



**COLLEGE CODE: 5113**

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**CLOUD APPLICATION DEVELOPMENT**

**PROJECT 5: BIG DATA ANALYSIS WITH IBM CLOUD DATABASE**

# Introduction:

In this part we will continue building your project.

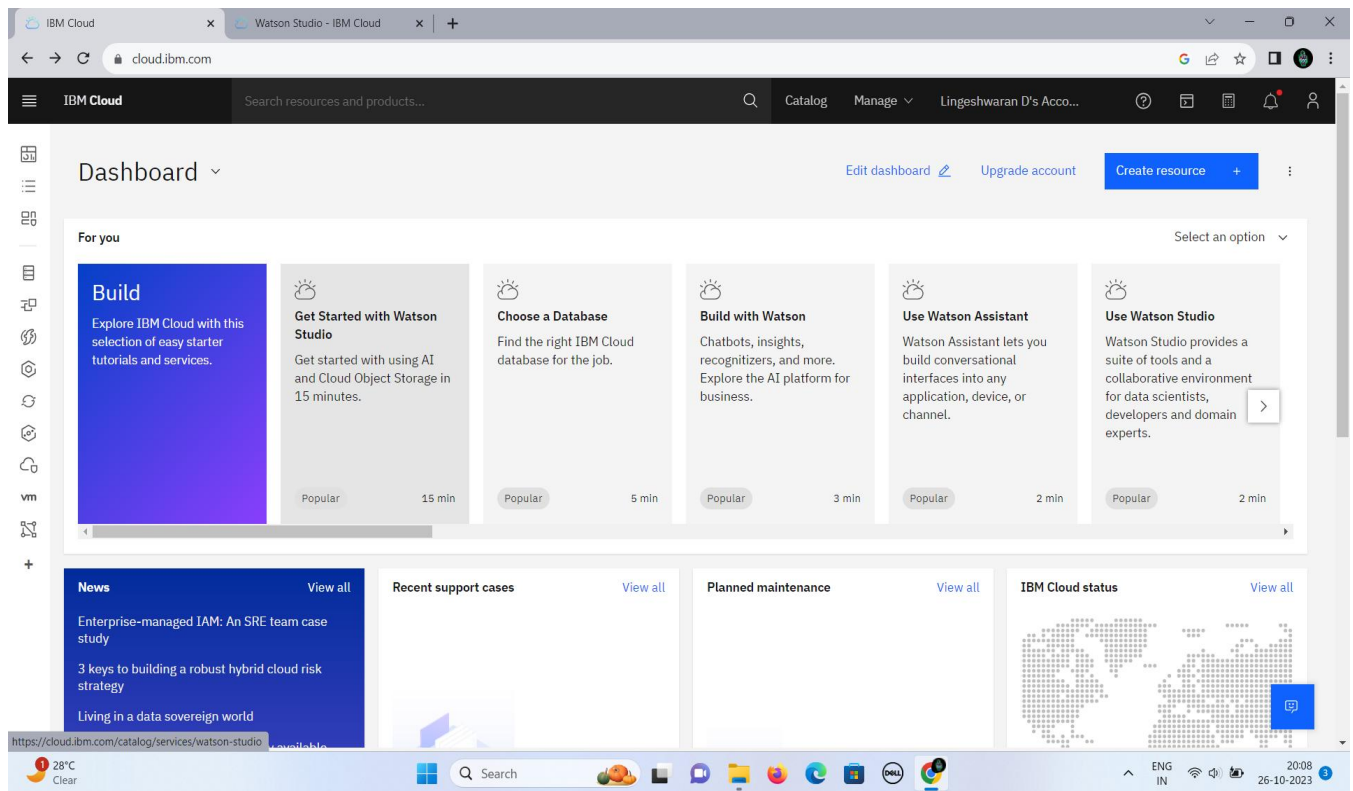
Continue building the big data analysis solution by applying advanced analysis techniques and visualizing the results. Apply more complex analysis techniques, such as “machine learning algorithms, time series analysis, or sentiment analysis” depending on the dataset and objectives. Create visualizations to showcase the analysis results. Use tools like Matplotlib, Plotly, or IBM Watson Studio for creating graphs and charts.

We are use ibm watson studio for creating graphs and charts we splitting several step to use a IBM watson studio

## Step 1:

\*login our IBM Cloud Account and create ibm watson studio

\*search IBM Watson studio on search bar



## Step 2:

\*Create a watson studio and select a location

\*After selecting the location and click create

The screenshot displays the IBM Cloud Watson Studio creation interface. The main content area is titled 'Watson Studio' and includes a description: 'Develop sophisticated machine learning models using Notebooks and code-free tools to infuse AI throughout your business.' The 'Create' tab is active, showing a 'Select a location' dropdown menu with 'London (eu-gb)' selected. Below this, there is a 'Select a pricing plan' section with a table of available plans.

Plan	Features and capabilities	Pricing
Lite	<ul style="list-style-type: none"><li>1 authorized user</li><li>10 capacity unit-hours monthly limit</li><li>Environment = # of capacity units required per hour</li><li>• 1 vCPU + 4 GB RAM = 0.5</li><li>• 2 vCPU + 8 GB RAM = 1</li><li>• 4 vCPU + 16 GB RAM = 2</li><li>• Decision Optimization + Watson NLP = Environment + 5</li><li>• Synthetic Data Generator, 2 vCPU + 8 GB RAM = 7 (requires Watson Machine Learning)</li></ul>	Free

The summary sidebar on the right shows the following details:

- Watson Studio** (Free)
- Location: London
- Plan: Lite
- Service name: Watson Studio-fc
- Resource group: Default

At the bottom of the sidebar, there is a checkbox for 'I have read and agree to the following license agreements:' with a 'Terms' link. Below this are two buttons: 'Create' and 'Add to estimate'.

## \*launch the IBM Watson Studio

The screenshot shows the IBM Cloud Watson Studio service page. The browser tabs at the top include 'IBM Cloud', 'Service Details - IBM Cloud', and 'Watson Studio - IBM Cloud'. The address bar shows the URL: [cloud.ibm.com/services/data-science-experience/crn%3Av1%3Abluemix%3Apublic%3Adata-science-experience%3Aeu-gb%3Aa%2F56d5554e37704c8e835131b8ce3787e5%3A6a8a6b6f-2faa-4b09...](https://cloud.ibm.com/services/data-science-experience/crn%3Av1%3Abluemix%3Apublic%3Adata-science-experience%3Aeu-gb%3Aa%2F56d5554e37704c8e835131b8ce3787e5%3A6a8a6b6f-2faa-4b09...). The page header includes the IBM Cloud logo, a search bar, and navigation links for 'Catalog', 'Manage', and 'Lingeshwaran D's Acco...'. The main content area features the 'Watson Studio-fc' service, which is 'Active' and has 'Add tags' and 'Details' links. A 'Launch in' button is also present. The service description states: 'Build and deploy machine learning models on either platform. Work with foundation models on watsonx as a Service.' A diagram illustrates the architecture: 'IBM Watson Studio in Cloud Pak for Data and watsonx' sits on top of 'IBM Cloud Pak for Data, watsonx Unifying platforms', which in turn sits on 'IBM Cloud Base cloud Infrastructure'. Below the main content, there are 'Helpful links' for 'Documentation', 'Learning path', and 'Videos'. The footer shows the system tray with weather (28°C Clear), search, taskbar icons, and system clock (20:09 26-10-2023).

IBM Cloud

Service Details - IBM Cloud

Watson Studio - IBM Cloud

cloud.ibm.com/services/data-science-experience/crn%3Av1%3Abluemix%3Apublic%3Adata-science-experience%3Aeu-gb%3Aa%2F56d5554e37704c8e835131b8ce3787e5%3A6a8a6b6f-2faa-4b09...

IBM Cloud

Search resources and products...

Catalog Manage Lingeshwaran D's Acco...

Resource list /

Watson Studio-fc Active [Add tags](#)

Details [Actions...](#)

Manage

Plan

**Watson Studio in Cloud Pak for Data and watsonx**

Build and deploy machine learning models on either platform. Work with foundation models on watsonx as a Service.

[Launch in](#)

IBM Watson Studio in Cloud Pak for Data and watsonx

IBM Cloud Pak for Data, watsonx Unifying platforms

IBM Cloud Base cloud Infrastructure

IBM Watson Studio is part of IBM Cloud Pak for Data and watsonx, and serves as the AI capability of the data fabric architecture.

Helpful links

**Documentation**

Learn about tools, features, and how to perform a wide variety of Data and AI tasks.

**Learning path**

Start a step-by-step tutorial to get up and running quickly.

**Videos**

Watch videos to learn about Watson Studio.

