Program 2 : Connecting to Data Source – Connecting to Database, Different types of Tableau Joins.

Dataset used: Tableau Joins File: Contains 3 sheets : Demographics, Salary, Job Title

1. **Connecting to Excel Files in Tableau:**

- Open Tableau and click on **Connect** in the left pane.
- Under **To a File**, choose **Microsoft Excel**.
- Browse and select your Excel file (Tableau Joins File.xlsx).
- Tableau will display the sheets from the Excel file in the Data Source tab.
- Drag the relevant sheets to the workspace.

2. Tableau Joins File.xlsx Dataset: has three Excel sheets

- **Demographics**:
    - EmployeeID
    - NameofEmployee
    - EmployeeAge
    - EmployeeGender
- **Salary:**
- EmployeeID
- EmployeeSalary

These sheets have a relationship based on the EmployeeID, and you can join them using this field.

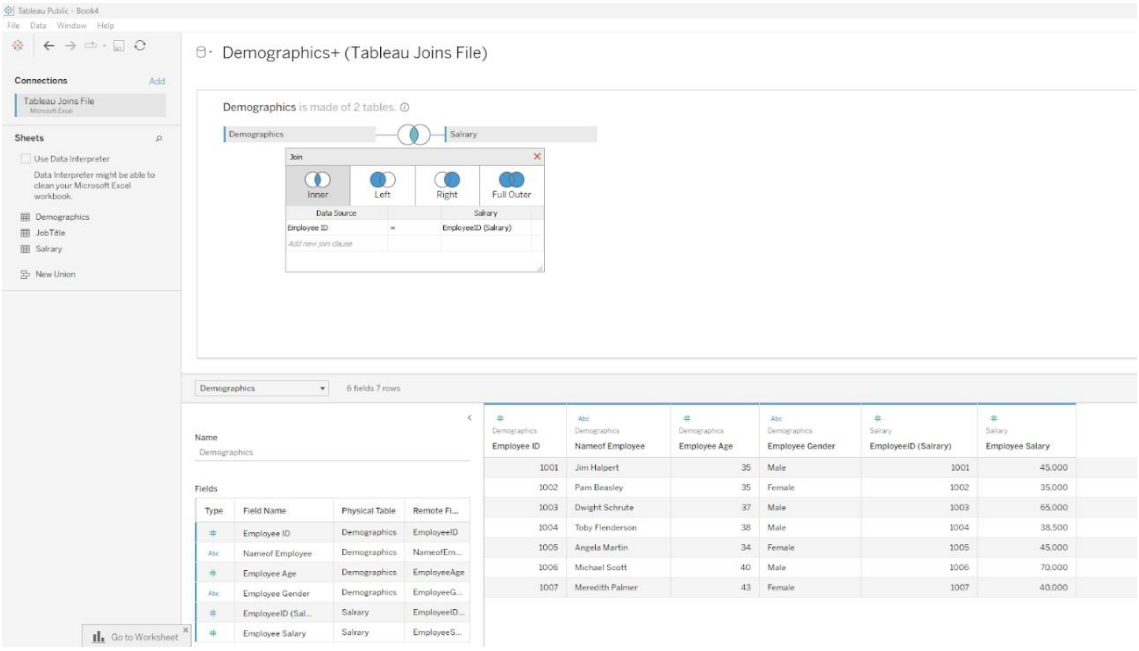
Drag and drop Demographics table- Right click-select open- that allows you to do following types of joins.
Now Drag and drop Salary table - That allows you to do join of your choice.

