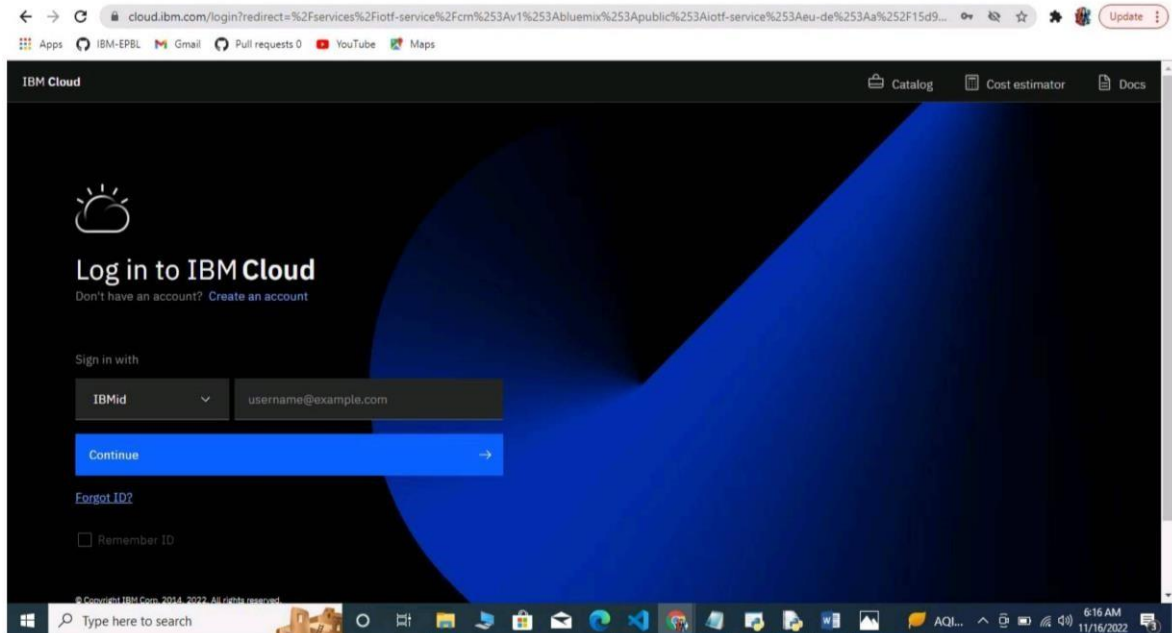


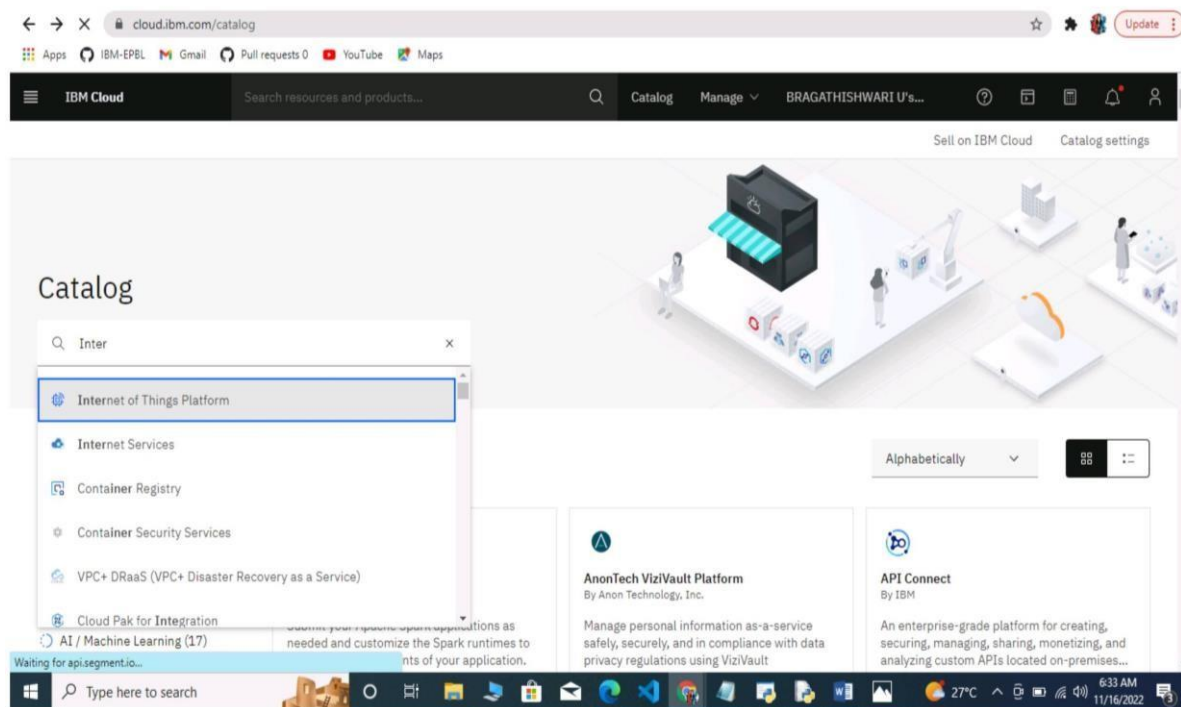
SPRINT 2

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

The image displays two screenshots of the IBM Cloud interface, showing the process of creating and launching the Internet of Things Platform.

