

CREATE IBM WATSON IOT PLATFORM AND DEVICE

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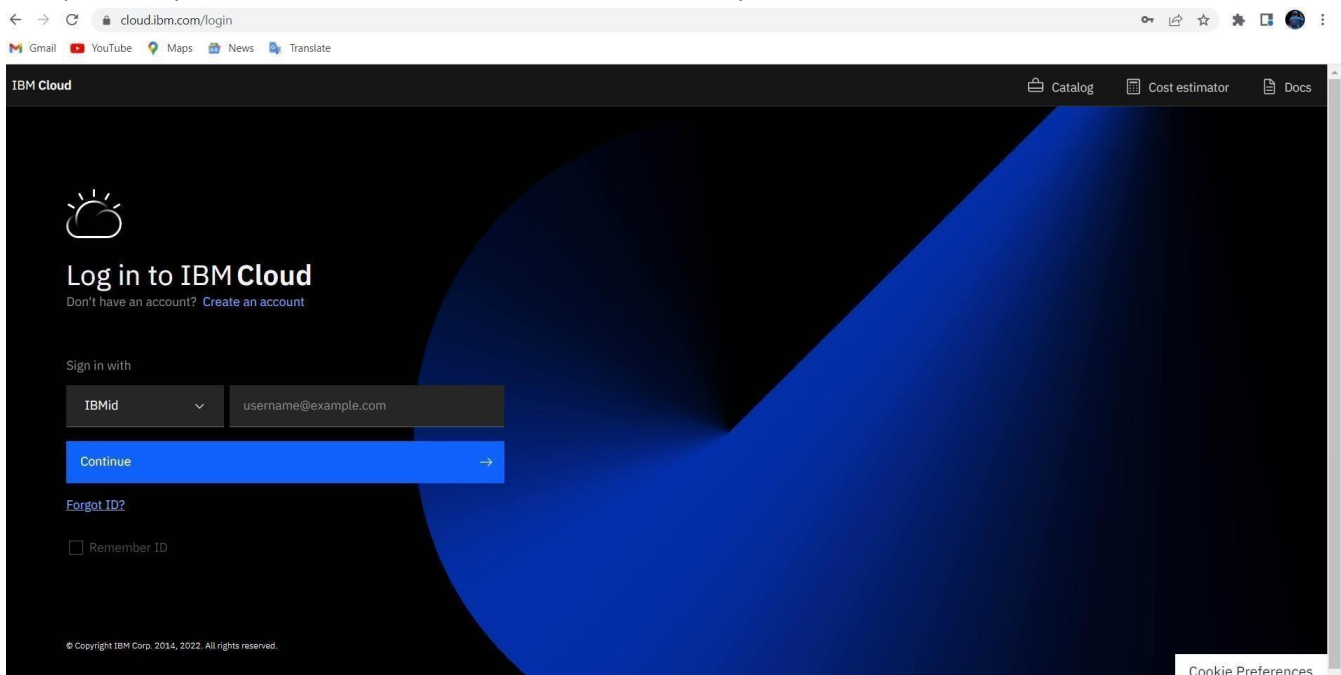
Date	10 November 2022
Team ID	PNI'2022I'MID01812
Project Name	Gas leakage monitoring and alerting system for industries

AIM:

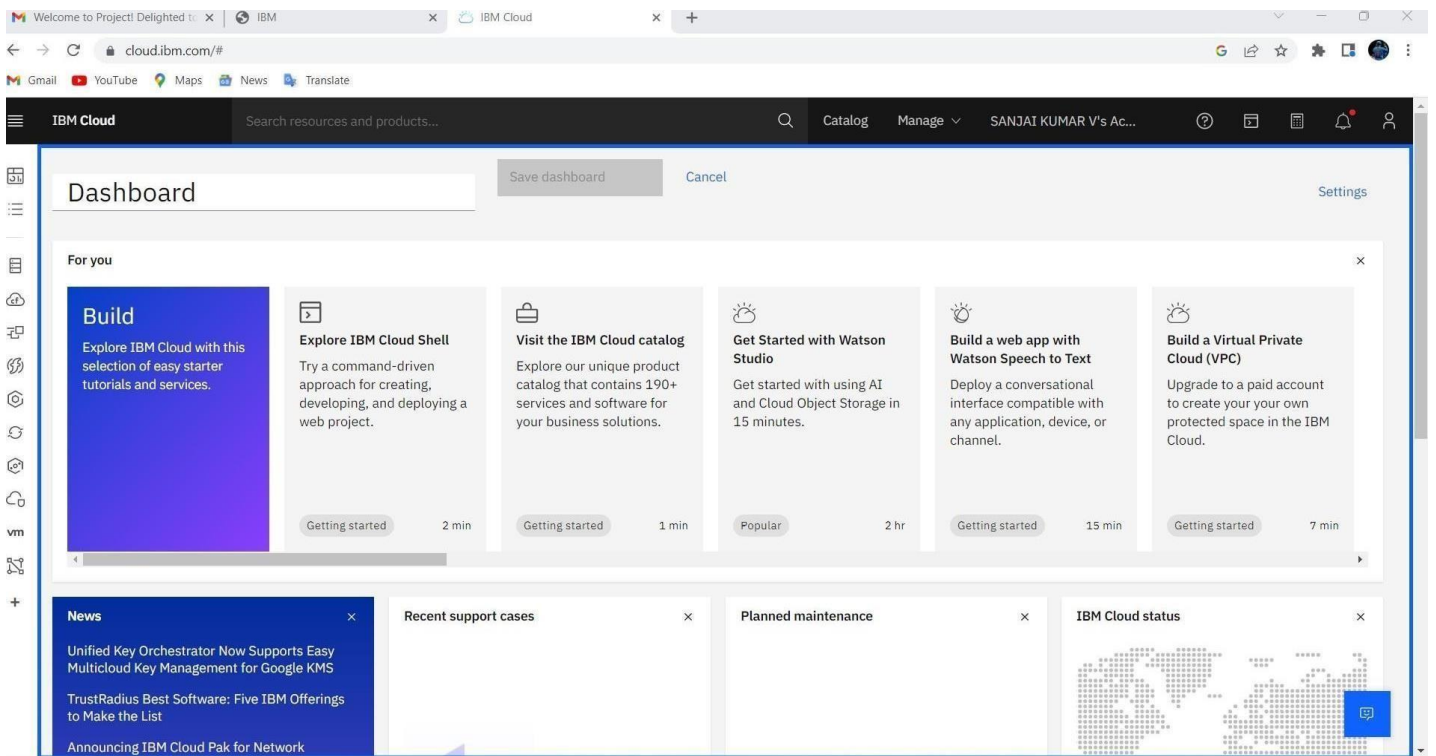
To create the IBM Watson IoT platform and device.

Steps to be followed

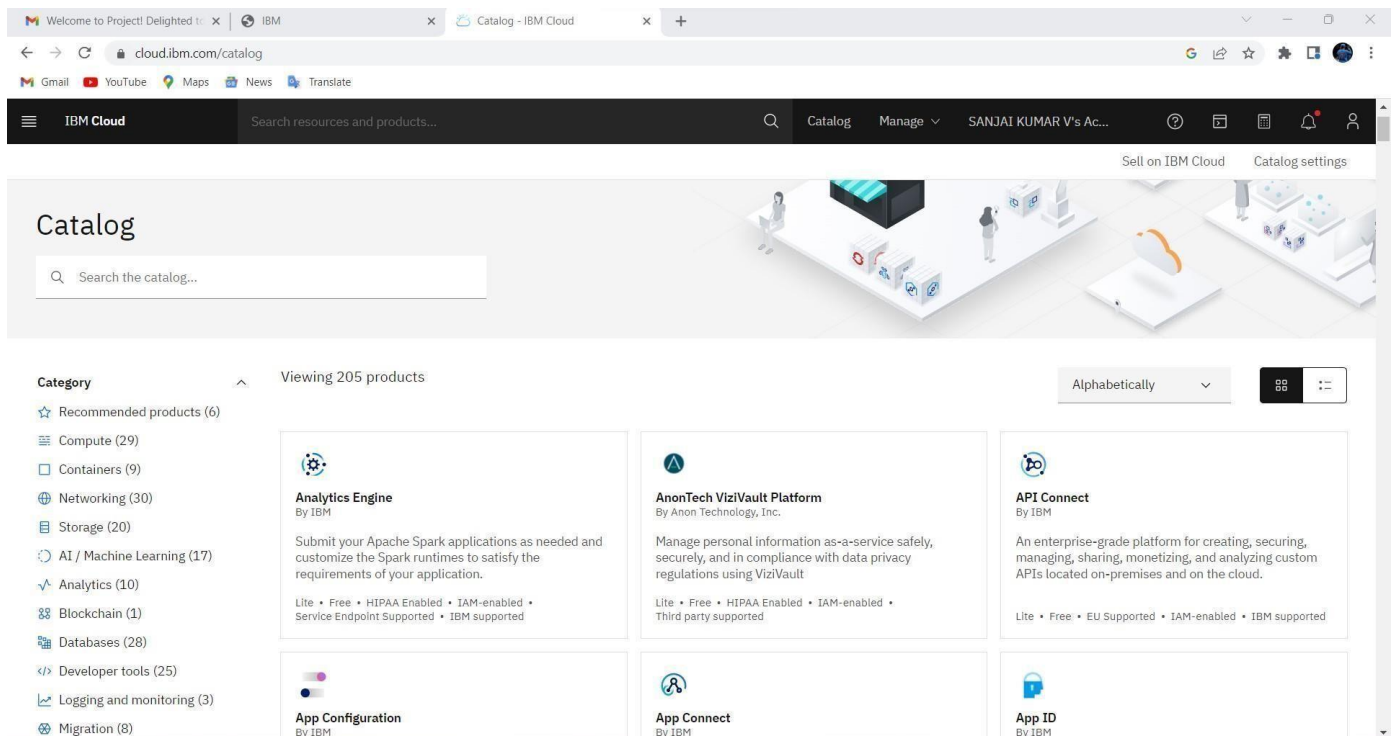
Step 1: Firstly, create an IBM cloud account with IBM id and password.



