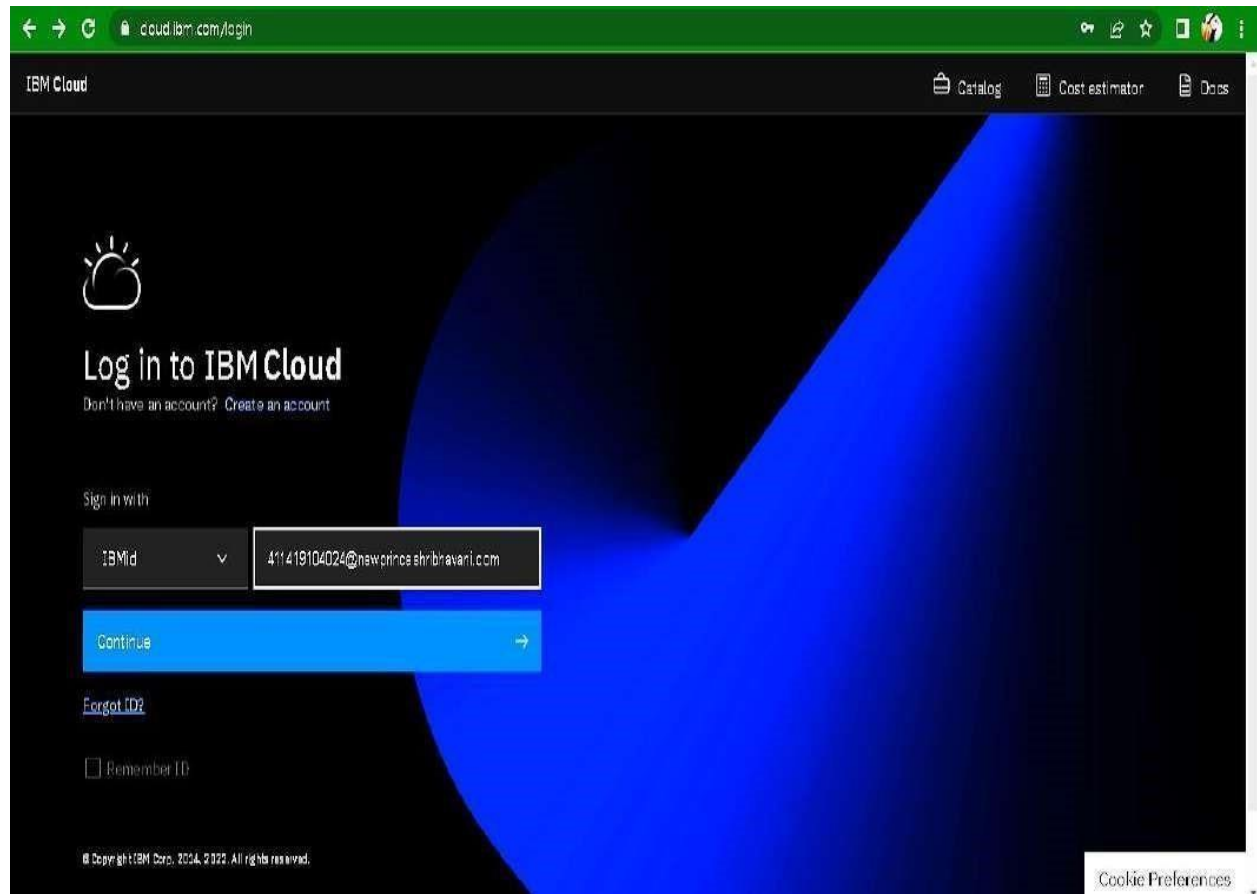


## Create And Configure IBM Cloud Service

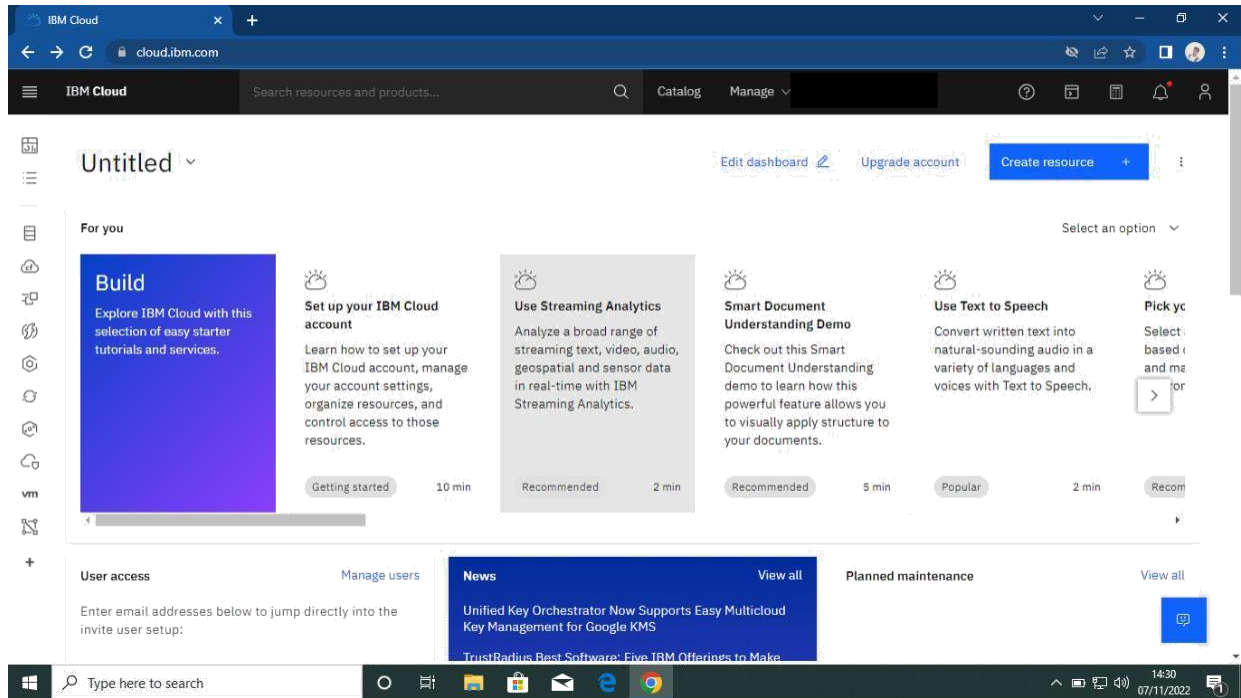
### Create IBM Watson IoT Platform And Device

