

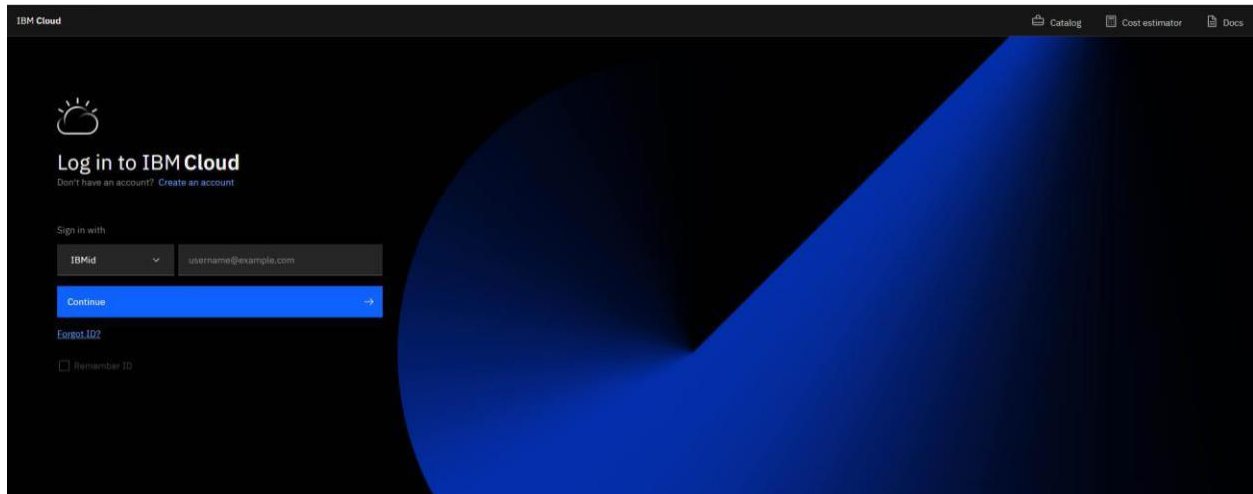
CREATE IBM WATSON IOT PLATFORM AND DEVICE

AIM:

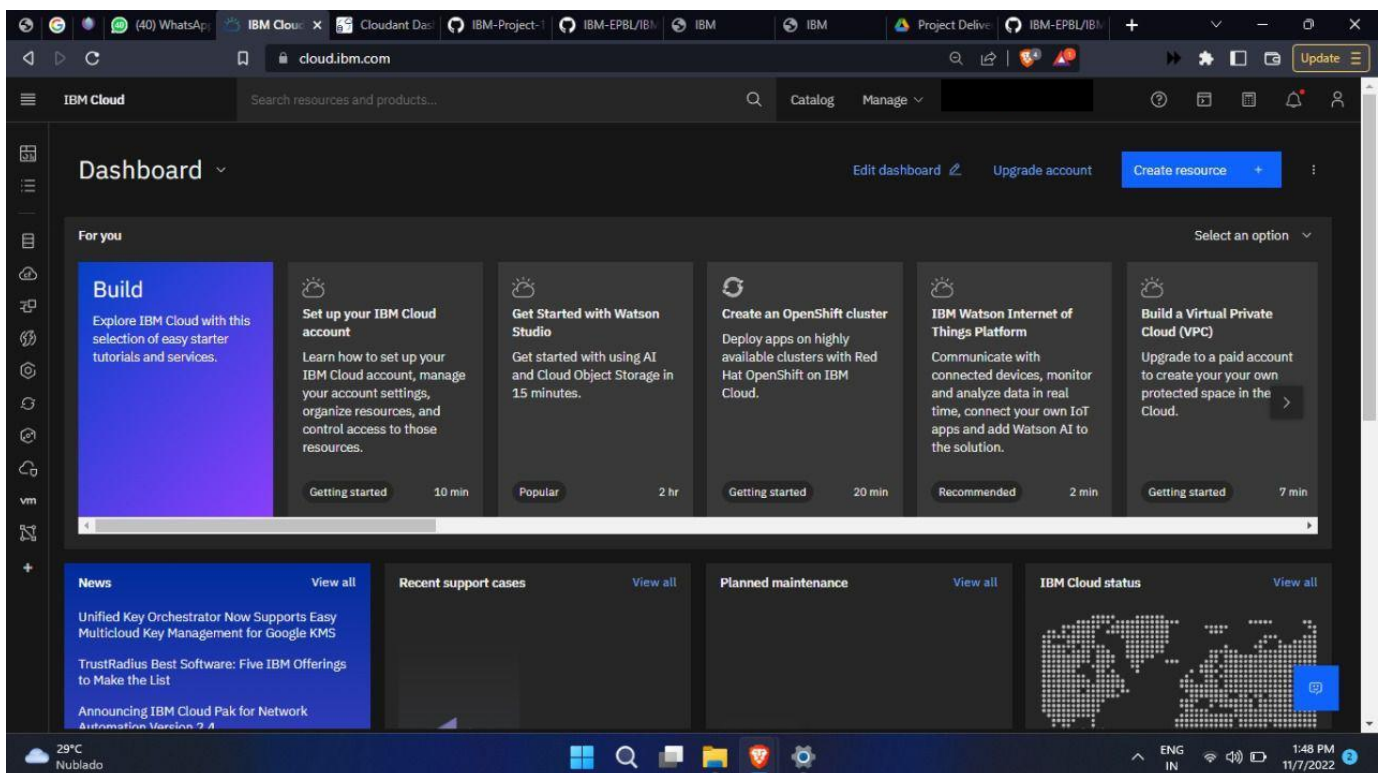
To create the IBM Watson IoT platform and device

STEPS:

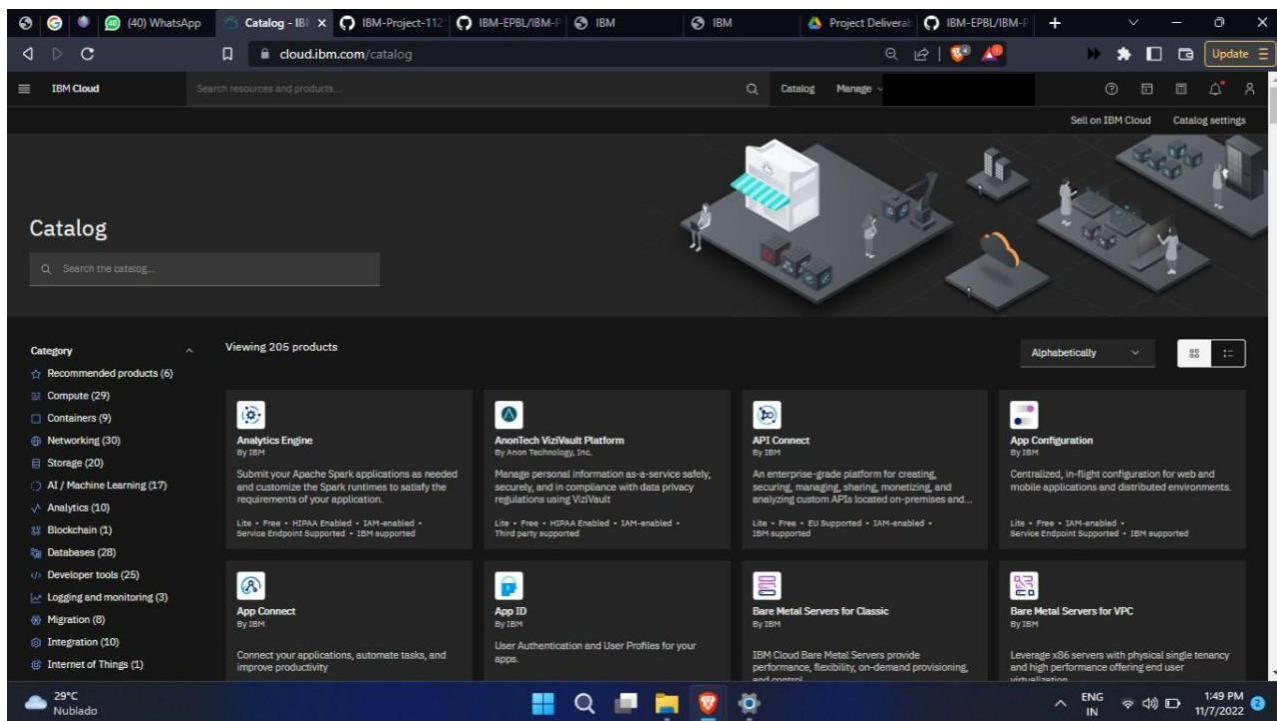
1. Firstly create an IBM cloud account with IBMid and password.



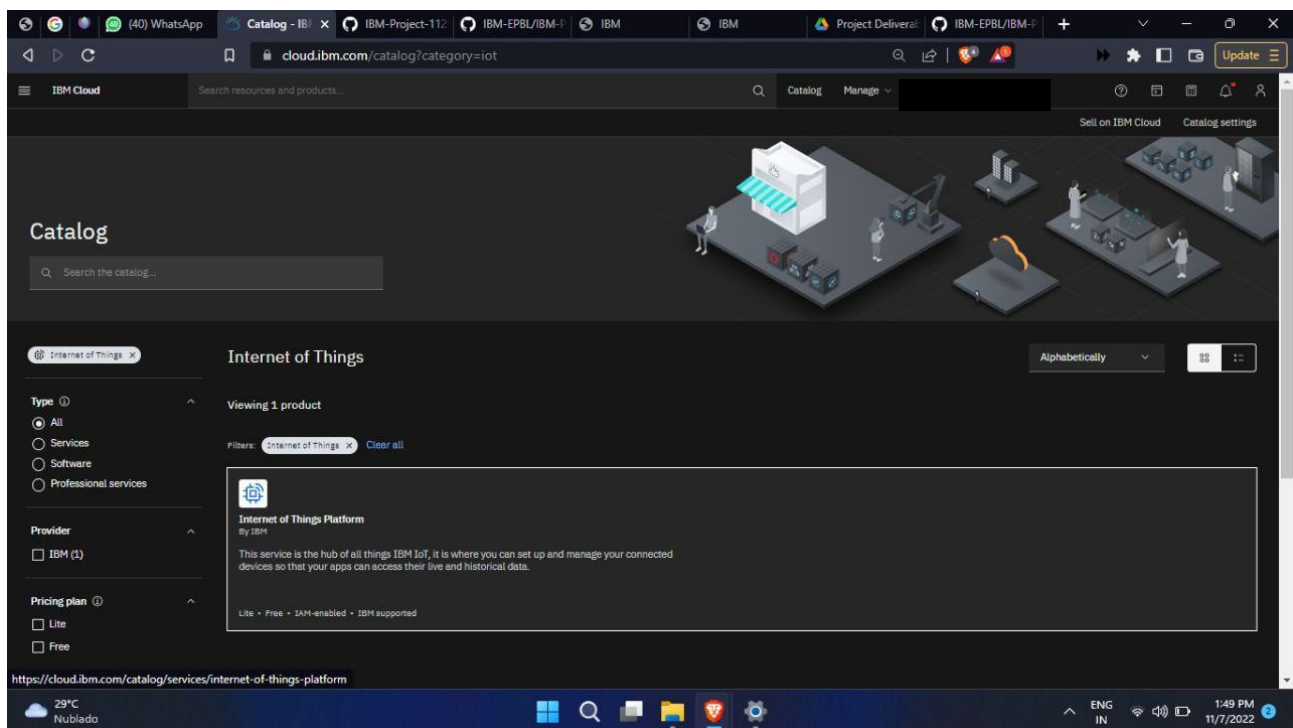
2. Home page of IBM cloud.



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.

