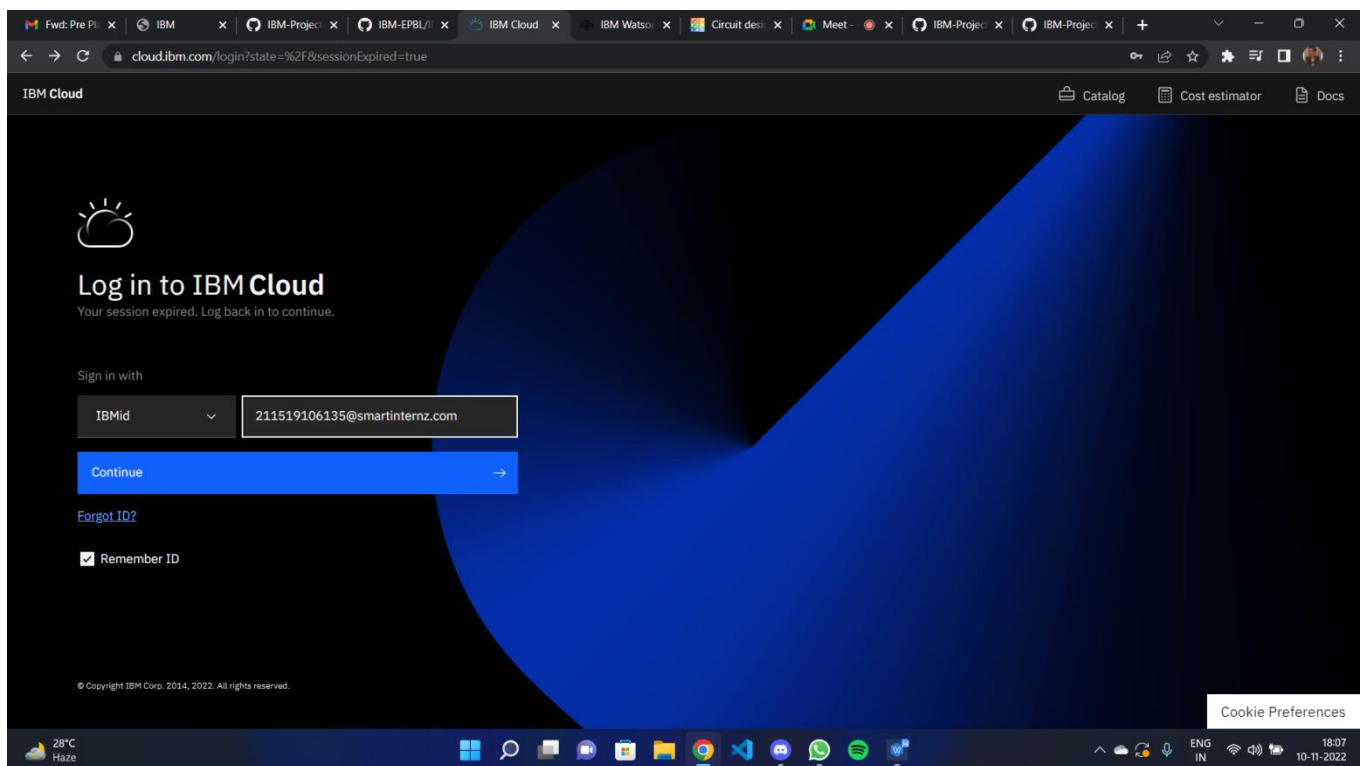


CREATE IBM WATSON IOT PLATFORM AND DEVICE

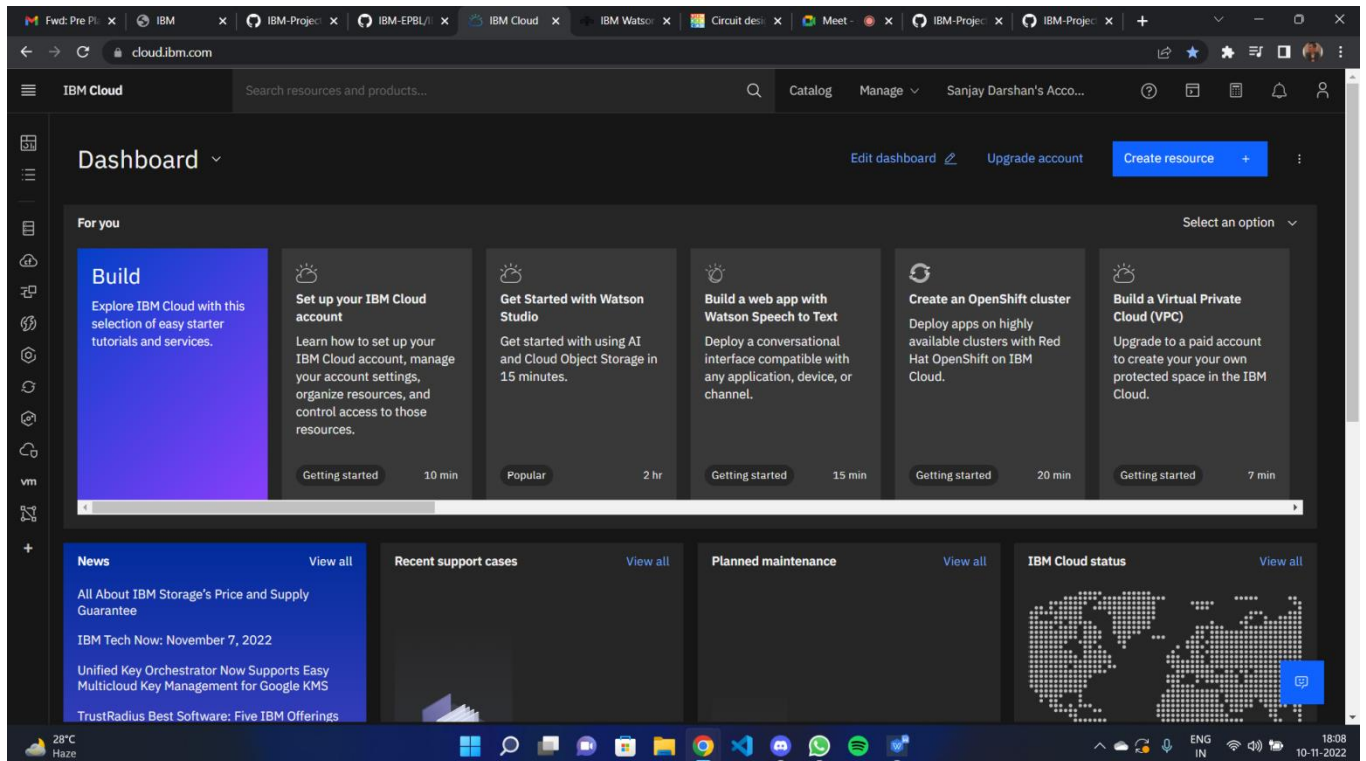
Date	22-10-2022
Team ID	PNT2022TMID26079
