

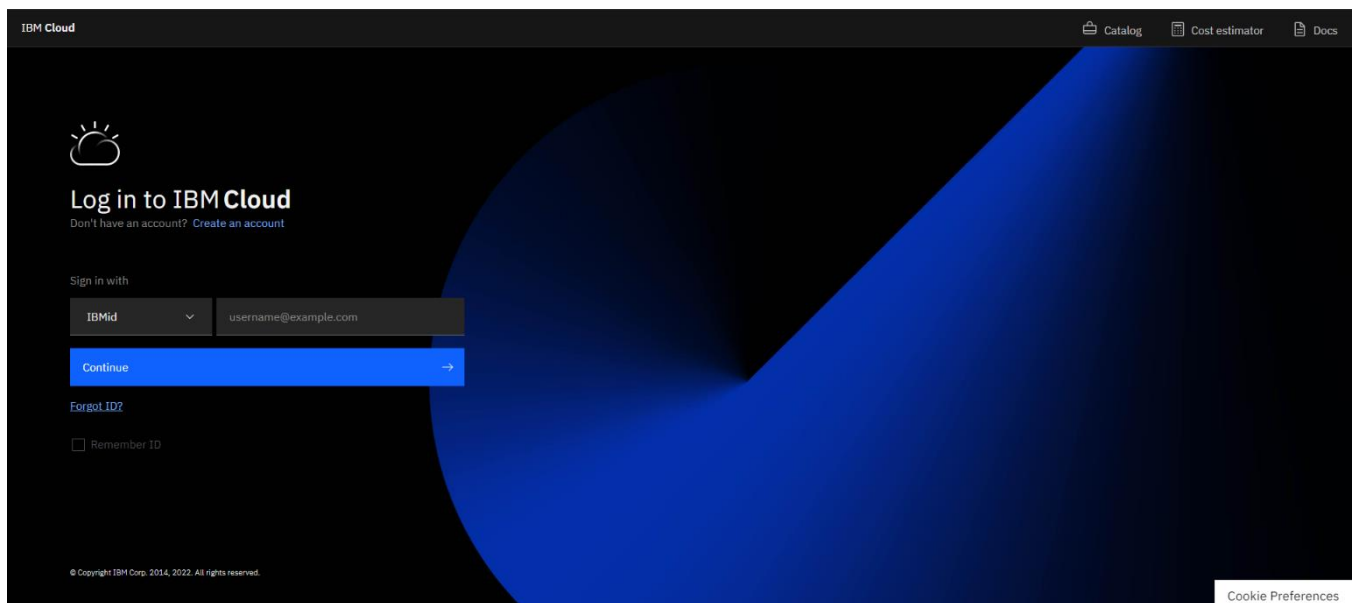
TEAM ID	PNT2022TMID30692
PROJECT NAME	Smart waste management system for metropolitan cities

AIM:

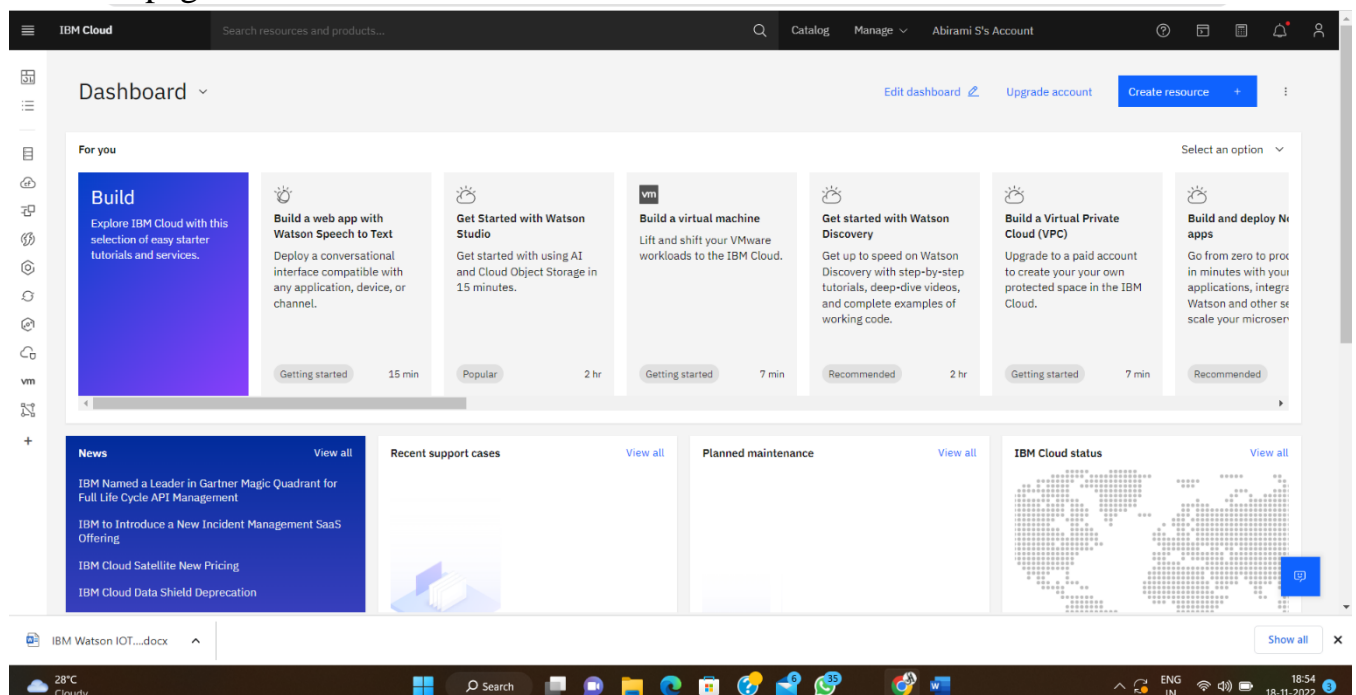
To create the IBM Watson IoT platform and device

STEPS:

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



2.Home page of IBM cloud.



3.Click on the catalog on the top.

IBM Cloud Search resources and products...

Catalog Manage Abirami S's Account

Sell on IBM Cloud Catalog settings

Catalog

Search the catalog...

