

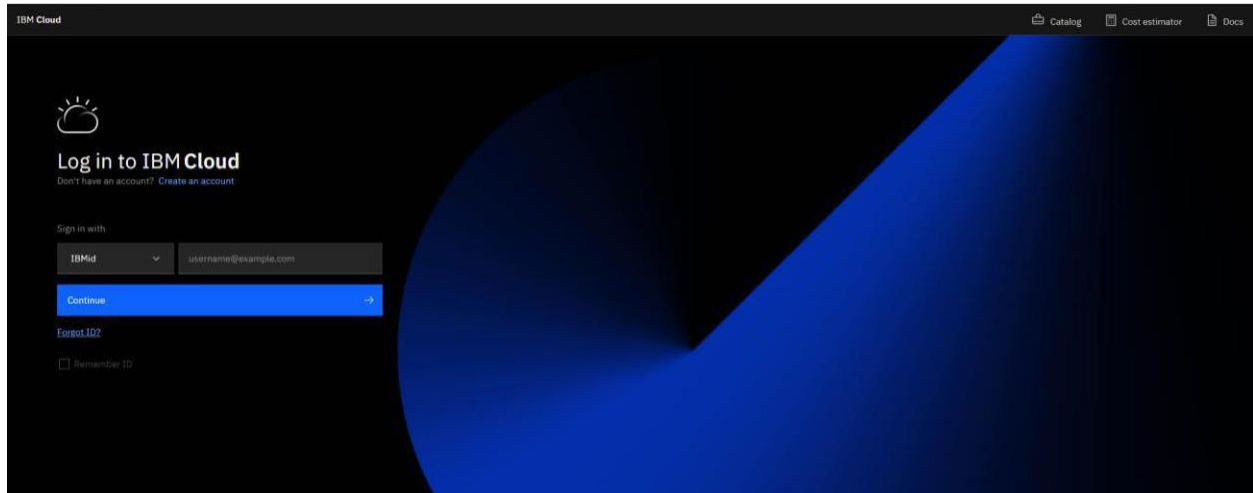
CREATE IBM WATSON IOT PLATFORM AND DEVICE

AIM:

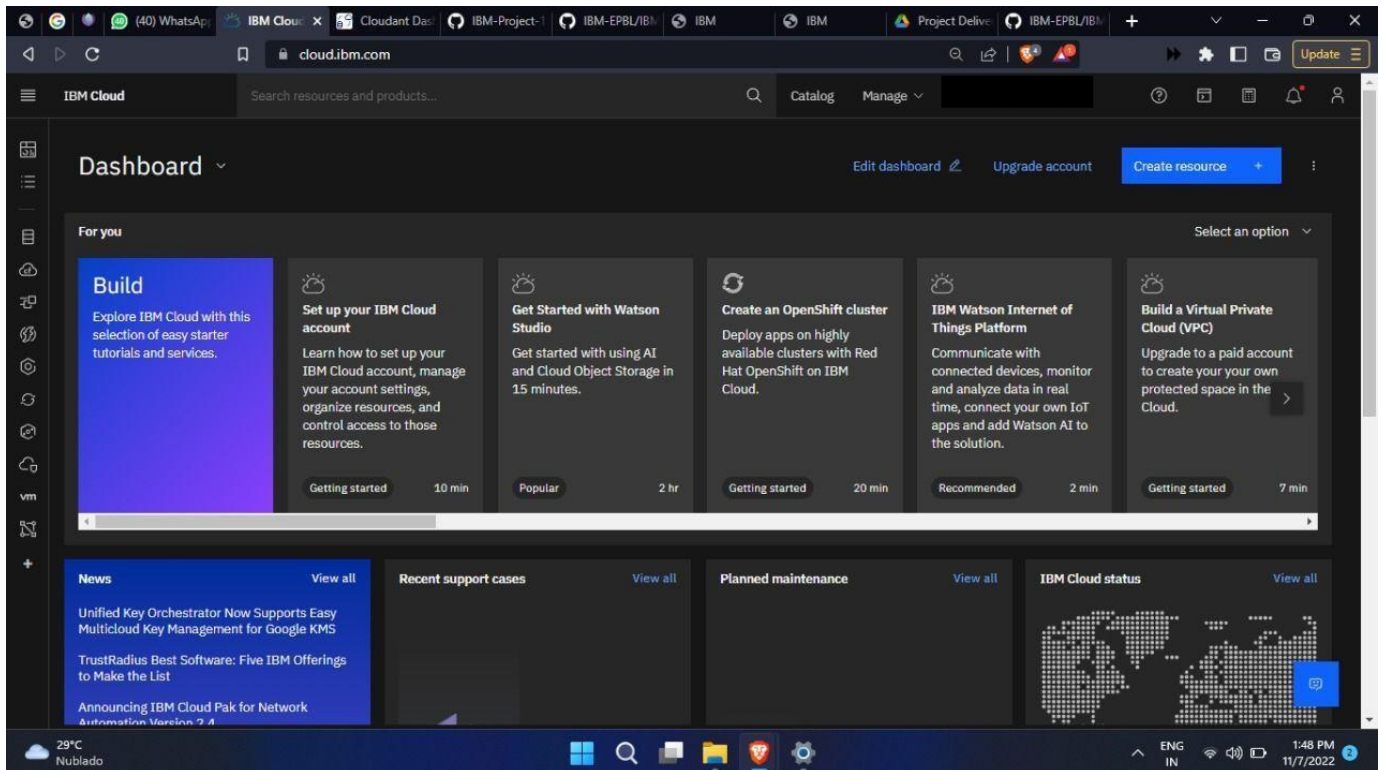
To create the IBM Watson IoT platform and device

STEPS:

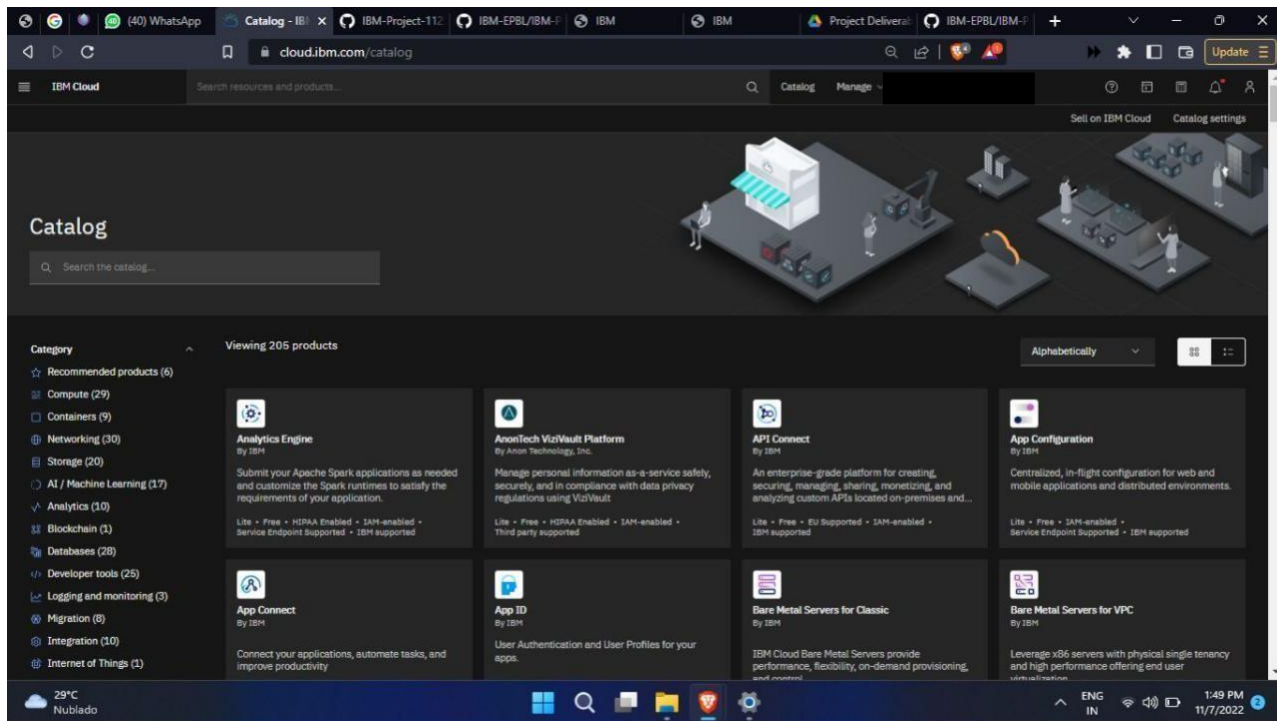
1. Firstly, create an IBM cloud account with IBM id and password.



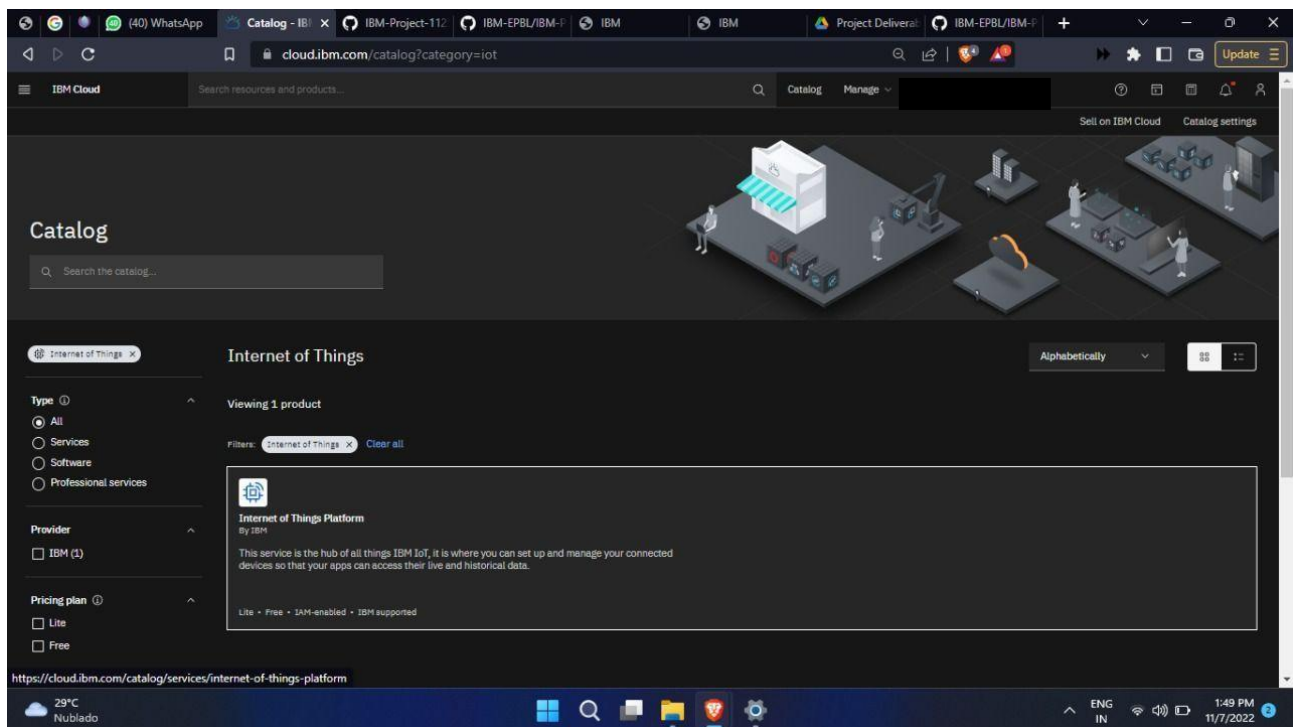
2. Home page of IBM cloud.



3. Click on the catalog on the top.



4. Click on IoT in the category mentioned.



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

The screenshot shows the IBM Cloud console for creating a new Internet of Things Platform service. The page 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." The "Create" tab is active, showing a "Select a location" dropdown set to "Frankfurt (eu-de)". Below this is a "Select a pricing plan" section with a table of available plans.

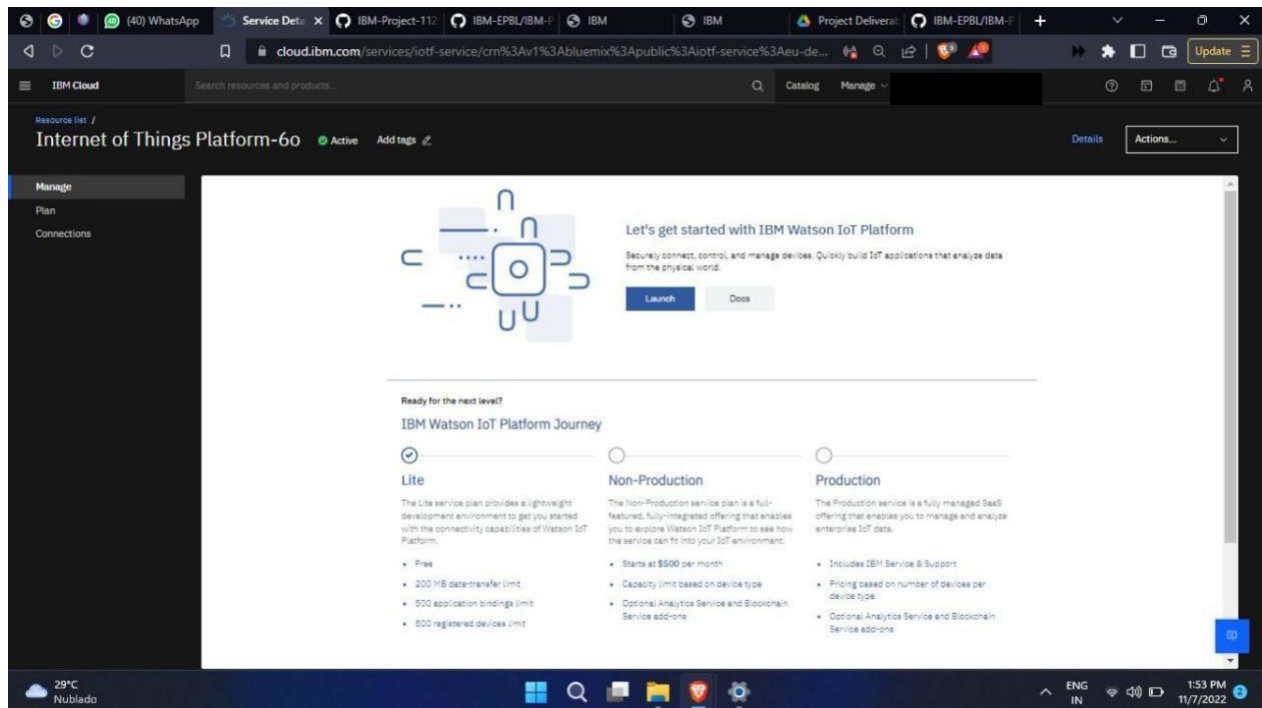
Plan	Features	Pricing
Lite	<ul style="list-style-type: none">Includes up to 500 registered devices, and a maximum of 200 MB of each data metricMaximum of 500 registered devicesMaximum of 500 application bindingsMaximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed	Free

