

# CREATE IBM WATSON IOT PLATFORM AND DEVICE CREATE IBM WATSON IOT PLATFORM AND DEVICE

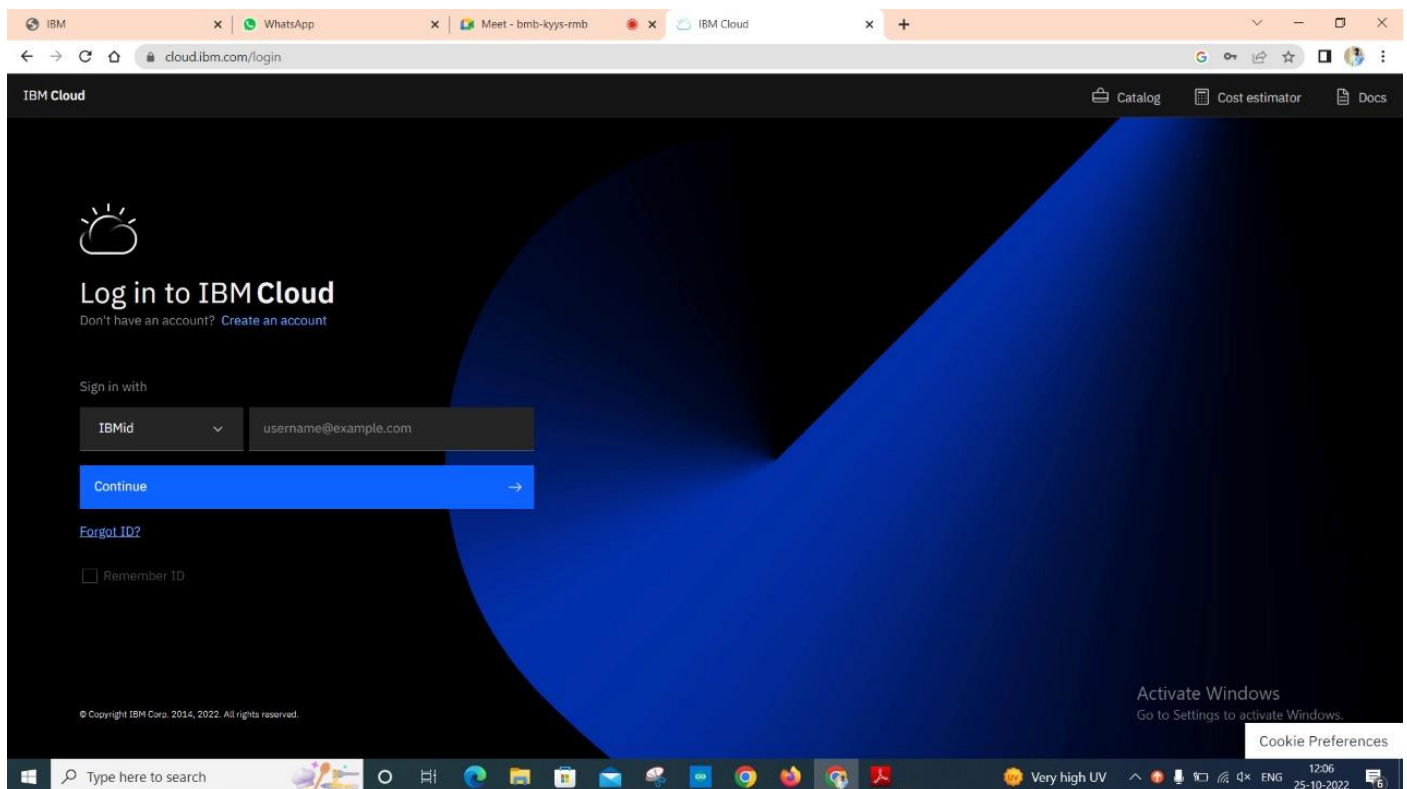
|              |   |
|--------------|---|
| Date         | 25 October 2022   |
| Team ID      | PNT2022TMID27071  |
| Project Name | Gas leakage monitoring and alerting system for industries |

## AIM:

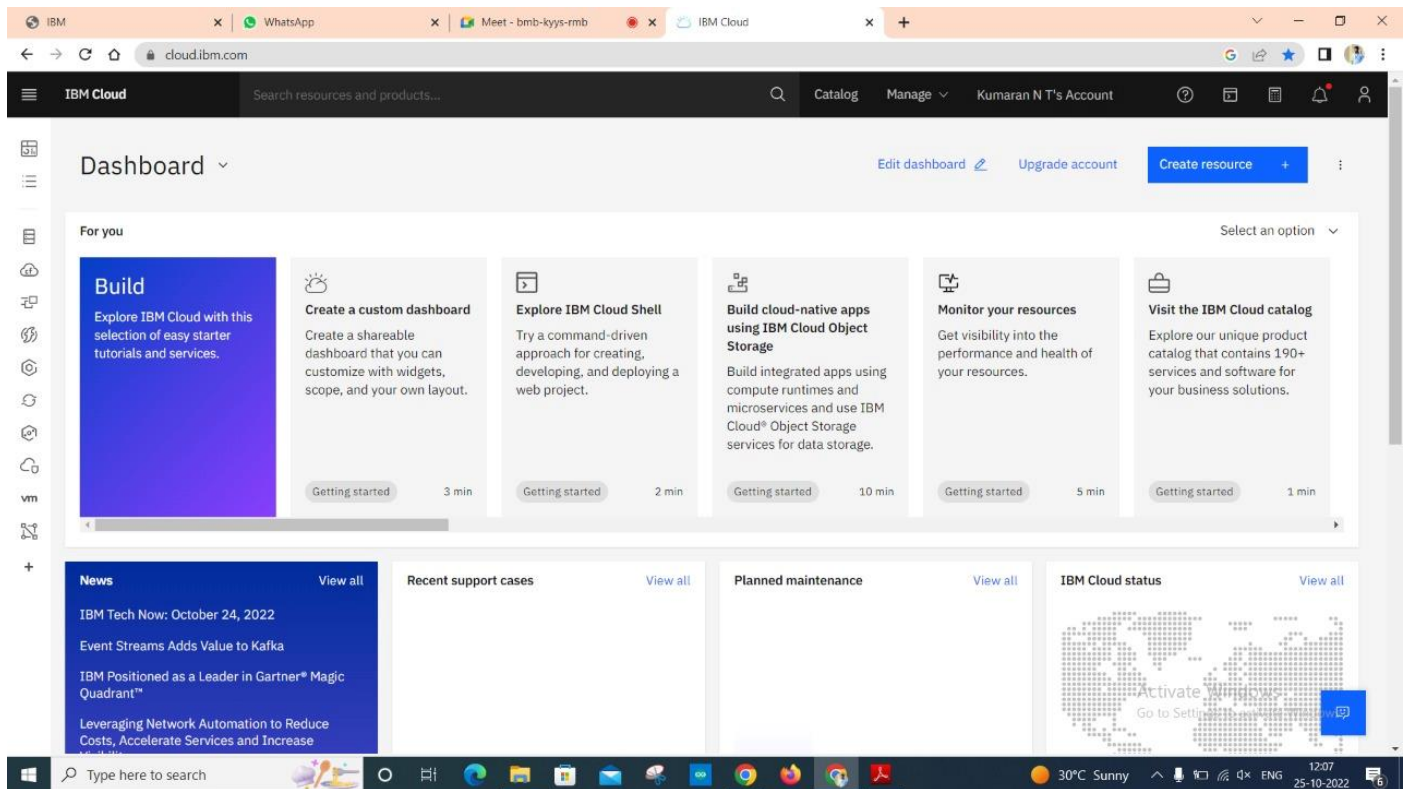
To create the IBM Watson IoT platform and device.

## Steps to be followed

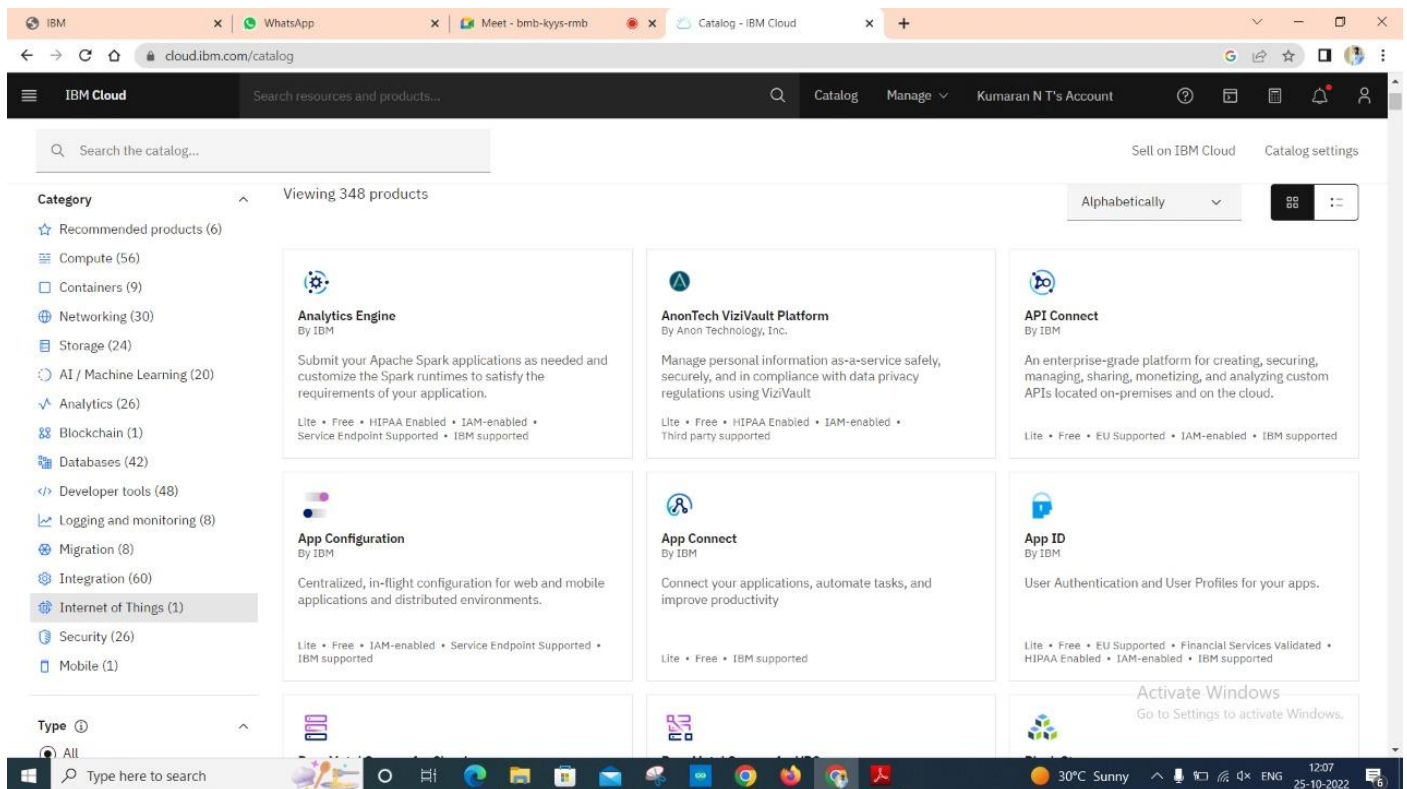
Step 1: Firstly, create an IBM cloud account with IBM id and password.