Category ^ Viewing 206 products

Alphabetically

- Recommended products (6)
- Compute (30)
- Containers (9)
- Networking (29)
- Storage (19)
- AI / Machine Learning (17)
- Analytics (10)
- Blockchain (1)
- Databases (28)
- Developer tools (25)
- Logging and monitoring (3)
- Migration (7)
- Integration (10)

Analytics Engine
By IBM
Submit your Apache Spark applications as needed and customize the Spark runtimes to satisfy the requirements of your application.
Lite • Free • HIPAA Enabled • IAM-enabled • Service Endpoint Supported • IBM supported

AnonTech VizVault Platform
By Anon Technology, Inc.
Manage personal information as-a-service safely, securely, and in compliance with data privacy regulations using VizVault
Lite • Free • HIPAA Enabled • IAM-enabled • Third party supported

API Connect
By IBM
An enterprise-grade platform for creating, securing, managing, sharing, monetizing, and analyzing custom APIs located on-premises...
Lite • Free • EU Supported • IAM-enabled • IBM supported

App Configuration
By IBM
Centralized, in-flight configuration for web and mobile applications and distributed environments.
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App Connect
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Connect your applications, automate tasks, and improve productivity
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App ID
By IBM
User Authentication and User Profiles for your apps.
Lite • Free • EU Supported • Financial Services Validated • HIPAA Enabled • IAM-enabled • IBM supported

Bare Metal Servers for Classic
By IBM
IBM Cloud Bare Metal Servers provide performance, flexibility, on-demand provisioning, and control.
SAP Certified • IBM supported

Bare Metal Servers for VPC
By IBM
Leverage x86 servers with physical single tenancy and high performance offering end user virtualization.
Financial Services Validated • IAM-enabled • IBM supported

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4. Click on IoT in the category mentioned.

IBM Cloud Search resources and products...

Catalog Manage Abirami S's Account

Sell on IBM Cloud Catalog settings

Catalog

Search the catalog...

Category ^ Viewing 132 products

Alphabetically

Filters: Services x Clear all

- Recommended products (6)
- Compute (19)
- Containers (5)
- Networking (24)
- Storage (13)
- AI / Machine Learning (16)
- Analytics (6)
- Blockchain (1)
- Databases (25)
- Developer tools (7)
- Logging and monitoring (3)
- Migration (4)
- Integration (7)
- Internet of Things (1)**
- Security (9)

Type ^

- All
- Services**
- Software
- Professional services

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19:25 18-11-2022

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

IBM Cloud

Search resources and products...

Internet of Things Platform

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.

Create About

Select a location

Frankfurt (eu-de)

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> <p>Maximum of 500 registered devices</p> <p>Maximum of 500 application bindings</p> <p>Maximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed</p>	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.

Summary

Internet of Things Platform Free

Location: Frankfurt

Plan: Lite

Service name: Internet of Things Platform-lj

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

6.Enter the location and in the configure your resource type the service name and choose the plan, tick the agree with agreements and then click on create.

IBM Cloud

Search resources and products...

Internet of Things Platform

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.

Create About

Select a pricing plan

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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

Internet of Things Platform-lj

Select a resource group

Default

Tags

Examples: env:dev, version-1

Access management tags

Examples: access:dev, proj:version-1

Summary

Internet of Things Platform Free

Location: Frankfurt

Plan: Lite

Service name: Internet of Things Platform-lj

Resource group: Default

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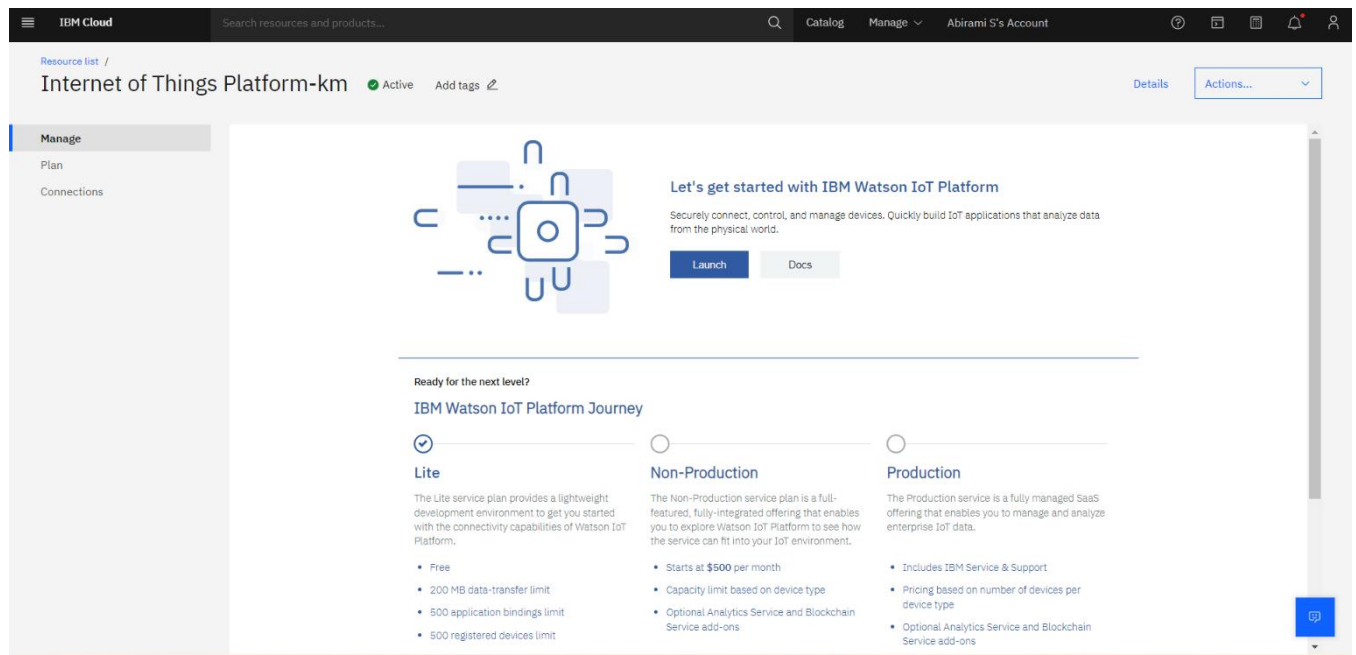
☐ I have read and agree to the following license agreements: [Terms](#)

