INTRODUCTION

- **Overview**

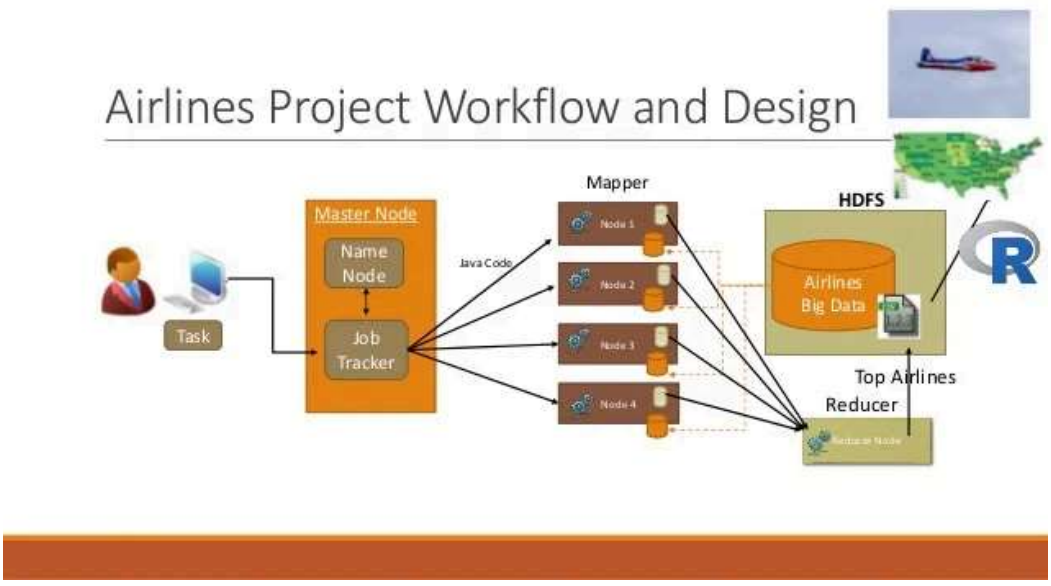
The airlines project in business analytics aims to levarage data-driven insights to optimize various aspects of airline operations and enhance the overall customer experience. By utilizing advanced analytical techniques and big data technologies, the project focuses on areas such as route optimization, pricing strategies, demand forecasting, and customer segmentation.The project also aims to enhance customer satisfaction by analuzing feedback and behavior to tailer services and offers.

- **Purpose**

The purpose of the airlines project in qlik Sense, a business analytics platform, is to harness the power of the data visualization and interactive dashboards to improve decision-making within the airline industry.

By integrating variouse data sources, Qlik Sense enables airlines to gain comprehensive insights into their operations, customer behavior, and market trends.

- **Technical Architecture**



DEFINE PROBLEM/PROBLEM UNDERSTANDING

- **Specify the business problem**

Airlines face various business challenges that can be addressed through business analytics to enhace efficiency, customer satisfaction, and profitability. Key issues include accurate demand forecasting and capacity planning to prevent overbooking or underbooking, implementing dynamic pricing to ptimize revenue, and segmenting customers for personalized marketing.

1. Disruption Management and Recovery
2. Fleet management and Utilization
3. Route optimization and recovery

- **Business Requirements**

For an airline project in qlik Sense, the business requirements would encompass various elements to ensure the tool effectively supports decision-making, enhances operational efficiency and improves customer satisfaction.

1. User-Friendly dashboards and Visualizations
2. Real-Time Data Analysis
3. Advanced Analytics Capabilities
4. Performance Monitoring and Reporting
5. Compilance nad Security
6. Scalability and Flexibility
7. Collaboration and Sharing
8. User Training and Support
9. Data Integration and Management
10. Revenue Management and Financial analysis

- **Literature Survey**

The application of business analytics, particularly using tools like Qlik Sense, offers significant benifits to the airline industry. By enabling detailed data analysis and visualization, Qlik sense supports better decusion-making across various functions, including demand forecasting, revenue management, customer segmentation, operational efficiency, and disruption management. Continued research and development in this area will further enhance the capabilities of business analyticas tools, driving greater efficiencies and probability for airlines.

Enhancing customer experience and effective disruption management are also vital, with real-time analytics playing a key role. Overall, Qlik sense enables comprehensive data-driven decision-making, improving various aspects of airline operations and financial performance.

DATA COLLECTION

- **Collect the dataset**

In this project "Exploring Insights from synthetic Airline Data Analysis with Qlik" the dataset was collected from the 'Kaggle'. The dataset downloaded from the website Kaggle contains all the meta information regarding the fields in the CSV file.

The fields are passengers ID, First Name, Airport Name , Airport Country Code, Country Name, Airport Continent, Continents, Departure Date, Arrival Airport, Pilot Name, Flight Status.

- **Connect Data with Qlik Sense**

After collection of dataset, to Connect the data with Qlik Sense, upload the dataset in the platform directly or create an analytics app and upload the data in the created app.

DATA PREPARATION

- **Prepare the Data for Visualization**

The preparation of data for Visualization needs data Loading, data cleaning, and preprocessing.

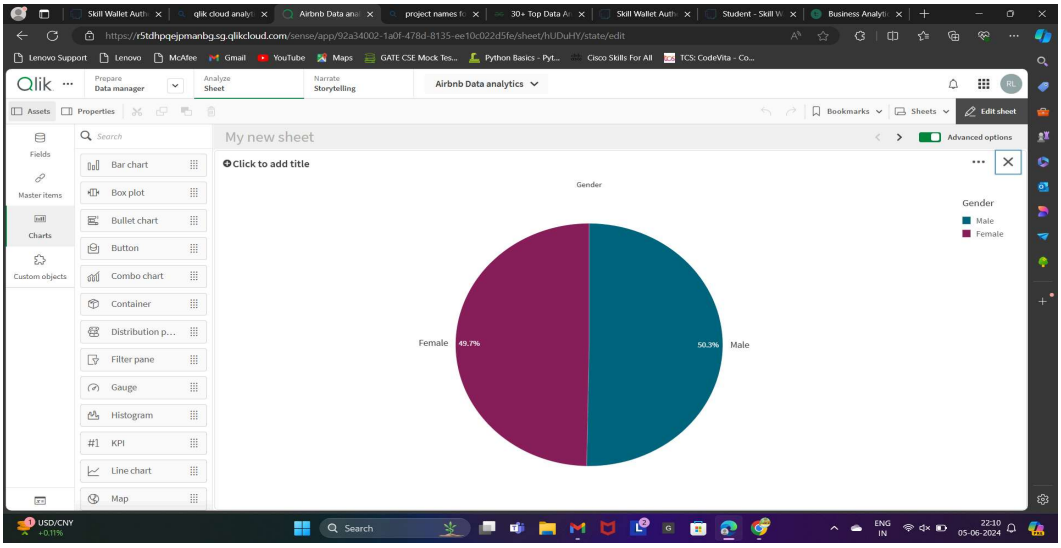
- Data Loading: after connecting the data with Qlik Sense, the data loading involves loading data in the data Load Editor.
- Data Cleaning and Preprocessing: The cleaning of data involves removing missing or irrelevant data. The preprocessing helps to make data easily understandable for Creating visualizations.