28°C Clear

Search

ENG IN 20:09 26-10-2023

\*Apply your information to continue

IBM Watson Studio

## Provide your information to continue

Company name

Student

Phone number

+91

Continue

IBM may use my contact data to keep me informed of products, services, and offerings:

☐ by email

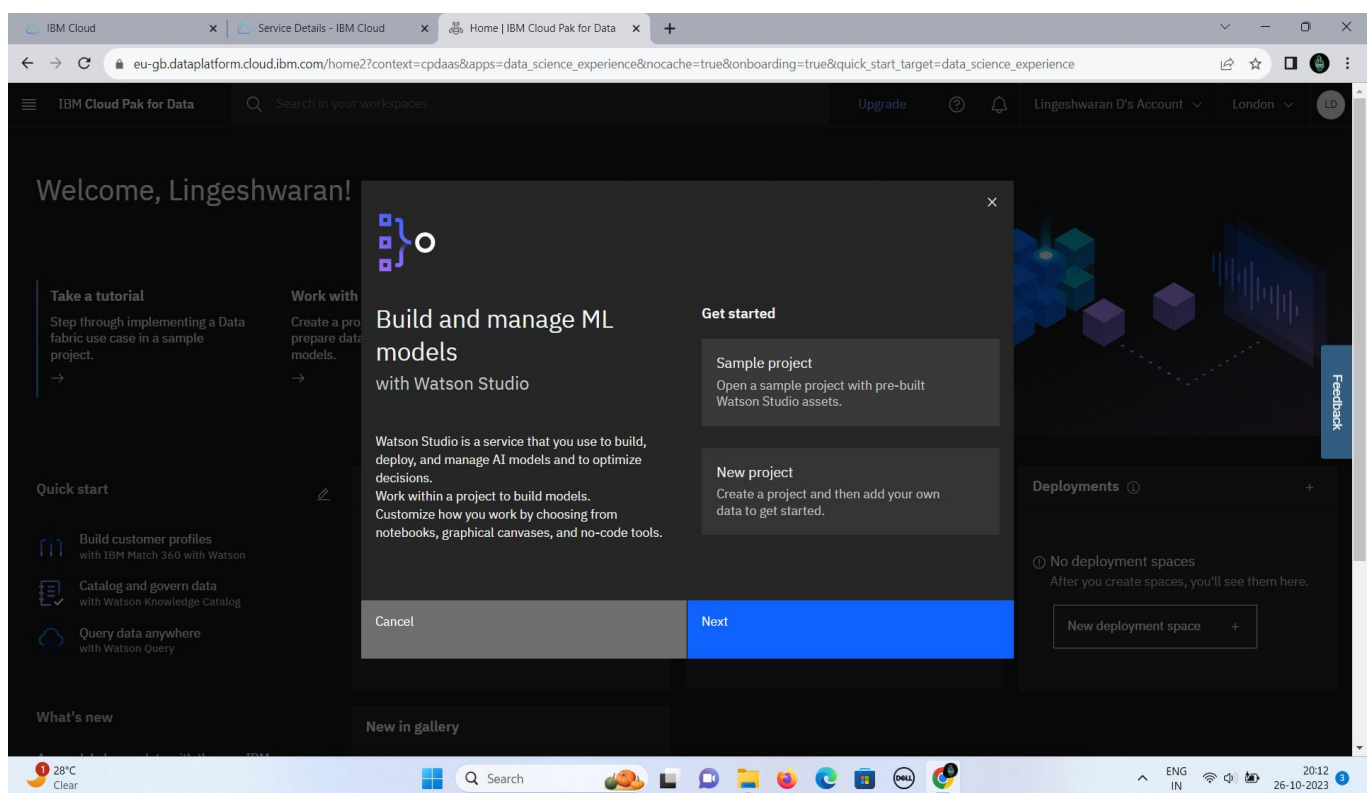
☐ by phone

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By submitting this form, I acknowledge that I have read and understand the IBM Privacy Statement and I accept the product [Terms and Conditions](#) of this registration form.

## Build and manage ML model with watson studio

Watson studio is a service that you use to build,deploy and manage AI model and to optimise decision work within a project to build model customize how you work by choosing from notebook,graphical canvases and no code tools



\*create watson machine learning in IBM watson studio

The screenshot displays the IBM Cloud Pak for Data console interface. The browser address bar shows the URL: `eu-gb.dataplatform.cloud.ibm.com/home?context=cpdaas&apps=data_science_experience&nocache=true&onboarding=true&quick_start_target=data_science_experience`. The page title is "Watson Machine Learning". Below the title, it says "Author: IBM SPSS • Date of last update: Jul 7, 2023 • Docs • API Docs". There are two tabs: "Create" (active) and "About".

**Select a region**

Select a region

London

**Pricing plan**

Displayed prices do not include tax. Monthly prices shown are for country or region: United States

Plan	Features	Pricing
Lite	<b>Service instance</b> Instance includes: <ul style="list-style-type: none"><li>• 20 capacity unit-hours (CUH) per month</li><li>• 50,000 tokens per month</li></ul> ----- Foundation model inferencing (in Dallas and Frankfurt regions only): -----	Free

**Summary**

**Watson Machine Learning**

Region: London  
Plan: Lite  
Service name: Watson Machine Learning-tf  
Resource group: Default

[Create](#)

[View terms](#)

The bottom of the image shows a Windows taskbar with the date 26-10-2023 and time 20:12.

\*create a project to work on IBM watson studio

Choose whether to create an empty project or to preload with data and analytical assets.add collaborators and date,and then choose the right tools to accomplish your goals.add service as necessary

The screenshot shows the 'Create a project' page in the IBM Cloud Pak for Data interface. The page has a dark header with the IBM Cloud Pak for Data logo, a search bar, and user account information. The main content area is titled 'Create a project' and includes a sub-header: 'Choose whether to create an empty project or to preload your project with data and analytical assets. Add collaborators and data, and then choose the right tools to accomplish your goals. Add services as necessary.'

There are two main options for creating a project:

- Create an empty project**: Add the data you want to prepare, analyze, or model. Choose tools based on how you want to work: write code, create a flow on a graphical canvas, or automatically build models. **USE TO**: Prepare and visualize data, Analyze data in notebooks, Train models.
- Create a project from a sample or file**: Get started fast by loading existing assets. Choose a project file from your system, or choose a curated sample project. **USE TO**: Learn by example, Build on existing work, Run tutorials.

The bottom of the screenshot shows a Windows taskbar with the date 26-10-2023 and time 20:13.



\*Give your project name and description of your project

\*Add free storage on IBM watson studio for our dataset (“Cloud Object Storage”)

IBM Cloud Pak for Data

Search in your workspaces

Upgrade

Lingeshwaran D's Account

London

LD

## New project

### Define details

Name

Big Data analytics

Description (optional)

Big Data analytics using cloud computing

### Controls

☒ Restrict who can be a collaborator ⓘ

☐ Mark as sensitive ⓘ

### Define storage

Project includes integration with [Cloud Object Storage](#) for storing project assets.

① Select storage service

[Add](#)

Add an object storage instance, and then return to this page and click Refresh.

② Refresh

Cancel

Create

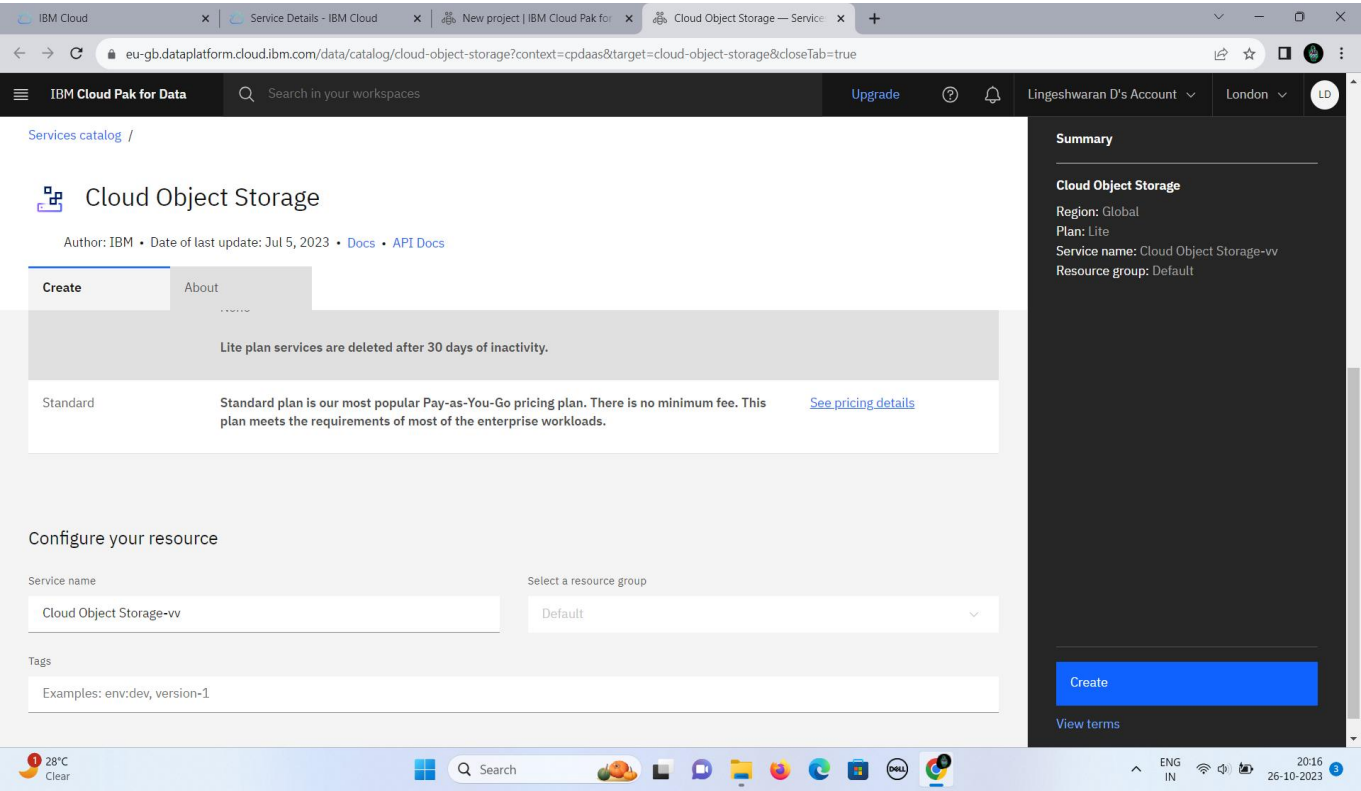
28°C Clear

Search

ENG IN

20:15 26-10-2023

\*"cloud object storage" purchase process for storing a dataset



\* After complete a name ,description & cloud object storage process and create your project