Create

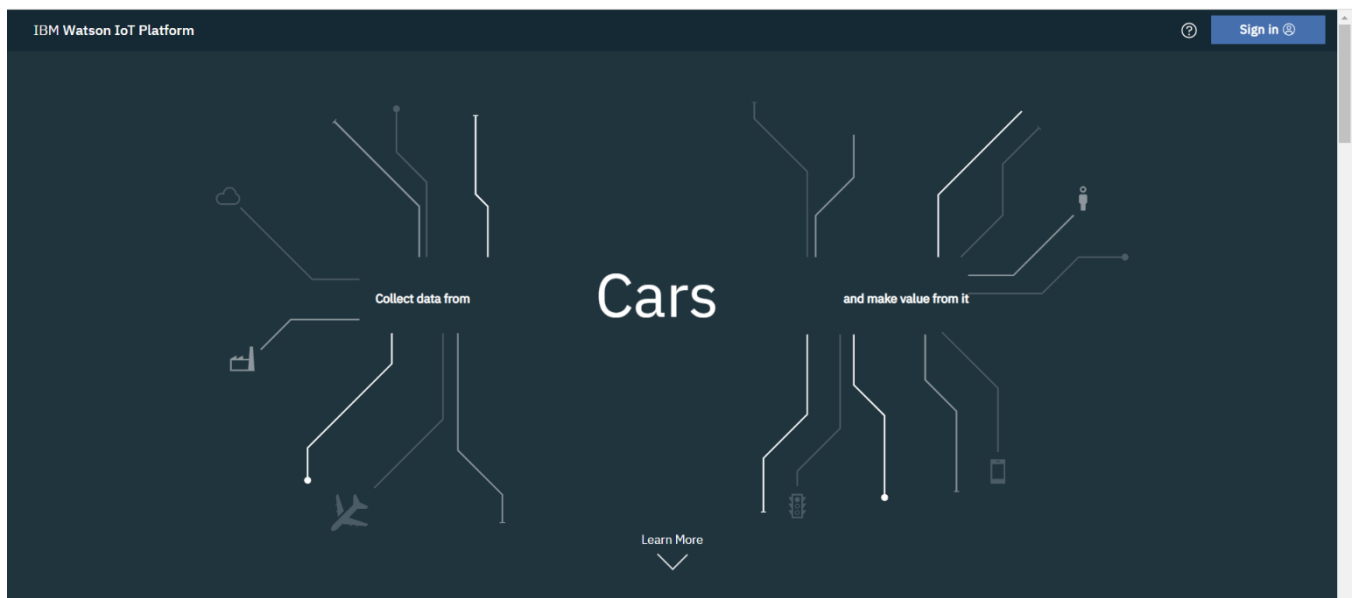
Add to estimate

7.Internet of Things Platform Child_safety will be created, where there are

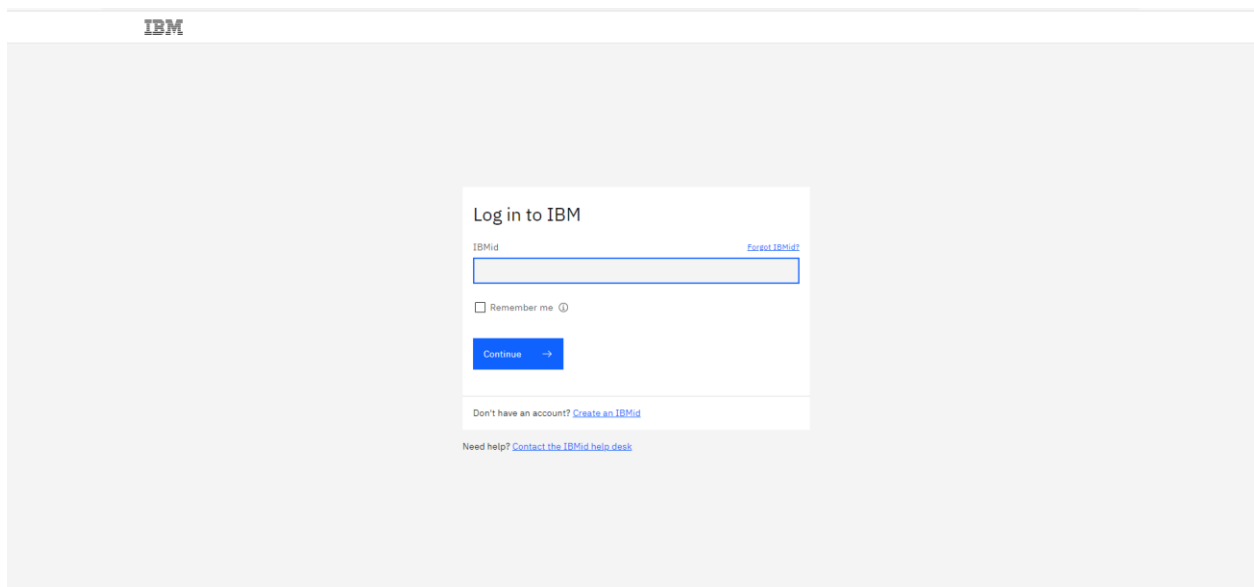
different options like manage, plan, and connection (manage is for launch, Plan gives us the idea about the payment package and its upgrades, and lastly the connection is for to connect IoT with other services)