Team ID	PNT2022TMID54378
Project Name	IoT Based Smart waste management for metropolitan cities
Maximum Marks	4 Marks
<b>STEPS</b>	

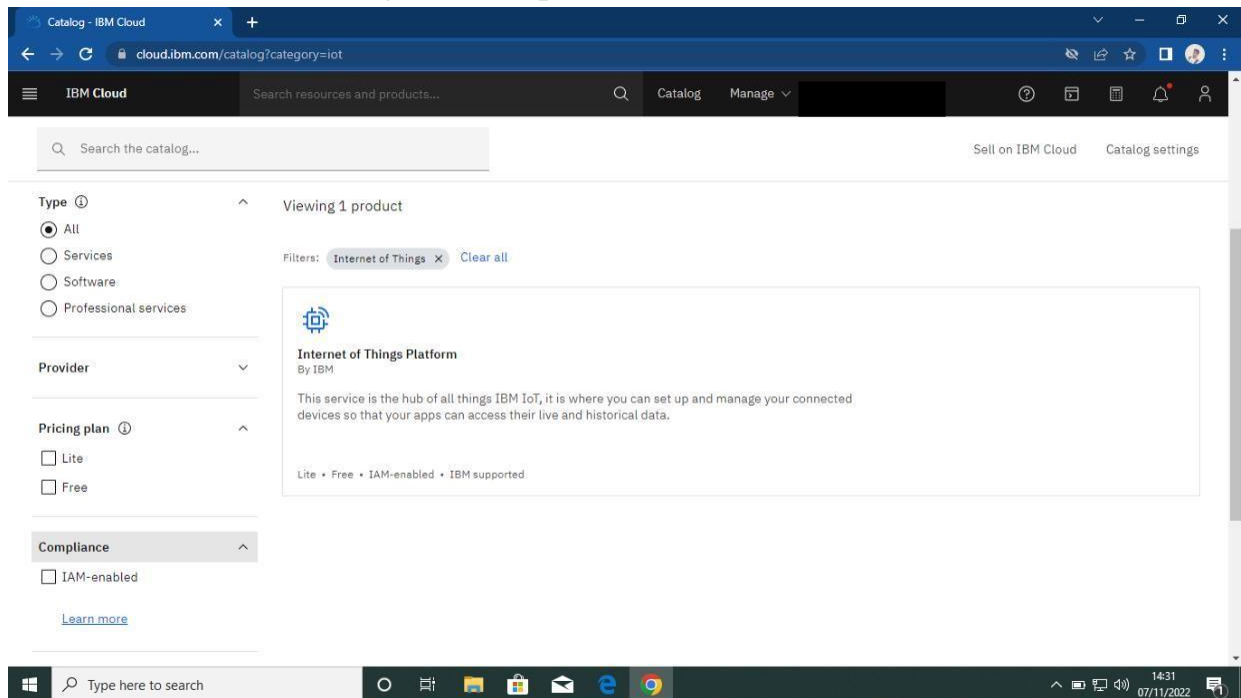
- 1 . Firstly create an IBM cloud account with IBMid and password.