## Step 2: Home page of IBM cloud.



## Step 3: Click on the catalog on the top.



Step 4: Click on IoT in the category mentioned.

The screenshot shows the IBM Cloud Catalog interface. The top navigation bar includes the IBM logo, a search bar, and links for Catalog, Manage, and the user's account (Kumaran N T's Account). The main content area displays a grid of product cards. On the left, a sidebar lists categories: Recommended products (6), Compute (56), Containers (9), Networking (30), Storage (24), AI / Machine Learning (20), Analytics (26), Blockchain (1), Databases (42), Developer tools (48), Logging and monitoring (8), Migration (8), Integration (60), Internet of Things (1), Security (26), and Mobile (1). The 'Internet of Things' category is highlighted. The main grid shows product cards for Analytics Engine, AnonTech VizVault Platform, API Connect, App Configuration, App Connect, and App ID. Each card includes a description and pricing details. The bottom of the screen shows a Windows taskbar with various application icons and system information.

Step 5: Click on Internet of Things Platform.

The screenshot shows the IBM Cloud Catalog interface with the 'Internet of Things' category selected. The sidebar on the left shows the 'Type' filter set to 'All' and the 'Provider' filter set to 'IBM (1)'. The main content area displays the 'Internet of Things Platform' product card. The card 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.' and pricing details: 'Lite • Free • IAM-enabled • IBM supported'. The bottom of the screen shows a Windows taskbar with various application icons and system information.

Step 6: If already a lite is present delete it else u can't create another.

The screenshot shows the IBM Cloud catalog page for the Internet of Things Platform. The 'Lite' plan is selected, which is free and includes up to 500 registered devices and 200 MB of data metric. A warning message states: 'Existing Lite plan instance. You can have only 1 Lite plan instance of this service per resource group. Delete your current Lite plan instance in Default resource group to create a new one, or view the existing instance.' The 'Create' button is disabled. The 'Configure your resource' section shows the service name 'Internet of Things Platform-9j' and the resource group 'Default'.

IBM Cloud

Search resources and products...

IBM

Updated on 08/15/2022

Category: Internet of Things

Compliance: IAM-enabled

Location: Frankfurt, London, Dallas, Washington DC

Related links: Docs, Terms

Select a pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or location: [United States](#)

| Plan | Features  | Pricing |
|------|---|---------|
| Lite | <p>Includes up to 500 registered devices, and a maximum of 200 MB of each data metric</p> <ul style="list-style-type: none"><li>Maximum of 500 registered devices</li><li>Maximum of 500 application bindings</li><li>Maximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed</li></ul> <p>The Lite service plan for Internet of Things Platform includes up to 500 registered devices, and a maximum of 200 MB each of data exchanged, data analyzed, and edge data analyzed per month.</p> <p>Lite plan services are deleted after 30 days of inactivity.</p> | Free    |

Configure your resource

Service name:

Select a resource group:

Tags:

Access management tags:

Summary

**Internet of Things Platform** Free

Location: Frankfurt

Plan: Lite

Service name: Internet of Things Platform-9j

Resource group: Default

**Existing Lite plan instance**

You can have only 1 Lite plan instance of this service per resource group. [Delete](#) your current Lite plan instance in Default resource group to create a new one, or [view the existing instance](#).

☐ I have read and agree to the following license agreements: [Terms](#)

Create

Activate Windows

Go to Settings to activate Windows.

Add to estimate

Step 7: Tick agreements and then click on create.

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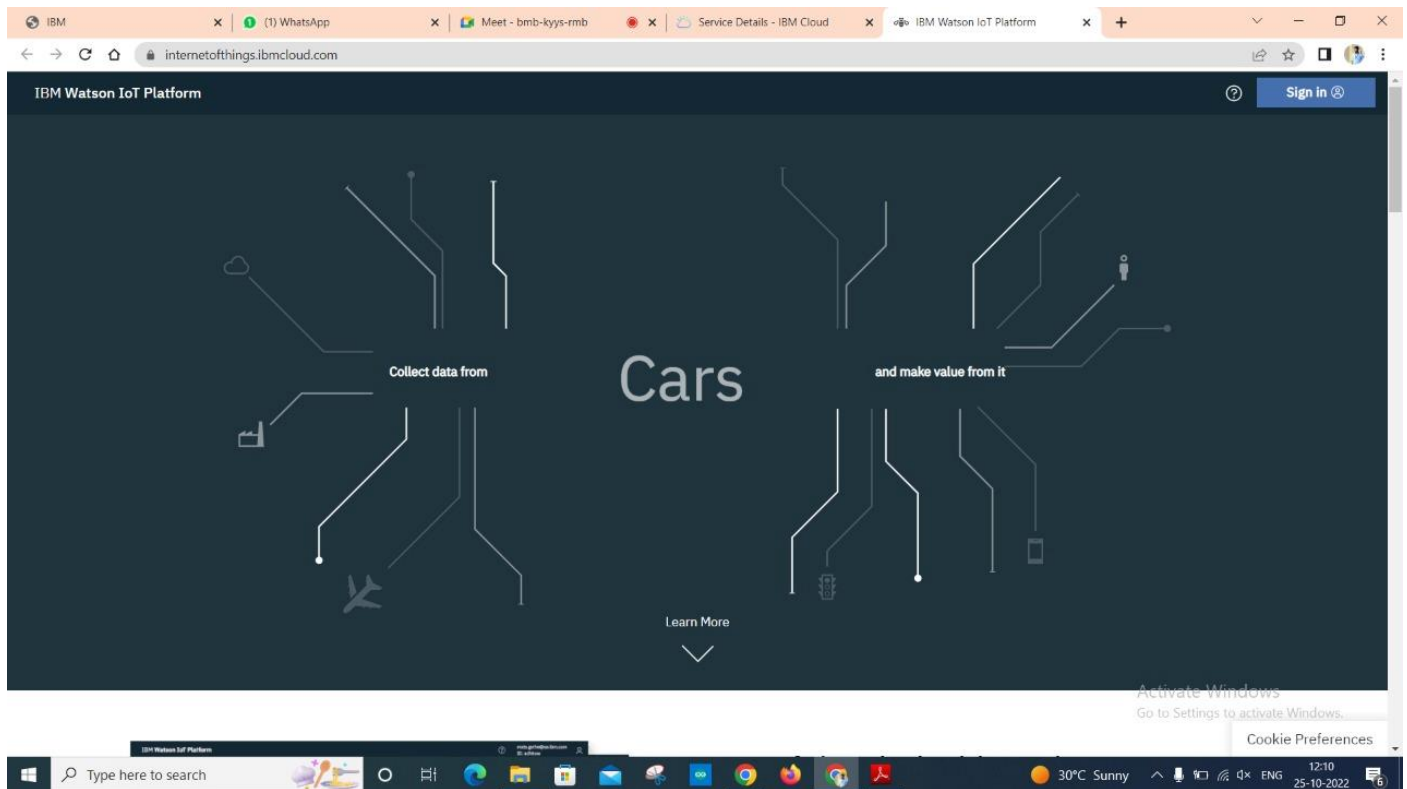
Step 8: Click on the launch button.

The screenshot shows the IBM Cloud interface for the Internet of Things Platform-hg. The page is titled "Internet of Things Platform-hg" and is marked as "Active". A sidebar on the left contains links for "Manage", "Plan", and "Connections". The main content area features a large graphic of a central node connected to several peripheral nodes, with the text "Let's get started with IBM Watson IoT Platform" and a "Launch" button. Below this, a section titled "Ready for the next level?" introduces the "IBM Watson IoT Platform Journey" with three stages: "Lite", "Non-Production", and "Production". Each stage has a brief description and a list of features. The "Lite" stage is highlighted with a checkmark. The "Non-Production" stage is described as a full-featured, fully-integrated offering. The "Production" stage is described as a fully managed SaaS offering. The page also includes a "Details" link and an "Actions..." dropdown menu. The bottom of the page shows the Windows taskbar with the search bar and various application icons.

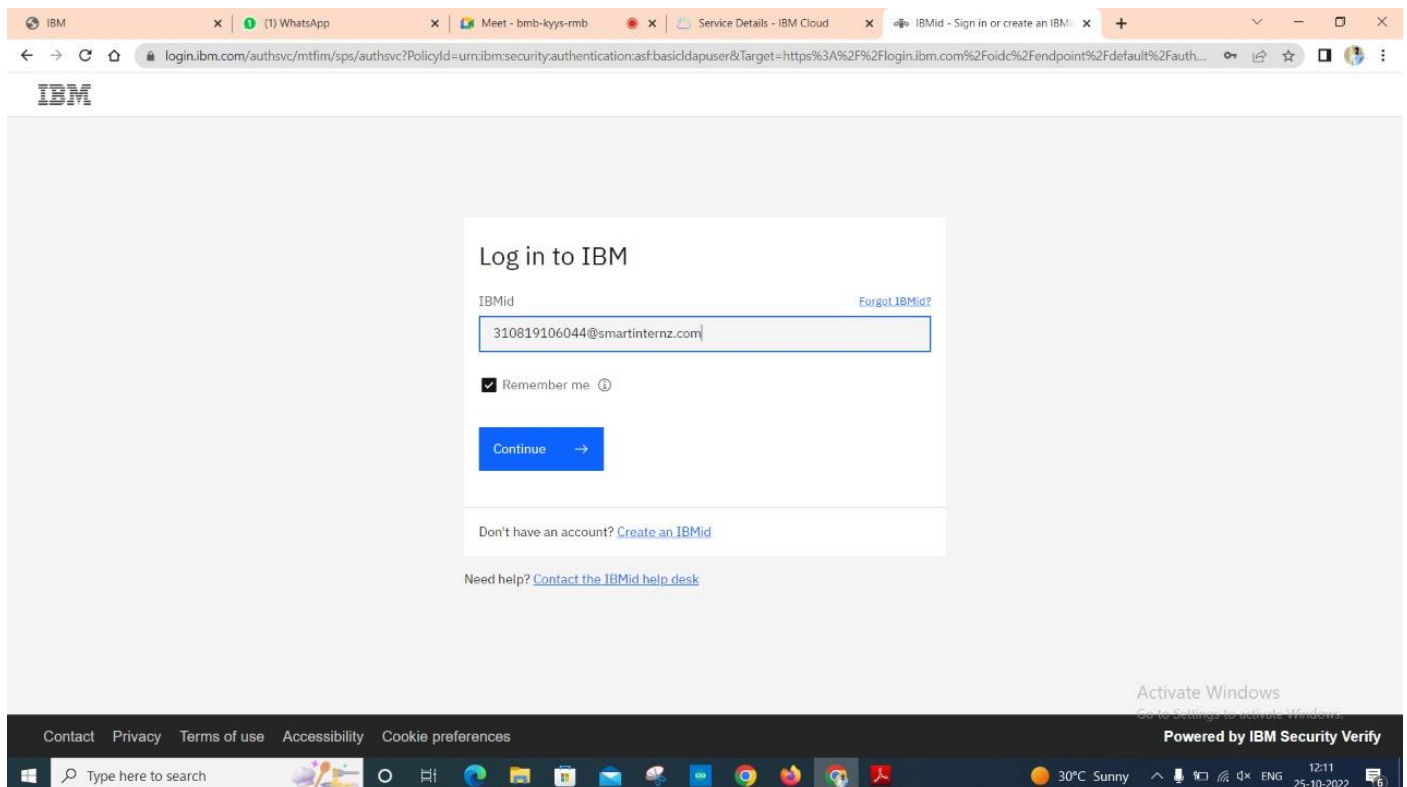
Step 9: After clicking on the launch button this tab will open.

