Measuring the Pulse of Prosperity: An Index of EconomicFreedom Analysis

Milestone 1: Define Problem / Problem Understanding

Activity 1: Specify the business problem

Economic freedom is the fundamental right of every human to control his or her ownlabor and property. In an economically free society, individuals are free to work, produce, consume, and invest in any way they please. In economically free societies, governments allow labor, capital, and goods to move freely, and refrain from coercion or constraint of liberty beyond the extent necessary to protect and maintain liberty itself.

For much of human history, most individuals have lacked economic freedom andopportunity, condemning them to poverty and deprivation.

Today, we live in the most prosperous time in human history. Poverty, sicknesses, and ignorance are receding throughout the world, due in large part to the advance ofeconomic freedom. In 2022, the principles of economic freedom that have fueled thismonumental progress are once again measured in the Index of Economic Freedom, an annual guide published by The Heritage Foundation, Washington's No. 1 think tank.

We measure economic freedom based on 12 quantitative and qualitative factors,grouped into four broad categories, or pillars, of economic freedom:

1) Rule of law property rights, government integrity, judicial effectiveness)
2) Government size (government spending, tax burden, fiscal health)
3) Regulatory efficiency (business freedom, labor freedom, monetary freedom)
4) Open markets (trade freedom, investment freedom, financial freedom)

Technical Architectur

Activity 2: Business requirements

The business requirements for this project would likely include the creation of an index or metric that measures the level of economic freedom in a given country or region. This index would likely be based on a variety of factors such as the size and role

of government, the level of regulation, the freedom of trade and investment, and the property rights and rule of law. The index would then be used to compare the economic freedom of different countries and regions, and to identify trends and patterns over time. The final outcome of this project would be a report or publication that presents the findings of the analysis and provides recommendations for policy and economic development.

Activity 3: Literature Survey (Student Will Write)

A literature survey for a project on "Measuring the Pulse of Prosperity: An Index of Economic Freedom Analysis" would involve researching and reviewing existing studies and literature on economic freedom and its impact on prosperity. This could include looking at different indexes and measurements of economic freedom, as well as studying the correlation between economic freedom and measures of prosperity such as GDP growth, income inequality, and quality of life indicators. The literature survey may also examine the ways in which economic freedom can be promoted and sustained, as well as any potential challenges or criticisms of the concept of economic freedom. It would also be important to review any case studies or real world examples of the impact of economic freedom on prosperity.

Activity 4: Social or Business Impact.

Social Impact: A high level of economic freedom is usually associated with higher standards of living, more opportunities for individuals to improve their economic status, and greater access to goods and services.

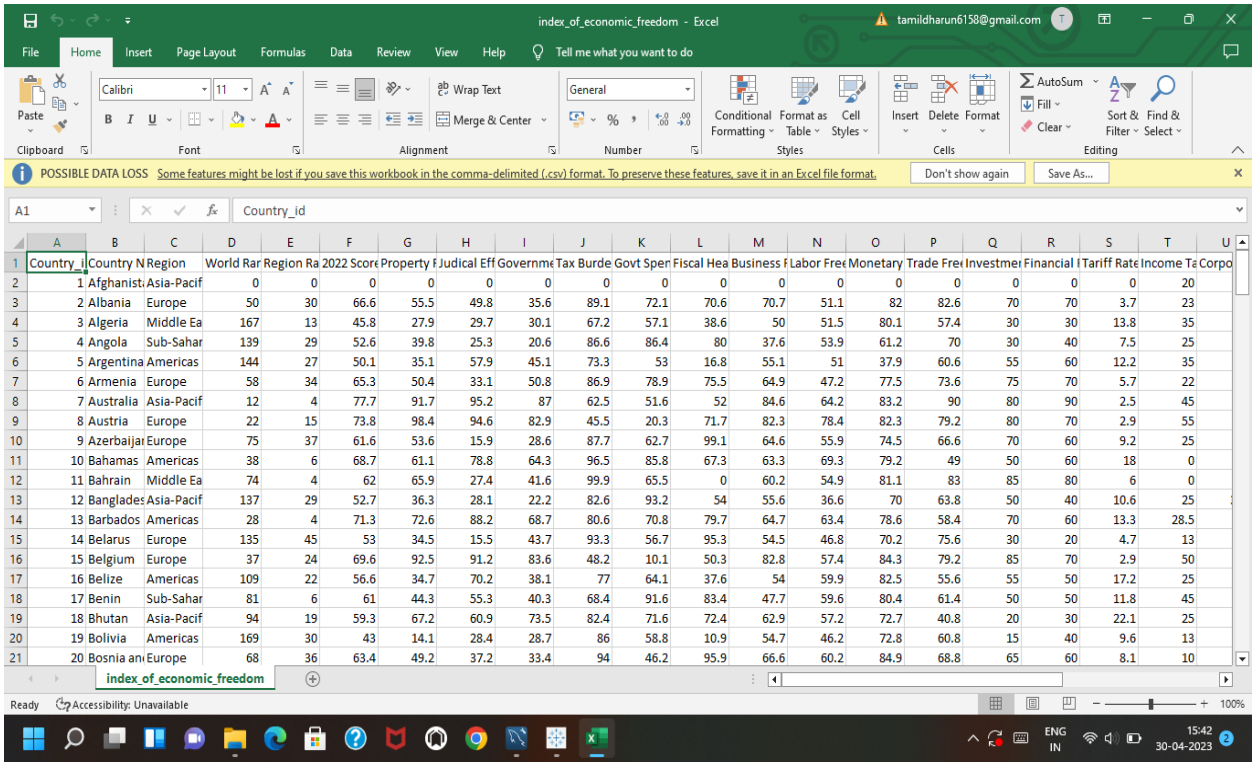
Business Model/Impact: a high level of economic freedom would likely indicatea more favourable business environment

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, and evaluate outcomes and

generate insights from the data.