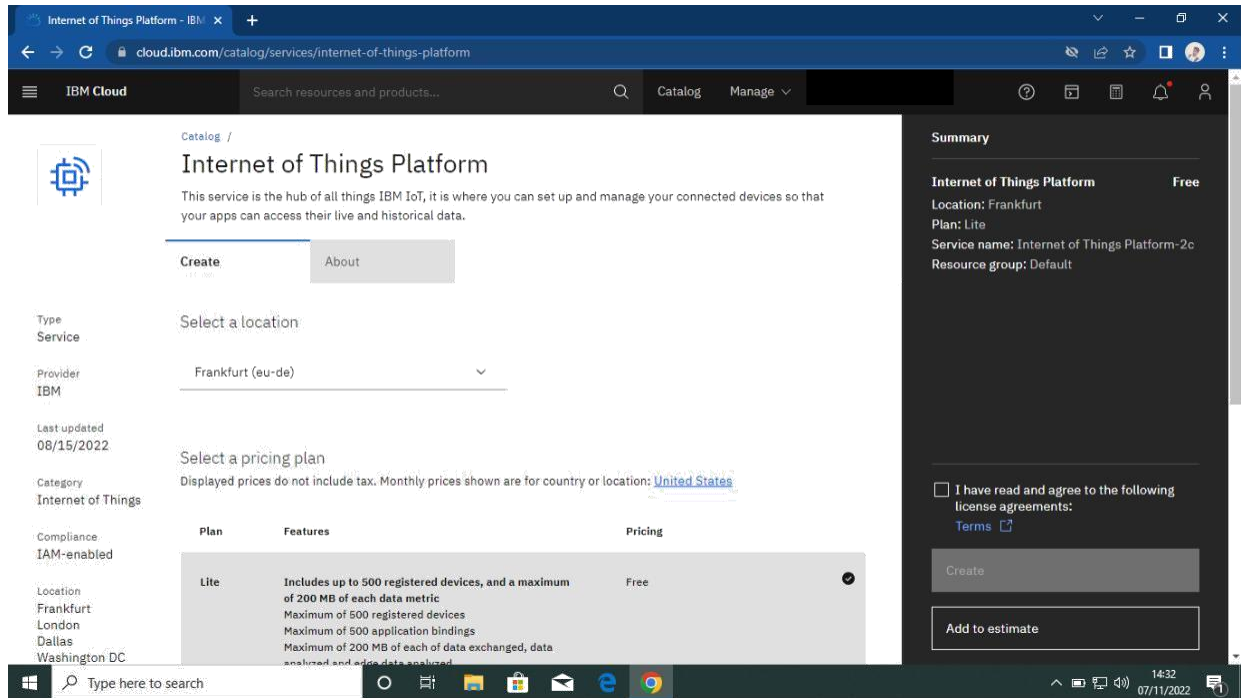
- 2 . Home page of IBM cloud



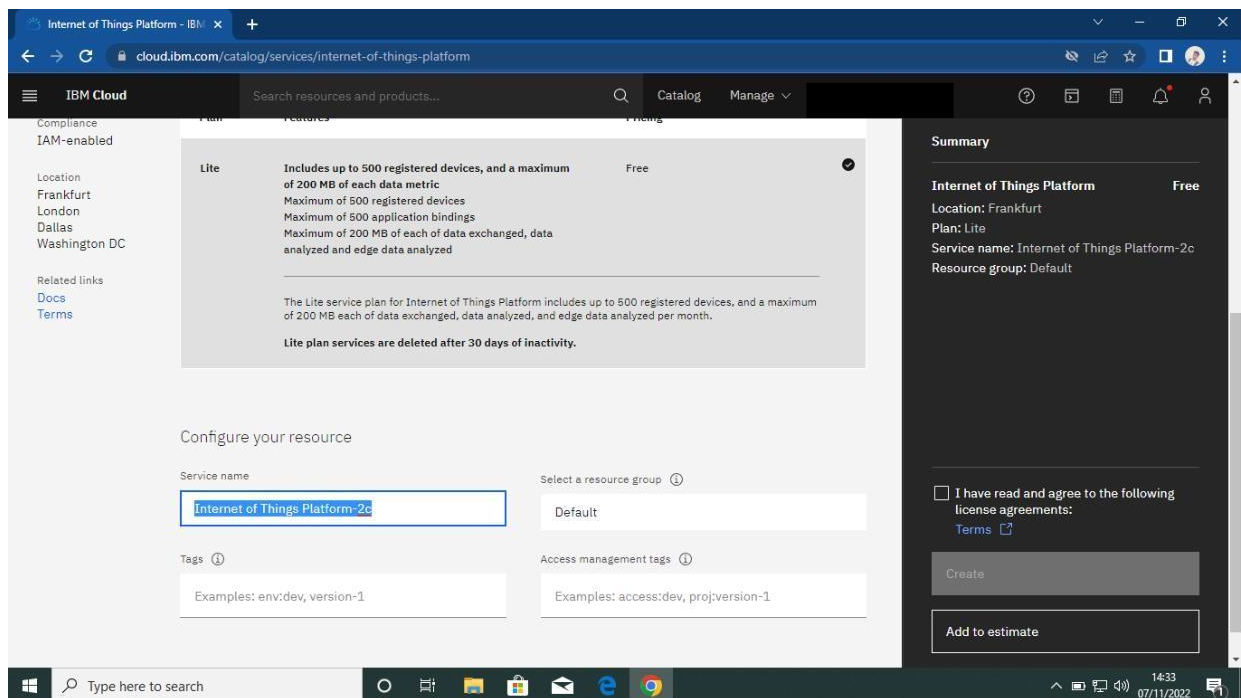
3. Click on the catalog on the top



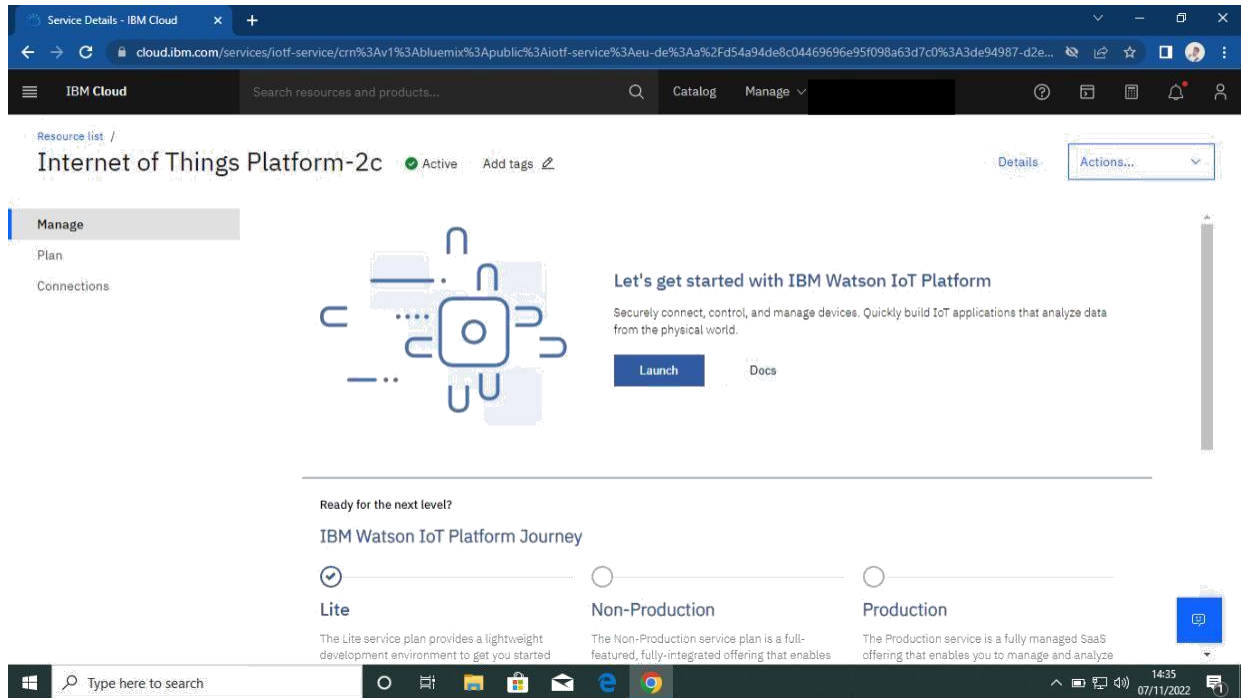
4. Click on IoT in the category mentioned



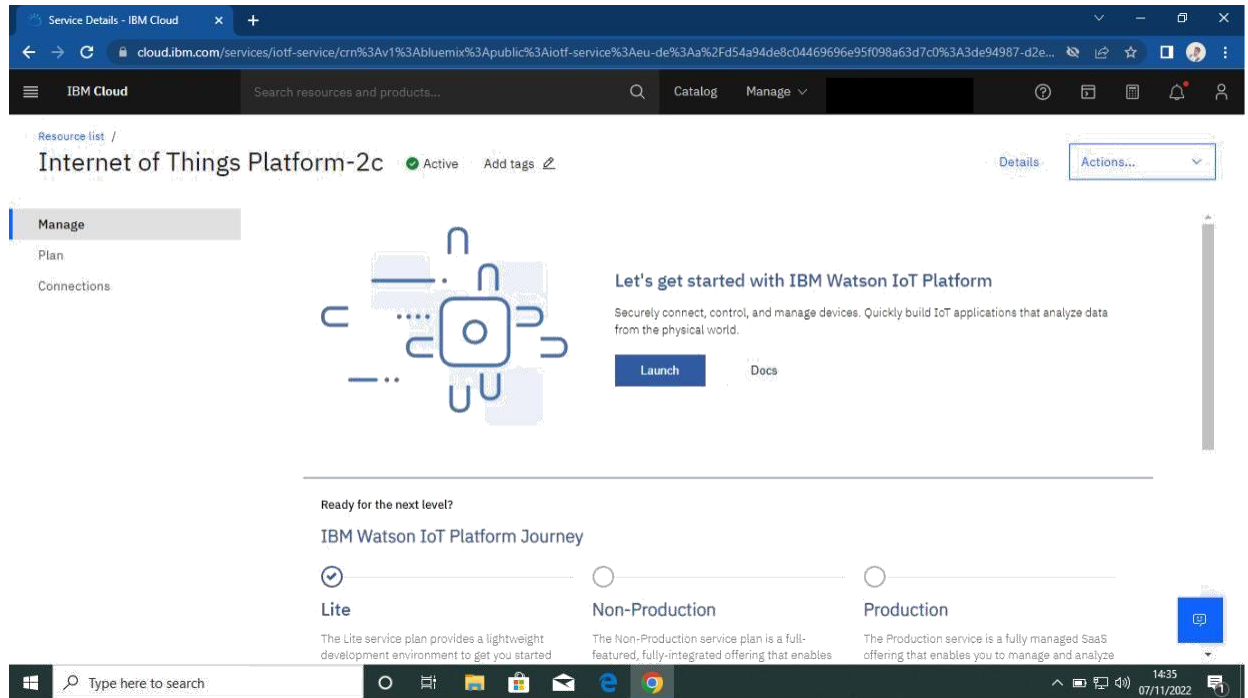
5. If already a lite is present delete it else u can't create another