Top Screenshot: Internet of Things Platform Catalog Page

The top screenshot shows the 'Internet of Things Platform' service page in the IBM Cloud Catalog. The page is titled 'Internet of Things Platform' and includes a description: 'This service is the hub of all things IBM IoT, it is where you can set up and manage your connected devices so that your apps can access their live and historical data.'

The 'Create' tab is selected, and the 'About' tab is also visible. The 'Create' tab contains a 'Select a location' dropdown menu and a 'Select a pricing plan' dropdown menu. Below these, there is a table with columns 'Plan', 'Features', and 'Pricing'. The 'Plan' column shows 'Plan', 'Features', and 'Pricing' as options. The 'Features' column shows 'Features' as an option. The 'Pricing' column shows 'Pricing' as an option.

The right sidebar shows the 'Summary' section, which includes the 'Internet of Things Platform' title and a checkbox for 'I have read and agree to the following license agreements:'. Below this, there are 'Create' and 'Add to estimate' buttons.

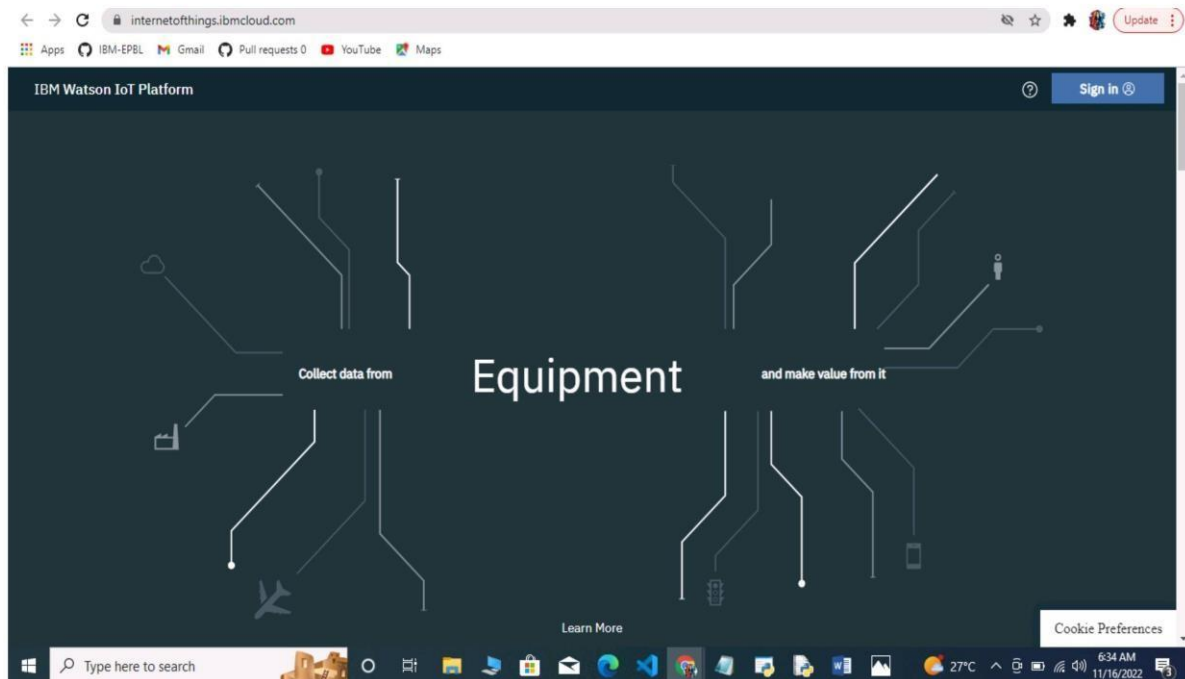
Bottom Screenshot: Internet of Things Platform-d0 Resource Page

The bottom screenshot shows the 'Internet of Things Platform-d0' resource page. The page is titled 'Internet of Things Platform-d0' and includes a status indicator 'Active' and an 'Add tags' link. The 'Manage' tab is selected, and the 'Plan' and 'Connections' tabs are also visible.

