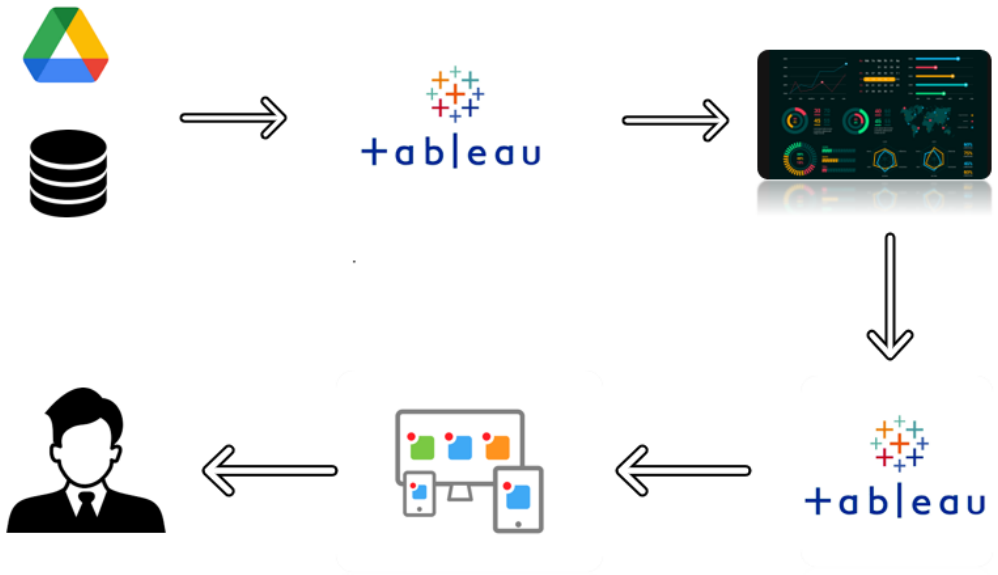
A COMPREHENSIVE ANALYSIS OF FINANCIAL PERFORMANCE: INSIGHTS FROM A LEADING BANKS

Project Based Experiential Learning Program

A Comprehensive Analysis of Financial Performance: Insights from a Leading Banks

The banking industry world-wide is being transformed. The global forces for change include technological innovation; the deregulation of financial services at the national level and opening-up to international competition; and - equally important - changes in corporate behavior, such as growing disintermediation and increased emphasis on shareholder value. In addition, recent banking crises in Asia and Latin America have accentuated these pressures. The banking industries in central Europe and Latin America have also been transformed as a result of privatizations of state-owned banks that had dominated their banking systems in the past. In this project we are trying to analysis the bank related data and able to extract some insights from the data using Business Intelligence tools. To Extract the Insights from the data and put the data in the form of visualizations, Dashboards and Story we employed Tableau tool.

Technical Architecture:



Project Flow

To accomplish this, we have to complete all the activities listed below,

- Define Problem / Problem Understanding
    - Specify the business problem
    - Business requirements
    - Literature Survey
    - Social or Business Impact.
- Data Collection & Extraction from Database
    - Collect the dataset,
    - Storing Data in DB
    - Perform SQL Operations
    - Connect DB with Tableau
- Data Preparation
    - Prepare the Data for Visualization
- Data Visualizations
    - No of Unique Visualizations
- Dashboard
    - Responsive and Design of Dashboard
- Story
    - No of Scenes of Story
- Performance Testing
    - Amount of Data Rendered to DB ‘
    - Utilization of Data Filters
    - No of Calculation Fields
    - No of Visualizations/ Graphs
- Web Integration
    - Dashboard and Story embed with UI With Flask
- Project Demonstration & Documentation
    - Record explanation Video for project end to end solution
    - Project Documentation-Step by step project development procedure

Milestone 1: Define Problem / Problem Understanding

Activity 1: Specify the business problem

Refer Project Description

Activity 2: Business requirements

The business requirements for analyzing the performance and efficiency of banks in world include identifying KPIs, comparing performance across different countries and states, identifying patterns and trends over time, identifying affecting factors, creating interactive dashboards and reports, identifying areas for improvement, making data-driven decisions, comparing to the industry average and creating forecasting models for future performance. The ultimate goal is to gain insights and improve performance through data visualization techniques.

Activity 3: Literature Survey (Student Will Write)

A literature survey for the financial analysis of banks would involve researching and reviewing previous studies, articles, and reports on the topic. This could include information on the methods and techniques used for financial analysis of banks, as well as the results and conclusions of these studies. Some potential areas of focus for a literature survey on financial analysis of banks could include:

Ratio analysis, which involves comparing different financial metrics (such as return on assets, return on equity, etc.) to assess a bank's performance and compare it to industry averages or other benchmarks.

Stress testing, which involves simulating adverse economic scenarios to evaluate a bank's ability to withstand financial shocks.

