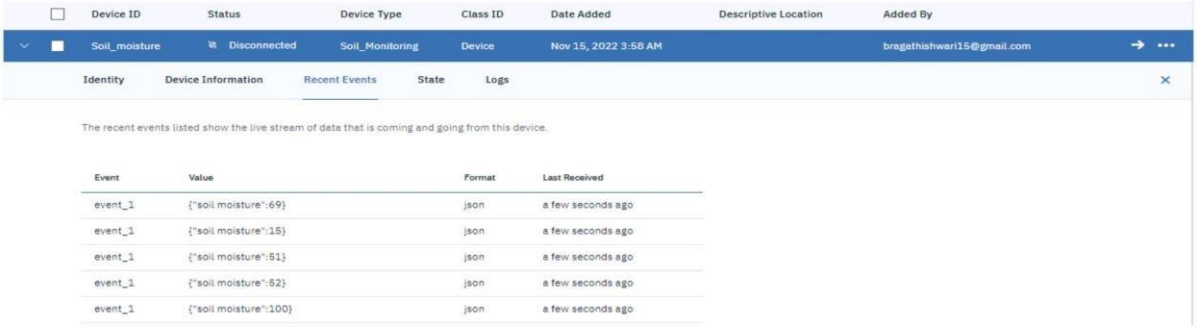

4tot8b.internetofthings.ibmcloud.com/dashboard/devices/drilldown/Weather_device:Weather_today?returnTo=/devices/browse
Apps
IBM-EPBL
Gmail
Pull requests 0
YouTube
Maps
Update
IBM Watson IoT Platform
bragathishwari15@gmail.com
ID: 4tot8b
Back
Device Drilldown - Weather_today
Device Credentials
Connection Information
Recent Events
State
Device Information
Metadata
Diagnostics
Connection Logs
Device Actions
Device Credentials
You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.
Organization ID 4tot8b
Device Type Weather_device
Device ID Weather_today
Authentication Method use-token-auth
Authentication Token wUif8?wUCjkuvoZHTX
Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.
Type here to search
Satis...
11:31 PM
11/14/2022

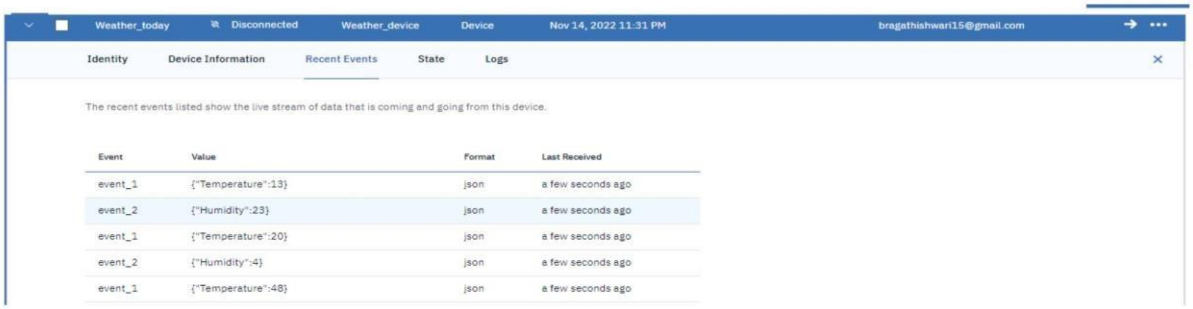

4tot8b.internetofthings.ibmcloud.com/dashboard/devices/drilldown/Soil_Monitoring:Soil_moisture?returnTo=/devices/browse
Apps
IBM-EPBL
Gmail
Pull requests 0
YouTube
Maps
Update
IBM Watson IoT Platform
Back
Device Drilldown - Soil_moisture
Device Credentials
Connection Information
Recent Events
State
Device Information
Metadata
Diagnostics
Connection Logs
Device Actions
Device Credentials
You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.
Organization ID 4tot8b
Device Type Soil_Monitoring
Device ID Soil_moisture
Authentication Method use-token-auth
Authentication Token 0qJVzAEkL_o-@cloeW
Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.
Find out how to add these credentials to your device
Connection Information
Basic connection information about this device.
1 Simulation running
Type here to search
30°C
3:58 AM
11/15/2022

Step 7: created a device**.**

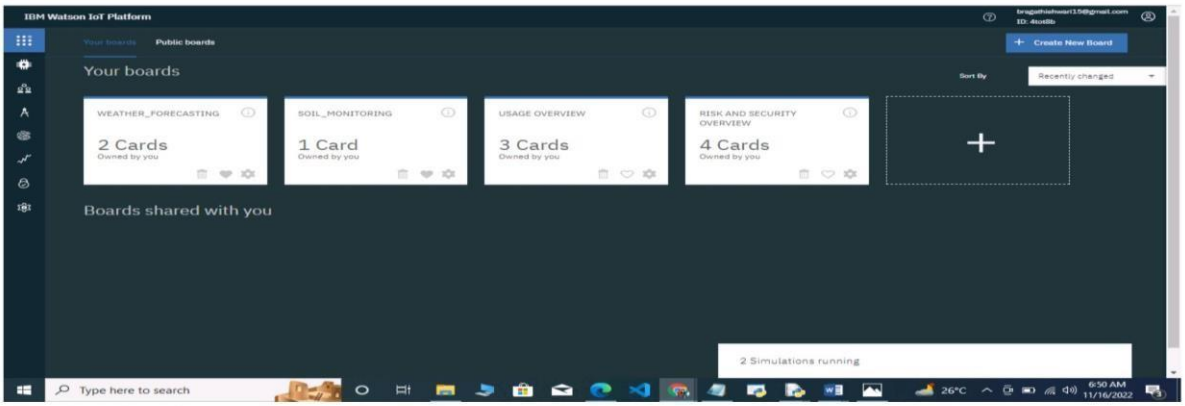


Step 8: The recent events listed the live steam of data that is coming and going from this devices.