Project Name	Project - Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	4 Marks
Submitted By	D.SANJAY DARSHAN

STEPS:

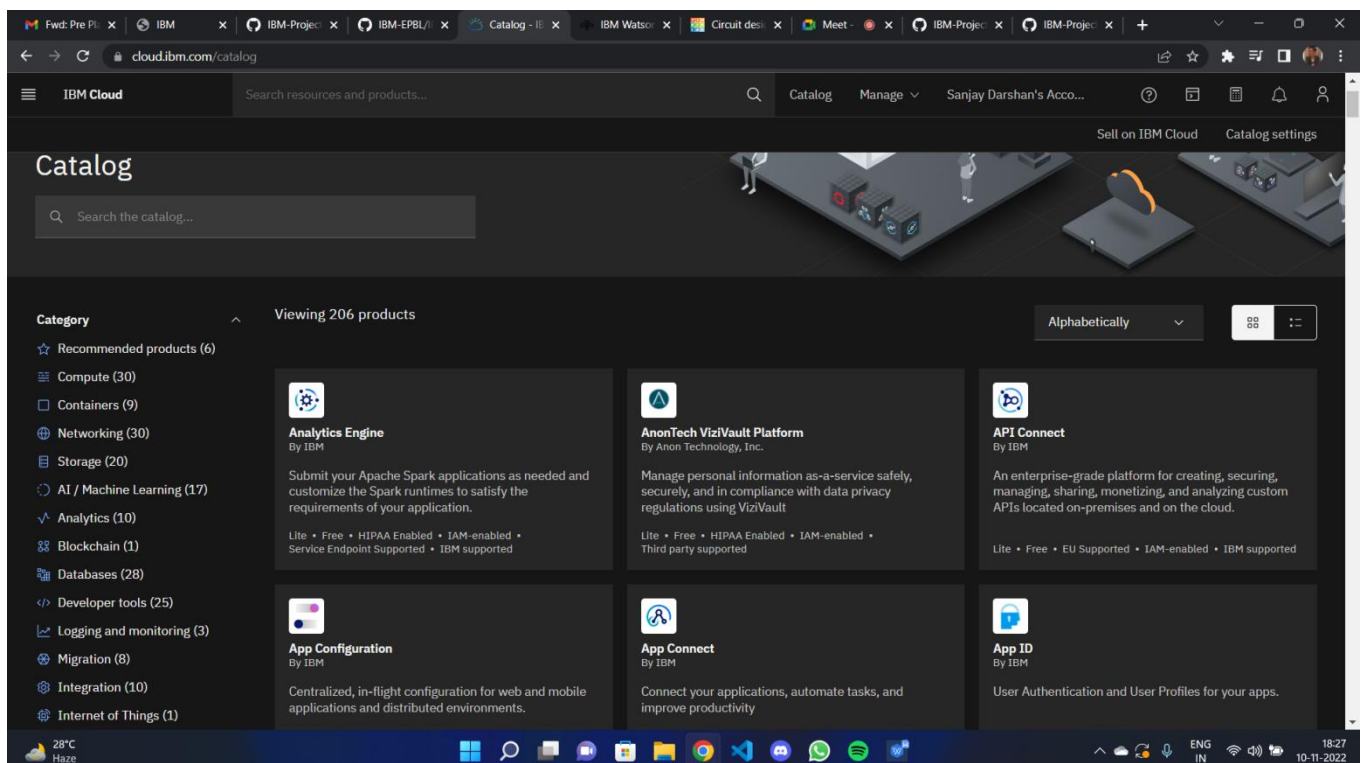
Firstly create an IBM cloud account with IBMid and password