3. Types of Joins in Tableau:

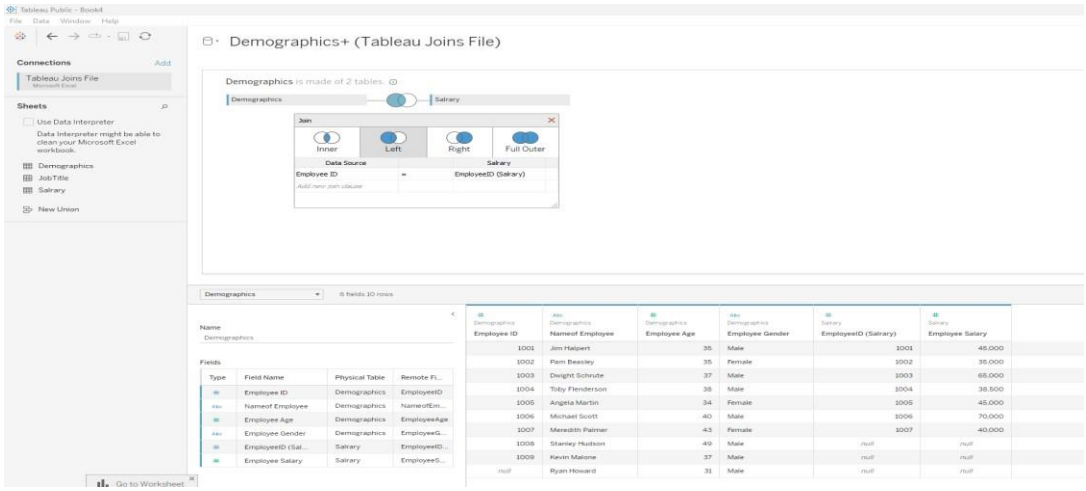
Once both tables are in the Data Source tab, Tableau automatically suggests an inner join, but you can modify the type of join depending on the scenario.

a. Inner Join:

- **Description**: Returns only records where there is a match in both tables.
- **How to Create in Tableau**:
    - Drag Demographics and Salary sheets into the canvas.
    - Tableau automatically detects the common field (EmployeeID). If not, manually select it.
    - Choose **Inner Join** in the **Join Type** options.
    - Result: You will see only employees whose employee id matches in both Demographics and Salary table.



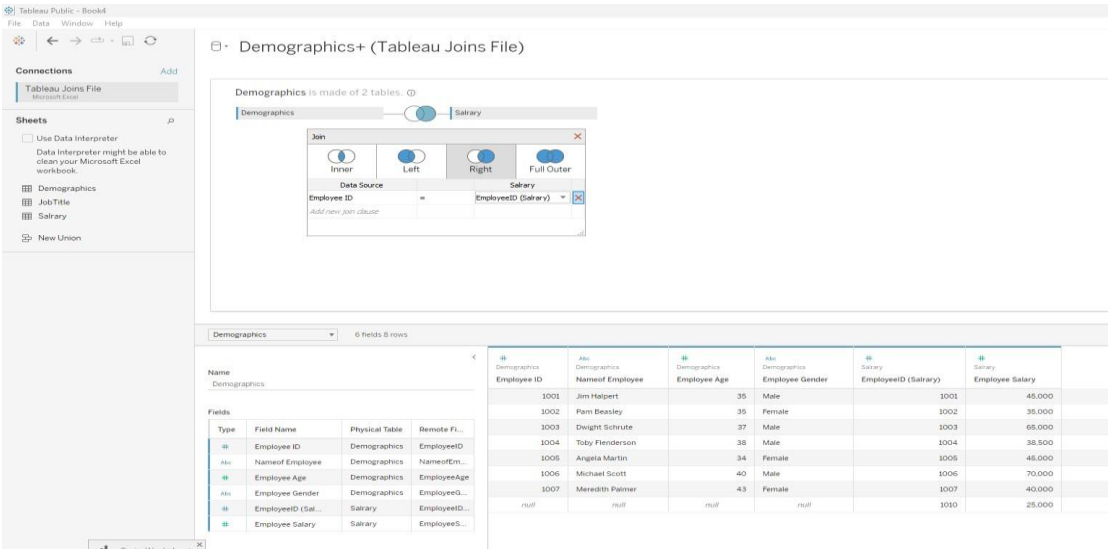
- **b. Left Join:**
- **Description**: Returns all records from the left table (Demographics), and matched records from the right table (salary). If there's no match, NULL values are returned for fields from the right table.
- **How to Create in Tableau**:
- In the join settings, select **Left Join**.
- Result: All employees will be returned, even if data missing in Salary. Salary information will be NULL for those without a match.



c. Right Join:

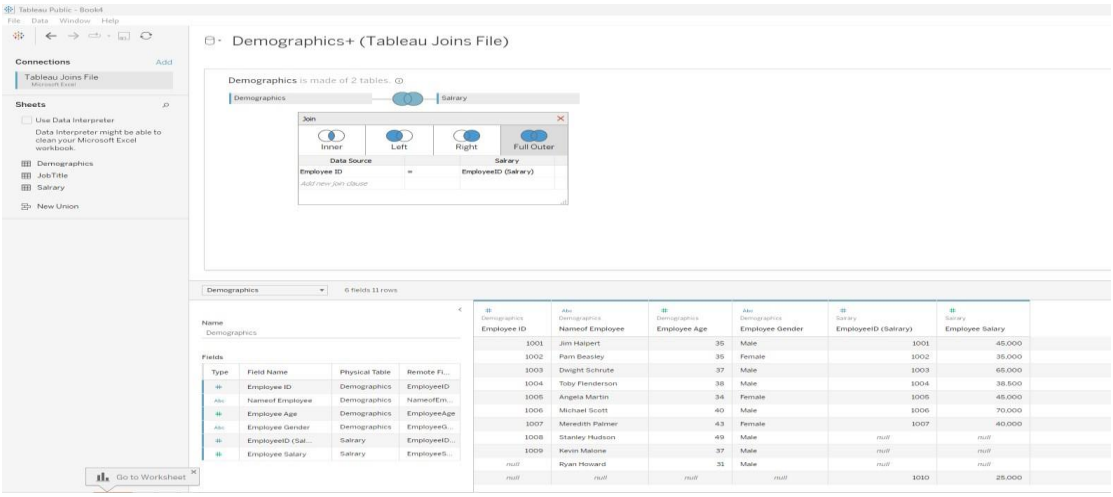
- **Description**: Returns all records from the right table (Salary), and matched records from the left table (Demographics). If there's no match, NULL values are returned for fields from the left table.

- **How to Create in Tableau**:
    - Select **Right Join**.
- Result: You will see all salary, even if they don't have employee id. Employee information will be NULL for those salary with no matching employee id.



d. Full Outer Join:

- **Description**: Returns all records when there is a match in either the left (Demographics) or right (Job Title) table. If there's no match, NULL values are returned for the missing side.
- **How to Create in Tableau**:
    - Select **Full Outer Join**.
    - Result: You will see all employees and all salary, even if they don't have a match in the other table. NULL values will appear where there's no corresponding record.



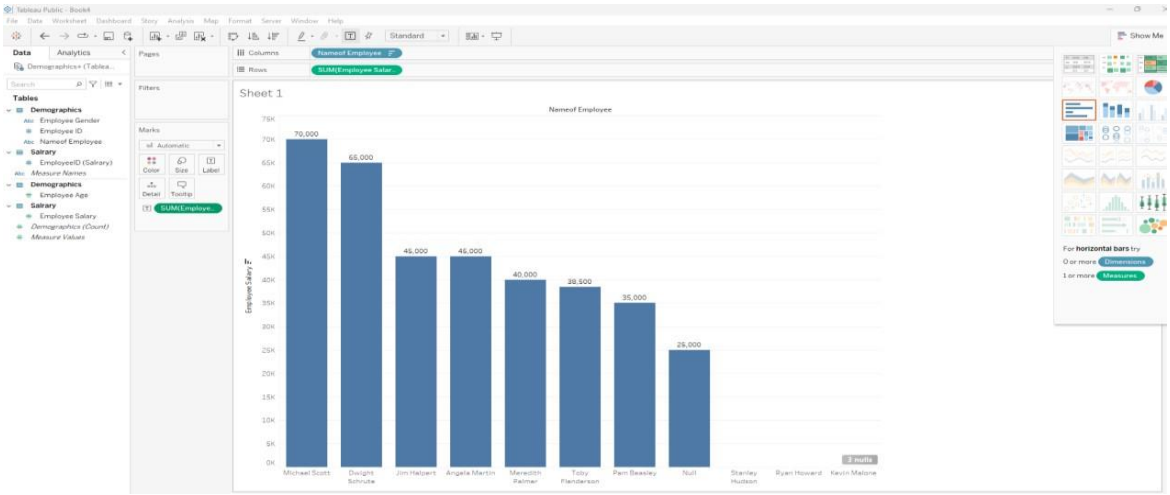
4. Creating a Visualization Based on Joins:

After performing the joins, you can build different visualizations.

