

SPRINT-1

Date	29 October 2022
Team ID	PNT2022TMID01284
Project Name	Real Time River Water Quality Monitoring And Control System
Maximum Marks	20 marks

Step-1: Creating IBM Cloud and Using its Service.

The screenshot displays the IBM Cloud catalog interface. The top navigation bar includes the IBM Cloud logo, a search bar, and links to Catalog, Manage, and the user's account (GANESH A's Account). The main content area shows a list of services under the 'Category' filter. The services listed are:

- Analytics Engine** (By IBM): Submit your Apache Spark applications as needed and customize the Spark runtimes to satisfy the requirements of your application. Features: Lite, Free, HIPAA Enabled, IAM-enabled, Service Endpoint Supported, IBM supported.
- AnonTech VizVault Platform** (By Anon Technology, Inc.): Manage personal information as-a-service safely, securely, and in compliance with data privacy regulations using VizVault. Features: Lite, Free, HIPAA Enabled, IAM-enabled, Third party supported.
- API Connect** (By IBM): An enterprise-grade platform for creating, securing, managing, sharing, monetizing, and analyzing custom APIs located on-premises and on the cloud. Features: Lite, Free, EU Supported, IAM-enabled, IBM supported.
- App Configuration** (By IBM): Centralized, in-flight configuration for web and mobile applications and distributed environments. Features: Lite, Free, IAM-enabled, Service Endpoint Supported, IBM supported.
- App Connect** (By IBM): Connect your applications, automate tasks, and improve productivity. Features: Lite, Free, IBM supported.
- App ID** (By IBM): User Authentication and User Profiles for your apps. Features: Lite, Free, EU Supported, Financial Services Validated, HIPAA Enabled, IAM-enabled, IBM supported.

The left sidebar shows a list of categories: Recommended products (6), Compute (29), Containers (9), Networking (30), Storage (20), AI / Machine Learning (17), Analytics (10), Blockchain (1), Databases (28), Developer tools (25), Logging and monitoring (3), Migration (8), Integration (10), Internet of Things (1), Security (25), and Mobile (1).

Step-2:

Configure the IBM cloud service and creating IOT platform

The screenshot shows the IBM Cloud catalog page for the Internet of Things Platform. 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 page is divided into two tabs: "Create" and "About". The "Create" tab is active, showing a "Select a location" dropdown menu with "Frankfurt (eu-de)" selected. Below this is a "Select a pricing plan" section with a table of plans. The table has three columns: "Plan", "Features", and "Pricing". The "Lite" plan is selected, showing features like "Includes up to 500 registered devices, and a maximum of 200 MB of each data metric" and a pricing of "Free". A sidebar on the left contains metadata such as "Type: Service", "Provider: IBM", "Last updated: 08/15/2022", "Category: Internet of Things", "Compliance: IAM-enabled", and "Location: Frankfurt, London, Dallas, Washington DC". A right sidebar shows a "Summary" section with details like "Location: Frankfurt", "Plan: Lite", "Service name: Internet of Things Platform-15", and "Resource group: Default". A warning message 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." At the bottom, there is a checkbox for "I have read and agree to the following license agreements:" with a "Terms" link, and two buttons: "Create" and "Add to estimate".

Internet of Things Platform - IBM Cloud

cloud.ibm.com/catalog/services/internet-of-things-platform

IBM Cloud

Search resources and products...

Catalog Manage GANESH A's Account

Internet of Things Platform

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.

Create About

Type Service

Provider IBM

Last updated 08/15/2022

Category Internet of Things

Compliance IAM-enabled

Location Frankfurt London Dallas Washington DC

Related links Docs Terms

Select a location

Frankfurt (eu-de)

Select a pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or location: [United States](#)

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

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.

Summary

Internet of Things Platform Free

Location: Frankfurt

Plan: Lite

Service name: Internet of Things Platform-15

Resource group: Default

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](#).