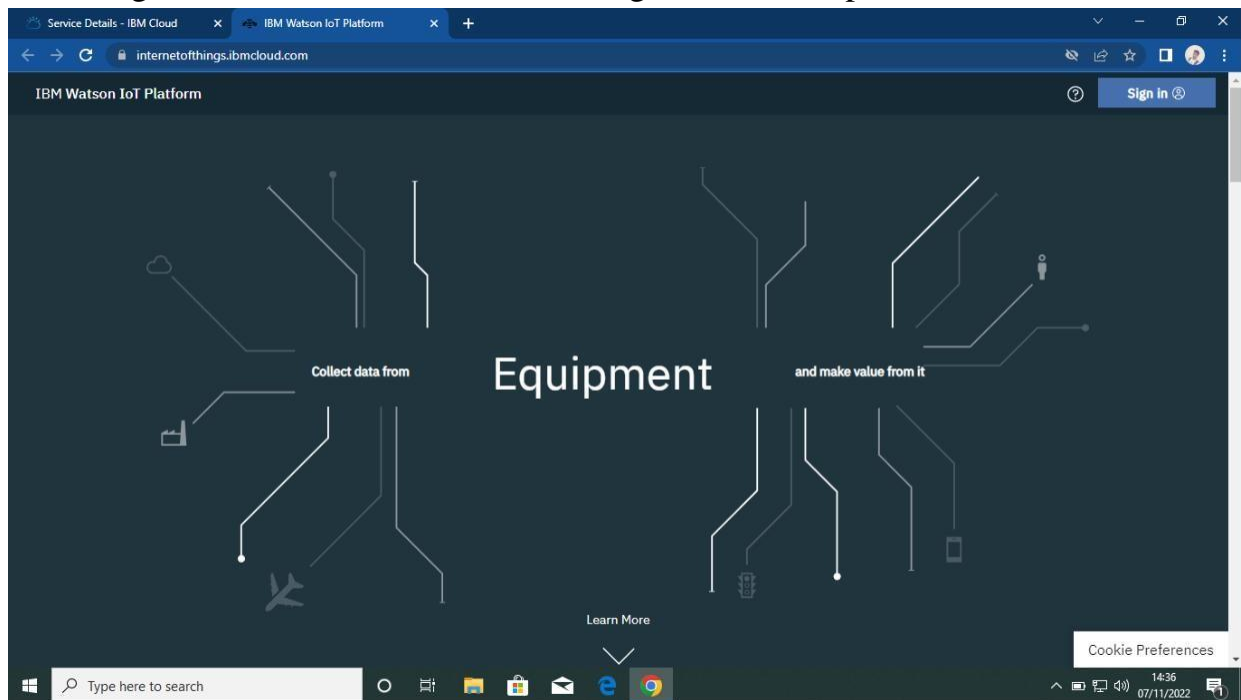
6. Enter the location and in the configure your resource type the service name and choose the plan, tick the agree with it agreements and then click on create



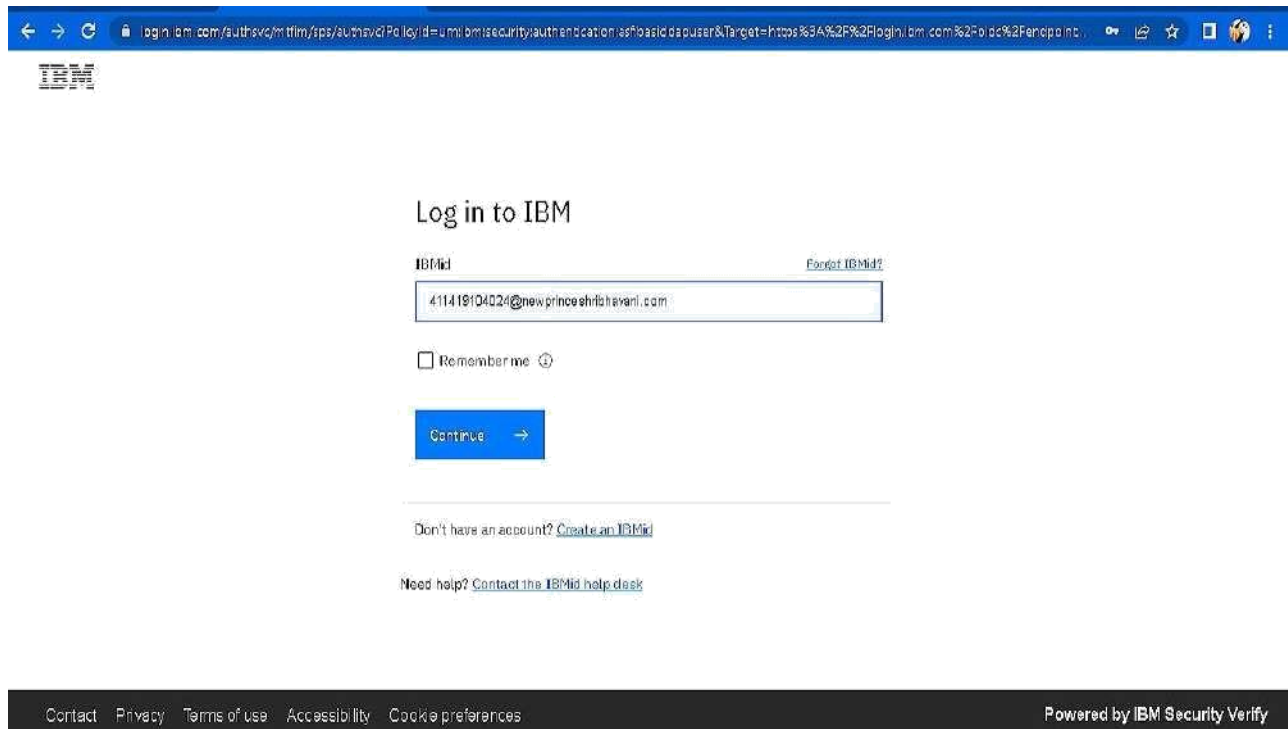
7. Internet of Things Platform Child\_safety will be created, where there are different options like manage, plan, and connection (manage is for launch, Plan gives us the idea about the payment package and its upgrades, and lastly the connection is for to connect IoT with other services)