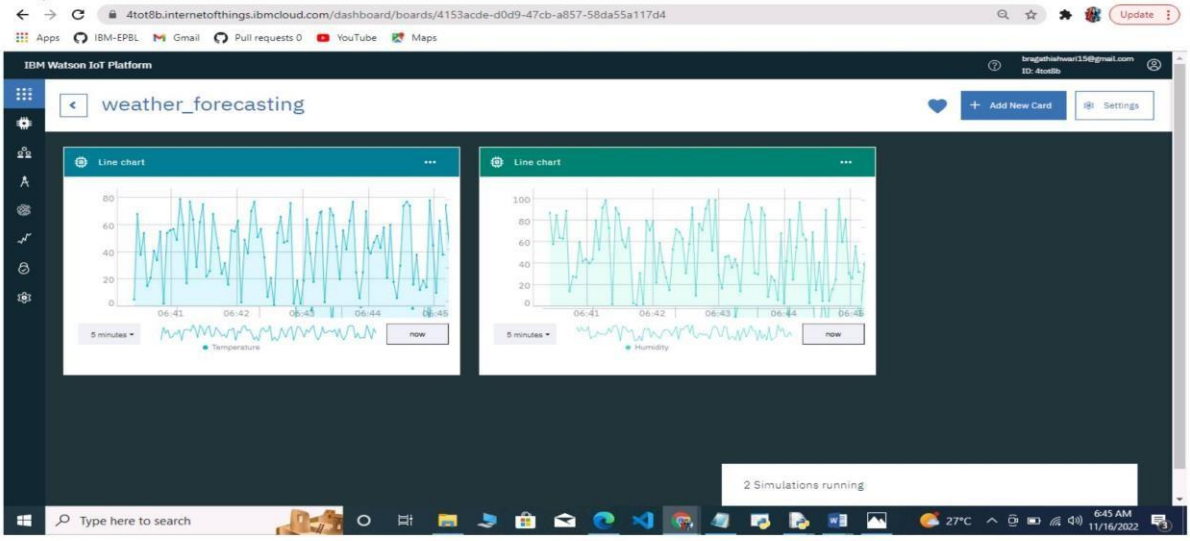


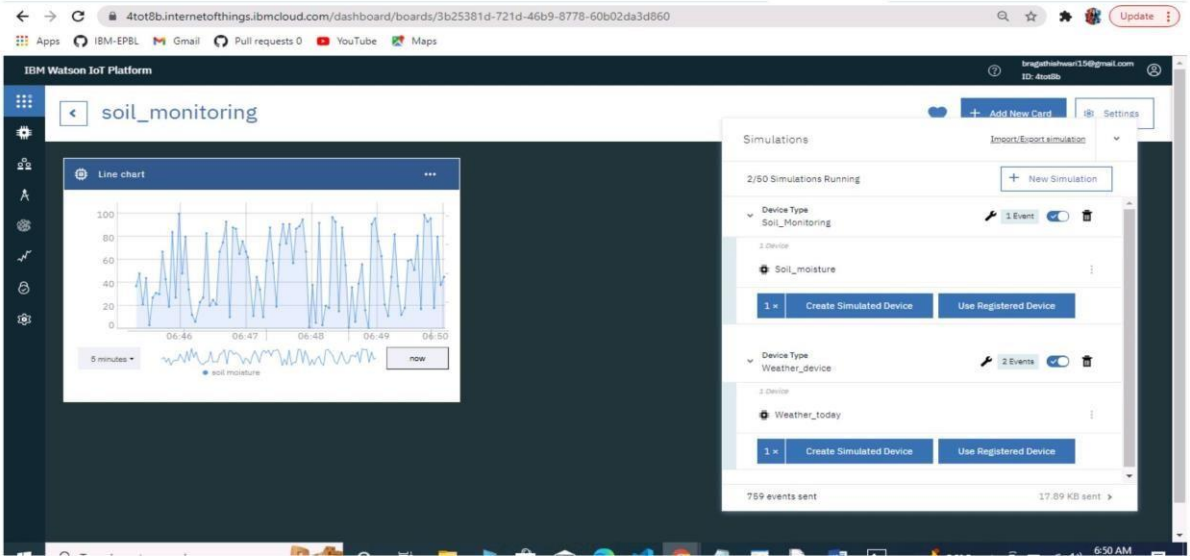


Step 9: check boards for risk and security overview card , it uses for graphical representation boards



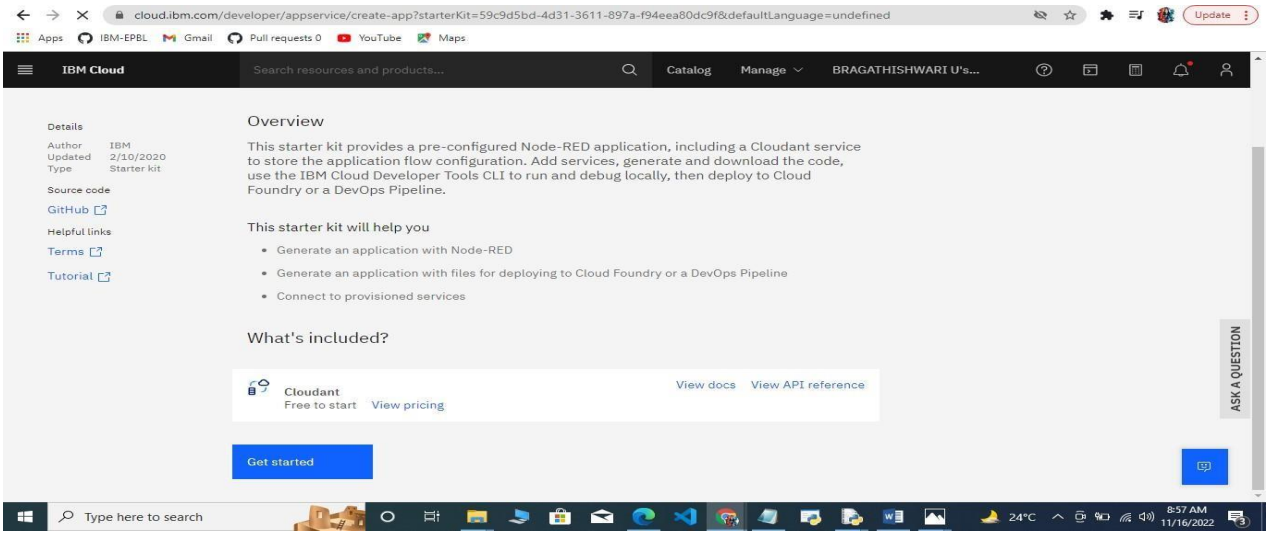
Step 10: Line charts.



