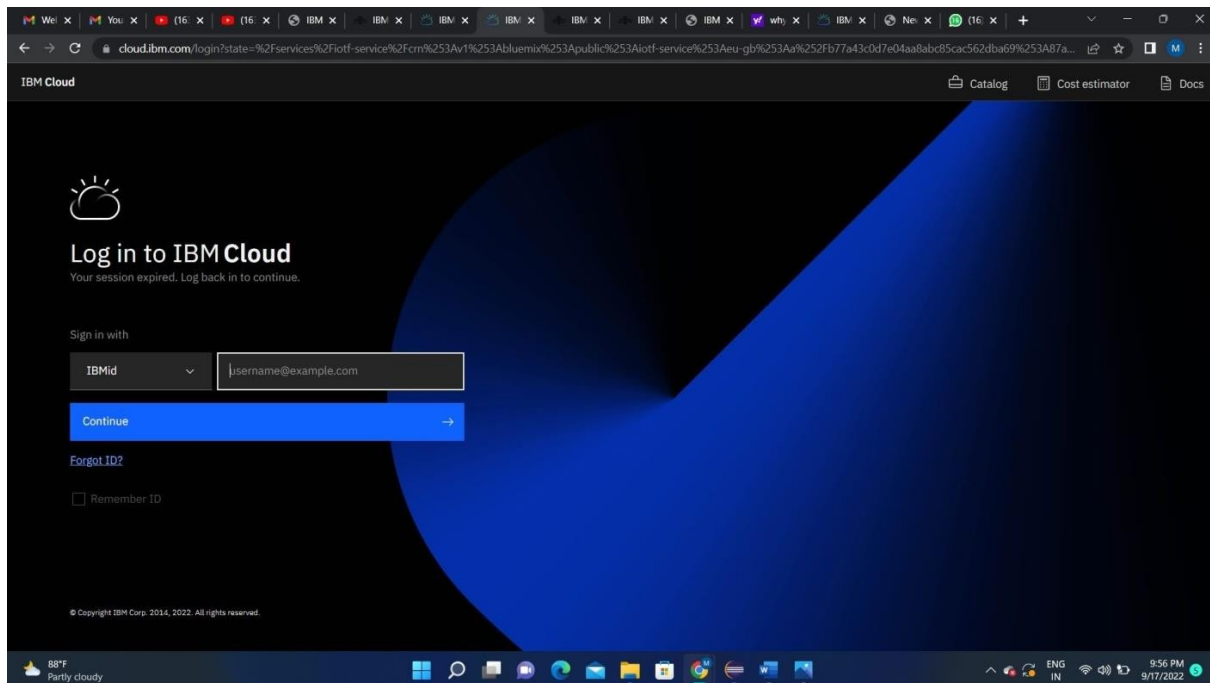


CREATE IBM WATSON IOT PLATFORM AND DEVICE

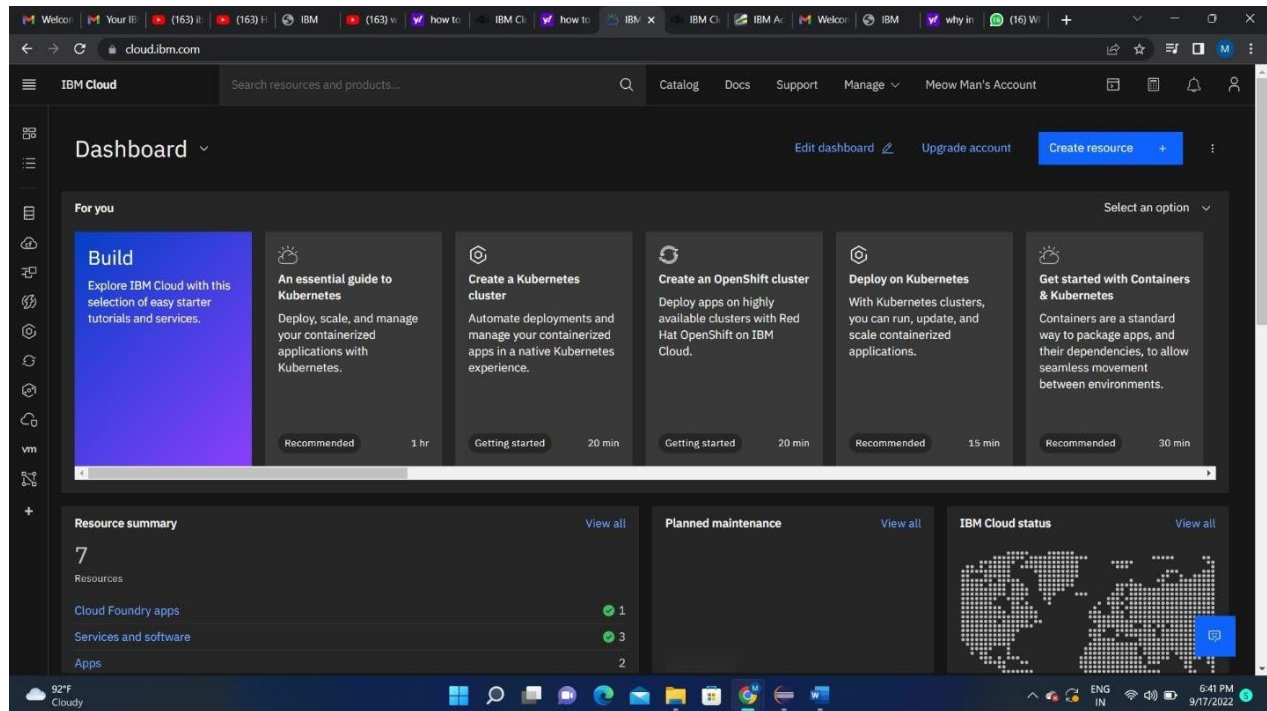
Date	22-10-2022
Team ID	PNT2022TMID26096
Project Name	Signs with Smart Connectivity for Better Road Safety
Maximum Marks	4 Marks

STEPS:

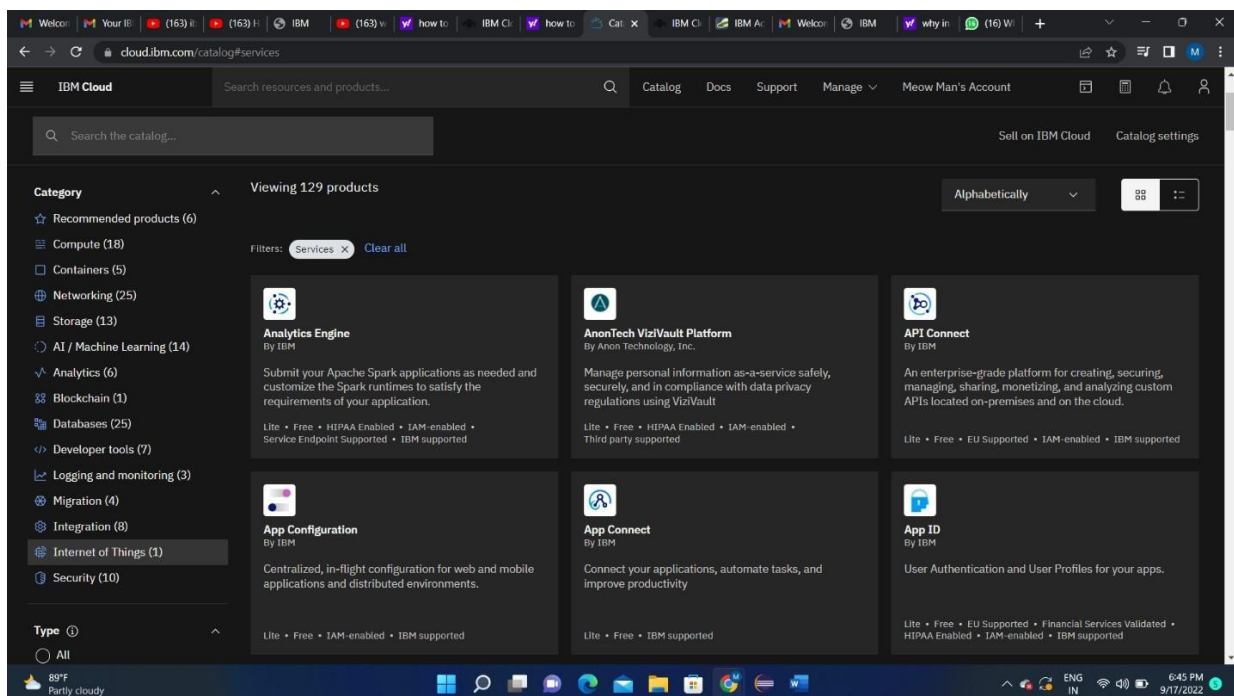
1. Firstly create an IBM cloud account with IBMid and password



2. Home page of IBM cloud



3. Click on the catalog on the top



Click on IoT in the category mentioned

The screenshot shows the IBM Cloud IoT Platform service page. The main content area is titled "Internet of Things Platform" and includes a "Create" tab. Below the tab, there are sections for "Select a location" (Dallas (us-south)) and "Select a pricing plan" (Lite). The Lite plan is highlighted, showing features like "Includes up to 500 registered devices, and a maximum of 200 MB of each data metric" and "Maximum of 500 application bindings". The pricing is listed as "Free".

Summary sidebar:

- Internet of Things Platform** (Free)
- Location: Dallas
- Plan: Lite
- Service name: Internet of Things Platform-bb
- Resource group: Default

Warning message:

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.](#)

License agreement checkbox:

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

Buttons: Create, Add to estimate

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

The screenshot shows the IBM Cloud IoT Platform service page, specifically the "Configure your resource" section. The main content area is titled "Internet of Things Platform" and includes a "Configure your resource" section. Below this section, there are fields for "Service name" (Internet of Things Platform-bb), "Tags" (Examples: env:dev, version-1), "Select a resource group" (Default), and "Access management tags" (Examples: access:dev, proj:version-1).

Summary sidebar:

- Internet of Things Platform** (Free)
- Location: London
- Plan: Lite
- Service name: Internet of Things Platform-bb
- Resource group: Default

Warning message:

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.](#)

License agreement checkbox:

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

Buttons: Create, Add to estimate

5. 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...

Catalog Docs Support Manage Meow Man's Account

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

Type: Service

Provider: IBM

Updated on: 08/15/2022

Category: Internet of Things

Compliance: IAM-enabled

Location: Frankfurt, London, Dallas, Washington DC

Related links: Docs, Terms

89°F Partly cloudy

Select a location

Dallas (us-south)

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">Maximum of 500 registered devicesMaximum of 500 application bindingsMaximum 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.

Summary

Internet of Things Platform Free

Location: Dallas

Plan: Lite

Service name: Internet of Things Platform-2w

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

IBM Cloud

Search resources and products...

Catalog Docs Support Manage Meow Man's Account

Internet of Things

Compliance: IAM-enabled

Location: Frankfurt, London, Dallas, Washington DC

Related links: Docs, Terms

89°F Partly cloudy

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">Maximum of 500 registered devicesMaximum of 500 application bindingsMaximum 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: Internet of Things Platform-child_safety

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: London

Plan: Lite

Service name: Internet of Things Platform-child_safety

Resource group: Default

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

Create

Add to estimate

6. 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 servies)

The screenshot shows the IBM Cloud IoT Platform console. The left sidebar has a 'Manage' tab selected. The main content area displays a 'Let's get started with IBM Watson IoT Platform' section with a 'Launch' button. Below this, there's a 'Ready for the next level?' section titled 'IBM Watson IoT Platform Journey' with three options: 'Lite', 'Non-Production', and 'Production'. The 'Lite' option is currently selected.

Let's get started with IBM Watson IoT Platform

Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.

[Launch](#) [Docs](#)

Ready for the next level?

IBM Watson IoT Platform Journey

- Lite**
The Lite service plan provides a lightweight development environment to get you started with the connectivity capabilities of Watson IoT Platform.
 - Free
- Non-Production**
The Non-Production service plan is a full-featured, fully-integrated offering that enables you to explore Watson IoT Platform to see how the service can fit into your IoT environment.
 - Starts at \$500 per month
- Production**
The Production service is a fully managed SaaS offering that enables you to manage and analyze enterprise IoT data.
 - Includes IBM Service & Support

The screenshot shows the IBM Cloud IoT Platform console with the 'Plan' tab selected. The main content area displays the 'Current plan' as 'Lite' with its features. To the right, the 'Current usage' is shown as 'N/A'. Below this, there's a 'Change pricing plan' section with a table showing the 'Lite' plan details.