The screenshot shows the IBM Watson IoT Platform landing page. The page has a dark background with a large graphic of a car and the word "Cars" in the center. The graphic is composed of white lines and dots, representing a network or data flow. The text "Collect data from" is on the left, and "and make value from it" is on the right. A "Learn More" button is at the bottom center. The top of the page has the "IBM Watson IoT Platform" header and a "Sign in" button. The bottom of the page shows the Windows taskbar with the search bar and various application icons.

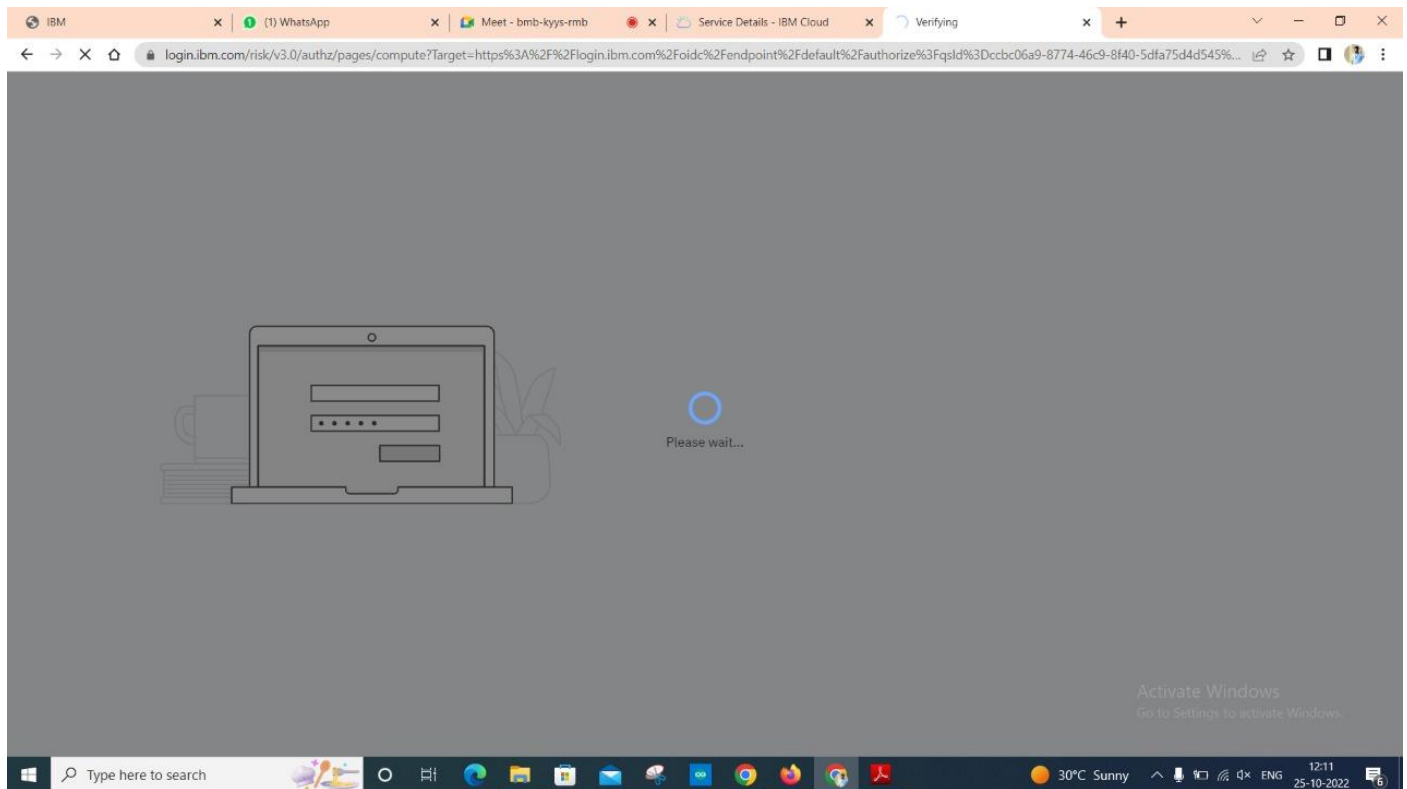
Step 10: Click on Sign in.



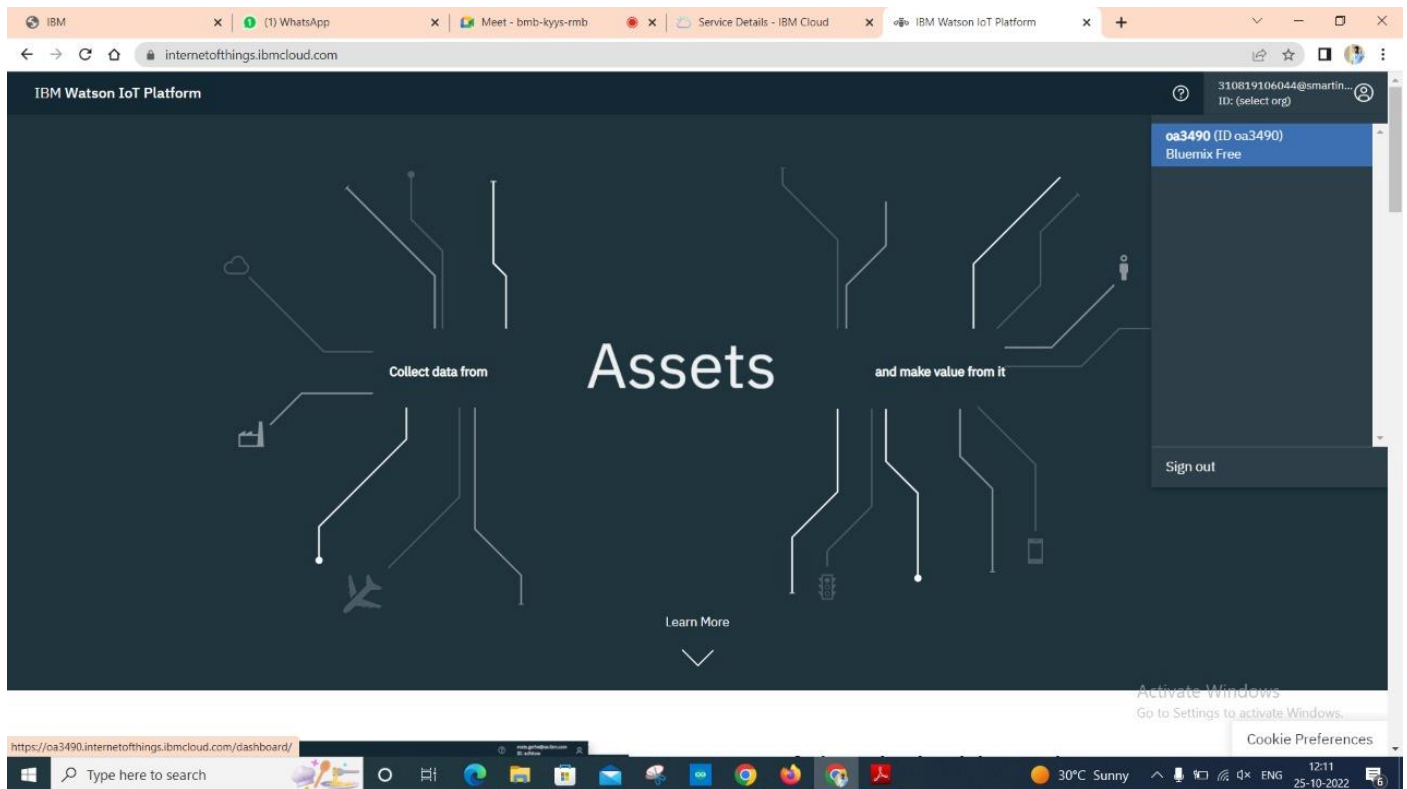
Step 11: Fill the login details.



Step 12: Sign in on progress.



Step 13: Once it is logged in, the name will be displayed click on it and then click on Bluemix Free.



## Step 14: This is the IBM Watson platform.

IBM Watson IoT Platform

310819106044@smartinternz.com  
ID: oa3490

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 |
|-----------|--------------|----------------|----------|----------------------|----------------------|
| 12345     | Disconnected | TestDeviceType | Device   | Oct 23, 2022 1:42 PM |                      |

Items per page 50 | 1-1 of 1 item

1 of 1 page

1 Simulation running

Activate Windows  
Go to Settings to activate Windows.