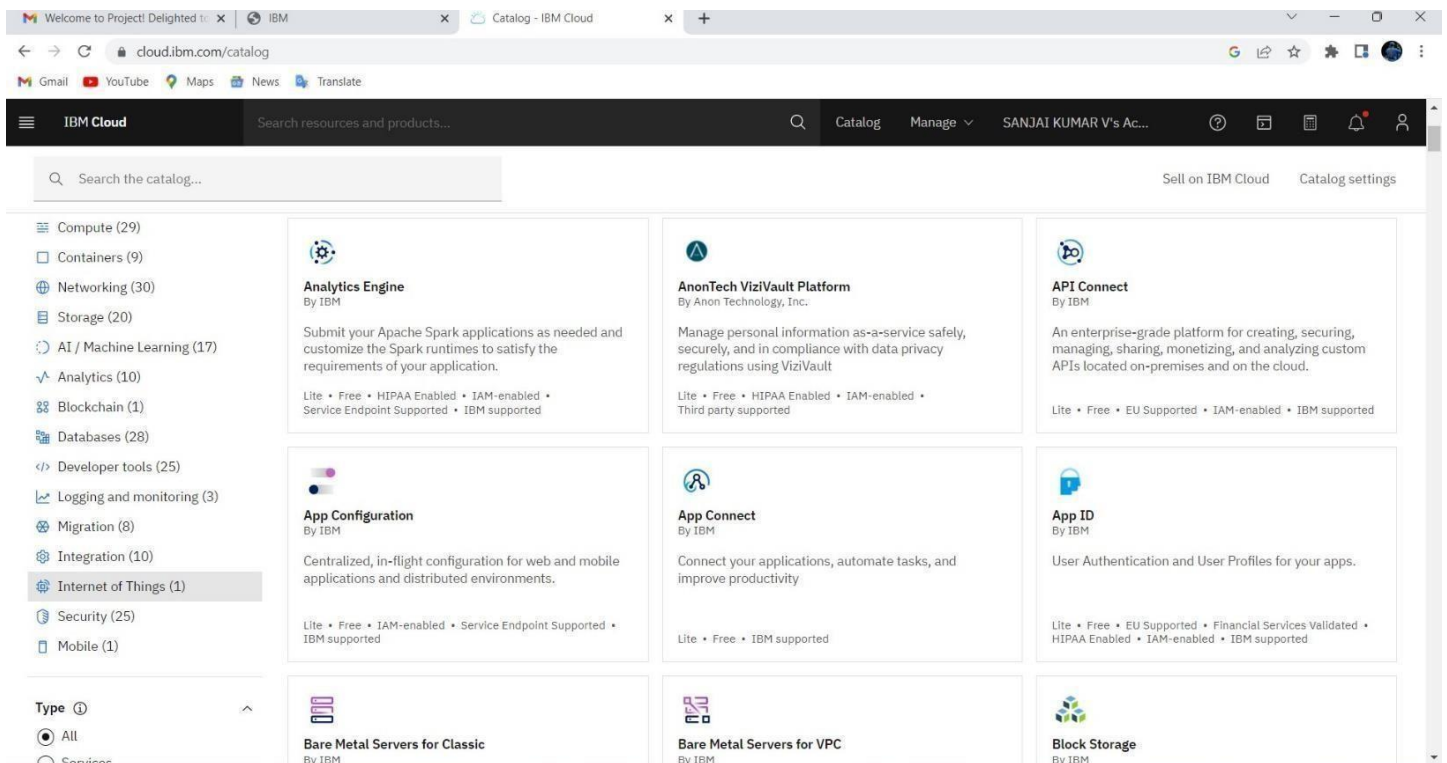
Step 2: Home page of IBM cloud.



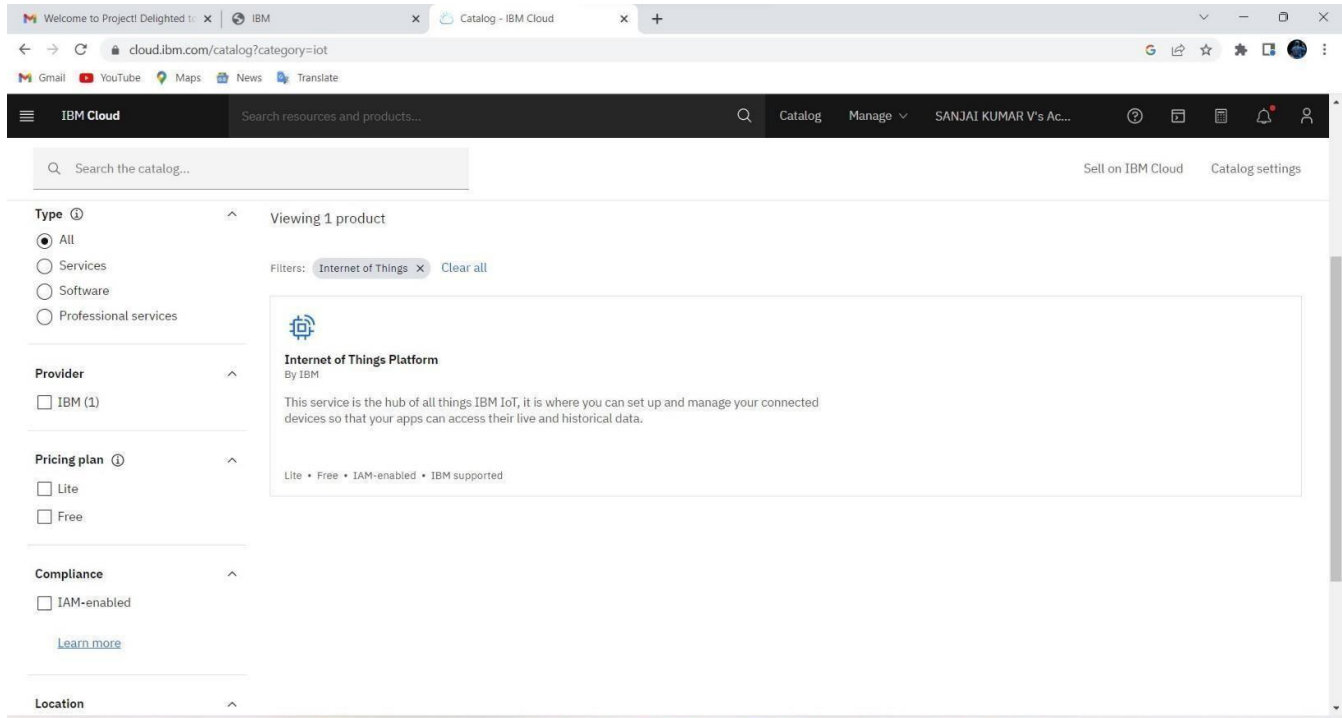
Step 3: Click on the catalog on the top.



Step 4: Click on IoT in the category mentioned.



Step 5: Click on Internet of Things Platform.



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

Welcome to Project! Delighted to... IBM Internet of Things Platform - IBM

cloud.ibm.com/catalog/services/internet-of-things-platform

IBM Cloud Search resources and products...

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	Includes up to 500 registered devices, and a maximum of 200 MB of each data metric Maximum of 500 registered devices Maximum of 500 application bindings Maximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed	Free

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.

Lite plan services are deleted after 30 days of inactivity.

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-gm
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

Add to estimate

Step 7: Tick agreements and then click on create.

Welcome to Project! Delighted to... IBM Internet of Things Platform - IBM

cloud.ibm.com/catalog/services/internet-of-things-platform

IBM Cloud Search resources and products...

08/15/2022

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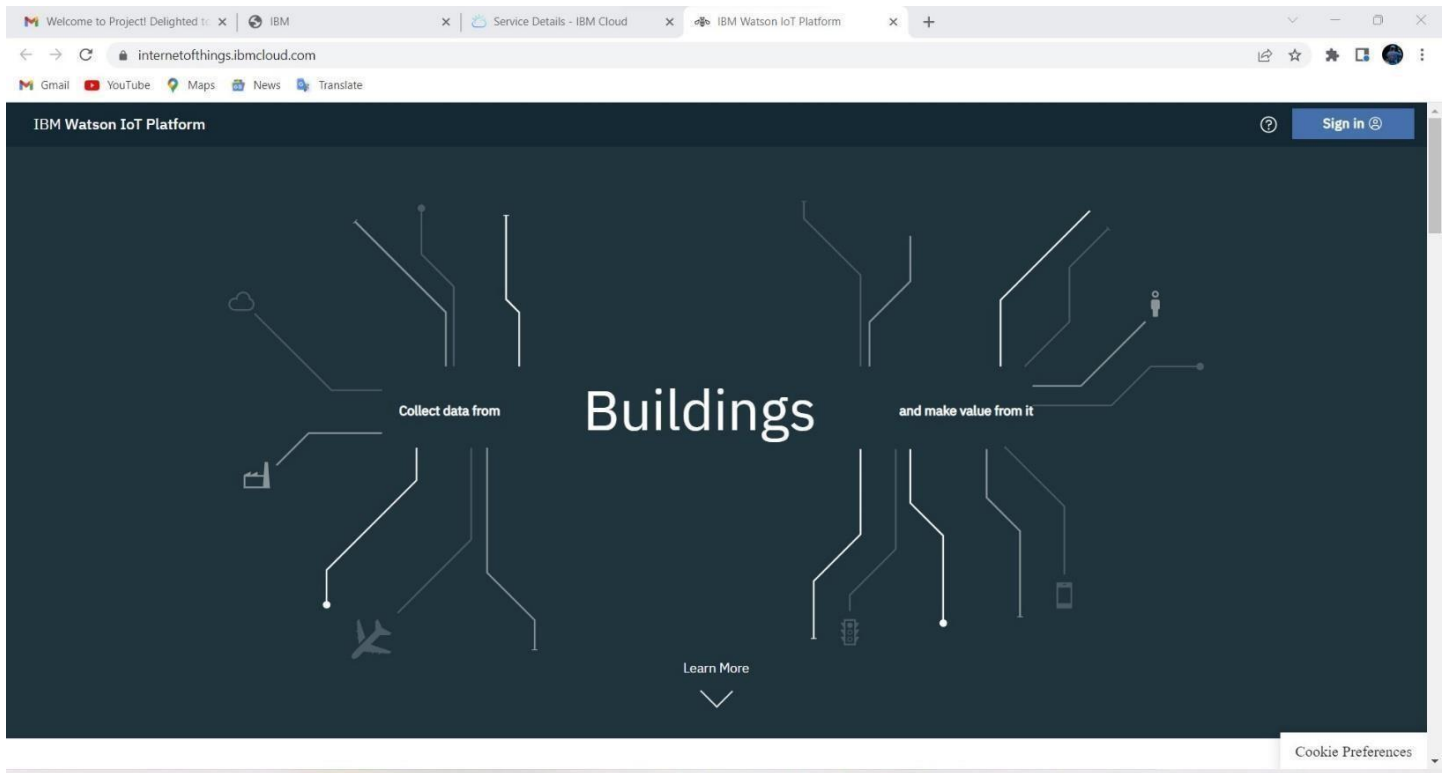
Step 8: Click on the launch button.

The screenshot shows the IBM Cloud interface for the 'Internet of Things Platform-gb' service. The page is titled 'Internet of Things Platform-gb' 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 square with four lines extending from it, each ending in a small circle. To the right of this graphic is the heading 'Let's get started with IBM Watson IoT Platform' followed by the text 'Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.' Below this text are two buttons: 'Launch' and 'Docs'. Further down, there is a section titled 'Ready for the next level?' and 'IBM Watson IoT Platform Journey'. This section contains three cards: 'Lite', 'Non-Production', and 'Production'. The 'Lite' card is highlighted with a checkmark icon and describes a lightweight development environment. The 'Non-Production' card describes a full-featured, fully-integrated offering. The 'Production' card describes a fully managed SaaS offering. A 'Sign in' button is visible in the bottom right corner of the page.