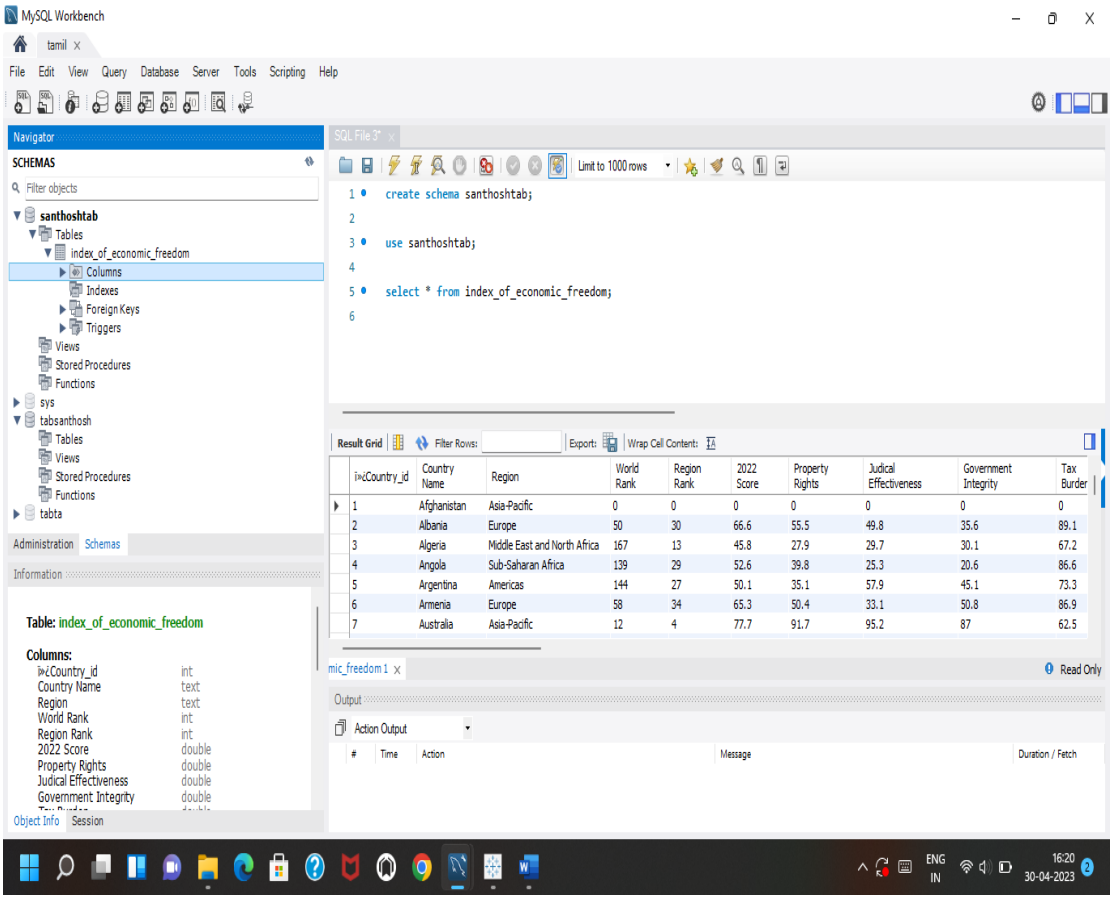
Activity 1: Collect the dataset



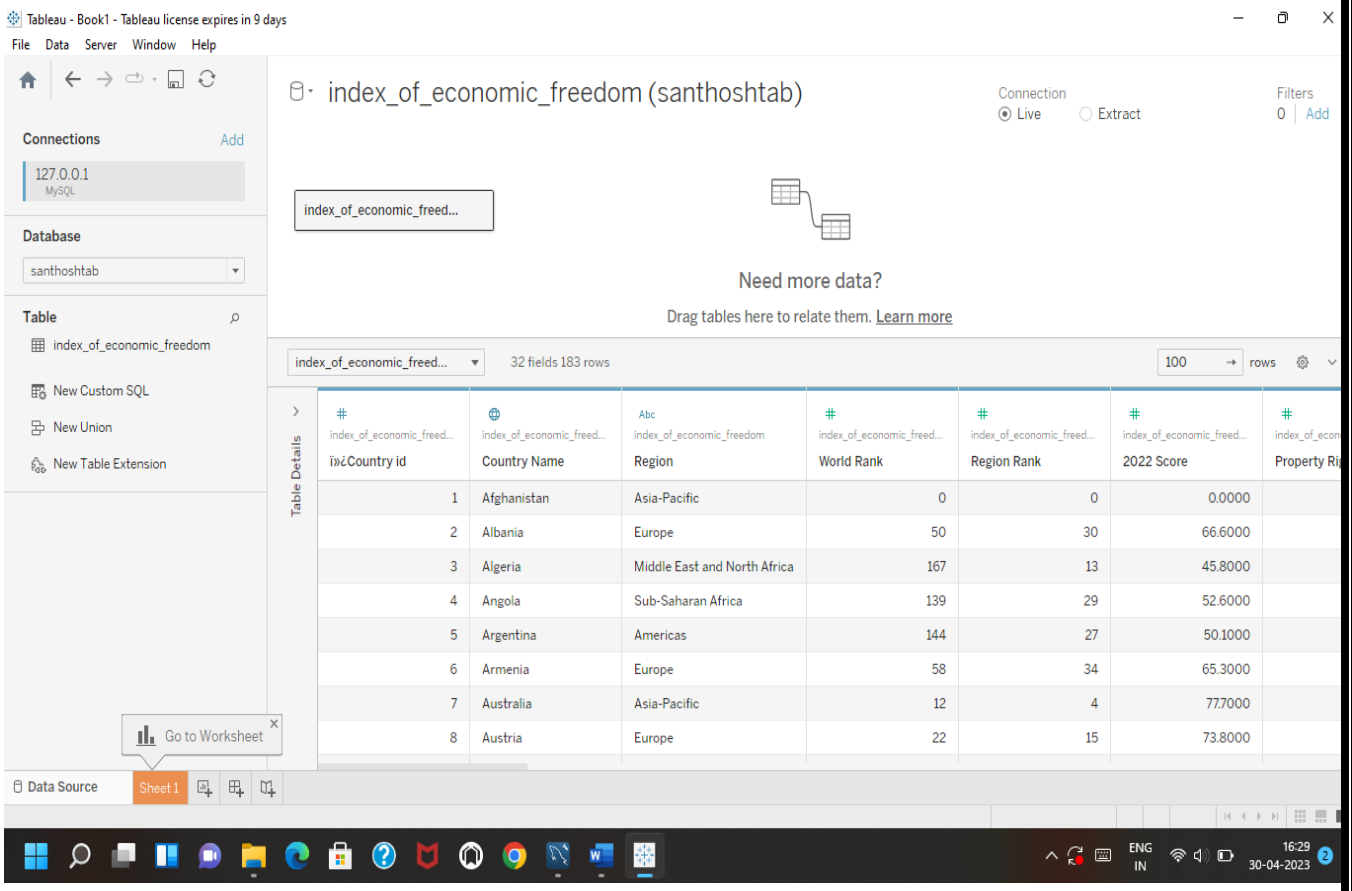
Country_id	Country N	Region	World Rar	Region Ra	2022 Score	Property F	Judical Eff	Governme	Tax Burde	Govt Sper	Fiscal Hea	Business F	Labor Free	Monetary	Trade Fre	Investmer	Financial I	Tariff Rate	Income Ta	Corpo
1	Afghanist	Asia-Pacif	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	
2	Albania	Europe	50	30	66.6	55.5	49.8	35.6	89.1	72.1	70.6	70.7	51.1	82	82.6	70	70	3.7	23	
3	Algeria	Middle Ea	167	13	45.8	27.9	29.7	30.1	67.2	57.1	38.6	50	51.5	80.1	57.4	30	30	13.8	35	
4	Angola	Sub-Sahar	139	29	52.6	39.8	25.3	20.6	86.6	86.4	80	37.6	53.9	61.2	70	30	40	7.5	25	
5	Argentina	Americas	144	27	50.1	35.1	57.9	45.1	73.3	53	16.8	55.1	51	37.9	60.6	55	60	12.2	35	
6	Armenia	Europe	58	34	65.3	50.4	33.1	50.8	86.9	78.9	75.5	64.9	47.2	77.5	73.6	75	70	5.7	22	
7	Australia	Asia-Pacif	12	4	77.7	91.7	95.2	87	62.5	51.6	52	84.6	64.2	83.2	90	80	90	2.5	45	
8	Austria	Europe	22	15	73.8	98.4	94.6	82.9	45.5	20.3	71.7	82.3	78.4	82.3	79.2	80	70	2.9	55	
9	Azerbaijar	Europe	75	37	61.6	53.6	15.9	28.6	87.7	62.7	99.1	64.6	55.9	74.5	66.6	70	60	9.2	25	
10	Bahamas	Americas	38	6	68.7	61.1	78.8	64.3	96.5	85.8	67.3	63.3	69.3	79.2	49	50	60	18	0	
11	Bahrain	Middle Ea	74	4	62	65.9	27.4	41.6	99.9	65.5	0	60.2	54.9	81.1	83	85	80	6	0	
12	Banglades	Asia-Pacif	137	29	52.7	36.3	28.1	22.2	82.6	93.2	54	55.6	36.6	70	63.8	50	40	10.6	25	
13	Barbados	Americas	28	4	71.3	72.6	88.2	68.7	80.6	70.8	79.7	64.7	63.4	78.6	58.4	70	60	13.3	28.5	
14	Belarus	Europe	135	45	53	34.5	15.5	43.7	93.3	56.7	95.3	54.5	46.8	70.2	75.6	30	20	4.7	13	
15	Belgium	Europe	37	24	69.6	92.5	91.2	83.6	48.2	10.1	50.3	82.8	57.4	84.3	79.2	85	70	2.9	50	
16	Belize	Americas	109	22	56.6	34.7	70.2	38.1	77	64.1	37.6	54	59.9	82.5	55.6	55	50	17.2	25	
17	Benin	Sub-Sahar	81	6	61	44.3	55.3	40.3	68.4	91.6	83.4	47.7	59.6	80.4	61.4	50	50	11.8	45	
18	Bhutan	Asia-Pacif	94	19	59.3	67.2	60.9	73.5	82.4	71.6	72.4	62.9	57.2	72.7	40.8	20	30	22.1	25	
19	Bolivia	Americas	169	30	43	14.1	28.4	28.7	86	58.8	10.9	54.7	46.2	72.8	60.8	15	40	9.6	13	
20	Bosnia an	Europe	68	36	63.4	49.2	37.2	33.4	94	46.2	95.9	66.6	60.2	84.9	68.8	65	60	8.1	10	

Activity 1.1: Understand the data

Activity 2: Storing Data in DB & Perform SQL Operations



Activity 3: Connect DB with Tableau



Milestone 3: Data Preparation

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missingdata, 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.

Milestone 4: Data Visualization

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 inthe form of charts, graphs, and tables.

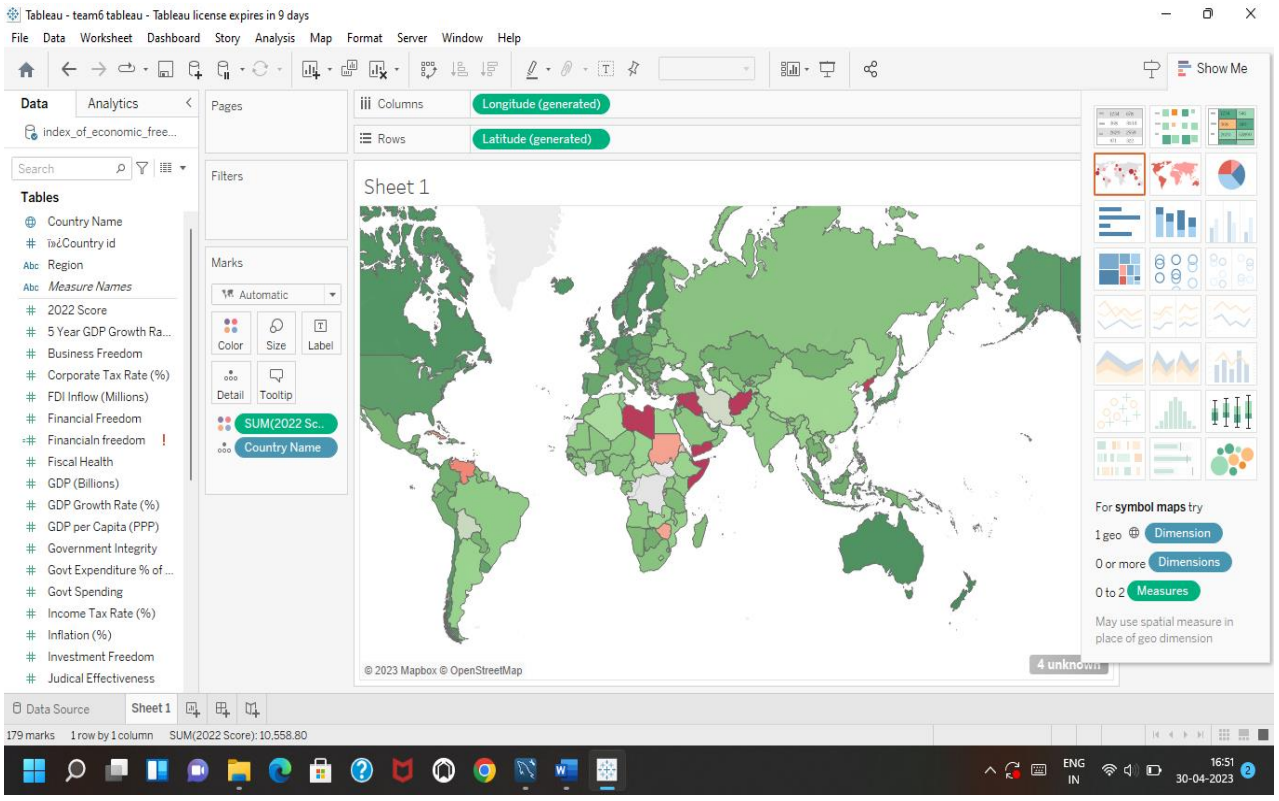
Activity :1- Responsive and Design of Dashboard