## Step 15: Click on Add Device.

IBM Watson IoT Platform

310819106044@smartinternz.com  
ID: oa3490

Browse Action Device Types Interfaces

Add Device +

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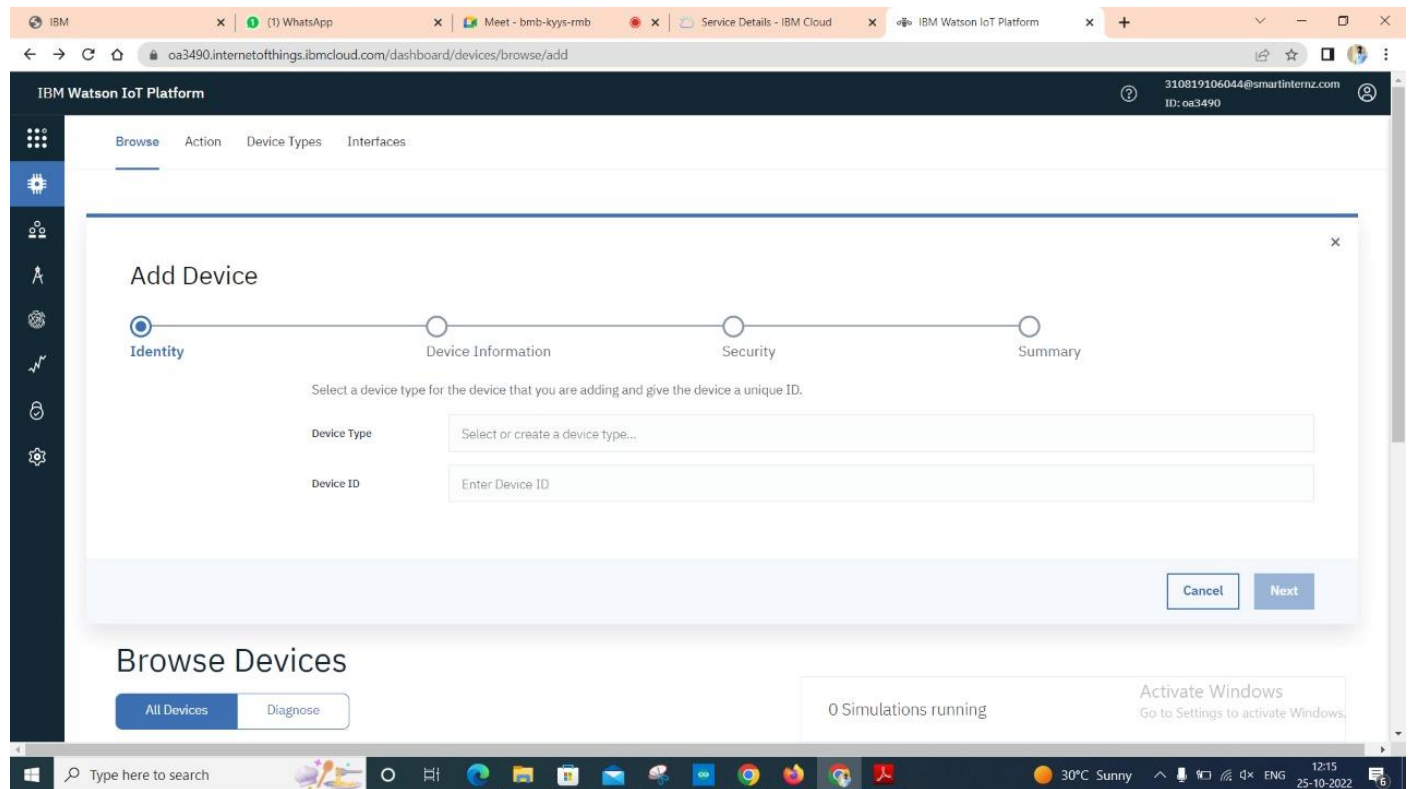
1 of 1 page

1 Simulation running

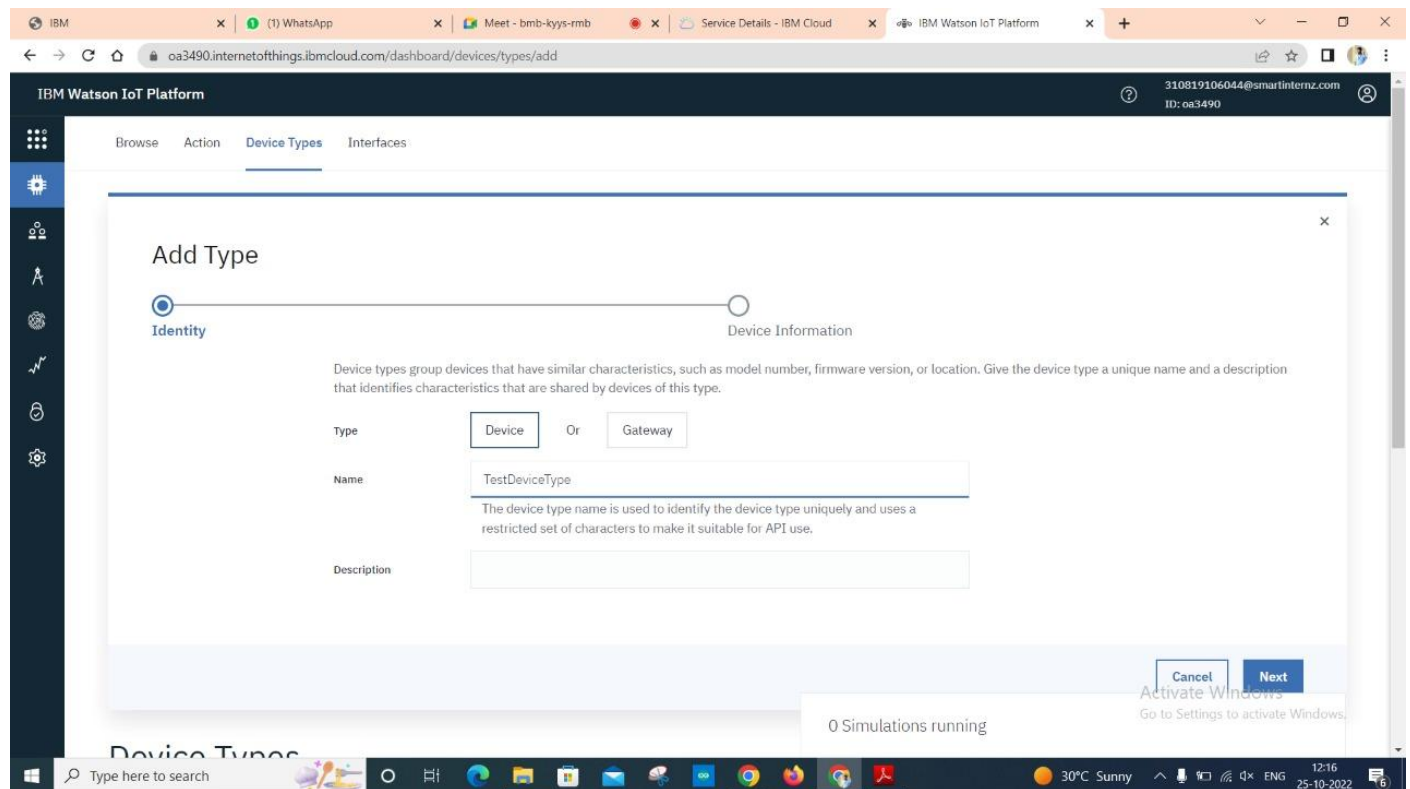
Activate Windows  
Go to Settings to activate Windows.



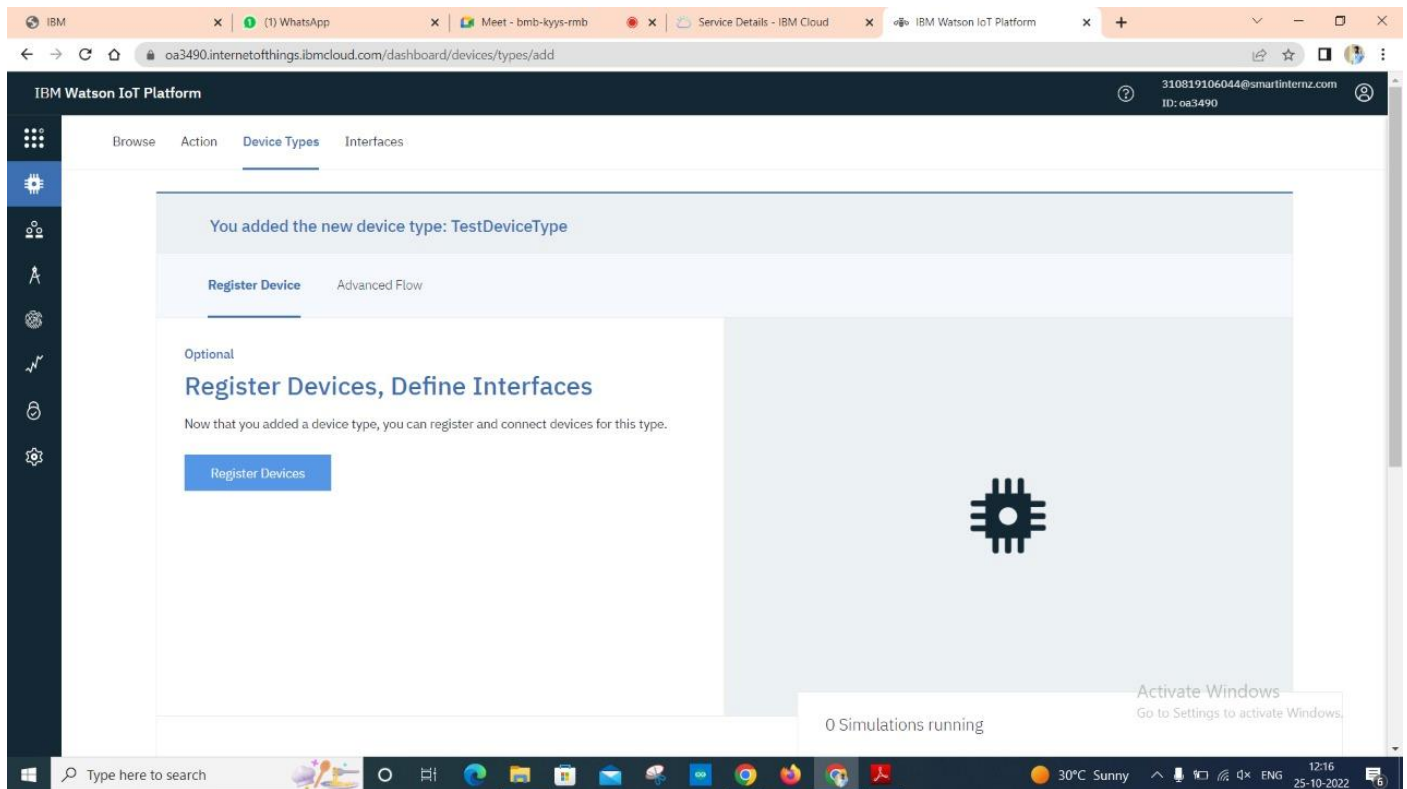
## Step 16: Click on Device Type.



