

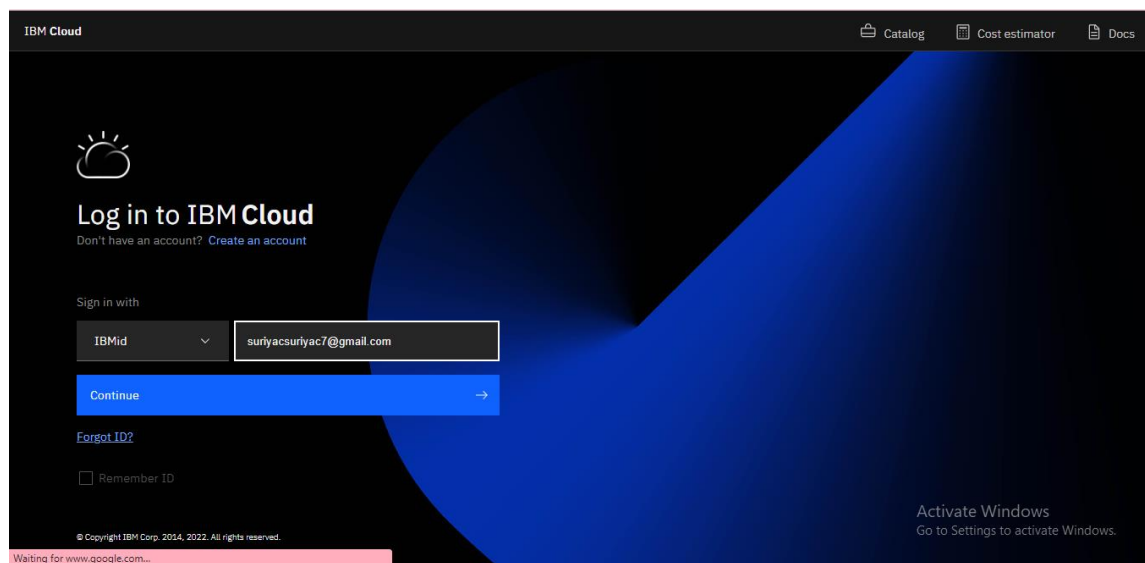
CREATE IBM WATSON IOT PLATFORM AND DEVICE

Team ID	PNT2022TMID46736
Project Name	IOT Based Smart Crop Protection System For Agriculture

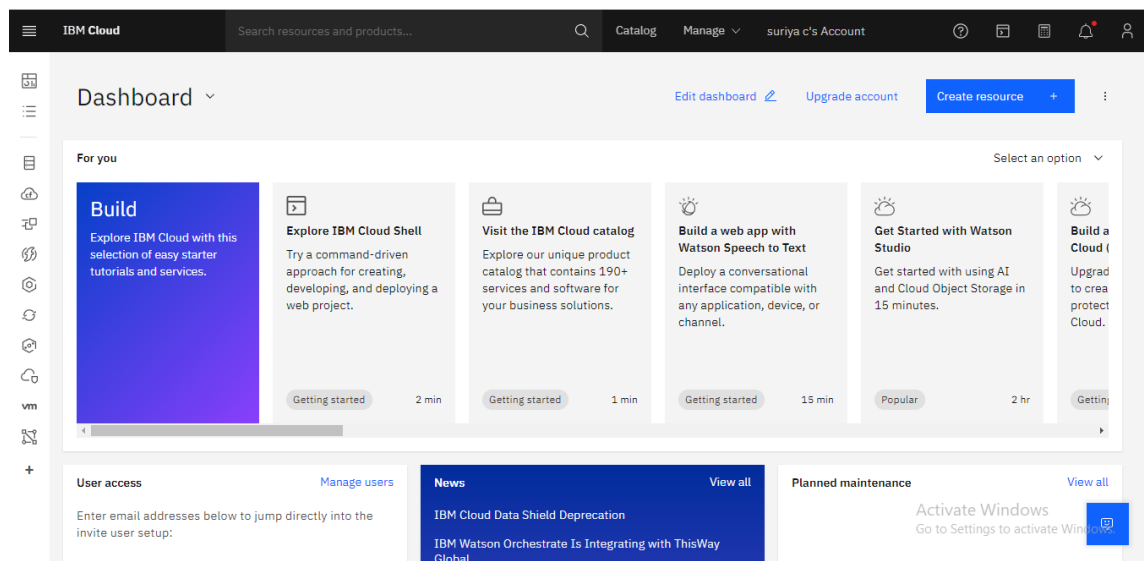
I. To create the IBM Watson IOT platform and device