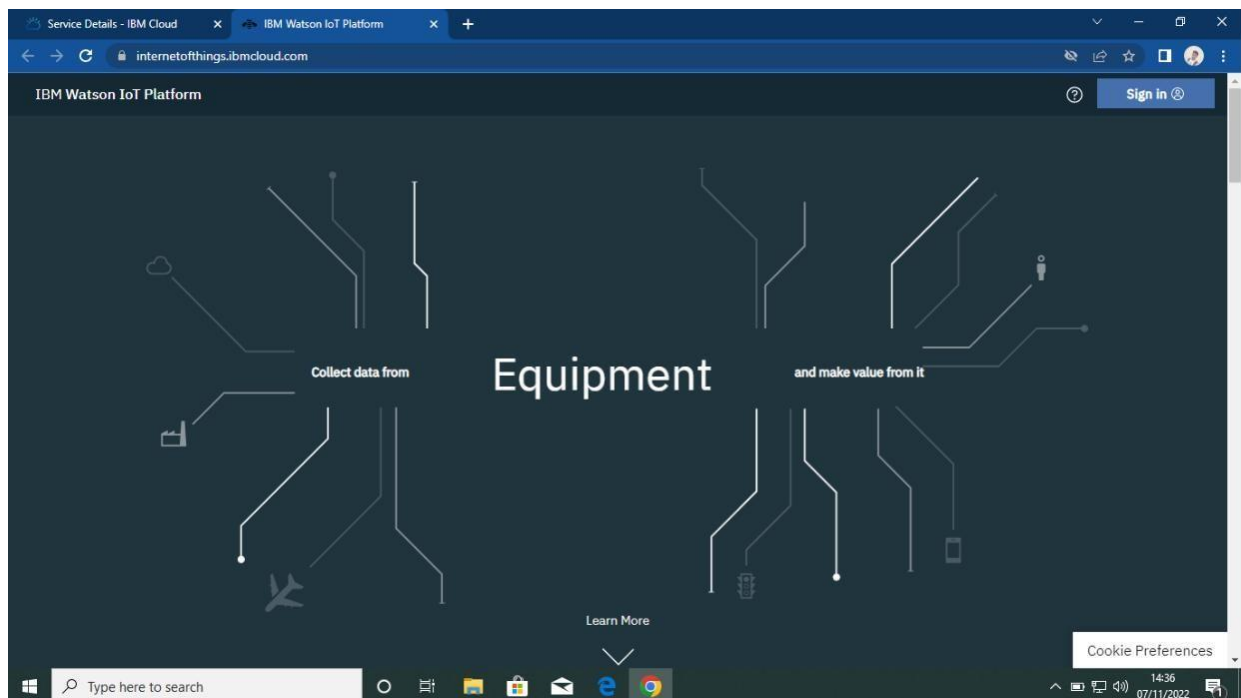
8. Clicking on the launch button in the manage tab, it will open to this



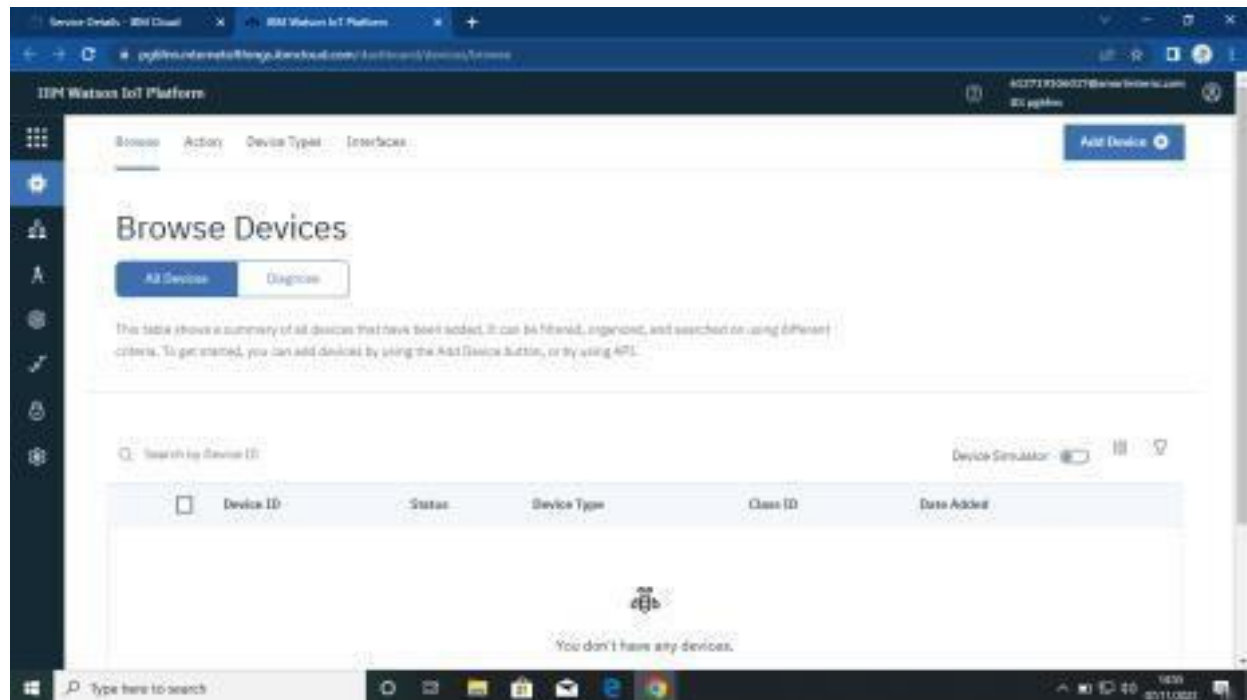
9. Enter the details to sign in to the Watson Cloud to create a device