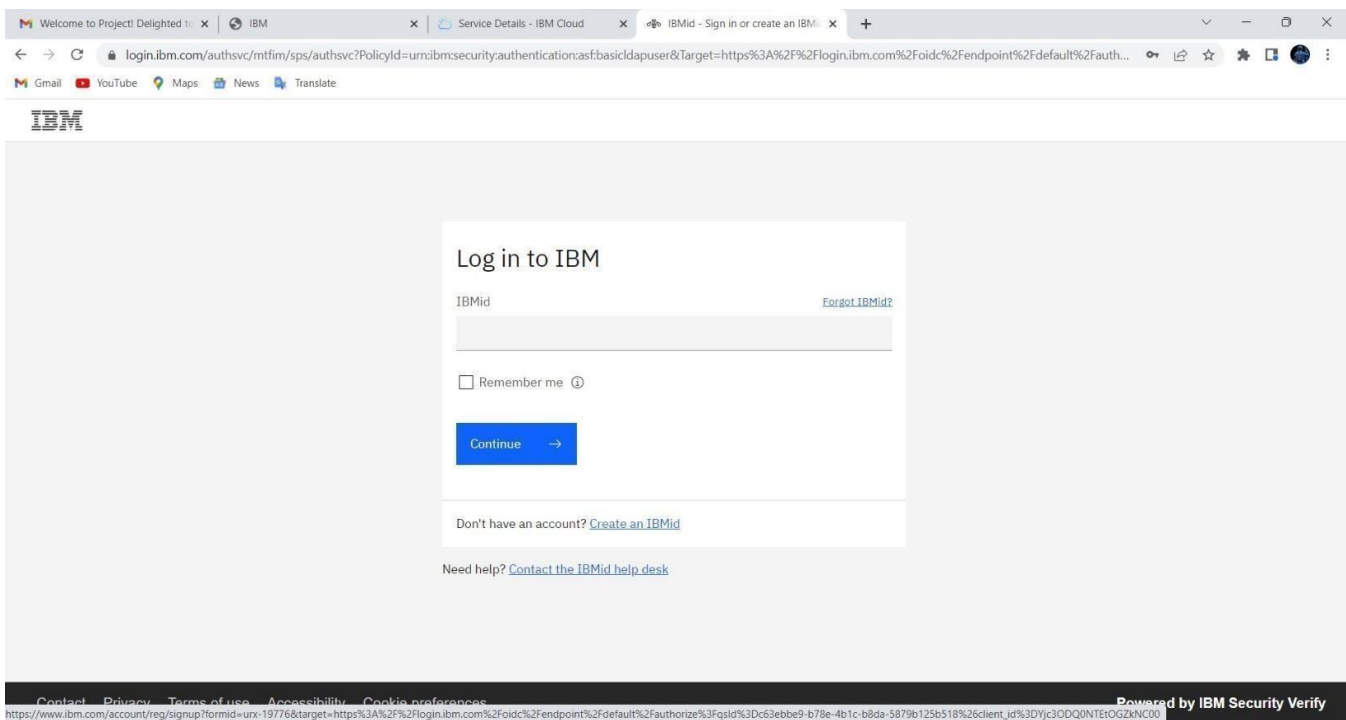
Step 9: After clicking on the launch button this tab will open.

The screenshot shows the IBM Watson IoT Platform landing page. The page has a dark blue background with a central graphic of a building with lines extending from it, representing data flow. The text 'Buildings' is prominently displayed in the center. To the left of the building is the text 'Collect data from' and to the right is 'and make value from it'. Below the building is a 'Learn More' link with a downward arrow. In the top right corner, there is a 'Sign in' button. The page also includes a 'Cookie Preferences' link in the bottom right corner.

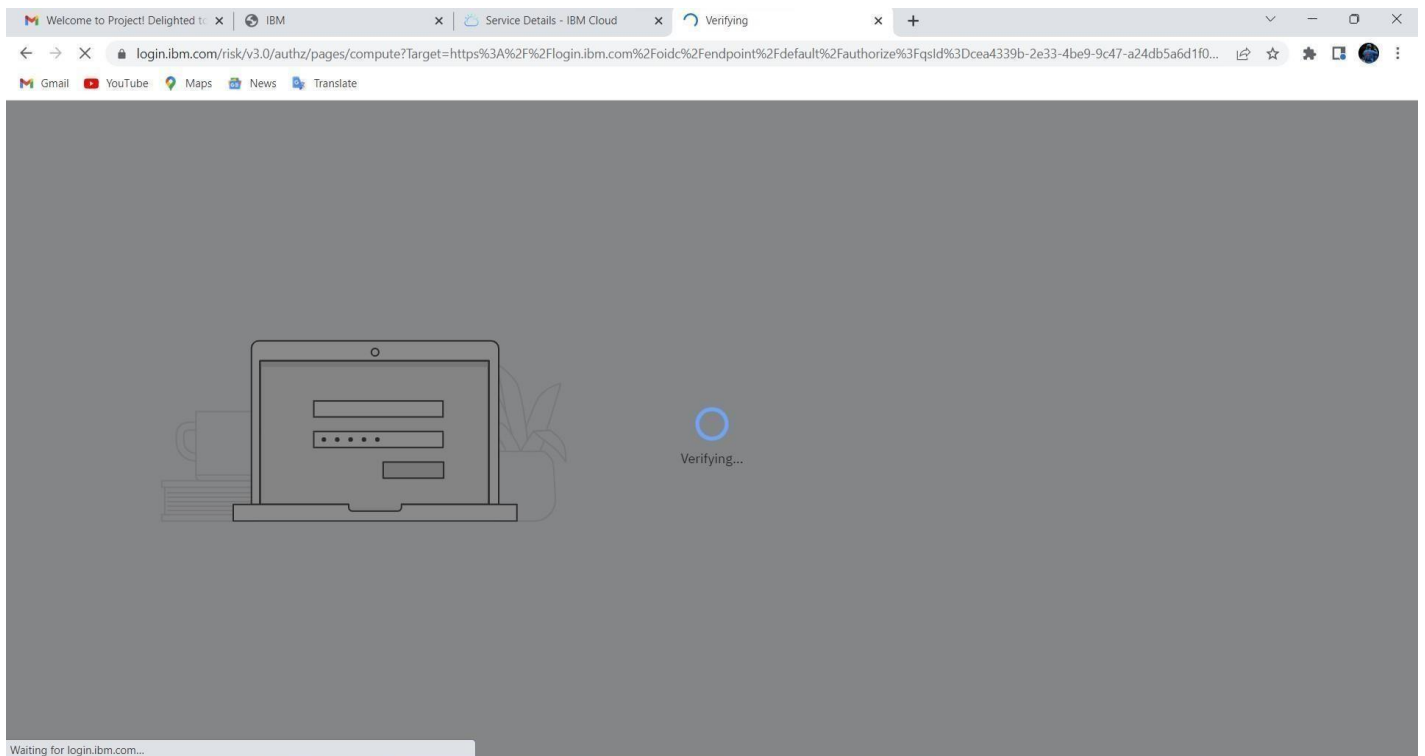
Step 10: Click on Sign in.



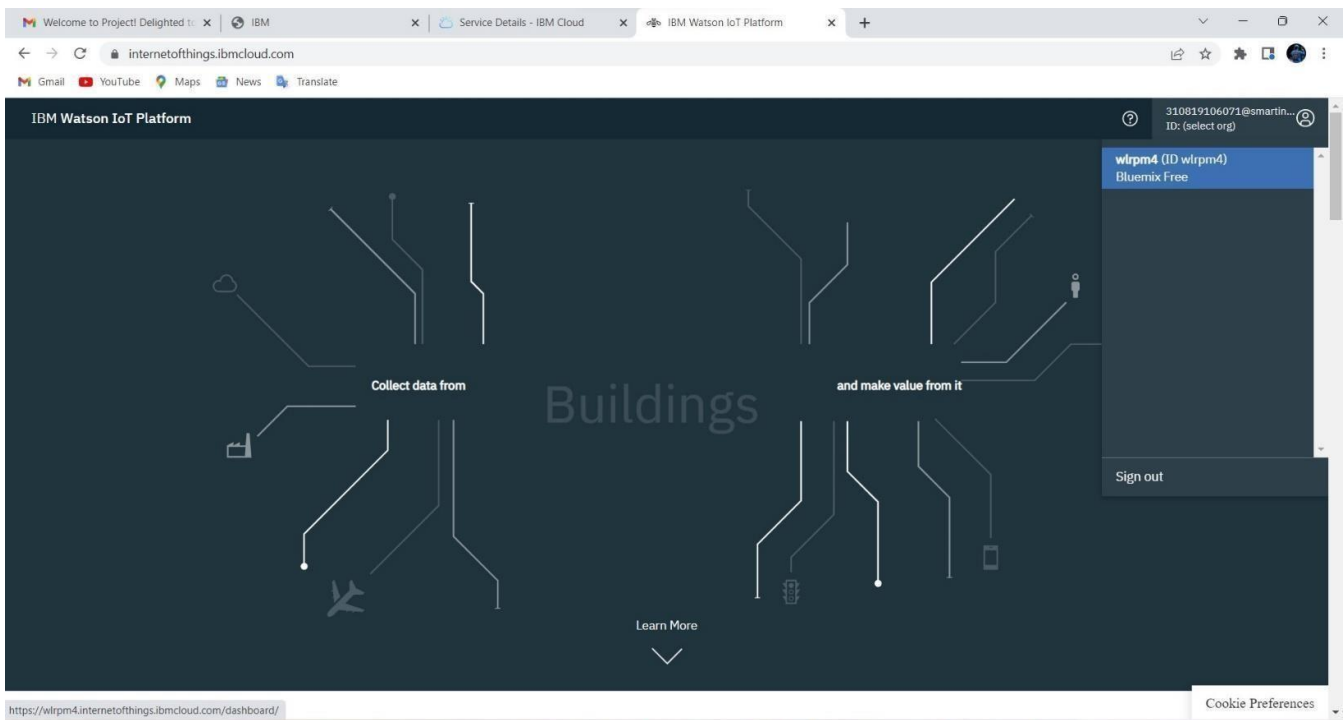
Step 11: Fill the login details.



Step 12: Sign in on progress...



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



Step 14: This is the IBM Watson IoT Platform.