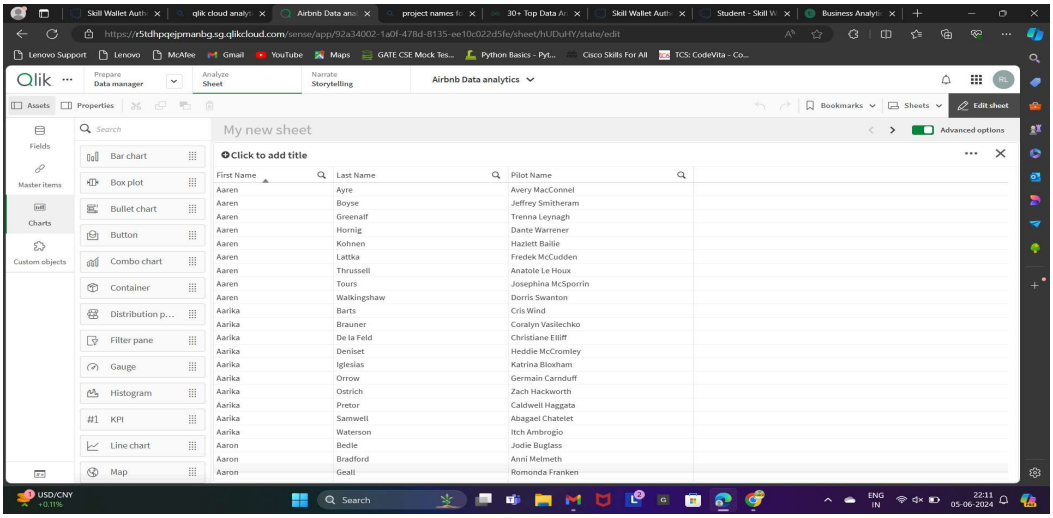
DATA VISUALIZATIONS

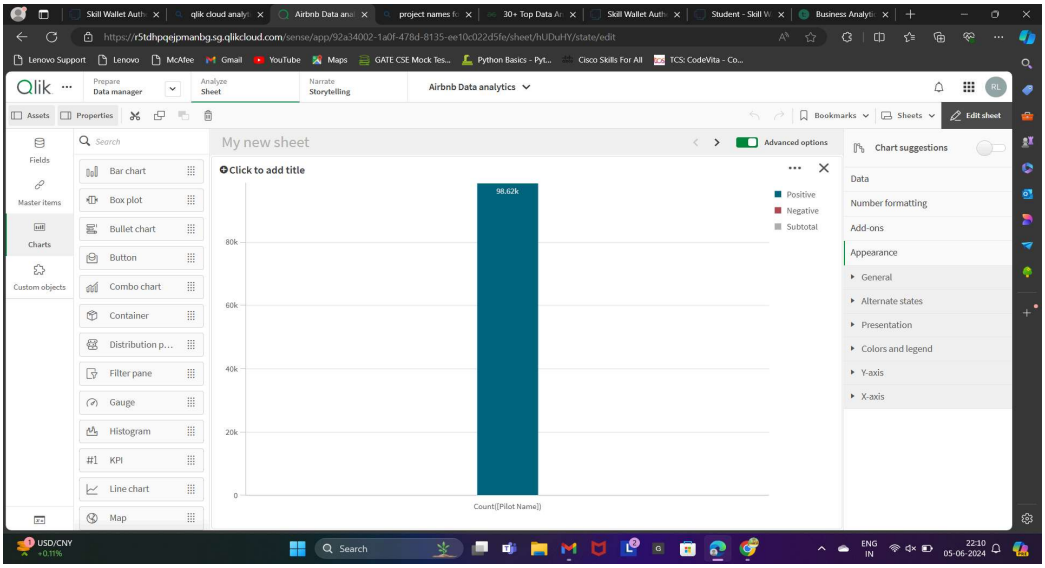
- **Visualizations**

Data visualizaion is a apart of many business-intelligence tools and key to advanced analytics. With data visualization, information is represented in graphical form, as a pie chart, graph, or anaother type of visual presentation.

Exploring Insights From synthetic Airline Data Analysis With Qlik







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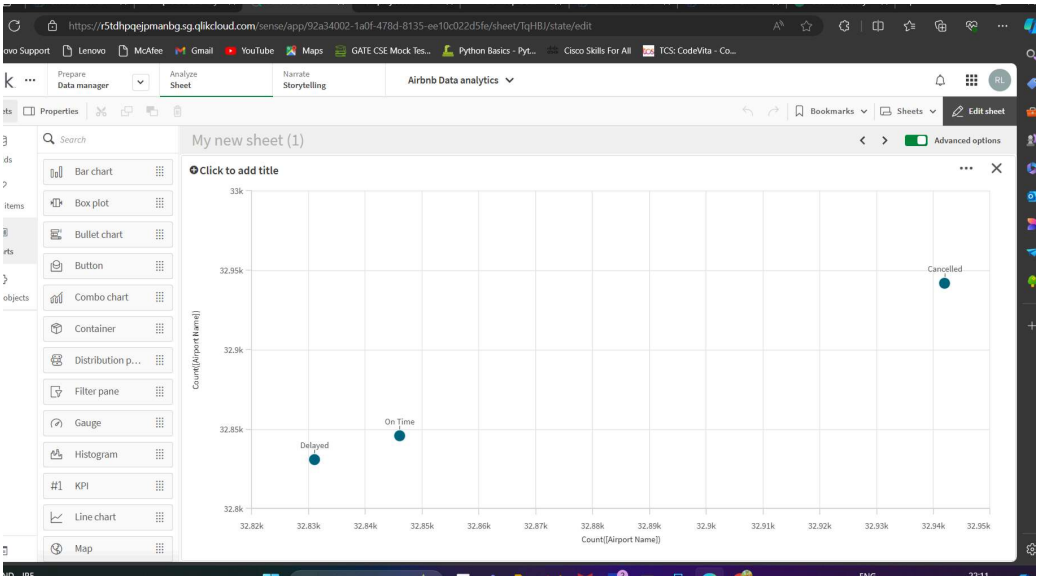