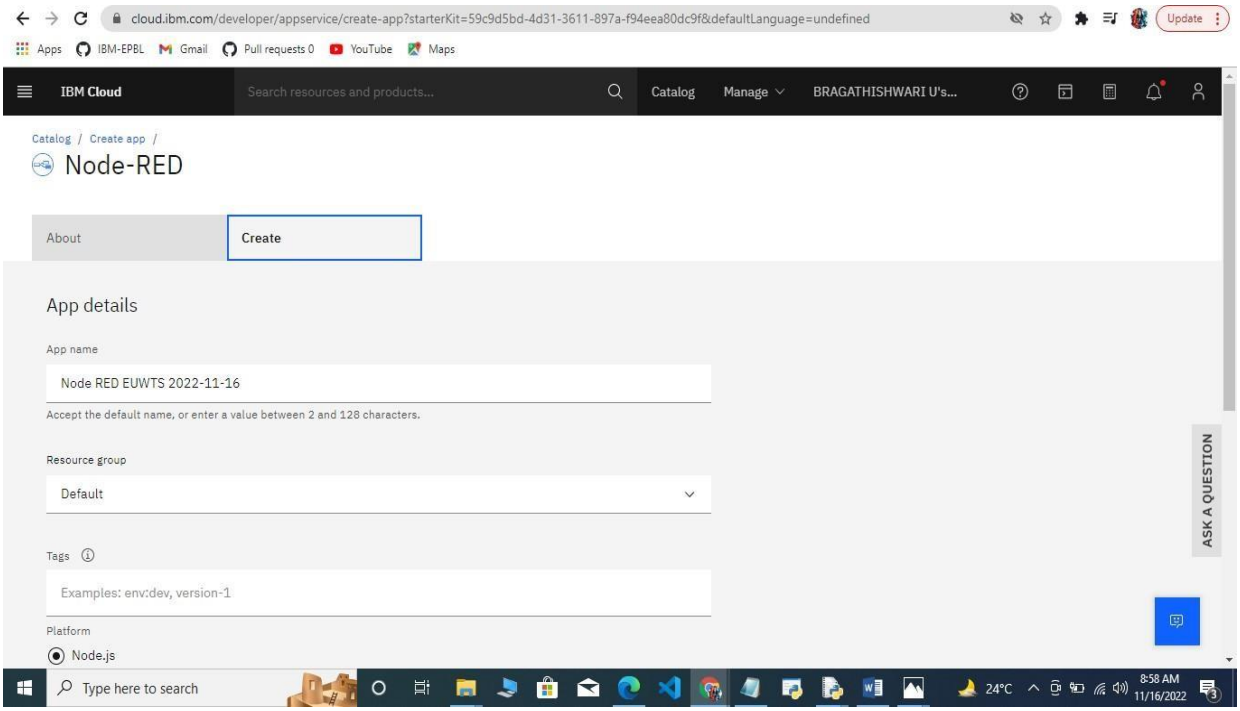


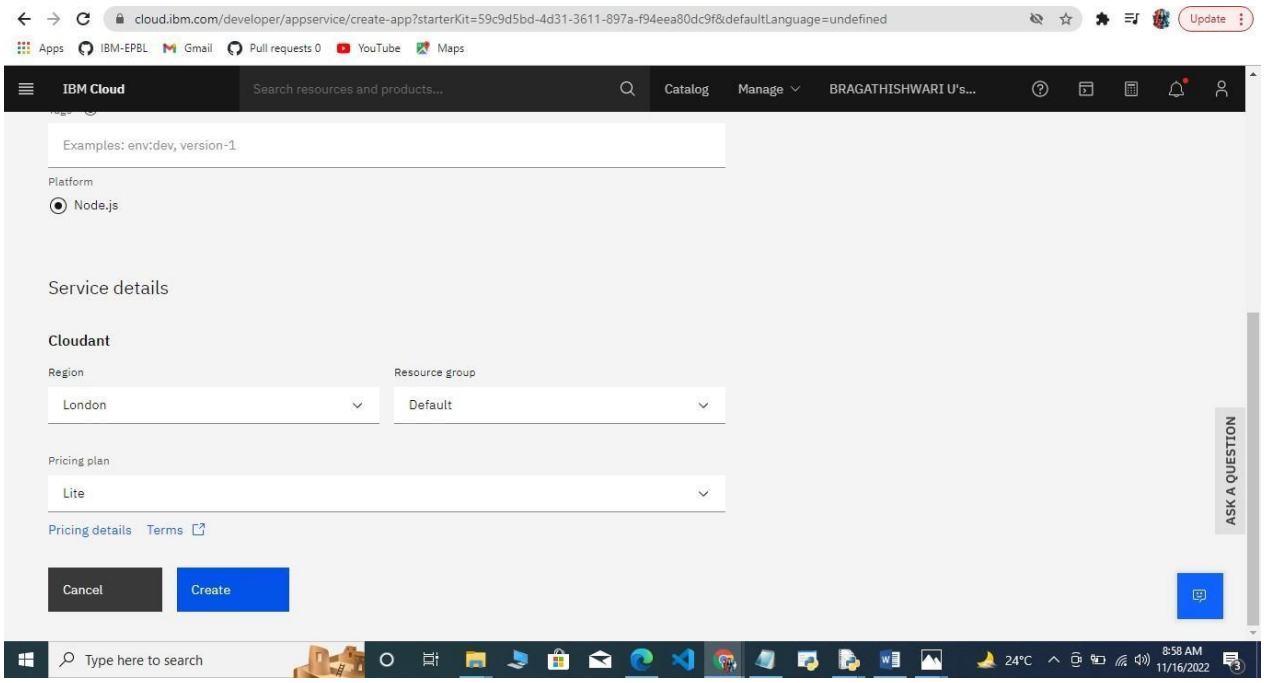
NODE RED

Step 1: Login to IBM Cloud and click Catalog and type Node-red in