Home page of IBM cloud



Click on the catalog on the top



Click on IoT in the category mentioned

The screenshot shows the IBM Cloud 'Internet of Things Platform' page. The 'Create' tab is active, displaying a 'Select a location' dropdown set to 'London (eu-gb)' and a 'Select a pricing plan' section. The pricing table shows a 'Lite' plan for free, which includes up to 500 registered devices and 200 MB of data metric. A warning message on the right states: '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.' The 'Create' button is disabled.

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

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

The screenshot shows the 'Configure your resource' section of the IBM Cloud 'Internet of Things Platform' page. The 'Lite' plan is selected. The 'Service name' is 'Internet of Things Platform-bb' and the 'Resource group' is 'Default'. The 'Create' button is disabled. A warning message on the right states: '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.' The 'Create' button is disabled.

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

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)

The screenshot displays the IBM Cloud IoT Platform console. The top navigation bar includes the IBM Cloud logo, a search bar, and links to Catalog, Manage, and the user's account (Sanjay Darshan's Acco...). The main content area is titled 'Internet of Things Platform-sl' and shows a 'Manage' tab selected in the left sidebar. The 'Manage' tab contains a 'Plan' section with a diagram of a central device connected to various sensors and actuators. Below this, a 'Let's get started with IBM Watson IoT Platform' section provides a brief description and 'Launch' and 'Docs' buttons. The 'Ready for the next level?' section introduces the 'IBM Watson IoT Platform Journey' with three service plans: Lite, Non-Production, and Production. Each plan includes a description and a list of features.

Resource list / Internet of Things Platform-sl Active Add tags Details Actions...

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 with the connectivity capabilities of Watson IoT Platform.

- Free

Non-Production

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.

