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# PROJECT

## BUSSINESS ANALYSIS
## (23CAH-701)


**SUBMITTED TO**
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# Introduction to Tableau:

Tableau is a powerful tool used for data analysis and visualization. It allows the creation of amazing and interactive visualization and that too without coding. Tableau is very famous as it can take in data and produce the required data visualization output in a very short time. Basically, it can elevate your data into insights that can be used to drive your action in the future.

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## What is Tableau?

Tableau is a visual analytics platform that is revolutionizing the way we use data to solve problems by enabling individuals and organisations to make the most of their data.
Tableau is a great data visualization and business intelligence application that can be used to report and analyse massive amounts of data. Salesforce purchased Tableau in June 2019, an American firm founded in 2003. It enables users to build various charts, graphs, maps, dashboards, and stories for visualising and analysing data in order to aid in business choices. Tableau offers several unique and fascinating features that make it one of the most popular business intelligence (BI) applications.

### Why use Tableau?

Tableau is the fastest and most powerful visualization tool. It is very easy to use. There are no complex formulas like Excel and other visualization tools. It provides the features like cleaning, organizing, and visualizing data, it easier to create interactive visual analytics in the form of dashboards. These dashboards make it easier for non-technical analysts and end-users to convert data into understandable ones.

### Tableau Features

- Tableau supports powerful data discovery and exploration that enables users to answer important questions in seconds
- No prior programming knowledge is needed; users without relevant experience can start immediately with creating visualizations using Tableau
- It can connect to several data sources that other BI tools do not support. Tableau enables users to create reports by joining and blending different datasets

- Tableau Server supports a centralized location to manage all published data sources within an organization

**Values in Tableau**

There are two types of values in the tableau:

- Dimensions: Values that are discrete(which can not change with respect to time) in nature called Dimension in tableau. Example: city name, product name, country name.
- Measures: Values that are continuous(which can change with respect to time) in nature called Measure in tableau. Example: profit, sales, discount, population.

**Advantages of Tableau**

- Quick calculation- All the calculations on the tableau done by the backend, so it is relatively faster than any other tool.
- Interactive dashboards– Tableau dashboards are very interactive and easy to draw.
- No manual calculation- All the calculations are done by the tableau only. There is no manual calculation, but in some specific cases, we used calculated fields for calculation.
- A large amount of data- Tableau can handle a large amount of data. Different types of visualization can be created with a large amount of data without impacting the performance of the dashboards.

**Disadvantages of Tableau**

- High Cost- tableau is a paid tool for visualization, and it is a reason why people are not using tableau so much.
- Static and single value parameters- Tableau's parameters are static and always single value can be selected using a parameter. Whenever the data gets changed, these parameters need to be updated manually every time.
- Limited Data Preprocessing- Tableau is strictly a visualization tool. Tableau Desktop allows you to do very basic preprocessing.

**Visualizations in tableau**

There are a lot many charts available in the tableau. Some of them are:
Bar chart: For the bar chart, we need 0 or more dimensions and 1 or more measures. To create a bar chart, simply select the desired dimensions and measures and then select the bar chart on the SHOW ME section, or drag the dimensions in a column and measure in a row.

**REQUIREMENTS FOR PROJECT**:

- Tableau Public(Desktop)
- Profile Create
- Publish your project

# Steps to Create HR Analytics Dashboard in Tableau

## 1. Data Preparation:

- **Data Sources:** Identify and gather relevant real estate data for Washington. Potential sources include:
    - **Government agencies:** Washington State Department of Revenue, county assessors' offices
    - **Real estate listing websites:** Zillow, Redfin, Realtor.com
    - **Public records:** Property tax records, building permits
- **Data Cleaning:**
    - **Formatting:** Ensure data is in a consistent format (e.g., dates, numerical values)
    - **Missing values:** Handle missing data appropriately (e.g., imputation, deletion)
    - **Outliers:** Identify and address outliers that might skew analysis

## 2. Load Data into Tableau:

- **Connect to Data Source:** Use Tableau's built-in connectors to connect to your data source (e.g., Excel, CSV, database).
- **Import Data:** Import the relevant data into Tableau.