Figure 1:

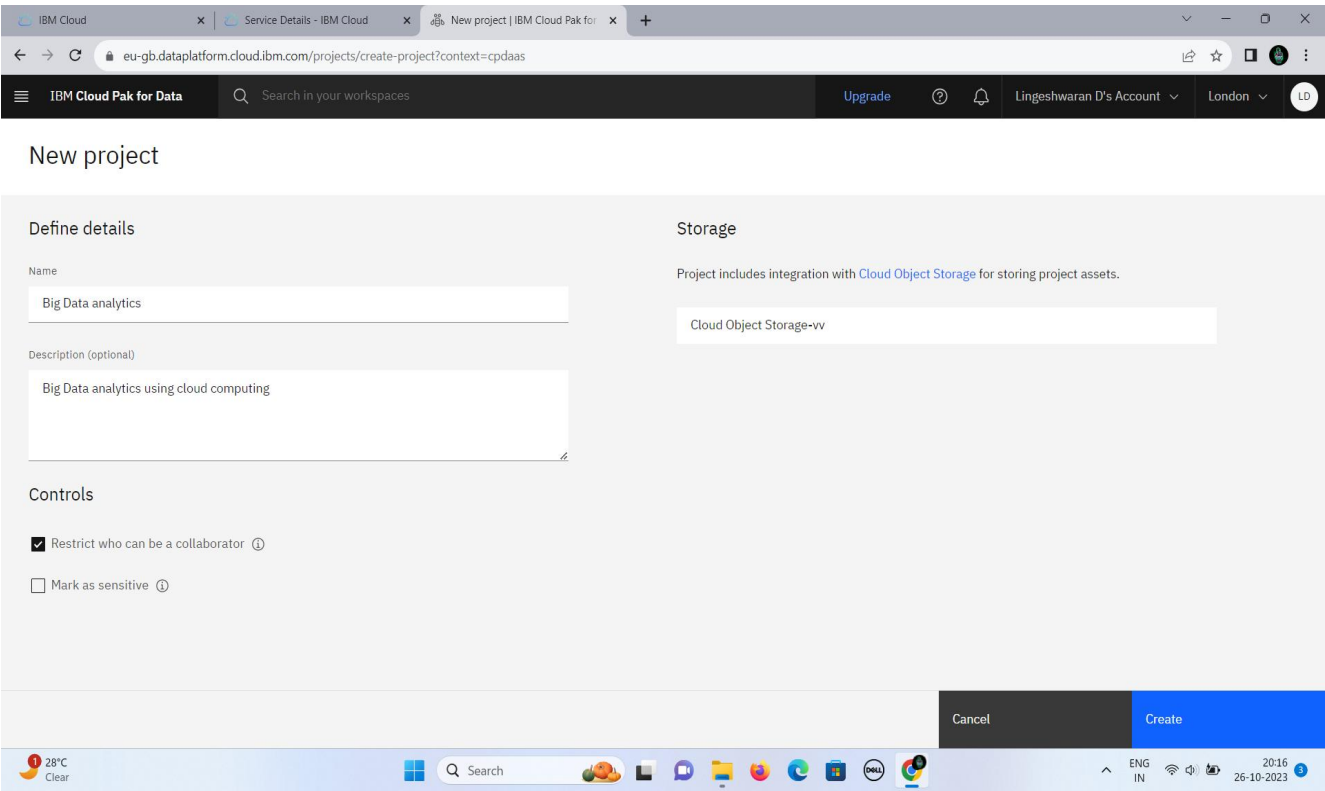
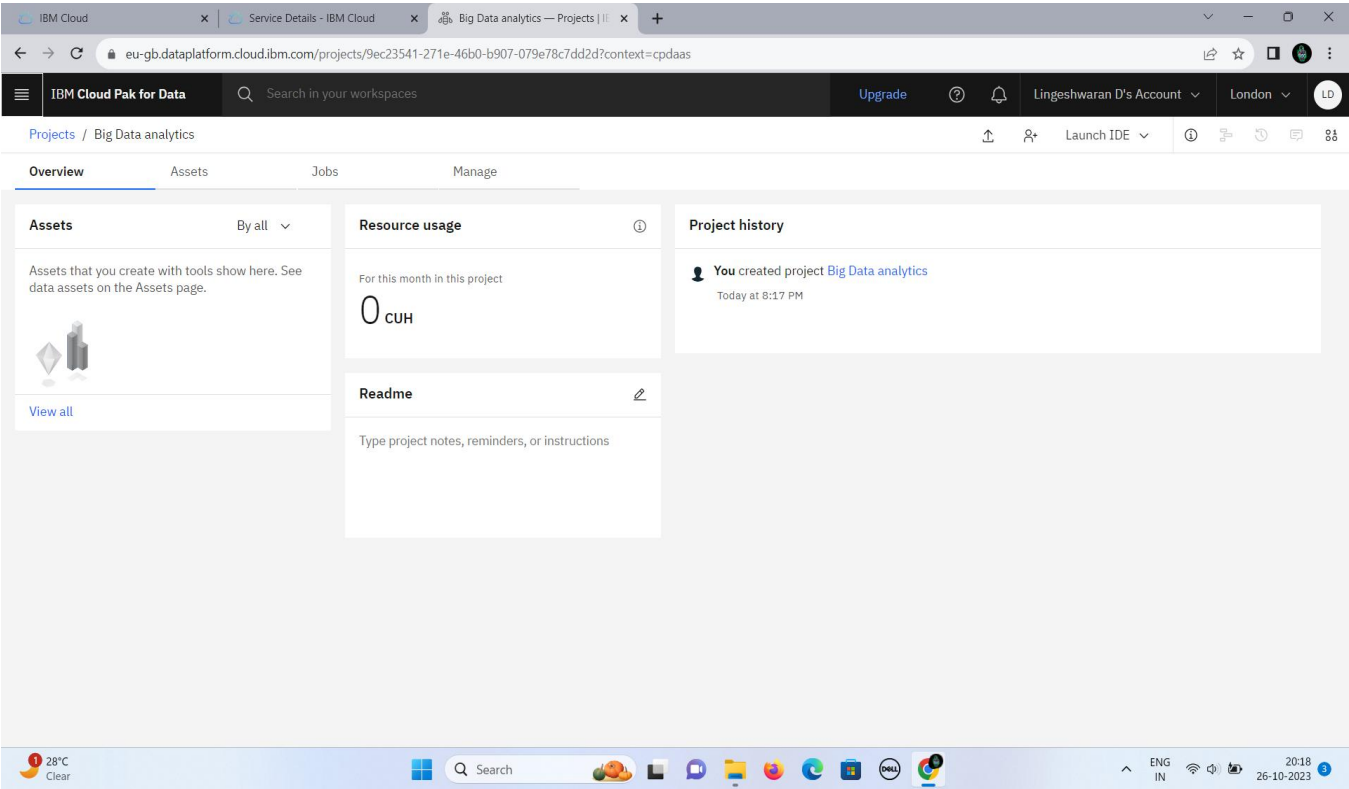


Figure 2:

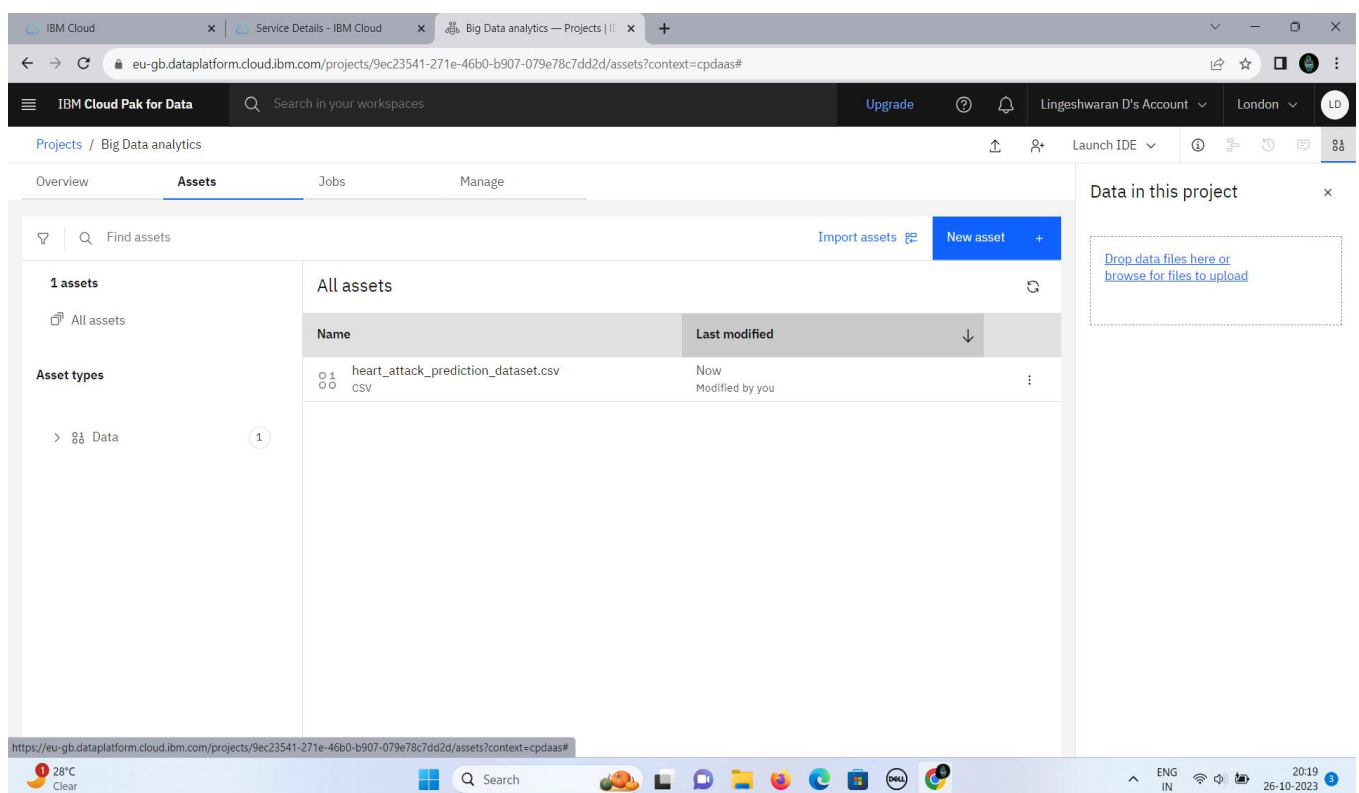


\*Upload your csv dataset file on IBM watson studio  
("heart\_attack\_prediction\_dataset.csv")

\*click Assets to view our csv file

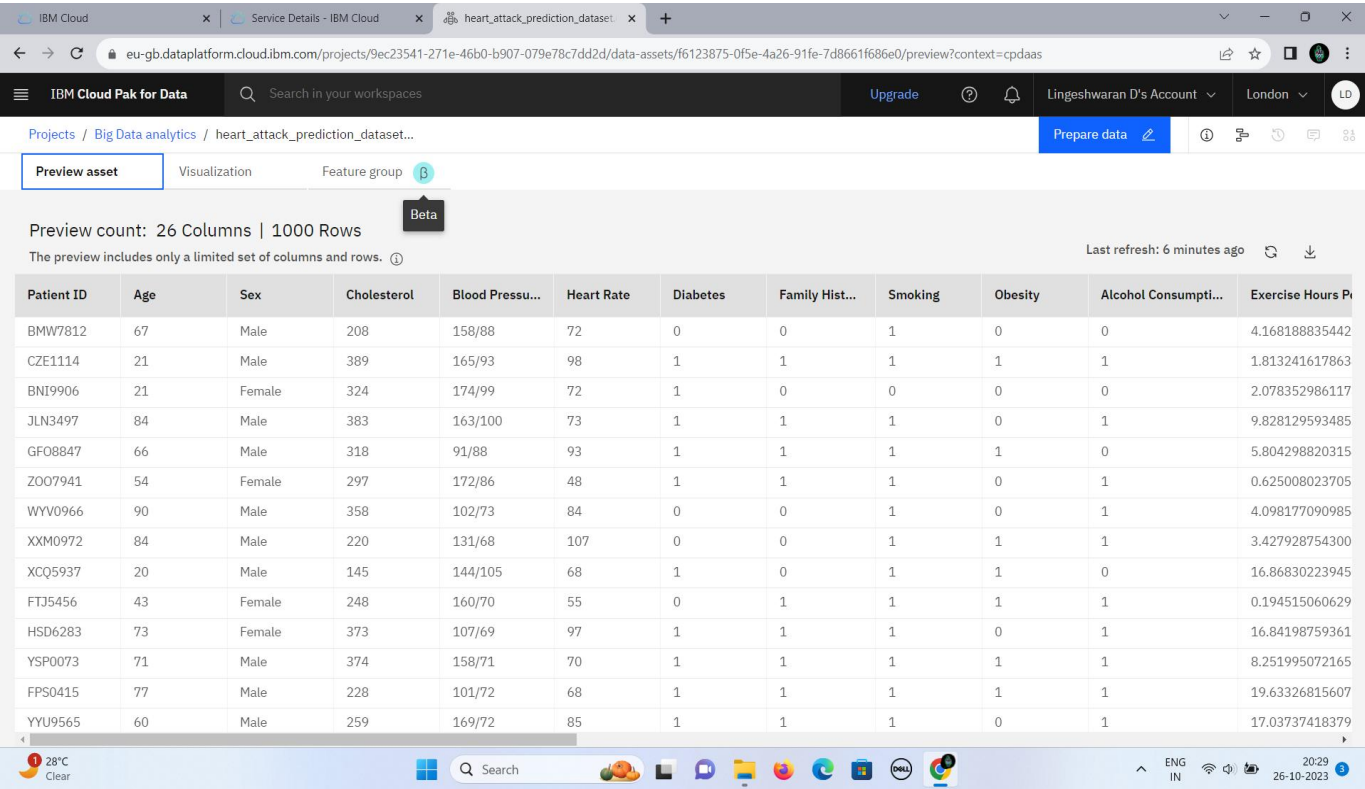
\*click on your csv file for preview asset

Figure 1:



\*select a visualizaiton on your csv.file

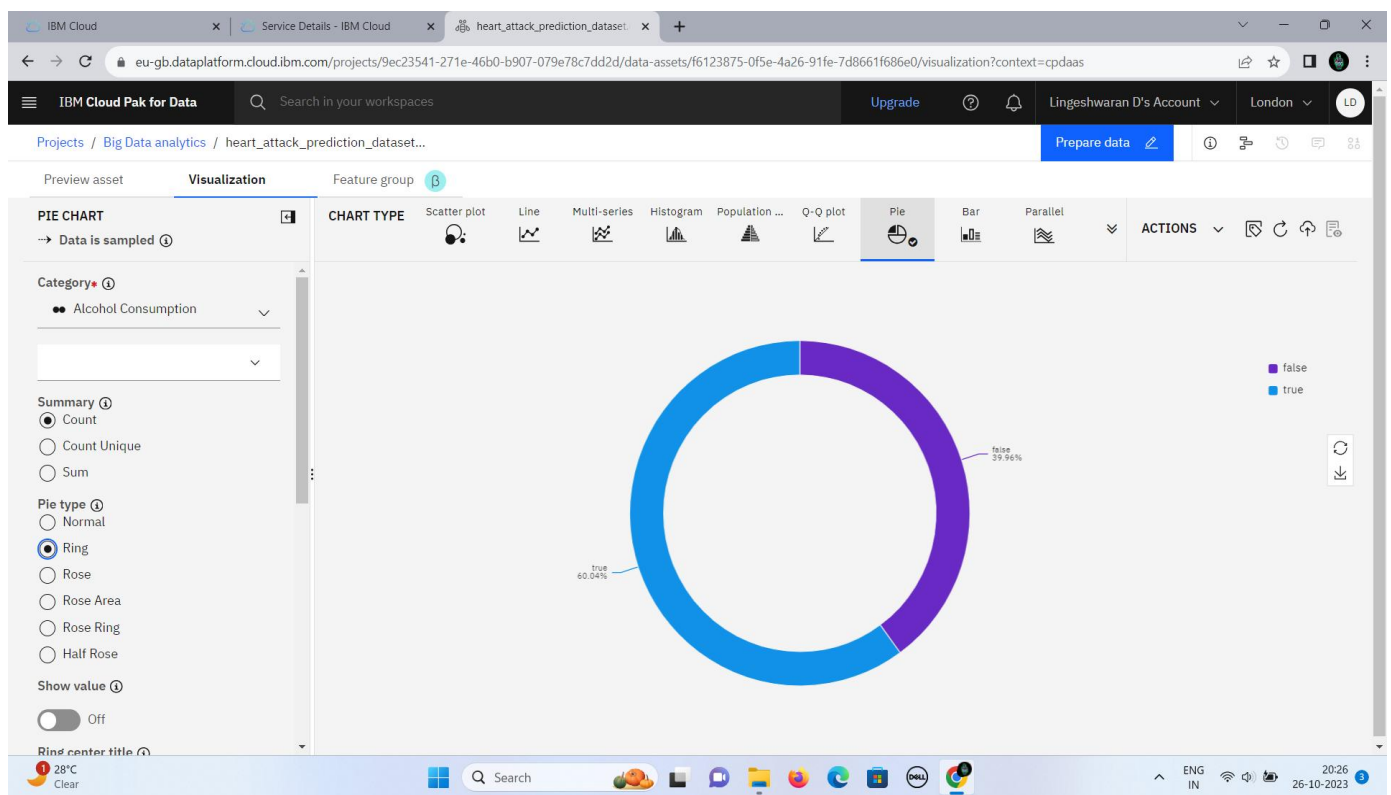
Figure 2:



## Step 3:

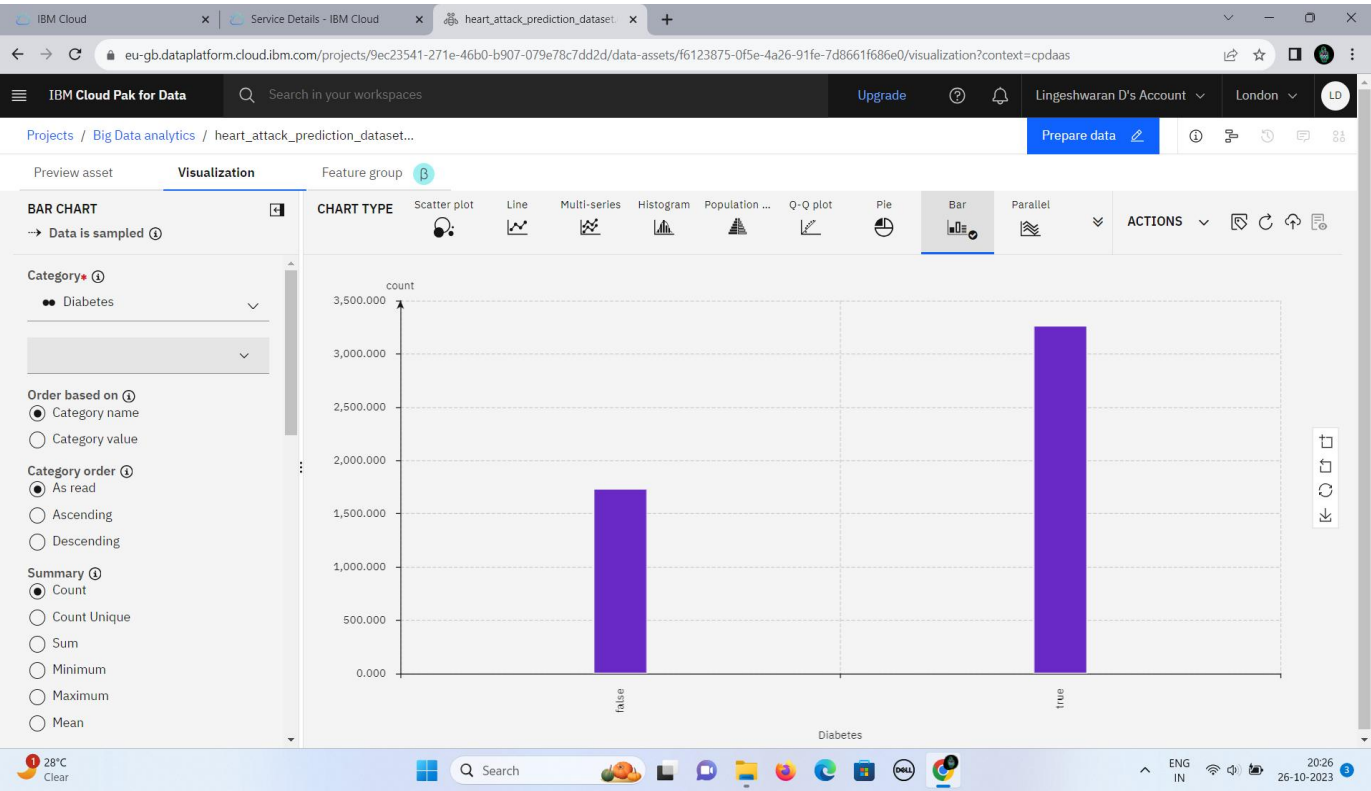
## Visualization our dataset using IBM Watson studio

### PIECHART:



# BAR CHART:

\*For Diabetes

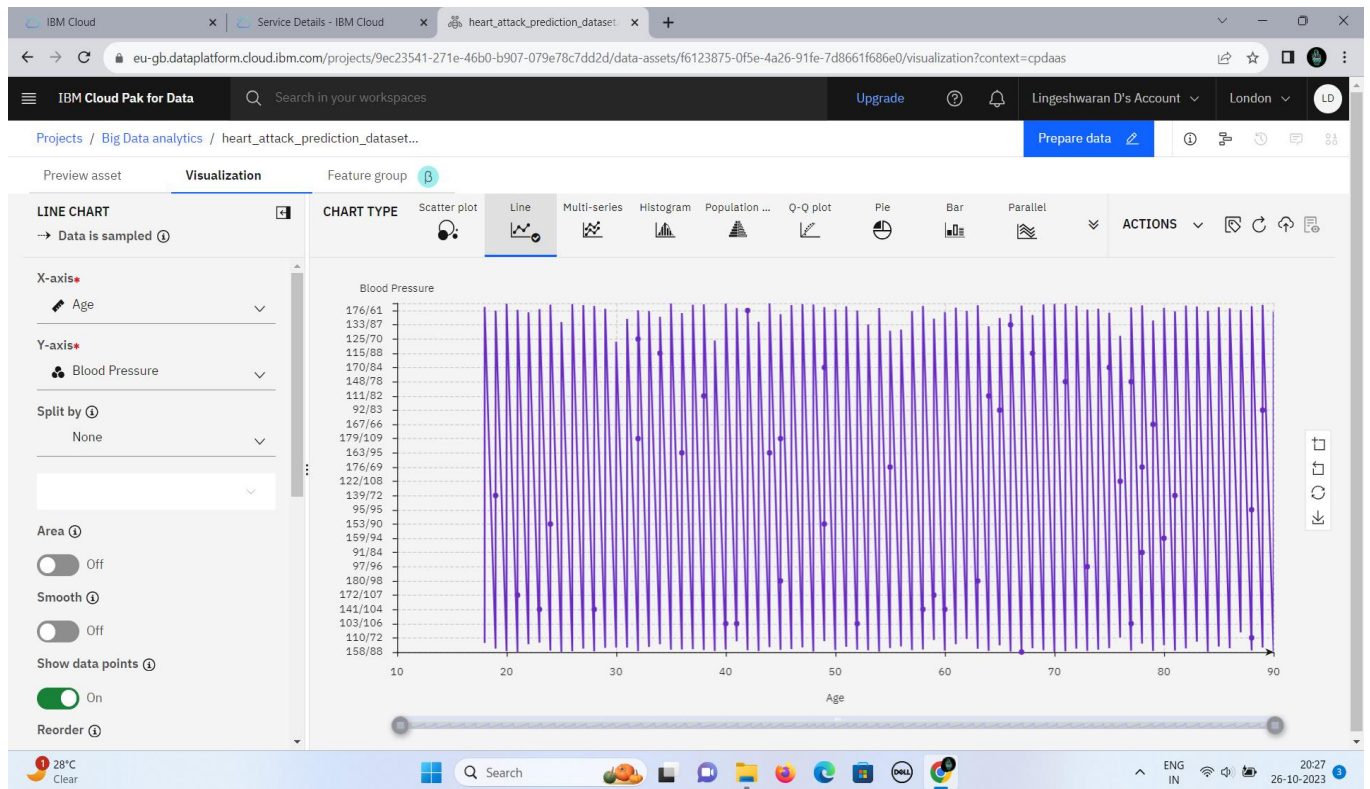




## LINE CHART:

\*X-AXIS(Age)

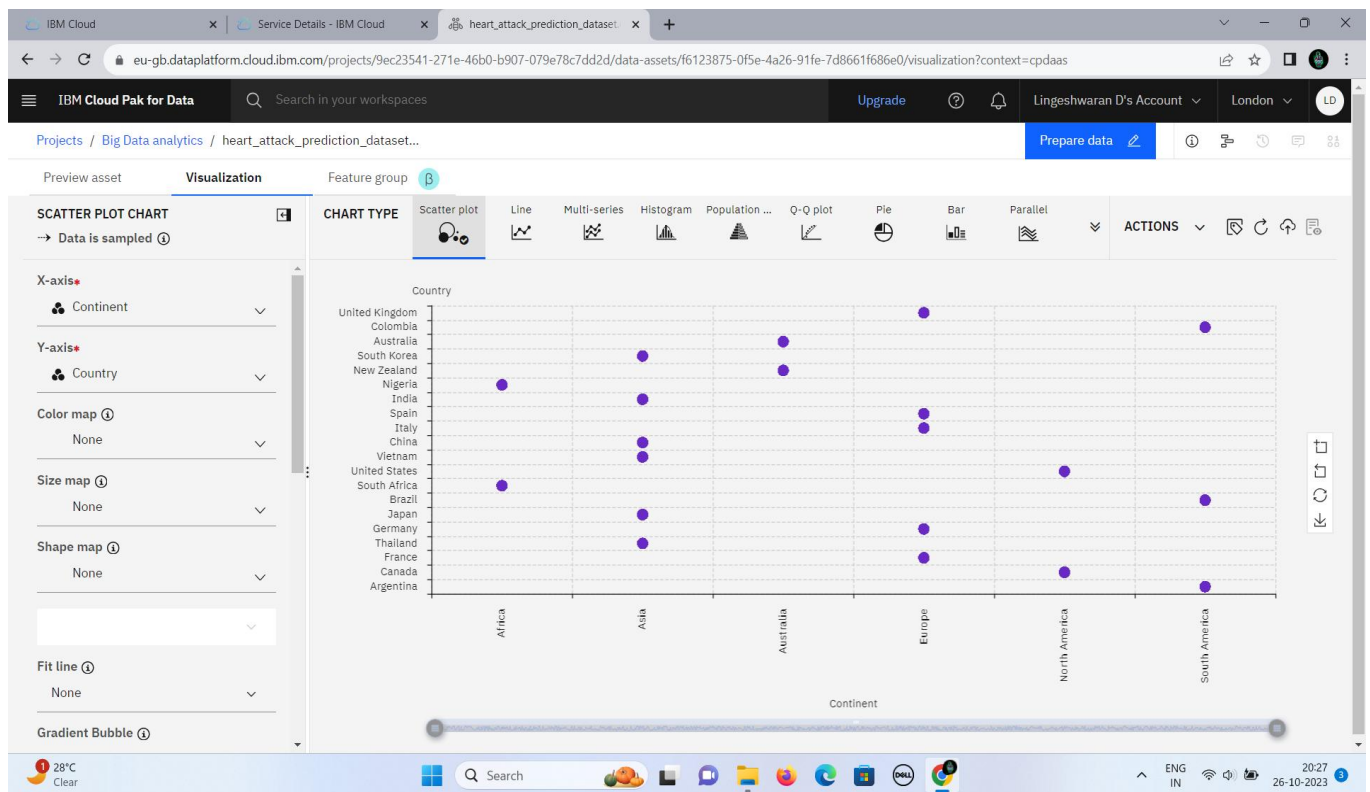
\*Y-AXIS(Blood pressure)