Current plan

Lite

Features

- 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

Current usage

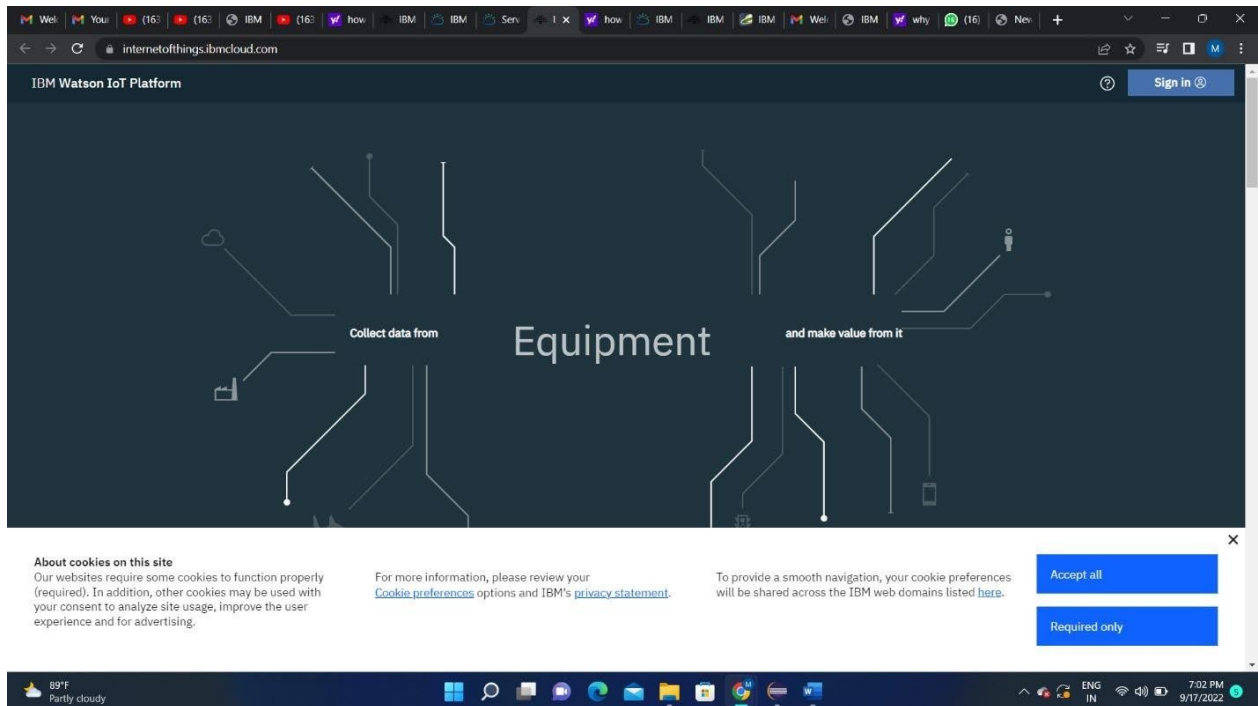
N/A

Lite plan services are deleted after 30 days of inactivity.

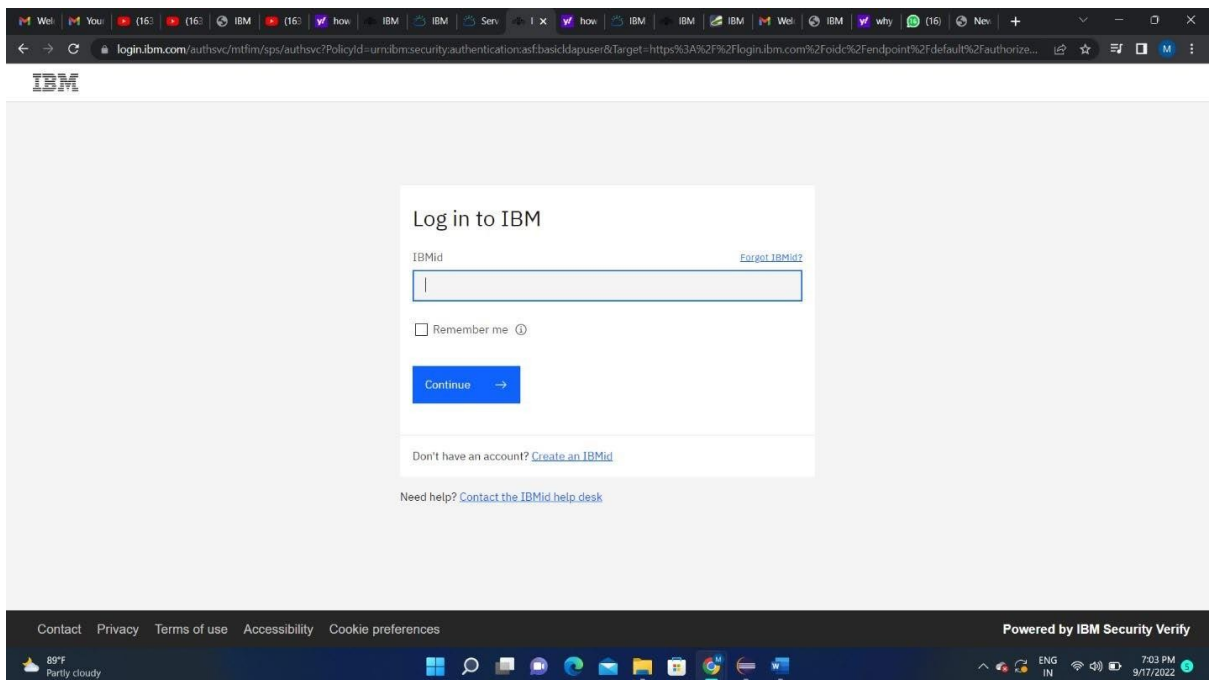
Change pricing plan

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

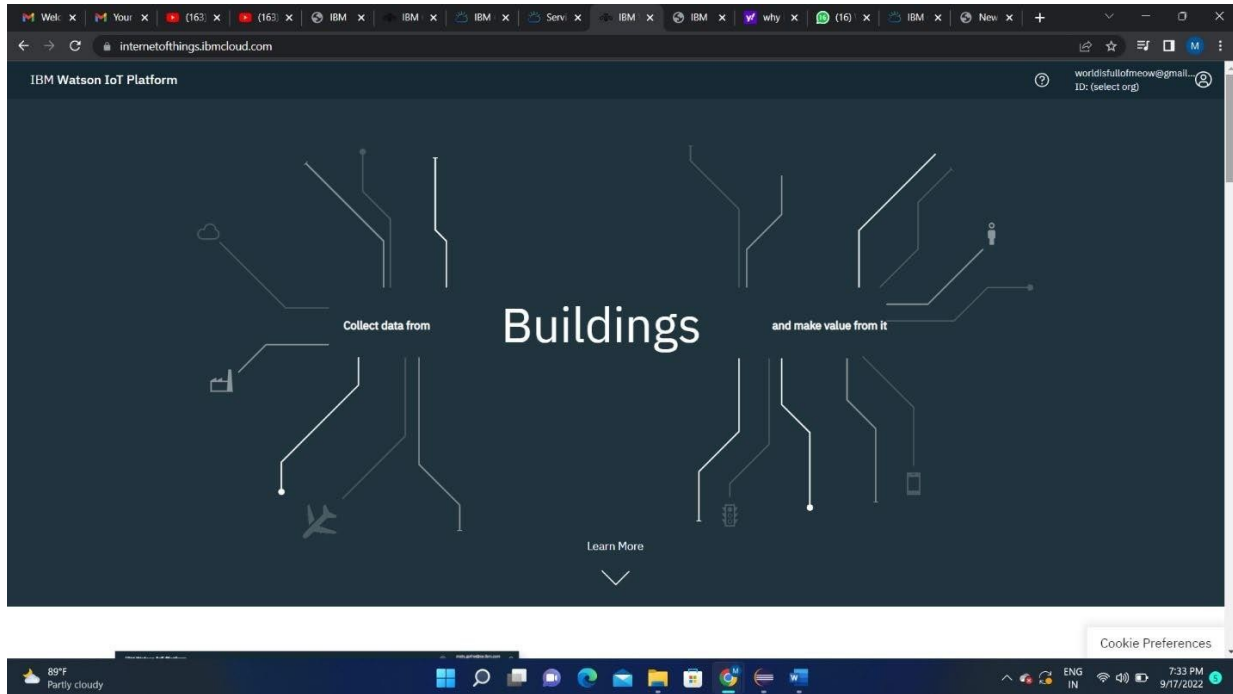
7. Clicking on the launch button in the manage tab, it will open to this