## 3. Explore and Clean Data:

- **Data Profiling:** Understand the data's characteristics, including data types, distributions, and relationships between variables.
- **Data Quality Assessment:** Identify and address any data quality issues, such as inconsistencies or errors.
- **Data Cleaning (continued):** Refine data cleaning efforts based on initial exploration.

## 4. Create Visualizations:

- **Choose Appropriate Visualizations:** Select visualizations that effectively convey the desired insights. Consider factors like data type, audience, and the story you want to tell.
- **Customize Visualizations:** Tailor the appearance of visualizations to enhance readability and aesthetics.
- **Add Context:** Provide context for visualizations through titles, labels, and tooltips.

**5. Assemble Dashboard:**

- **Layout and Design:** Arrange visualizations in a logical and visually appealing layout. Consider using a consistent color scheme and font style.
- **Hierarchy:** Organize visualizations in a hierarchical structure, with summary-level metrics at the top and more detailed information below.
- **Filters and Interactions:** Add filters to allow users to explore different aspects of the data. Consider adding interactive elements like drill-down capabilities or tooltips.

**6. Add Filters:**

- **Select Relevant Variables:** Choose variables that users might want to filter on (e.g., property type, location, price range).
- **Create Filters:** Use Tableau's filtering capabilities to create filters for these variables.
- **Implement Filtering:** Integrate filters into your dashboard design so users can easily apply them.

**7. Final Customizations:**

- **Branding:** Apply your organization's branding guidelines to create a cohesive and professional look.
- **Accessibility:** Ensure the dashboard is accessible to users with disabilities by following accessibility best practices.
- **Testing:** Thoroughly test the dashboard to identify and fix any issues before deployment.

## STEPS FOR EACH FOR MAKING DYNAMIC DASHBOARD WITH CONNECTION OF MICROSOFT EXCEL:

To connect Tableau to a Microsoft Excel file, follow these steps:

- Steps to Connect Tableau to Microsoft Excel:
- Open Tableau Desktop:
- Launch Tableau Desktop if it's not already open.
- Connect Pane:
- On the start screen, you'll see the Connect pane on the left side.
- Select Microsoft Excel:
- Under the "To a File" section, click on Microsoft Excel.
- This will open a file explorer window.
- Choose Excel File:
- Browse your computer to locate the Excel file you want to connect to.
- Once you find the file, select it and click Open.
- Select Sheet(s):

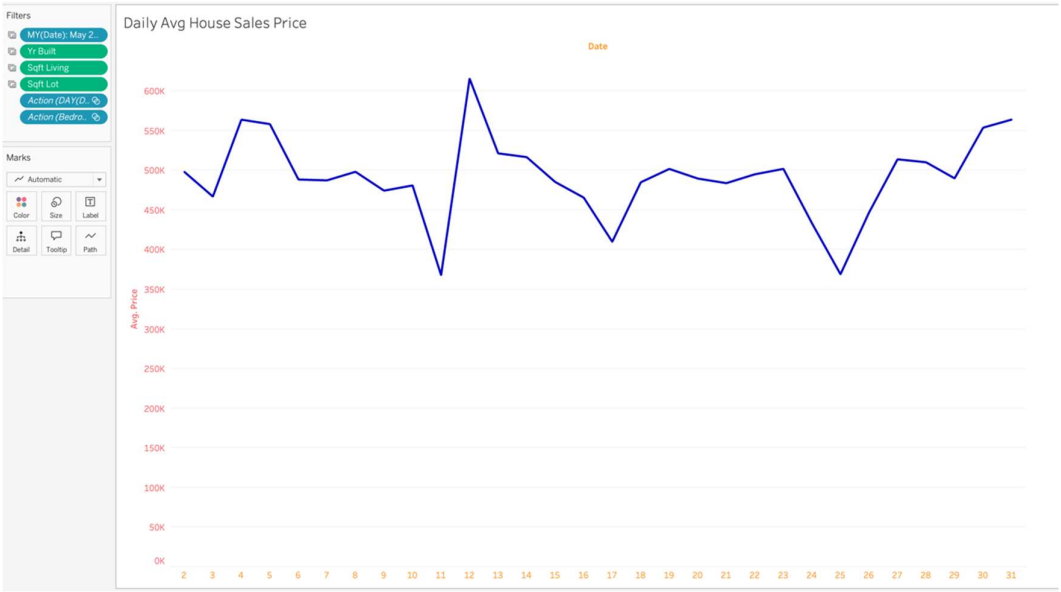
- Tableau will display a list of sheets available in the Excel file.
- You can either drag and drop the sheet(s) you want to work with onto the canvas or use them directly for analysis.