- Starts at \$500 per month

Production

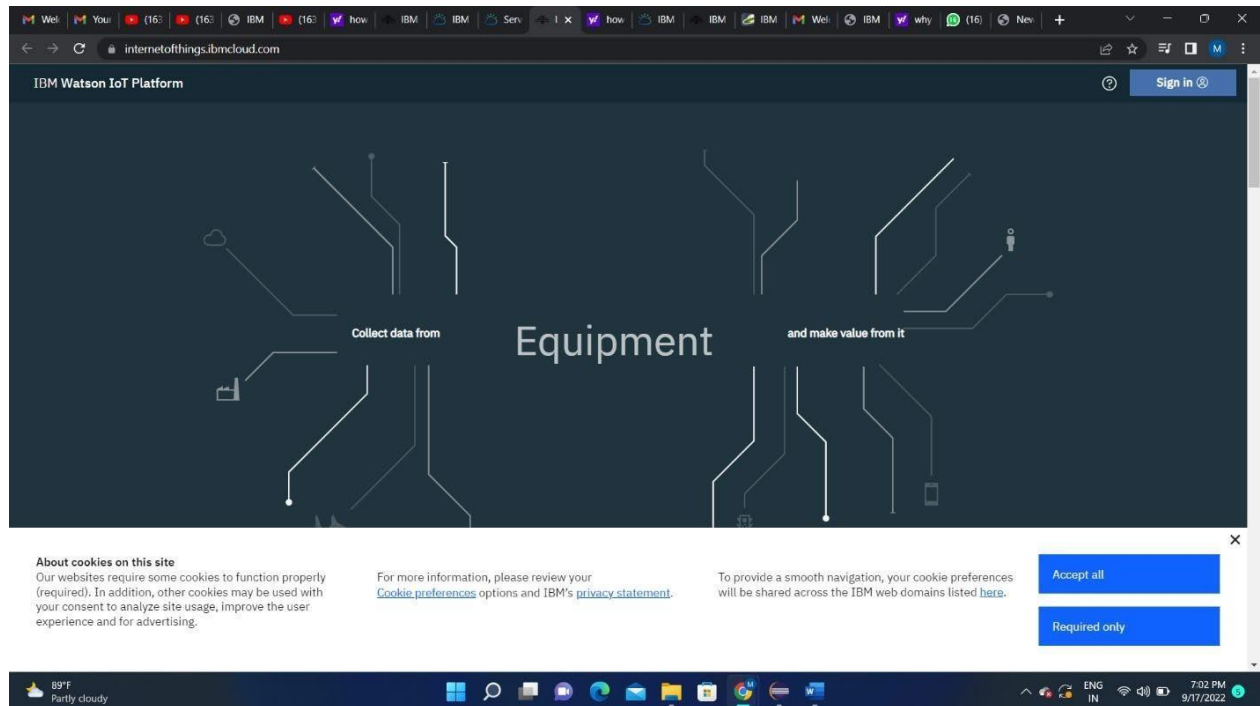
The Production service is a fully managed SaaS offering that enables you to manage and analyze enterprise IoT data.