Risk management, which involves identifying, assessing, and mitigating the various risks facing a bank, such as credit risk, market risk, and operational risk.

Basel III, which is a set of international regulatory standards for banks that includes measures for capital adequacy, liquidity, and leverage.

Activity 4: Social or Business Impact.

Social Impact: Financial analysis of banks can have a significant social impact by identifying areas where the bank's operations or lending practices may be causing harm to vulnerable communities or perpetuating inequality. For example, a financial analysis might reveal that a bank is heavily invested in fossil fuel companies, contributing to climate change, or that the bank is disproportionately denying loans to minority-owned businesses, perpetuating economic discrimination

Business Model/Impact: Financial analysis of banks can have a significant impact on the business operations of the bank itself and its competitors. For example, a financial analysis can help the bank identify areas where it is underperforming compared to its peers, such as in terms of profitability or asset quality. This information can then be used to develop strategies for improving the bank's performance, such as by reducing costs, increasing revenue, or improving risk management practices.

Milestone 2: Data Collection & Extraction from Database

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, evaluate outcomes and generate insights from the data.

Activity 1: Downloading the dataset

Please use the link to download the dataset: Link

Activity 1.1: Understand the data

Data contains all the meta information regarding the columns described in the CSV files

Column Description of the Dataset:

1. bank: Name of the bank
2. Country: In which country the bank is operating
3. Total Assest: Total assets of the banks
4. Rank : Rank of the bank among the world
5. landmass : Under which continent the bank belongs to

Activity 2: Storing Data in DB & Perform SQL Operations

Explanation video link:

https://drive.google.com/file/d/1uUaPt7PE3t-jPk4txwyGsbVDkcXzDwOl/view?usp=sharing

Activity 3: Connect DB with Tableau

Explanation video link:

https://drive.google.com/file/d/1SRA3ZmvxodiJSLgAFZaOIDdXSHxxyId4/view?usp=sharing

Milestone 3: Data Preparation

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency.

Explanation video link 1:

https://drive.google.com/file/d/1SRA3ZmvxodiJSLgAFZaOIDdXSHxxyId4/view?usp=sharing

Milestone 4: Data Visualization

Data visualization is the process of creating graphical representations of data to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyze the performance and efficiency of banks include bar charts, line charts, heat maps, scatter plots, pie charts,Maps etc. These visualizations can be used to compare performance, track changes over time, show distribution, and relationships between variables, breakdown of revenue and customer demographics, workload, resource allocation and location of banks.

Activity 1.1 : Top banks according rank and assets

Explanation video link:

https://drive.google.com/file/d/1u6kI3VaxvC3h1tpOn3qpyW6750vahz_p/view?usp=share_link

Activity 1.2: Top banks according to total assets

Explanation video link:
https://drive.google.com/file/d/1wN9-plh7q781Q7U2mBW4U8P2BCF1VRsT/view?usp=share_link

Activity 1.3: Top banks according to country based on total assets

Explanation video link:
https://drive.google.com/file/d/1lz36VGuEN2GQfk3SVUxKfLSV3j7JYDhL/view?usp=share_link

Activity 1.4: Top 10 Countries with assets proportion

Explanation video link:
https://drive.google.com/file/d/1sNB__zur3QyZv_Yyy9RGTSY03yp1qW9G/view?usp=share_link

Activity 1.5 Country with total assets using funnel chart in increasing order

Explanation video link:

https://drive.google.com/file/d/14NMGJzlQLRqpDf6CJIFoW46ILt-mfQ3q/view?usp=share_link

Activity 1.6: Total assets analysis according to year and quarter

Explanation video link:

https://drive.google.com/file/d/15qyllQkgvvTuH85IgiboLaODsX-tqgH5/view?usp=share_link