Press on Sheet 1:

For example:

- **Bar Chart**: Number of employees and their salary.
- Drag NameofEmployee to **Columns**.
- Drag EmployeeSalary to **Rows.**
- This chart will display the number of employees and their salary based on the type of join.
- Sort it in decending
- Drag EmployeeSalary to Marks - Select color Color, Label



Reference Video Link -

https://www.youtube.com/watch?v=A4SVUF-fTwc&list=PLUaB-1hjhk8GwbqoVmo_5zuhOa0Tcl3xC&index=4

This same procedure we can do by connecting to any database server

We should initially connect to driver by installing it for example if you are planning for mysql

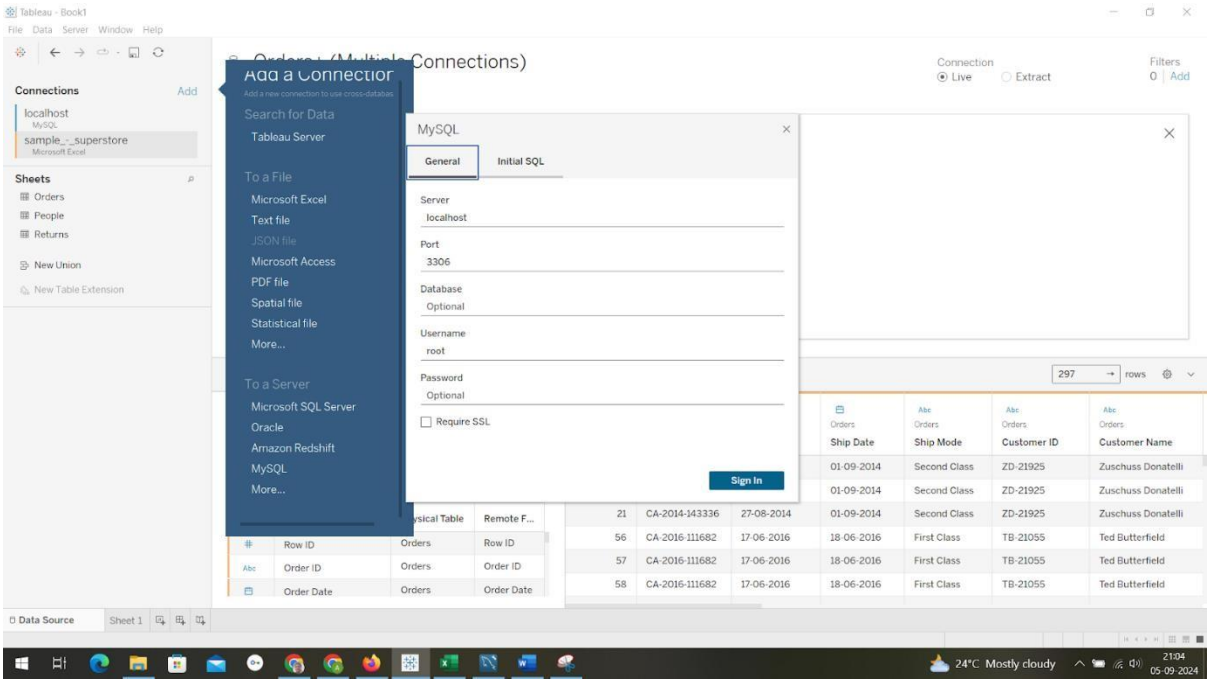
- **Install mysql driver connector as in link below:**
- **https://dev.mysql.com/downloads/connector/odbc/**

It is available in Drive Link also

https://drive.google.com/drive/folders/1kG25wextZcEOsjfXdr5VcrwW3Dp53jBf?usp=drive_link

After installing it

We have to connect to Mysql



For More Info : Refer Tableau Handouts and Tableau Tutorial