IBM Watson IoT Platform

310819106071@smartinternz.com
ID: wlrpm4

310819106071@smartinternz.com
ID: wlrpm4

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 ☒

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
> <input type="checkbox"/>	14325	Disconnected	Testdevicetype	Device	Nov 5, 2022 5:33 AM	

Items per page: 50 | 1-1 of 1 item

1 of 1 page

Microsoft Store

0 Simulations running

Step 15: Click on Add Device.

IBM Watson IoT Platform

310819106071@smartinternz.com
ID: wlrpm4

310819106071@smartinternz.com
ID: wlrpm4

Browse Action Device Types Interfaces

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Items per page: 50 | 1-1 of 1 item

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0 Simulations running

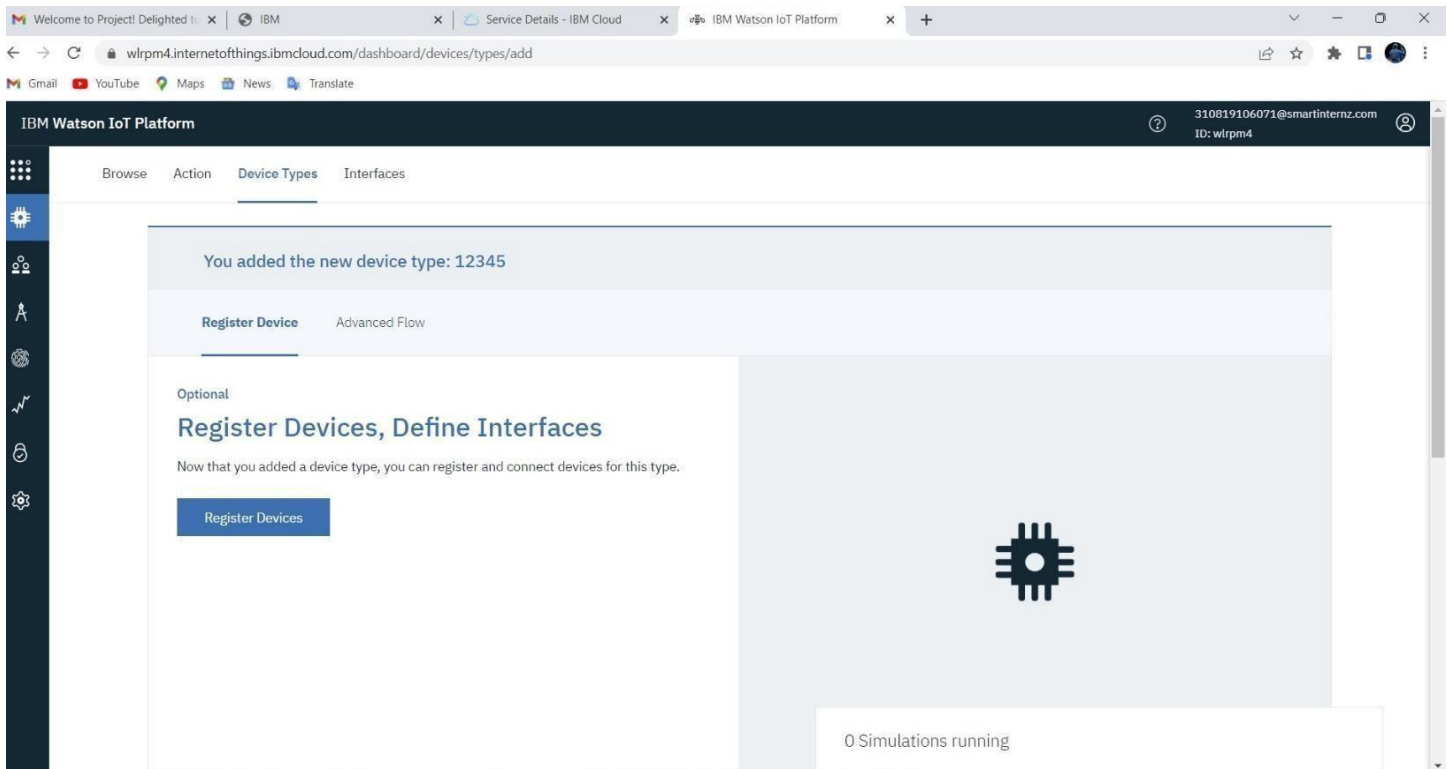
Step 16: Click on Device Type.

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The 'Add Device' modal is open, displaying a progress bar with four steps: Identity (selected), Device Information, Security, and Summary. Below the progress bar, a message states: 'Select a device type for the device that you are adding and give the device a unique ID.' There are two input fields: 'Device Type' with a dropdown menu labeled 'Select or create a device type...' and 'Device ID' with a text input labeled 'Enter Device ID'. At the bottom right of the modal are 'Cancel' and 'Next' buttons. Below the modal, the 'Browse Devices' section is visible, showing '0 Simulations running' and 'Adobe Express'.

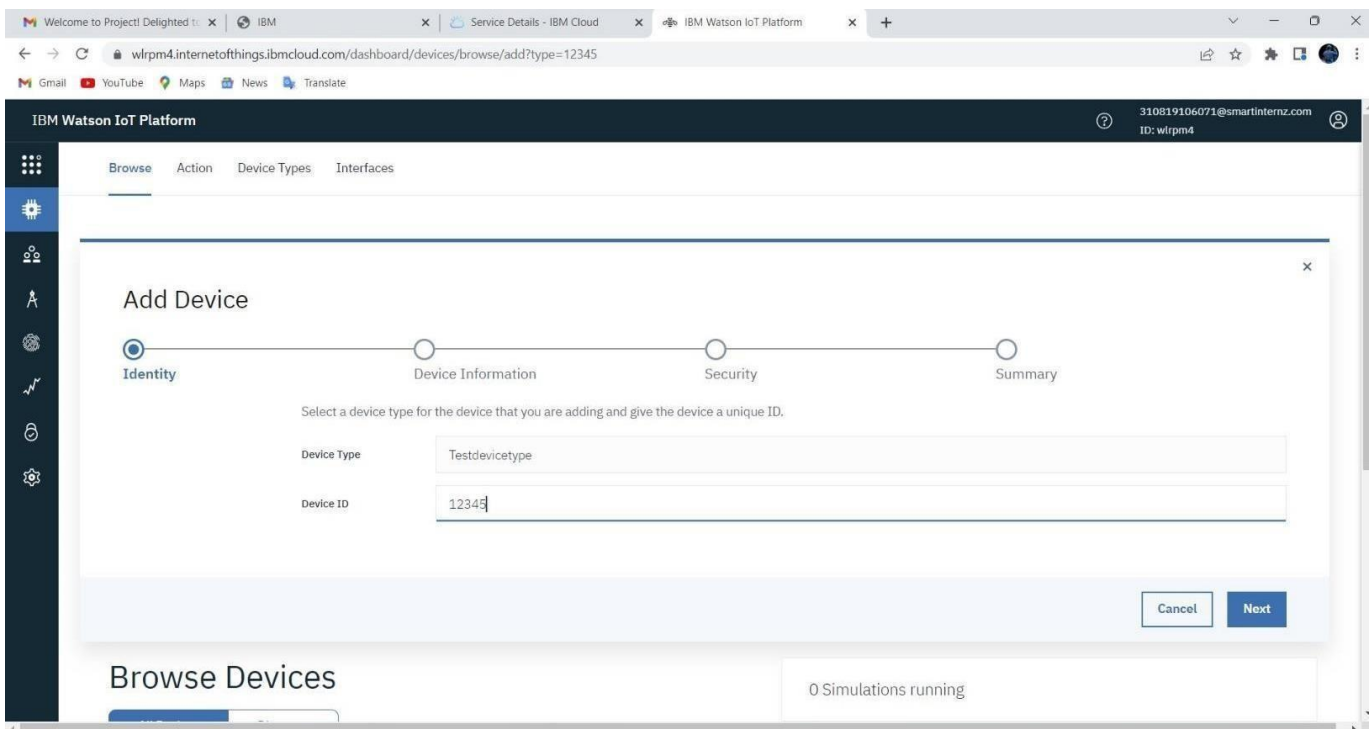
Step 17: Fill the details.

The screenshot shows the IBM Watson IoT Platform interface with the 'Add Type' modal open. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The 'Add Type' modal displays a progress bar with two steps: Identity (selected) and Device Information. Below the progress bar, a message states: '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.' There are three input fields: 'Type' with a dropdown menu showing 'Device' and 'Gateway' options, 'Name' with a text input containing '12345', and 'Description' with a text input. A note below the 'Name' field states: '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.' At the bottom right of the modal is a 'Next' button. Below the modal, the '0 Simulations running' status is visible.

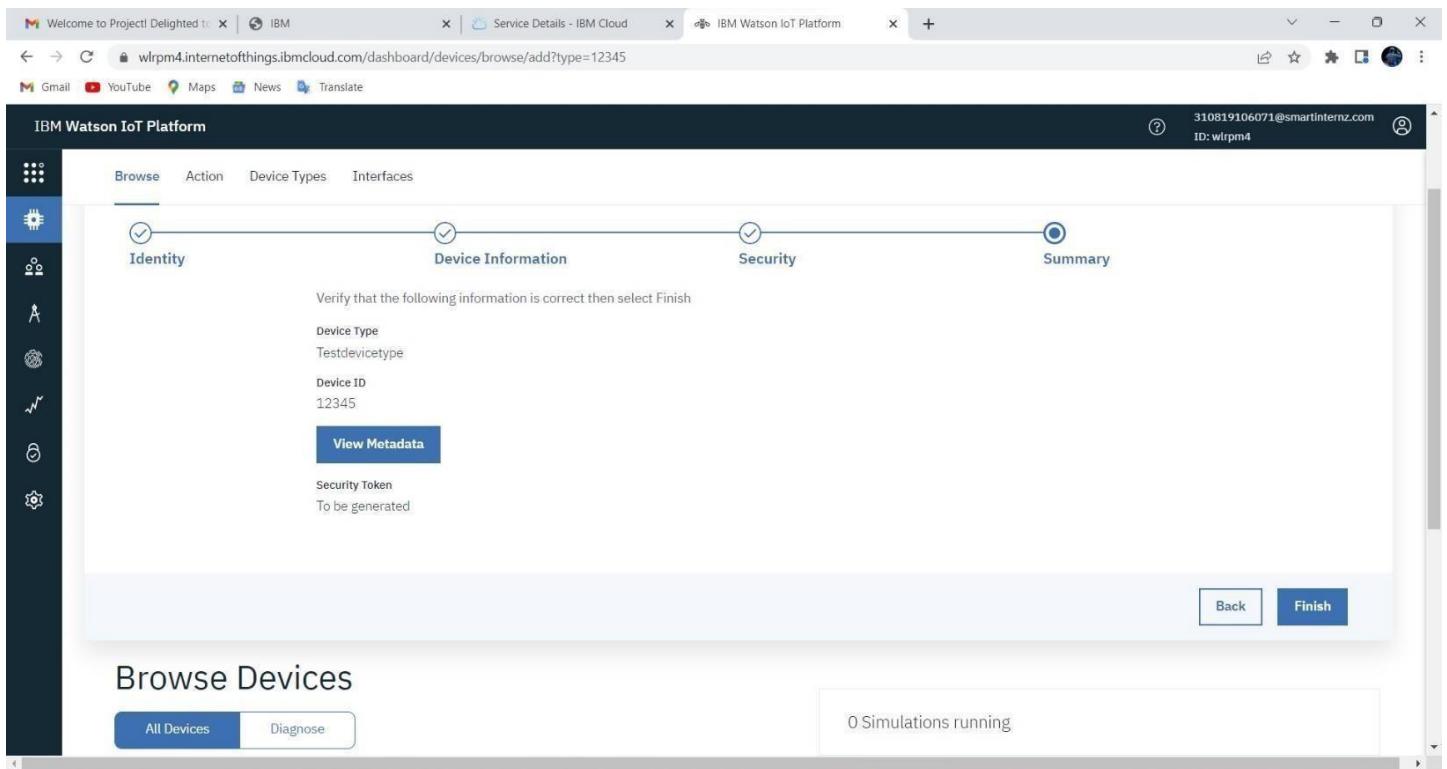
Step 18: Click on Register Devices.