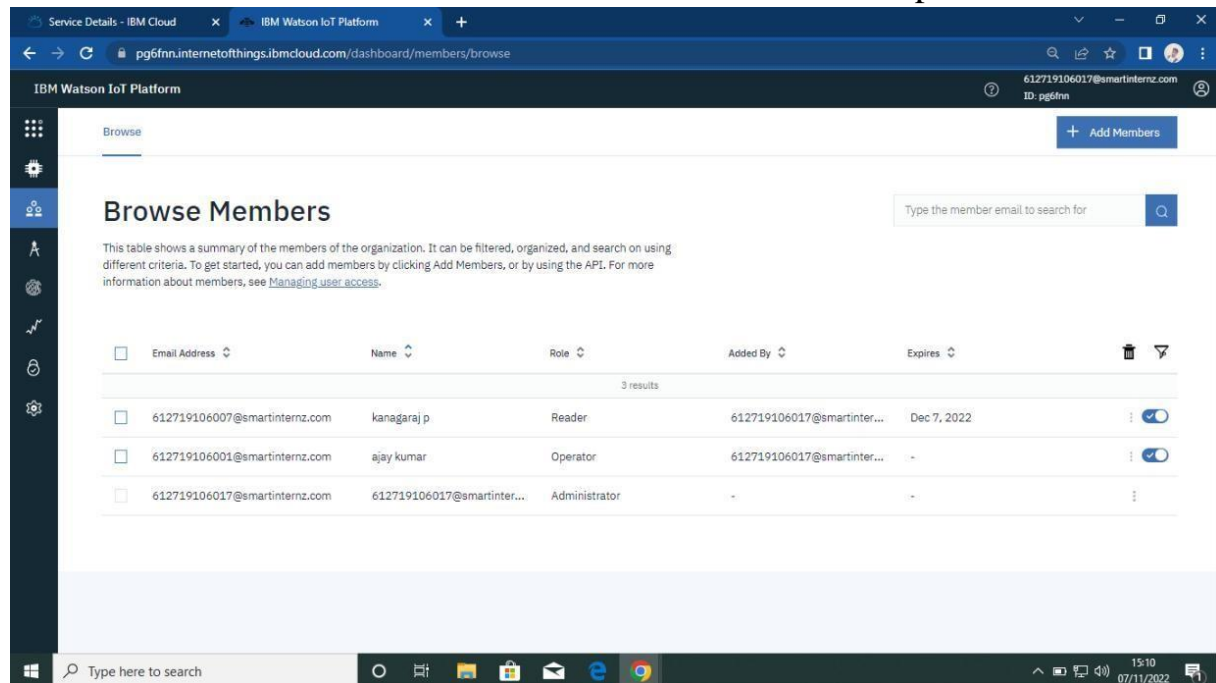
10. Once logged in the name will be displayed and it goes back to the first page