Below the table, a note states: "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." On the right, a "Summary" panel shows the service name "Internet of Things Platform-60", location "Frankfurt", plan "Lite", and resource group "Default". At the bottom right, there is a checkbox for "I have read and agree to the following license agreements:" with a "Create" button and an "Add to estimate" button.

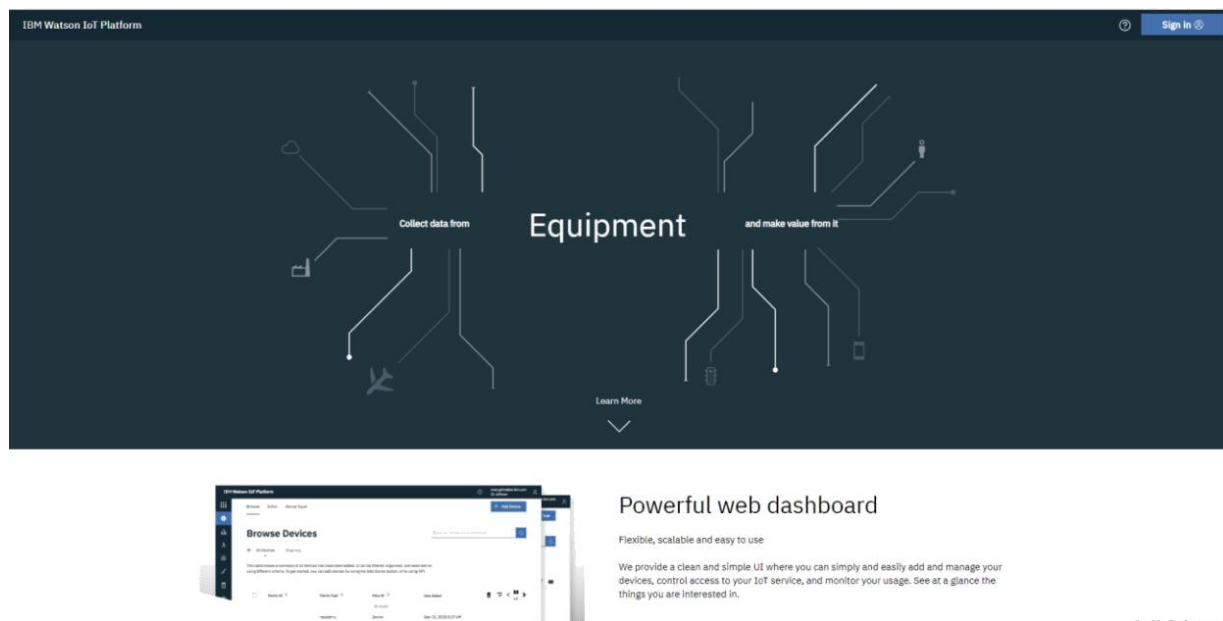
6. Enter the location and in the configure your resource type the service name and choose the plan, tick the agree with agreements and then click on create.

The screenshot shows the IBM Cloud console for configuring a new Internet of Things Platform service. The page is titled "Internet of Things Platform-60" and includes a "Launch" button. Below this is a "Ready for the next level?" section with a "IBM Watson IoT Platform Journey" diagram. The diagram shows three stages: "Lite", "Non-Production", and "Production". The "Lite" stage is selected, showing its features: "Free", "200 MB data-transfer limit", "500 application bindings limit", and "500 registered devices limit". The "Non-Production" stage shows features: "Starts at \$500 per month", "Capacity limit based on device type", and "Optional Analytics Service and Blockchain Service add-ons". The "Production" stage shows features: "Includes IBM Service & Support", "Pricing based on number of devices per device type", and "Optional Analytics Service and Blockchain Service add-ons".

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.

IBM

Log in to IBM

[Forgot IBMId?](#)