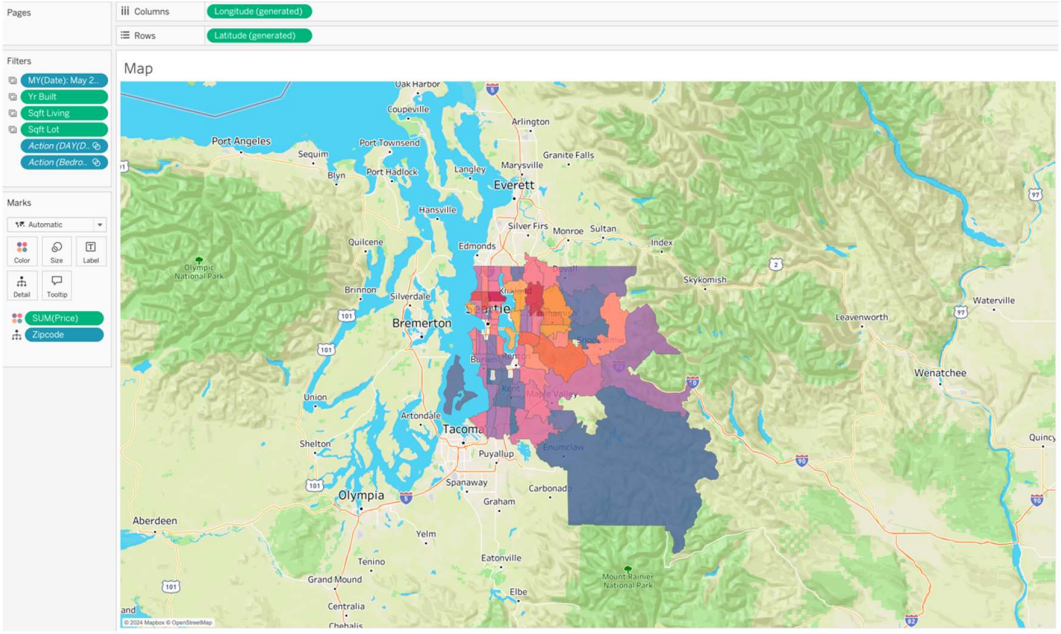
- Data Source Tab:
- The Data Source tab will show the data in a tabular form. You can preview the data here and make any necessary adjustments, such as data types or field names.
- Start Visualizing:
- After ensuring the data is correctly loaded, click on Sheet 1 to start creating visualizations based on your Excel data.
- **Additional Notes:**
- You can connect to multiple Excel sheets or even multiple Excel files within the same Tableau workbook.
- Tableau will allow you to create joins, unions, or blends if your data spans across multiple Excel sheets or files.

## PROJECT STEPS:

**Step1:** Make Connection for Microsoft Excel:
**Step2:**Select your file from data source.
**Step3:** Start making Sheets for making dynamic dashboard.