Data visualization is the process of creating graphical representations of data in order to help people understand and explore the information. The goal of data visualization is to make complex data setsmore 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.

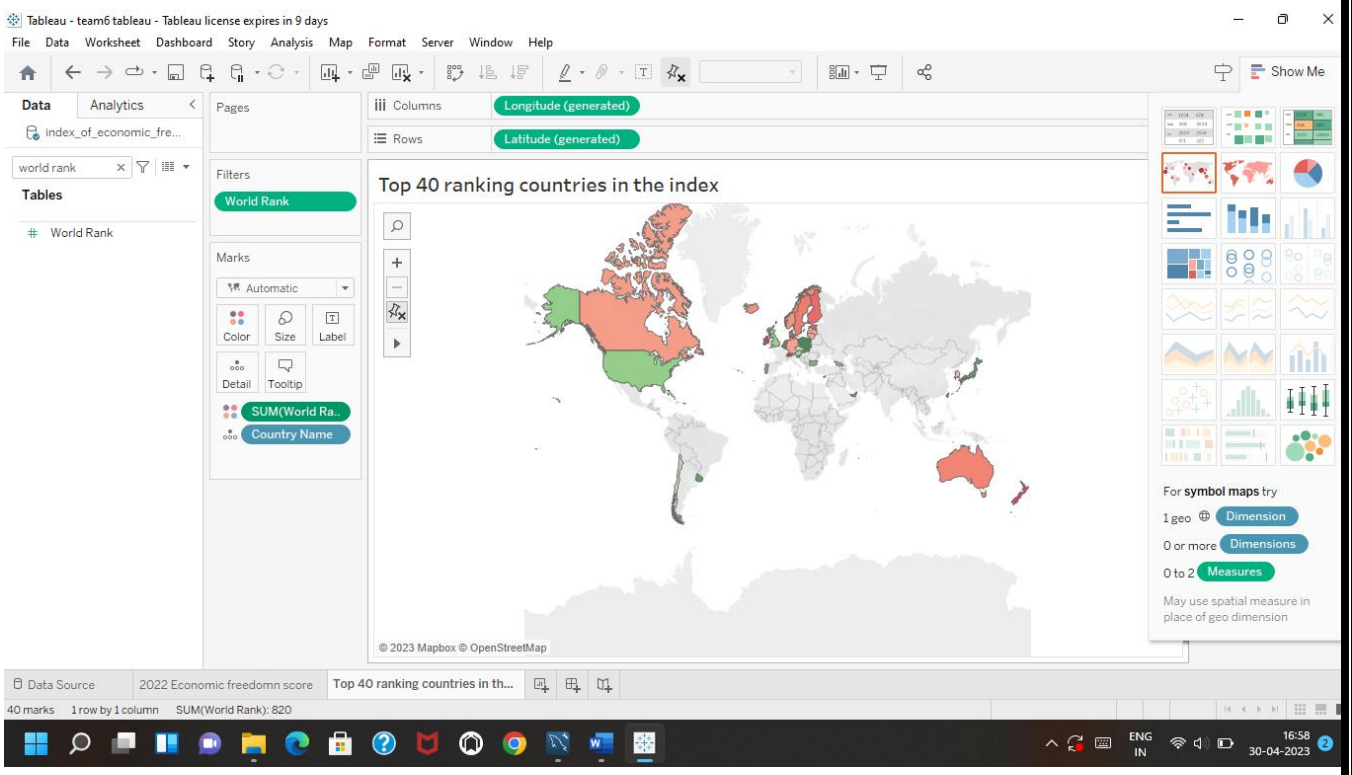
Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some commontypes of visualizations that can be used to analyse the index of economic freedom 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,

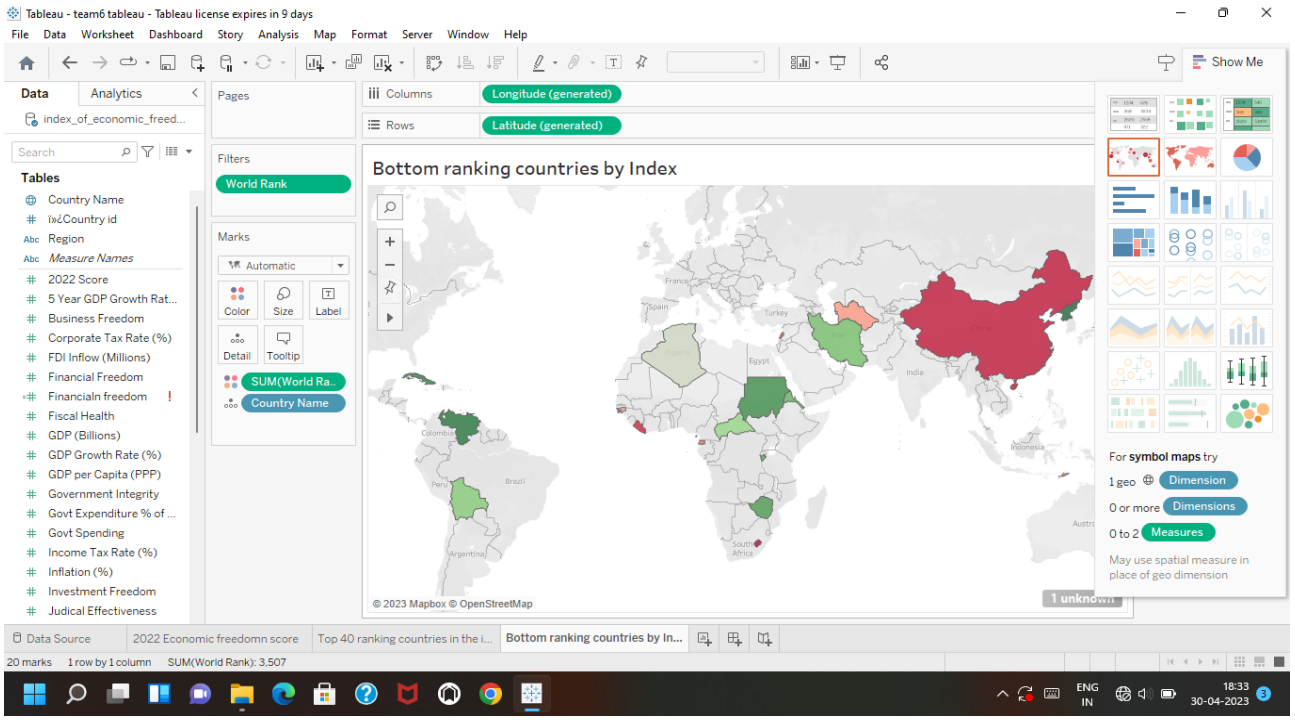
Activity 1.1: 2022 Economic freedom score