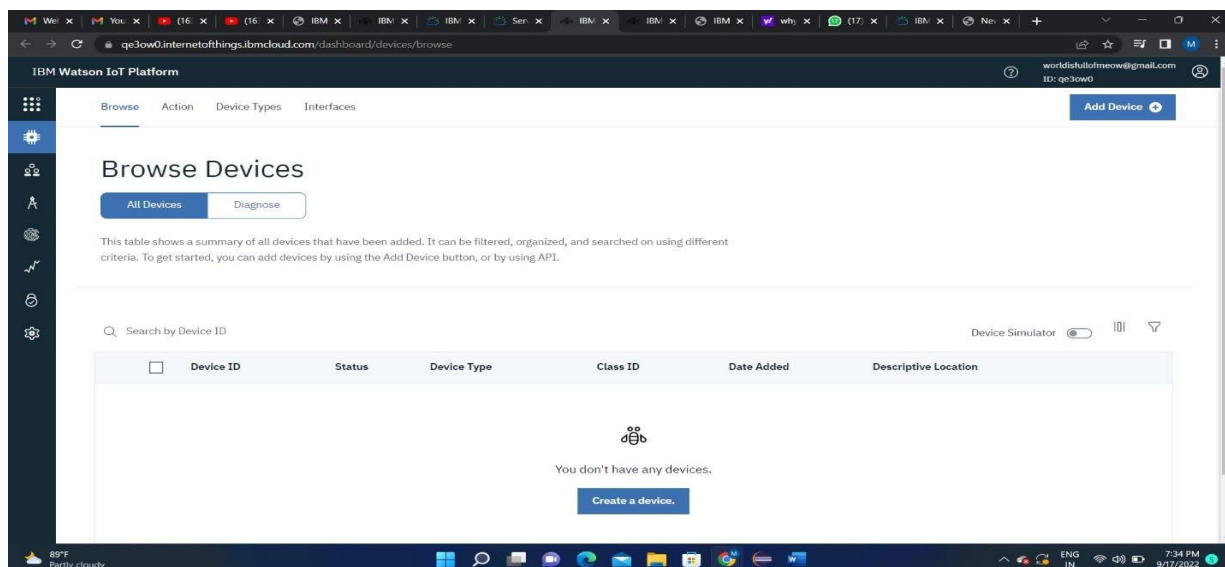
8. Enter the details to sign in to the Watson Cloud to create a device



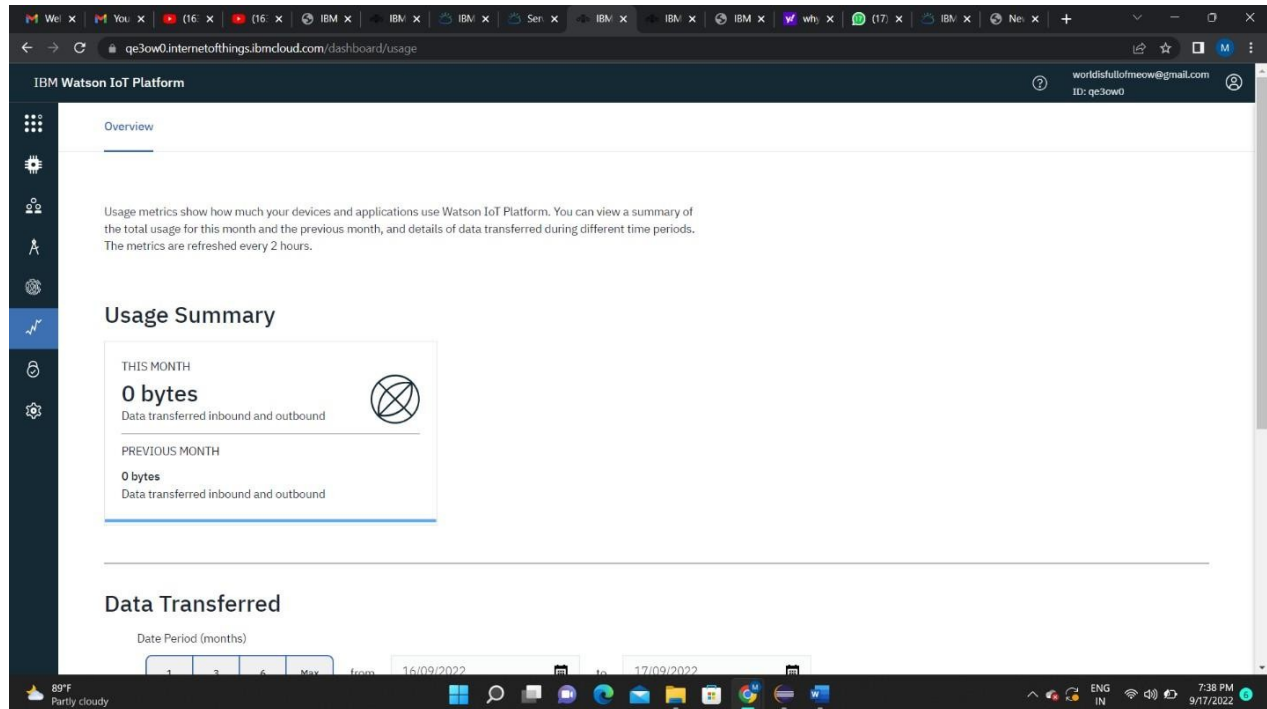
9. Once logged in the name will be displayed and it goes back to the first page



