

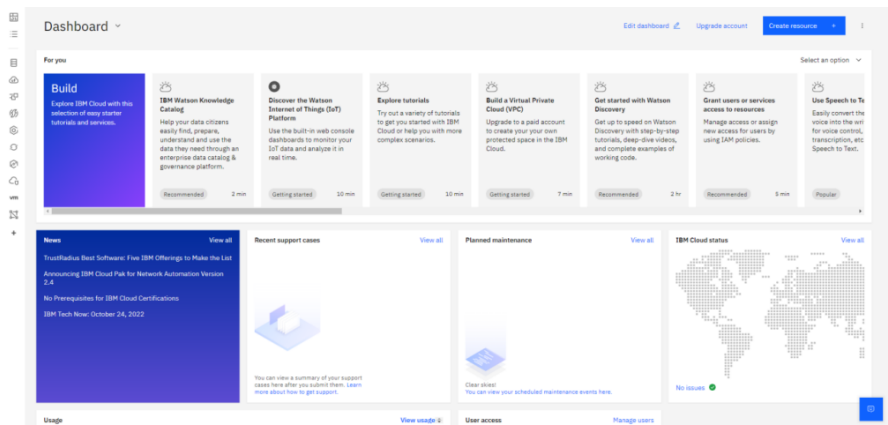
Create IBM WATSON IOT Platform & Device

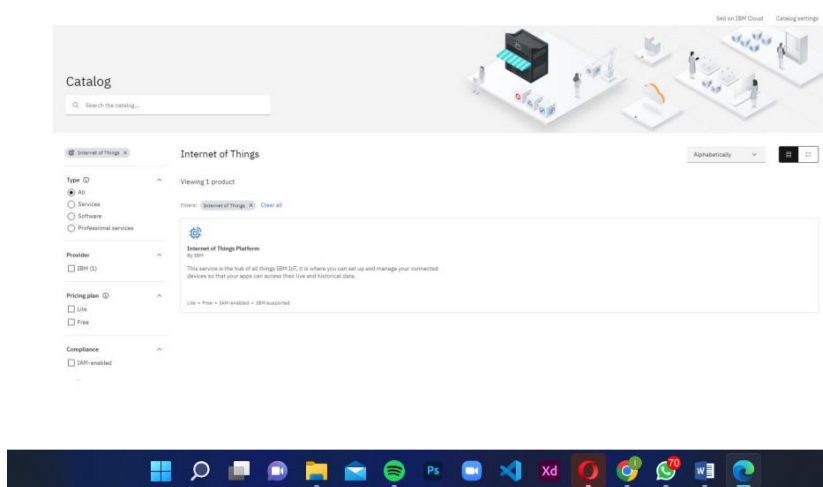
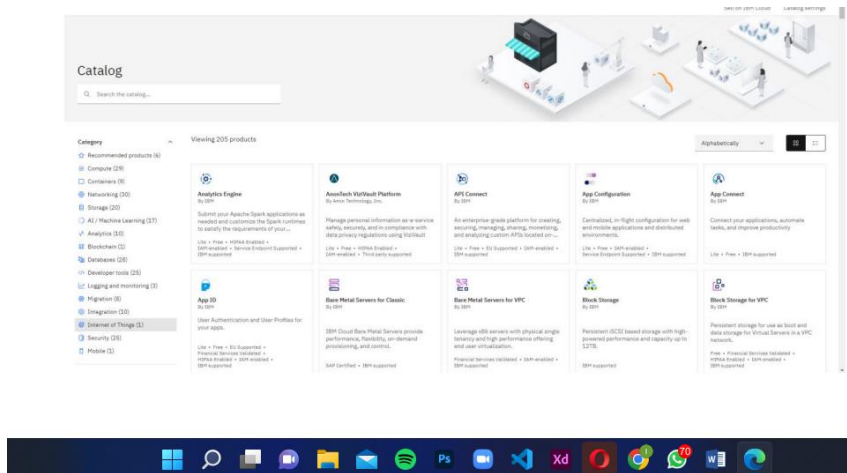
Date	27 October 2022
Team ID	PNT2022TMID26000
Project Name	Smart Waste Management System for Metropolitan cities