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

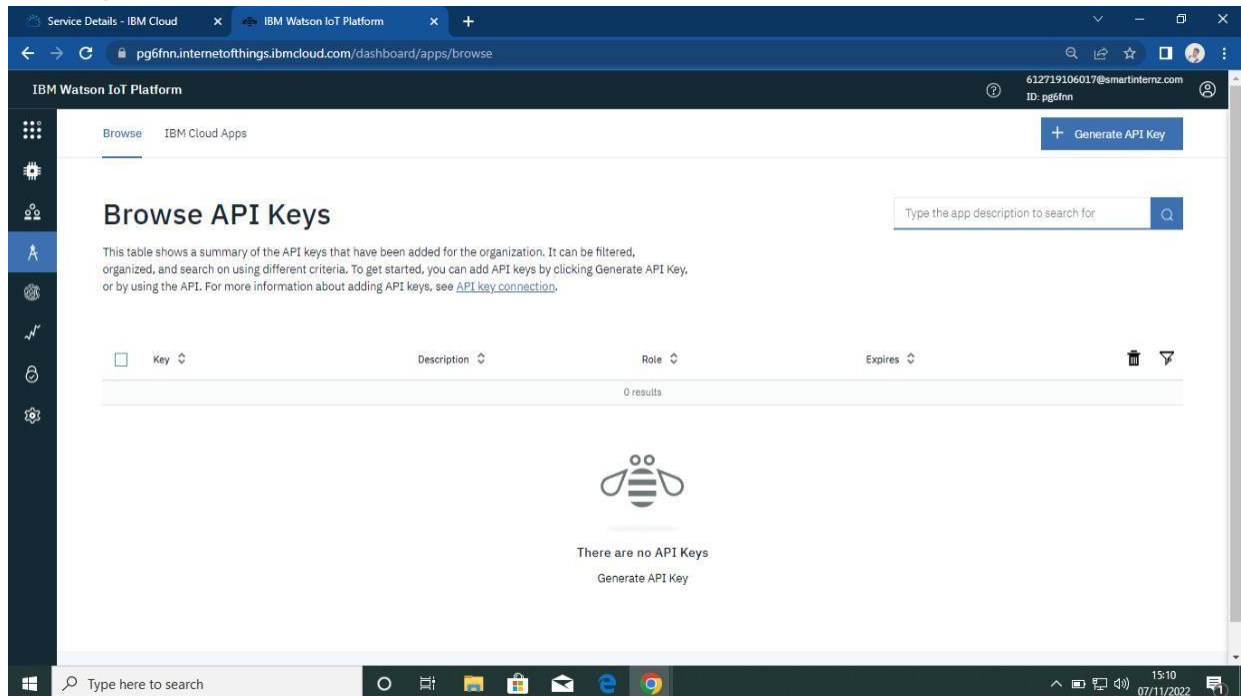


12. The member tab is add the teams members to work in the platform

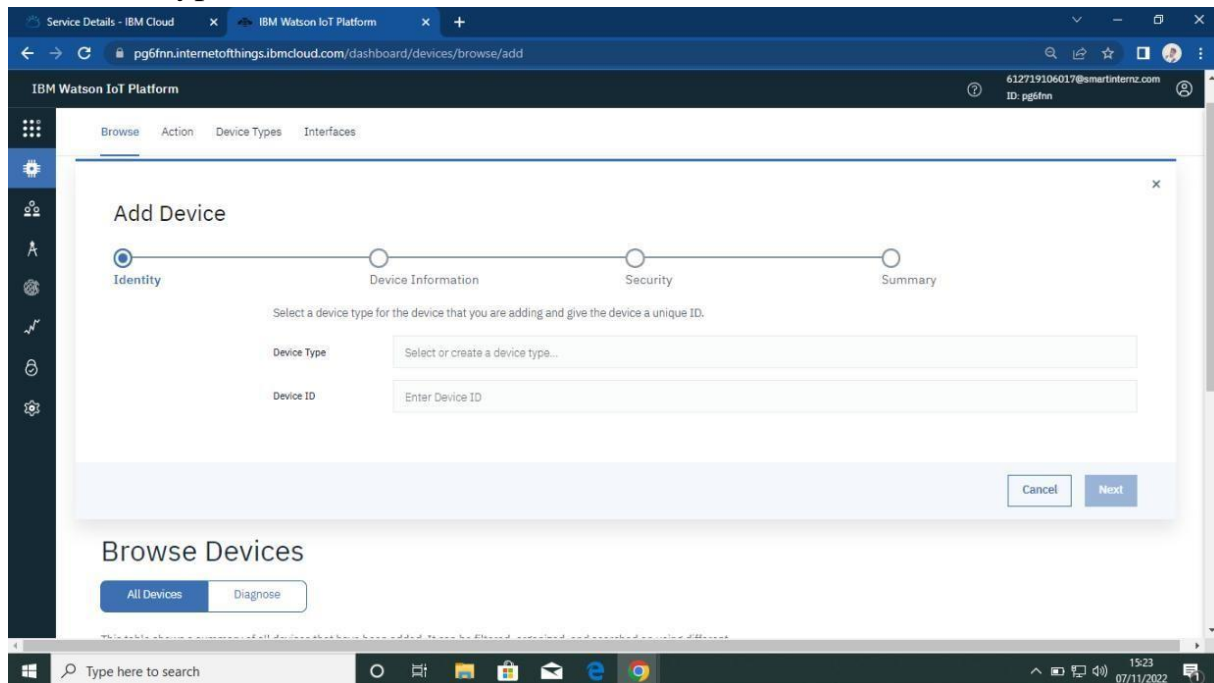




13. This tab is used when you want to connect to some other platform and to integrate with other services.



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

The screenshot shows the 'Add Device' wizard in the IBM Watson IoT Platform. The progress bar indicates four steps: Identity (completed), Device Information (current), Security, and Summary. The 'Device Information' step contains the following fields:

Field	Input
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 fields is an 'Add Metadata' button with a plus icon. At the bottom right are 'Back' and 'Next' buttons. The browser address bar shows the URL: `pg6fnn.internetofthings.ibmcloud.com/dashboard/devices/browse/add`.

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

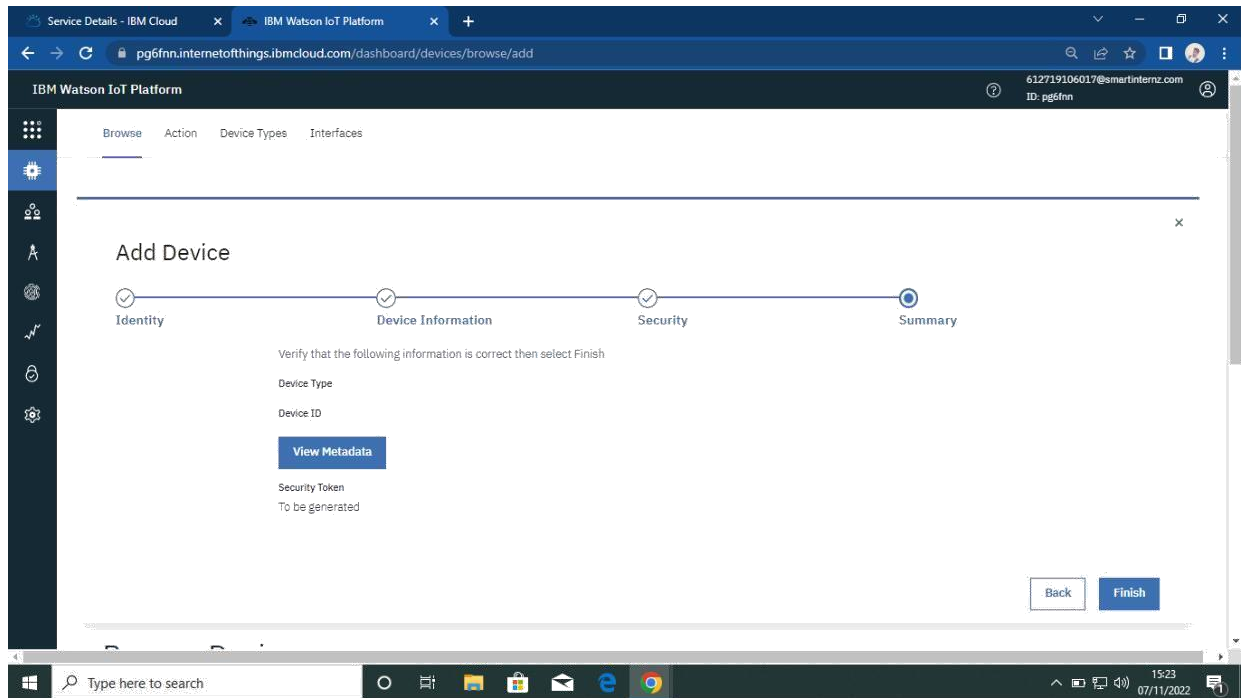
The screenshot shows the 'Add Device' wizard at the 'Security' step. The progress bar shows Identity and Device Information as completed, Security as the current step, and Summary as the next step. The page presents two options for selecting a device authentication token:

- 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.