search bar and select the required app and it shows overview page. In that click “Get started”.

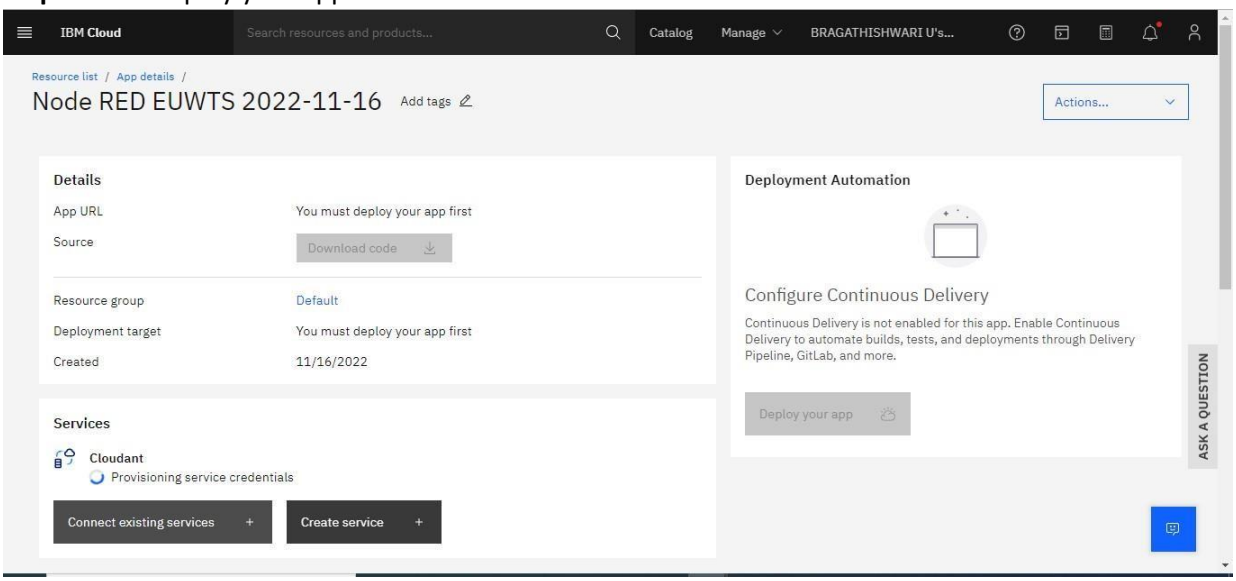


Step 2: Click Create.