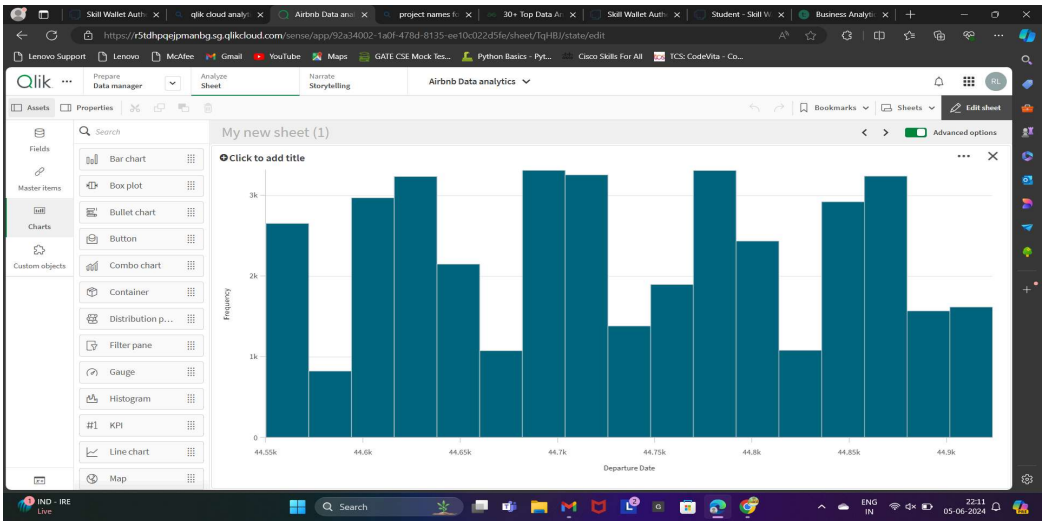

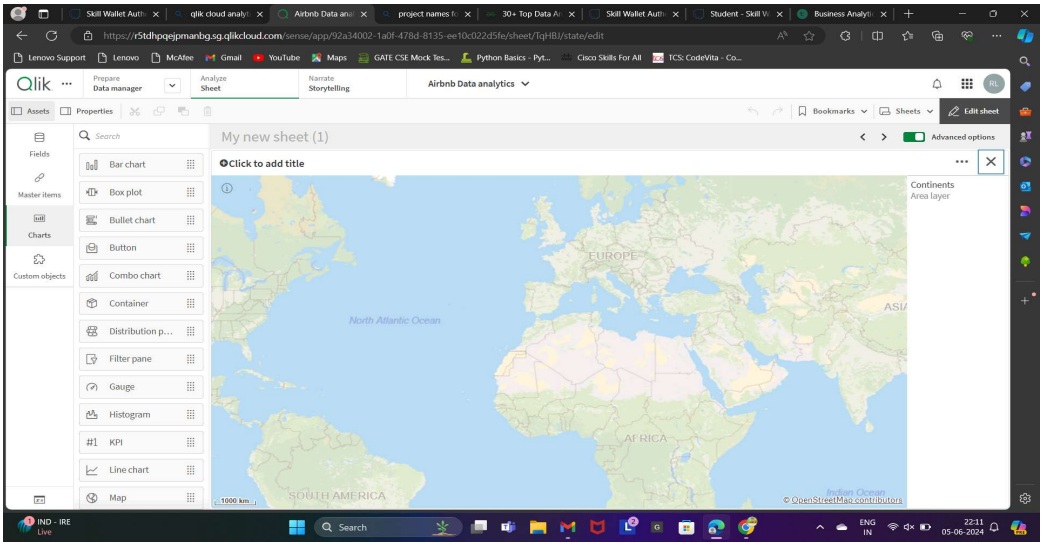

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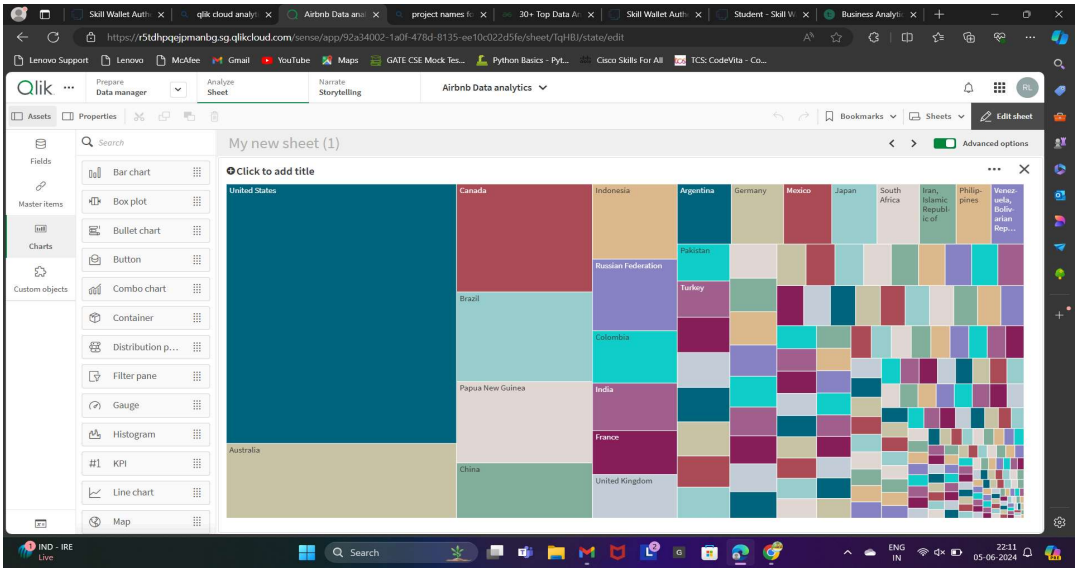

