Project AirLine Booking Data Power Bi

**Project Title:** Airline Booking Data Preparation and Cleaning

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**Batch: 1st\_May**

**Project GitHub Link:** [**GitHub Link**](https://github.com/ajaythakur958/Airline-Data-Management-and-Analysis-Using-Power-BI)

**Project Explanation Video Link:** [**Video Explanation Link**](https://www.loom.com/share/0cace328740f4b738d26de8f65f7fa85?sid=9adc25aa-6a66-4146-85e0-d72183acb8af)

# Task 1: Data Preparation and Cleaning

## Objective:

The objective of this task was to perform data preparation and cleaning on an airline booking dataset using Power BI's Power Query Editor.

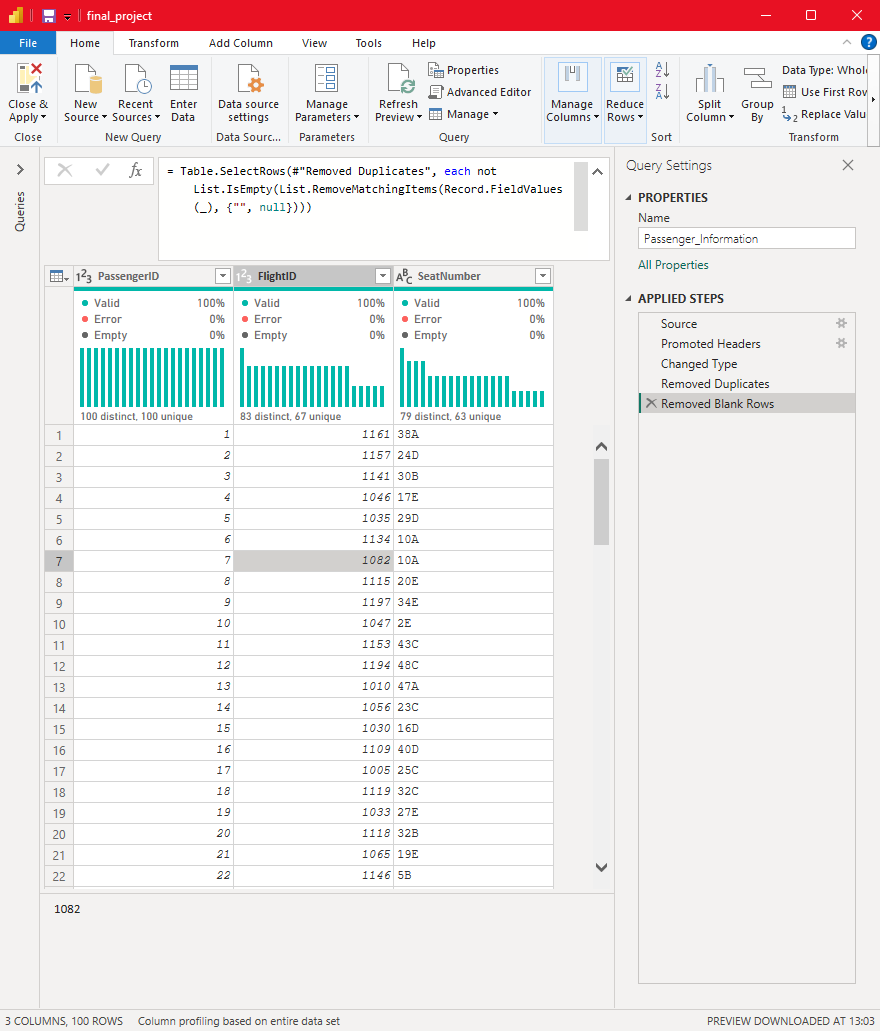
## Steps Completed:

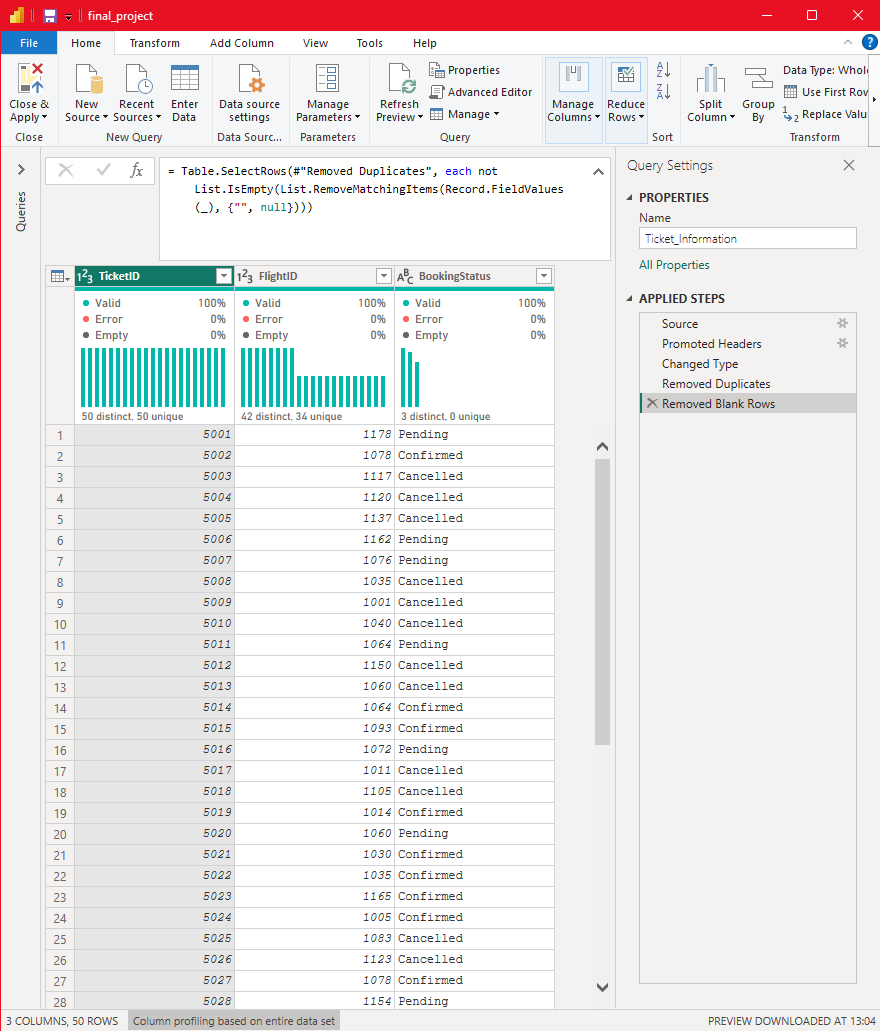
**Extract and Transform Data in Power Query:** Imported raw booking data from the source ECSV file into Power BI and loaded the data into Power Query Editor for transformation.