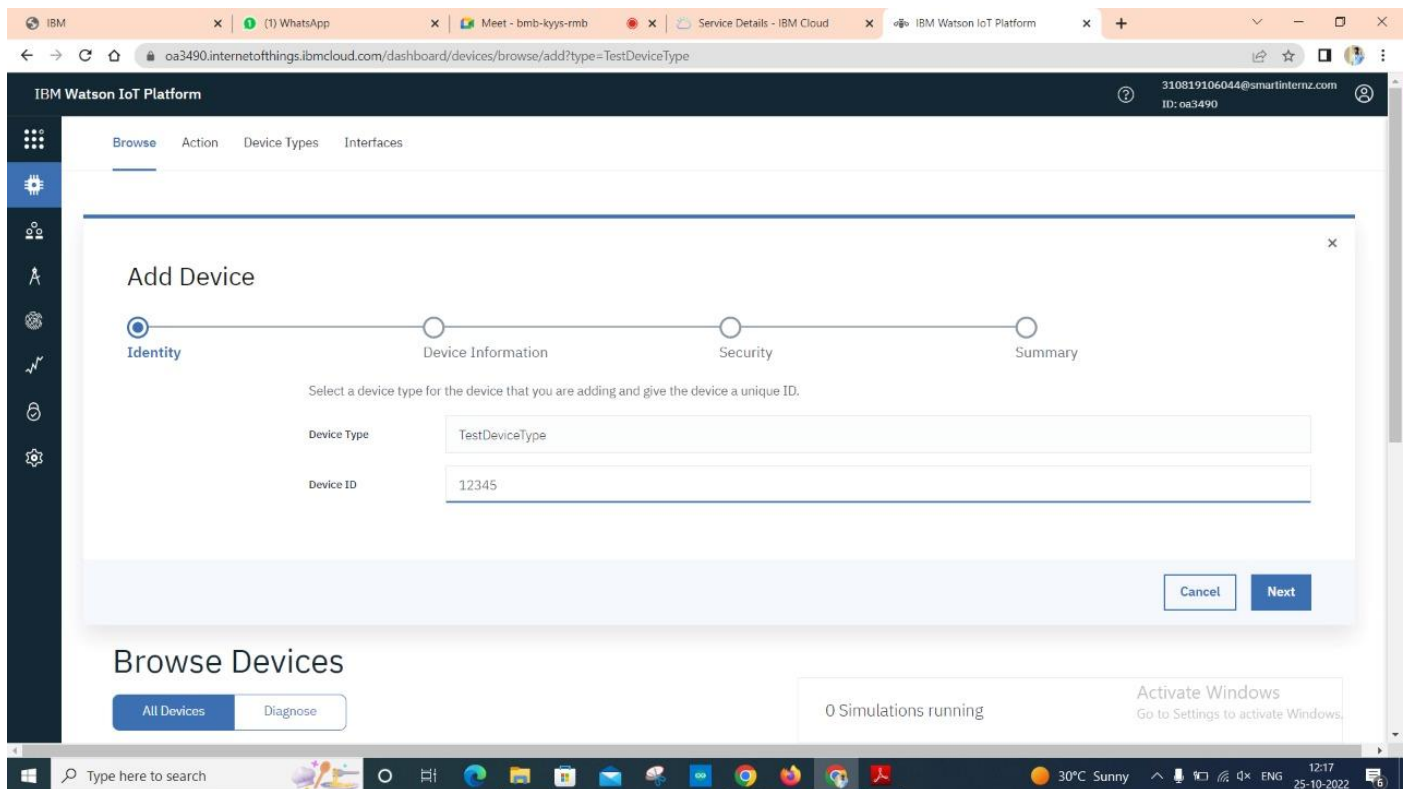
## Step 17: Fill the details.



Step 18: Click on Register Devices.



Step 19: Give the device name which you have created and give Device ID.



Step 20: After giving all the data, Click on Finish.

IBM Watson IoT Platform

310819106044@smartinternz.com  
ID: oa3490

Browse Action Device Types Interfaces

Identity Device Information Security Summary

Verify that the following information is correct then select Finish

Device Type  
TestDeviceType

Device ID  
12345

View Metadata

Security Token  
To be generated

Back Finish

Browse Devices

All Devices Diagnose

0 Simulations running

Activate Windows  
Go to Settings to activate Windows.

Type here to search

30°C Sunny 12:17 25-10-2022

Step 21: After creating the device, Copy the Device Credentials.

IBM Watson IoT Platform

310819106044@smartinternz.com  
ID: oa3490

← Back

Device Drilldown - 12345

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       | oa3490             |
| Device Type           | TestDeviceType     |
| Device ID             | 12345              |
| Authentication Method | use-token-auth     |
| Authentication Token  | qvUrmv*BGwD8jLz9C3 |

⚠ 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

0 Simulations running

Activate Windows  
Go to Settings to activate Windows.

Type here to search

30°C Sunny 12:17 25-10-2022

Step 22: Go to Setting, click on Data and Devices.

The screenshot shows the IBM Watson IoT Platform dashboard. The left sidebar contains a navigation menu with the following items: Boards, Devices, Members, Apps, Access Management, Usage, Security, and Settings (which is highlighted). The main content area is titled 'Settings' and includes a description: 'Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features.' Below this, there are three sections: 'About' (showing Date Created: 10/23/2022, Organization Type: Bluemix Free, Geographic Location: eu-de), 'Identity' (showing Organization ID: oa3490 and Friendly Name: oa3490), and 'Experimental Features' (showing 0 Simulations running). An 'Activate Windows' watermark is visible in the bottom right corner of the main content area. The browser's address bar shows the URL: oa3490.internetofthings.ibmcloud.com/dashboard/settings. The Windows taskbar at the bottom shows the search bar, task view button, and several open applications including Edge, File Explorer, and various utility apps. The system tray shows the date and time as 12:18 on 25-10-2022.

Step 23: Then click on Device Simulator and Activate Device Simulator.

The screenshot shows the IBM Watson IoT Platform dashboard with the 'General Settings' page selected. The left sidebar now shows 'DATA AND DEVICES' as the active category, with 'Device Simulator' highlighted. The main content area is titled 'General Settings' and includes a description: 'Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features.' Below this, there are three sections: 'Device Simulator' (showing 'Activate Device Simulator' as a toggle switch that is currently turned on), 'Connection Security' (showing 'Open Connection Security Policy' button), and 'CA Certificates' (showing 'Add Certificate' button). An 'Activate Windows' watermark is visible in the bottom right corner of the main content area. The browser's address bar shows the URL: oa3490.internetofthings.ibmcloud.com/dashboard/settings. The Windows taskbar at the bottom shows the search bar, task view button, and several open applications including Edge, File Explorer, and various utility apps. The system tray shows the date and time as 12:18 on 25-10-2022.

Step 24: Click on the pop-up screen on the right side.

The screenshot shows the IBM Watson IoT Platform dashboard. The left sidebar contains navigation links for Experimental Features, Custom Device Management Packages, and SECURITY. The main content area displays 'General Settings' with a description: 'Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features.' Below this, there are sections for 'Device Simulator' and 'Connection Security'. A blue box highlights '0 Simulations running' in the top right corner.

Step 25: Click on Create Simulation.

The screenshot shows the same IBM Watson IoT Platform dashboard as before, but with a 'Simulations' pop-up window open on the right side. The pop-up window has a title bar 'Simulations' and a subtitle 'Import/Export simulation'. It contains the following text: 'You can use the simulated event data to learn about, test, and demonstrate fully functioning Watson IoT Platform features. You can simulate a device and its data or simulate only data for a device that is already registered.' Below this, it says 'To create a device simulation:' followed by a list of steps: '1. Select a device type.', '2. Configure the event and payload.', and '3. Add devices.' At the bottom of the pop-up is a blue button labeled '+ Create simulation'.



## Step 26: Choose the Device.

The screenshot shows the IBM Watson IoT Platform 'General Settings' page. The left sidebar contains navigation links for 'Experimental Features', 'Last Event Cache', 'Client Connection State API', 'DATA AND DEVICES', 'Custom Device Management Packages', 'Device Simulator', 'SECURITY', 'Connection Security', 'CA Certificates', 'Messaging Server Certificates', and 'Group Access'. The main content area has sections for 'Device Simulator' (with an 'Activate Device Simulator' toggle) and 'Connection Security'. A 'Simulations' modal is open, displaying instructions on how to use simulated event data and a list of steps to create a device simulation: 1. Select a device type, 2. Configure the event and payload, 3. Add devices. Below these steps is a dropdown menu labeled 'Select or create a device type...' with 'TestDeviceType' selected. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying '30°C Sunny' and the date '25-10-2022'.

## Step 27: Type the code.

This screenshot shows the same IBM Watson IoT Platform 'General Settings' page, but with the 'Device Type: TestDeviceType' configuration modal open. The modal has a 'New event type +' button and a 'Send' button. It shows an 'Event type name' of 'event\_1'. Under the 'Schedule' section, the frequency is set to 'Every Minute'. The 'Payload' section contains a JSON configuration: 

```
{
  "Temperature": "random(0, 100)",
  "Humidity": "random(0, 100)"
}
```

. There is an 'Upload a CSV file' button and 'Cancel' and 'Save' buttons at the bottom. The background shows the same 'General Settings' page and Windows taskbar as in the previous screenshot.

Step 28: Click on Use Registered Device and choose the device and run it.

The screenshot shows the IBM Watson IoT Platform 'General Settings' page. The left sidebar contains navigation links for 'Experimental Features', 'Last Event Cache', 'Client Connection State API', 'DATA AND DEVICES', 'Custom Device Management Packages', 'Device Simulator', 'SECURITY', 'Connection Security', 'CA Certificates', 'Messaging Server Certificates', and 'Group Access (beta)'. The main content area displays 'Device Simulator' and 'Connection Security' sections. A modal window titled 'Simulations' is open, showing '1/50 Simulations Running' and a list of devices. The device '12345' is selected, and the 'Use Registered Device' button is highlighted. The modal also shows '41 events sent' and an 'Activate Windows' watermark.

General Settings

Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features

Experimental Features

- Last Event Cache
- Client Connection State API

DATA AND DEVICES

- Custom Device Management Packages
- Device Simulator

SECURITY

- Connection Security
- CA Certificates
- Messaging Server Certificates
- Group Access (beta)

Device Simulator

Simulate devices and device data to get up and running quickly on Watson IoT Platform

Activate Device Simulator

Connection Security

You can use the Connection Security Policy to configure the security level for device connections

Open Connection Security Policy

Simulations

Import/Export simulation

1/50 Simulations Running

+ New Simulation

Device Type

TestDeviceType

1 Device

12345

1 x Create Simulated Device Use Registered Device

41 events sent

Activate Windows

Go to Settings to activate Windows.