- Includes IBM Service & Support

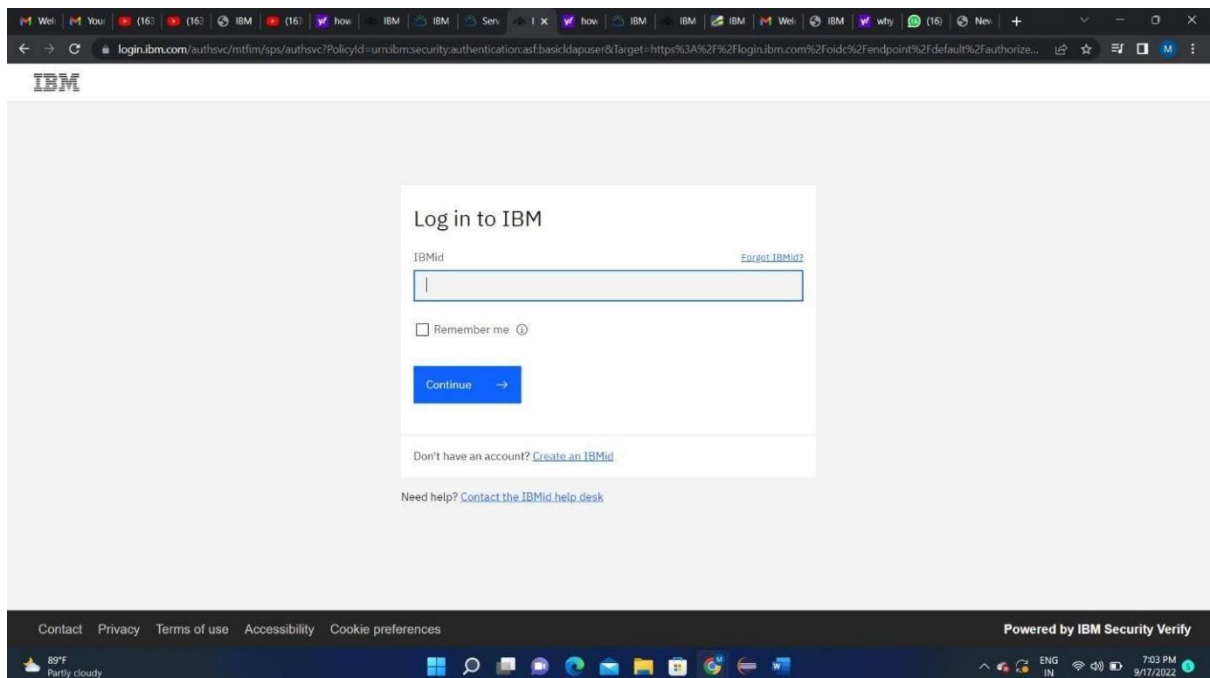
28°C Haze

18:27 10-11-2022

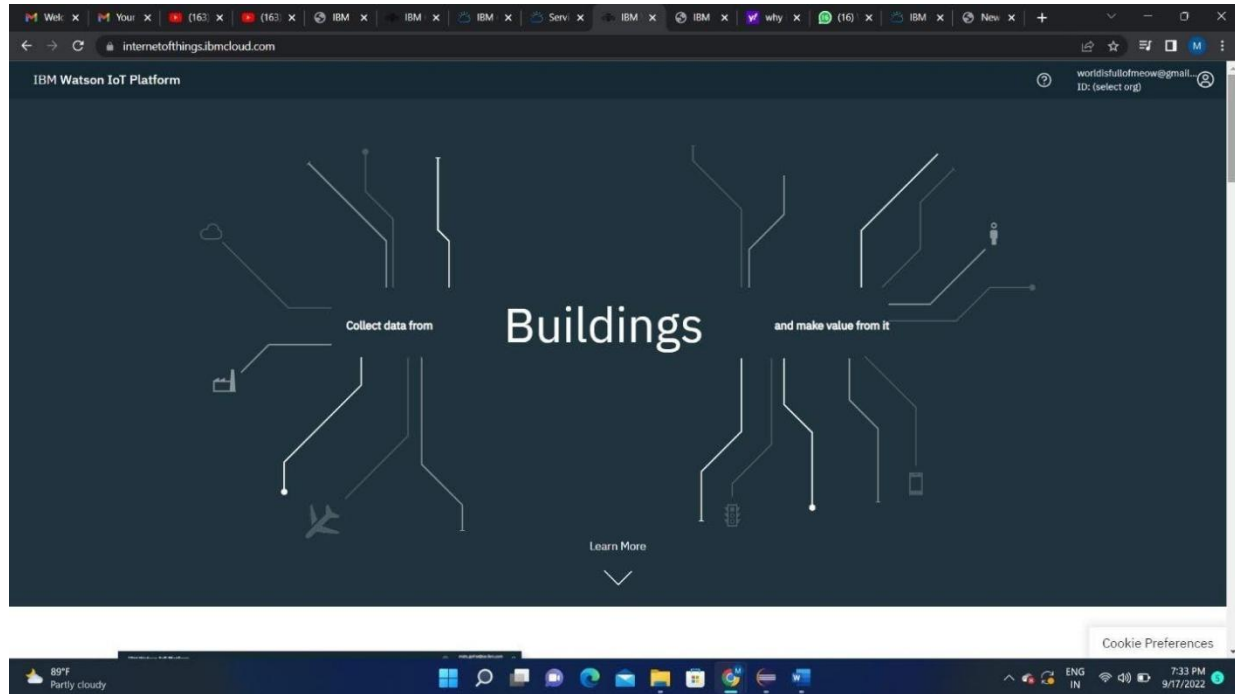
Clicking on the launch button in the manage tab, it will open to this