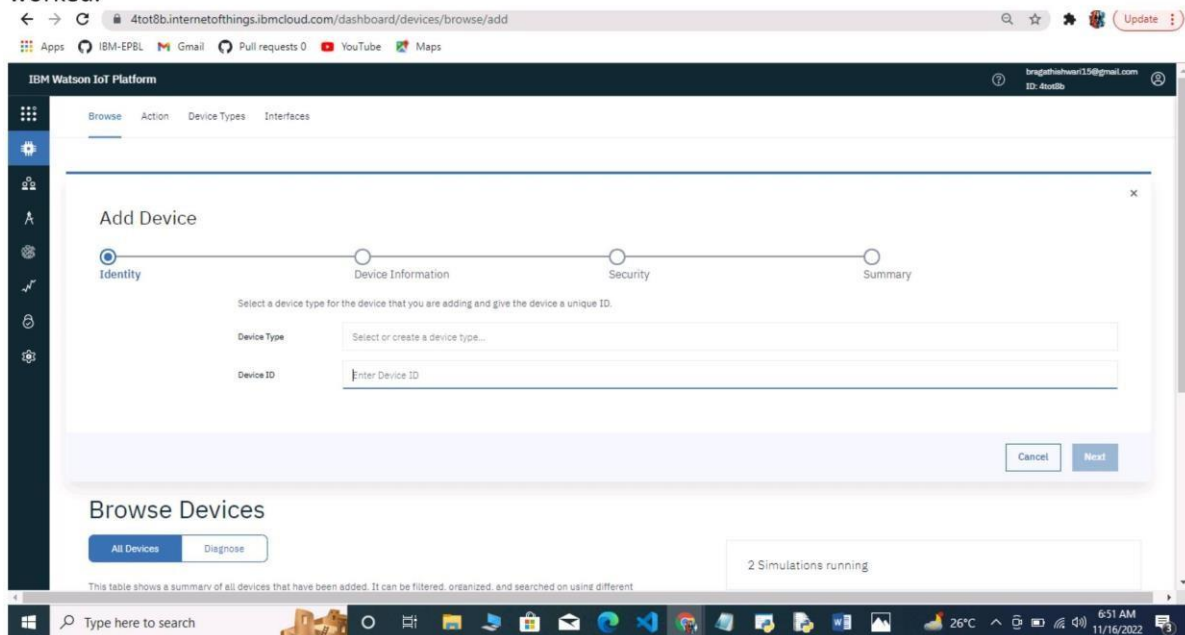
The main content area features a large graphic of a connected device and the text 'Let's get started with IBM Watson IoT Platform'. Below this, there is a 'Launch' button and a 'Docs' button. The 'Launch' button is highlighted.

Below the 'Launch' button, there is a section titled 'Ready for the next level?' with the text 'IBM Watson IoT Platform Journey'. This section includes a progress bar with three stages: 'Lite' (checked), 'Non-Production', and 'Production'.

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

IBM Watson IoT Platform

Browse Action **Device Types** Interfaces

Add Type

Identity Device Information

Device types group devices that have similar characteristics, such as model number, firmware version, or location. Give the device type a unique name and a description that identifies characteristics that are shared by devices of this type.

Type Or

Name

The device type name is used to identify the device type uniquely and uses a restricted set of characters to make it suitable for API use.

Description

1 Simulation running

IBM Watson IoT Platform

Browse Action **Device Types** Interfaces

Add Type

Identity Device Information

These attributes will be used as a template for new devices that are assigned this device type. [Edit Metadata](#)

Serial Number	<input type="text" value="Enter Serial Number"/>	Manufacturer	<input type="text" value="Enter Manufacturer"/>
Model	<input type="text" value="Enter Model"/>	Device Class	<input type="text" value="Enter Device Class"/>
Description	<input type="text" value="Enter Description"/>	Firmware Version	<input type="text" value="Enter Firmware Version"/>
Hardware Version	<input type="text" value="Enter Hardware Version"/>	Descriptive Location	<input type="text" value="Enter Descriptive Location"/>

1 Simulation running

4tot8b.internetofthings.ibmcloud.com/dashboard/devices/drilldown/Weather_device:Weather_today?returnTo=/devices/browse

Apps IBM-EPBL Gmail Pull requests 0 YouTube Maps

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?wUCjkuvzHTX

⚠ 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

IBM Watson IoT Platform

bragathishwari15@gmail.com ID: 4tot8b

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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	QqJ7v2AEKd_o@c1oeW

⚠ 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.

IBM Watson IoT Platform

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		bragathishwan15@gmail.com
Weather_today	Disconnected	Weather_device	Device	Nov 14, 2022 11:31 PM		bragathishwan15@gmail.com

Items per page 50 | 1-2 of 2 items

1 of 1 page

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

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 bragathishwan15@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	{"soil moisture":69}	json	a few seconds ago
event_1	{"soil moisture":15}	json	a few seconds ago
event_1	{"soil moisture":51}	json	a few seconds ago
event_1	{"soil moisture":52}	json	a few seconds ago
event_1	{"soil moisture":100}	json	a few seconds ago