STEPS:

1. create an IBM cloud account with the individual IBM id and password



2. Home page of IBM cloud



3. Click on the catalog on the top

The screenshot shows the IBM Cloud Catalog interface. At the top, there's a navigation bar with 'IBM Cloud', a search bar, and links to 'Catalog', 'Manage', and 'suriya c's Account'. Below the navigation bar, there's a search bar and a 'Sell on IBM Cloud' link. The main content area is titled 'Viewing 206 products'. On the left, there's a 'Category' sidebar with a list of categories: Recommended products (6), Compute (30), Containers (9), Networking (30), Storage (20), AI / Machine Learning (17), Analytics (10), Blockchain (1), Databases (28), Developer tools (25), Logging and monitoring (3), Migration (8), Integration (10), Internet of Things (1), and Security (25). The main area displays a grid of product cards. The first row includes 'Analytics Engine' (By IBM), 'AnonTech ViziVault Platform' (By Anon Technology, Inc.), and 'API Connect' (By IBM). The second row includes 'App Configuration' (By IBM), 'App Connect' (By IBM), and 'App ID' (By IBM). Each card provides a brief description and a list of features.

4. Click on IoT in the category mentioned

The screenshot shows the 'Internet of Things Platform' page in the IBM Cloud Catalog. The page has a 'Create' tab selected. On the left, there's a sidebar with details: Type (Service), Provider (IBM), Last updated (08/15/2022), Category (Internet of Things), Compliance (IAM-enabled), and Location (Frankfurt, London, Dallas, Washington DC). The main content area 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.' Below the description, there are two sections: 'Select a location' and 'Select a pricing plan'. The 'Select a location' section has a dropdown menu with 'Frankfurt (eu-de)' selected. The 'Select a pricing plan' section has a table with two columns: 'Plan' and 'Features'. The table shows a 'Lite' plan with 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', and 'Maximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed'. The pricing is 'Free'. On the right, there's a 'Summary' panel with details: 'Internet of Things Platform', 'Free', 'Location: Frankfurt', 'Plan: Lite', 'Service name: Internet of Things Platform-s3', and 'Resource group: Default'. There's also a 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.' At the bottom, there's a checkbox for 'I have read and agree to the following license agreements:' and a 'Create' button.

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

The screenshot shows the 'Internet of Things Platform' page in the IBM Cloud Catalog, similar to the previous one, but with the 'Lite' plan selected. The 'Select a pricing plan' section now shows the 'Lite' plan with a checkmark. The 'Summary' panel on the right still shows the 'Existing Lite plan instance' warning message. The 'Create' button is now visible at the bottom of the page.

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

The screenshot shows the IBM Cloud 'Internet of Things Platform' creation interface. The top navigation bar includes the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user's account (suriya c's Account). The main content area is divided into a left sidebar with navigation links (Type, Service, Provider, Last updated, Category, Compliance, Location), a central 'Create' tab, and a right sidebar with configuration details and a warning message.

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
Provider: IBM
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	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

Configuration details (Right Sidebar):
Location: Frankfurt
Plan: Lite
Service name: Internet of Things Platform-s3
Resource group: Default

Warning: 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**

7. Click to Create

The screenshot shows the 'Configure your resource' page for the Internet of Things Platform. The left sidebar contains navigation links for Compliance, Location, and Related links. The main content area is divided into a central configuration section and a right sidebar with a summary and license agreement.

Internet of Things Platform
Compliance: IAM-enabled
Location: Frankfurt, London, Dallas, Washington DC
Related links: Docs, Terms

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

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**

8. Internet of Things Platform will be created, where there are different options like manage, plan, and connection.

The screenshot shows the 'Manage' page for the Internet of Things Platform. The top navigation bar includes the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user's account (suriya c's Account). The main content area is divided into a left sidebar with navigation links (Manage, Plan, Connections), a central 'Launch' button, and a right sidebar with a summary and license agreement.

Internet of Things Platform-kj | Active | Add tags

Manage | Plan | Connections

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

Non-Production
The Non-Production service plan is a full-featured, fully-integrated offering that enables

Production
The Production service is a fully managed SaaS offering that enables you to manage and analyze

Activate Windows
Go to Settings to activate Windows.