8. Clicking on the launch button in the manage tab, it will open to this.

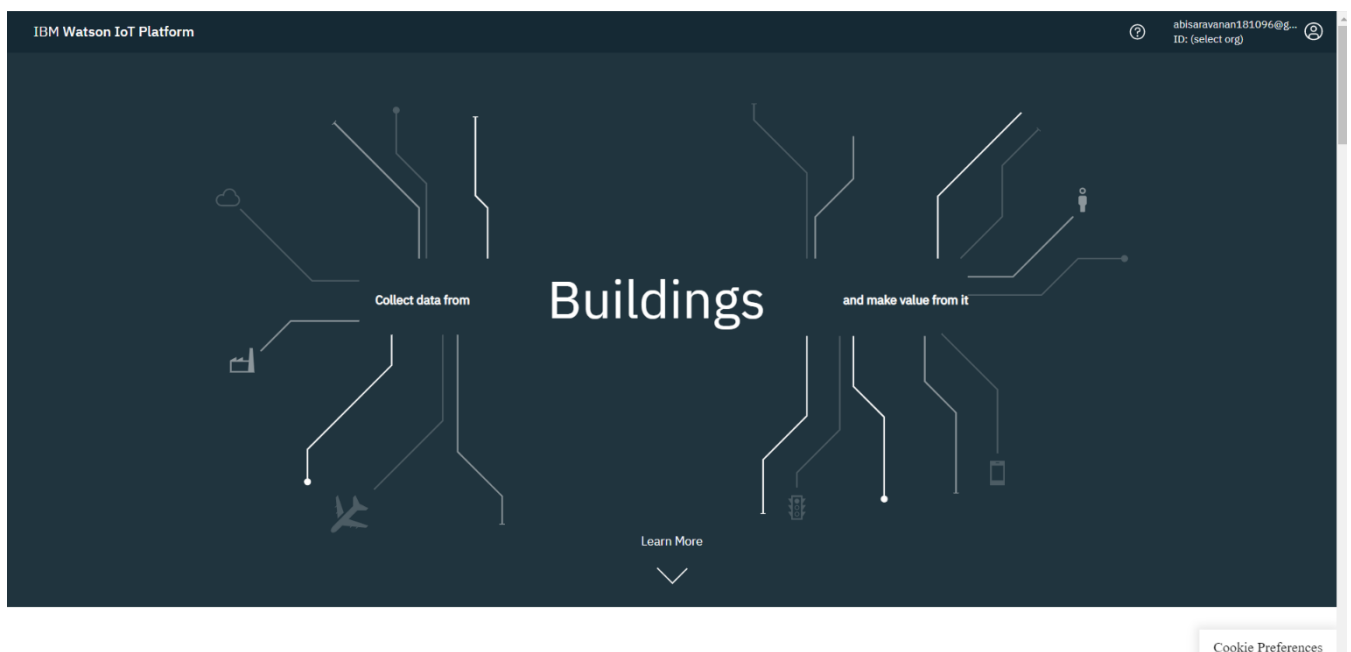


9. Enter the details to sign in to the Watson Cloud to create a device.

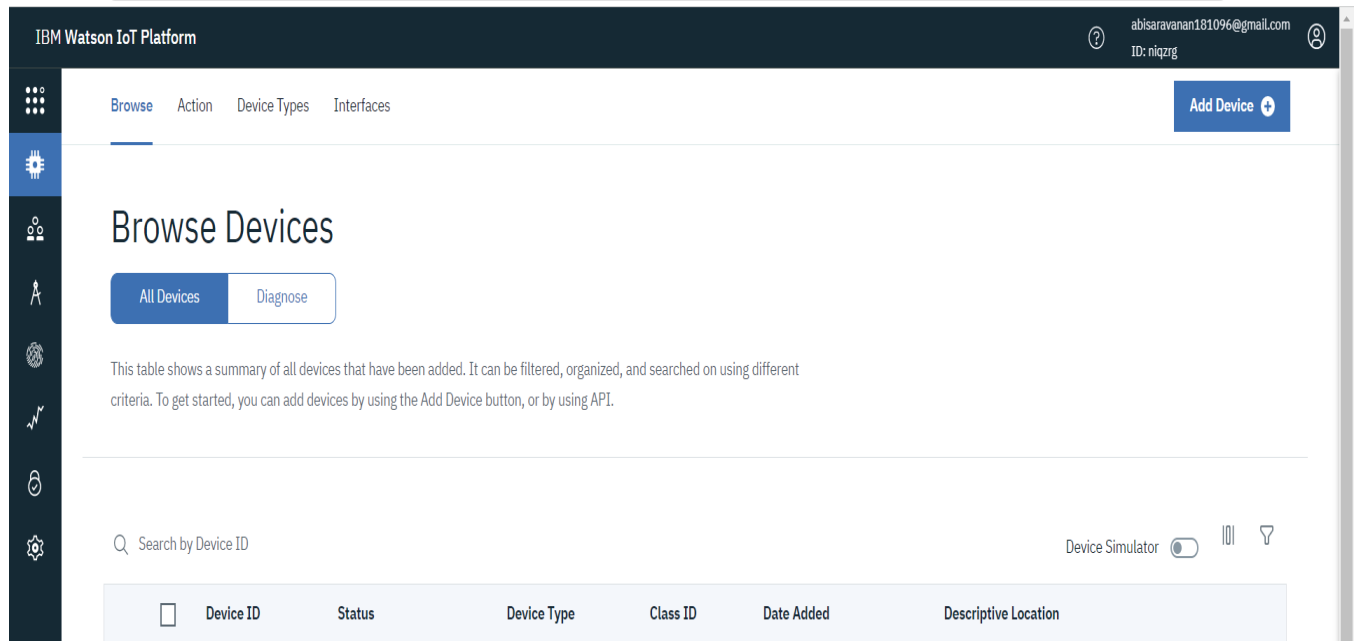


The image shows the IBM login page. At the top left is the IBM logo. The main content is a white box titled "Log in to IBM". Inside the box, there is a label "IBMid" followed by a text input field. To the right of the input field is a link "Forgot IBMid?". Below the input field is a checkbox labeled "Remember me" with a small information icon. At the bottom of the box is a blue button labeled "Continue" with a right-pointing arrow. Below the box, there is a link "Don't have an account? Create an IBMid" and a link "Need help? Contact the IBMid help desk".

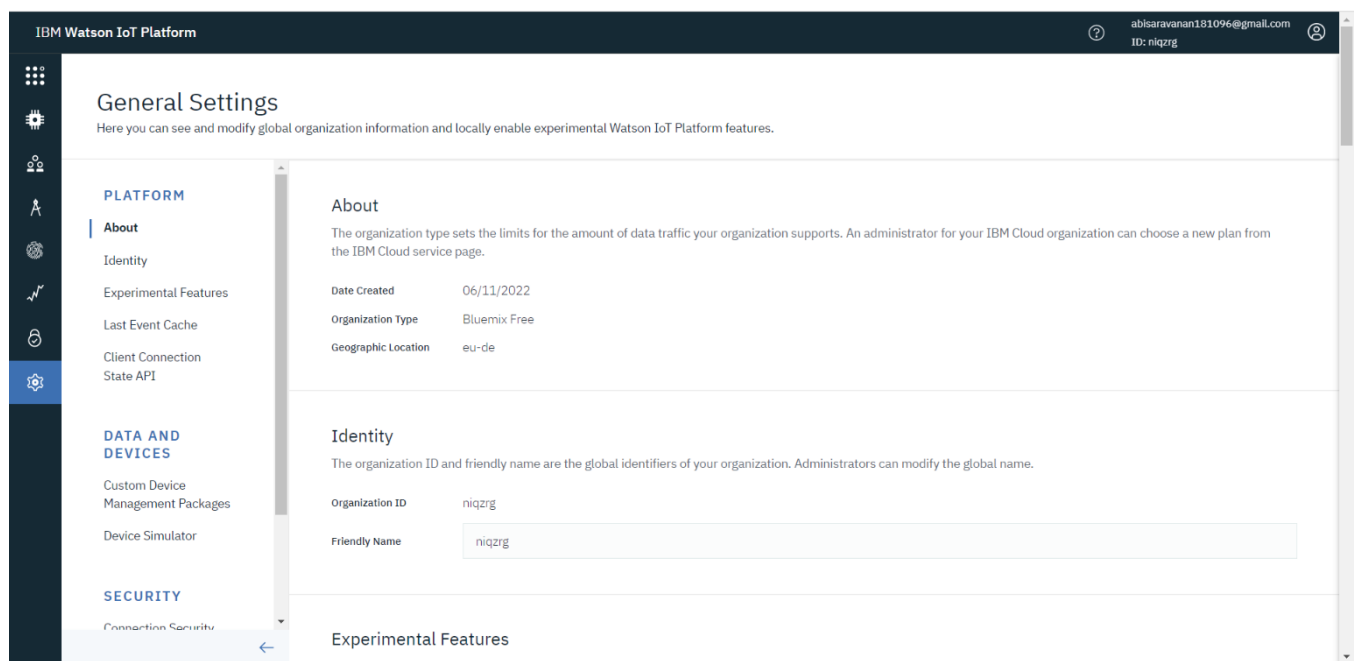
10. Once logged in the name will be displayed and it goes back to the first page.