10. 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



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

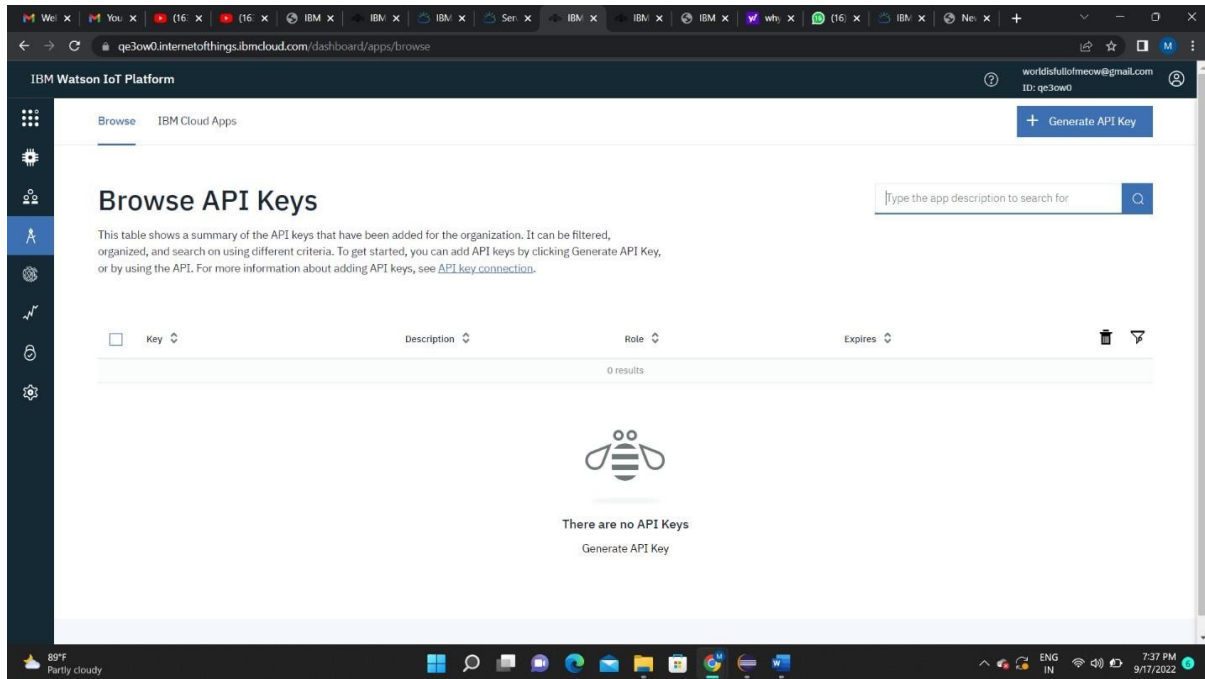


12. The member tab is add the teams members to work in the platform

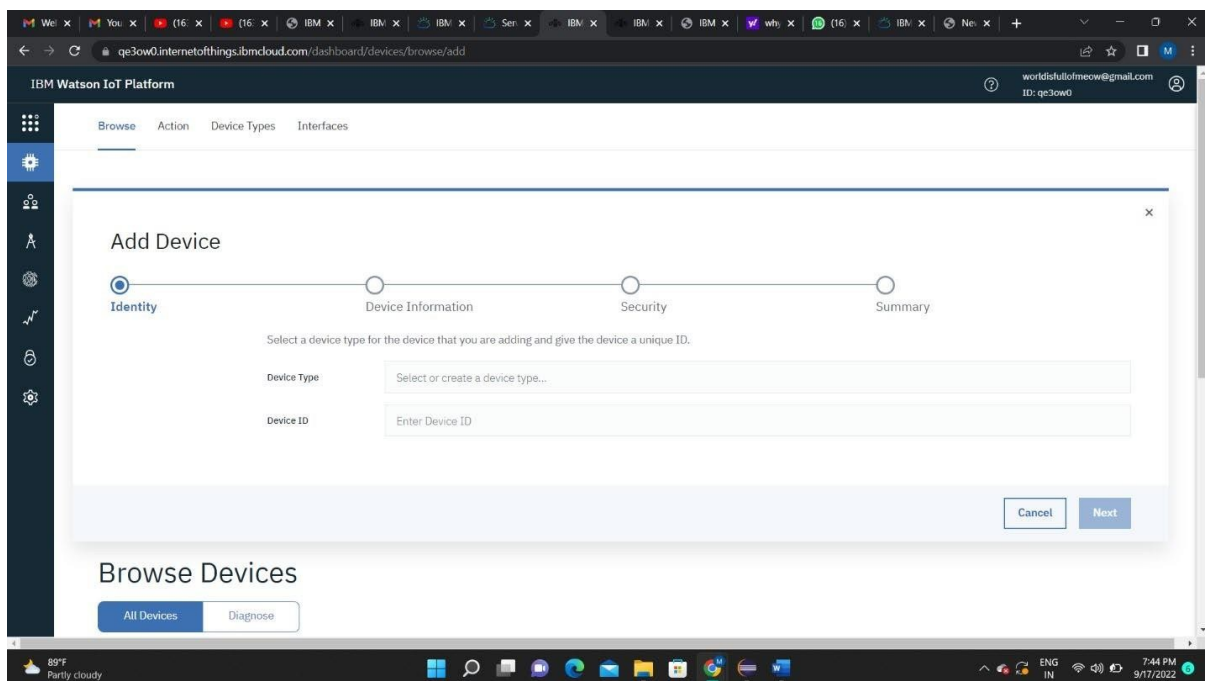
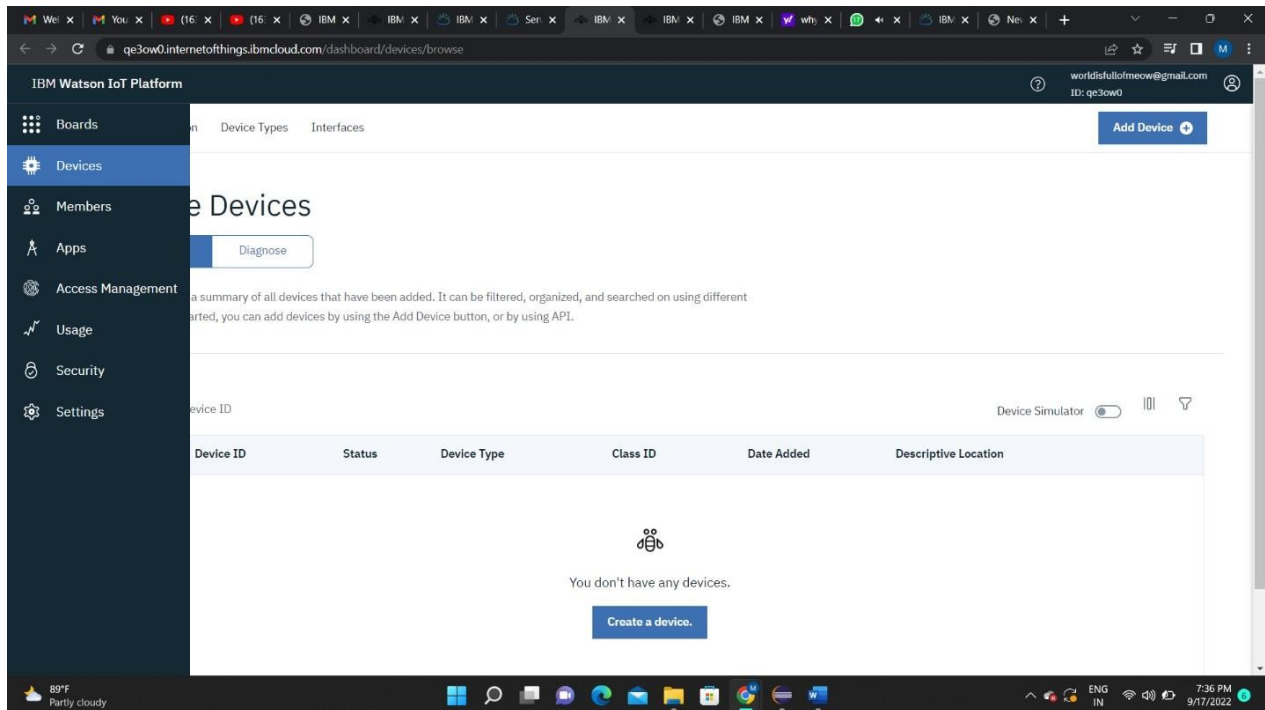
The screenshot shows the 'Browse Members' page in the IBM Watson IoT Platform. The page title is 'Browse Members'. Below the title, there is a search bar with the placeholder text 'Type the member email to search for'. Below the search bar, there is a table showing the members of the organization. The table has columns for 'Email Address', 'Name', 'Role', 'Added By', and 'Expires'. There is one member listed: 'worldisfulofmeow@gmail.com' with the role 'Administrator'. The page includes a sidebar with navigation icons and a top navigation bar with the user's email 'worldisfulofmeow@gmail.com' and ID 'qe3ow0'. The browser address bar shows the URL 'qe3ow0.internetofthings.ibmcloud.com/dashboard/members/browse'.