9. Manage 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.

The screenshot shows the 'Manage' tab for the 'Internet of Things Platform-kj' resource. The left sidebar has 'Plan' selected. The main content area is divided into two columns: 'Current plan' and 'Current usage'. The 'Current plan' column shows the 'Lite' plan with its features: up to 500 registered devices, 200 MB of data metric, 500 application bindings, and 200 MB of data analyzed. The 'Current usage' column shows 'N/A' and a note that Lite plan services are deleted after 30 days of inactivity. Below these is a 'Change pricing plan' section with a table of available plans. A 'Pricing' button is visible on the right.

Plan	Features
Lite	Includes up to 500 registered devices, and a maximum of 200 MB of each data metric Maximum of 500 registered devices

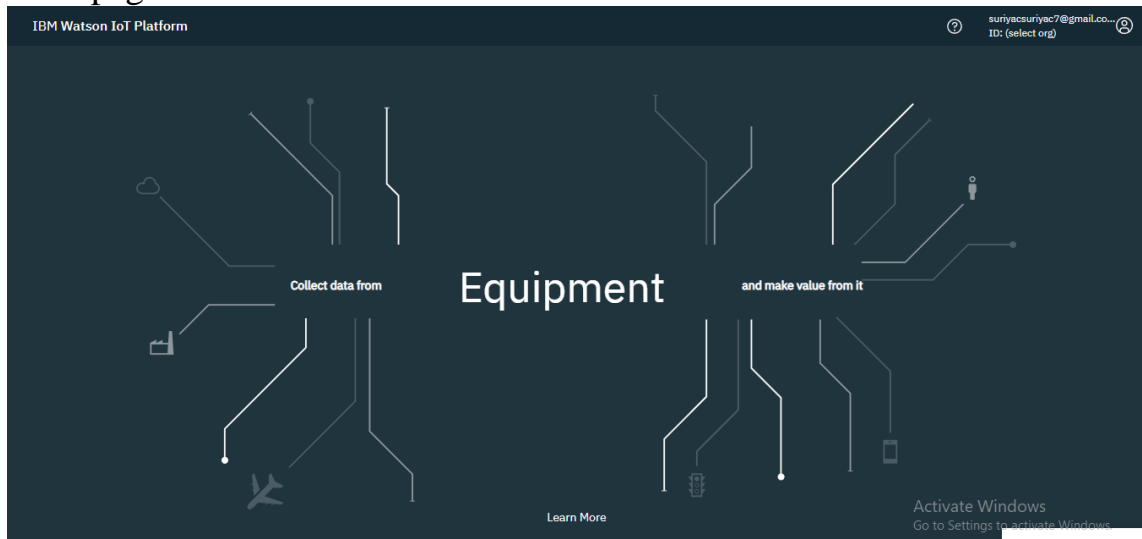
10. Click on the launch button in the manage tab, it will open to this

The screenshot shows the IBM Watson IoT Platform dashboard. The header includes the 'IBM Watson IoT Platform' logo and a 'Sign in' button. The main content area features a large graphic with the word 'Equipment' in the center. To the left of 'Equipment' is the text 'Collect data from' and to the right is 'and make value from it'. The background of the graphic shows a network of lines connecting various IoT devices and data points.