11. And again, clicking on the launch button will open this tab, the device will help in the creation of the devices, the addition of devices, and the display of details of the devices.

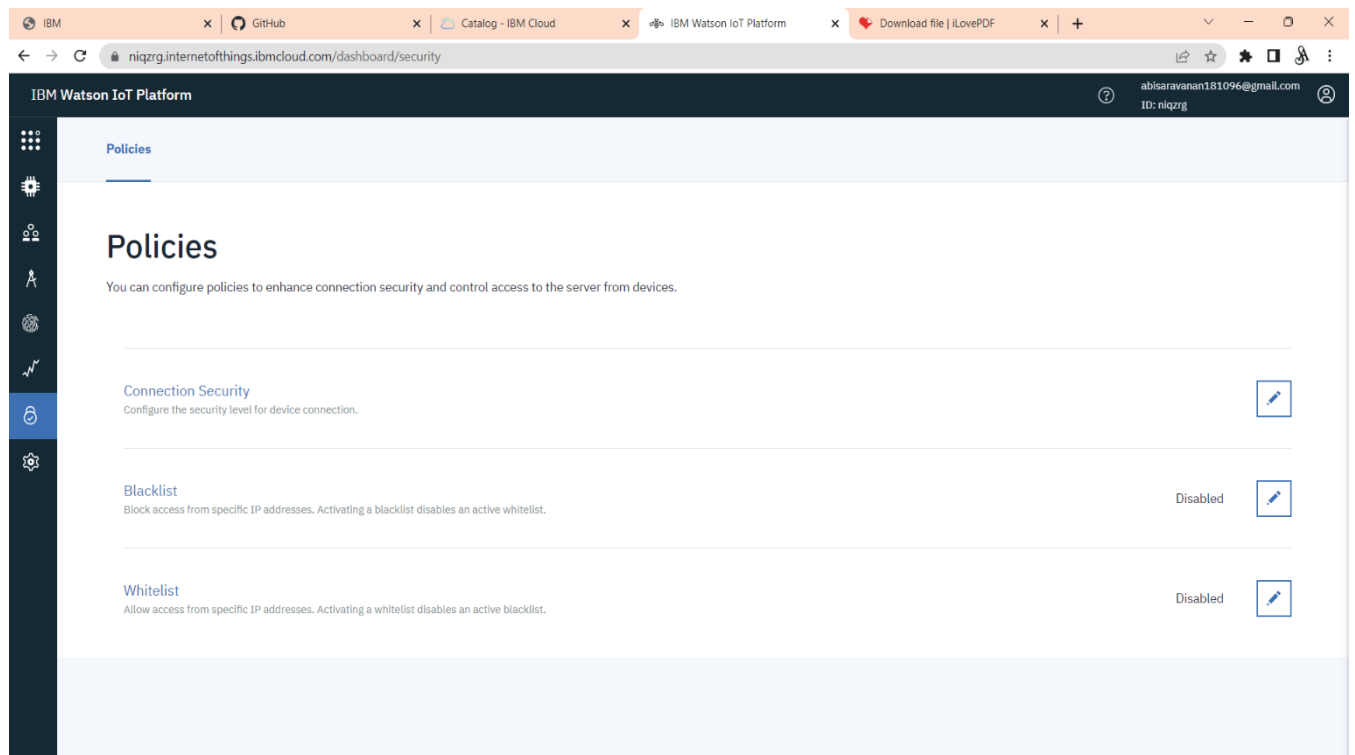


12. The setting tab is used to change the general setting if needed for the project.