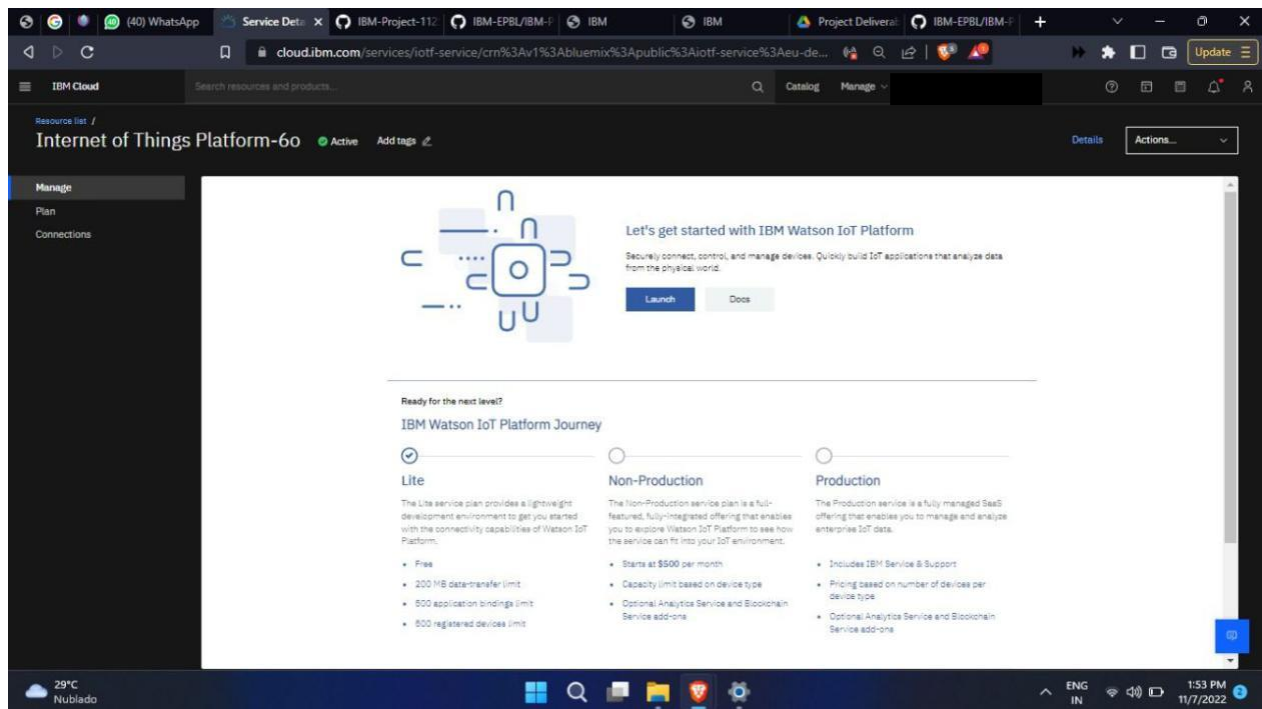
The screenshot shows the IBM Cloud catalog page for the Internet of Things Platform. The page is in a dark theme. On the left, there's a sidebar with the IBM logo and a search bar. The main content area is titled 'Internet of Things Platform' and includes a description: 'This service is the hub of all 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 this, there are tabs for 'Create' and 'About'. The 'Create' tab is active, showing a 'Select a location' dropdown set to 'Frankfurt (eu-de)' and a 'Select a pricing plan' section. The pricing plan section shows a table with columns 'Plan', 'Features', and 'Pricing'. The 'Lite' plan is selected, showing features like 'Includes up to 500 registered devices' and 'Maximum of 200 MB of each data metric'. The pricing is 'Free'. On the right, there's a 'Summary' section with details like 'Location: Frankfurt', 'Plan: Lite', and 'Service name: Internet of Things Platform-60'. At the bottom right, there's a 'Create' button and an 'Add to estimate' button. The bottom of the screen shows a Windows taskbar with the time 1:50 PM on 11/7/2022.

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

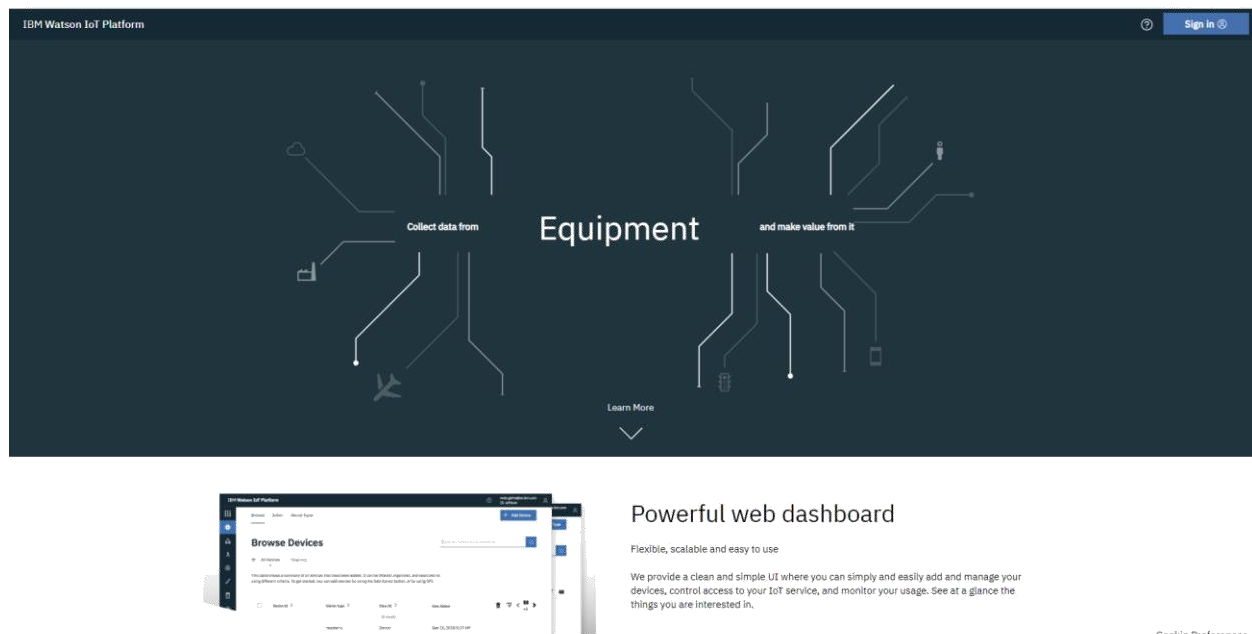
6. Enter the location and in the configure your resource type the service name and choose the plan, tick the agree with agreements and then click on create.