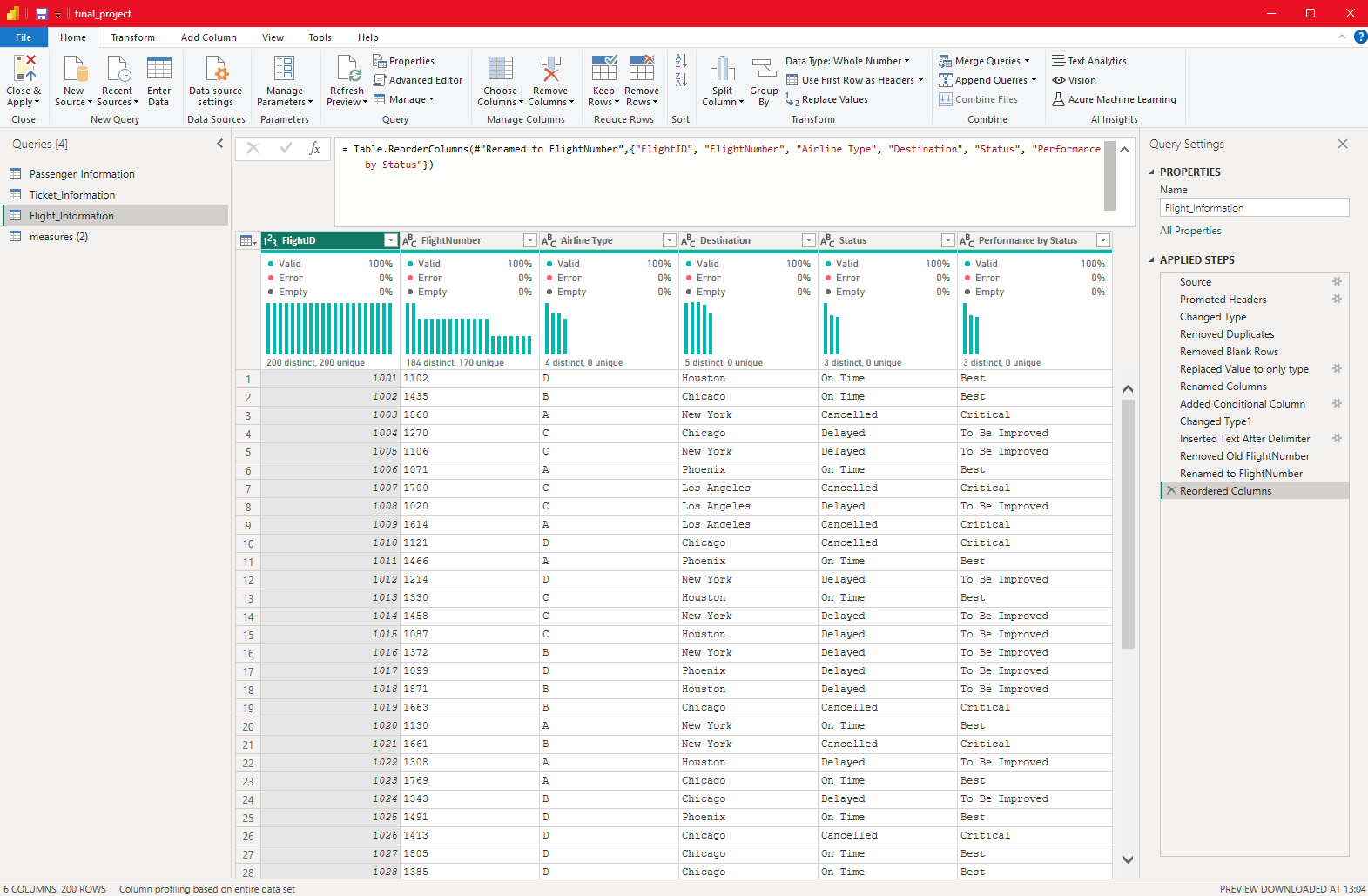
**Removed Duplicates:** Identified and removed duplicate rows to ensure data uniqueness.

**Handled Missing Values:** Checked all columns for null or missing values and handled them appropriately:

**Formatted Columns:** - Converted date columns to proper Date format.  
- Converted numeric columns like Ticket Price and Passenger Count to Number format.  
- Applied proper text casing for categorical columns like Destination and Airline Name.