Step 29: Go to devices then click on devices and check the recent events whether the code is running or not.

The screenshot shows the IBM Watson IoT Platform 'Devices' page. The left sidebar contains navigation links for 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area displays a table of devices. The device '12345' is selected, and the 'Recent Events' tab is active. The table shows three recent events with temperature and humidity data. The device status is 'Disconnected'. The 'Add Device' button is visible in the top right corner. The bottom of the screen shows a '1 Simulation running' notification and an 'Activate Windows' watermark.

IBM Watson IoT Platform

Browse Action Device Types Interfaces

Add Device

| Device ID | Status       | Device Type    | Device | Last Received         |
|-----------|--------------|----------------|--------|-----------------------|
| 12345     | Disconnected | TestDeviceType | Device | Oct 25, 2022 12:17 PM |

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":42,"Humidity":88} | json   | a few seconds ago |
| event_1 | {"Temperature":71,"Humidity":36} | json   | a few seconds ago |
| event_1 | {"Temperature":3,"Humidity":53}  | json   | a few seconds ago |

Items per page 50 | 1-1 of 1 item

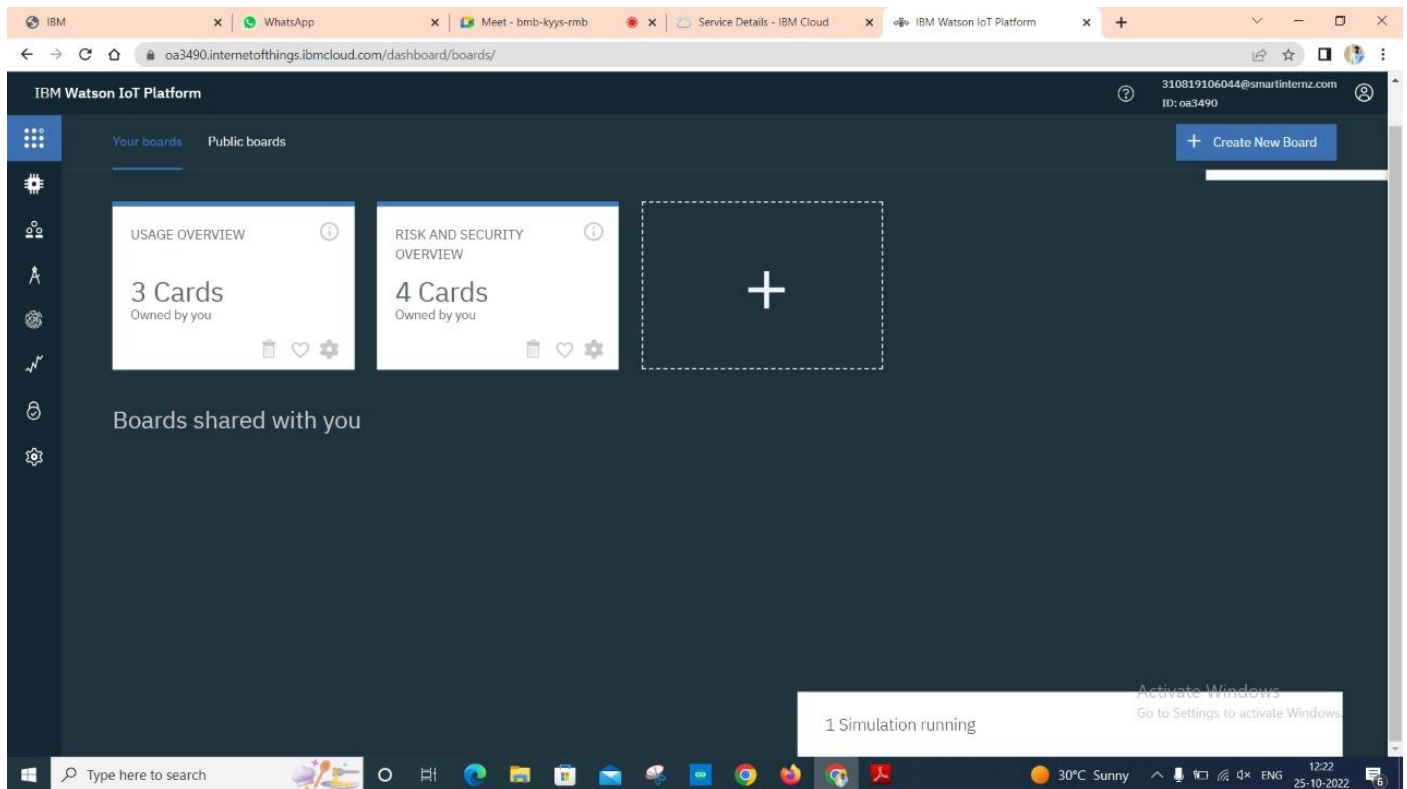
1 of 1 page

1 Simulation running

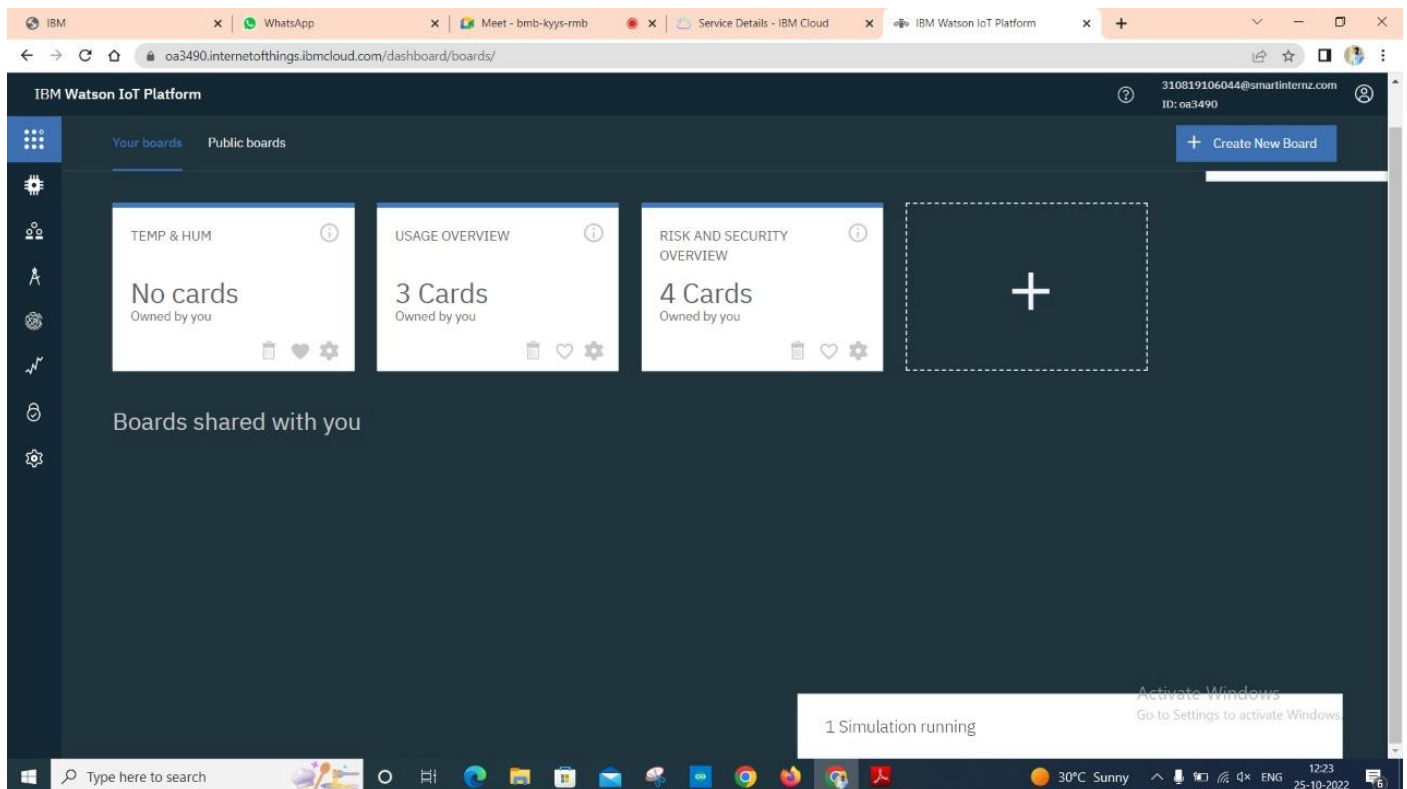
Activate Windows

Go to Settings to activate Windows.

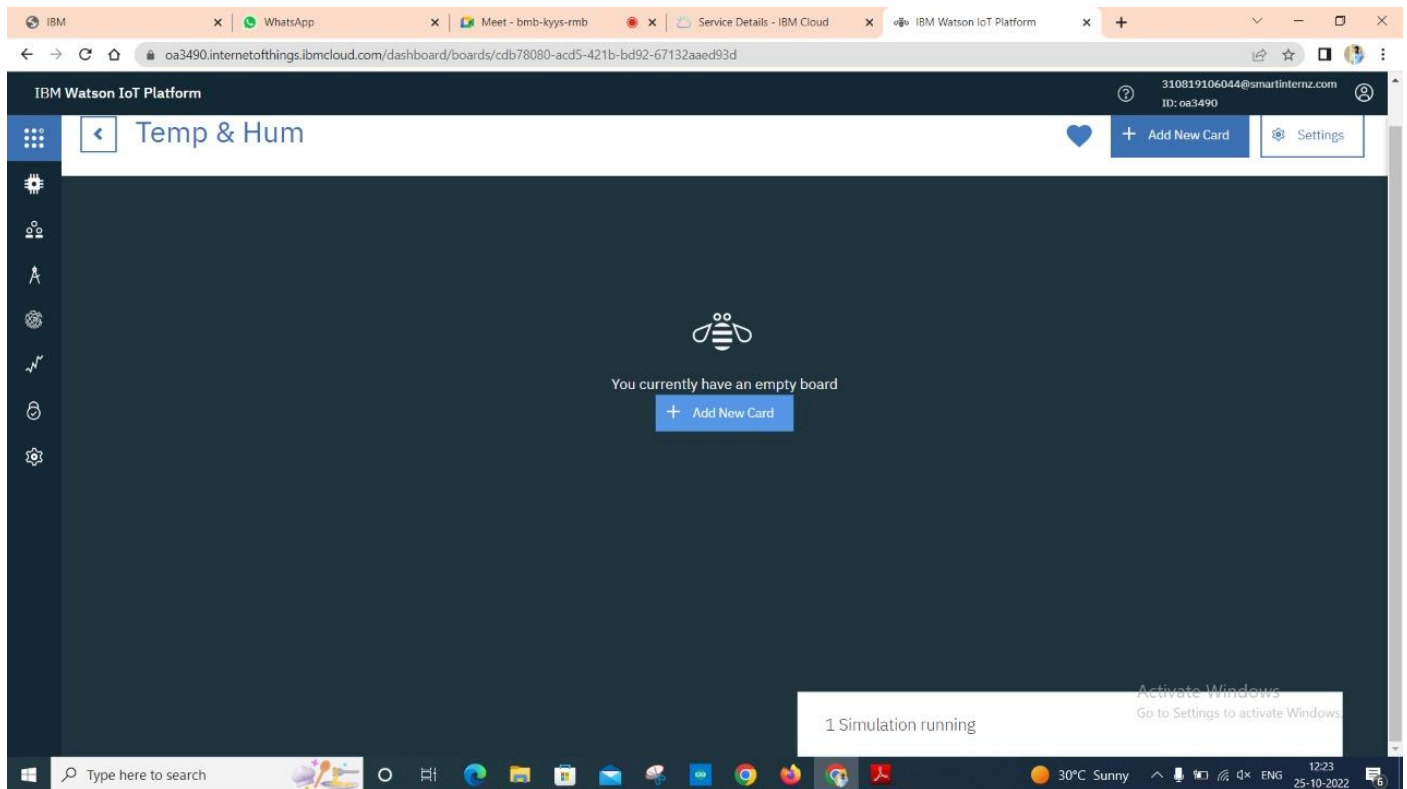
Step 30: Go to Board and click on + Create New Board, fill the details and create a board.