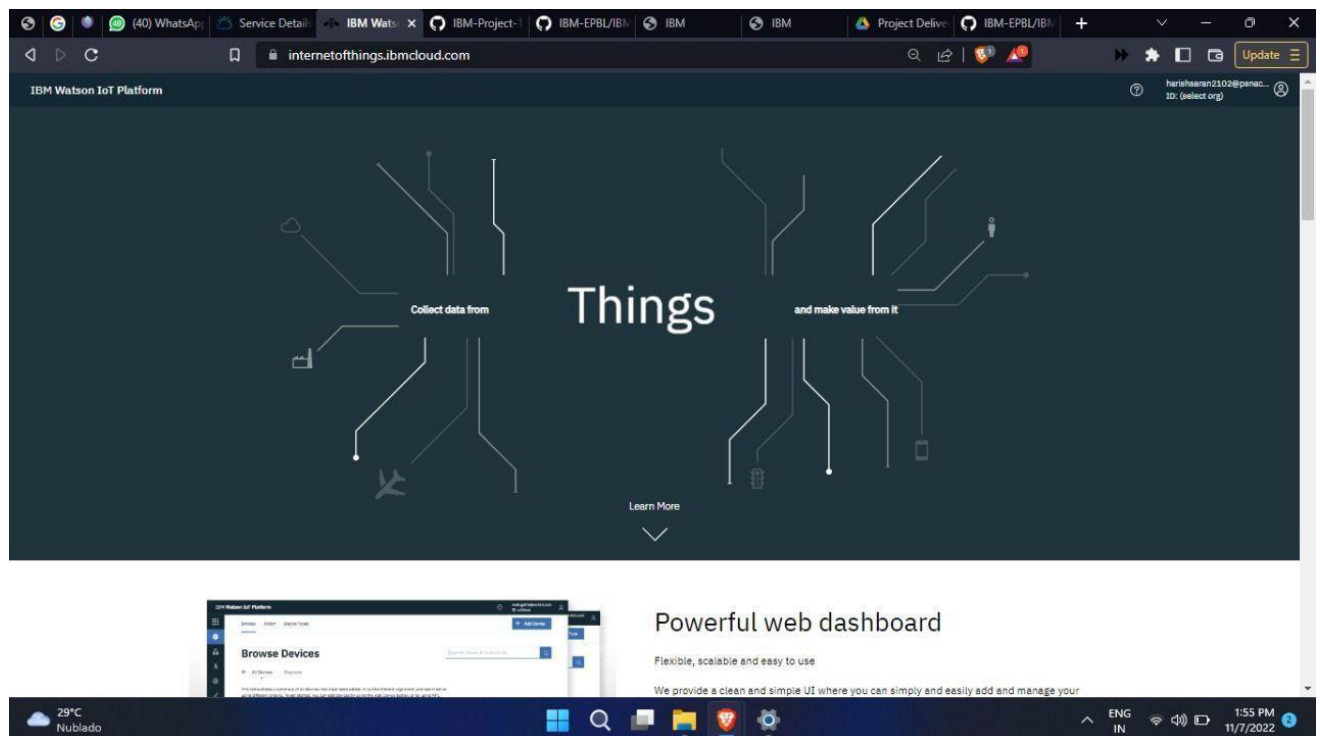
☐ Remember me ⓘ

Continue →

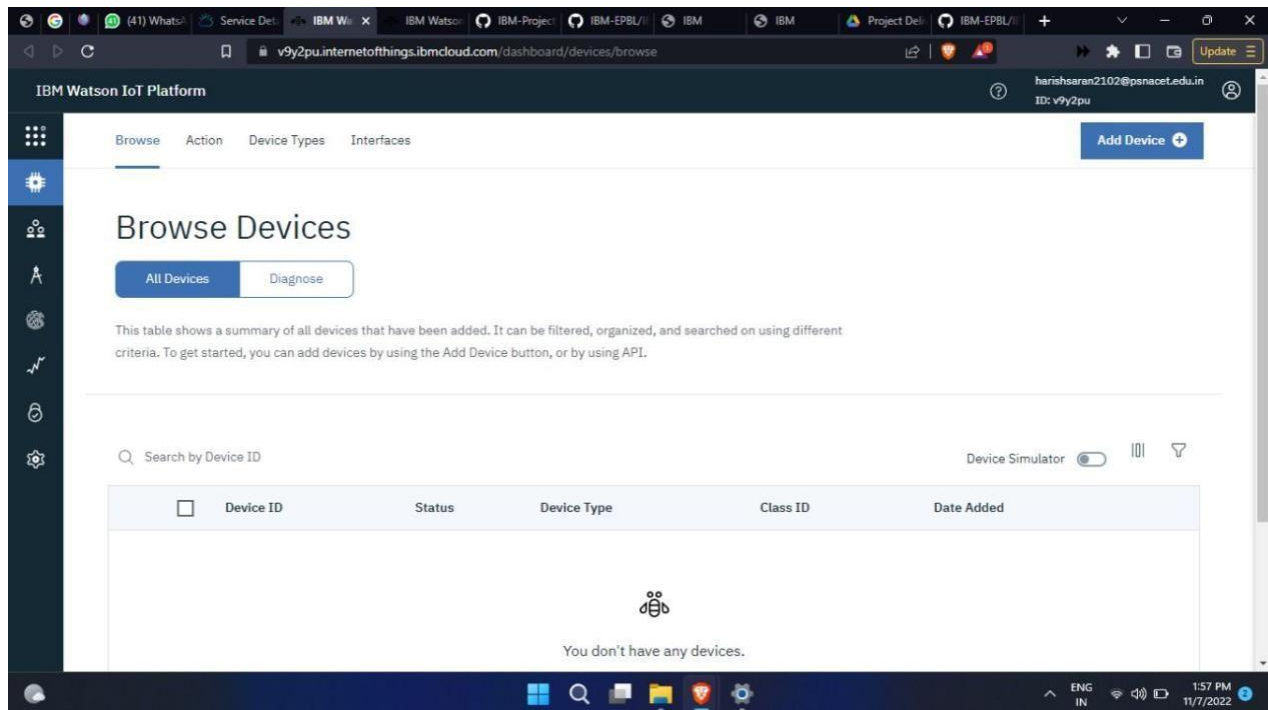
Don't have an account? [Create an IBMId](#)

Need help? [Contact the IBMId help desk](#)

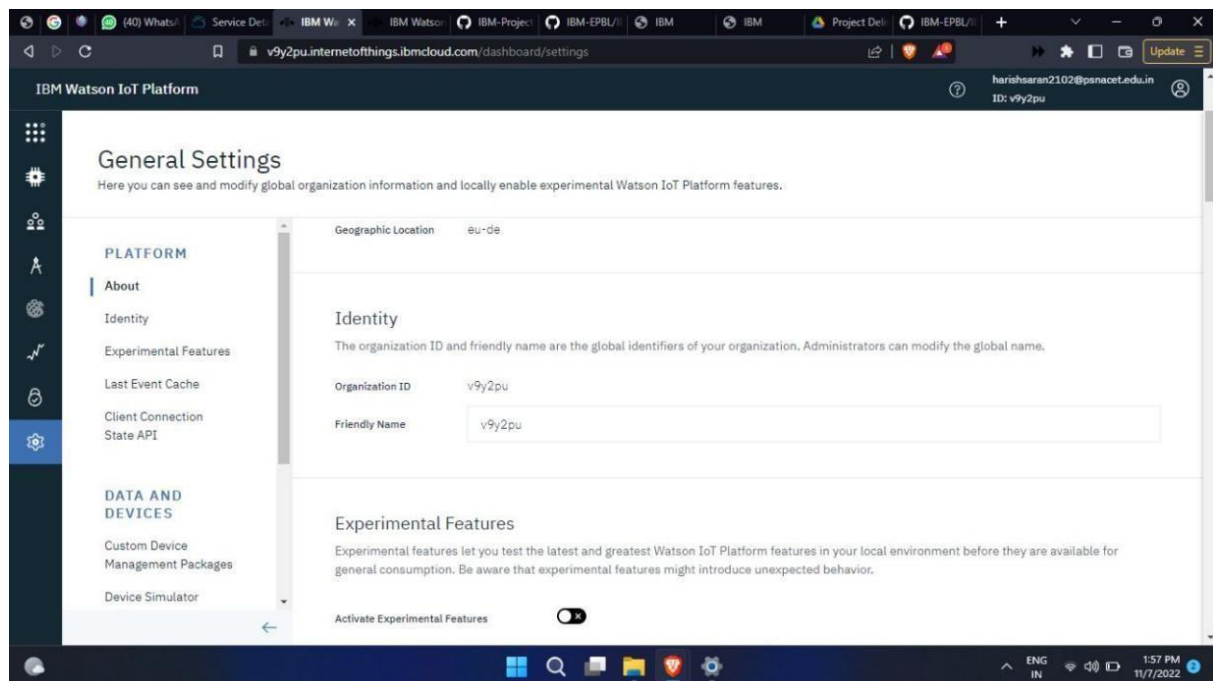
10. Once logged in the name will be displayed and it goes back to the first page.