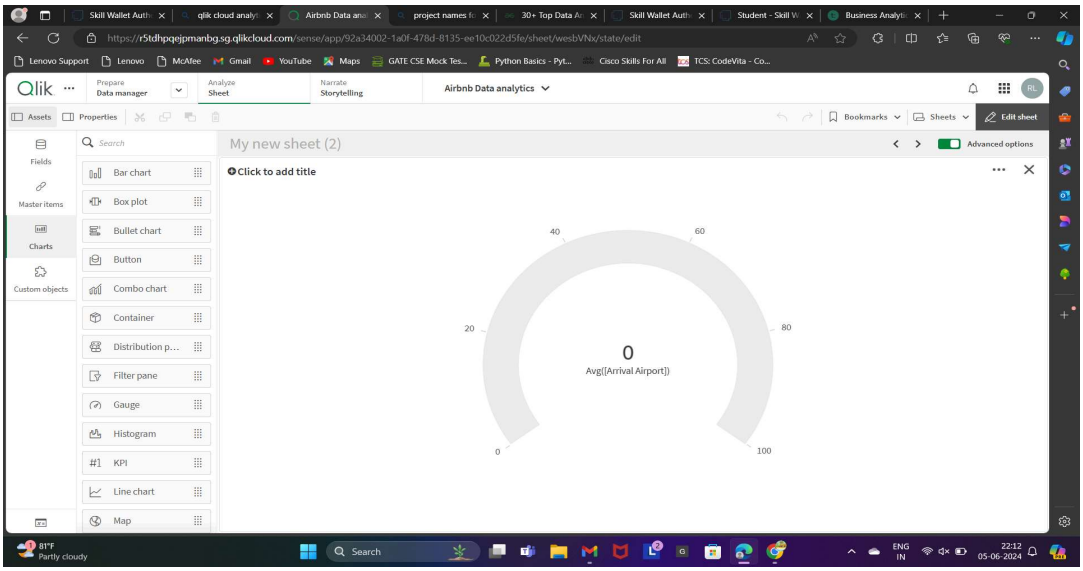

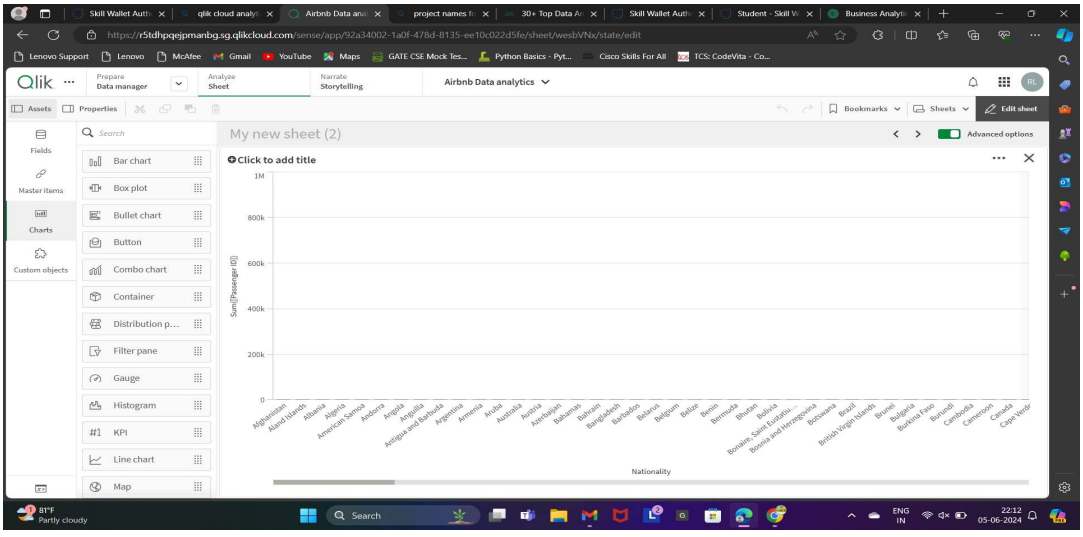

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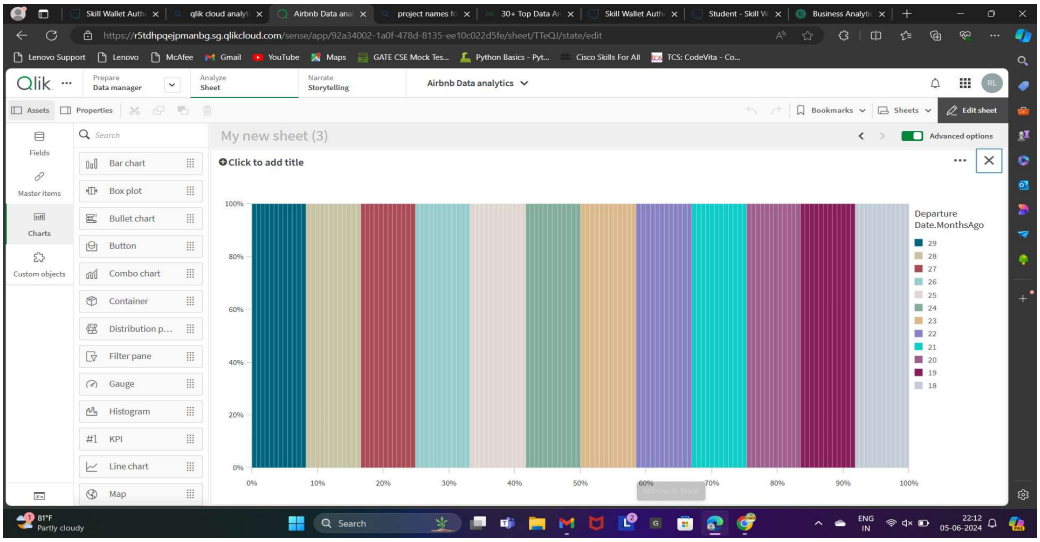
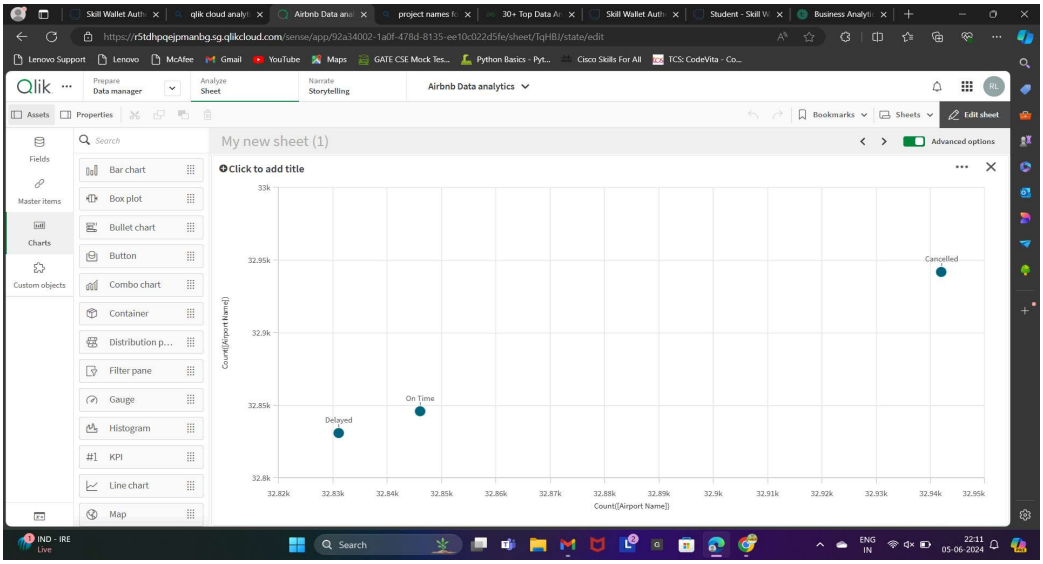
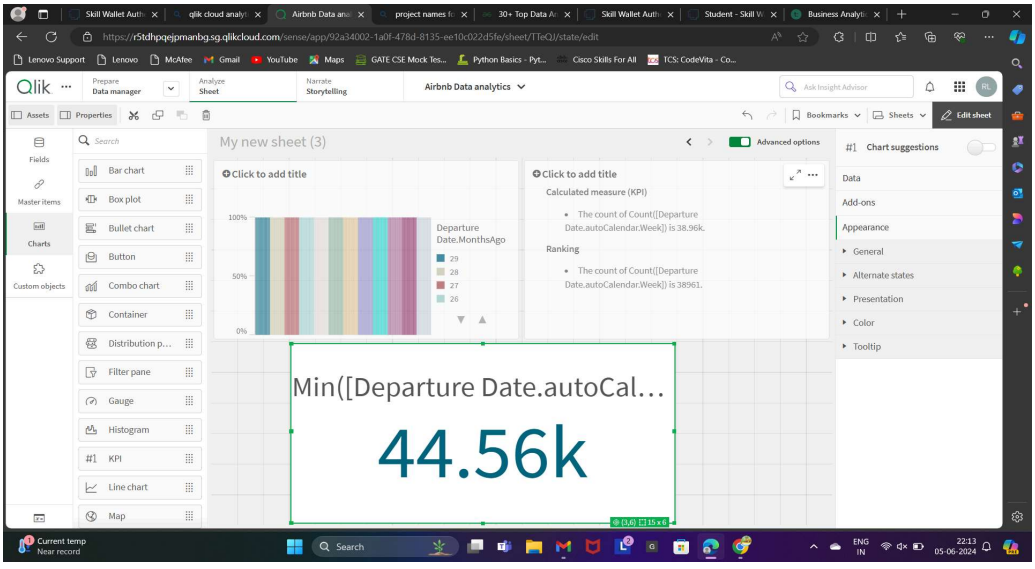