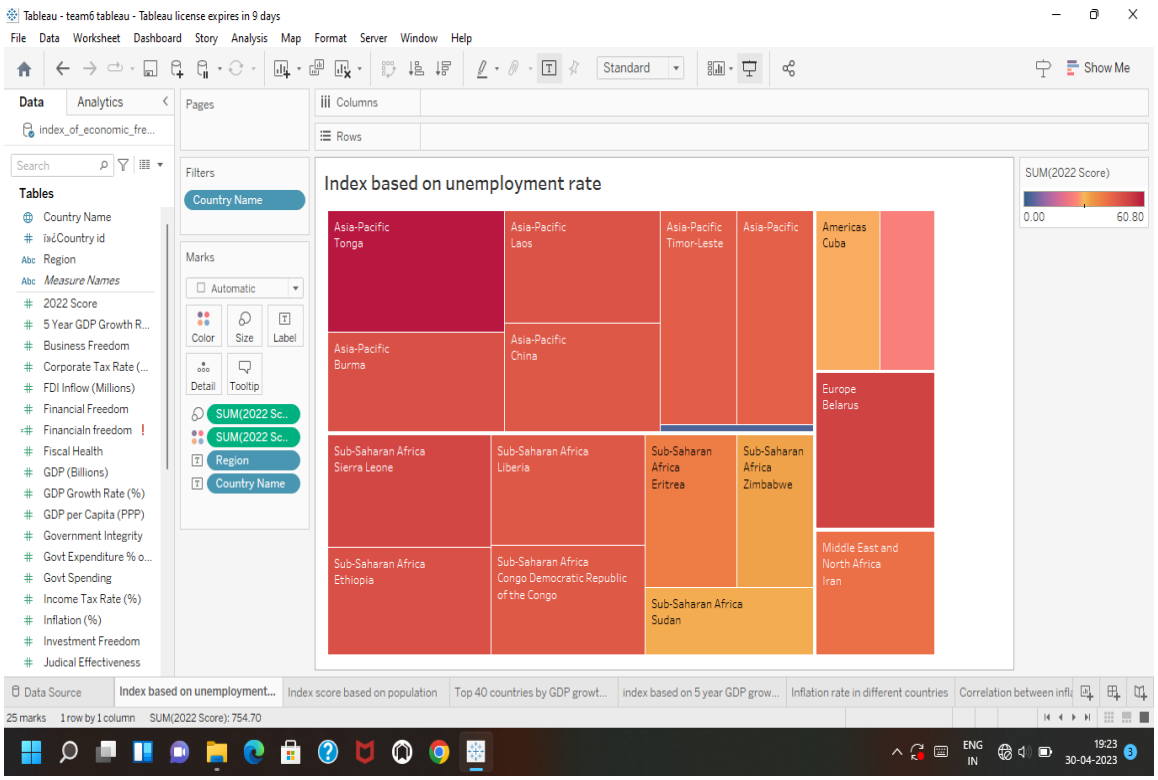
Activity 1.2: Top 40 ranking countries in the index



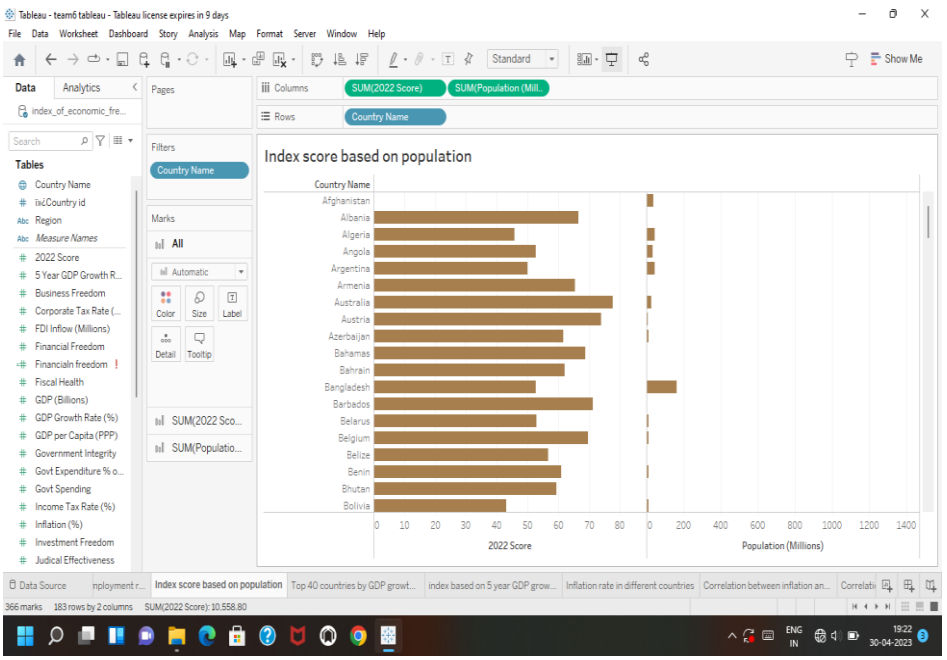
Activity 1.3: Bottom ranking countries by index



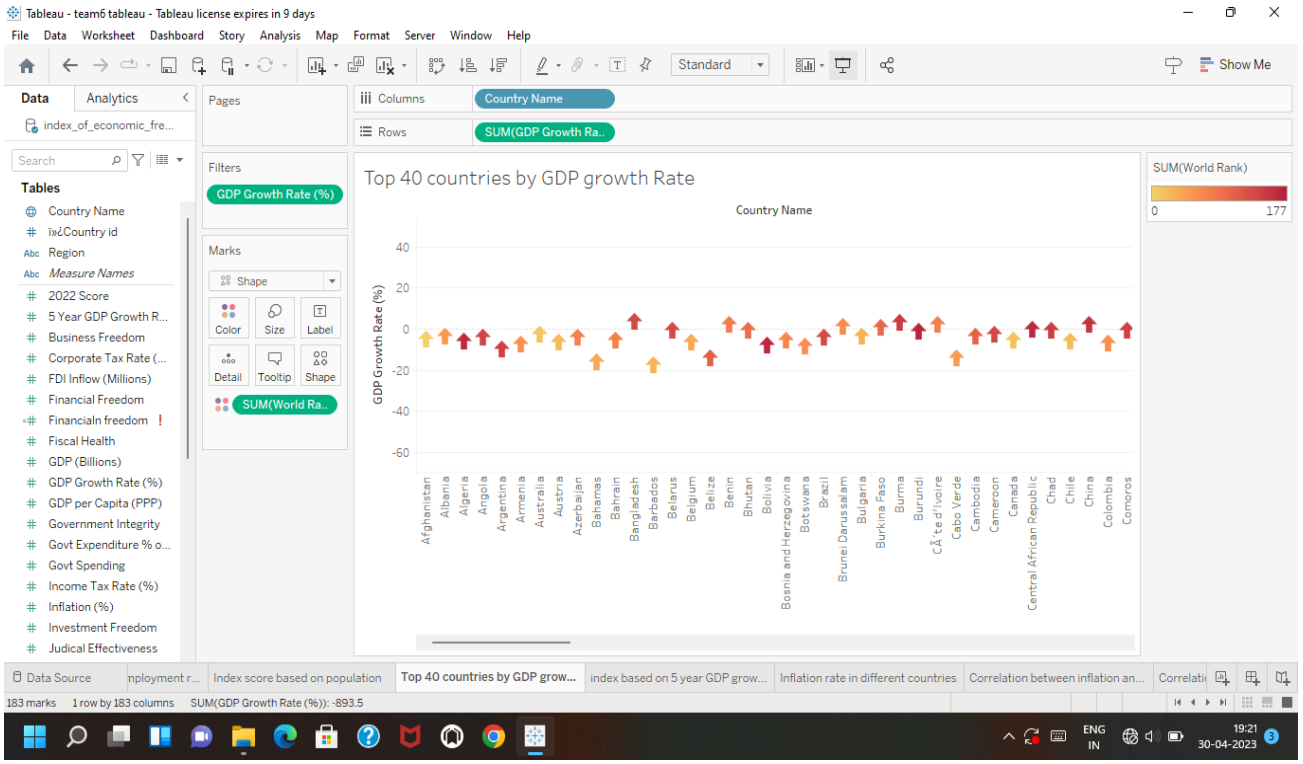
Activity 1.5: Index score based on financial freedomExplanation



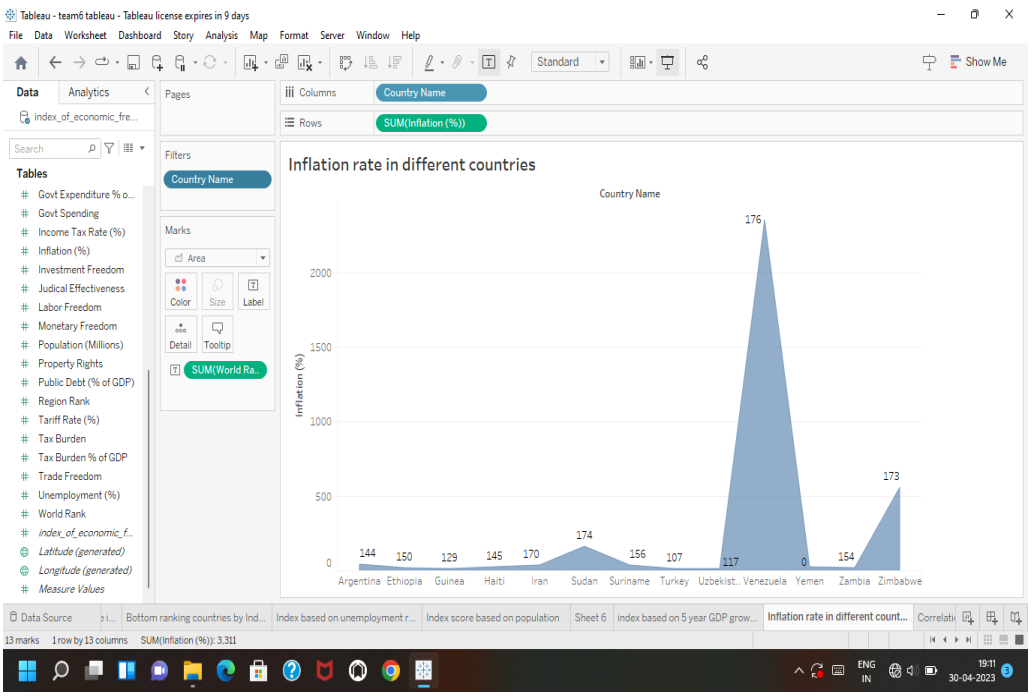
Activity 1.6: Index score based on population