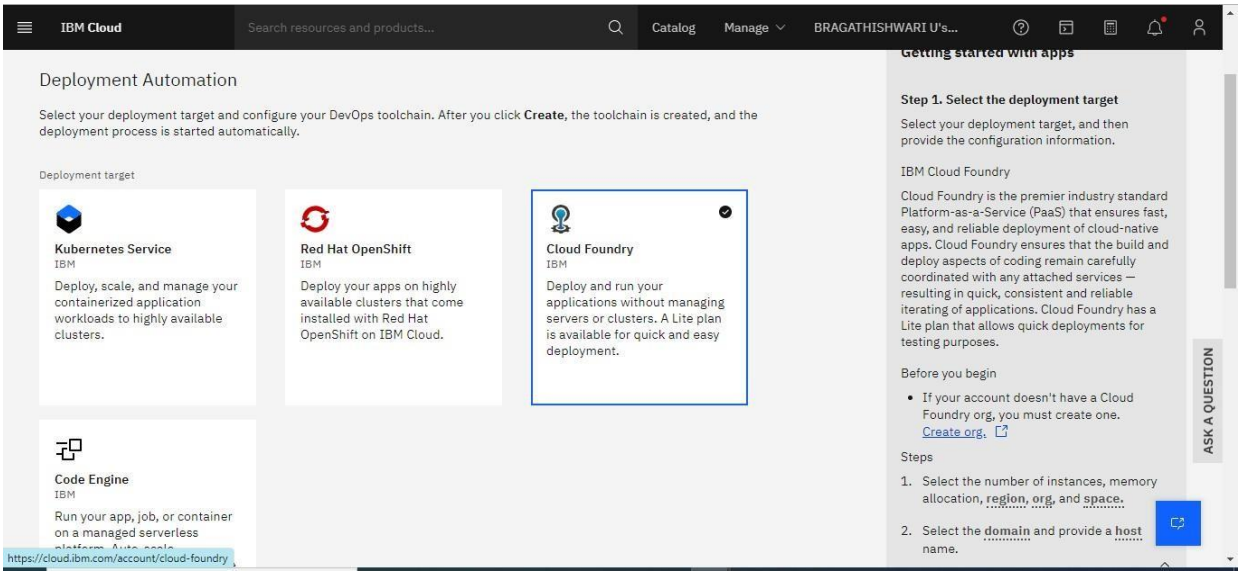




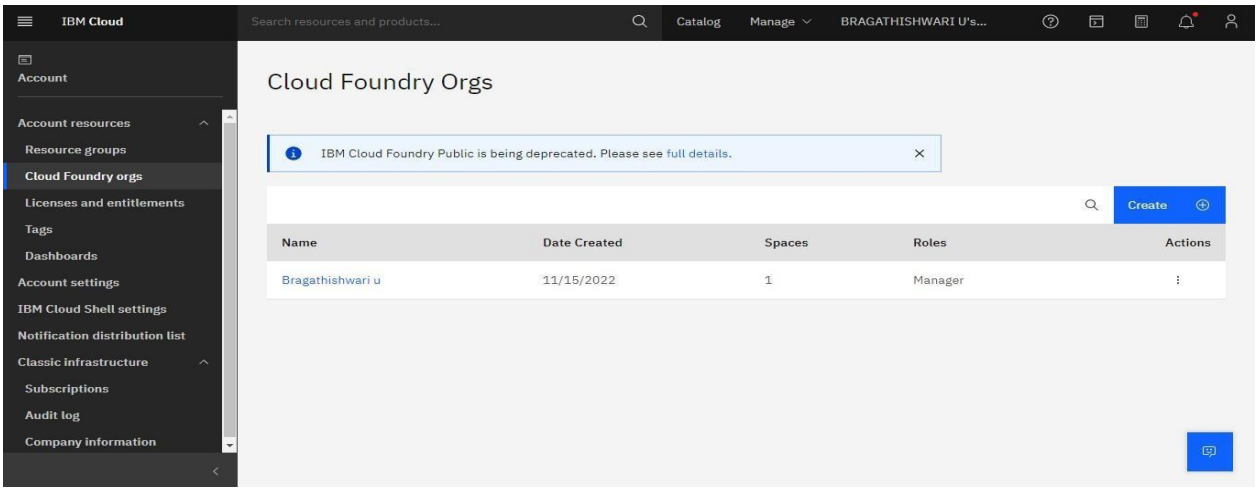
Step 3: Click deploy your app.



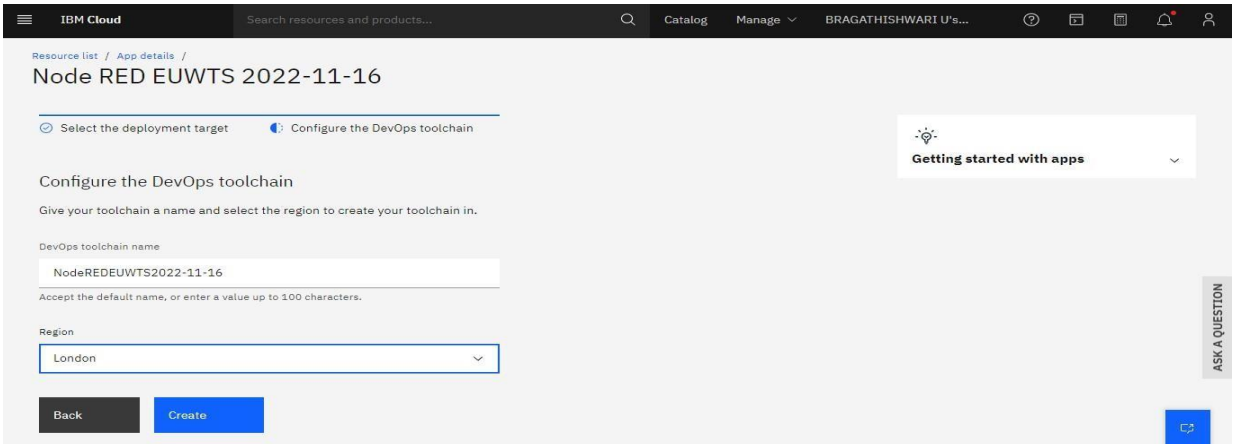
Step 4: Choose Cloud Foundry and click on Create.org