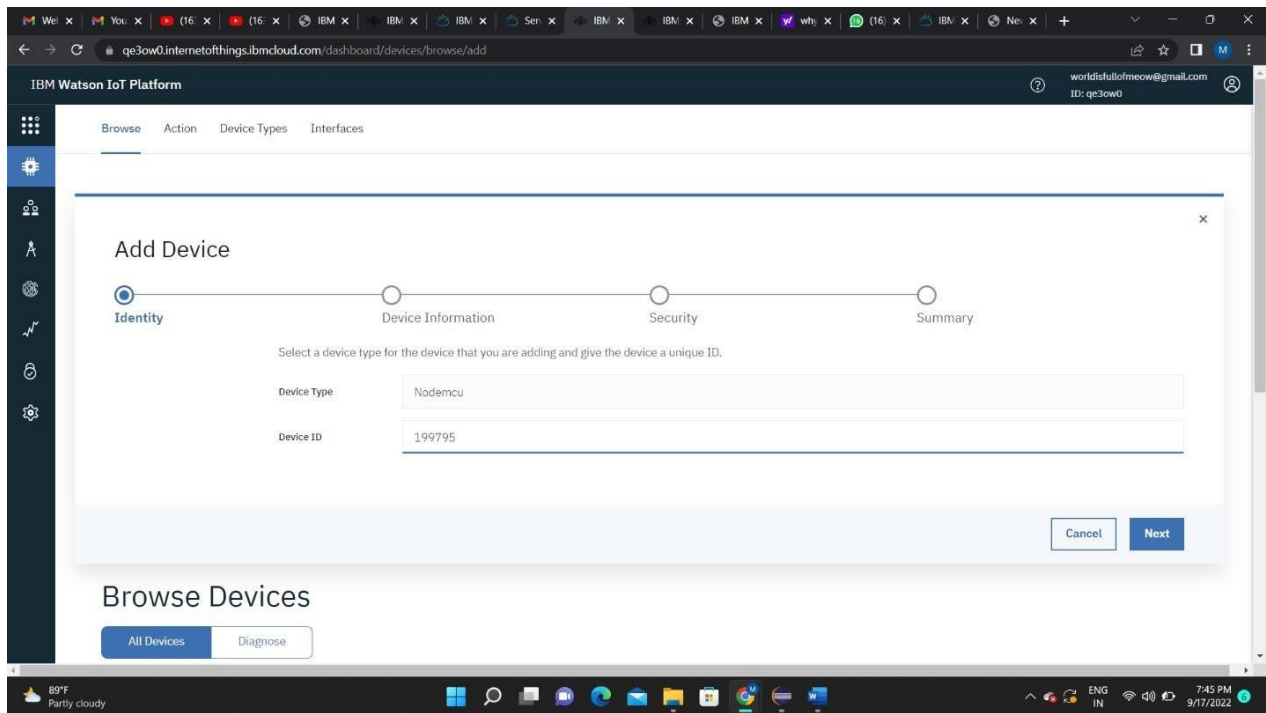
Email Address	Name	Role	Added By	Expires
worldisfulofmeow@gmail.com	worldisfulofmeow@gmail.com	Administrator	-	-