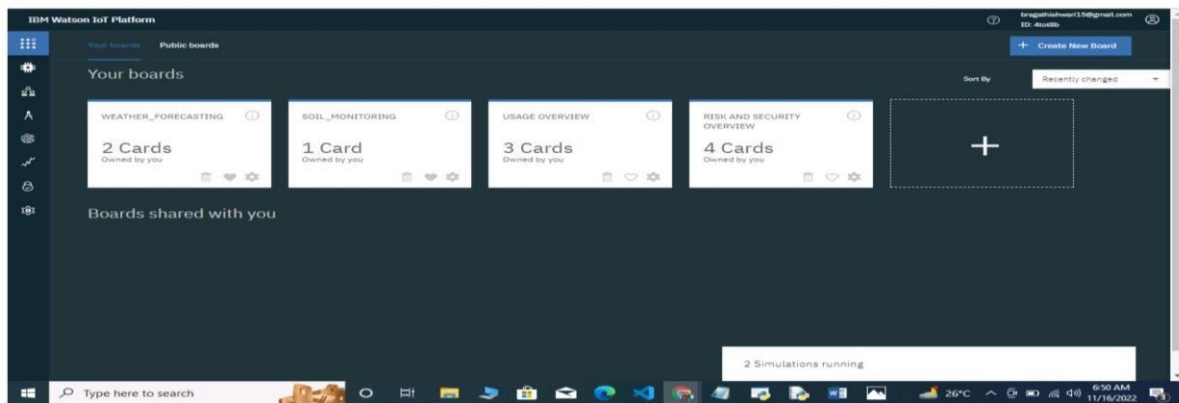
Weather_today Disconnected Weather_device Device Nov 14, 2022 11:31 PM bragathishwan15@gmail.com

Identity Device Information Recent Events State Logs

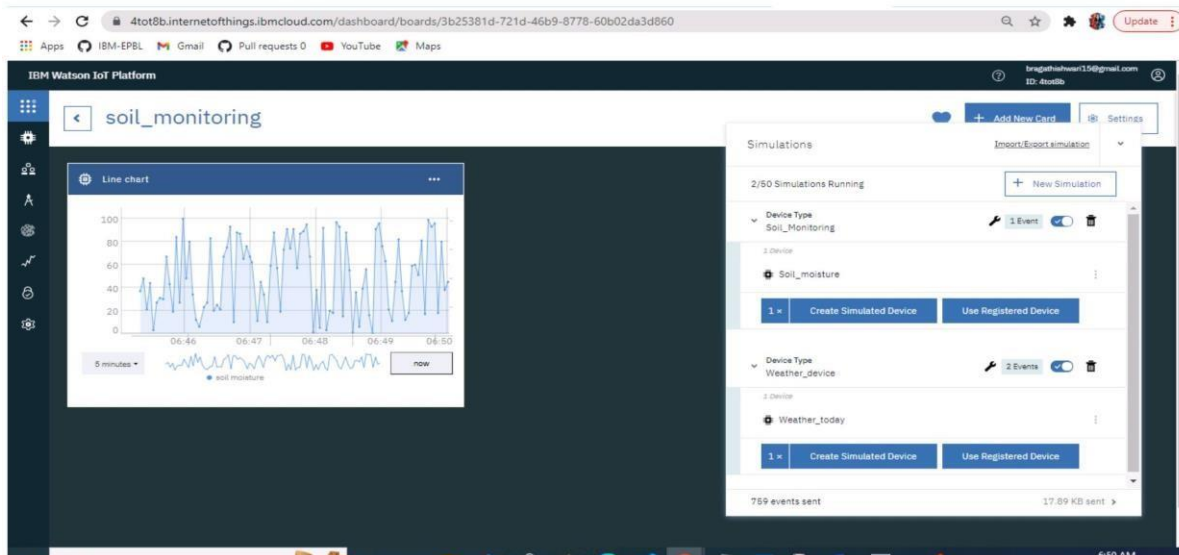
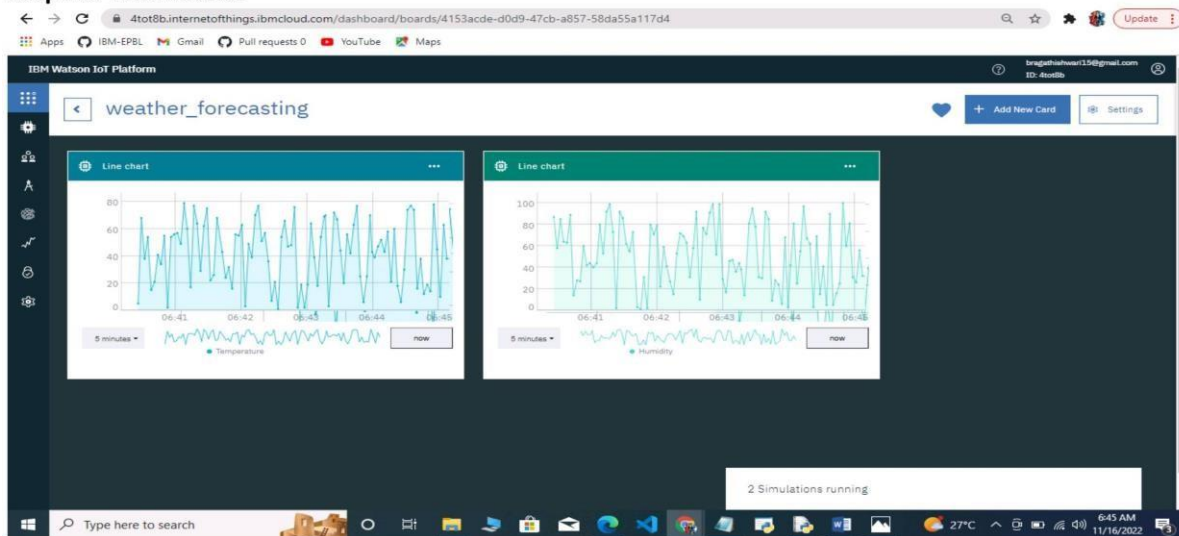
The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"Temperature":13}	json	a few seconds ago
event_2	{"Humidity":23}	json	a few seconds ago
event_1	{"Temperature":20}	json	a few seconds ago
event_2	{"Humidity":4}	json	a few seconds ago
event_1	{"Temperature":48}	json	a few seconds ago