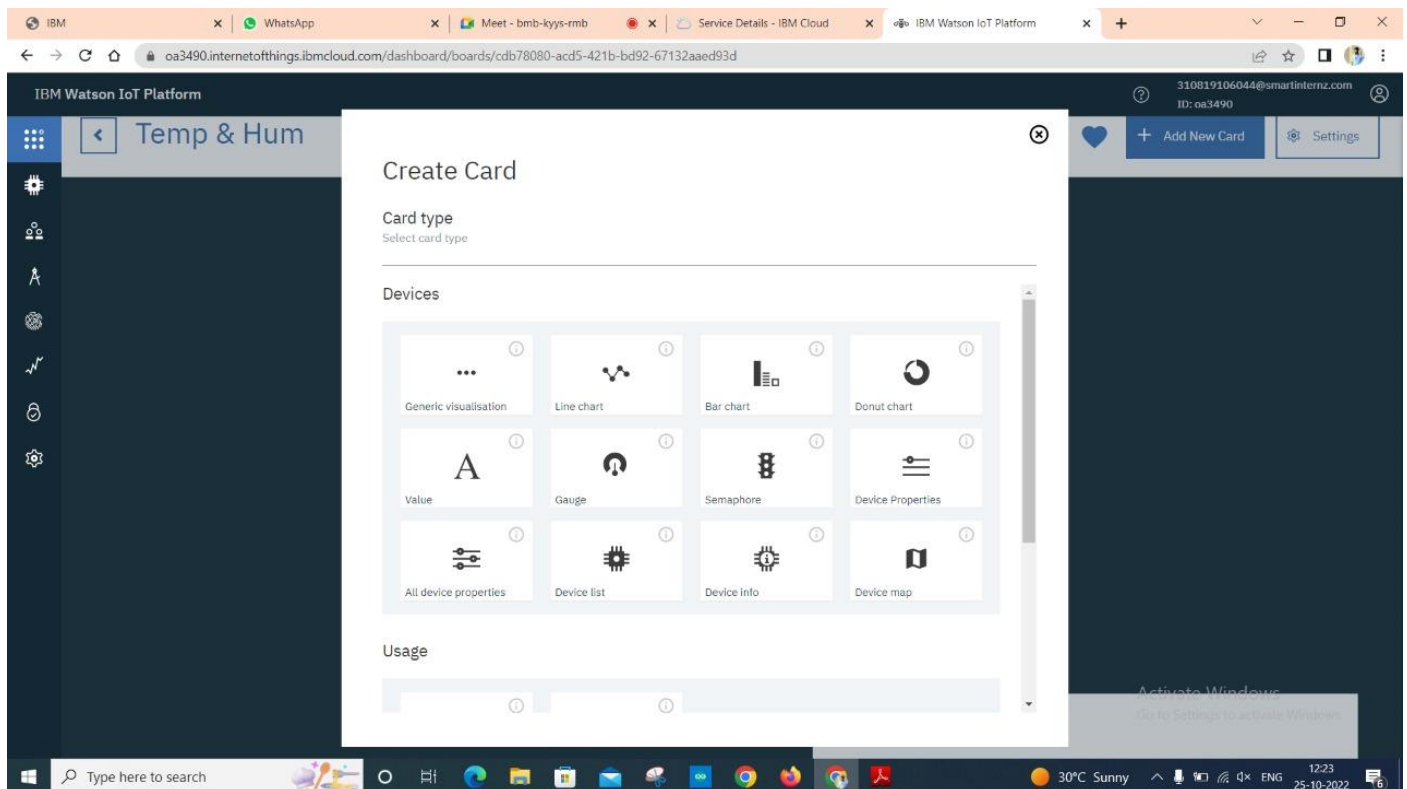
Step 31: Click on the board which is created.



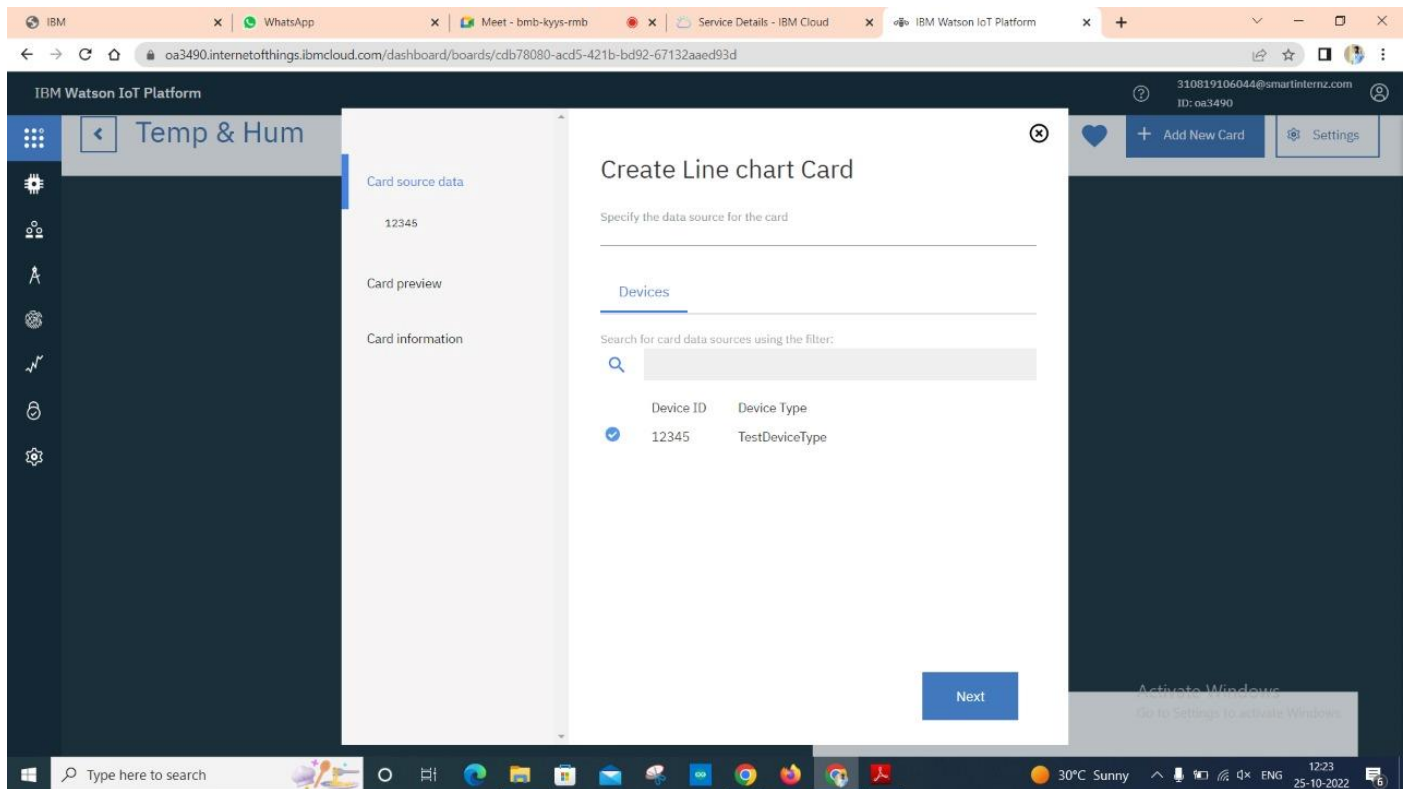
## Step 32: Go Add New Card.