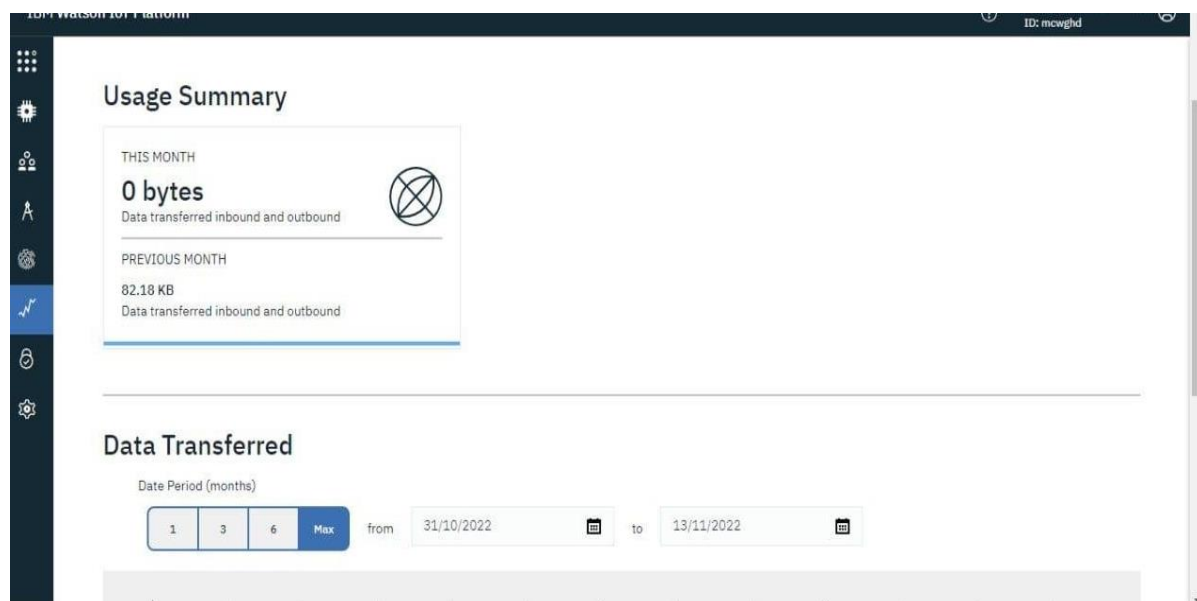


13. In the security tab we can choose the type of security connection and can

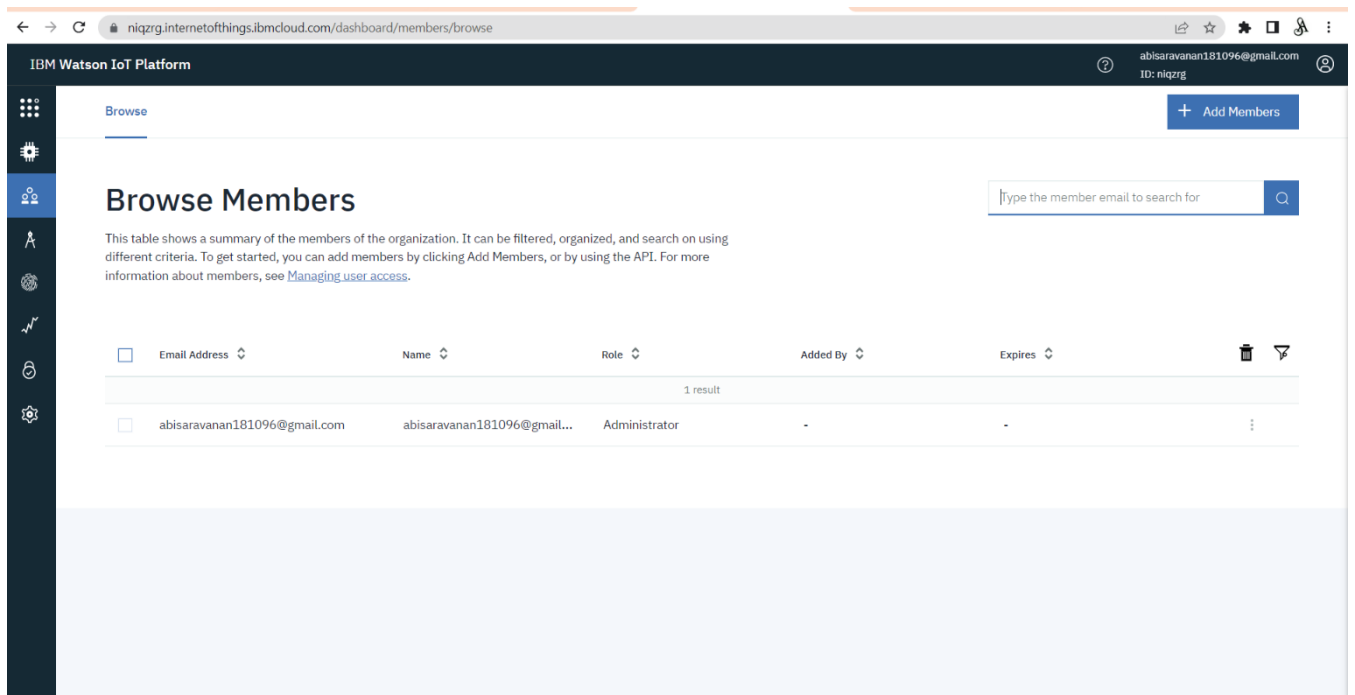
change according to specification.



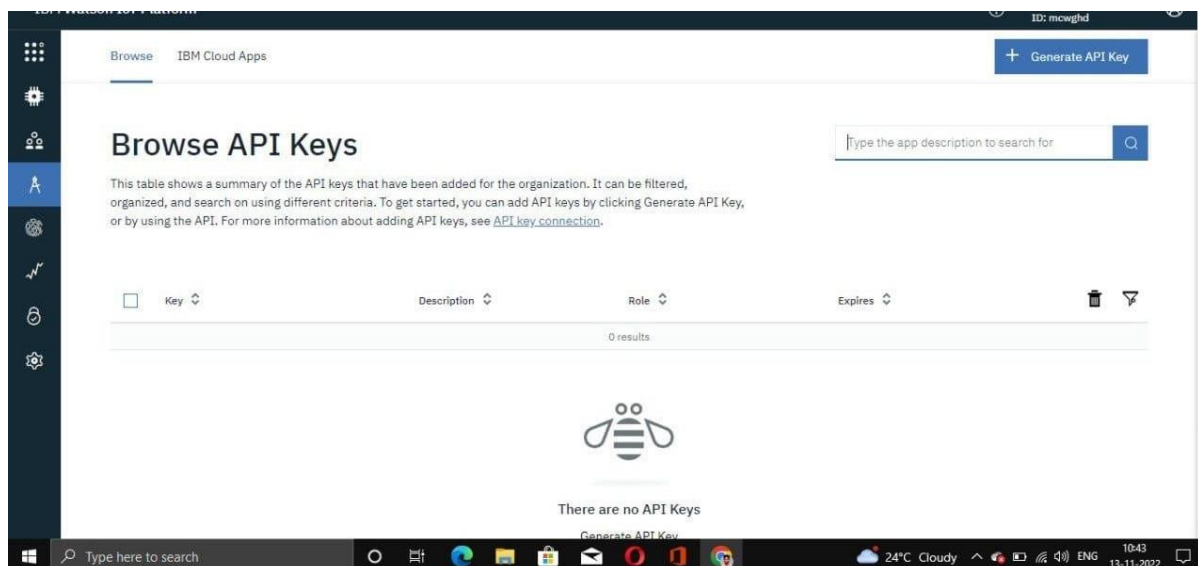
14. Usage gives the summary of how many bytes are used between the devices and the IBM cloud.