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



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

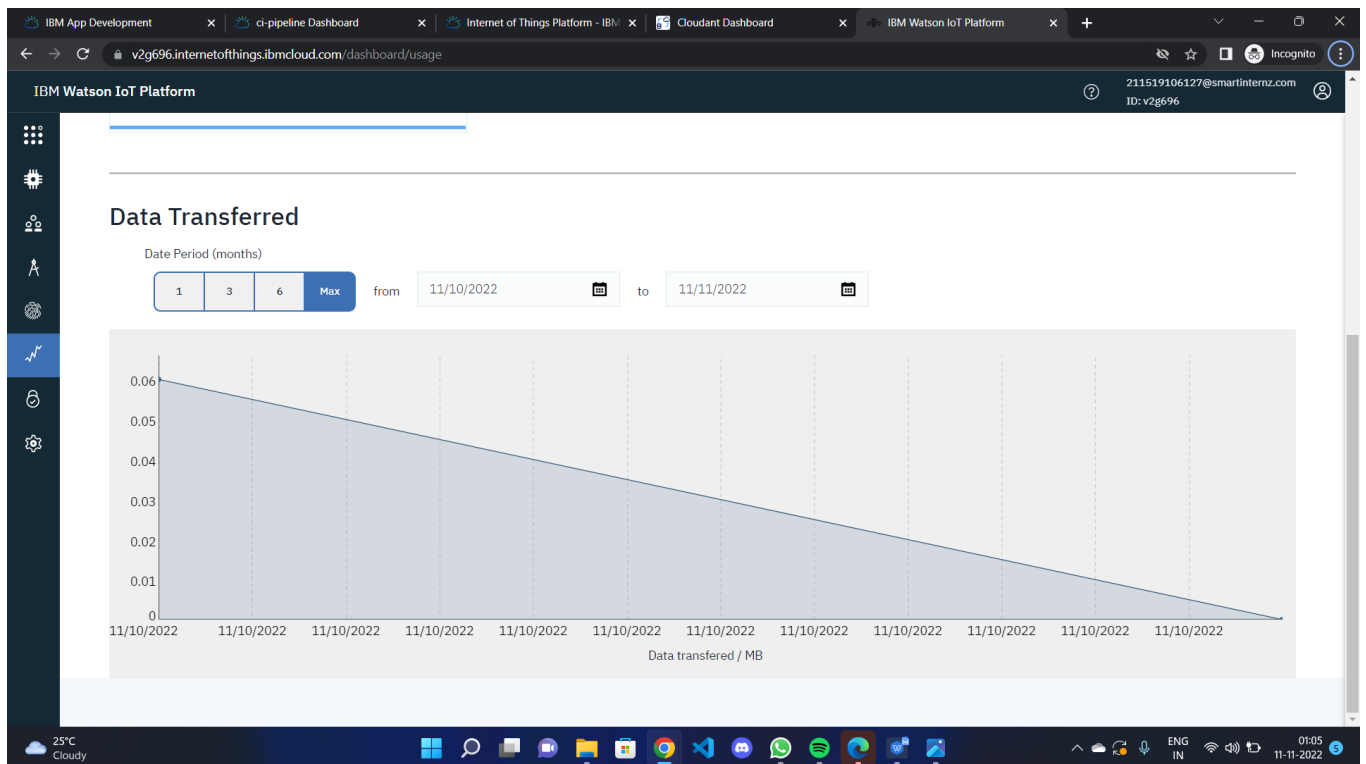


And again clicking on the launch button will open this tab, the device will help in the creation of the devices, the addition of devices, and the display of details of the devices

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes tabs for 'Service Details - IBM Cloud', 'IBM Watson IoT Platform', and 'IBM SkillsBuild Software Downlo...'. The main header shows the user's email '211519106127@smartinternz.com' and ID 'v2g696'. The left sidebar contains various icons for navigation. The main content area is titled 'Browse Devices' and includes a 'Diagnose' button. Below this, a message states: '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.' A search bar labeled 'Search by Device ID' is present. The table below has columns: Device ID, Status, Device Type, Class ID, Date Added, and Descriptive Location. The table is empty, and a message states: 'You don't have any devices.' with a 'Create a device.' button. The bottom of the page shows a Windows taskbar with various application icons and system information like '25°C Mostly cloudy' and '10-11-2022'.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
-----------	--------	-------------	----------	------------	----------------------

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



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

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](#).

Email Address	Name	Role	Added By	Expires
211519106127@smarterintenz.com	211519106127@smarterinter...	Administrator	-	-

1 result

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

The screenshot displays the IBM Watson IoT Platform interface. The browser's address bar shows the URL `v2g696.internetofthings.ibmcloud.com/dashboard/apps/browse`. The page title is "Browse API Keys". A search bar on the right prompts the user to "Type the app description to search for". Below the search bar, a message states: "This table shows a summary of the API keys that have been added for the organization. It can be filtered, organized, and search on using different criteria. To get started, you can add API keys by clicking Generate API Key, or by using the API. For more information about adding API keys, see [API key connection](#)." A table with columns "Key", "Description", "Role", and "Expires" is shown, but it contains "0 results". Below the table, a bee icon is displayed, followed by the text "There are no API Keys" and a "Generate API Key" button. The IBM Watson IoT Platform logo and user information (ID: v2g696) are visible in the top right corner. The Windows taskbar at the bottom shows the date as 11-11-2022 and the time as 01:07.

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

IBM Watson IoT Platform

211519106127@smartinternz.com
ID: v2g696

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.