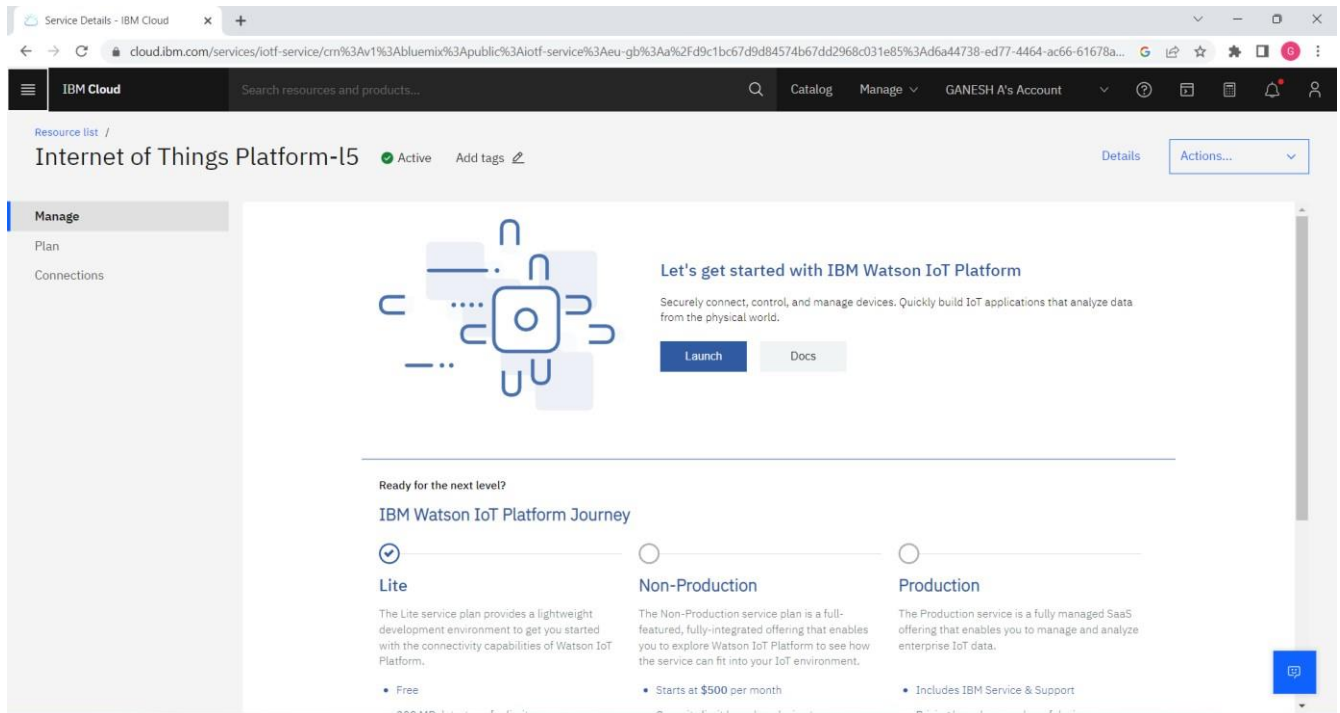
☒ I have read and agree to the following license agreements: [Terms](#)

Create

Add to estimate

Step-3:

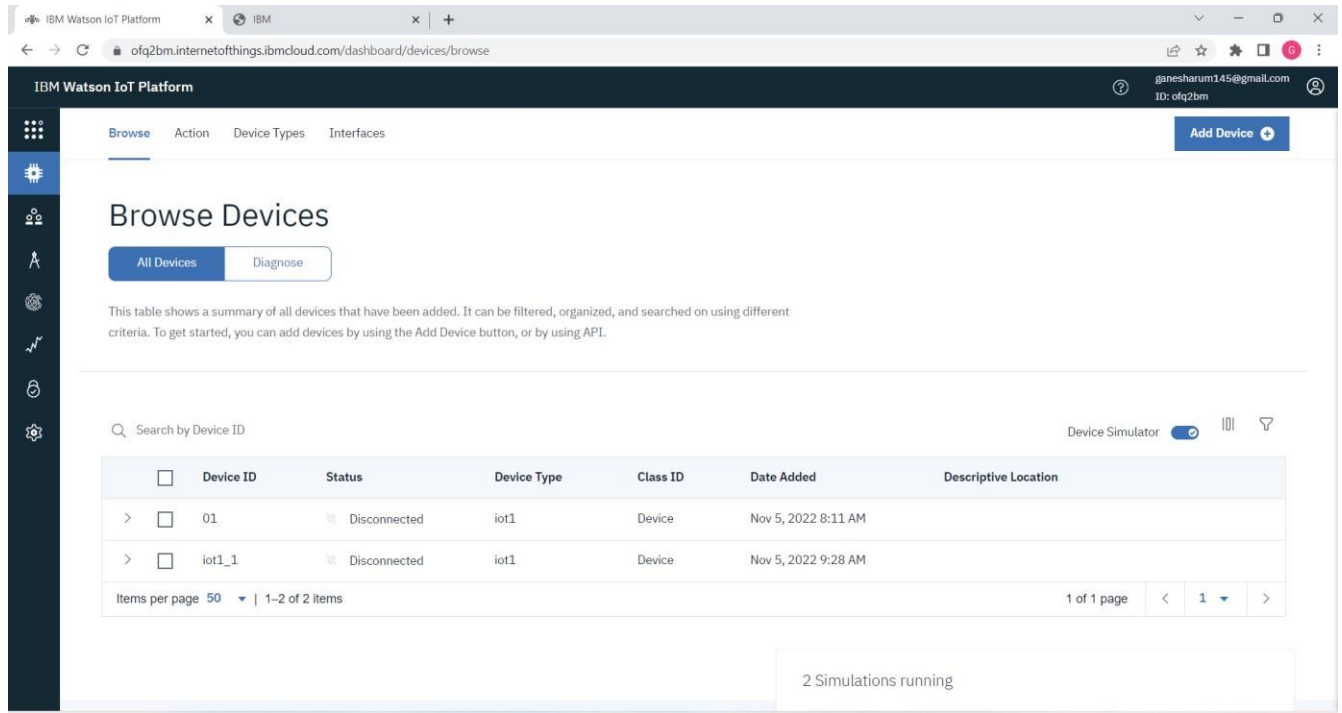
IBM Watson IOT platform acts as the mediator to connect the web application to IOT devices, hence launching IBM Watson IOT platform.