Exploring Insights From Synthetic Airline Data Analytics With Qlik Sense

Dashboard

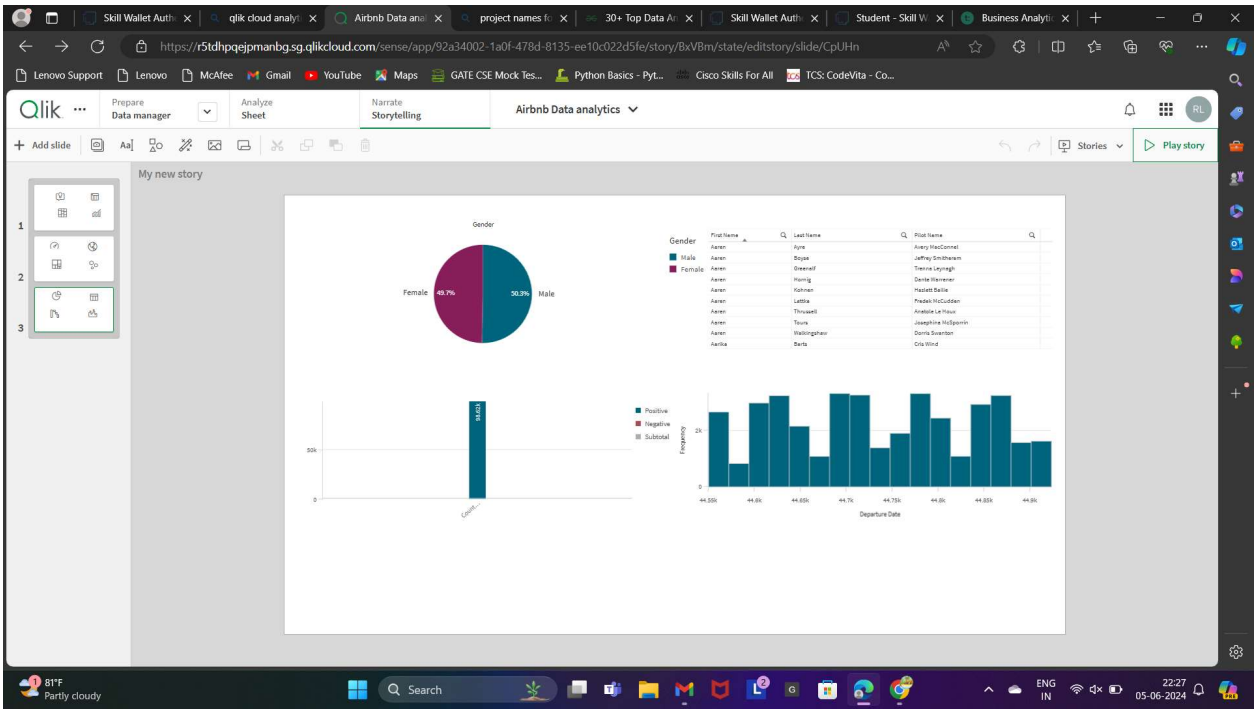
- **Responsive and Design of Dashboard**

The dashboards are reporting tools that aggregate and display visualizations in a single creen. It is a way of creating various types of visual data like charts, graphs, tables, and filter pane, KPI's, buttons, maps, etc in one palace. In the dashboards, it is easy to create visualizations using fields as dimensions and measures. Dashboards are often used to analyze data and designed for various use cases.

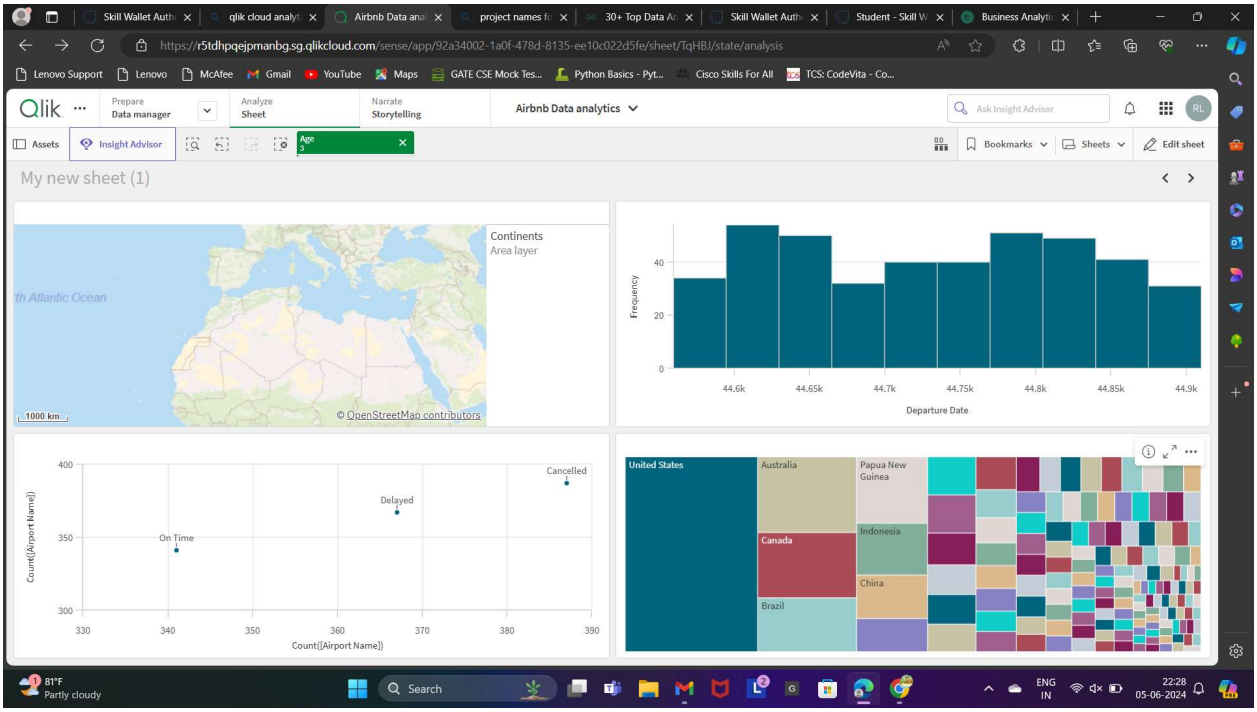
Dashboards are a graphical user interface(GULI) that displays information and data in an organized, easy-to-read format.