# SCATTER PLOT CHART:

\*X-AXIS(CONTINENT)

\*Y-AXIS(COUNTRY)

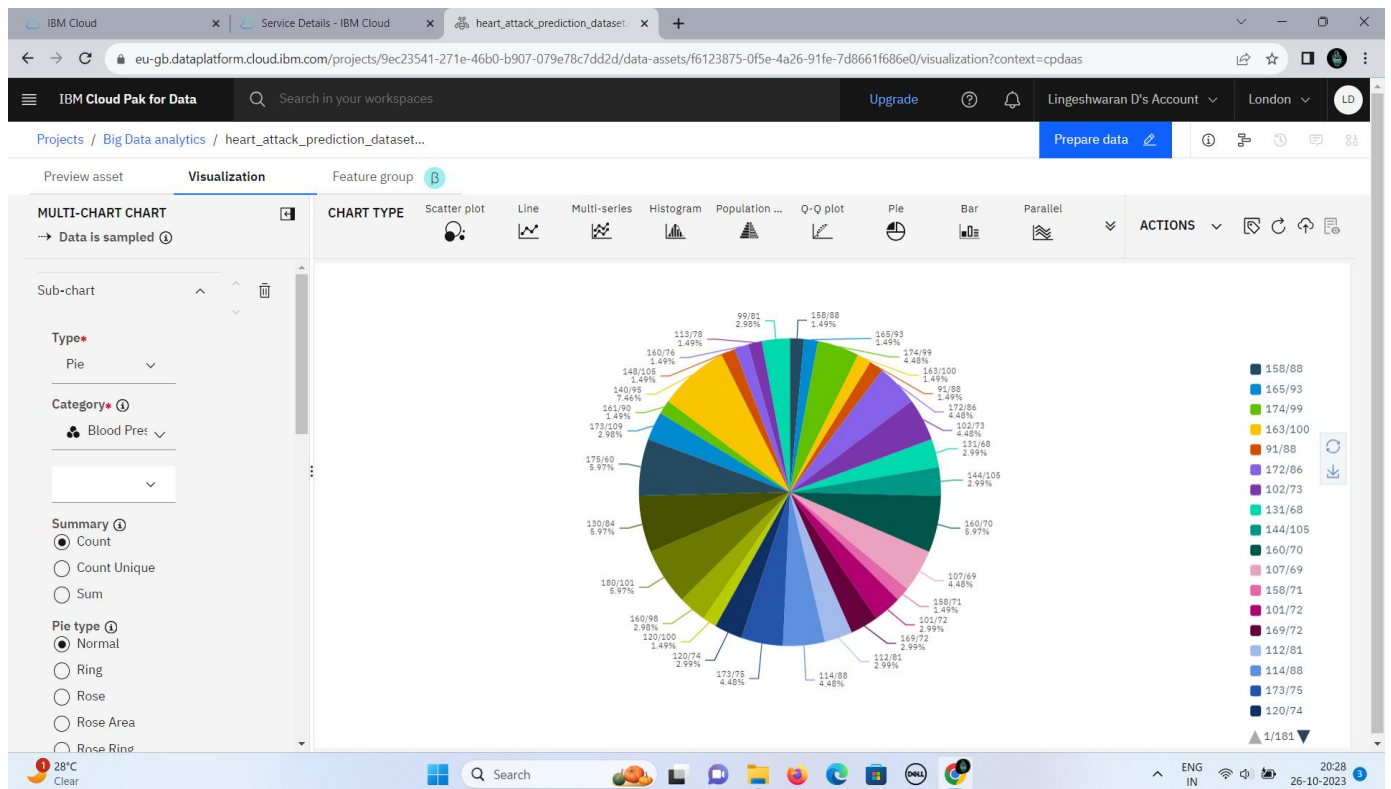


# MULTI\_CHART CHART:

## SUB-CHART

\*CATEGORY=BLOOD PRESSURE

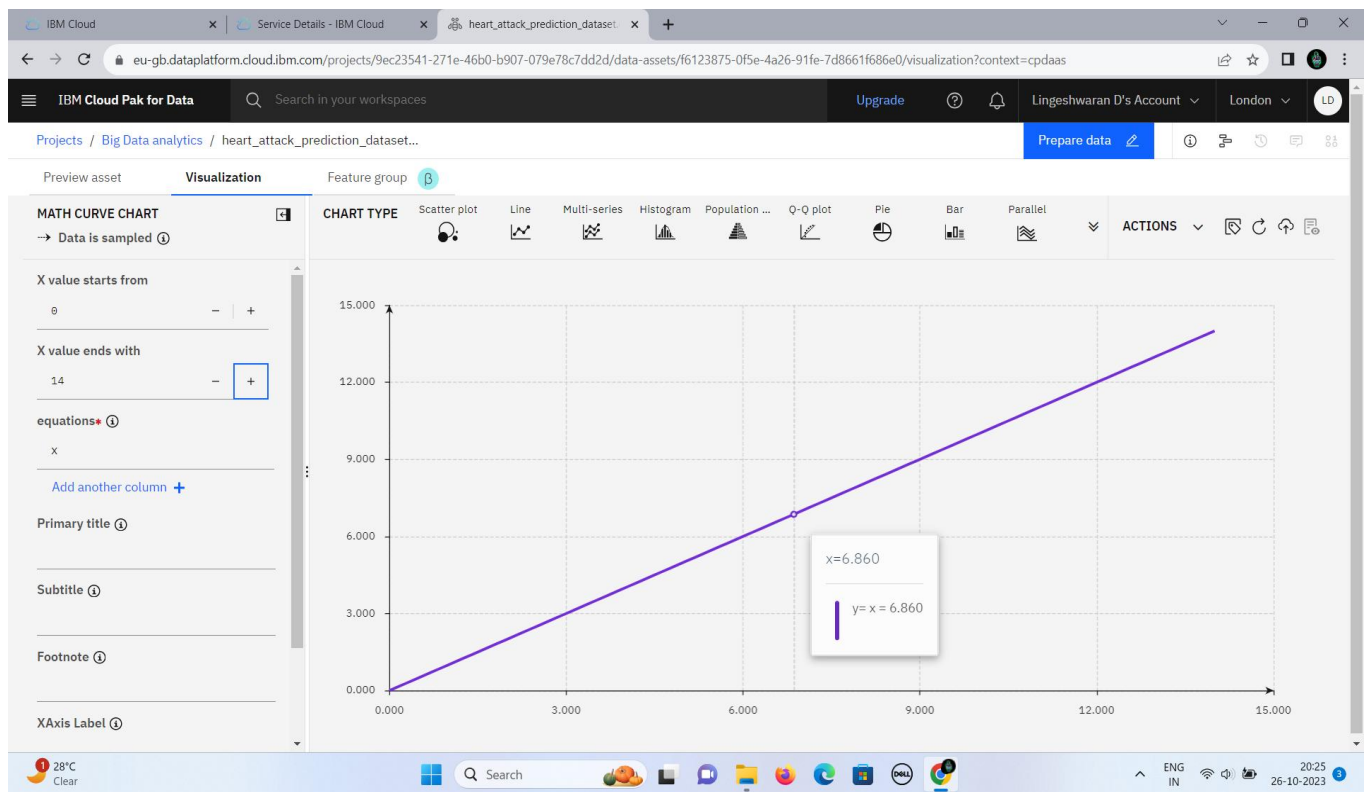
\*TYPE=PIE



## MATH CURVE CHART:

\*X-AXIS(0)