The screenshot shows the IBM Cloud resource configuration page for the Internet of Things Platform. The page is in a dark theme. On the left, there's a sidebar with the IBM logo and a search bar. The main content area is titled 'Internet of Things Platform-60' and includes a status 'Active'. Below this, there's a 'Manage' tab with sub-tabs for 'Plan' and 'Connections'. The 'Plan' tab is active, showing 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 with a 'IBM Watson IoT Platform Journey' diagram. The diagram shows three stages: 'Lite', 'Non-Production', and 'Production'. The 'Lite' stage is selected, showing details like 'The Lite service plan provides a lightweight development environment to get you started with the connectivity capabilities of Watson IoT Platform.' and a list of features: 'Free', '200 MB data-transfer limit', '500 application bindings limit', and '500 registered devices limit'. The 'Non-Production' stage shows details like '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.' and a list of 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 details like 'The Production service is a fully managed SaaS offering that enables you to manage and analyze enterprise IoT data.' and a list of features: 'Includes IBM Service & Support', 'Pricing based on number of devices per device type', and 'Optional Analytics Service and Blockchain Service add-ons'. The bottom of the screen shows a Windows taskbar with the time 1:53 PM on 11/7/2022.

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

IBMId [Forgot IBMId?](#)

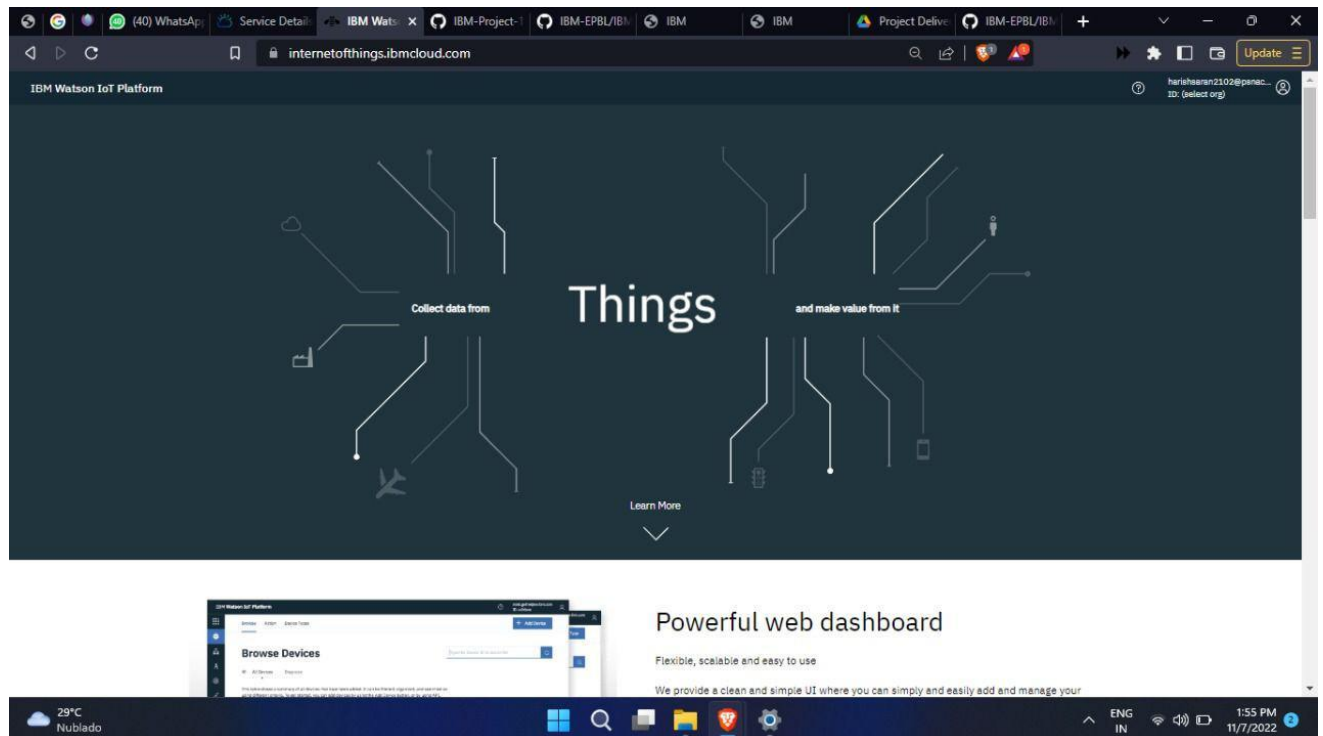
☐ Remember me ⓘ

[Continue](#) →

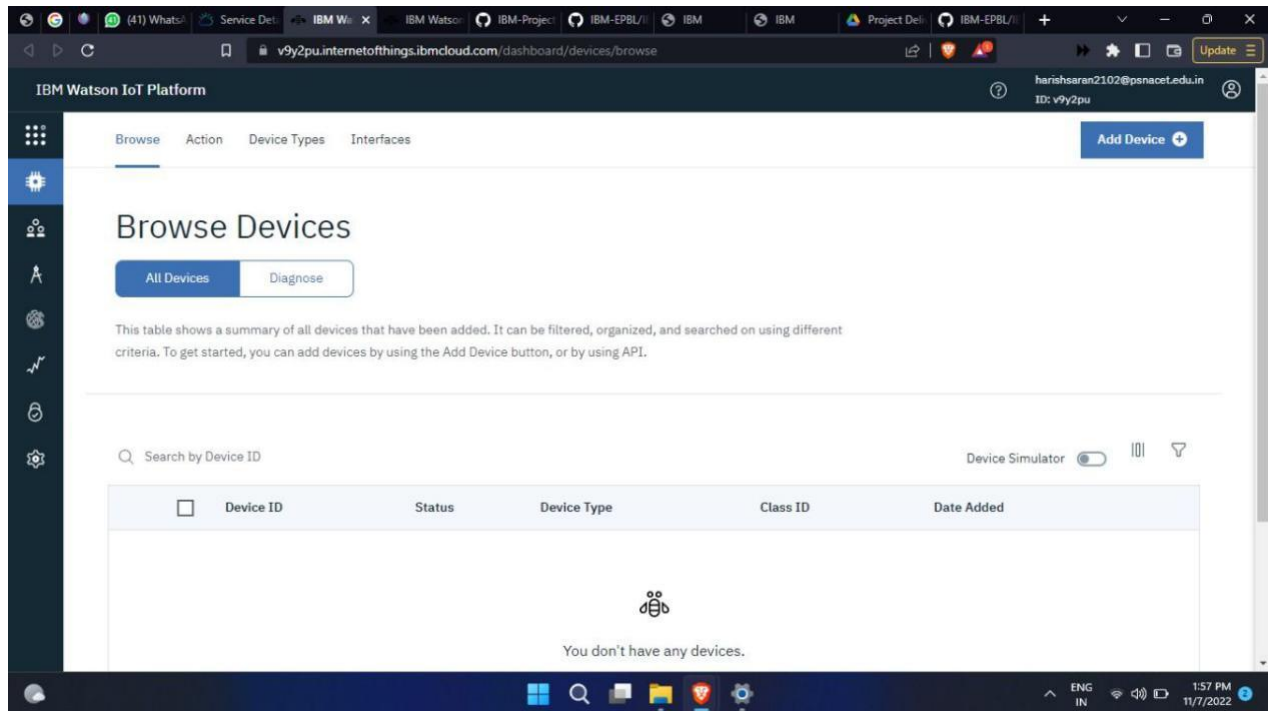
Don't have an account? [Create an IBMId](#)

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

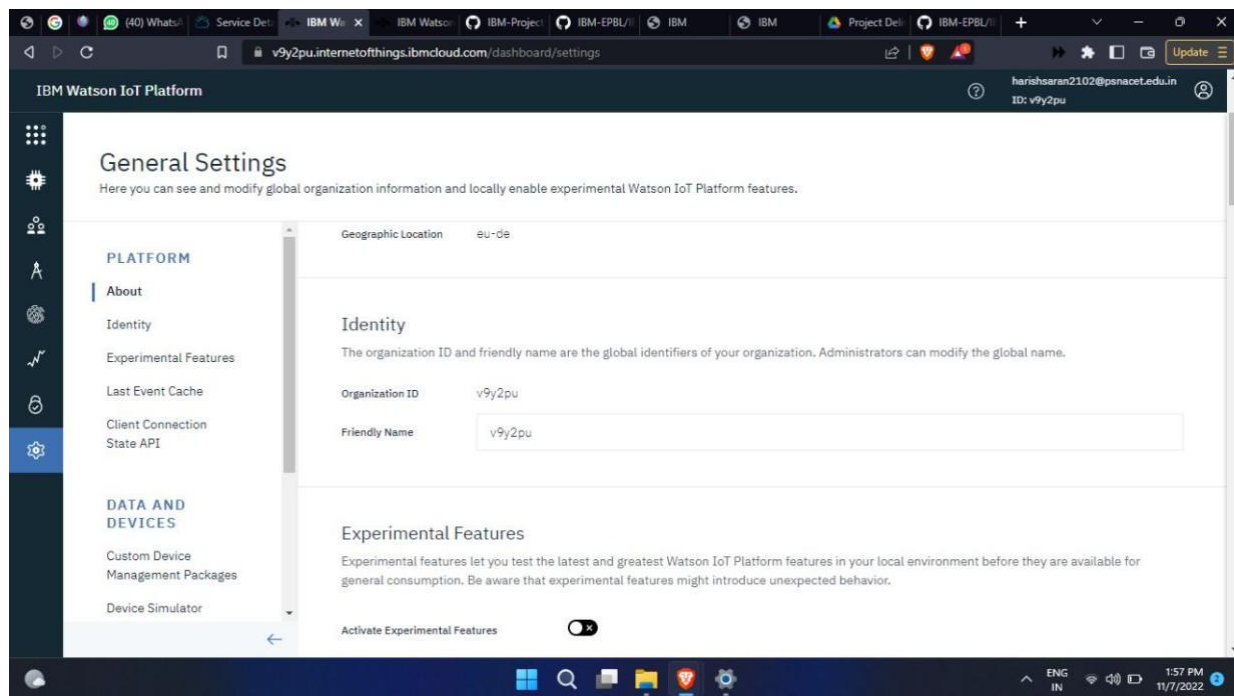
10. Once logged in the name will be displayed and it goes back to the first page.



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' page in 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 system icons and the time '1:58 PM 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' page in the IBM Watson IoT Platform. The page title is 'Usage Summary'. It displays two summary cards: 'THIS MONTH' showing '0 bytes' of data transferred inbound and outbound, and 'PREVIOUS MONTH' also showing '0 bytes'. Below these is a 'Data Transferred' section with a 'Date Period (months)' filter set to '1'. The date range is from '06/11/2022' to '07/11/2022'. A bar chart is partially visible at the bottom. The left sidebar and top navigation bar are consistent with the previous screenshot. The bottom status bar shows system icons and the time '1:58 PM 11/7/2022'.