Milestone 5: Dashboard

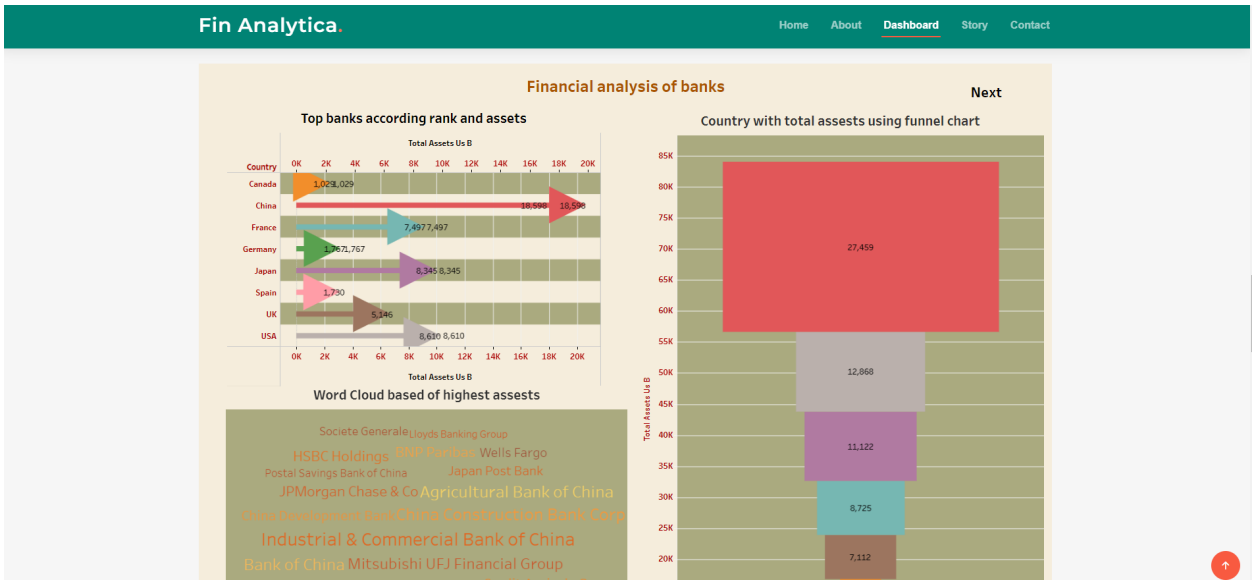
A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity 1- Responsive and Design of Dashboard

Once you have created views on different sheets in Tableau, you can pull them into a dashboard.

Explanation video link:

https://drive.google.com/file/d/1hhFpcwXXxjuUnyuTm-E3eMKdx4ha1DJm/view?usp=share_link



Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, intending to make the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis logically and systematically, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

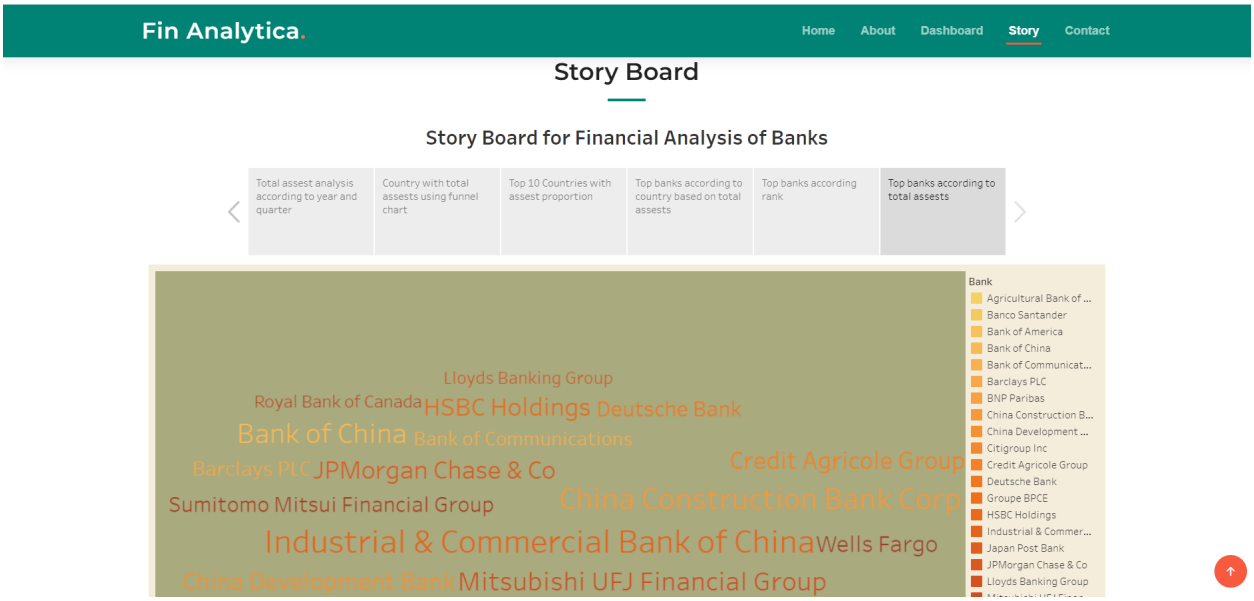
Activity 1- No of Scenes of Story

The number of scenes in a storyboard for a data visualization analysis of the performance of banks will depend on the complexity of the analysis and the

specific insights that are trying to be conveyed. A storyboard is a visual representation of the data analysis process and it breaks down the analysis into a series of steps or scenes.