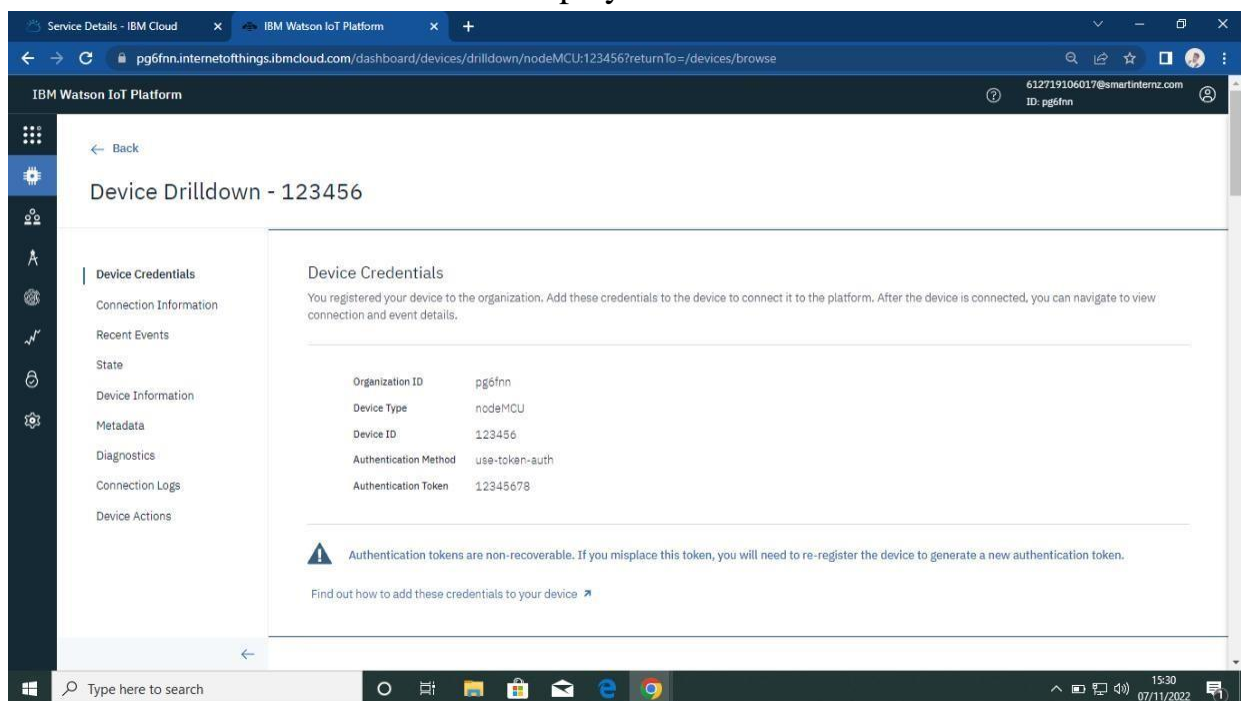
Below these options is an 'Authentication Token' input field with the placeholder text 'Enter an optional token'. A note below the field states: 'Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored. Authentication token are encrypted before we store them.'

At the bottom right are 'Back' and 'Next' buttons. The browser address bar shows the URL: `pg6fnn.internetofthings.ibmcloud.com/dashboard/devices/browse/add`.

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



## 18. 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.

19. 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 'Device Drilldown - 123456' page in the IBM Watson IoT Platform. The left sidebar contains a navigation menu with options: Back, Device Credentials, Connection Information, Recent Events, State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The main content area is titled 'Device Credentials' and includes a warning icon and text: 'Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.' Below this is a link to 'Find out how to add these credentials to your device'. A table displays the following details:

Property	Value
Organization ID	pg6fnn
Device Type	nodeMCU
Device ID	123456
Authentication Method	use-token-auth
Authentication Token	12345678

The screenshot shows the 'Browse' page in the IBM Watson IoT Platform. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is labeled 'Search by Device ID'. A table lists the devices:

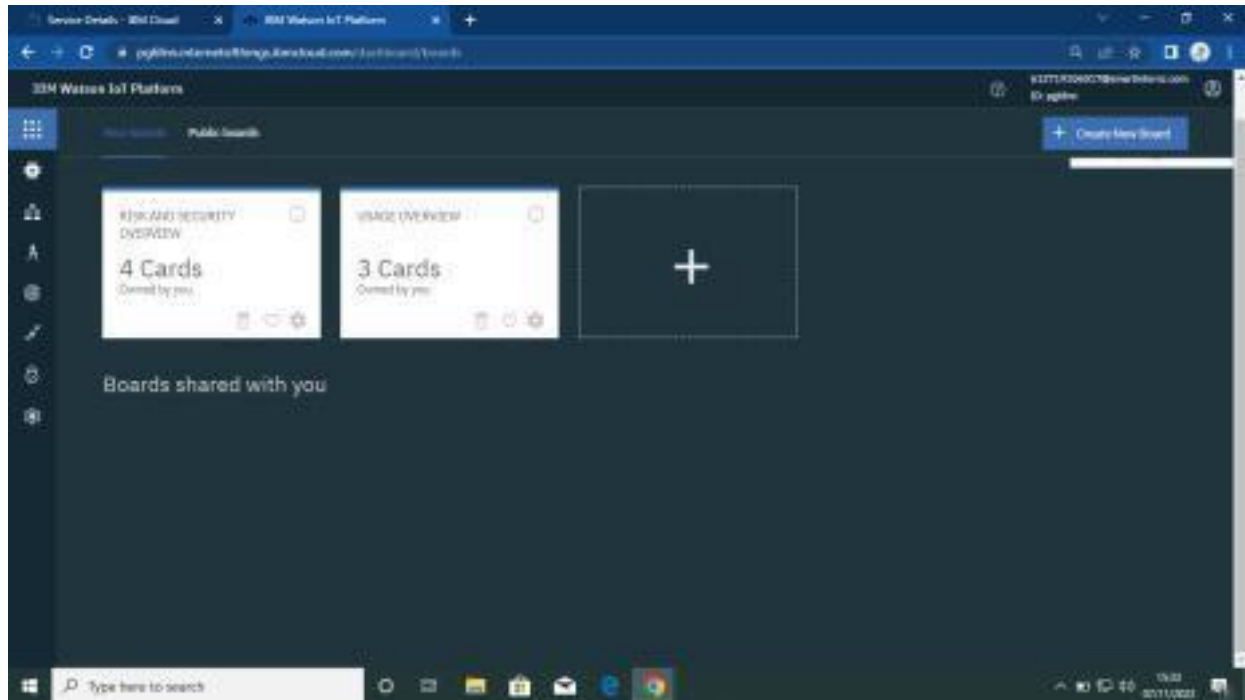
Device ID	Status	Device Type	Class ID	Date Added
123456	Disconnected	nodeMCU	Device	Nov 7, 2022 3:27 PM

Below the table, there is a detailed view for the selected device (123456) with tabs for Identity, Device Information, Recent Events, State, and Logs. The 'Identity' tab is active, showing the following details:

Property	Value
Device ID	123456
Device Type	nodeMCU
Date Added	Nov 7, 2022 3:27 PM
Added By	612719106017@smartinternz.com
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.

20..The Boards will display card for the project.



## **RESULT:**

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