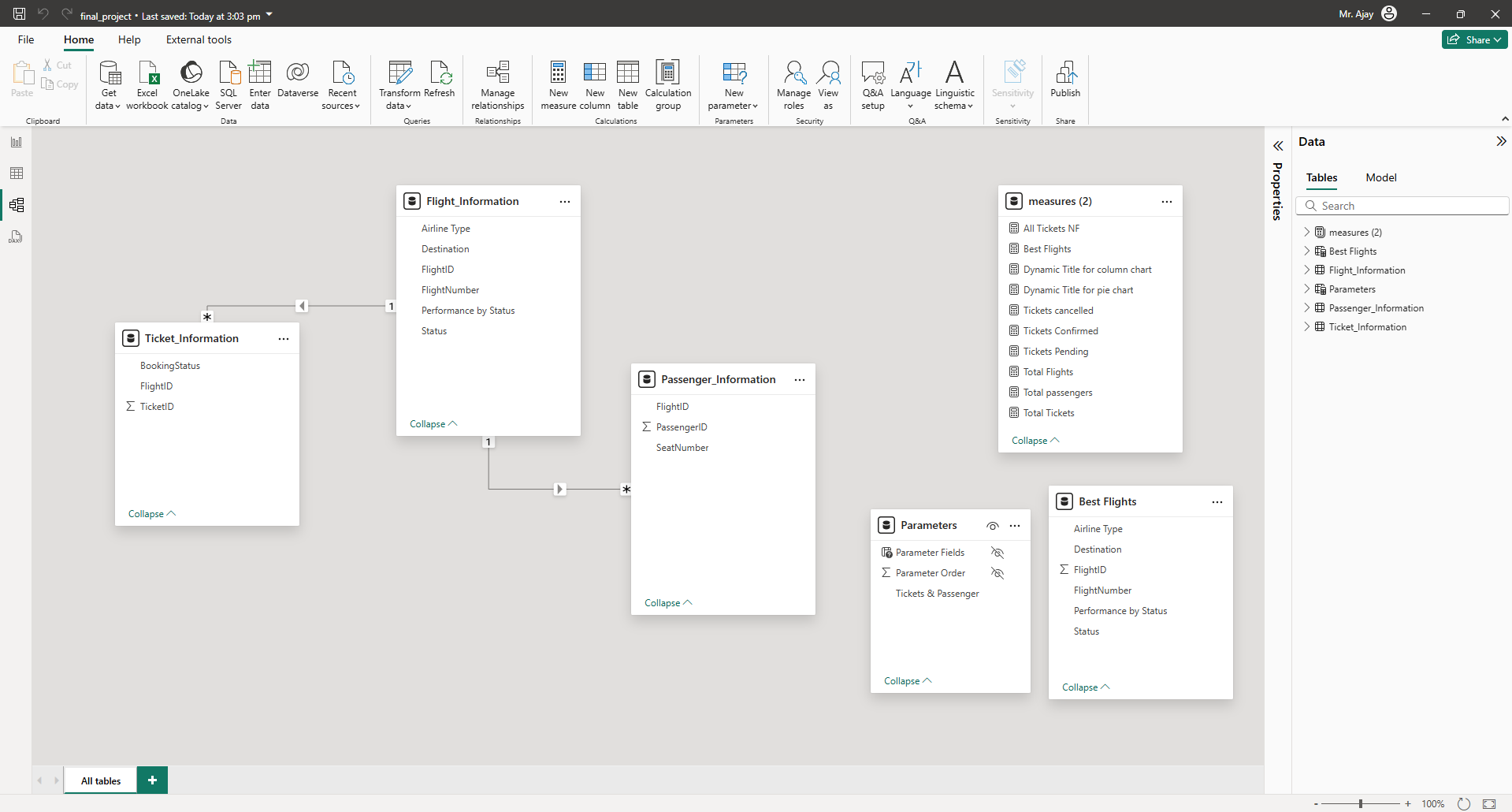
# Task 2: Data Modeling

## Objective:

The objective of this task was to create relationships between different datasets using **FlightID as the key** and create the model appropriately.