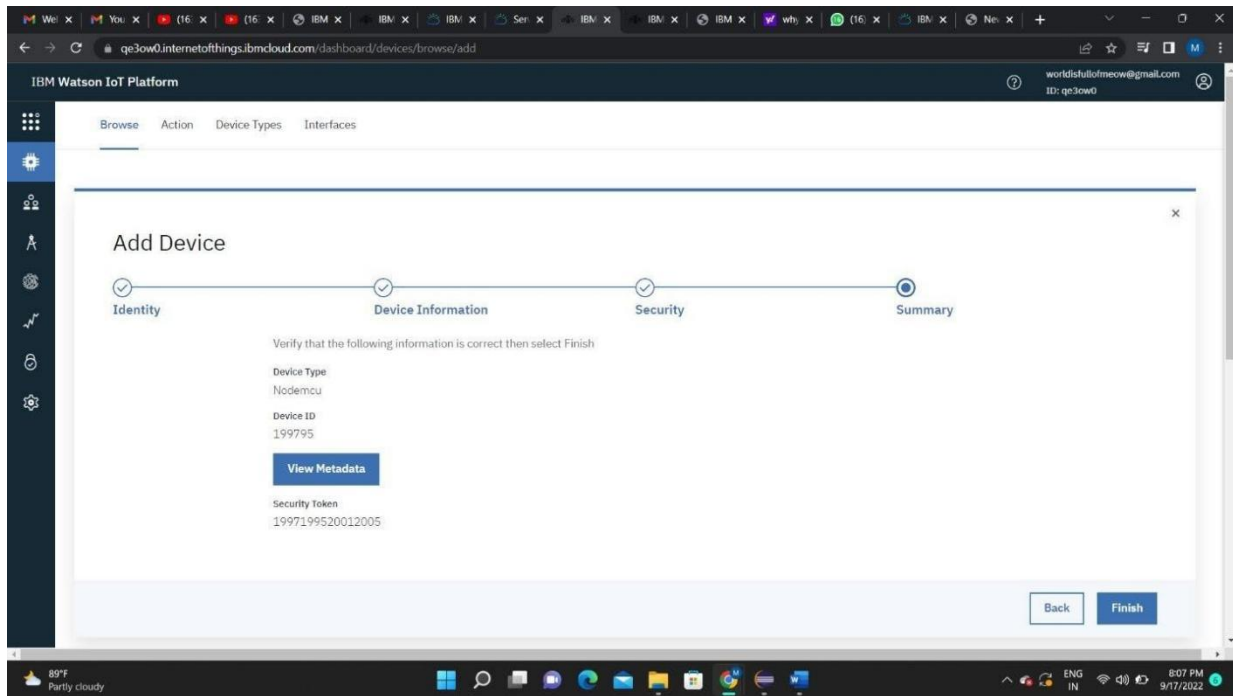
Search by Device ID

Device Simulator

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
>	<input type="checkbox"/> ultrasonic_sensor	Disconnected	ESP32_controller	Device	Nov 10, 2022 10:40 PM	

Items per page 50 | 1-1 of 1 item

1 of 1 page



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

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: `cyu5zw.internetofthings.ibmcloud.com/dashboard/devices/drilldown/Arduino:123?returnTo=/devices/browse`. The page title is "Device Drilldown - 123". 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 is titled "Device Credentials" and contains the following information:

Organization ID	cyu5zw
Device Type	Arduino
Device ID	123
Authentication Method	use-token-auth
Authentication Token	1234567890

Below the table, a warning message states: "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 "Find out how to add these credentials to your device" is provided. At the bottom of the page, a status bar indicates "2 Simulations running". The Windows taskbar at the bottom shows the date and time as 12:55 on 07-11-2022.

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

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 displays the IBM Watson IoT Platform dashboard. The top navigation bar includes tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar labeled 'Search by Device ID' is present. The main content area shows a table of devices. The first device listed is 'ultrasonic_sensor', which is 'Disconnected' and has a 'Device Type' of 'ESP32_controller'. Below the table, a modal window is open for the selected device, showing tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, displaying a table of events. The first event is 'event_1' with a value of '{\"randomNumber\":70}' in json format, received 'a few seconds ago'. The bottom of the screen shows a Windows taskbar with various application icons and a system tray indicating the time as 01:20 on 11-11-2022.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
ultrasonic_sensor	Disconnected	ESP32_controller	Device	Nov 10, 2022 10:40 PM	