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

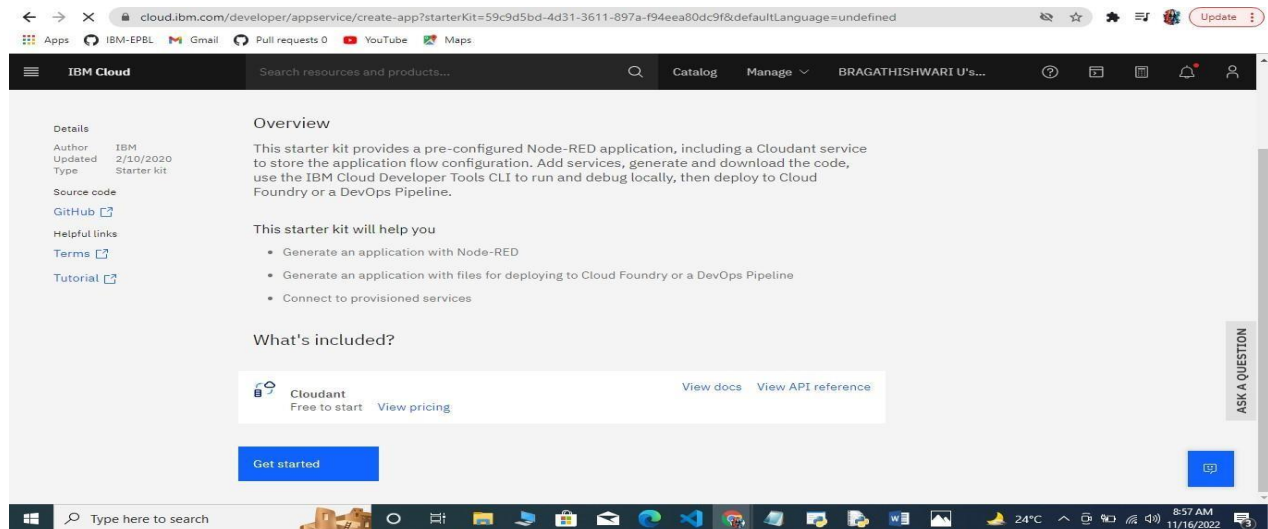


Step 10: Line charts.