IBM Watson IOT platform is created

Step-4:

In order to connect the IOT device to the IBM cloud ,create device in the IBM Watson IOT Platform and get the device credentials.



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 ☒

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
> <input type="checkbox"/>	01	Disconnected	iot1	Device	Nov 5, 2022 8:11 AM	
> <input type="checkbox"/>	iot1_1	Disconnected	iot1	Device	Nov 5, 2022 9:28 AM	

Items per page 50 | 1-2 of 2 items

1 of 1 page < 1 >

2 Simulations running

Connect the device and start simulating.

Step-5:

ofq2bm.internetofthings.ibmcloud.com/dashboard/devices/drilldown/iot1:iot1_1?returnTo=/devices/browse

IBM Watson IoT Platform

ganesharum145@gmail.com
ID: ofq2bm

Device Drilldown - iot1_1

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Connection Information

- Recent Events
- State
- Device Information
- Metadata
- Diagnostics
- Connection Logs
- Device Actions

Added By ganesharum145@gmail.com

Connection Status **Disconnected**

Last Connected: Nov 5, 2022 9:30 AM
Client Address: 182.65.232.197 SecureTo
Duration: 2 minutes
Data Transferred: 1.0 KB

Recent Events

The recent events listed show the live stream of data that is coming and going from the device.

Event	Value	For
event_1	{"Temperature":98,"pH":26,"Turbidity":70}	js
event_1	{"Temperature":45,"pH":90,"Turbidity":62}	js
event_1	{"Temperature":23,"pH":19,"Turbidity":16}	js

iot1 iot1_1

Events 1

Event type name: event_1 Frequency: 20 x Every Minute [Send](#)

Payload

You can override field values in the event payload that is sent by this device. Specify the override values in the editor window.

```
0 {  
1   "Temperature": random(0, 100)  
2   "pH": random(0, 100)  
3   "Turbidity": random(0, 100)  
4 }  
5
```

[What functions can I apply?](#)

[Cancel](#) [Save](#)

SIMULATION:

The simulation shows the Temperature, pH and Turbidity value.

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar shows the user's email (ganesharum145@gmail.com) and ID (ofq2bm). The main header is "Device Drilldown - 01". The left sidebar contains a menu with options: Connection Information, Recent Events, State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The main content area is divided into two sections. The top section, "Connection Information", shows "Added By" as ganesharum145@gmail.com and "Connection Status" as Disconnected. The bottom section, "Recent Events", displays a table of events with columns: Event, Value, Format, and Last Received. The table lists five events, each with a unique value for Temperature, pH, and Turbidity. Below the table, a status bar indicates "2 Simulations running".

IBM Watson IoT Platform

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Device Drilldown - 01

Connection Information

- Recent Events
- State
- Device Information
- Metadata
- Diagnostics
- Connection Logs
- Device Actions

Added By ganesharum145@gmail.com

Connection Status Disconnected

Recent Events

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"Temperature":21,"pH":95,"Turbidity":14}	json	a few seconds ago
event_1	{"Temperature":74,"pH":43,"Turbidity":98}	json	a few seconds ago
event_1	{"Temperature":16,"pH":49,"Turbidity":38}	json	a few seconds ago
event_1	{"Temperature":31,"pH":90,"Turbidity":54}	json	a few seconds ago
event_1	{"Temperature":5,"pH":48,"Turbidity":60}	json	a few seconds ago

2 Simulations running