## Steps Completed:

* Created relationships between tables using **FlightID as the key.**
* Established correct relationship (**One-to-Many**) between related tables**.**

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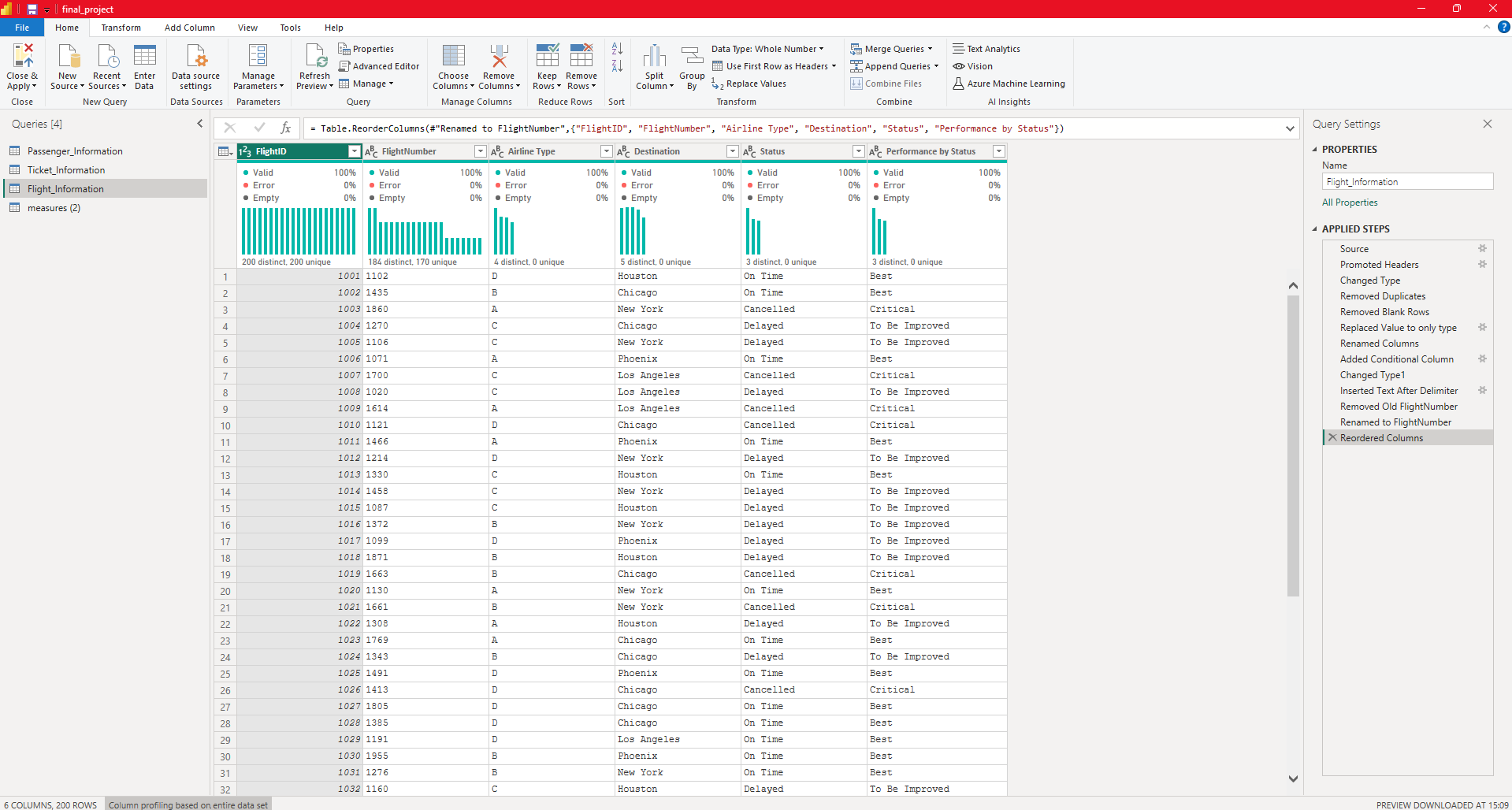
# Task 3: Enhanced Data Insights

## Objective:

## The objective of this task was to create new insights by adding a Conditional Column and extracting data using Column from Examples.

## Steps Completed:

* Added a **Conditional Column** to classify flights as **"Best"** or **"To Be Improved"** based on flight status.
* Used **'Column from Examples'** to extract the flight number from the **FlightNumber** column.
* **Removed Airline** from **Airline Types** **Column** Leaving only types.