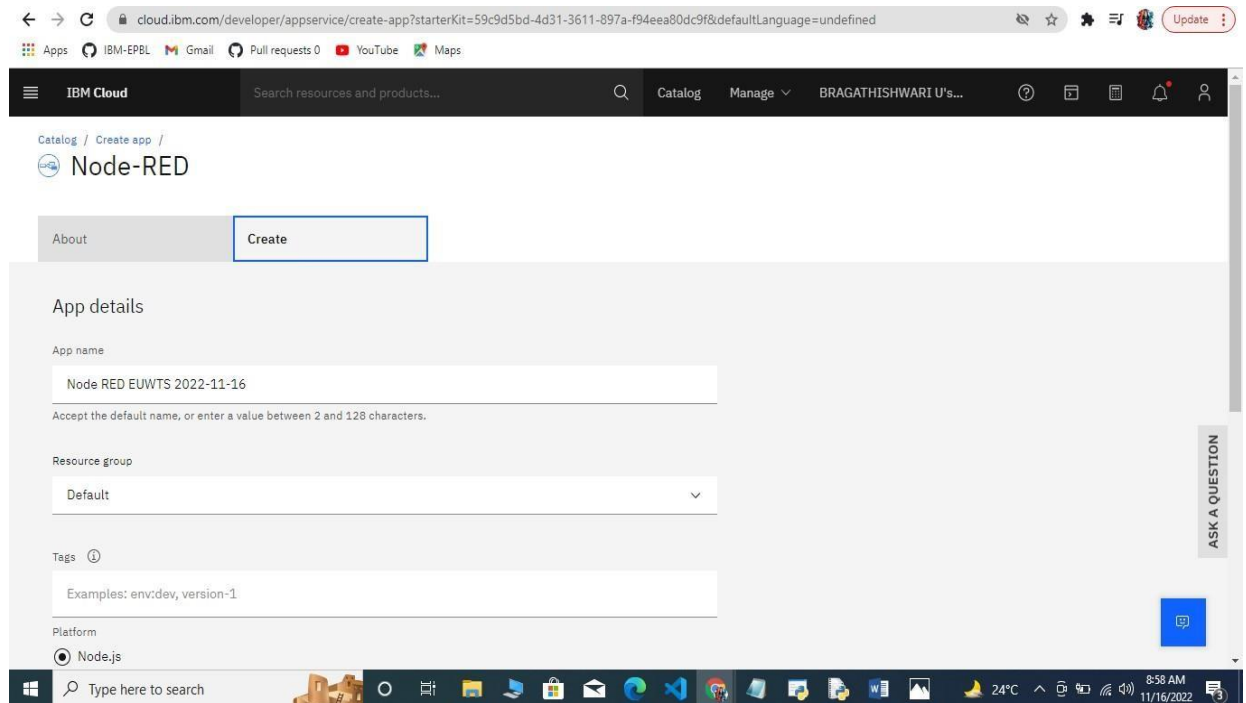


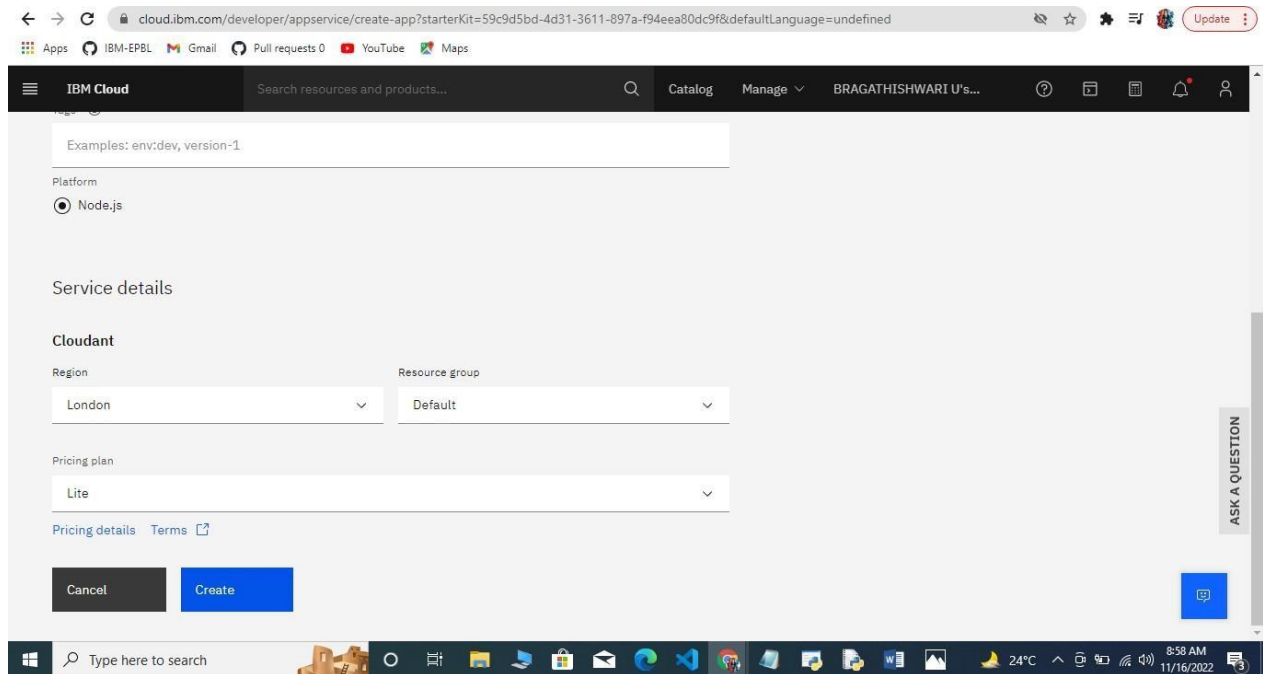
NODE RED

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”.