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.

The screenshot shows the 'Policies' section of the IBM Watson IoT Platform. The page title is 'Policies' with a subtitle: 'You can configure policies to enhance connection security and control access to the server from devices.' There are three policy cards: 'Connection Security' (Configure the security level for device connection.), 'Blacklist' (Block access from specific IP addresses. Activating a blacklist disables an active whitelist.), and 'Whitelist' (Allow access from specific IP addresses. Activating a whitelist disables an active blacklist.). Each card has a 'Disabled' status and an edit icon. The left sidebar contains navigation icons for various platform features. The top navigation bar shows the user's email 'harishsaran2102@psnacet.edu.in' and ID 'v9y2pu'. The bottom status bar shows the time '1:58 PM' and date '11/7/2022'.

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

The screenshot shows the 'Usage Summary' section of the IBM Watson IoT Platform. The page title is 'Usage Summary'. It displays two summary cards: 'THIS MONTH' and 'PREVIOUS MONTH', both showing '0 bytes' of data transferred inbound and outbound. Below these cards is a 'Data Transferred' section with a 'Date Period (months)' filter set to '1', and date range selectors for 'from' (06/11/2022) and 'to' (07/11/2022). The bottom status bar shows the time '1:58 PM' and date '11/7/2022'.

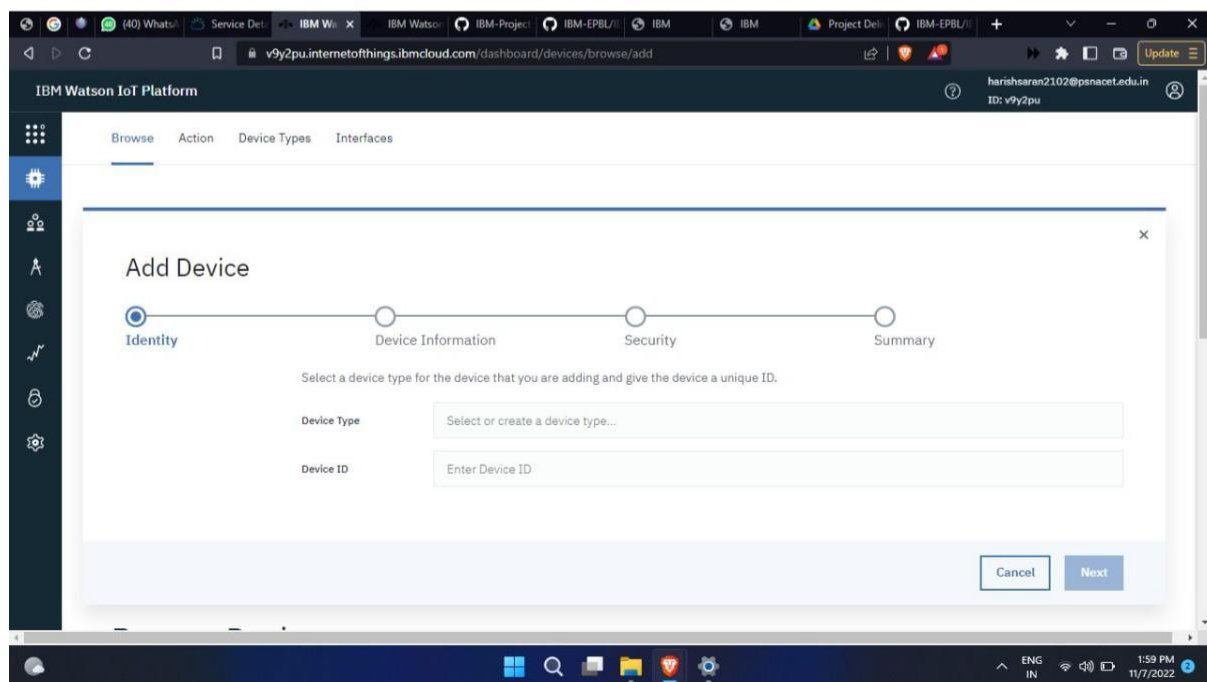
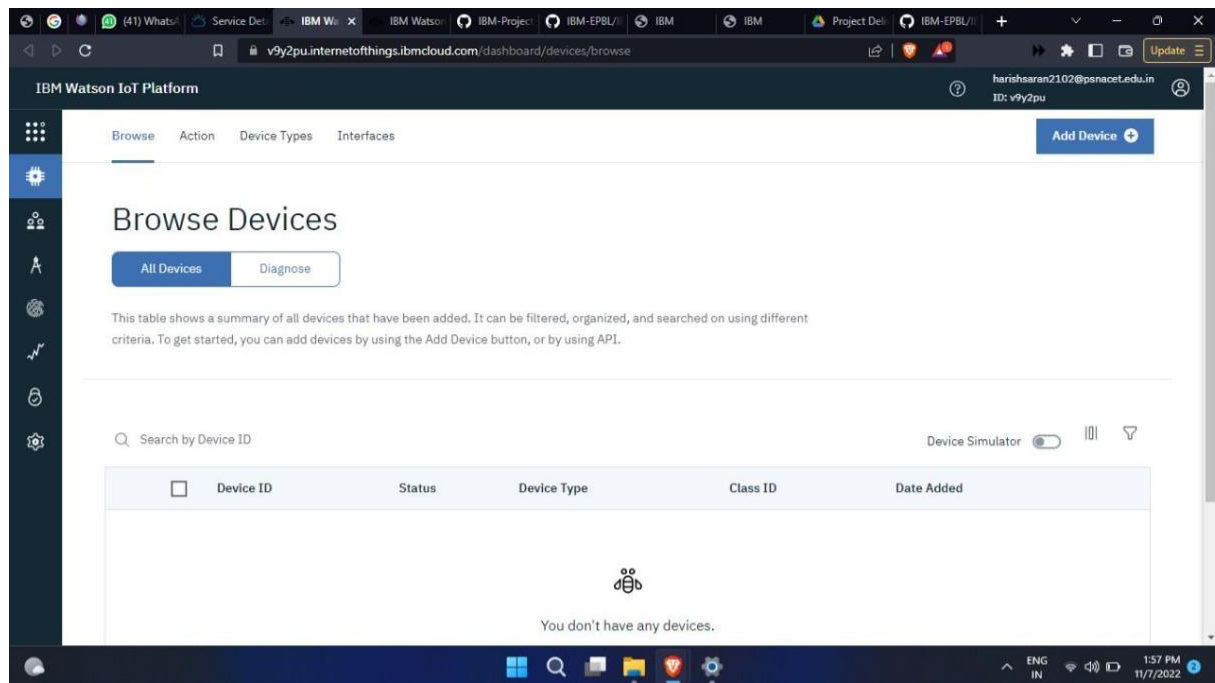
15. The member tab is add the teams members to work in the platform.