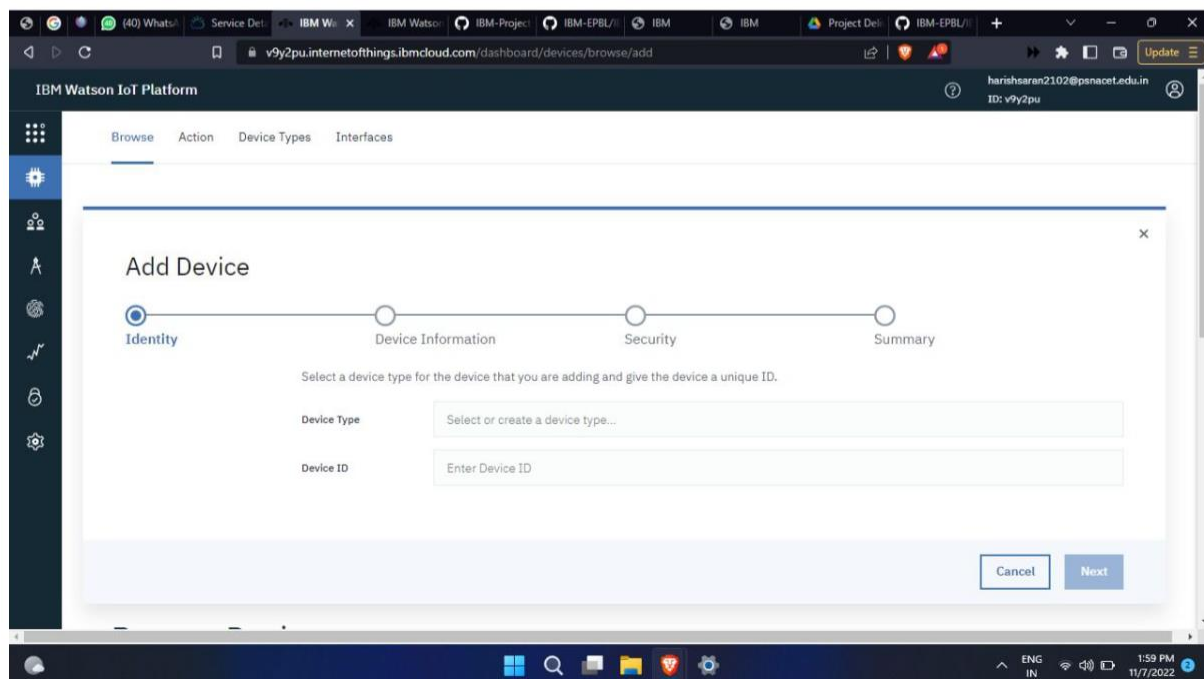
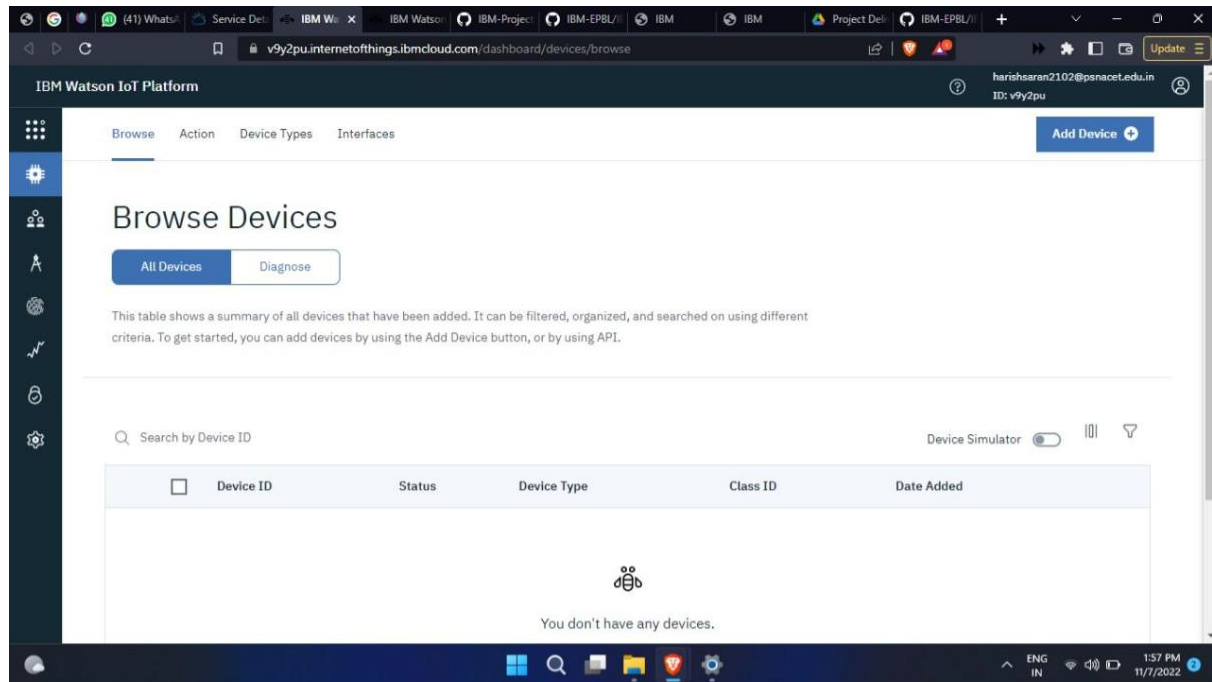
15. The member tab is add the teams members to work in the platform.