Explanation video link:

https://drive.google.com/file/d/1ouhFYIcZaI__5iOEouC9o16FOBxs5dW6/view?usp=share_link

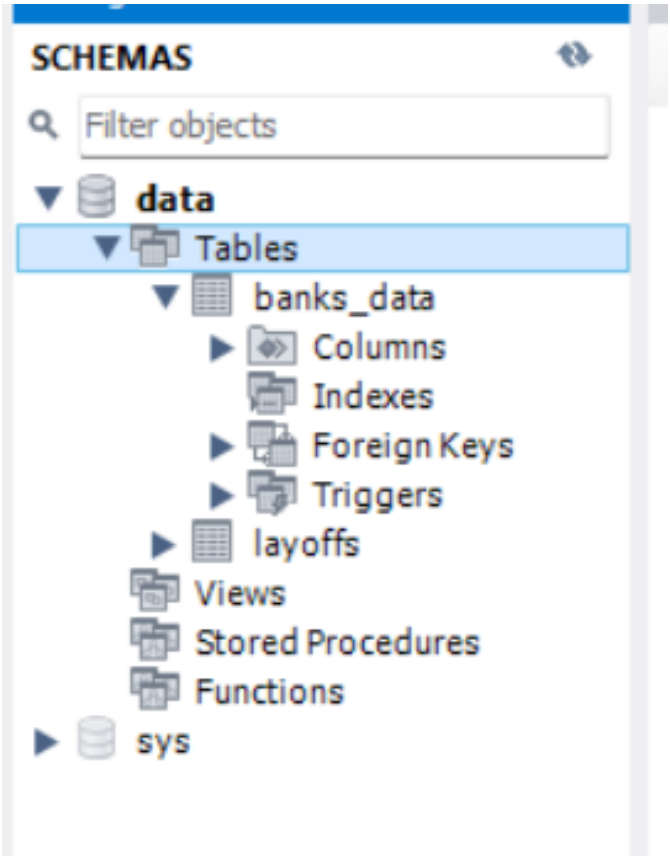


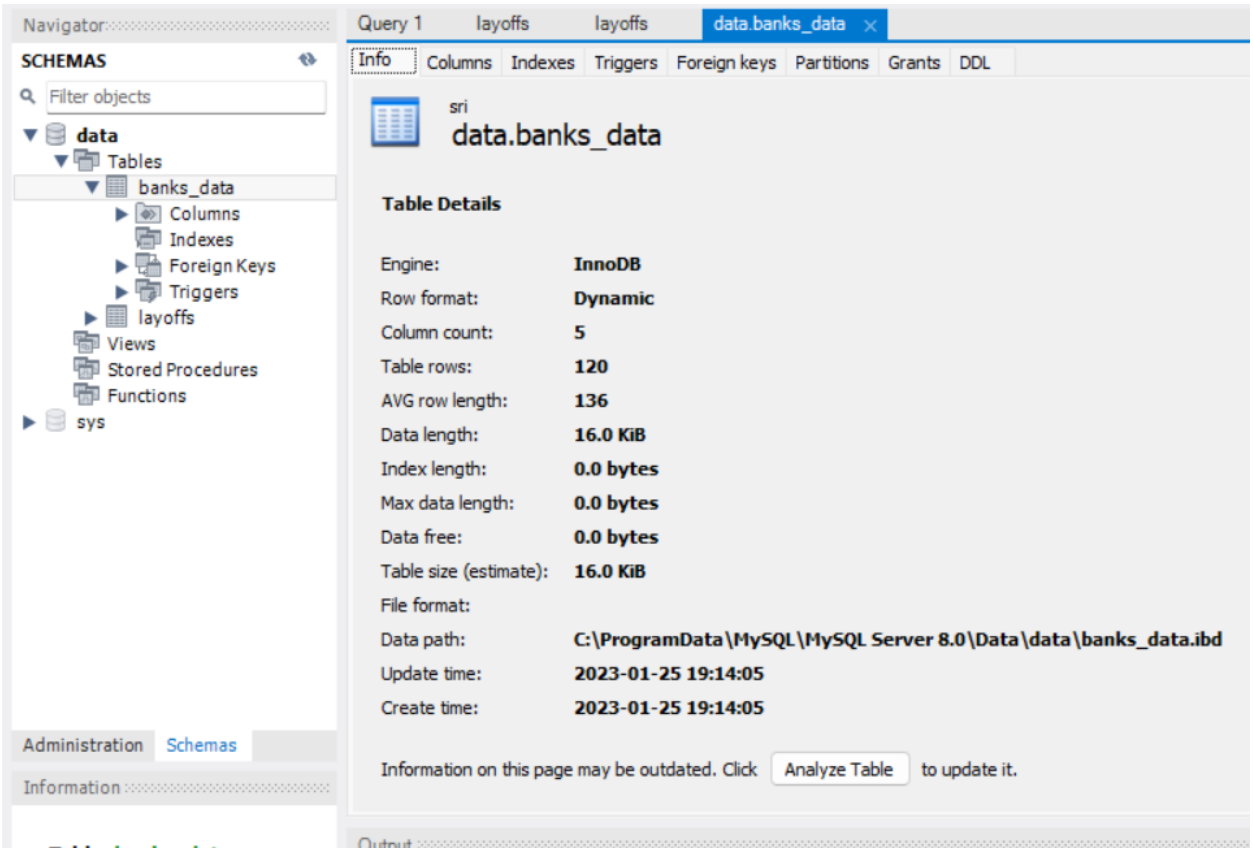
Milestone 7: Performance Testing

Activity 1: Amount of Data Rendered to DB

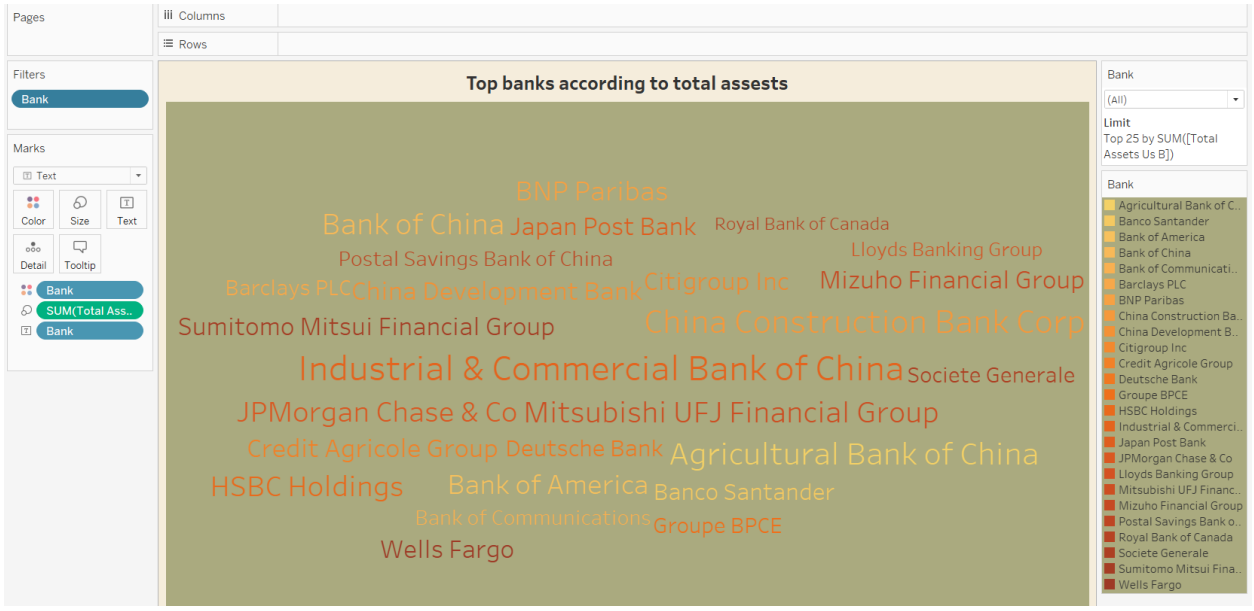