Aim: To create the IBM Watson IOT Platform and device

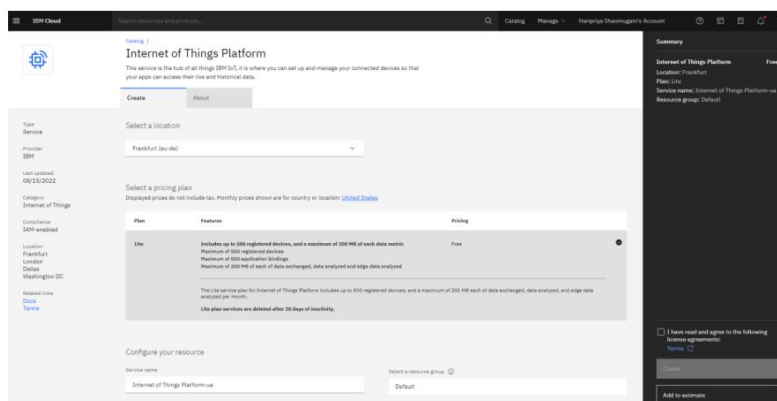
STEPS:

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

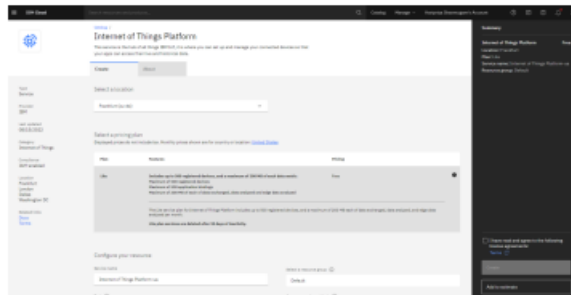




5. If already a lite is present delete it else u can't create another.



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



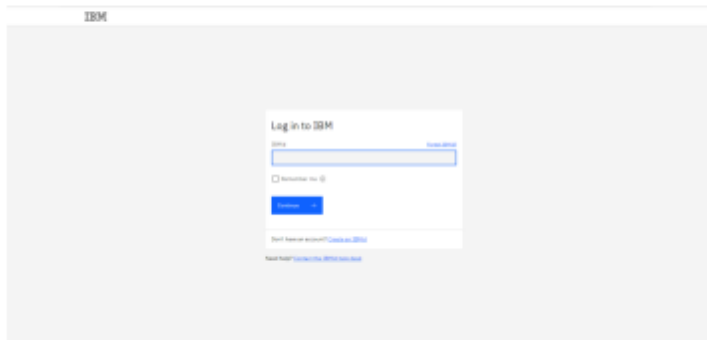
7. Internet of Things Platform Child_safety will be created, where there are different options like manage, plan, and connection (manage is for launch, Plan gives us the idea about the payment package and its upgrades, and lastly the connection is for to connect IoT with other services)



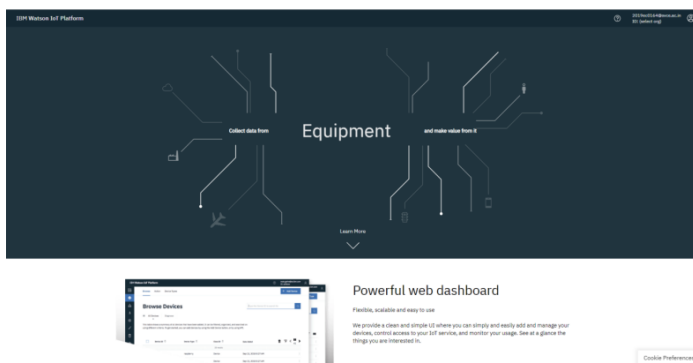
8. Clicking on the launch button in the manage tab, it will open to this.



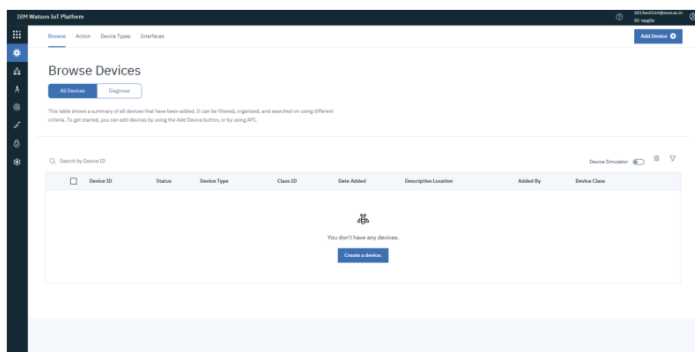
9. Enter the details to sign in to the Watson Cloud to create a device.