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

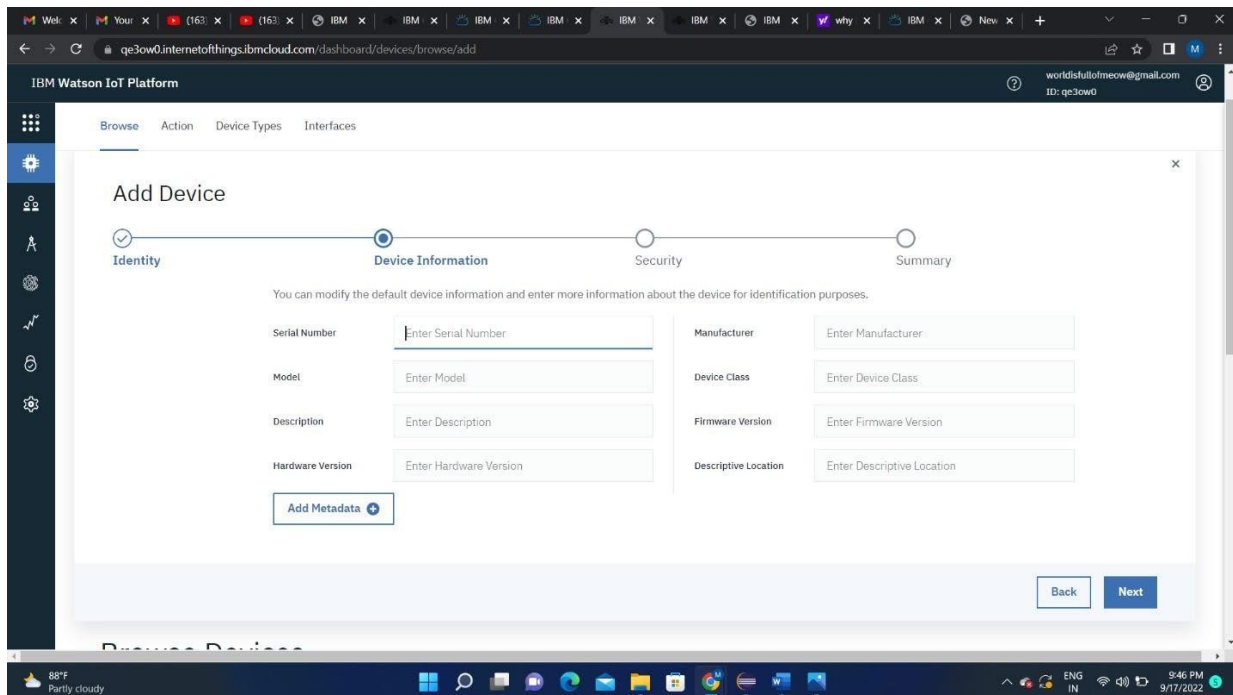


14. Click on the device tab and click on the add device button, then give the device type and device id and click next





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



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

The screenshot shows the 'Add Device' wizard in the IBM Watson IoT Platform. The 'Security' step is active, showing two options for authentication: 'Auto-generated authentication token (default)' and 'Self-provided authentication token'. The 'Auto-generated' option is selected, and a text box displays the generated token: '1997199520012005'. Below the token, a note states: 'Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored.' A link 'Authentication token are encrypted before we store them.' is also present. The wizard progress bar at the top shows 'Identity' and 'Device Information' as completed steps, 'Security' as the current step, and 'Summary' as the next step.

IBM Watson IoT Platform

worldishulofmeow@gmail.com
ID: qe3ow0

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.

Authentication Token: 1997199520012005

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

Authentication token are encrypted before we store them.

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.

89°F Partly cloudy 8:06 PM 9/17/2022

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

The screenshot shows the 'Add Device' wizard in the IBM Watson IoT Platform, now at the 'Summary' step. The 'Summary' step is active, displaying the device details: 'Device Type: NodeMCU', 'Device ID: 199795', and 'Security Token: 1997199520012005'. A 'View Metadata' button is located below the device ID. At the bottom right, there are 'Back' and 'Finish' buttons. The wizard progress bar at the top shows 'Identity', 'Device Information', and 'Security' as completed steps, and 'Summary' as the current step.