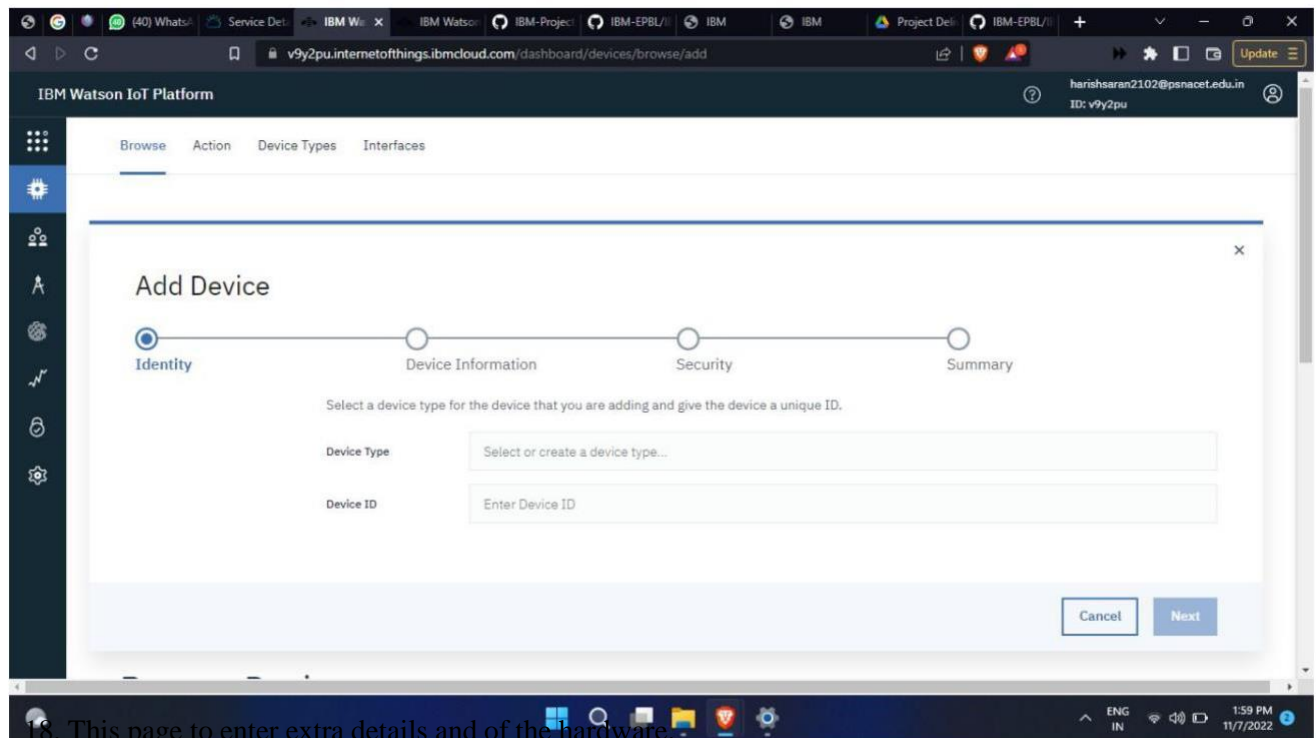
The screenshot displays the 'Browse Members' interface in the IBM Watson IoT Platform. The page title is 'Browse Members'. Below the title, there is a search bar with the placeholder text 'Type the member email to search for'. A table lists the members of the organization. The table has columns for 'Email Address', 'Name', 'Role', 'Added By', and 'Expires'. There is one member listed: harishsaran2102@psnacet.edu.in, with the role of Administrator. The page also features an 'Add Members' button in the top right corner and a sidebar with various navigation icons on the left.

Email Address	Name	Role	Added By	Expires
harishsaran2102@psnacet.edu.in	harishsaran2102@psn...	Administrator	-	-

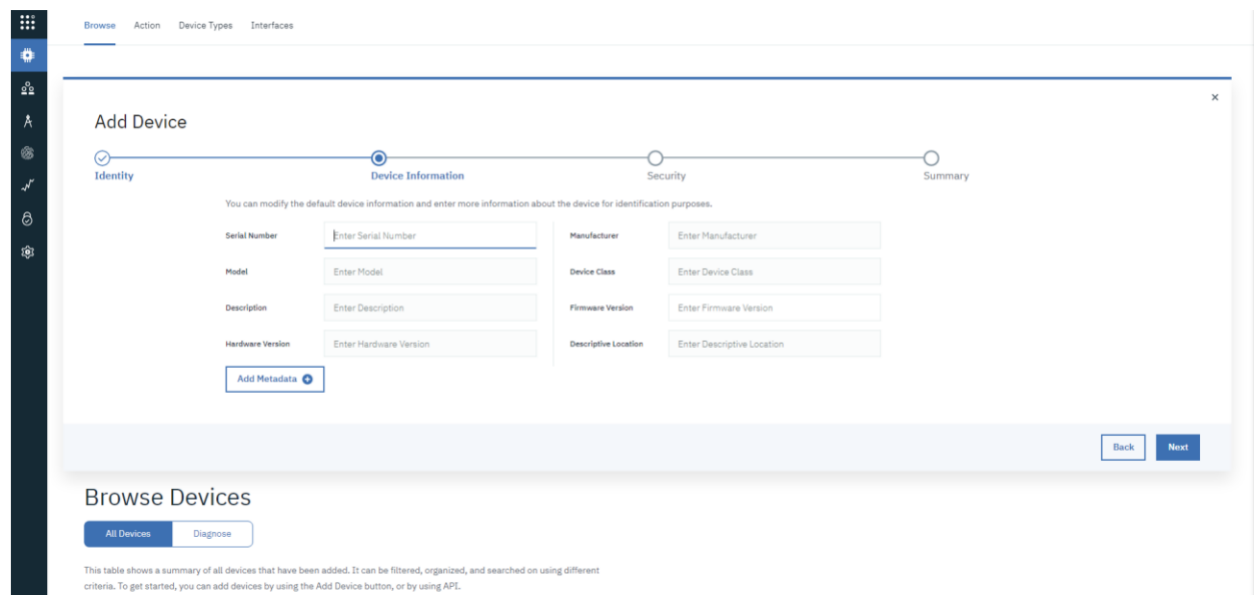
16. This tab is used when you want to connect to some other platform and to integrate with other services.

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.