Event	Value	Format	Last Received
event_1	{\"randomNumber\":70}	json	a few seconds ago

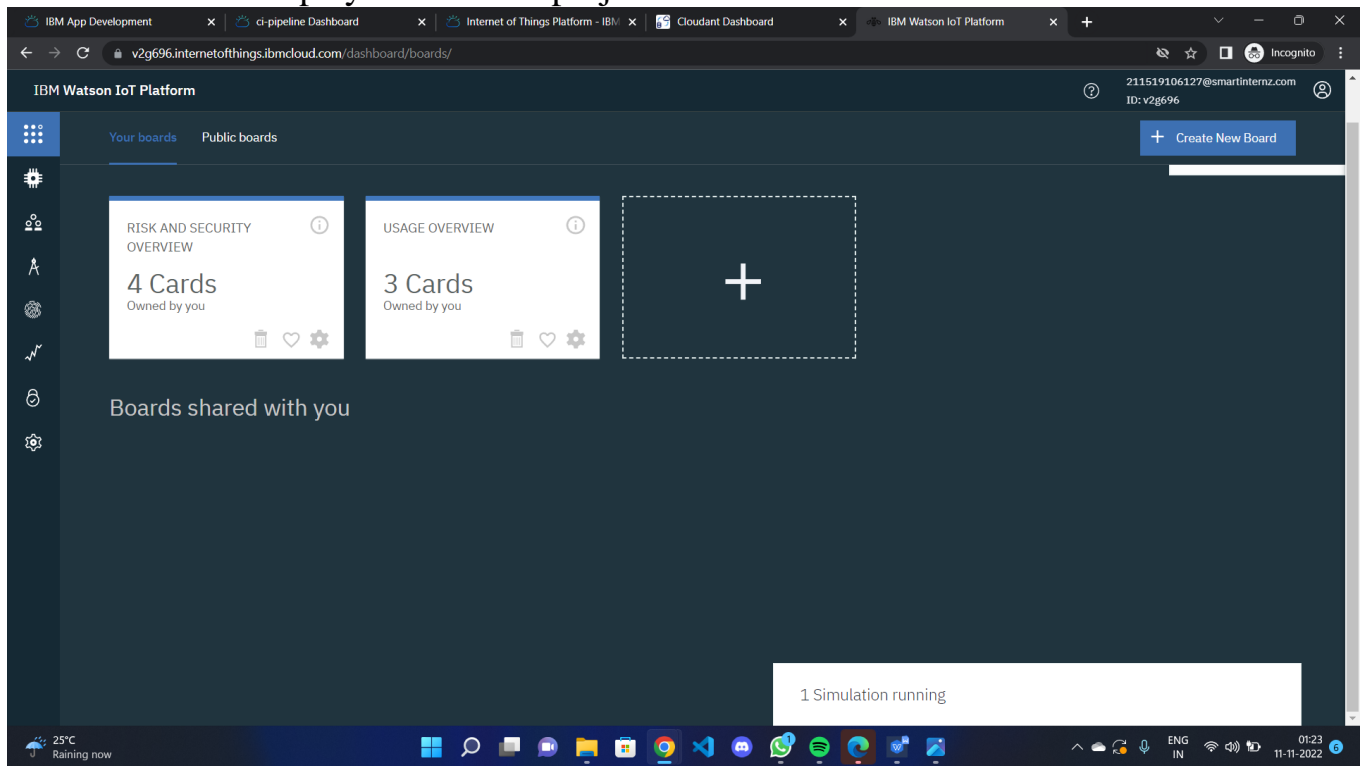
In a similar way, we can create n number of devices with a 50 per page limit as per the requirement of our project.

The screenshot displays the IBM Watson IoT Platform dashboard. The top navigation bar includes tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. A table lists devices, with one device selected: 'ultrasonic_sensor'. The device's status is 'Disconnected', and its type is 'ESP32_controller'. A detailed view of the selected device is shown below the table, including its identity, device information, recent events, state, and logs. The device information section shows the following details:

Property	Value
Device ID	ultrasonic_sensor
Device Type	ESP32_controller
Date Added	Nov 10, 2022 10:40 PM
Added By	211519106127@smartinternz.com
Connection Status	Disconnected

The bottom of the dashboard shows a status bar with the text '25°C Cloudy' and a system tray with various icons. A notification bar at the bottom indicates that 'meet.google.com is sharing your screen'.

The Boards will display card for the project.



RESULT:

An IBM Watson cloud for IoT and a device is created