- The amount of data that is rendered to a database depends on the size of the dataset and the capacity of the database to store and retrieve data.

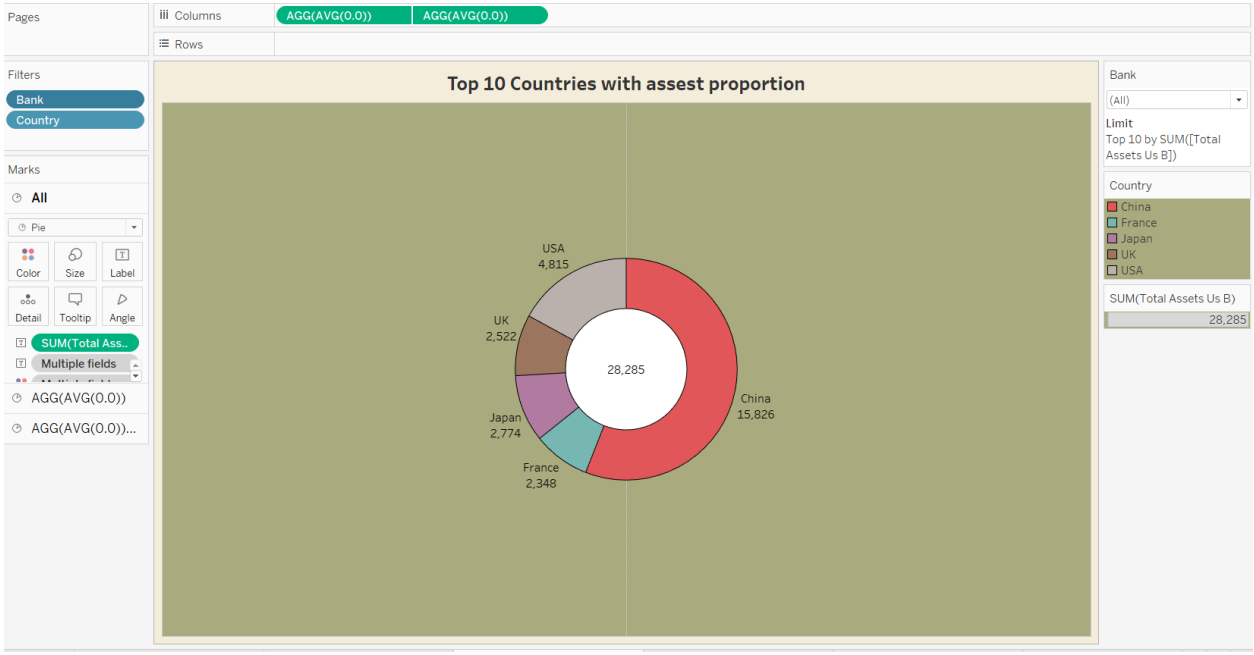
- Open the MySQL Workbench, go to the database then click to expand the tables,select the table and click on (i) button to get the information related to table such as column count,table rows etc.