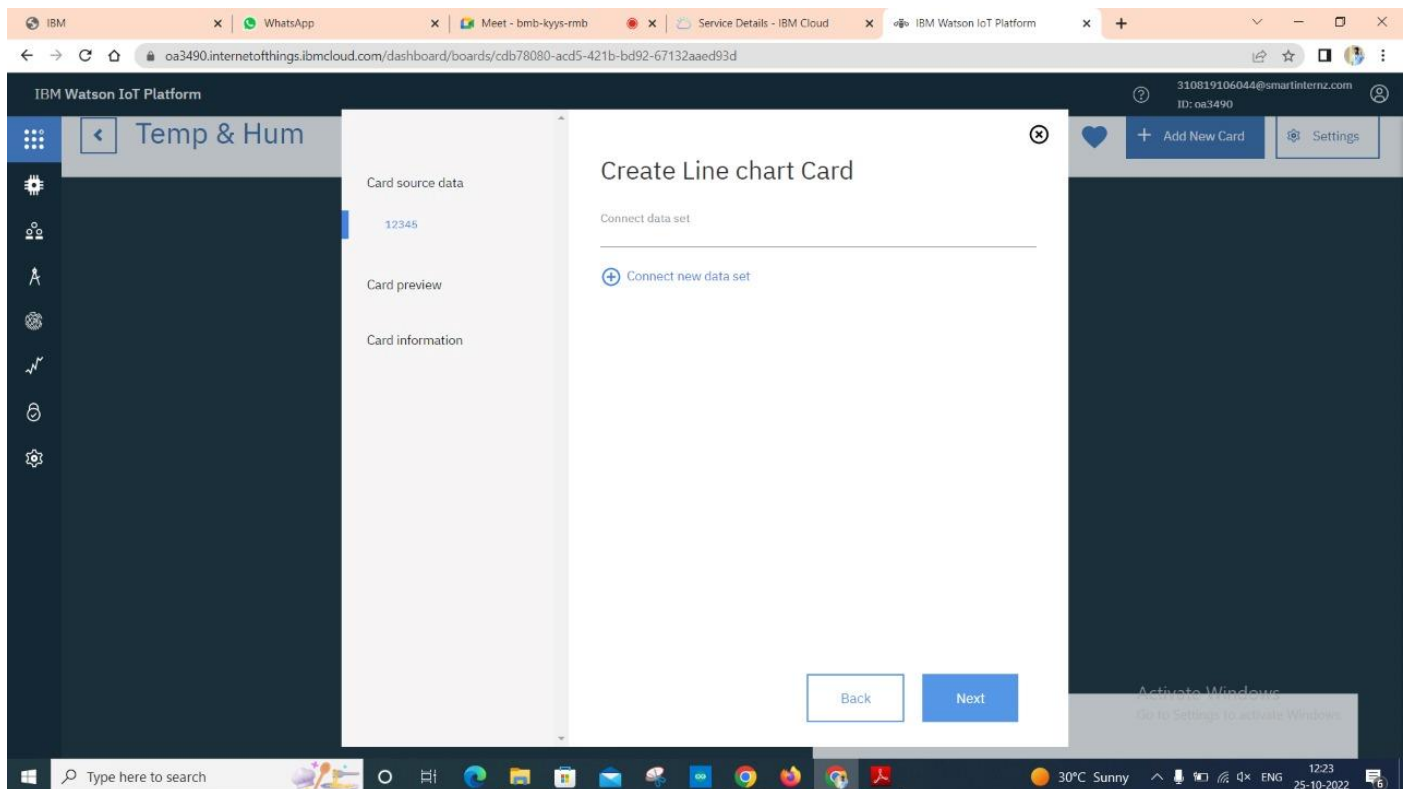
## Step 33: Choose the Card Type.



## Step 34: Choose the device.



## Step 35: Click on Connect new data set.





Step 36: Fill the details to get Temperature graph.

The screenshot shows the IBM Watson IoT Platform dashboard with the 'Temp & Hum' board selected. A modal window titled 'Create Line chart Card' is open, showing the configuration for a new card. The 'Connect data set' section is active, displaying the following details:

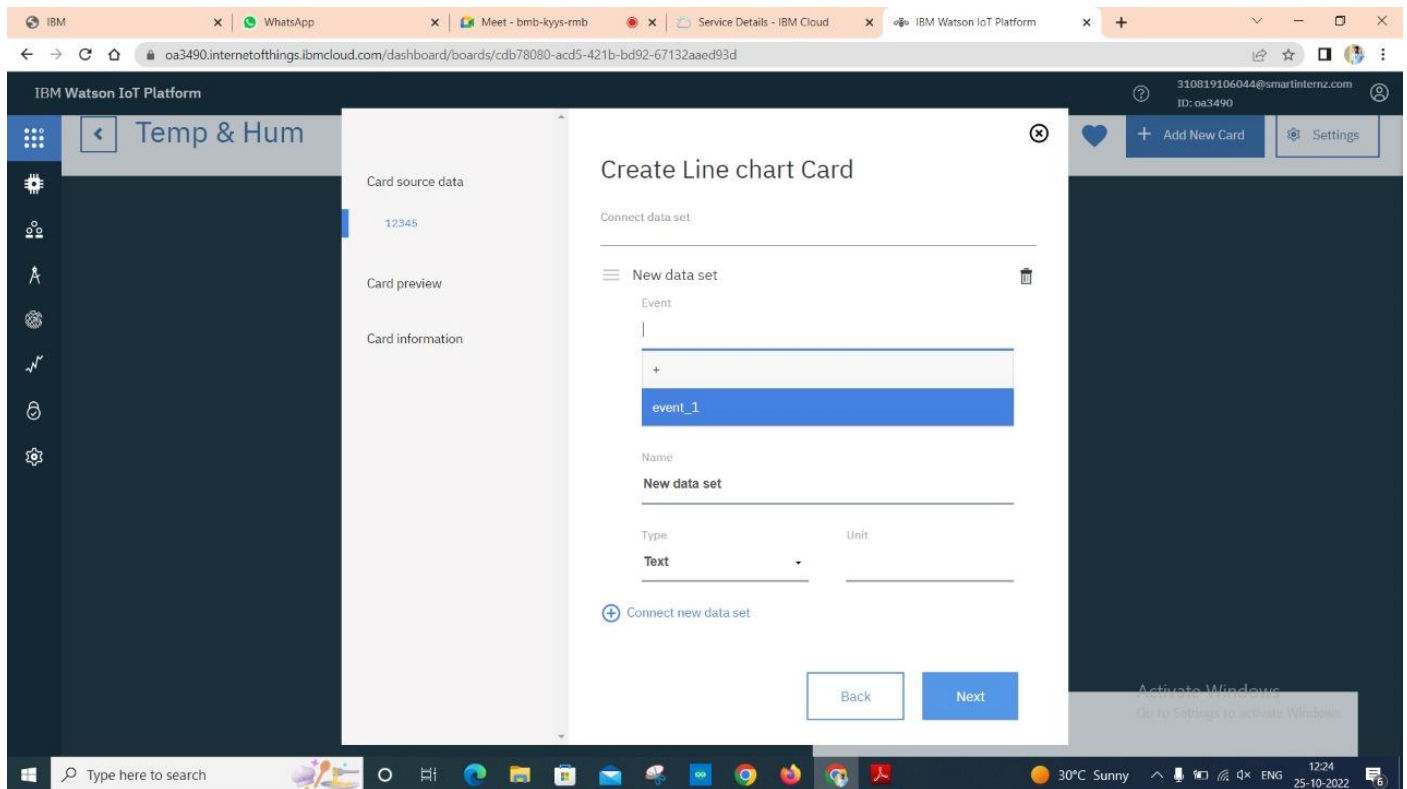
- Event: **event\_1**
- Property: **Temperature**
- Name: **Temperature**
- Type: **Number** (selected from a dropdown menu)
- Unit: **Max 100**

Buttons for 'Back' and 'Next' are visible at the bottom of the modal. The background dashboard shows a sidebar with navigation icons and a top bar with user information and settings.

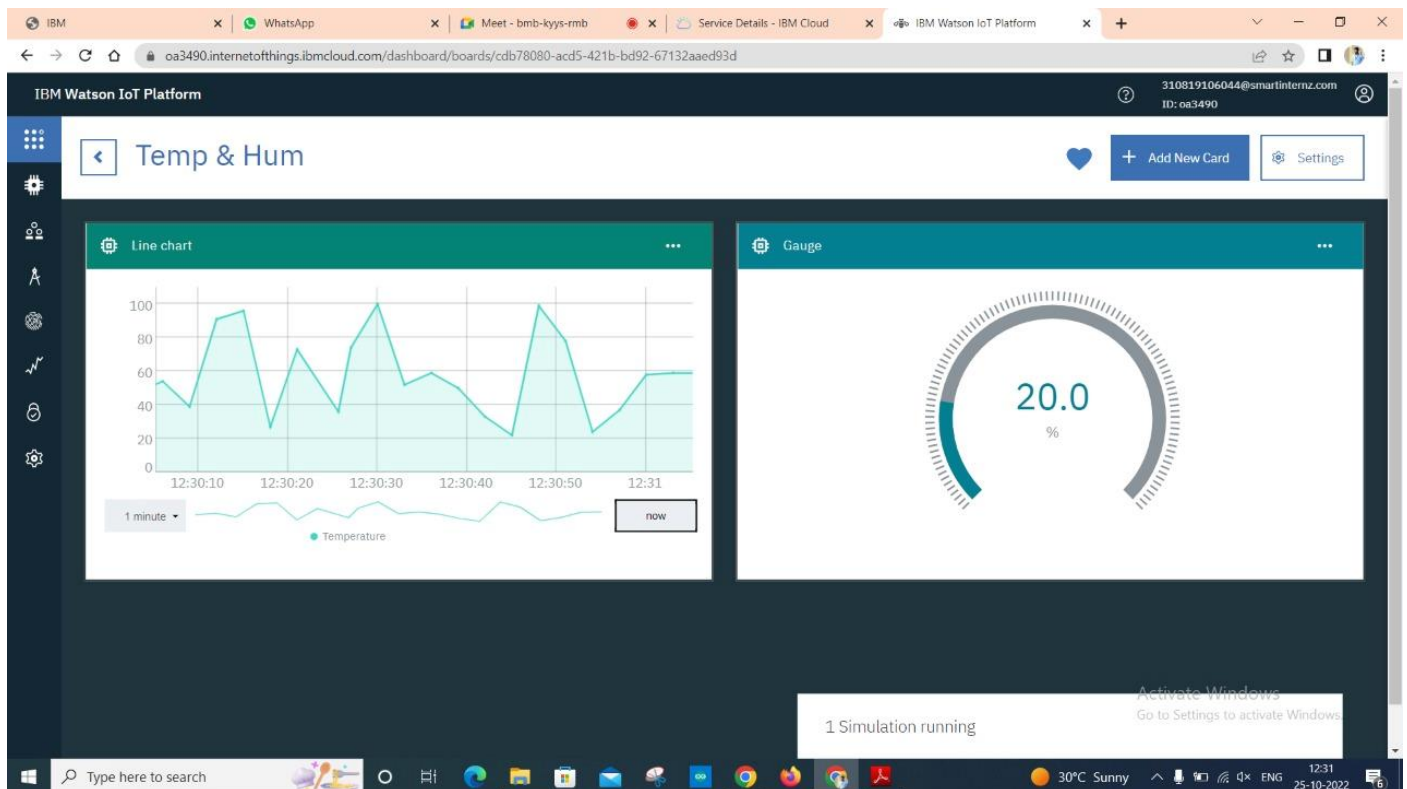
Step 37: Choose the Colour.

The screenshot shows the same IBM Watson IoT Platform dashboard, but the 'Create Line chart Card' modal is now at the 'Choose the Colour' step. The configuration details from the previous step are preserved. The 'Color scheme' section displays five color swatches: purple, magenta, green, blue, and teal. Below the swatches, a description reads: 'A line chart to display time series information with historic and live data.' Buttons for 'Back' and 'Submit' are visible at the bottom of the modal.

Step 38: Repeat the same process again to get the Humidity graph.



Step 39: Here is the Final graph.



**Result:**

An IBM Watson cloud for IoT and a device is created successfully.