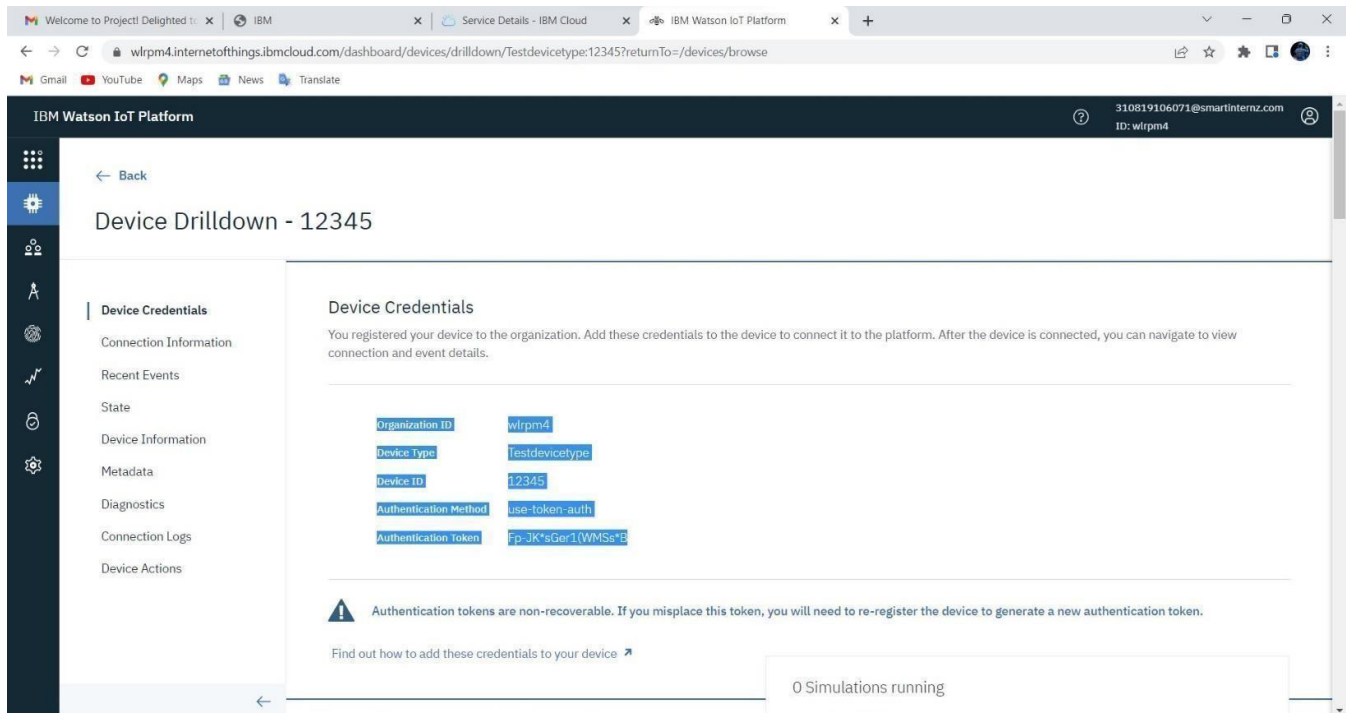
Step 19: Give the device name which you have created and give Device ID.



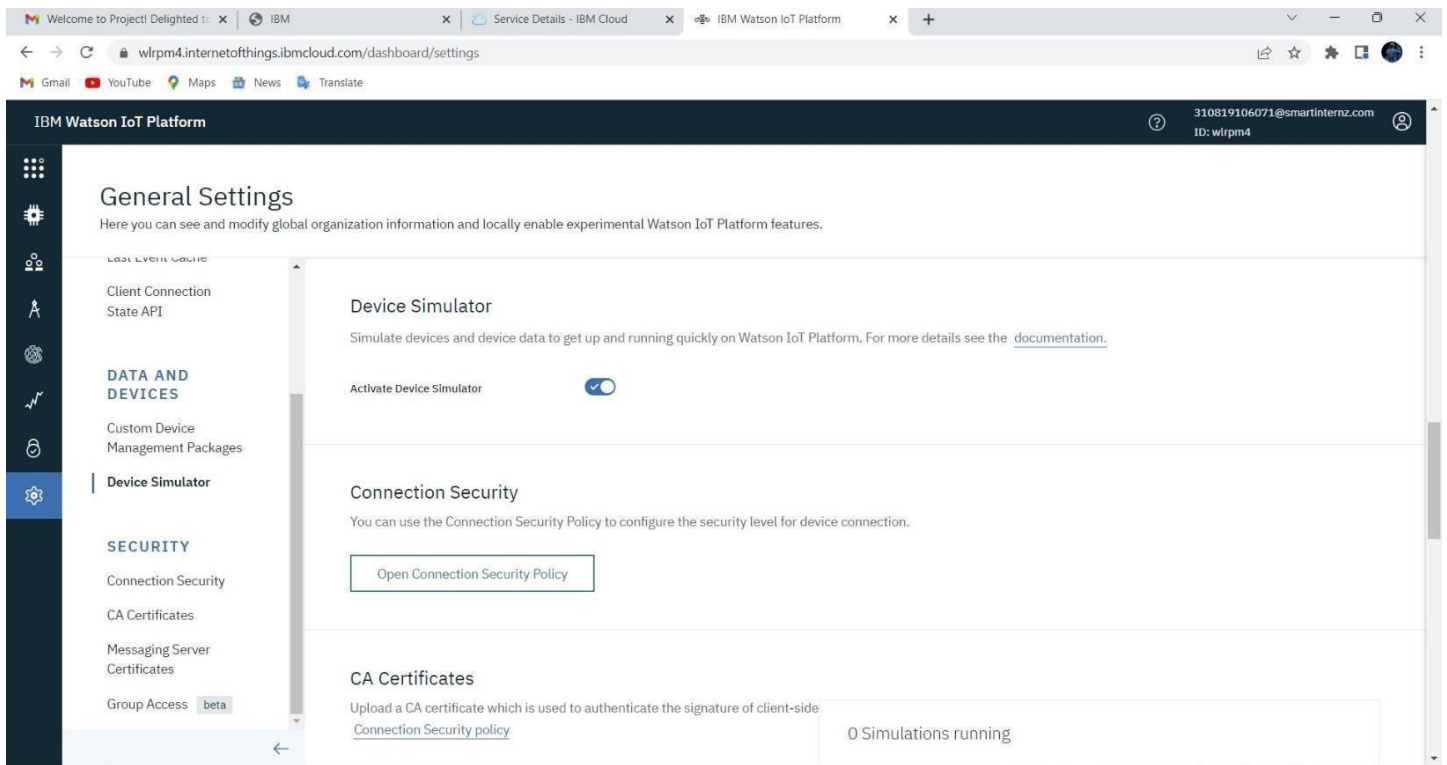
Step 20: After giving all the data, Click on Finish.



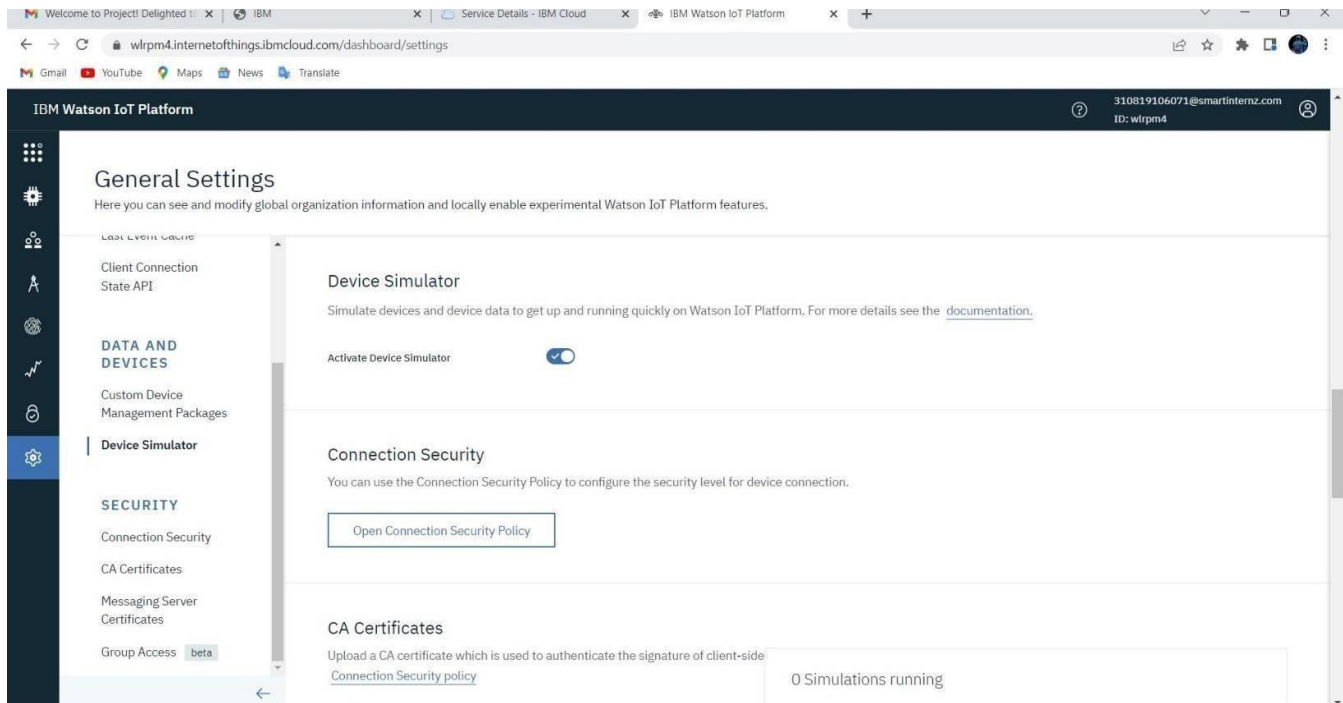
Step 21: After creating the device, Copy the Device Credentials.