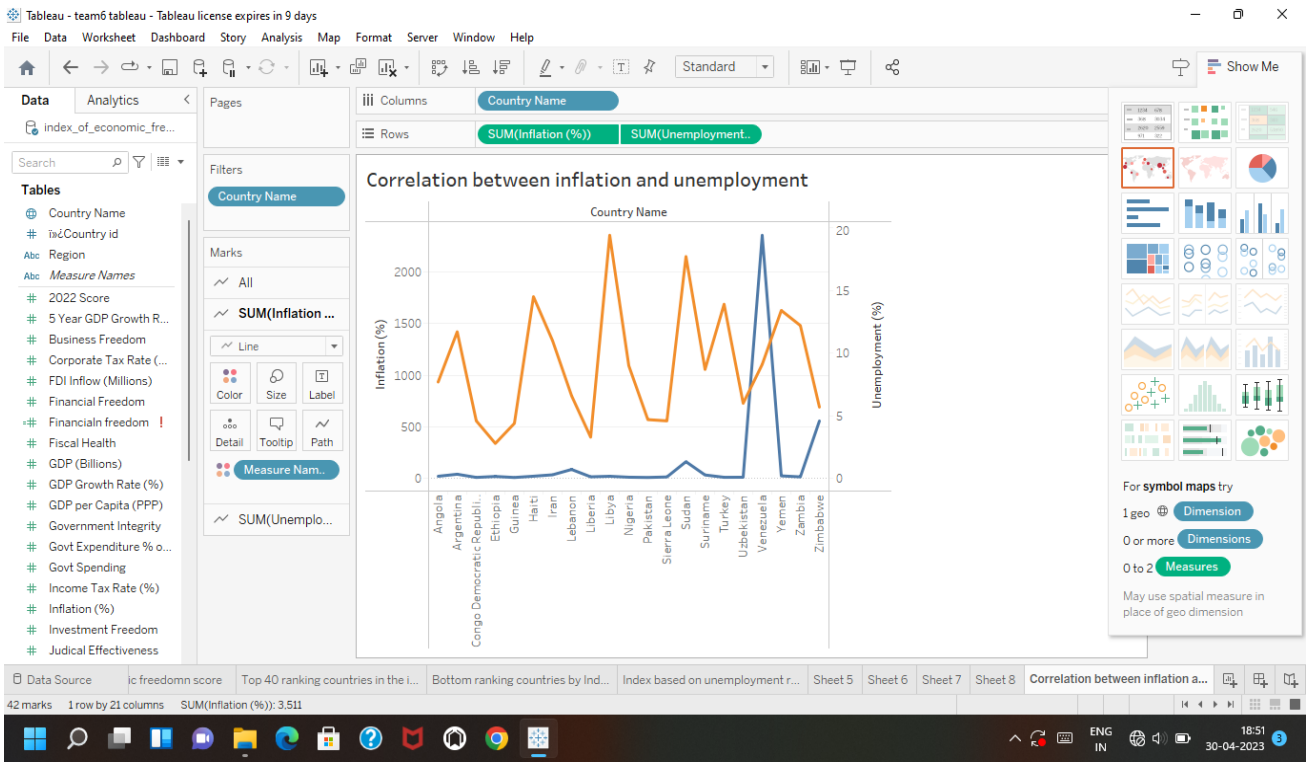
Activity 1.7: Index score based on 5 year GDP growth rate(%)



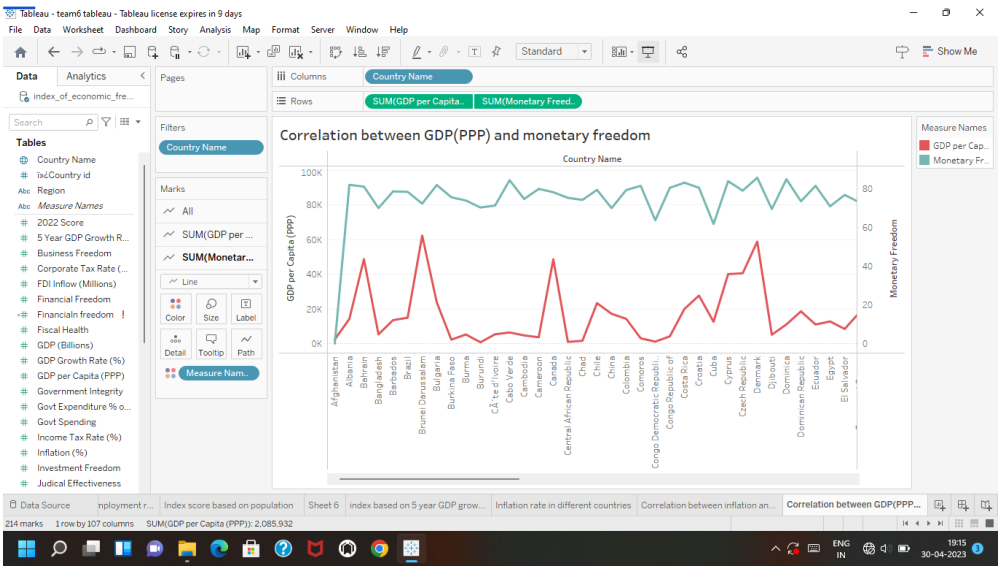
Activity 1.8: Inflation rate in different countries



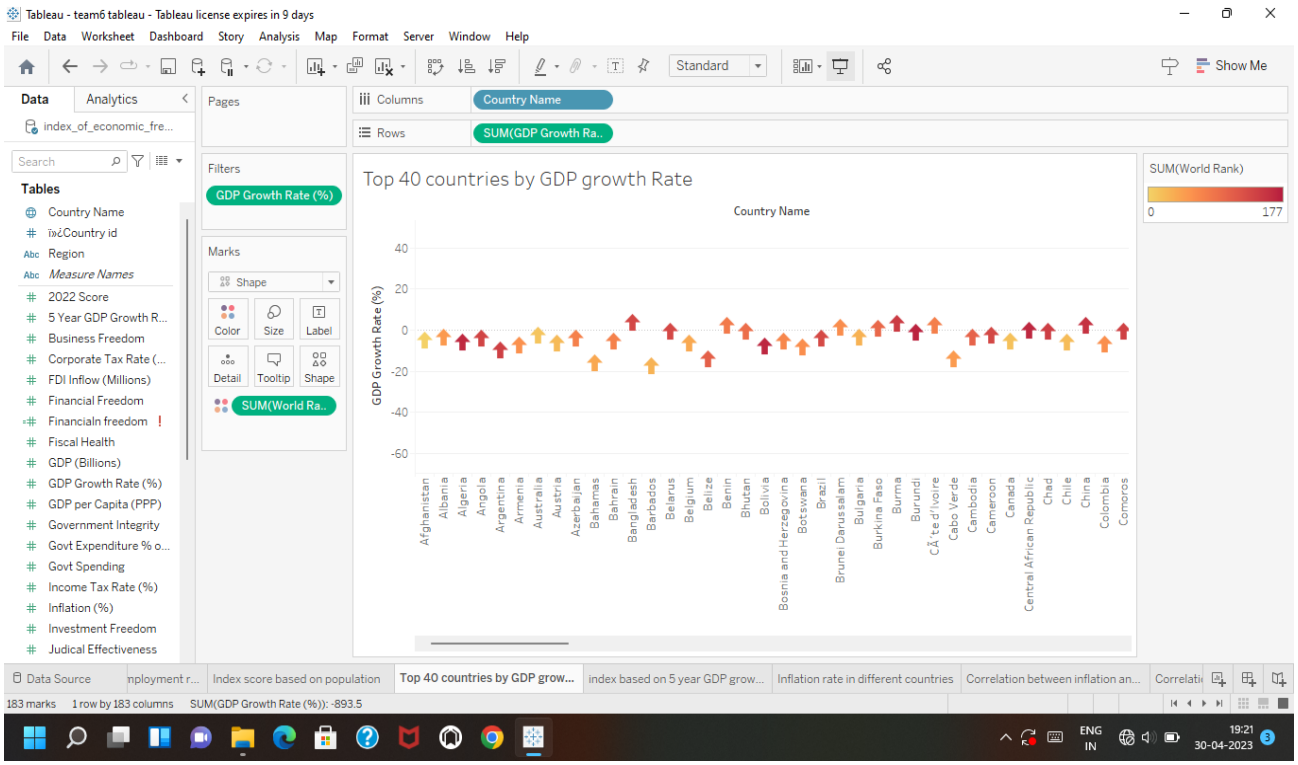
Activity 1.9: Correlation between inflation & unemployment