That dashboard allows users to track, analyze, and report on key performance indicators and other metrics. We can add background images and also can download the dashboard as pdf format. It displays visuaizations from many fields simultaneouly. To create a dashboard, firstly analyze the data and understand the data fields to make an effective dashboard with many visualizations.

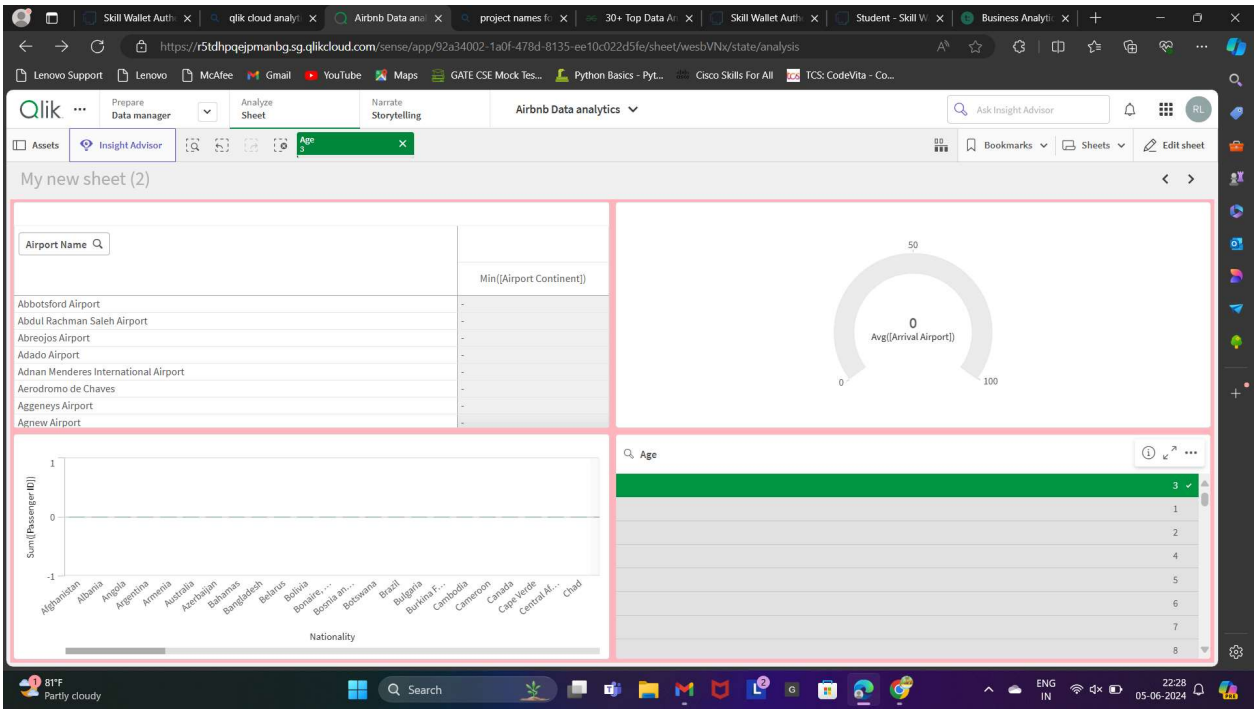
Dashboard 1



Dashboard 2



Dashboard 3



REPORT

- **Report Creation**

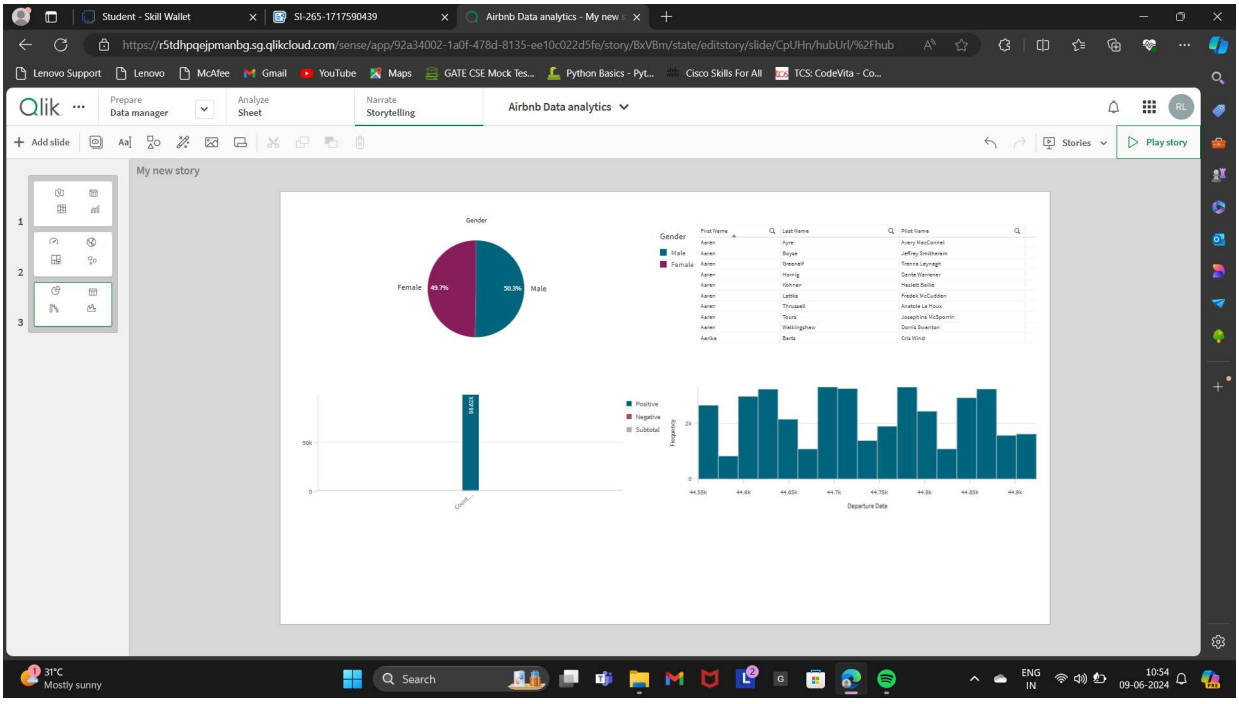
Story Telling: The concept of story telling is building a compelling narrative baed on data and analytics. By presenting data as a story, it mskes it easier for stakeholders to grasp the key insights and key insights and implications.