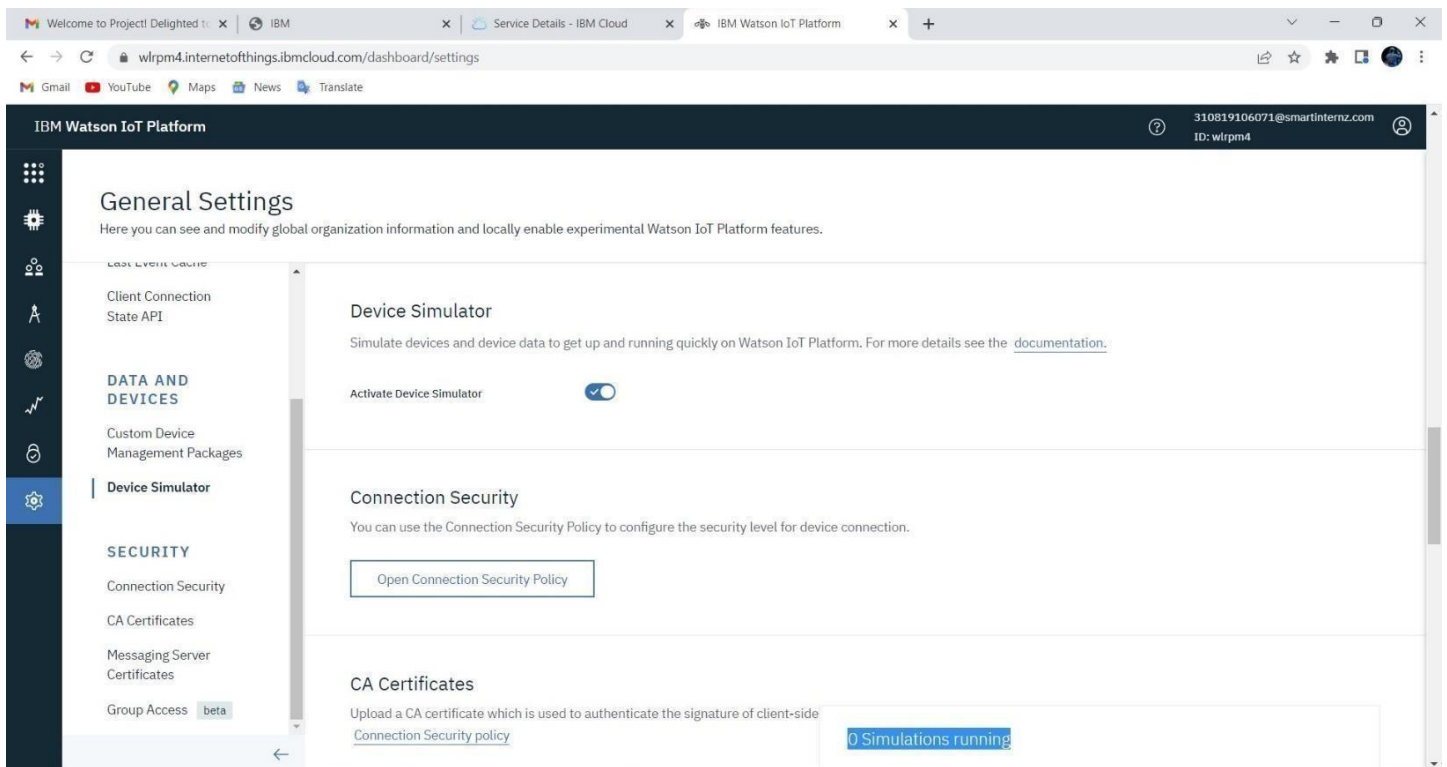
Step 22: Go to Setting, click on Data and Devices.



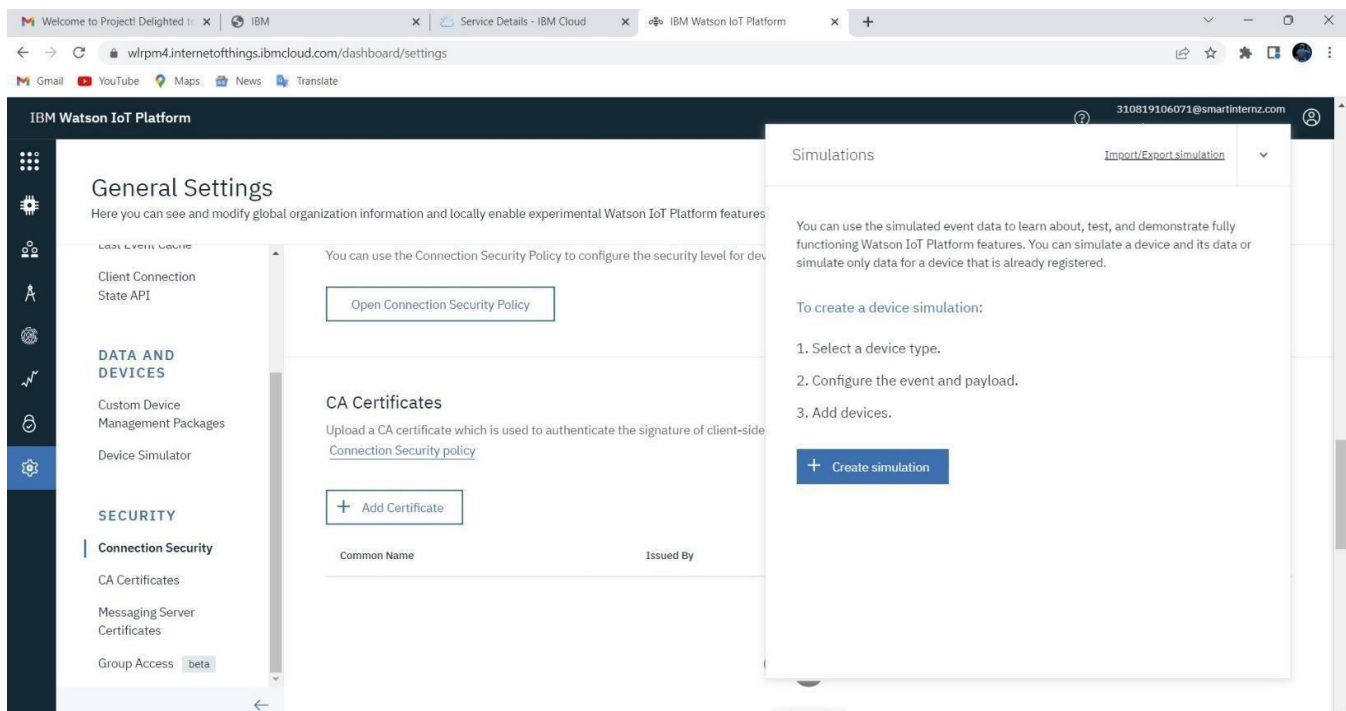
Step 23: Then click on Device Simulator and Activate Device Simulator.



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



Step 25: Click on Create Simulation.



Step 26: Choose the Device.

The screenshot shows the IBM Watson IoT Platform dashboard. The left sidebar contains navigation links for General Settings, DATA AND DEVICES, and SECURITY. The main content area is titled 'General Settings' and includes sections for 'Client Connection State API', 'CA Certificates', and 'Connection Security'. A modal window titled 'Simulations' is open on the right, displaying instructions on how to create a device simulation and a text input field for selecting a device type.

General Settings

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

DATA AND DEVICES

- Custom Device Management Packages
- Device Simulator

SECURITY

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

Simulations

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.

To create a device simulation:

1. Select a device type.
2. Configure the event and payload.
3. Add devices.

Select or create a device type...

Step 27: Type the code.

The screenshot shows the IBM Watson IoT Platform dashboard. The left sidebar contains navigation links for Browse, Action, Device Types, and Interfaces. The main content area is titled 'Browse Devices' and includes a table of devices. A modal window titled 'Events' is open on the right, displaying a form for configuring an event, including event type name, frequency, and payload.

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 ID	Status	Device Type	Class ID	Device Name
12345	Disconnected	Testdevicetype	Device	No
14325	Disconnected	Testdevicetype	Device	No

Items per page 50 | 1-2 of 2 items

Events

Testdevicetype 12345

Event type name event_1 Frequency 20 x Every Minute Send

Payload

You can override field values in the event payload that is sent by this device. Specify the override values in the editor window.

```
0 {
1   "temperature": random(0, 100),
2   "humidity": random(0, 100)
3 }
4
```

What functions can I apply?