## Sheets:

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Oak Harbor
Arlington
Granite Falls
Marysville
Everett
Langley
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Enumclaw
Spanaway
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Elbe
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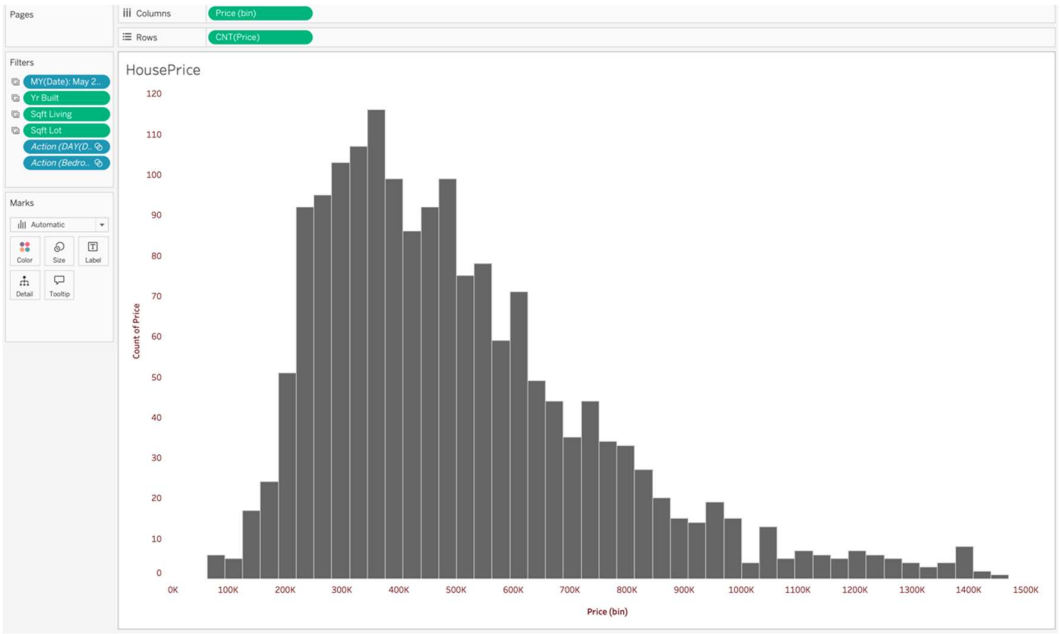
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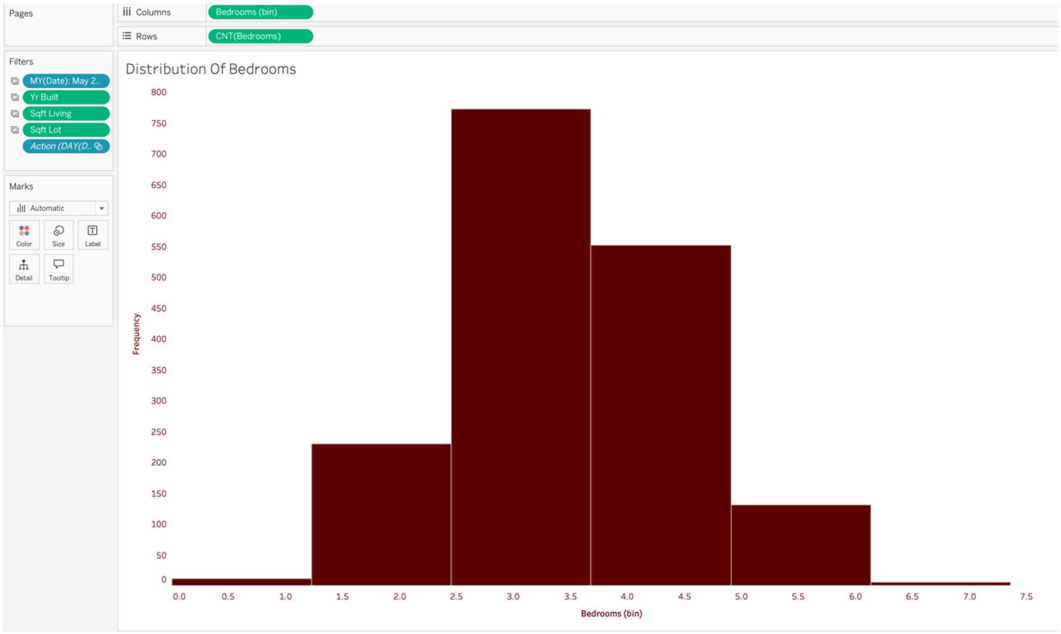