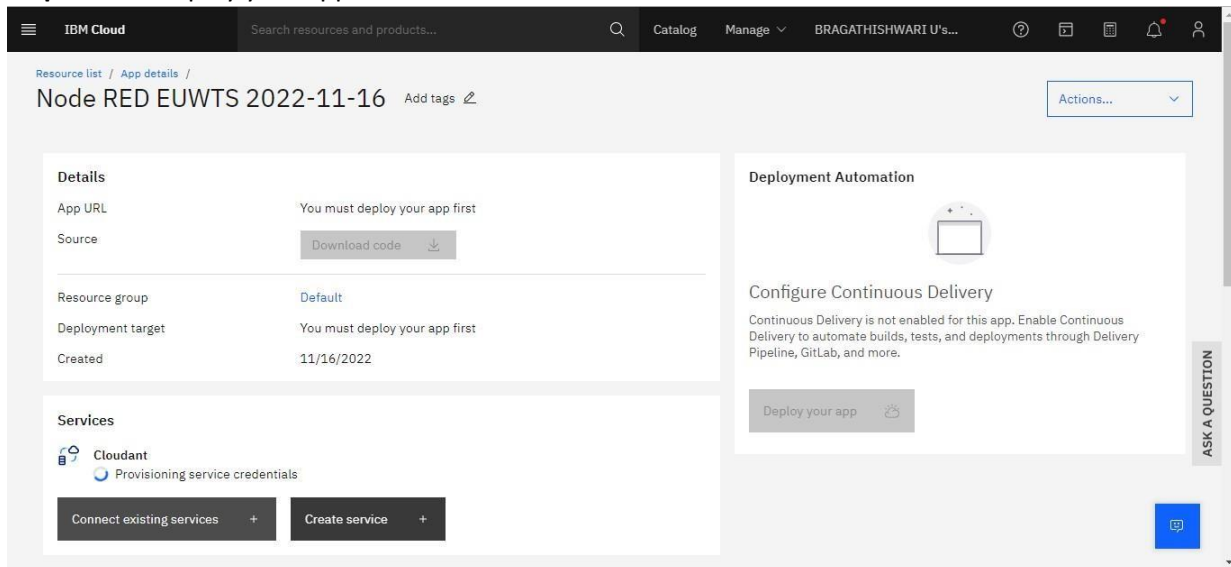


Step 2: Click Create.





Step 3: Click deploy your app.



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

IBM Cloud Search resources and products... Catalog Manage BRAGATHISHWARI U's...

Deployment Automation

Select your deployment target and configure your DevOps toolchain. After you click **Create**, the toolchain is created, and the deployment process is started automatically.

Deployment target

Kubernetes Service
IBM

Deploy, scale, and manage your containerized application workloads to highly available clusters.

Red Hat OpenShift
IBM

Deploy your apps on highly available clusters that come installed with Red Hat OpenShift on IBM Cloud.

Cloud Foundry
IBM

Deploy and run your applications without managing servers or clusters. A Lite plan is available for quick and easy deployment.

Code Engine
IBM

Run your app, job, or container on a managed serverless platform. [View code.](#)

<https://cloud.ibm.com/account/cloud-foundry>

Getting started with apps

Step 1. Select the deployment target

Select your deployment target, and then provide the configuration information.

IBM Cloud Foundry

Cloud Foundry is the premier industry standard Platform-as-a-Service (PaaS) that ensures fast, easy, and reliable deployment of cloud-native apps. Cloud Foundry ensures that the build and deploy aspects of coding remain carefully coordinated with any attached services — resulting in quick, consistent and reliable iterating of applications. Cloud Foundry has a Lite plan that allows quick deployments for testing purposes.

Before you begin

- If your account doesn't have a Cloud Foundry org, you must create one. [Create org.](#)

Steps

- Select the number of instances, memory allocation, region, org, and space.
- Select the domain and provide a host name.

ASK A QUESTION

Step 5: Create Cloud Foundry orgs.

IBM Cloud Search resources and products... Catalog Manage BRAGATHISHWARI U's...

Cloud Foundry Orgs

IBM Cloud Foundry Public is being deprecated. Please see full details.

Create

Name	Date Created	Spaces	Roles	Actions
Bragathishwari u	11/15/2022	1	Manager	

ASK A QUESTION

Step 6: Click Create

IBM Cloud Search resources and products... Catalog Manage BRAGATHISHWARI U's...

Resource list / App details /

Node RED EUWTS 2022-11-16

Select the deployment target Configure the DevOps toolchain

Configure the DevOps toolchain

Give your toolchain a name and select the region to create your toolchain in.

DevOps toolchain name

NodeREDEUWTS2022-11-16

Accept the default name, or enter a value up to 100 characters.

Region

London

Back Create

Getting started with apps

ASK A QUESTION

IBM Cloud

Search resources and products...

Catalog

Manage

BRAGATHISHWARI U's...

Resource list / App details /

Node RED EUWTS 2022-11-16

Add tags

Success!

Your DevOps toolchain is created

11/16/2022, 9:09:54 AM

Details

Deployment Automation

Delivery Pipelines

Name

ci-pipeline

Status

No stages detected

Name

pr-pipeline

Status

No stages detected

Services

Cloudant

Open dashboard

Documentation

API reference

Credentials

Resource list / App details /

Node RED EUWTS 2022-11-16

Add tags

Actions...

Details

App URL

https://node-red-euwts-2022-11-16.eu-gb.mybluemix.net

Source

https://eu-gb.git.cloud.ibm.com/bragathishwari15/NodeREDEUWTS...