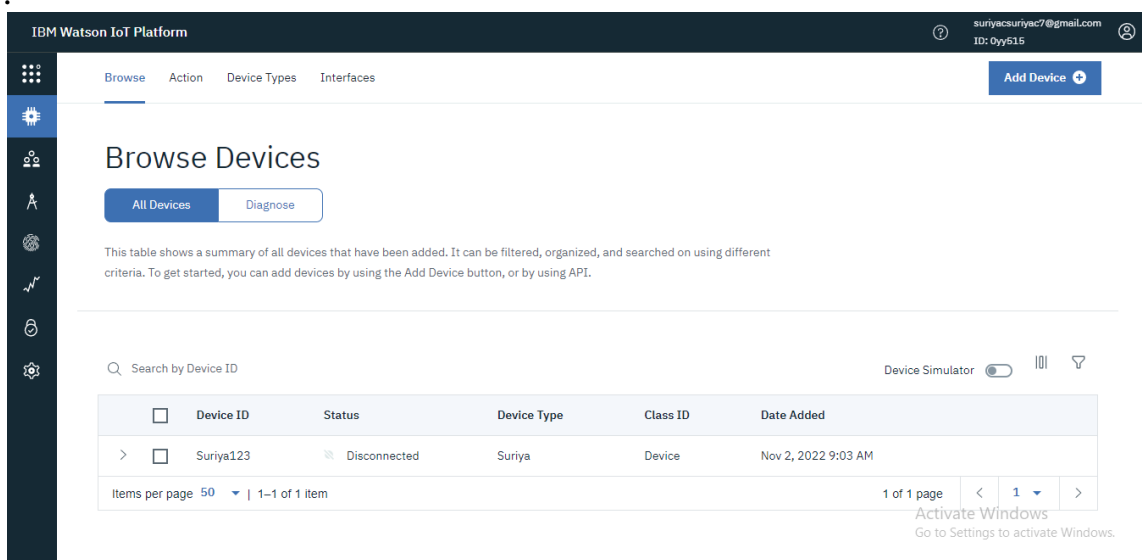
11. Enter the details to sign in to the Watson Cloud to create a device

The screenshot shows the IBM login page. The header has the 'IBM' logo. The main content area is a white box with the title 'Log in to IBM'. It contains a text input field for 'IBMid' with a 'Forgot IBMId?' link. Below the input field is a 'Remember me' checkbox. A blue 'Continue' button is at the bottom of the input section. At the bottom of the white box, there is a link 'Don't have an account? Create an IBMId'. Below the white box, there is a link 'Need help? Contact the IBMId help desk'.

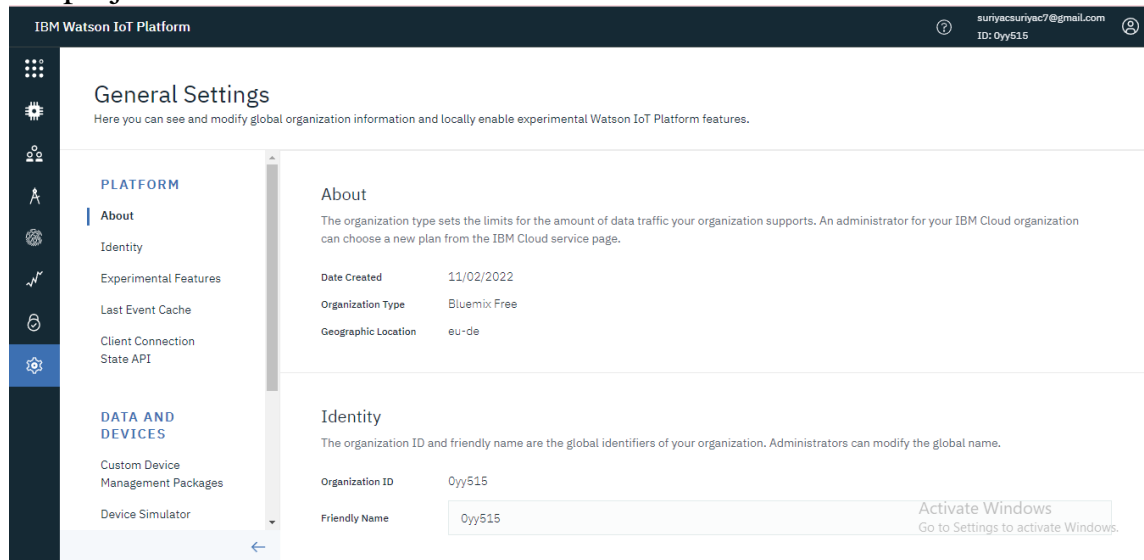
12. Once logged in the name will be displayed and it goes back to the first page.