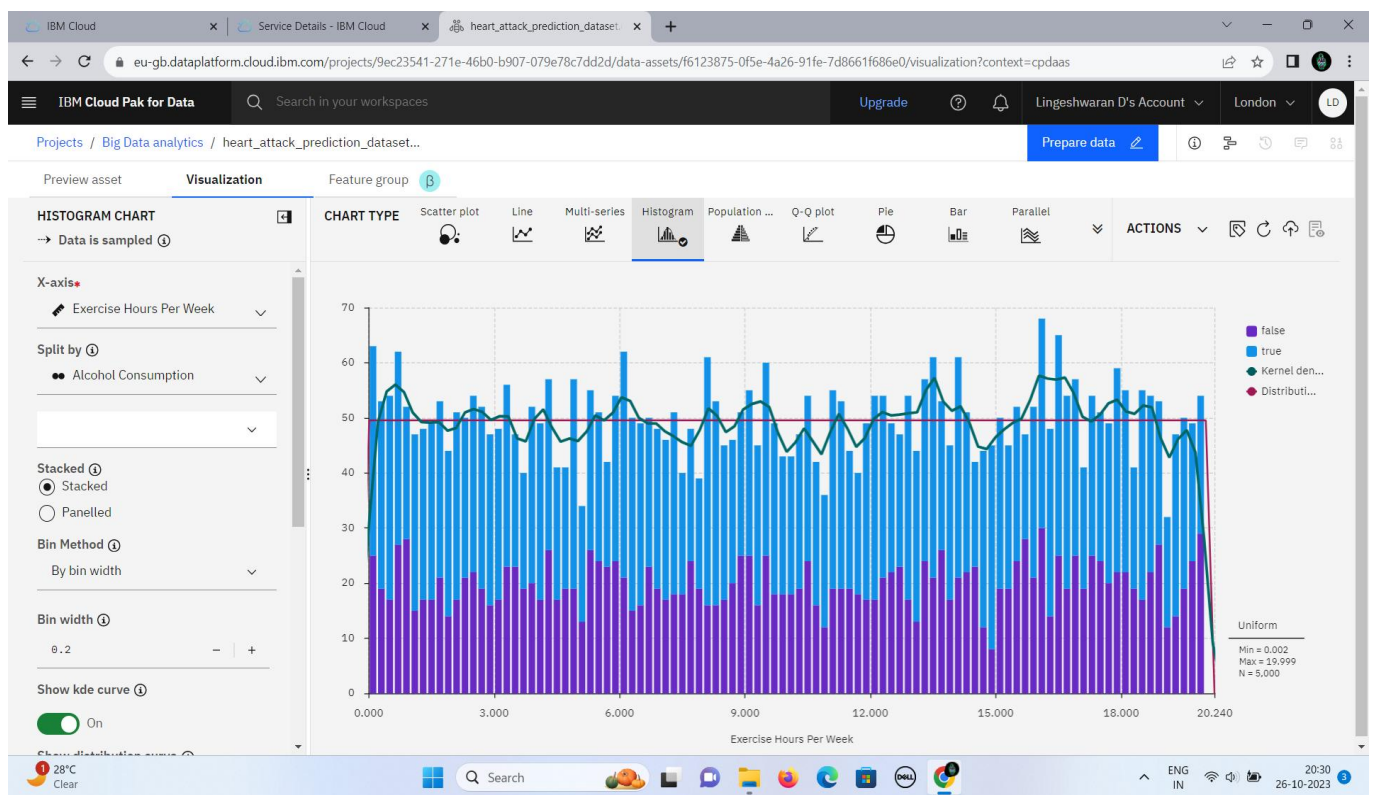
\*Y-AXIS(14)



# HISTOGRAM CHART:

\*X-AXIS(EXERCISE HOURS PER WEEK)

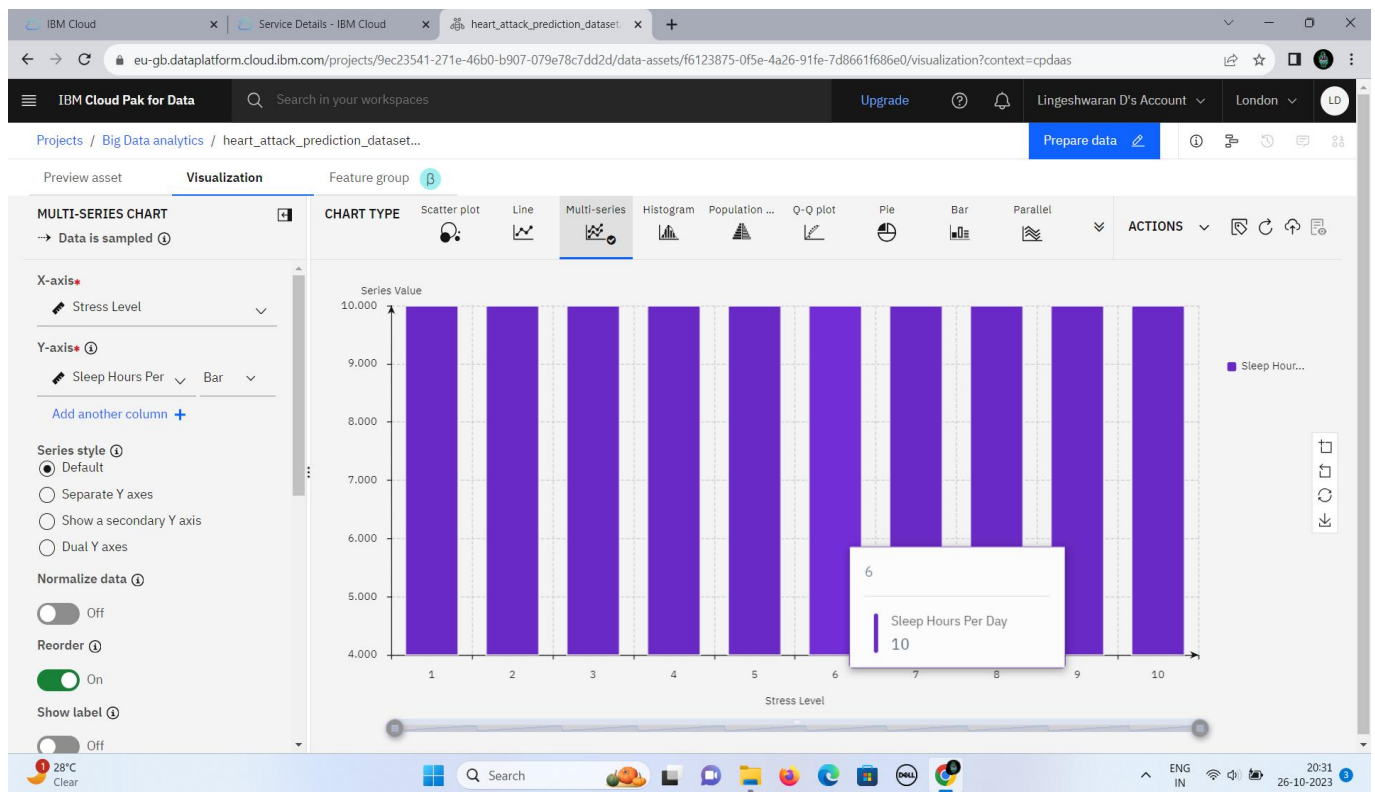
\*SPLIT BY(ALCOHOL CONSUMPTION)



## MULTI-SERIES CHART:

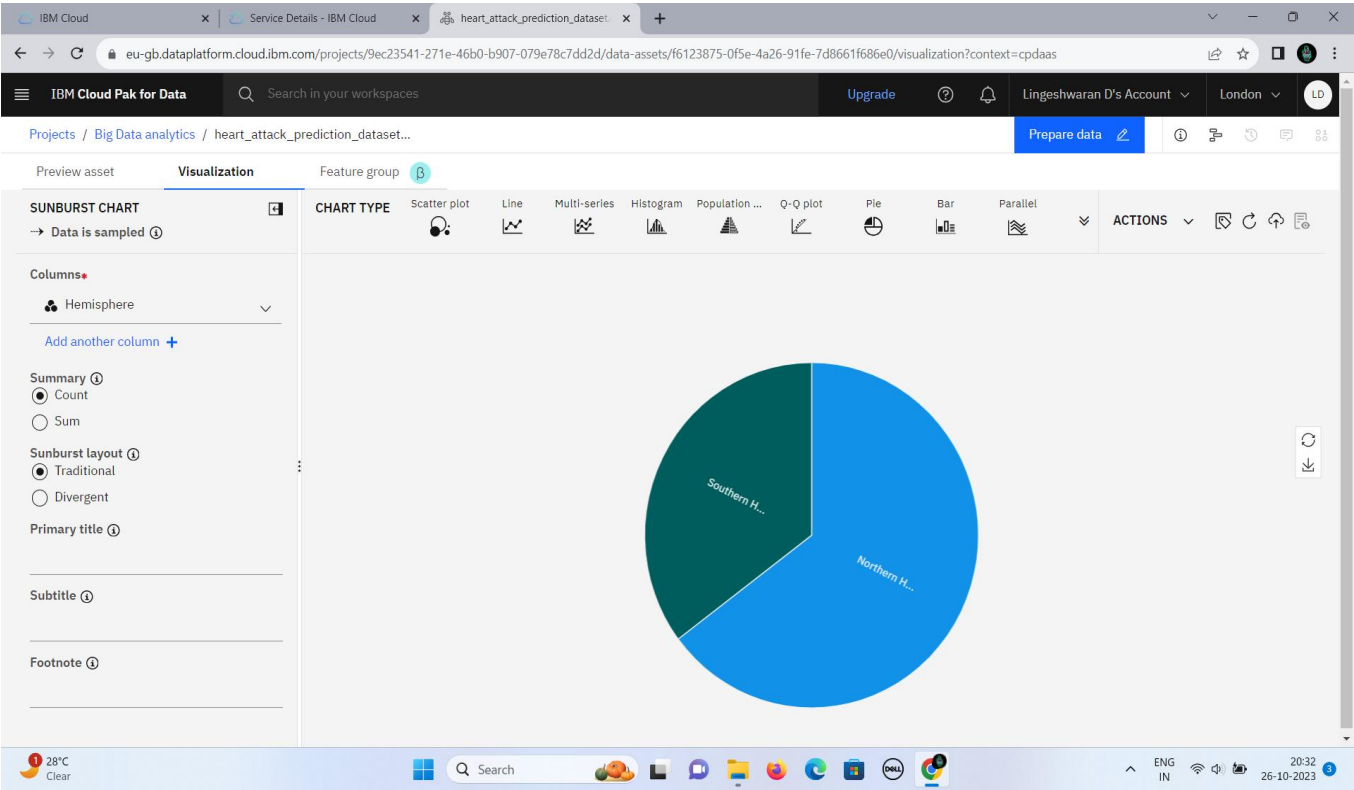
\*X-AXIS(STRESS LEVEL)