Resource group

Default

Deployment target

Node RED EUWTS 2022-11-16

Created

11/16/2022

Services

Cloudant

Open dashboard

Documentation

API reference

Credentials

Deployment Automation

Name

NodeREDEUWTS2022-11-16

Location

London

Tool integrations

Delivery Pipelines

Name

ci-pipeline

Status

Success

Name

pr-pipeline

Status

No stages detected

Connect existing services

Create service

Step 7: Installation

Welcome to your new Node-RED instance on IBM Cloud

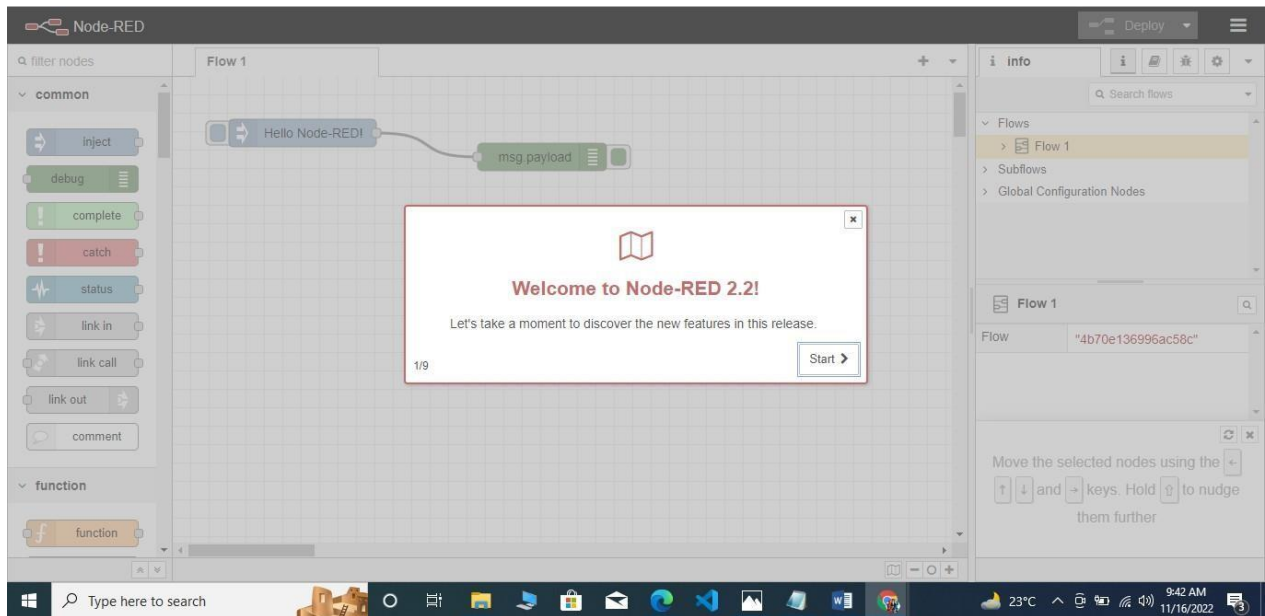
We know you're eager to start wiring up your flows, but first there are a couple of tasks you should do:

- Secure your Node-RED editor
- Learn how to install additional nodes

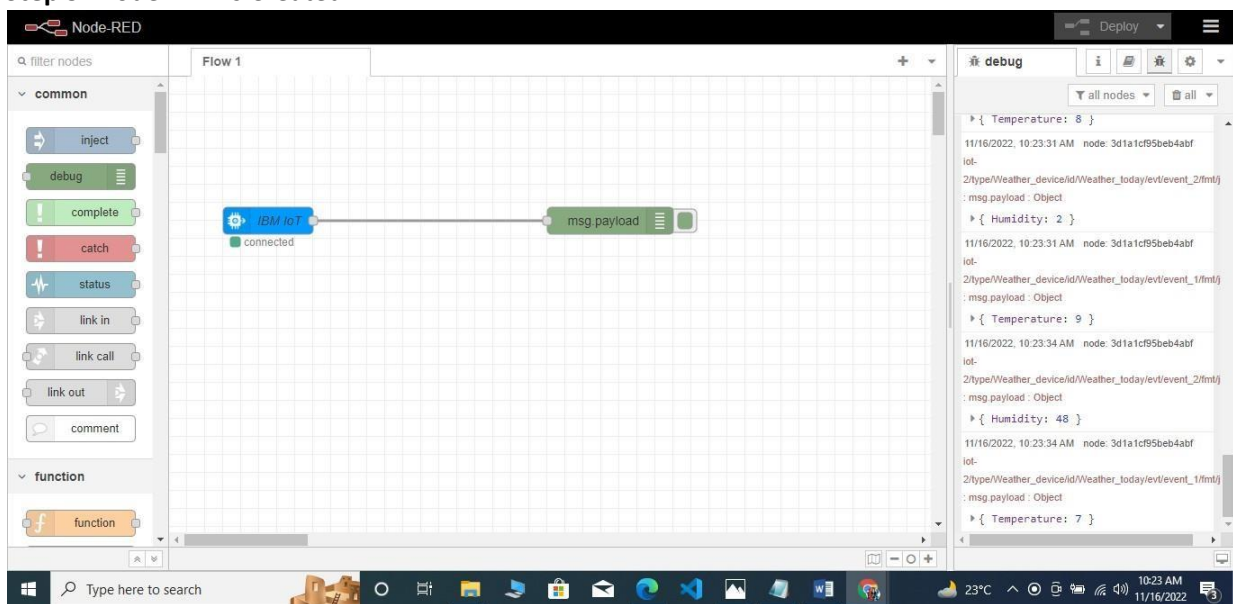
Applying your settings and starting Node-RED

...

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 = "oiJYpRqYNUC)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")
        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoT")
        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

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

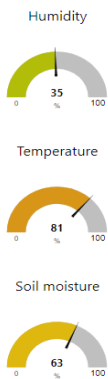
State

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



MOTOR ON

MOTOR OFF