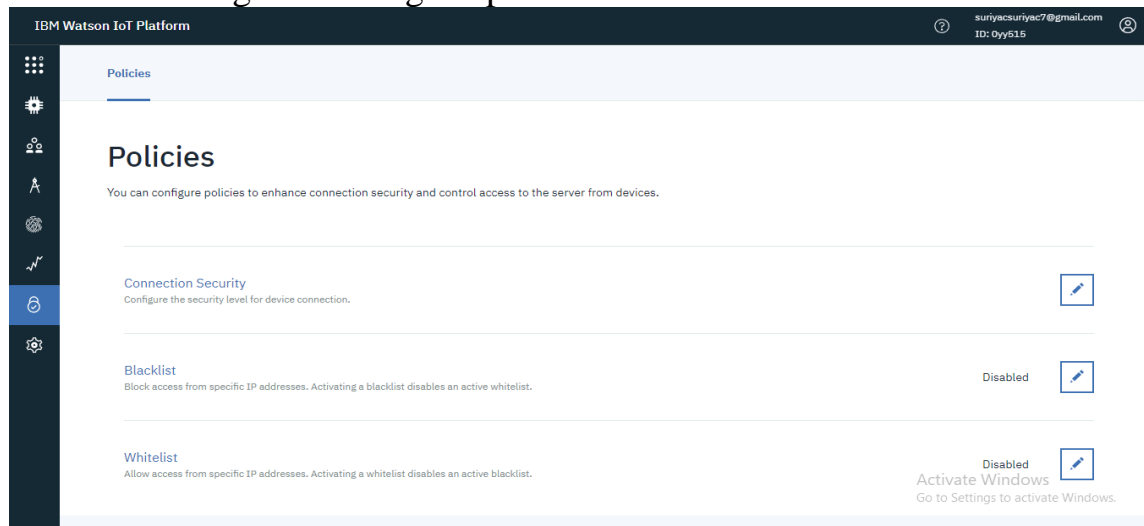
13. And again clicking on the launch button will open this tab, the device will help in the creation of the devices, the addition of devices, and the display of details of the devices.



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



15. In the security tab we can choose the type of security connection and it can change according to specification



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

The screenshot shows the 'Usage Summary' page in the IBM Watson IoT Platform. The page header includes the platform name and user information. A sidebar on the left contains navigation icons. The main content area has a sub-header 'Usage Summary' and a paragraph explaining that usage metrics show device and application usage, with a summary of total usage for the current and previous months, and details of data transferred during different time periods. The metrics are refreshed every 2 hours. Below this, there is a 'Usage Summary' card. The card shows 'THIS MONTH' with '164.95 KB' of data transferred inbound and outbound, and 'PREVIOUS MONTH' with '0 bytes' of data transferred inbound and outbound. A globe icon is next to the 'THIS MONTH' value. At the bottom right of the page, there is a 'Activate Windows' watermark.

IBM Watson IoT Platform

Overview

Usage metrics show how much your devices and applications use Watson IoT Platform. You can view a summary of the total usage for this month and the previous month, and details of data transferred during different time periods. The metrics are refreshed every 2 hours.

Usage Summary

THIS MONTH
164.95 KB
Data transferred inbound and outbound

PREVIOUS MONTH
0 bytes
Data transferred inbound and outbound

Activate Windows
Go to Settings to activate Windows.

17. 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 header includes the platform name and user information. A sidebar on the left contains navigation icons. The main content area has a sub-header 'Browse Members' and a search bar with the placeholder text 'Type the member email to search for'. Below the search bar, there is a paragraph explaining that the table shows a summary of the members of the organization, which can be filtered, organized, and searched using different criteria. To get started, users can add members by clicking 'Add Members', or by using the API. For more information about members, users can see the 'Managing user access' link. Below this, there is a table with columns: 'Email Address', 'Name', 'Role', 'Added By', 'Expires', and a trash icon. The table shows 1 result. The result is a member with email address 'suriyacsuriyac7@gmail.com', name 'suriyacsuriyac7@gmail...', role 'Administrator', added by '-', and expires '-'. At the bottom right of the page, there is a 'Activate Windows' watermark.