Activity 1.10: Correlation between GDP(PPP) & Monetary freedom



Activity 1.11: Top 40 countries by GDP rate



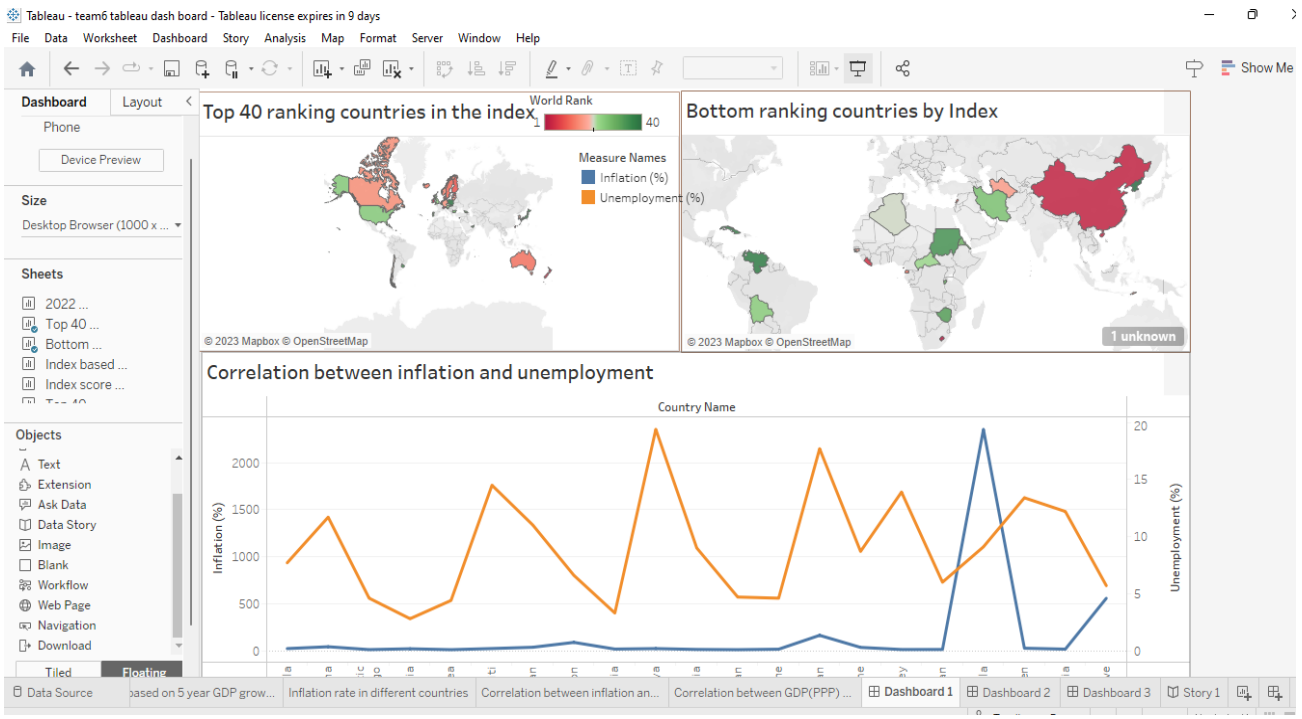
Milestone 5: Dashboard

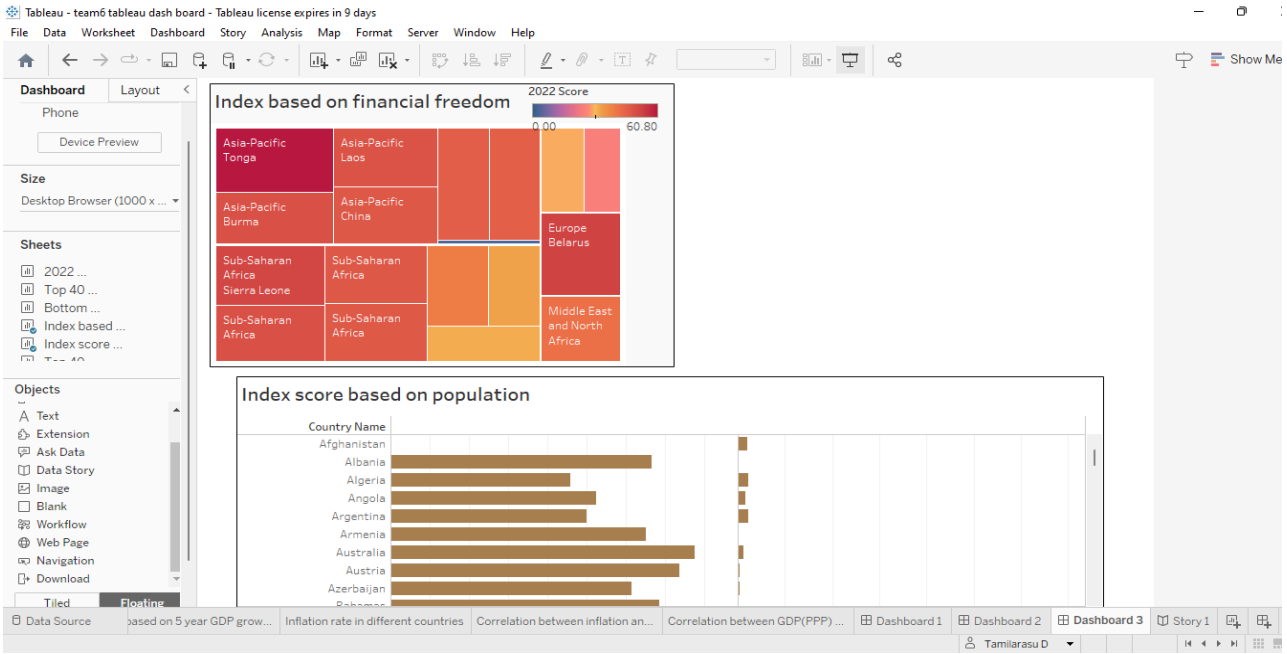
A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data, and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of 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 inthe form of charts, graphs, and tables.

Activity :1- Responsive and Design of Dashboard

The responsiveness and design of a dashboard for analysing the index of economic freedom is crucial to ensure that the information is easily understandable and actionable. Key considerations for designing a responsive and effective dashboard include user-centered design, clear and concise information, interactivity, data-driven approach, accessibility, customization, and security. The goal is to create a dashboard that is user-friendly, interactive, and data-driven, providing actionable insights

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



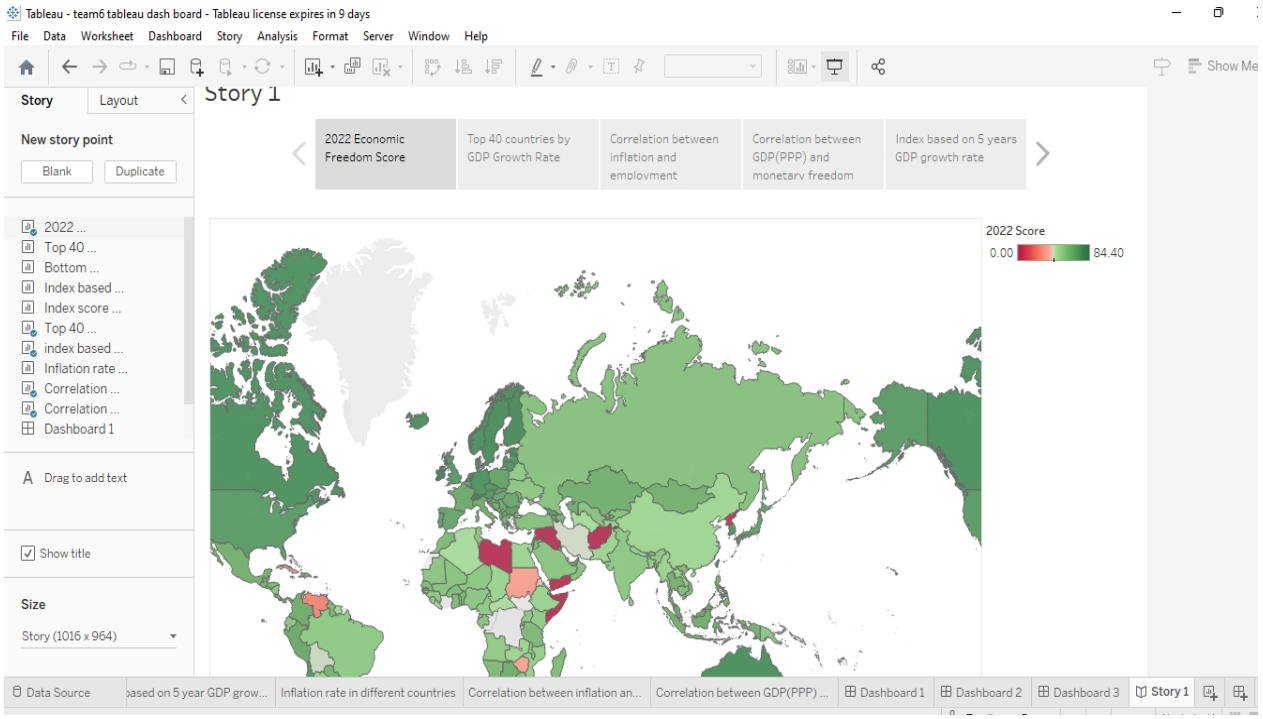


Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, with the goal of making theinformation 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 in a logical and systematic way, 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 index of economic freedom 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.