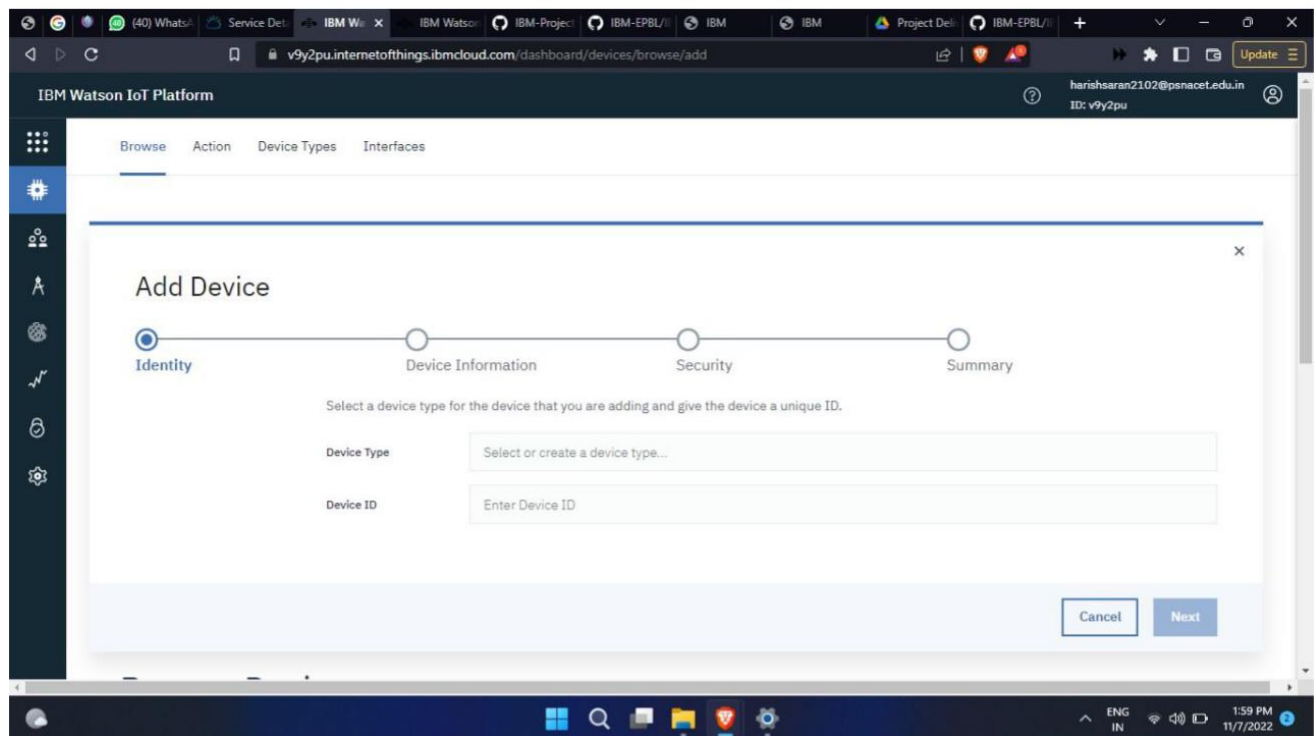
The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar shows the user's profile as 'harishsaran2102@psnacet.edu.in' with ID 'v9y2pu'. The main content area is titled 'Browse Members' and includes a search bar with the placeholder text 'Type the member email to search for'. Below the search bar, a table lists the members of the organization. The table has columns for 'Email Address', 'Name', 'Role', 'Added By', and 'Expires'. A single member is listed: 'harishsaran2102@psnacet.edu.in' with the role of 'Administrator'. The page also features a sidebar with various navigation icons and an 'Add Members' button in the top right corner.

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

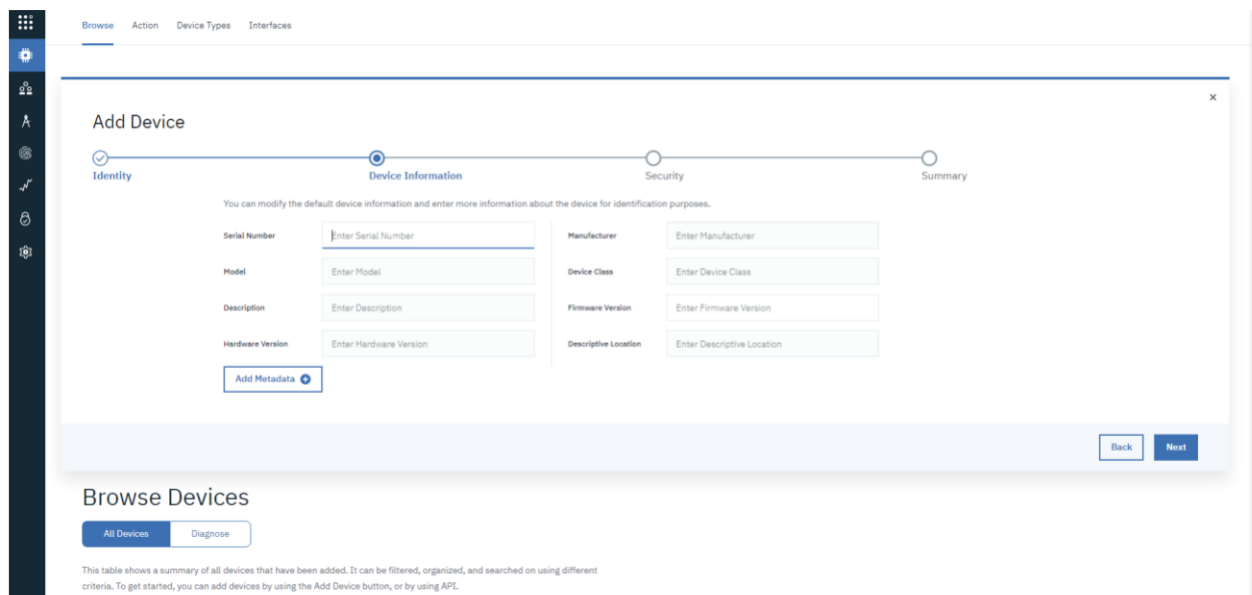
16. This tab is used when you want to connect to some other platform and to integrate with other services.

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 '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. Authentication tokens are encrypted before we store them.' At the bottom right of the wizard, there are 'Back' and 'Next' buttons. The 'Next' button is highlighted in blue.

Browse Devices

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 marked with a circle. The 'Identity' and 'Device Information' steps are also marked with checkmarks. 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, 'Security Token: To be generated', and a 'Finish' button. The 'Finish' button is highlighted in blue. The browser address bar shows the URL: 'v9y2pu.internetofthings.ibmcloud.com/dashboard/devices/browse/add'. The IBM Watson IoT Platform header shows the user 'harisharan2102@psnacet.edu.in' with ID 'v9y2pu'.