15. The member tab is add teams members to work in the platform.

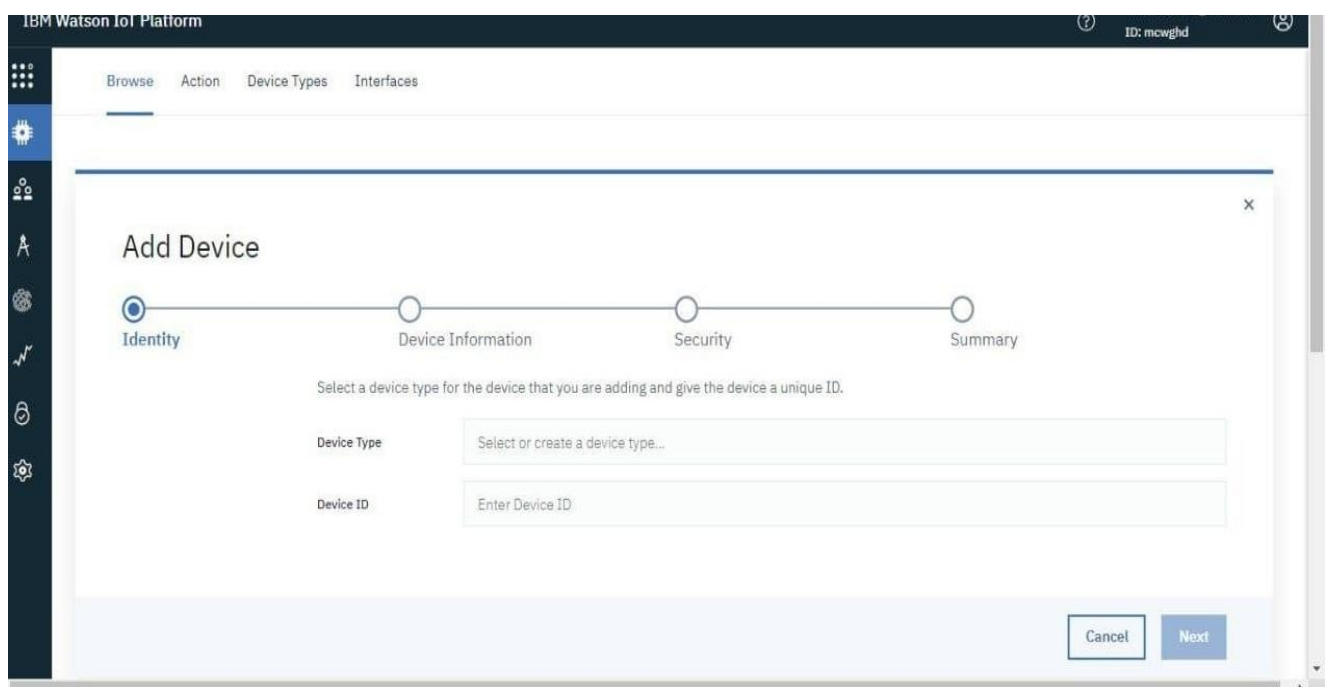
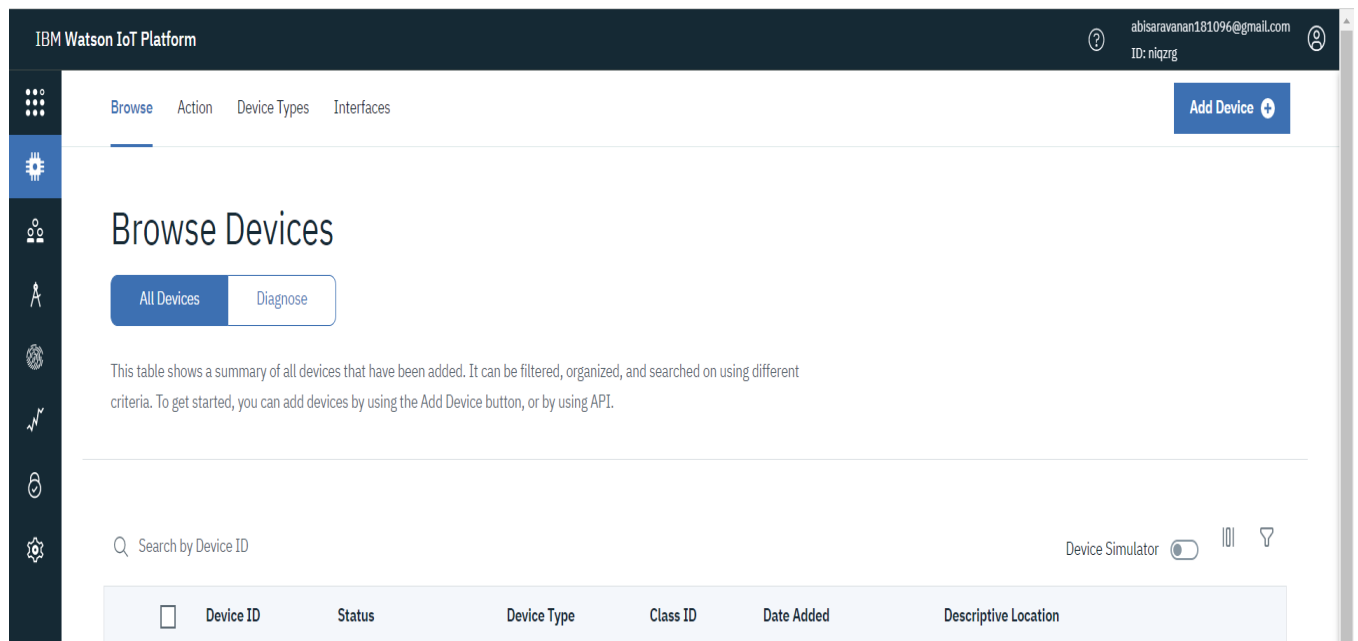


16. This tab is used when you want to connect to some other platform and to integrate with other services.



17. Click on the device tab and click on the add device button, then give the

device type and device id and click next.



18.This page to enter extra details and of the hardware.

IBM Watson IoT Platform

Browse Action Device Types Interfaces

Add Device

Identity Device Information Security Summary

You can modify the default device information and enter more information about the device for identification purposes.

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"/>

19. Clicking next it goes to the security where we do authentication token id.

IBM Watson IoT Platform

Browse Action Device Types Interfaces

Add Device

Identity Device Information Security Summary

There are two options for selecting a device authentication token.

Auto-generated authentication token (default)

Allow the service to generate an authentication token for you. Tokens are 18 characters and contain a mix of alphanumeric characters and symbols. The token is returned to you at the end of the device registration process.

Self-provided authentication token

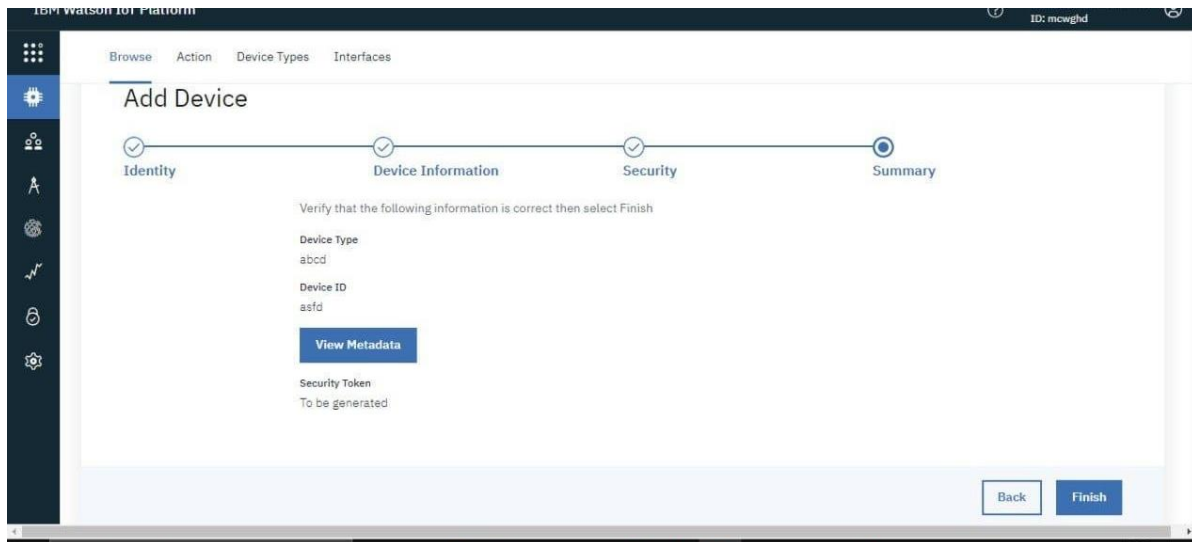
Provide your own authentication token for this device. The token must be between 8 and 36 characters and contain a mix of lowercase and uppercase letters, numbers, and symbols, which can include hyphens, underscores, and periods. Do not use repeated characters, dictionary words, user names, or other predefined sequences.