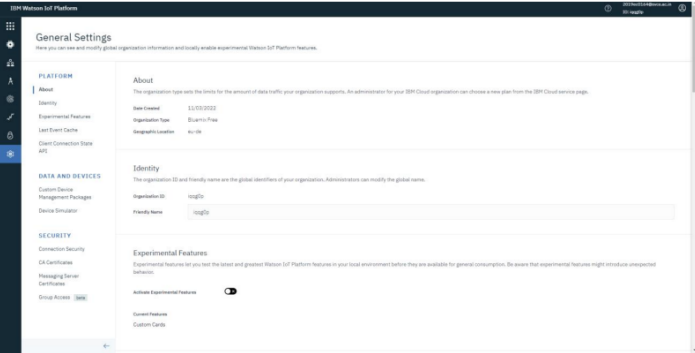
10. Once logged in the name will be displayed and it goes back to the first page.



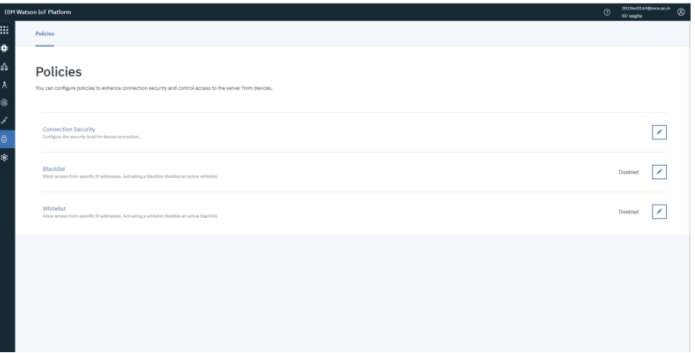
11. And again clicking on the launch button will open this tab, the device will help in the creation of the devices, the addition of devices, and the display of details of the devices.



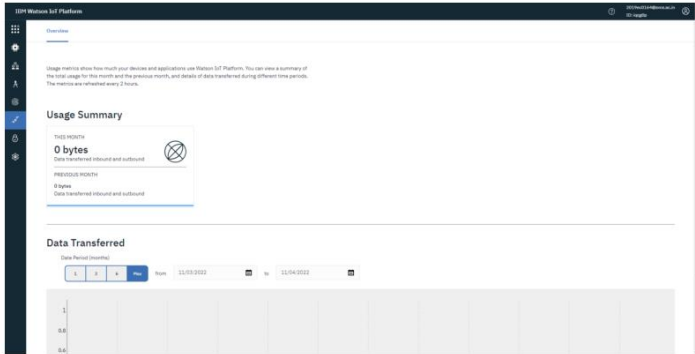
12. The setting tab is used to change the general setting if needed for the project.



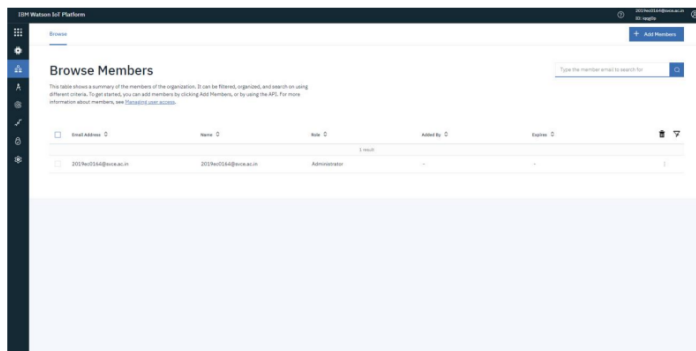
13. In the security tab we can choose the type of security connection and can change according to specification.



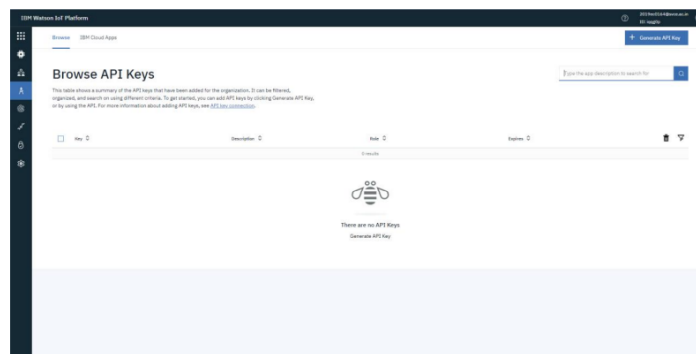
14. Usage gives the summary of how many bytes are used between the devices and the IBM cloud.



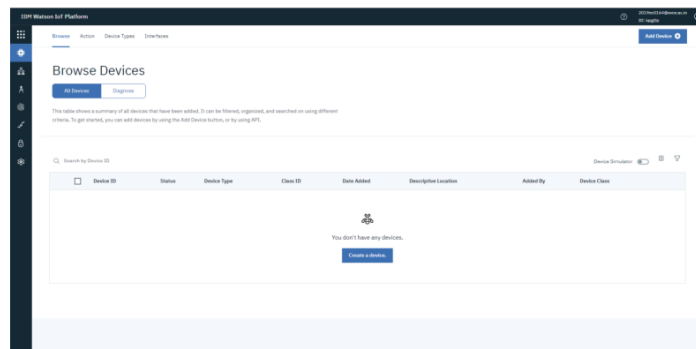
15. The member tab is add the teams members to work in the platform.