IBM Watson IoT Platform

worldishulofmeow@gmail.com
ID: qe3ow0

Browse Action Device Types Interfaces

Add Device

Identity Device Information Security Summary

Verify that the following information is correct then select Finish

Device Type: NodeMCU

Device ID: 199795

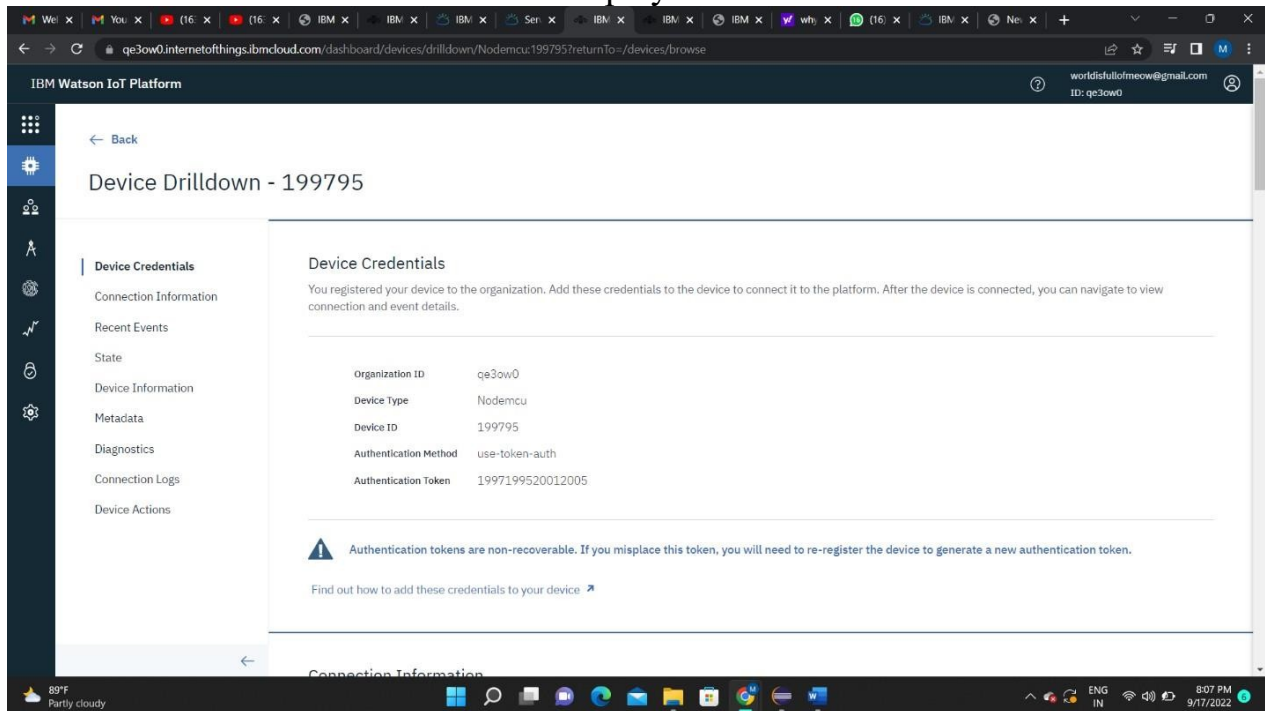
View Metadata

Security Token: 1997199520012005

Back Finish

89°F Partly cloudy 8:07 PM 9/17/2022

18. The device credentials will be displayed with all the details

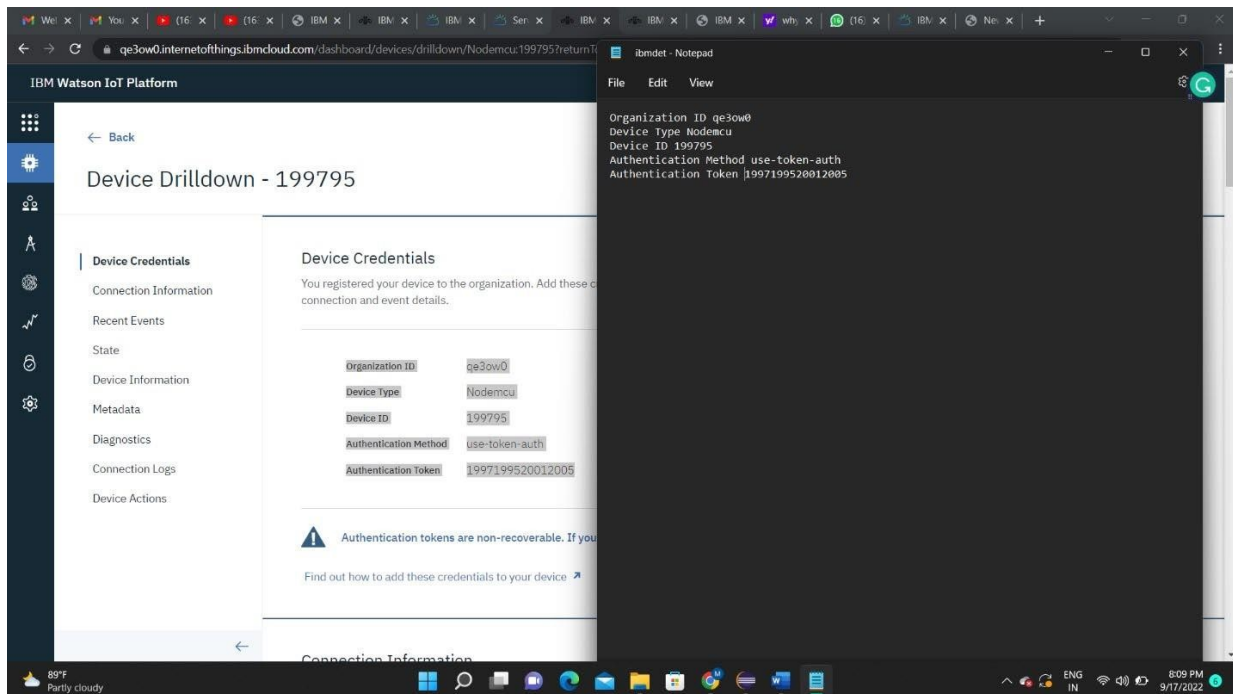


The screenshot shows the IBM Watson IoT Platform interface. The left sidebar contains navigation icons. The main content area is titled 'Device Drilldown - 199795'. Under the 'Device Credentials' tab, a table displays the following information:

Organization ID	qe3ow0
Device Type	Nodemcu
Device ID	199795
Authentication Method	use-token-auth
Authentication Token	1997199520012005

Below the table, a warning icon and text state: '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'.

19. Safe the details of the device as the authentication tokens are non-recoverable and if misplaced then we have to create a new one.



The screenshot shows the same IBM Watson IoT Platform interface as before, but with a Notepad window open on the right. The Notepad window contains the following text, which is a copy of the device credentials from the previous screenshot:

```
Organization ID qe3ow0
Device Type Nodemcu
Device ID 199795
Authentication Method use-token-auth
Authentication Token 1997199520012005
```

20. 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.

The screenshot shows the IBM Watson IoT Platform dashboard. 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: Device ID 199795, Status Disconnected, Device Type Nodemcu, Class ID Device, Date Added 17 Sep 2022 20:07. Below the table, there are tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing a message: 'The recent events listed show the live stream of data that is coming and going from this device.' Below this message is a table with columns: Event, Value, Format, and Last Received. The bottom of the screen shows a Windows taskbar with the date 8:11 PM 9/17/2022.

The screenshot shows the IBM Watson IoT Platform dashboard with the 'Identity' tab selected. The table below the tabs displays the following information:

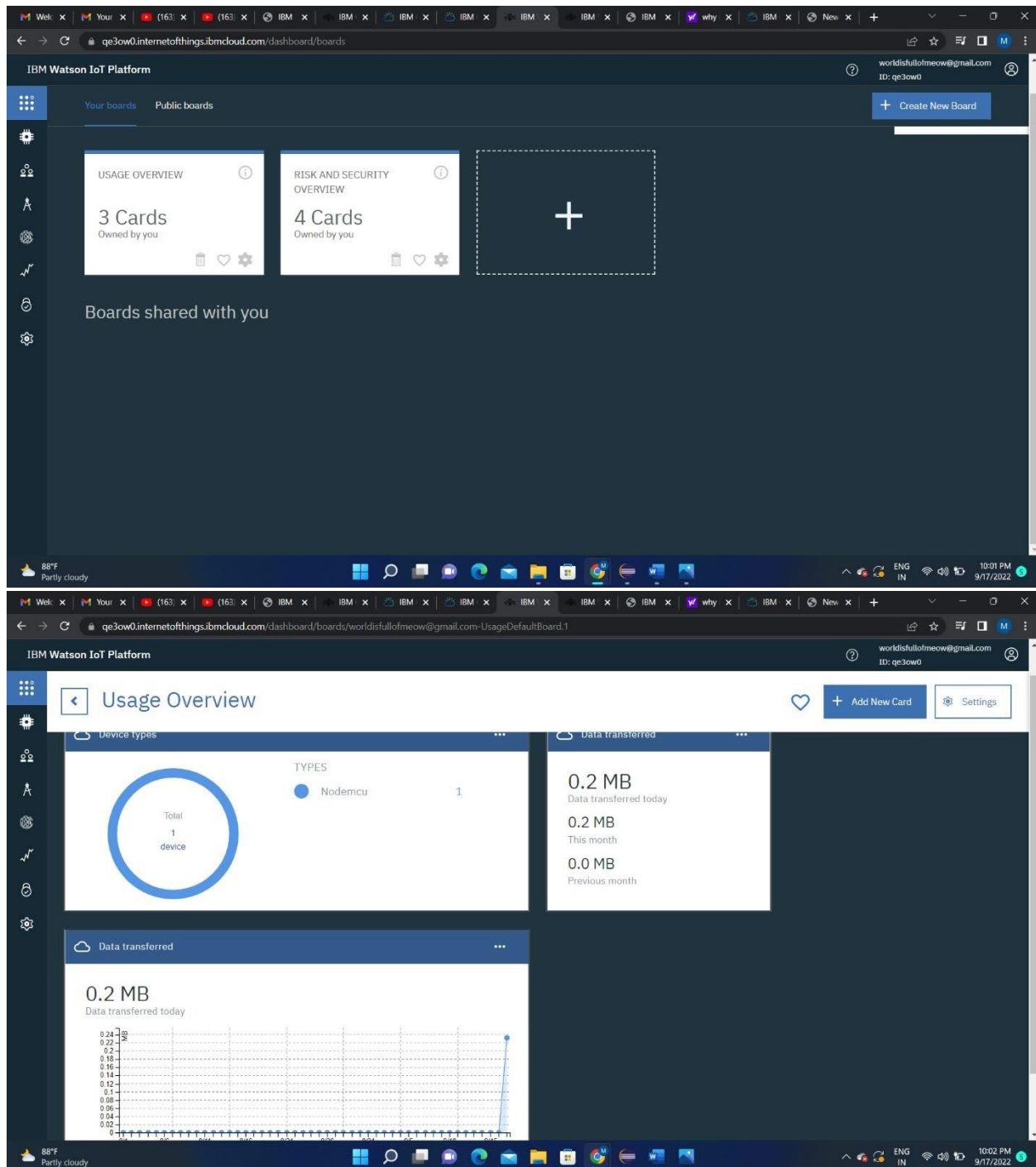
Property	Value
Device ID	199795
Device Type	Nodemcu
Date Added	17 Sep 2022 20:07
Added By	worldisfullofmeow@gmail.com
Connection Status	Disconnected

At the bottom of the page, there is a pagination bar showing 'Items per page: 50' and '1-1 of 1 item'.

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

per the requirement of our project.

21. The Boards will display card for the project.



RESULT:

An IBM Watson cloud for IoT and a device is created