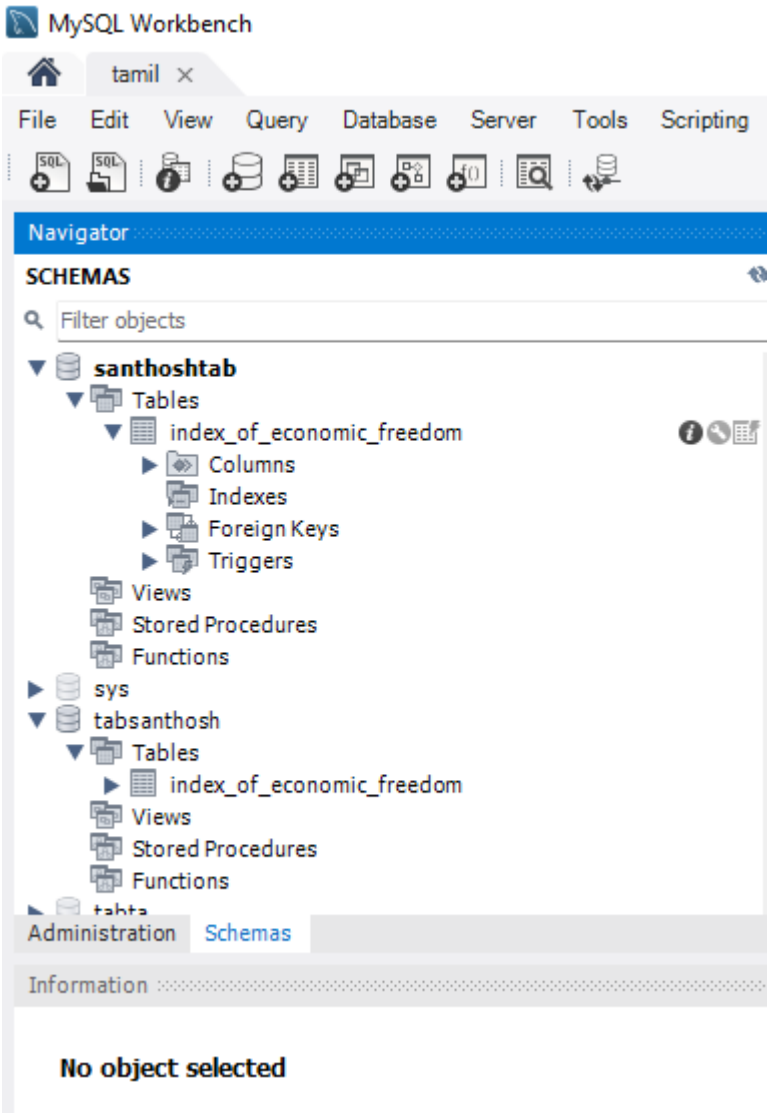


Milestone 7: Performance Testing

Activity 1: Amount of Data Rendered to DB

- The amount of data that is rendered to a database depends on the size of thedataset 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.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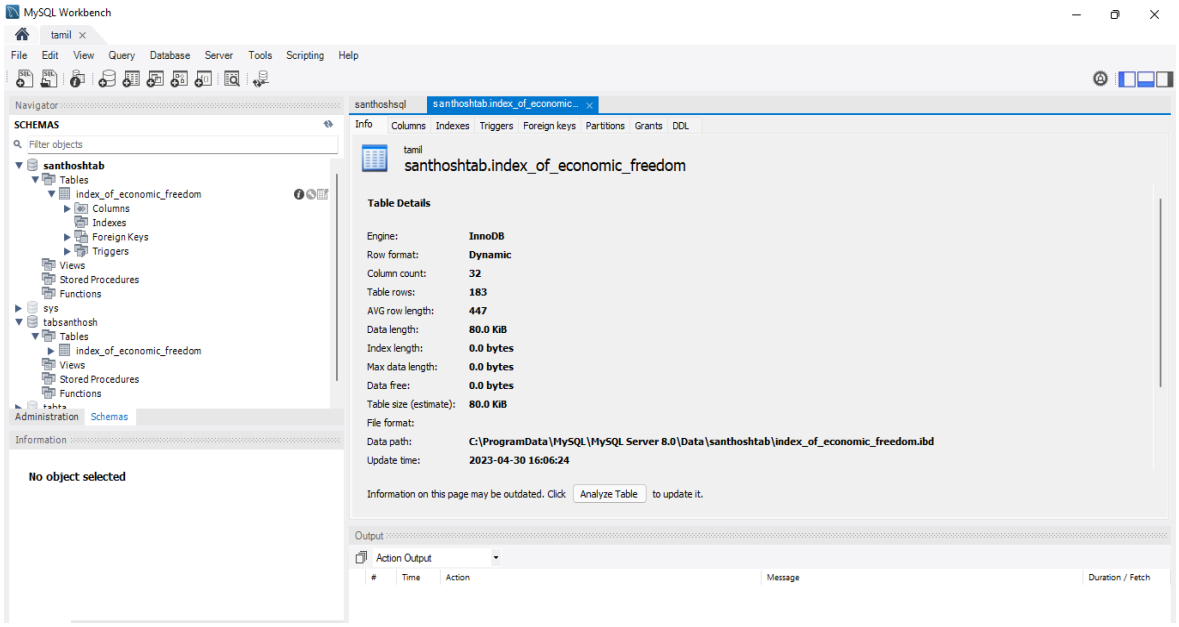
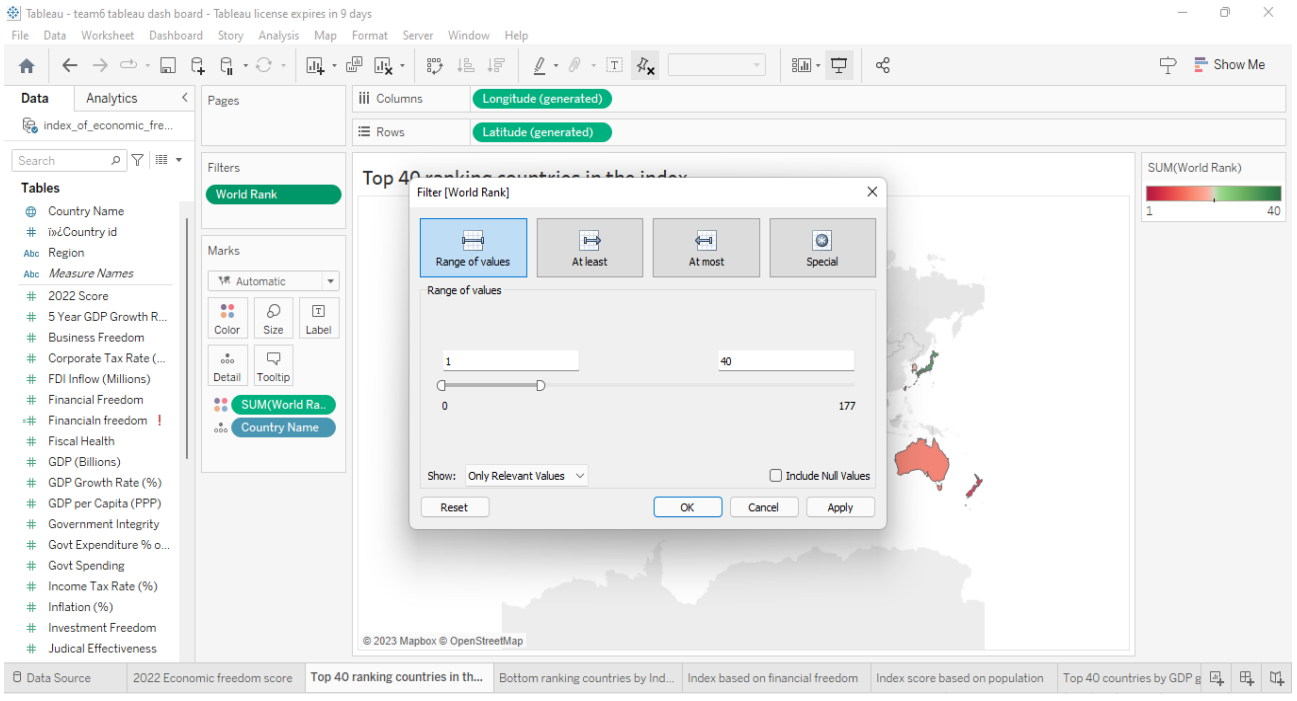
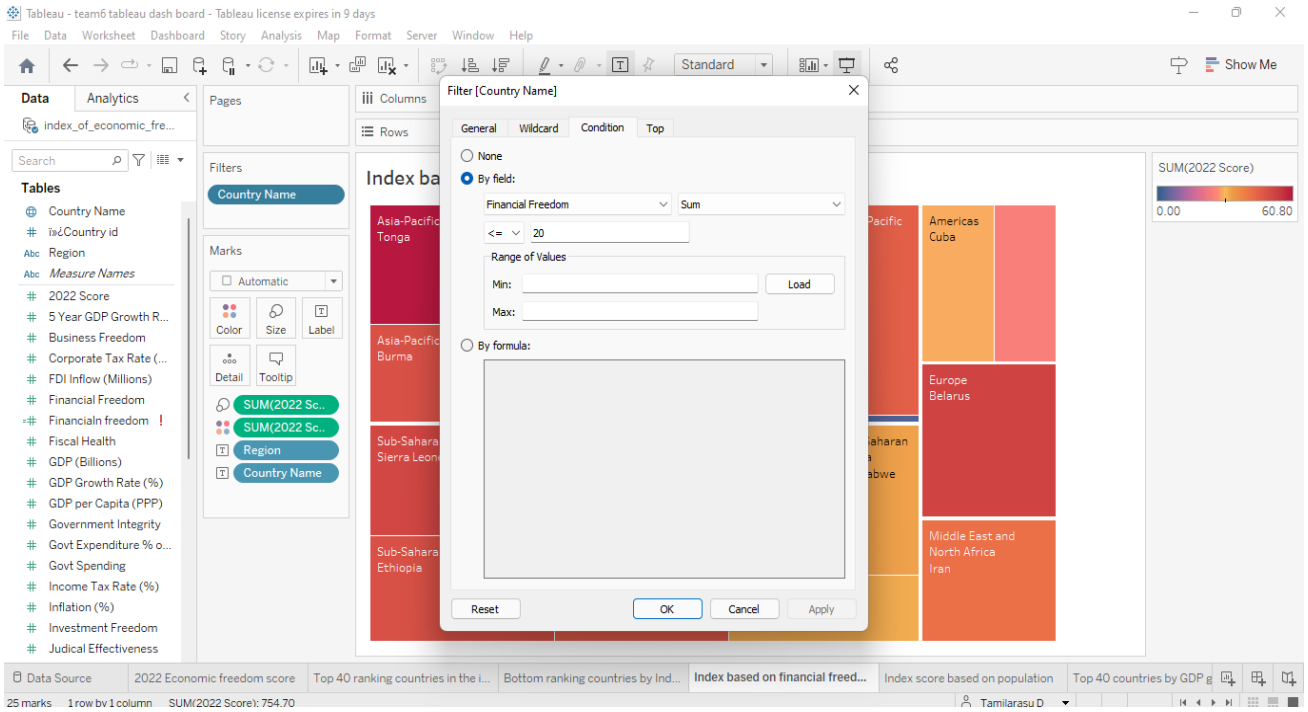