IBM Watson IoT Platform

Browse

+ Add Members

Browse Members

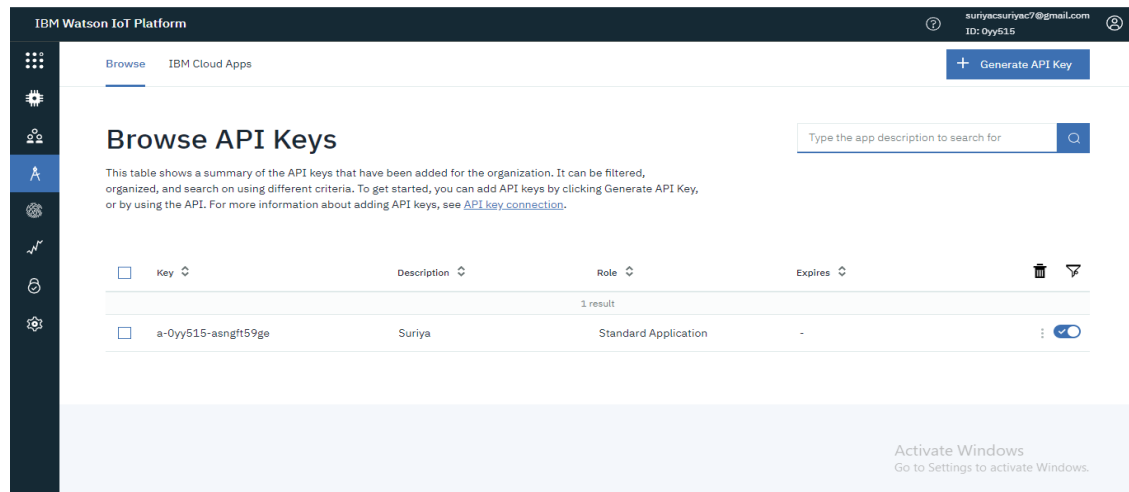
Type the member email to search for

This table shows a summary of the members of the organization. It can be filtered, organized, and search on using different criteria. To get started, you can add members by clicking Add Members, or by using the API. For more information about members, see [Managing user access](#).

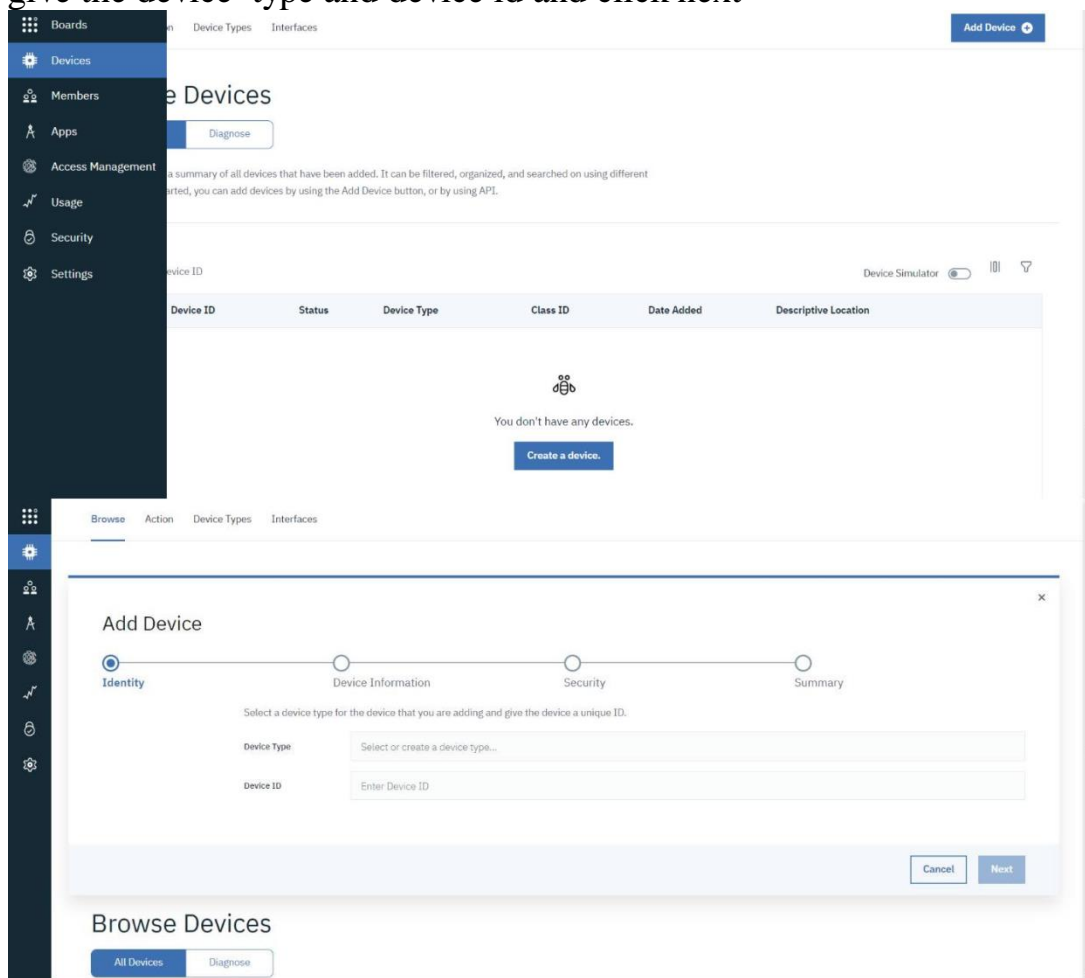
<input type="checkbox"/>	Email Address ↕	Name ↕	Role ↕	Added By ↕	Expires ↕	
1 result						
<input type="checkbox"/>	suriyacsuriyac7@gmail.com	suriyacsuriyac7@gmail...	Administrator	-	-	⋮