Cancel Save

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

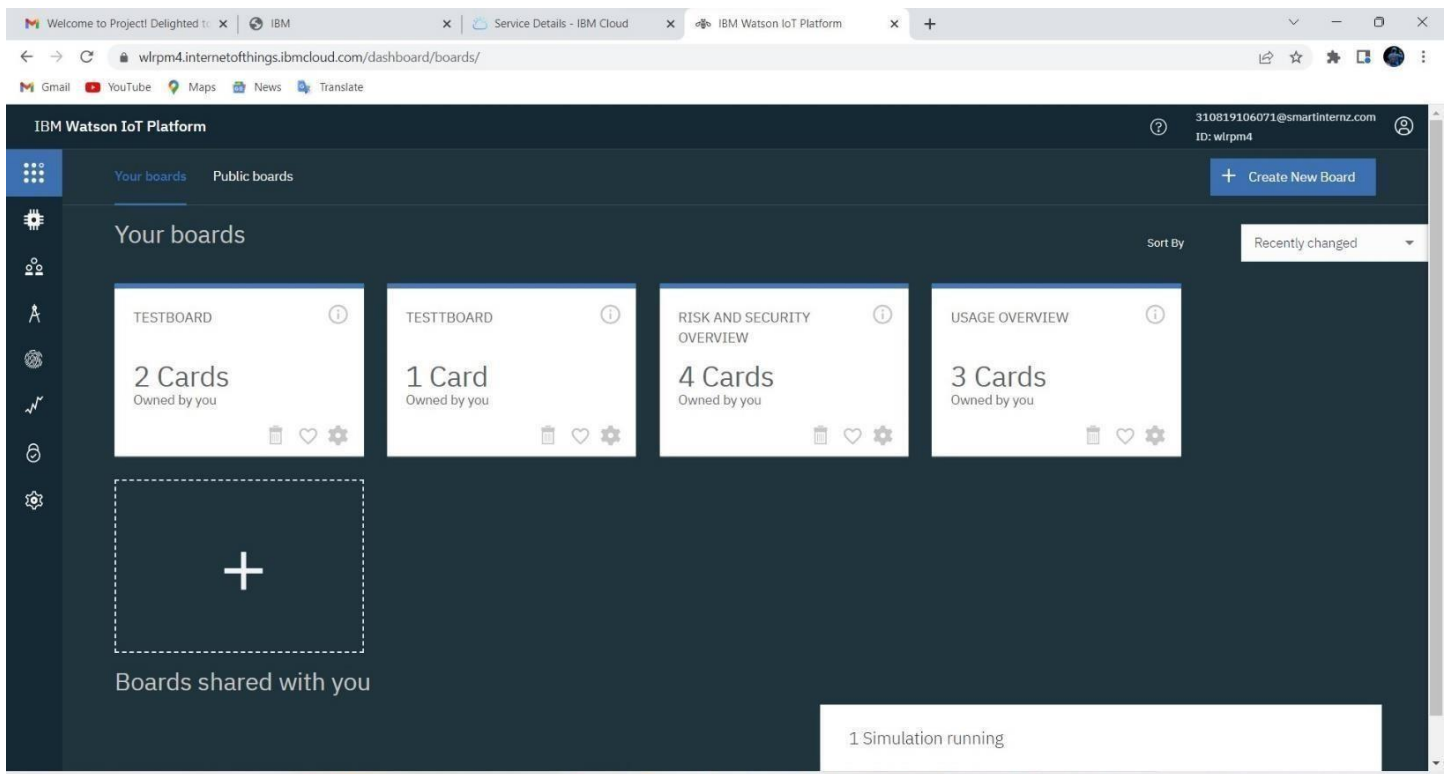
The screenshot shows the IBM Watson IoT Platform 'General Settings' page. The left sidebar contains navigation links for 'Last Event Cache', 'Client Connection State API', 'DATA AND DEVICES' (with sub-links for 'Custom Device Management Packages' and 'Device Simulator'), and 'SECURITY' (with sub-links for 'Connection Security', 'CA Certificates', 'Messaging Server Certificates', and 'Group Access' marked as beta). The main content area includes a 'Connection Security Policy' section with an 'Open Connection Security Policy' button, and a 'CA Certificates' section with an 'Add Certificate' button. A 'Simulations' overlay is open on the right, showing '1/50 Simulations Running', a 'Device Type' of 'Testdevicetype', and a list of 1 device with ID '12345'. The overlay has buttons for 'Create Simulated Device' and 'Use Registered Device'. At the bottom of the overlay, it shows '2 events sent' and '76 bytes sent'.

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

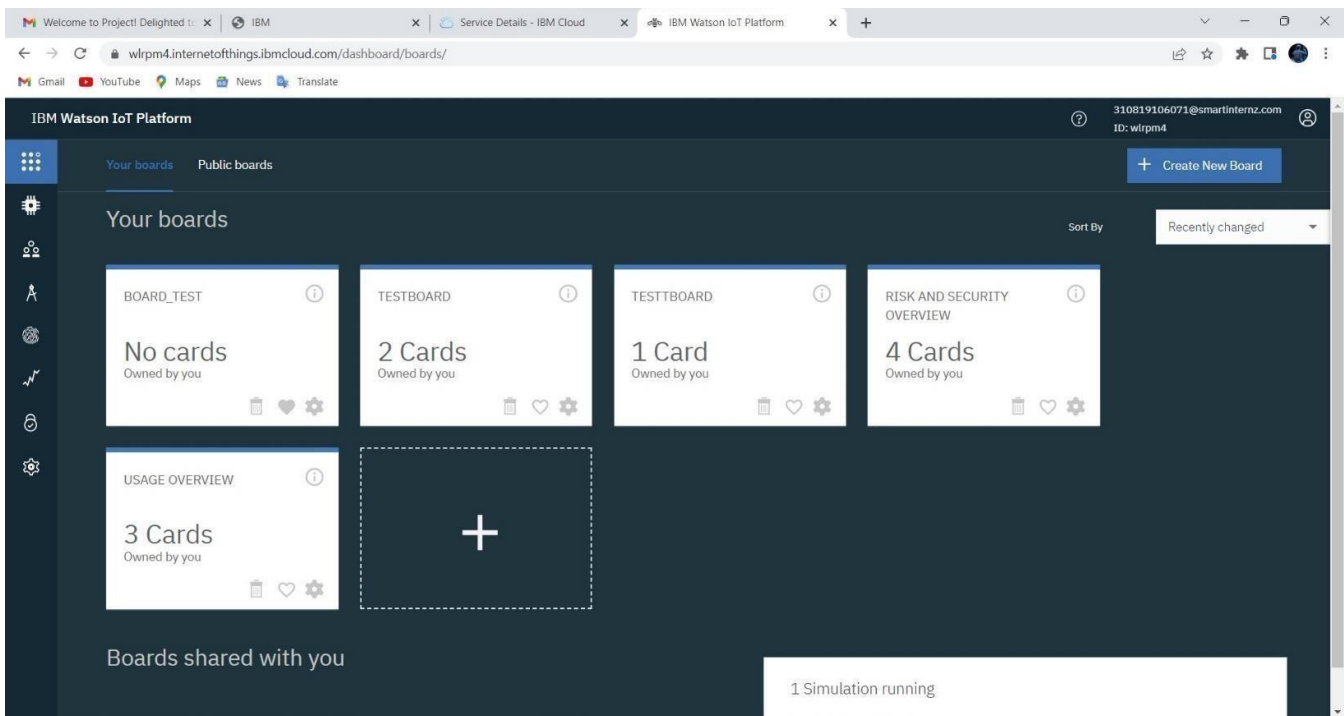
The screenshot shows the IBM Watson IoT Platform 'Devices' page. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. A table lists devices with columns: Device ID, Status, Device Type, Class ID, Date Added, and Descriptive Location. One device is listed with ID '12345', status 'Disconnected', and type 'Testdevicetype'. Below the table, a modal window titled 'Identity' is open, showing 'Recent Events'. The events are listed in a table with columns: Event, Value, Format, and Last Received. The events show a stream of temperature and humidity data. A status indicator at the bottom right of the modal says '1 Simulation running'.

Event	Value	Format	Last Received
event_1	{"temperature":63,"humidity":8}	json	a few seconds ago
event_1	{"temperature":56,"humidity":9}	json	a few seconds ago
event_1	{"temperature":40,"humidity":76}	json	a few seconds ago
event_1	{"temperature":61,"humidity":36}	json	a few seconds ago

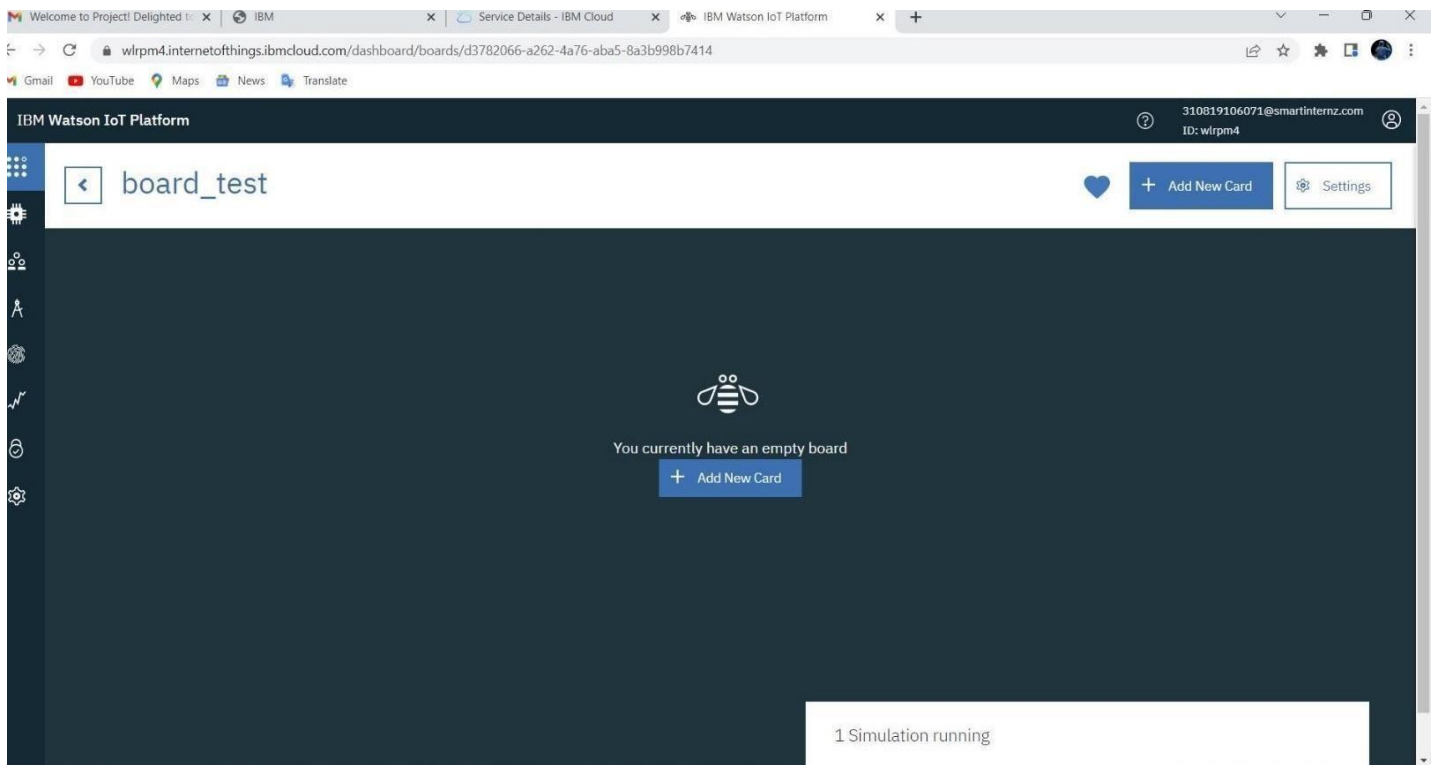
Step 30: Go to Board and click on + Create New Board, fill the details and create a board.