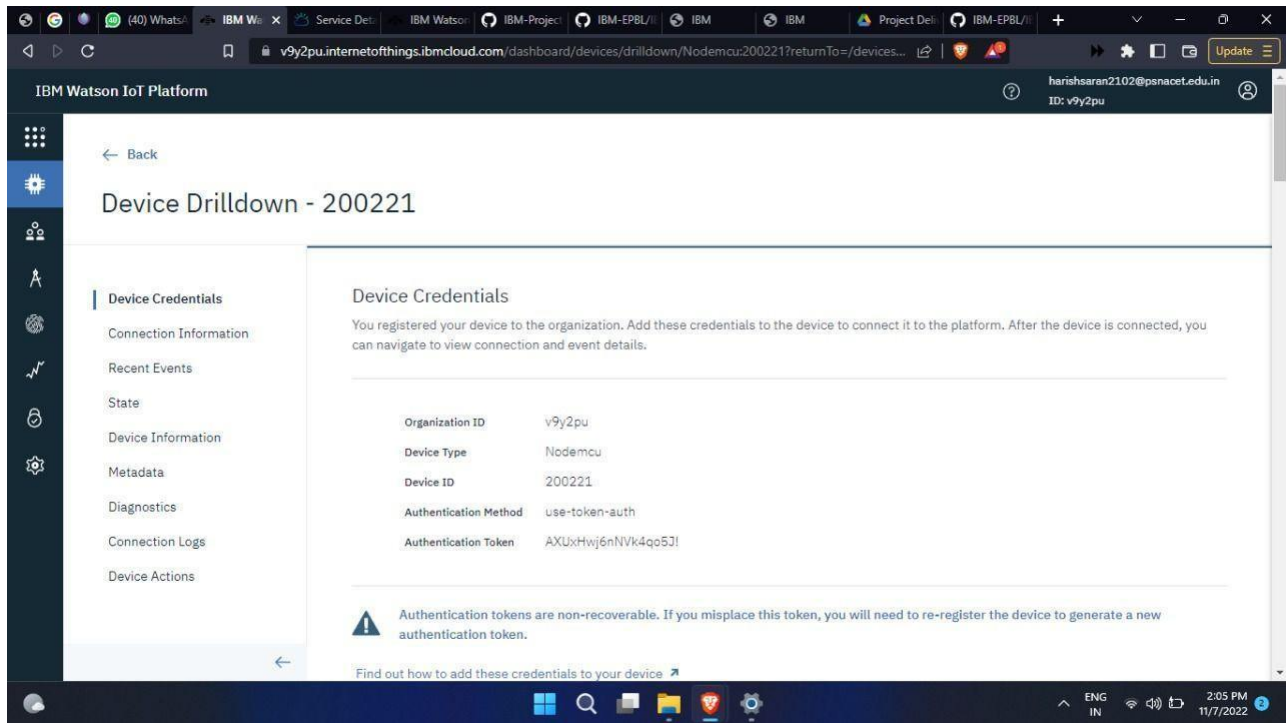
19. Clicking next it goes to the security where we do authentication token id.

The screenshot shows the 'Add Device' wizard in the IBM Watson IoT Platform. The wizard has four steps: Identity, Device Information, Security, and Summary. The 'Security' step is currently active, indicated by a blue circle. The 'Identity' step is marked with a checkmark, and the 'Device Information' step is also marked with a checkmark. The 'Summary' step is marked with a circle. The 'Security' step contains two options for selecting a device authentication token: 'Auto-generated authentication token (default)' and 'Self-provided authentication token'. The 'Auto-generated authentication token' option is selected. Below the options, there is a text input field labeled 'Authentication token' with the placeholder text 'Enter an optional token'. Below the input field, there is a note: 'Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored.' and a sub-note: 'Authentication token are encrypted before we store them.' At the bottom right of the wizard, there are 'Back' and 'Next' buttons. Below the wizard, the text 'Browse Devices' is visible.

20. 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 'Security' step is marked with a checkmark, and the 'Summary' step is also marked with a checkmark. The 'Identity' and 'Device Information' steps are marked with circles. The 'Summary' step contains the following information: 'Verify that the following information is correct then select Finish', 'Device Type: NodeMCU', 'Device ID: 200221', a 'View Metadata' button, and 'Security Token: To be generated'. At the bottom right of the wizard, there is a 'Finish' button. The browser address bar shows the URL 'v9y2pu.internetofothings.ibmcloud.com/dashboard/devices/browse/add'. The IBM Watson IoT Platform logo is visible in the top left corner. The user's name 'harishsaren2102@psnacet.edu.in' and ID 'v9y2pu' are visible in the top right corner. The Windows taskbar is visible at the bottom of the screen.

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

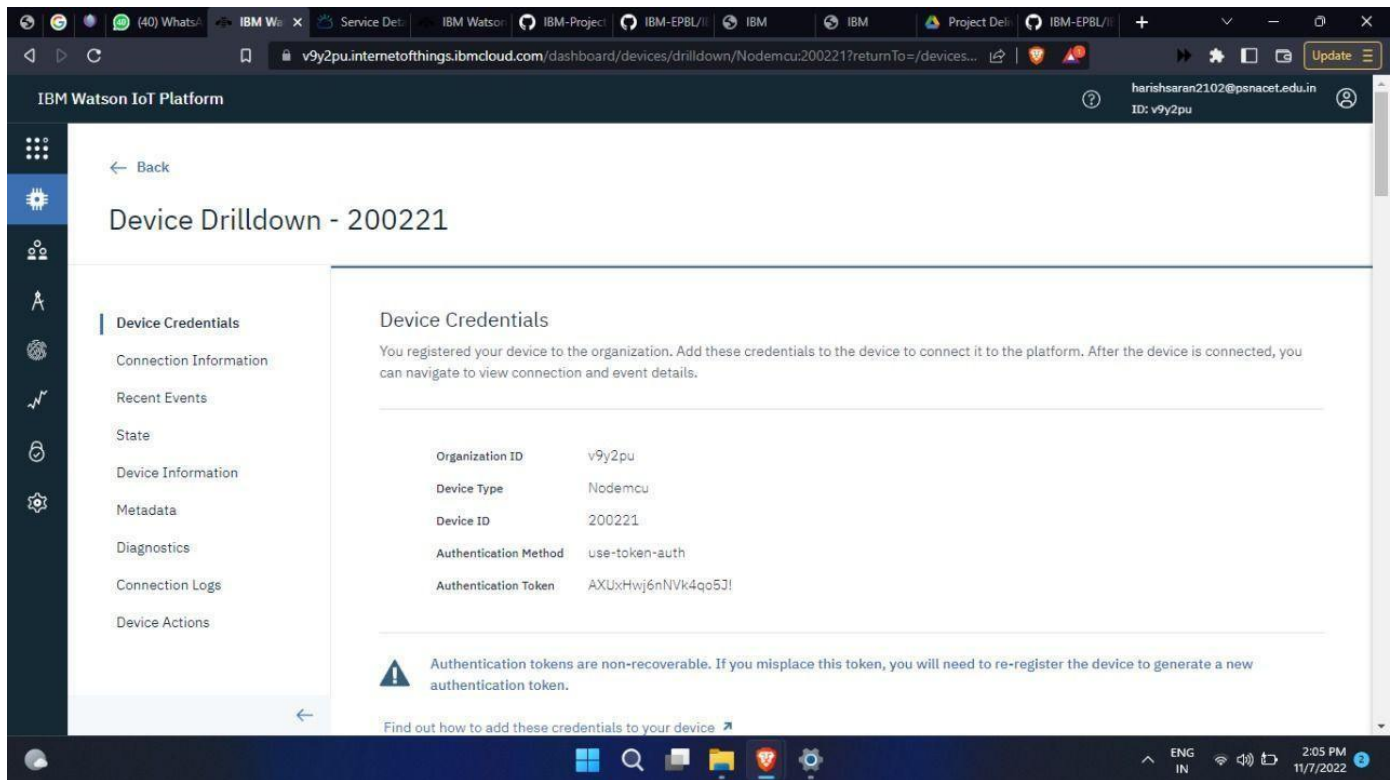


The screenshot shows the IBM Watson IoT Platform interface. The browser address bar displays the URL: `v9y2pu.internetofthings.ibmcloud.com/dashboard/devices/drilldown/Nodemcu:200221?returnTo=/devices...`. The page title is "Device Drilldown - 200221". On the left, a sidebar menu lists various options: "Device Credentials" (selected), "Connection Information", "Recent Events", "State", "Device Information", "Metadata", "Diagnostics", "Connection Logs", and "Device Actions". The main content area, titled "Device Credentials", contains the following information:

Property	Value
Organization ID	v9y2pu
Device Type	Nodemcu
Device ID	200221
Authentication Method	use-token-auth
Authentication Token	AXUxHwj6nNVk4qo5Jl

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." A link at the bottom says "Find out how to add these credentials to your device". The top right corner shows the user "harisharan2102@psnacet.edu.in" with ID "v9y2pu". The bottom status bar indicates the time is 2:05 PM on 11/7/2022.

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



This screenshot is identical to the one above, showing the same IBM Watson IoT Platform interface. The browser address bar, sidebar menu, and main content area all display the same information as in the previous image, including the device credentials table and the non-recoverable token warning. The user profile and system status at the bottom remain the same.

23. 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.

IBM Watson IoT Platform

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
200221	Disconnected	Nodemcu	Device	7 Nov 2022 14:05

Items per page 50 | 1-1 of 1 item

1 of 1 page

IBM Watson IoT Platform

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Items per page 50 | 1-1 of 1 item

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Identity Device Information Recent Events State Logs

Device ID 200221

Device Type Nodemcu

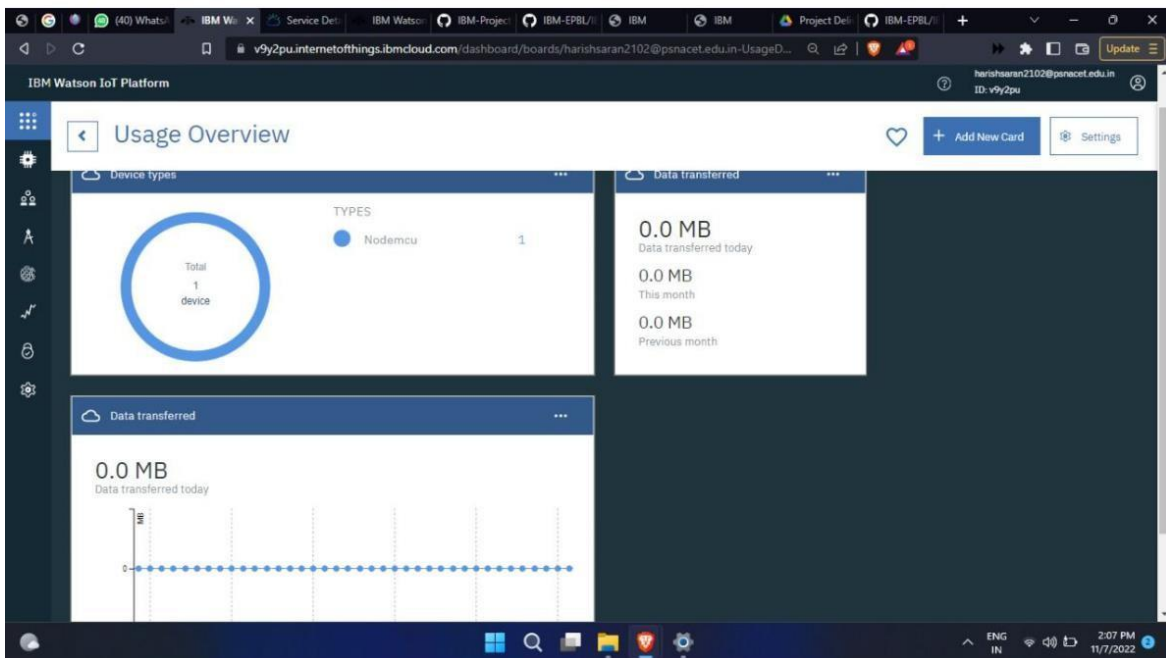
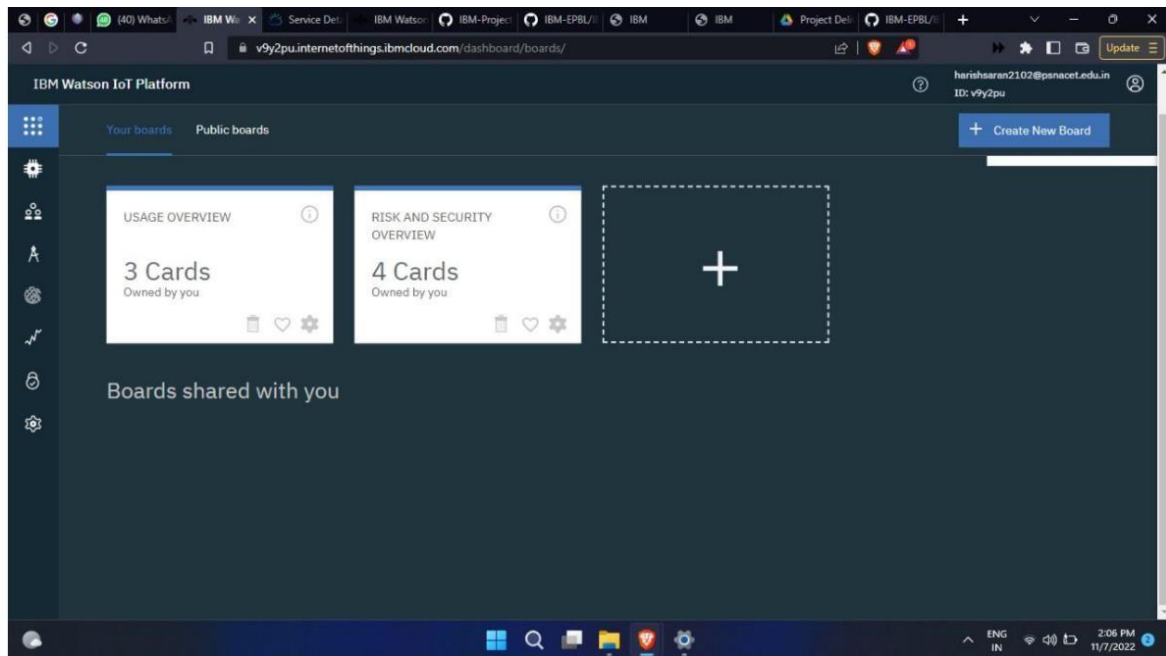
Date Added 7 Nov 2022 14:05

Added By harishsaran2102@psnacet.edu.in

Connection Status Disconnected

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:

An IBM Watson cloud for IoT and a device is create