SCHEMAS
Filter objects
data
Tables
banks_data
Columns
Indexes
Foreign Keys
Triggers
layoffs
Views
Stored Procedures
Functions
sys

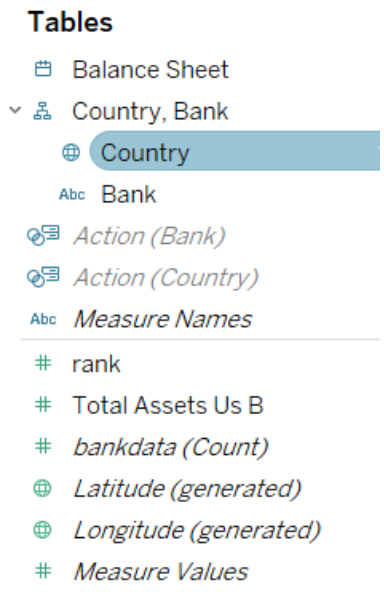


Activity 2: Utilization of Data Filters





Activity 3: No of Calculation Fields



Activity 4: No of Visualizations/ Graphs

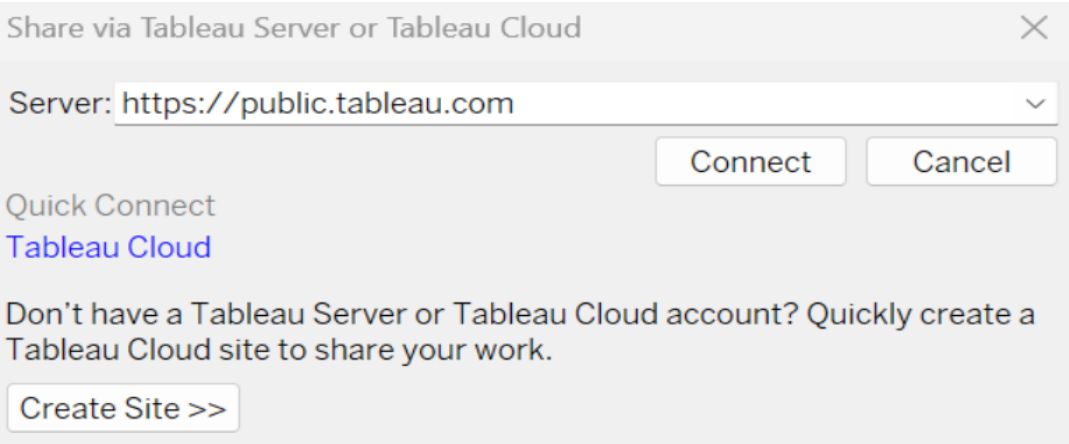
1. Top banks according rank and assets
2. Top banks according to total assets
3. Top banks according to country based on total assets
4. Top 10 Countries with assets proportion
5. Country with total assets using funnel chart in increasing order
6. Total assets analysis according to year and quarter

Milestone 8: Web integration

Publishing helps us to track and monitor key performance metrics and to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

Publishing dashboard and reports to tableau public

Step 1: Go to Dashboard/story, click on the share button on the top ribbon

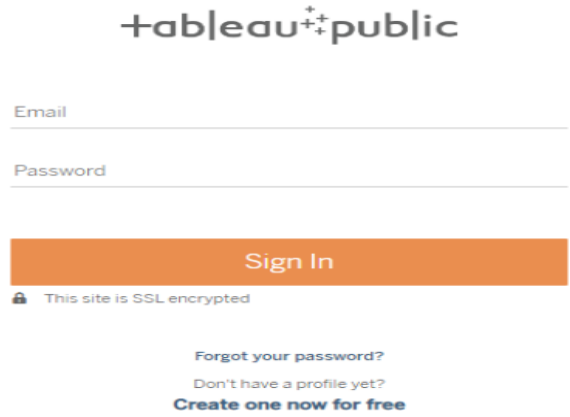


Give the server address of your tableau public account and click on connect.