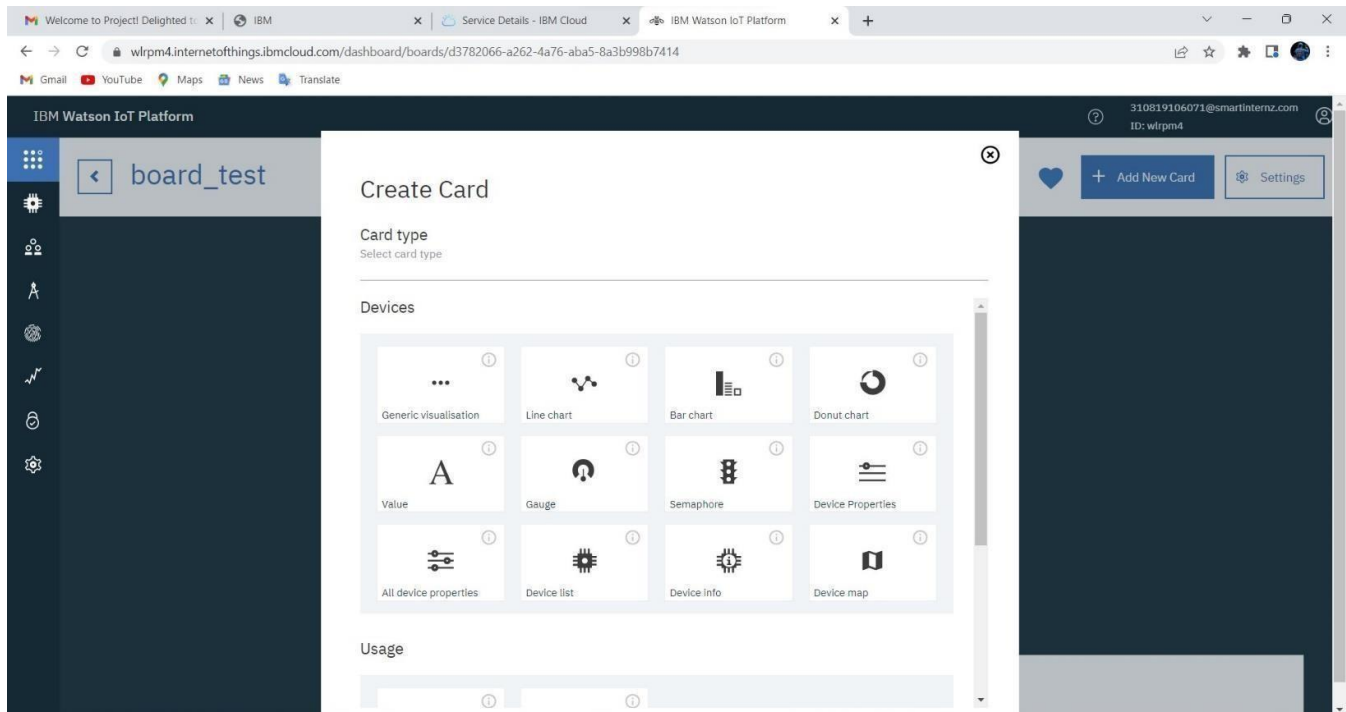
Step 31: Click on the board which is created.



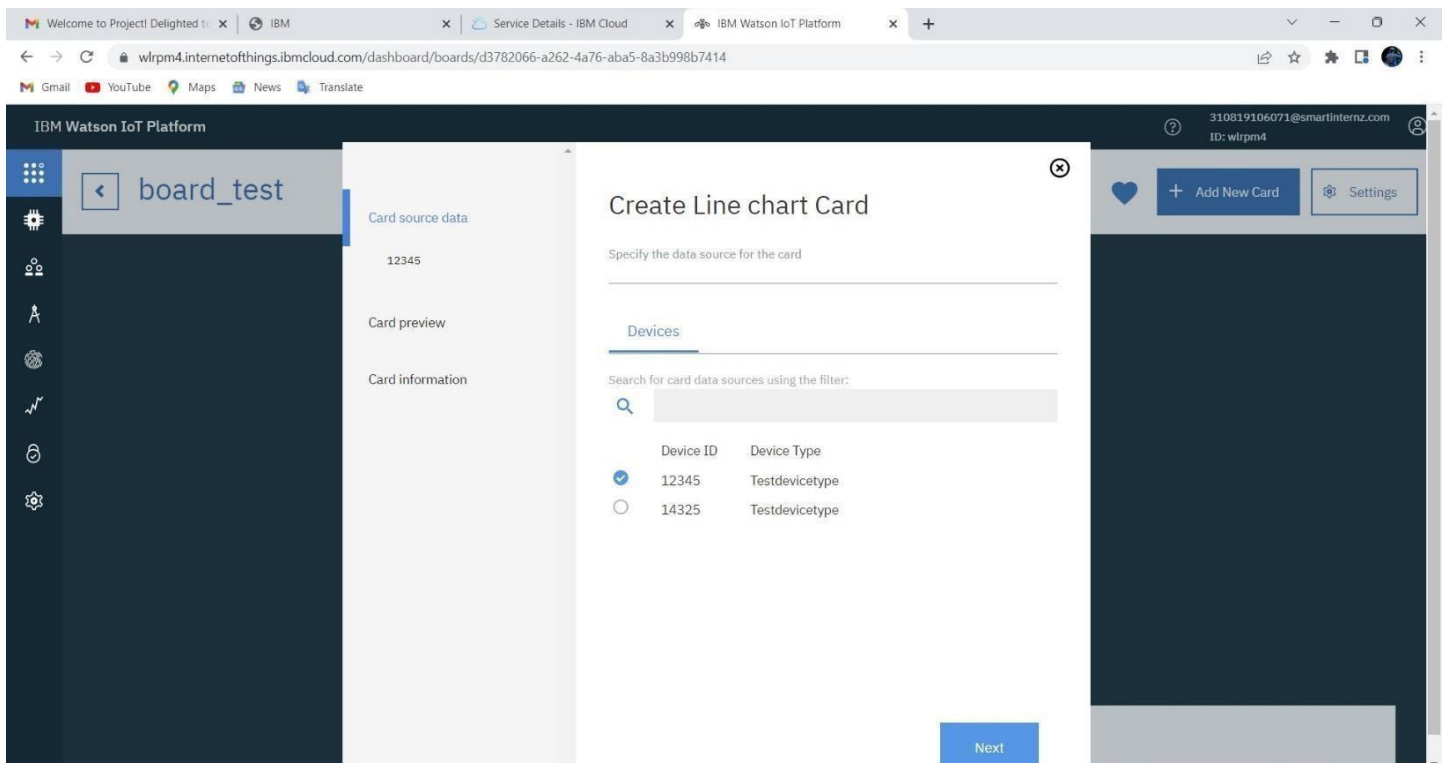
Step 32: Go Add New Card.



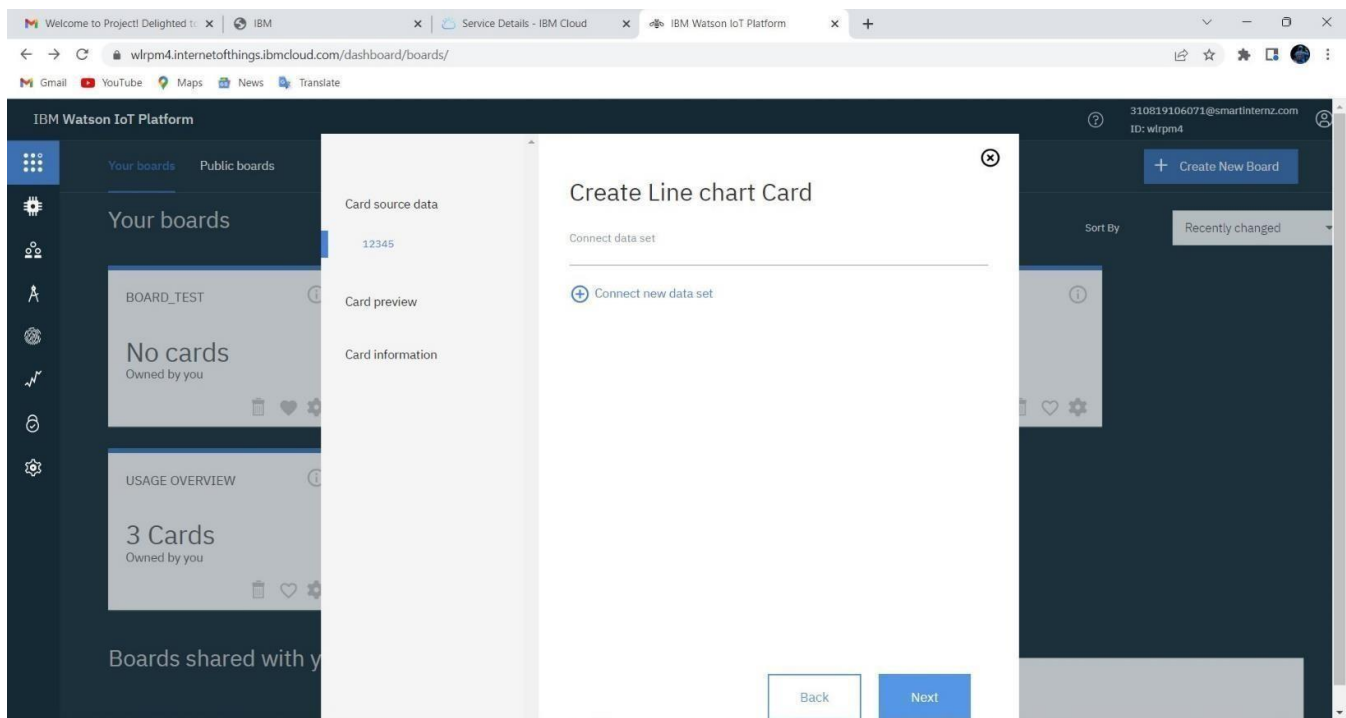
Step 33: Choose the Card Type.



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 'Create Line chart Card' form in the IBM Watson IoT Platform. The form is titled 'Create Line chart Card' and has a 'Connect data set' section. The data set is 'temperature' with an event of 'event_1'. The property is 'temperature'. The name is 'temperature'. The type is 'Number' and the unit is '°C'. The minimum value is '0' and the maximum value is '100'. There are 'Back' and 'Next' buttons at the bottom right.

Step 37: Choose the Colour.

The screenshot shows the 'Create Line chart Card' form in the IBM Watson IoT Platform. The form is titled 'Create Line chart Card' and has a 'Enter title and description of the card' section. The title is 'Line chart'. The color scheme is selected as 'Purple, Green, Blue, Teal'. The description is 'A line chart to display time series information with historic and live data'. There are 'Back' and 'Submit' buttons at the bottom right.

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

IBM Watson IoT Platform

board_test

Line chart

80
60
40
20
0

13:19

5 minutes

Card source data

12345

Card preview

Card information

Create Gauge Card

Specify the data source for the card

Devices

Search for card data sources using the filter:

Device ID Device Type

☒ 12345 Testdevicetype

☐ 14325 Testdevicetype

Next

310819106071@smartinternz.com
ID: wlrpm4

+ Add New Card

Settings

Step 39: Here is the Final graph.

IBM Watson IoT Platform

board_test

Gauge

80.0
%

Line chart

80
60
40
20
0

13:21 13:22 13:23 13:24 13:25

5 minutes

temperature

now

1 Simulation running

310819106071@smartinternz.com
ID: wlrpm4

+ Add New Card

Settings

Result:

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