In Qlik, we take snapshots of each visualizations for narrating the story of the data analysis. The all snapshots are stored in Snap Library; by dragging and dropping on the slide, we can create a report for the data in the form of story telling.

It is a new way of sharing your data discovery insights with other people. The purpose of data storytelling is to build a narrative around the story and to emphasize elements of it. With data storytelling, you can create aa presentation based on the data on the data in your app. The visualizations, we use them, can narrate together with text, shapes, and effects.

Exploring Insights From synthetic Airline Data analysis With Qlik

slide-1:



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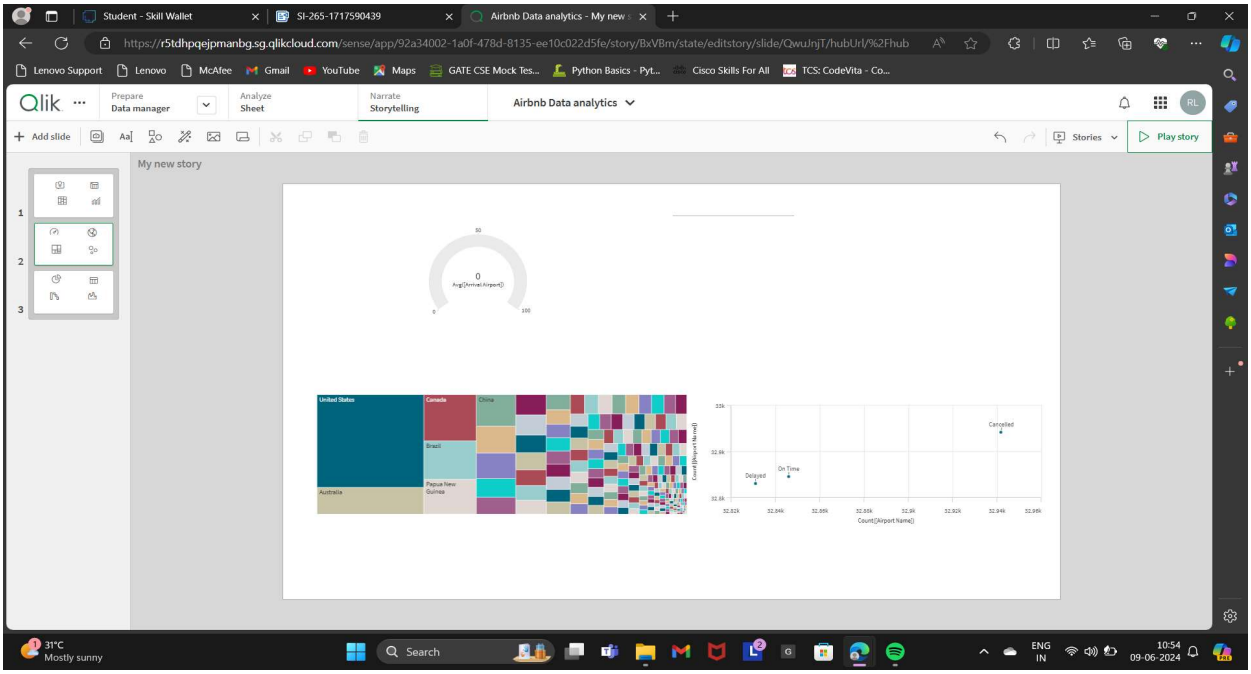

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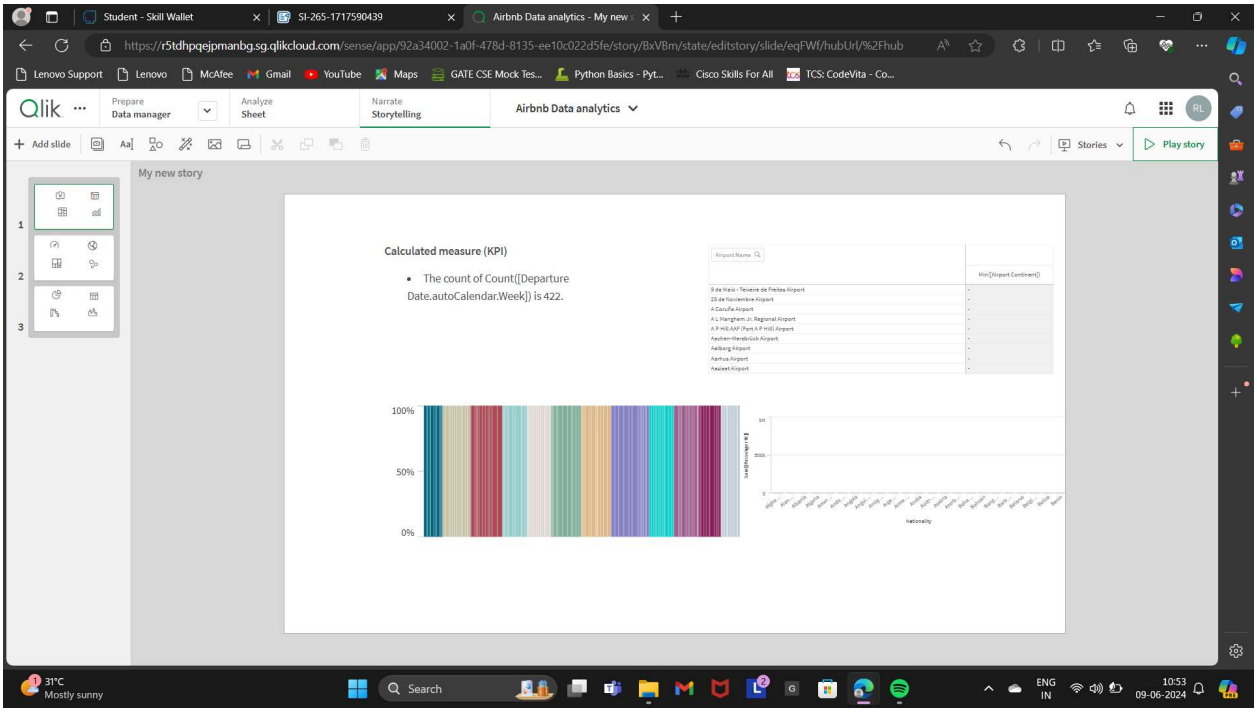