\*Y-AXIS(SLEEP HOURS PER WEEK)



# SUNBURST CHART :

COLUMNS=HEMISPHERE



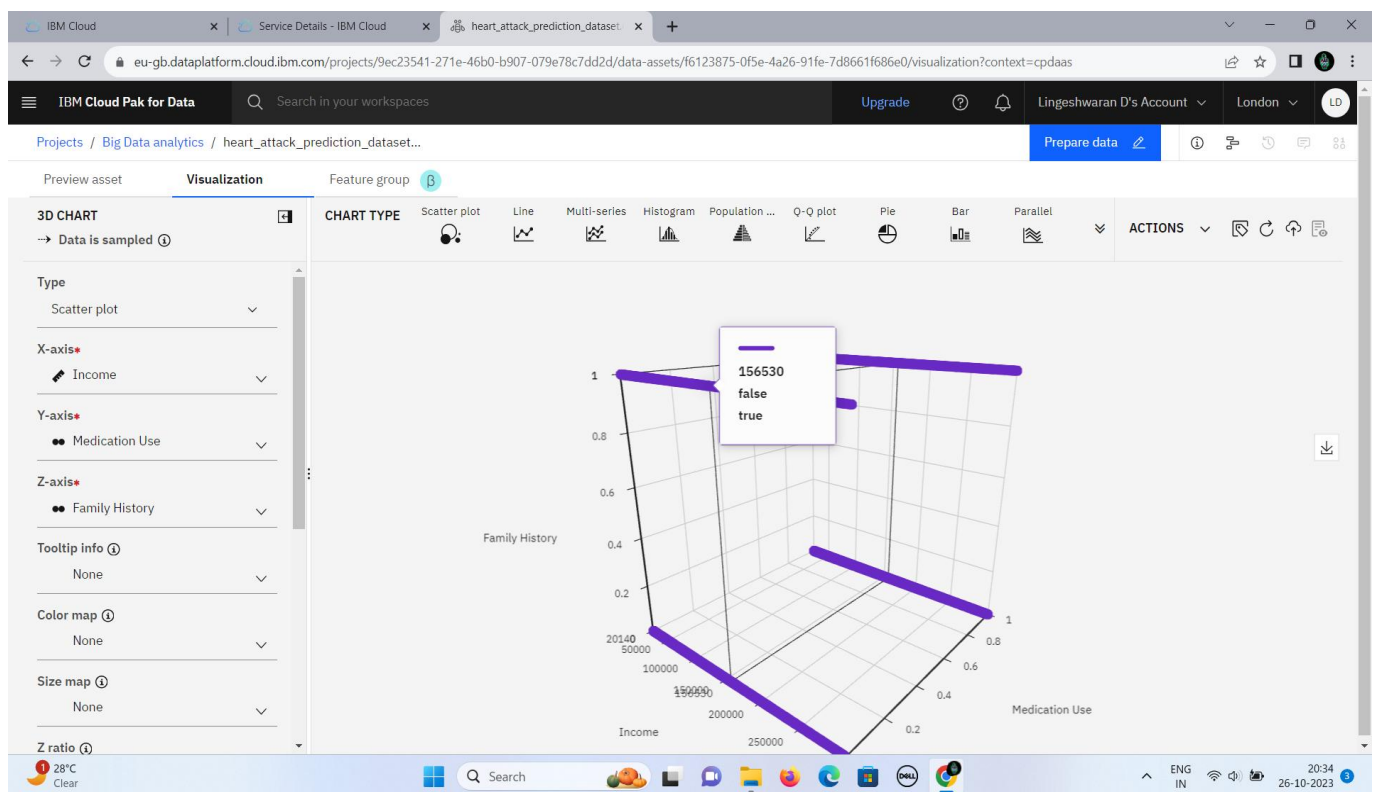
## 3D CHART:

\*TYPE()

\*X-AXIS(INCOME)

\*Y-AXIS(MEDICINE USE)

\*Z-AXIS(FAMILY HISTORY)

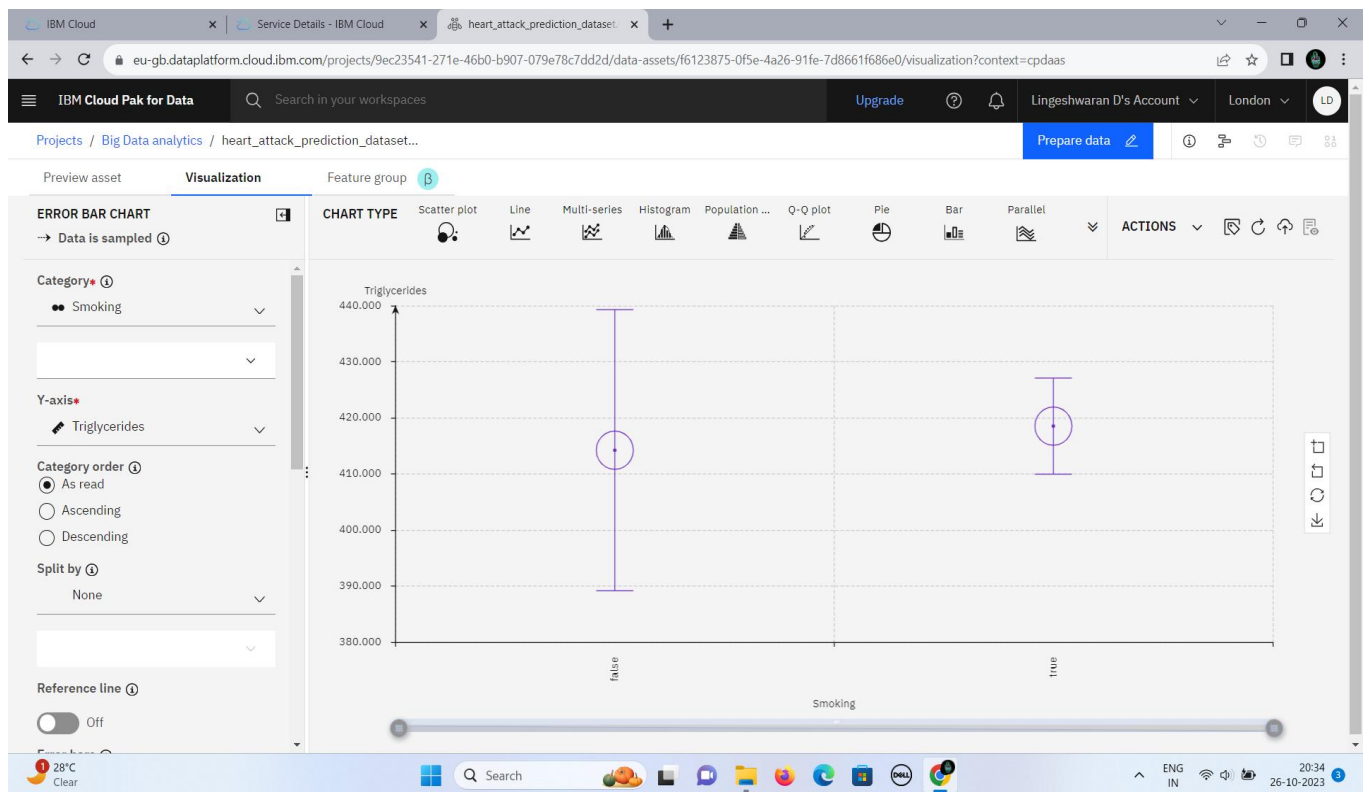




## ERROR BAR CHART:

\*CATEGORY(SMOKING)

\*Y-AXIS(TRIGLYCERIDES)



## CONCLUSION:

In this, part we will build our project. Continue build the big data analysis solution by applying advanced analysis techniques and visualizing the results. Apply more complex analysis techniques, such as machine learning algorithms, time series analysis, or sentiment analysis, depending on the dataset and objectives. Create visualizations to showcase the analysis results. Use tools like IBM Watson Studio for creating graphs and charts.