Explanation Video:-

https://drive.google.com/file/d/1AKAk2hiVyqS3td148uHbxr-Nk-k0uxET/view?usp=sharing

Step 2: Once you click on connect it will ask you for the tableau public username and password



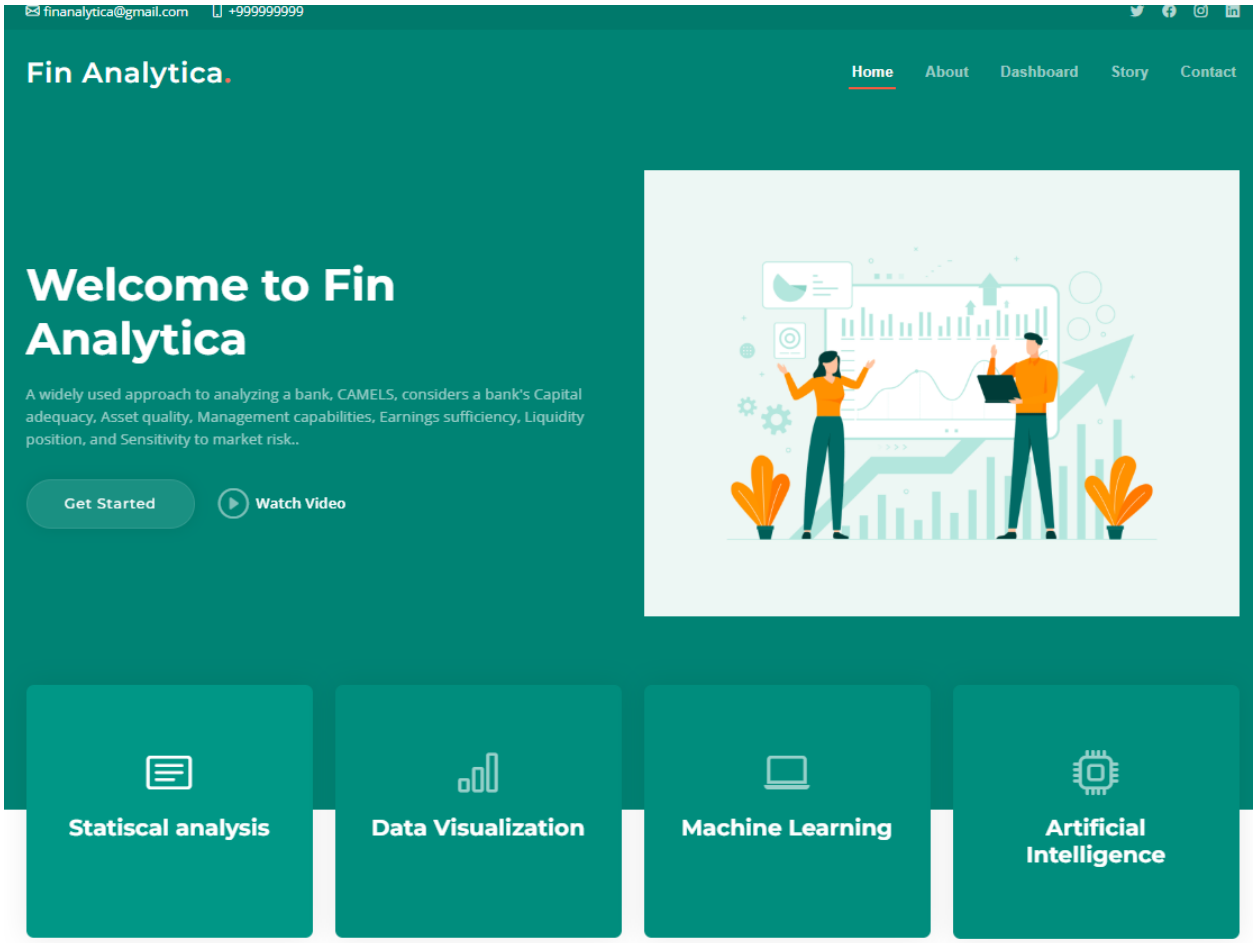
Once you login into your tableau public using the credentials, the particular visualization will be published into the tableau public

Note: While publishing the visualization to the public, the respective sheet will get published when you click on the share option.