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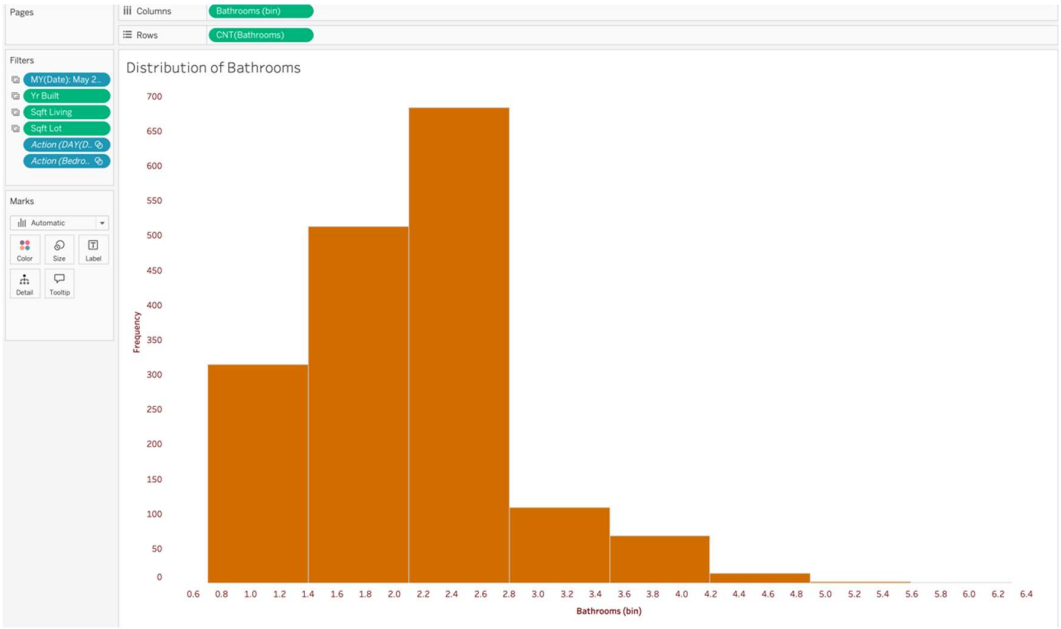
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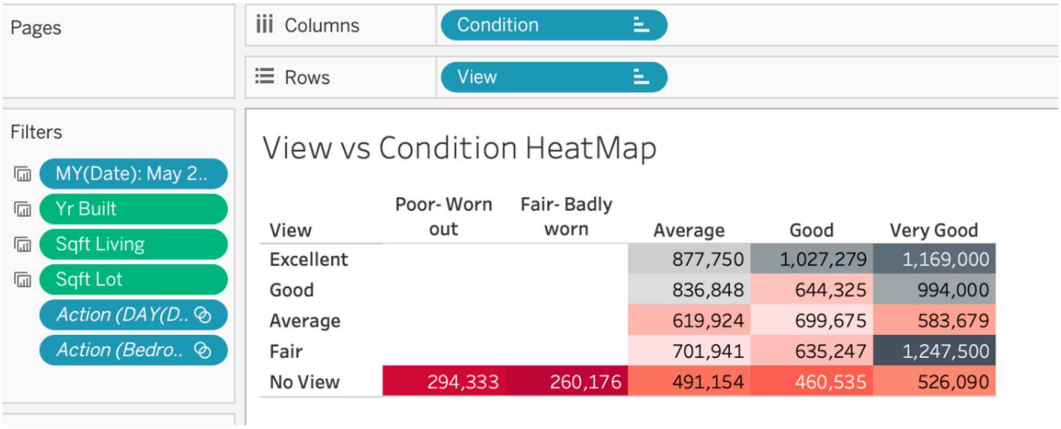
Frequency
Bathrooms (bin)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View vs Condition HeatMap
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Poor- Worn out
Fair- Badly worn
Average
Good
Very Good
Excellent