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:

Organization ID	v9y2pu
Device Type	Nodemcu
Device ID	200221
Authentication Method	use-token-auth
Authentication Token	AXUxHwj6nNVk4qo53I

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 of the main area says "Find out how to add these credentials to your device". The top right of the page shows the user profile "harishsaran2102@psnacet.edu.in" and the ID "v9y2pu". The bottom of the screen shows a Windows taskbar with the time "2:05 PM" and date "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. It displays the "Device Credentials" for device 200221, including the Organization ID (v9y2pu), Device Type (Nodemcu), Device ID (200221), Authentication Method (use-token-auth), and Authentication Token (AXUxHwj6nNVk4qo53I). The warning about non-recoverable tokens is also present. The browser address bar, sidebar menu, and Windows taskbar are consistent with the previous image.

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

Browse Action Device Types Interfaces

Add Device

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

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

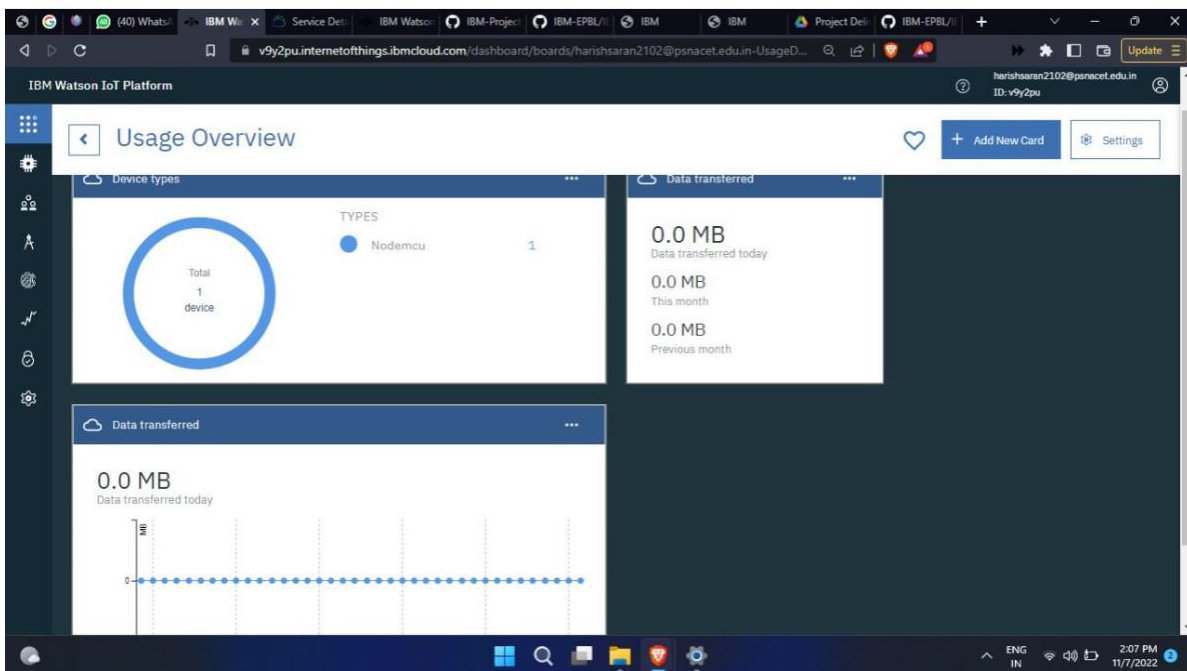
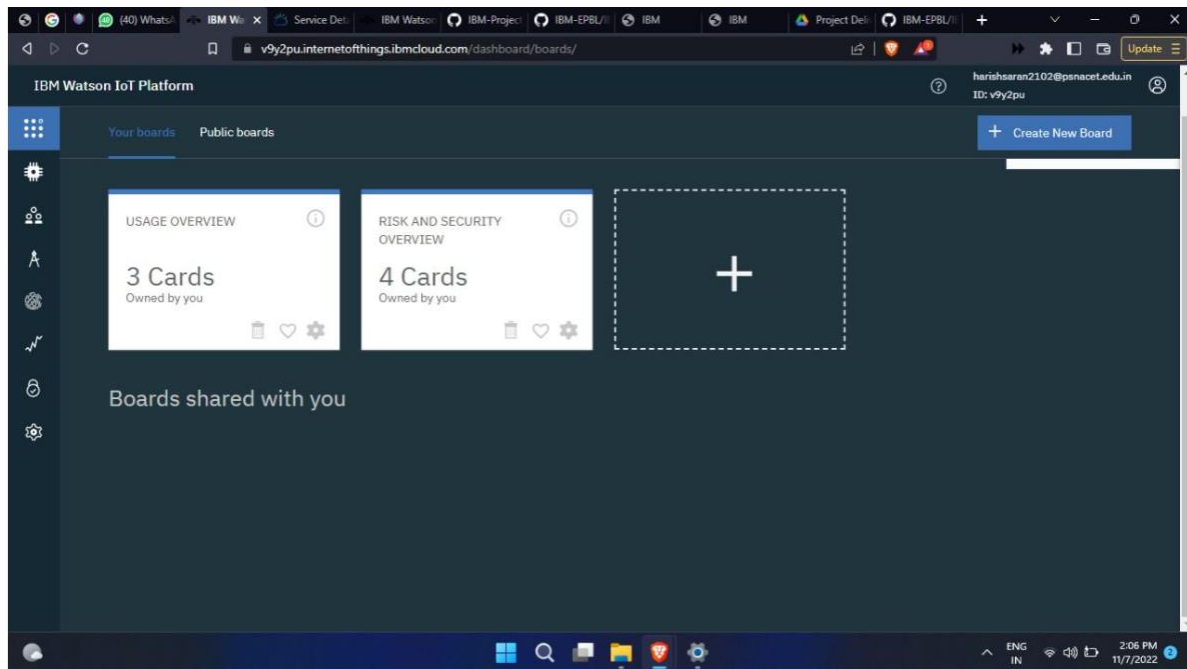
Connection Status Disconnected

Items per page 50 | 1-1 of 1 item

1 of 1 page

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