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.

The screenshot shows the 'Add Device' form in the 104M Wireless IoT Platform. The form is divided into four steps: Identity, Device Information, Security, and Summary. The 'Device Information' step is currently active. It contains several input fields for device details:

- 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
- Description Location: Enter Description Location

Below the input fields is a button labeled 'Add Metadata'. At the bottom of the form are 'Back' and 'Next' buttons. Below the form is a 'Browse Devices' section with 'All Devices' and 'Diagnose' buttons.

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

The screenshot shows the 'Add Device' form in the 104M Wireless IoT Platform, now at the 'Security' step. It provides instructions for generating an authentication token:

- Auto-generated authentication token (default):** There are no options for submitting a device authentication token. Allow the service to generate an authentication token for you. Tokens are 32 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 32 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 predictable sequences.

There is an input field for 'Authentication token' with a placeholder 'Enter an optional token'. Below it, a note states: '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 are 'Back' and 'Next' buttons.

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

The screenshot shows the 'Add Device' form in the 104M Wireless IoT Platform, now at the 'Summary' step. It displays a summary of the device information entered in the previous steps:

- Device Type: NodeMCU
- Device ID: 199795

Below the summary is a button labeled 'View Metadata'. At the bottom of the form are 'Back' and 'Finish' buttons. Below the form is a 'Browse Devices' section with 'All Devices' and 'Diagnose' buttons.

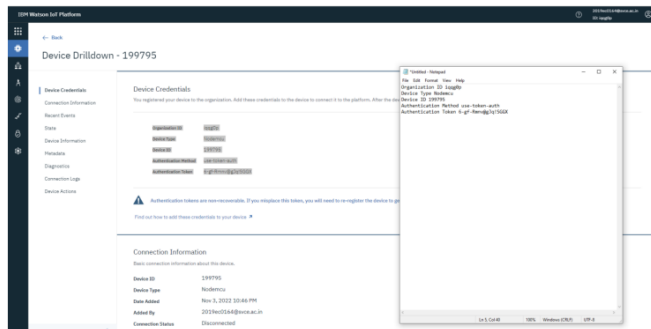
21. The device credentials will be displayed with all the details.

The screenshot shows the 'Device Drilldown' page in the 104M Wireless IoT Platform for device ID 199795. It displays the following information:

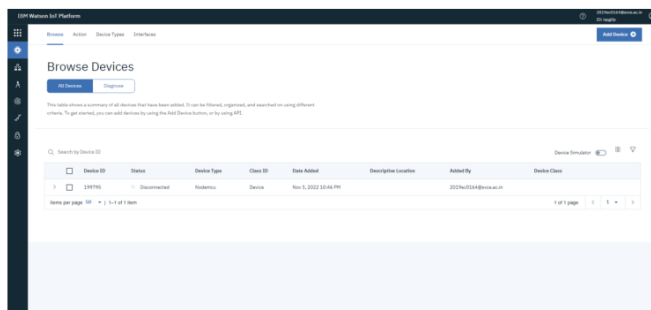
- Device Credentials:** You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.
- Recent Events:** A table showing the device's status.
- Device Information:** A table showing the device's details.
- Connection Information:** A table showing the device's connection details.

The 'Device Credentials' section includes a warning icon and text: 'Authentication tokens are non-reversible. 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.' The 'Connection Information' section shows the device is currently 'Disconnected'.

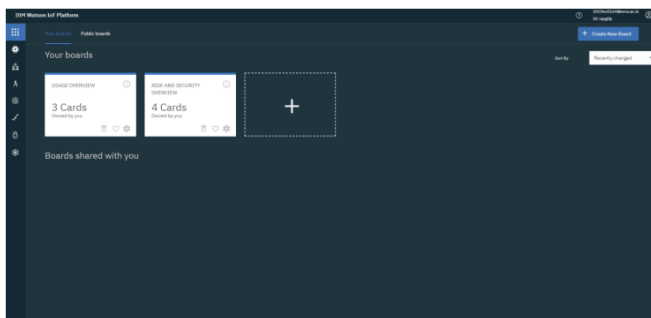
22. Save the details of the device as the authentication tokens are non recoverable and if misplaced then we have to create a new one.



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.



24. The Boards will display card for the project.



RESULT: An IBM Watson cloud for IoT and a device is created