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1,027,279
1,169,000
Good
836,848
644,325
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Average
619,924
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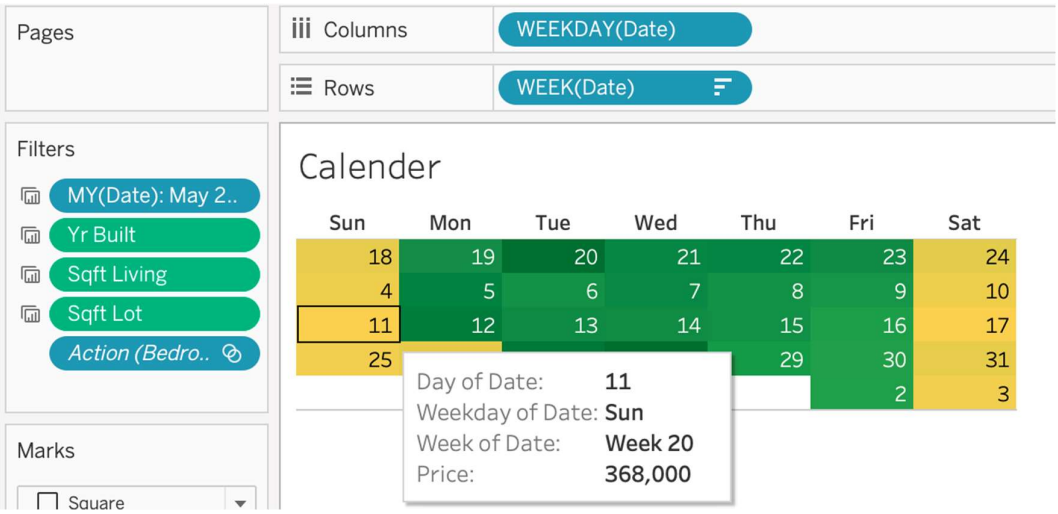
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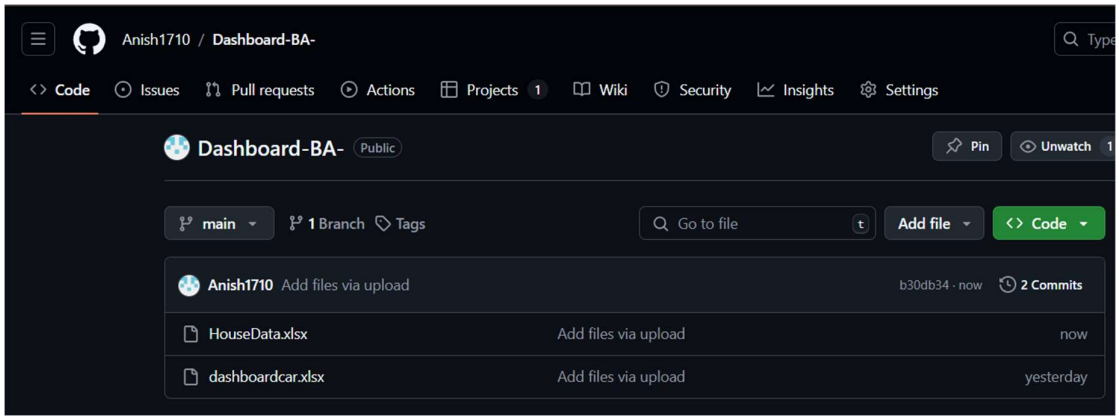
**GitHub Repository:**




**Link:**

https://github.com/Anish1710/Dashboard-BA-