Activate Windows
Go to Settings to activate Windows.

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



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



20. This page to enter extra details and the hardware

The screenshot shows the 'Add Device' wizard in the IBM Watson IoT Platform. The progress bar indicates the 'Device Information' step is active, with 'Identity' completed and 'Security' and 'Summary' pending. The page contains two columns of input fields for device details:

Field	Value
Serial Number	Enter Serial Number
Model	Enter Model
Description	Enter Description
Hardware Version	Enter Hardware Version
Manufacturer	Enter Manufacturer
Device Class	Enter Device Class
Firmware Version	Enter Firmware Version
Descriptive Location	Enter Descriptive Location

Below the input fields is an 'Add Metadata' button. At the bottom right are 'Back' and 'Next' buttons.

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

The screenshot shows the 'Add Device' wizard at the 'Security' step. The progress bar shows 'Identity' and 'Device Information' completed, with 'Security' active and 'Summary' pending. The page presents two options for authentication:

- Auto-generated authentication token (default):** A text box displays the token '1997199520012005'. A note states: '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.' Below the token is a warning: 'Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored.' A small note at the bottom says 'Authentication token are encrypted before we store them.'
- Self-provided authentication token:** A text box for entering a custom token. A note states: '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.'

At the bottom right are 'Back' and 'Next' buttons.

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

The screenshot shows the 'Add Device' wizard at the 'Summary' step. The progress bar shows all previous steps completed, with 'Summary' active. The page displays the following information for verification:

- Device Type: Suriya
- Device ID: Suriya-123
- Security Token: 123456789

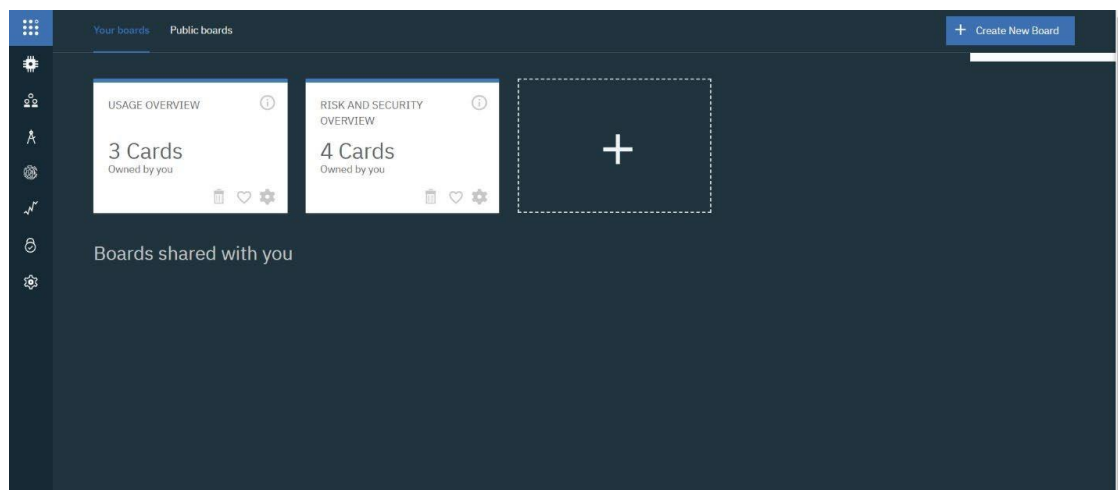
There is a 'View Metadata' button. At the bottom right are 'Back' and 'Finish' buttons. An 'Activate Windows' watermark is visible at the bottom right of the page.

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

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

25. 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 number of devices with a 50 per page limit.

26. The Boards will display card for the project.



CONCLUSION:

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