Authentication Token

Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored.

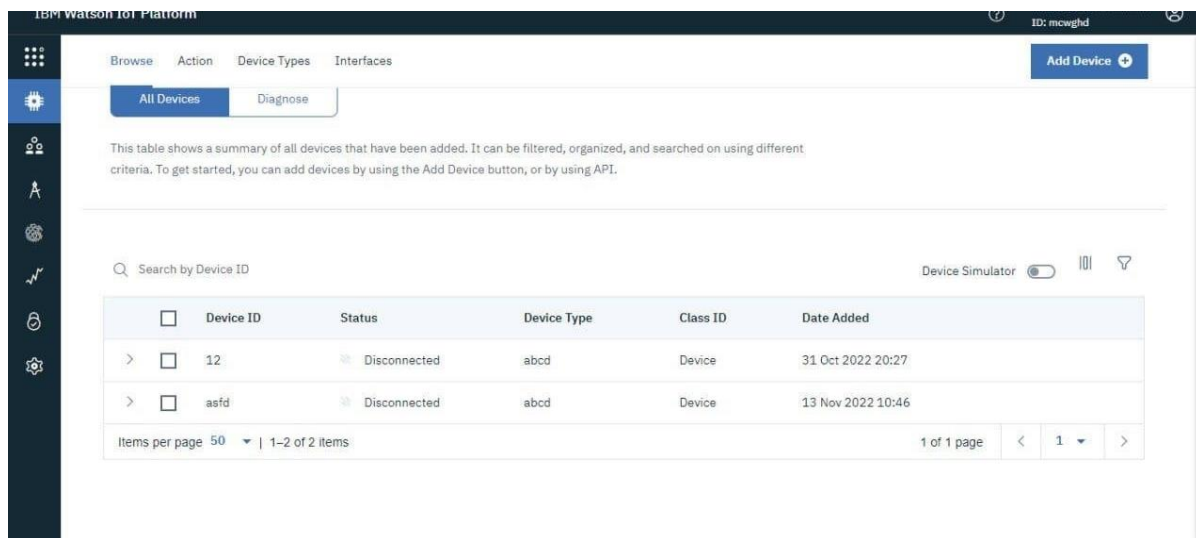
Authentication tokens are encrypted before we store them.

19. Clicking on next it goes to the summary of the device then click finish.



20. The device credentials will be displayed with all the details.
 Safe the details of the device as the authentication tokens are nonrecoverable and if misplaced then we have to create a new one.

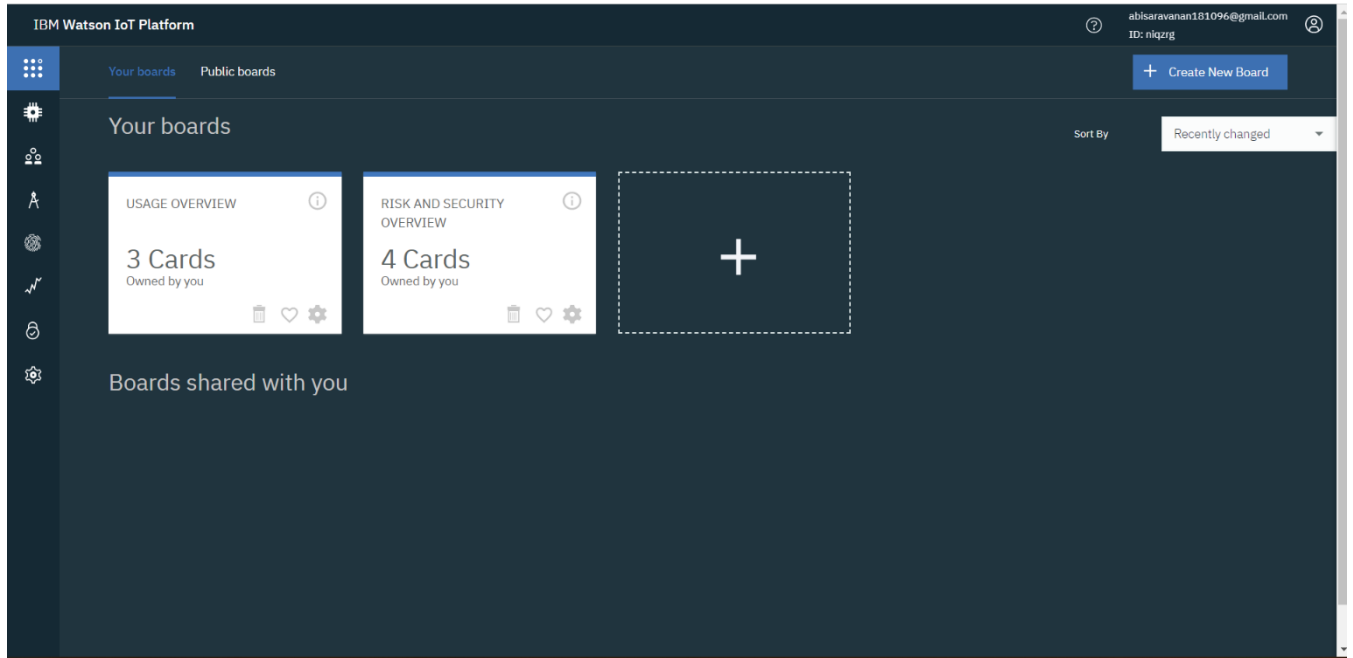
Clicking on the device tab we can now see the added device. Clicking on it will display the other details. It has different tabs like Identity, Device Information, State and login.



In a similar way, we can create n number of devices with a 50 per

page limit as per the requirement of our project.

24.The Boards will display card for the project



RESULT:

A Device and an IBM Watson cloud are developed.