Activity 1: Embed Dashboard & Story with Web Bootstrap

Explanation video link:

https://drive.google.com/file/d/1UCDtmXj8FI4bgHeNZs2EZFYuJzVF_gwN/view?usp=sharing



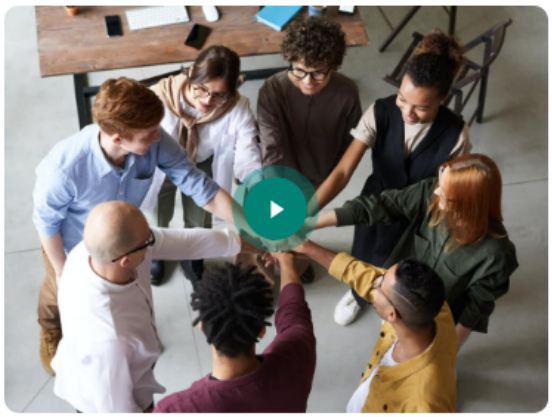
About Us

We provide best Business intelligence solutions to the companies,which makes a strategy for elevating their business in the market

Insight generations through sophasticated tools

We provide business solutions in various domains.

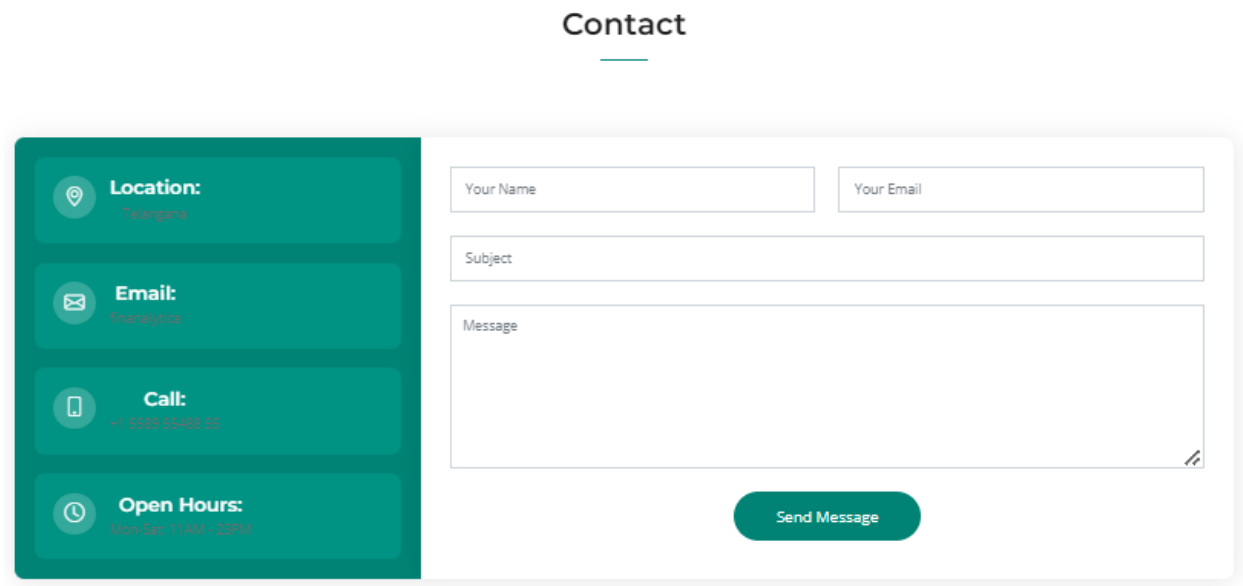
- Insights generations using Business Intelligence.
- Building Data models using Statistics.
- Developing the predictive models.

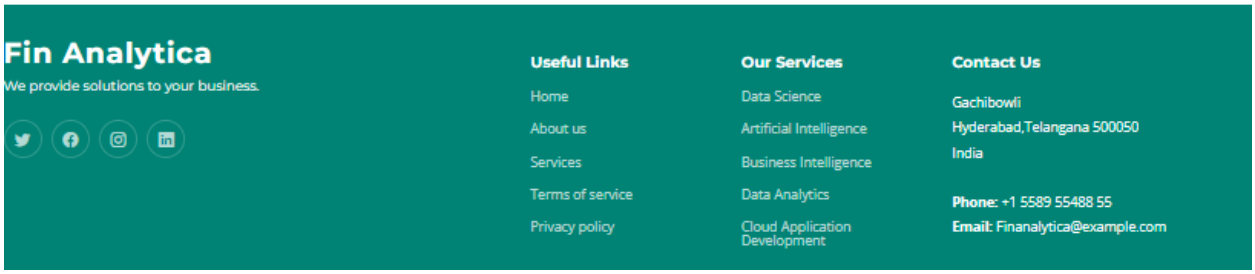


1000000 **Students** has Succesfully trained

300 **Projects** has been developed

10000 **Hours Of Support** has been delivered





Milestone 9: Project Demonstration & Documentation

Below mentioned deliverables to be submitted along with other deliverables

Activity 1:- Record explanation Video for the project's end-to-end solution

Activity 2:- Project Documentation-Step by step project development procedure

Create document as per the template provided