Activity 2: Utilization of Data Filters





Activity 3: No of Calculation Fields

Activity 4: No of Visualizations/ Graphs

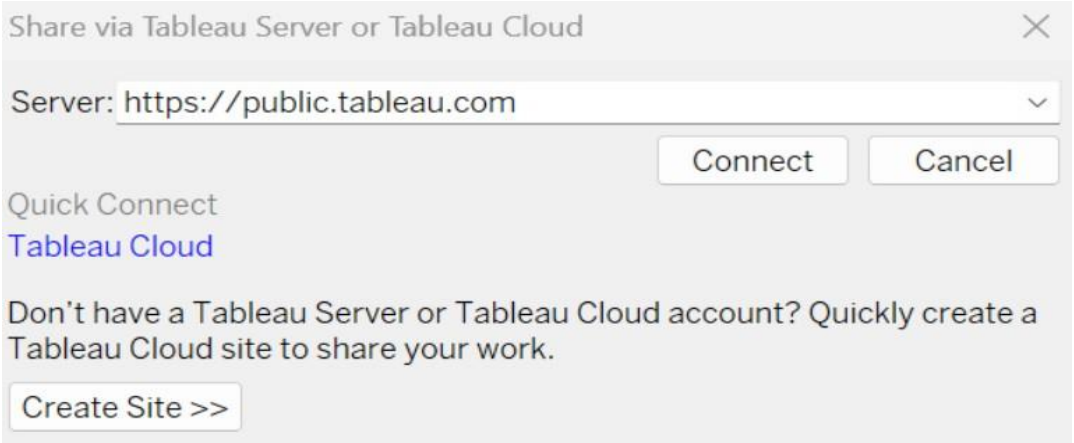
1. 2022 economic freedom score
2. Top 40 ranking countries
3. Bottom ranking countries
4. Index score based on unemployment
5. Index score based on financial freedom
6. Index score based on population
7. Index score based on 5 year GDP growth rate(%)
8. Inflation rate in different countries
9. Correlation between inflation and unemployment
10. Correlation between GDP(PPP) & Unemployment
11. Top 40 countries by GDP growth rate

Milestone 8: Web integration

Publishing helps us to track and monitor key performance metrics, 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 share button on the top ribbon



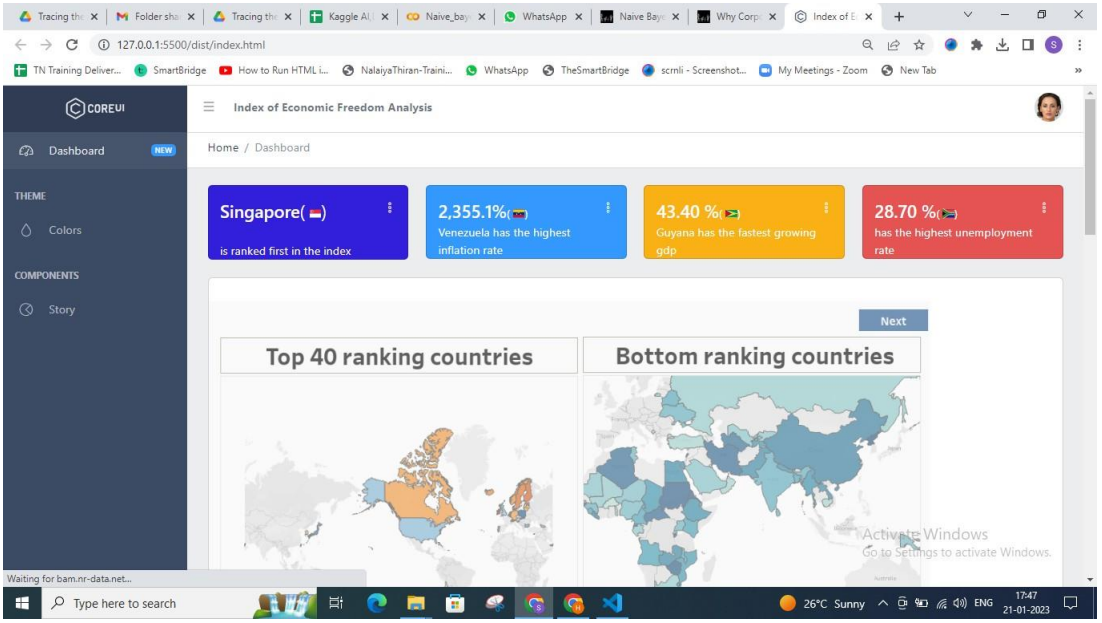
Give the server address of your tableau public account and click on connect.

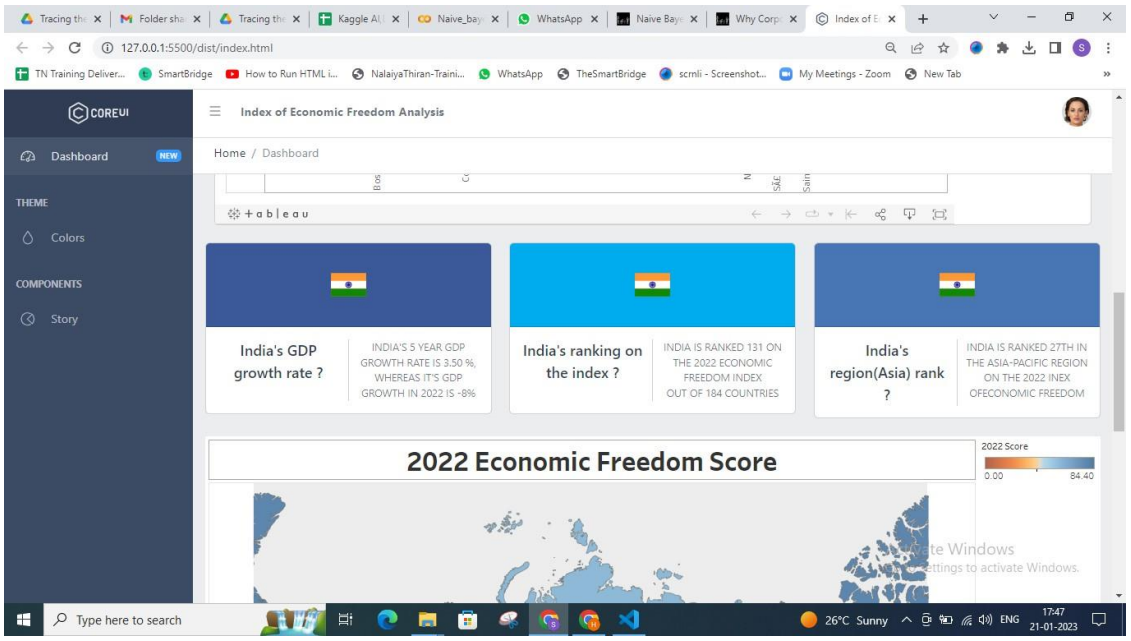
Step 2: Once you click on connect it will ask you for tableau public user name and password

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

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

Activity 1: Dashboard and Story embed with UI With Flask




127.0.0.1:5500/dist/index.html
COREUI
Dashboard
NEW
THEME
Colors
COMPONENTS
Story
Index of Economic Freedom Analysis
Home / Dashboard
India's GDP growth rate ?
INDIA'S 5 YEAR GDP GROWTH RATE IS 3.50 %, WHEREAS IT'S GDP GROWTH IN 2022 IS -8%
India's ranking on the index ?
INDIA IS RANKED 131 ON THE 2022 ECONOMIC FREEDOM INDEX OUT OF 184 COUNTRIES
India's region(Asia) rank ?
INDIA IS RANKED 27TH IN THE ASIA-PACIFIC REGION ON THE 2022 INEX OFECONOMIC FREEDOM
2022 Economic Freedom Score
2022 Score
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THE END