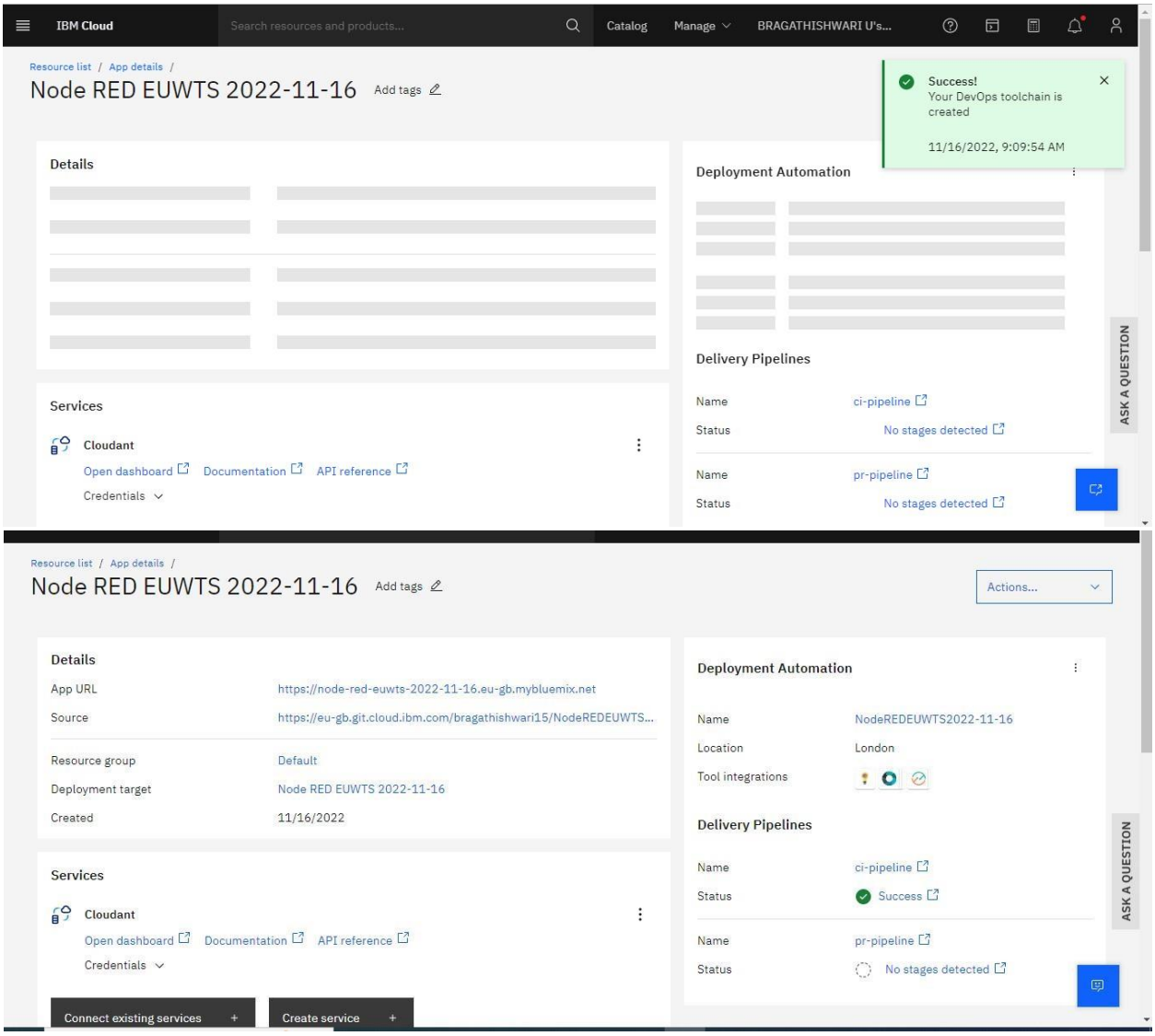


Step 5: Create Cloud Foundry orgs.