PERFORMANCE TESTING

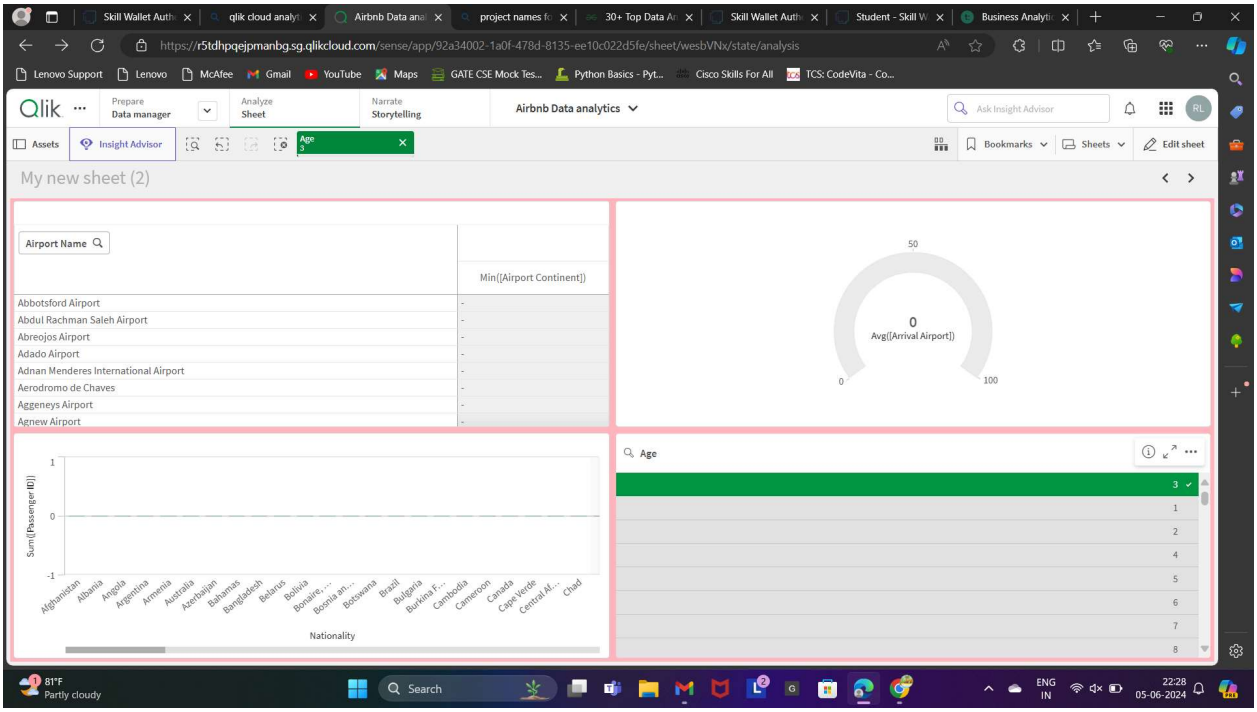
- **Amount Data Rendered**

The amount of data rendered refers to the data we extract from the 'Kaggle' website. The data includes the following columns fields lited below. It is a measure of how much data has beeen successfully processed and make available for analysis, manipulation, and use within the system.

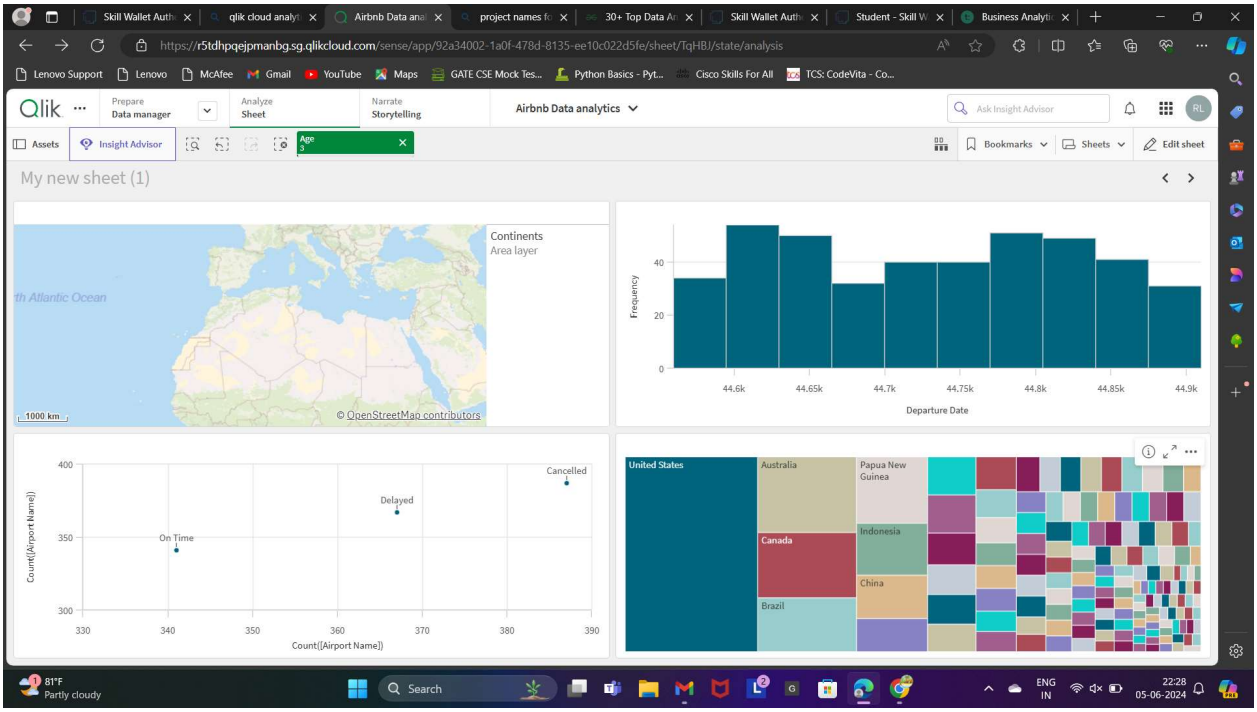
- Pasenger ID
- First Name, Last Name
- Age, AgeGroup
- Continent, Country Name
- Gender
- Flight Status
- Departure Date
- Pilot Name
- Airport Name,Arrival Airport, Airport Country Code, Airport Continent
- Nationality

Utilization of Data Filters

Filter-1:



Filter-2



Filter-3