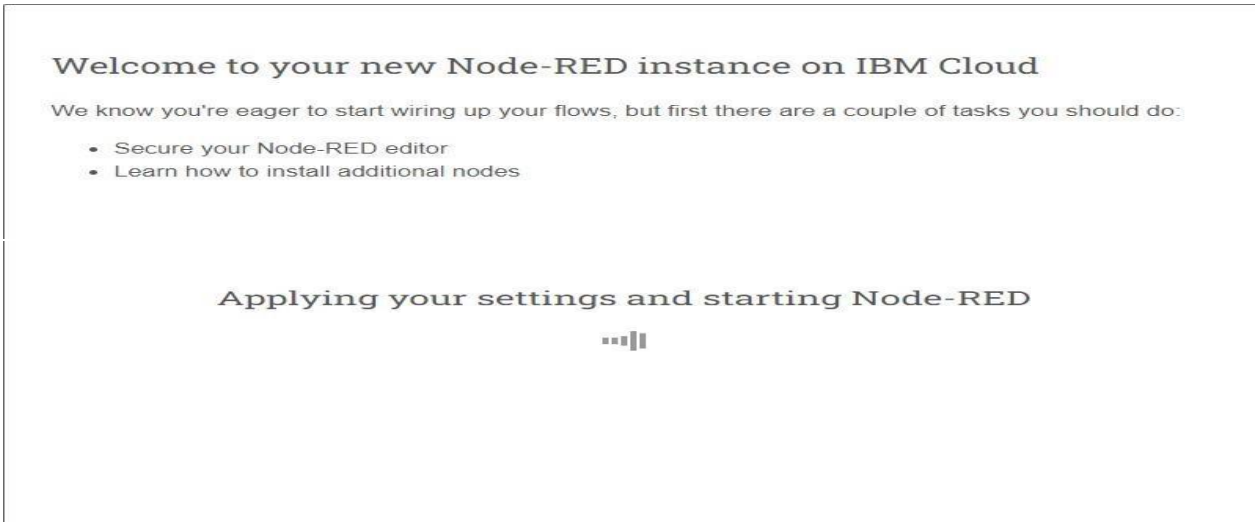


Step 6: Click Create

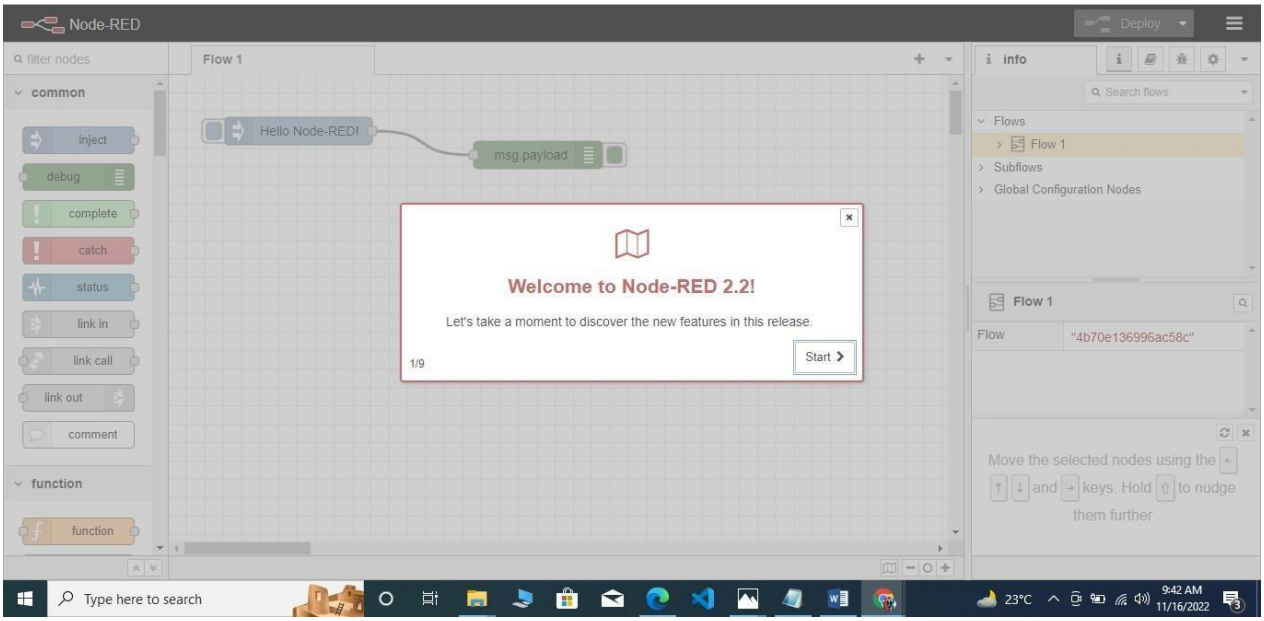




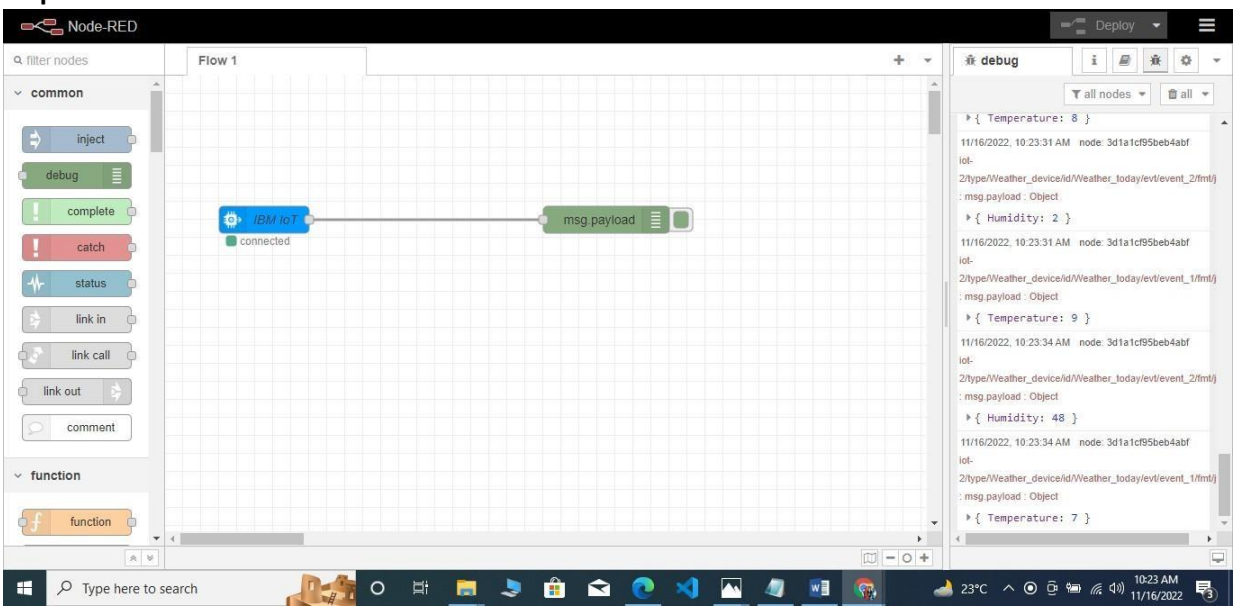
Step 7: Installation



Step 8: Click Start.



Step 9: Node-RED is Created.



ibm iot code.py - C:\Users\PC\Desktop\ibm iot code.py (3.7.0)

File Edit Format Run Options Window Help

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "4tot8b"
deviceType = "smart_farming"
deviceId = "farm_today"
authMethod = "token"
authToken = "oiJYpRYqYNUC)E2eAt"
# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor 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()
# 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

     temp=random.randint(0,100)
     Humid=random.randint(0,100)
     Mois=random.randint(0,100)
     data = {"d":{'temp' : temp, 'Humid': Humid, 'Mois' :Mois}}
     #print data
     def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "Moisture =%s deg c" %Mois, "to IBM Watson")
```

ibm iot code.py - C:\Users\PC\Desktop\ibm iot code.py (3.7.0)

File Edit Format Run Options Window Help

```
deviceId = "farm_today"
authMethod = "token"
authToken = "oiJYpRYqYNUC)E2eAt"
# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor 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()
# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type "greeting" 10 times
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     Humid=random.randint(0,100)
     Mois=random.randint(0,100)
     data = {"d":{'temp' : temp, 'Humid': Humid, 'Mois' :Mois}}
     #print data
     def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "Moisture =%s deg c" %Mois, "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
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```
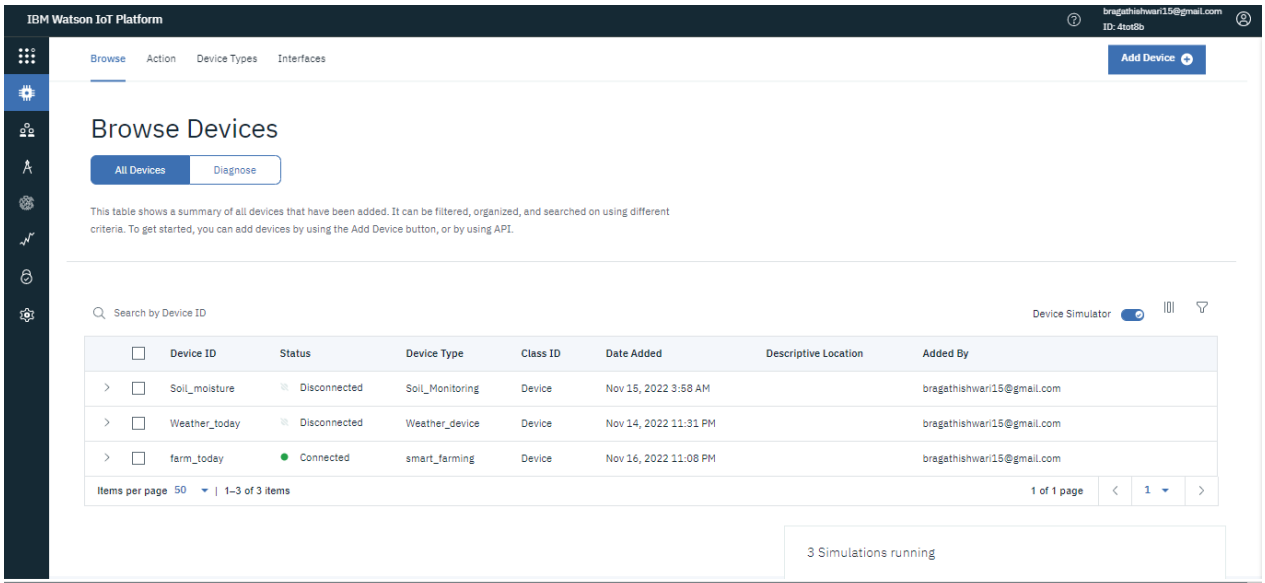
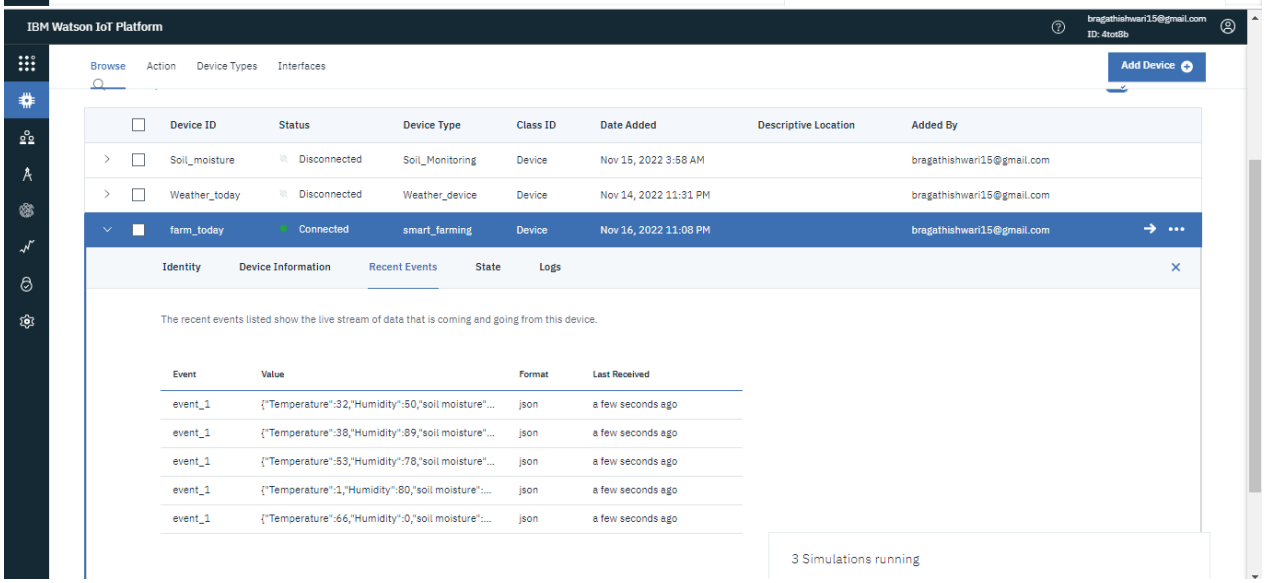

Python 3.7.0 Shell

File Edit Shell Debug Options Window Help

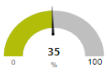
```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:\Users\PC\Desktop\ibm iot code.py ==========
2022-11-17 12:42:39,934   ibmiotf.device.Client      INFO    Connected successfully: d:4tot8b:smart_farming:farm_today
```


IBM Watson IoT Platform
bragathishwari15@gmail.com
ID: 4tot8b
Browse
Action
Device Types
Interfaces
Add Device
Browse Devices
All Devices
Diagnose
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.
Search by Device ID
Device Simulator
Device ID
Status
Device Type
Class ID
Date Added
Descriptive Location
Added By
Soil_moisture
Disconnected
Soil_Monitoring
Device
Nov 15, 2022 3:58 AM
bragathishwari15@gmail.com
Weather_today
Disconnected
Weather_device
Device
Nov 14, 2022 11:31 PM
bragathishwari15@gmail.com
farm_today
Connected
smart_farming
Device
Nov 16, 2022 11:08 PM
bragathishwari15@gmail.com
Items per page 50
1–3 of 3 items
1 of 1 page
1
3 Simulations running

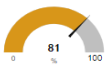

IBM Watson IoT Platform
bragathishwari15@gmail.com
ID: 4tot8b
Browse
Action
Device Types
Interfaces
Add Device
Device ID
Status
Device Type
Class ID
Date Added
Descriptive Location
Added By
Soil_moisture
Disconnected
Soil_Monitoring
Device
Nov 15, 2022 3:58 AM
bragathishwari15@gmail.com
Weather_today
Disconnected
Weather_device
Device
Nov 14, 2022 11:31 PM
bragathishwari15@gmail.com
farm_today
Connected
smart_farming
Device
Nov 16, 2022 11:08 PM
bragathishwari15@gmail.com
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
event_1
{"Temperature":32,"Humidity":50,"soil moisture"...
json
a few seconds ago
event_1
{"Temperature":38,"Humidity":89,"soil moisture"...
json
a few seconds ago
event_1
{"Temperature":53,"Humidity":78,"soil moisture"...
json
a few seconds ago
event_1
{"Temperature":1,"Humidity":80,"soil moisture":...
json
a few seconds ago
event_1
{"Temperature":66,"Humidity":0,"soil moisture":...
json
a few seconds ago
3 Simulations running

SMART MONITORING

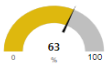
Humidity



Temperature



Soil moisture



SMART CONTROL

MOTOR ON

MOTOR OFF