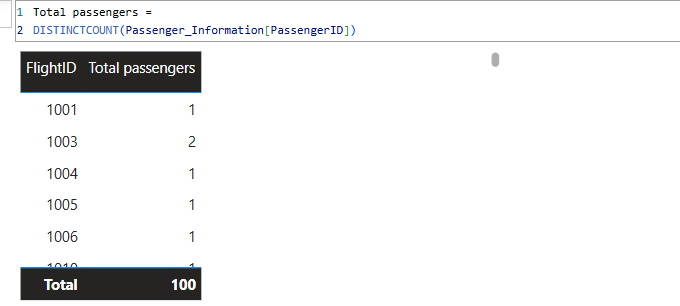
# Task 4: Calculations Using DAX

## Objective:

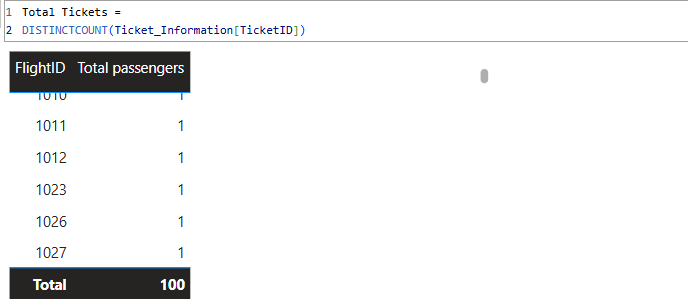
## The objective was to create DAX measures to calculate key metrics from the dataset.

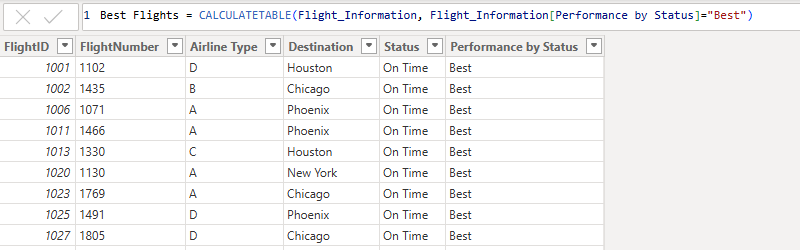
## Steps Completed:

* Calculated **Total Passengers** for a specific flights with **DISTINCTCOUNT** FunctionshowingTotal Passenger for flights

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* Calculated **Total Tickets Booked** with **DISTINCTCOUNT** Functions to get total tickets.



* Created a **Filtered Table** to show only **"Best"** flights using **DAX** shows below in ScreenShot.  
  

# Task 5: Visualization and Interactive Features

## Objective:

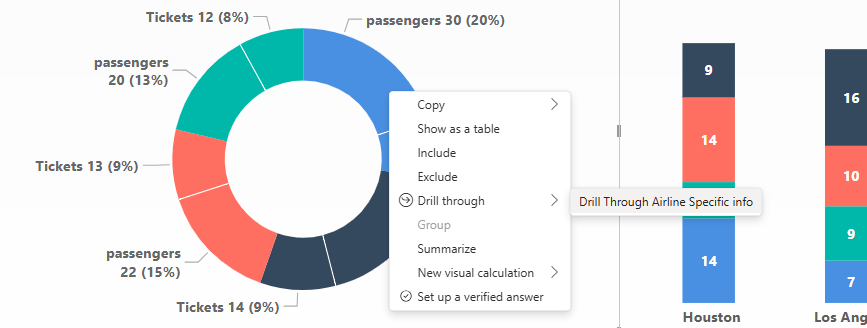
## The objective of this task was to visualize the data and add interactive features for better analysis in Power BI.

## Steps Completed:

* **Created visuals for:**

1. Used **Pie Chart** for **Passengers by airline**
2. Used **Column Chart** for **Ticket booking statuses**
3. Used **Stacked Column Chart** for **Flights by airline and destination**

* **Added interactive features:**

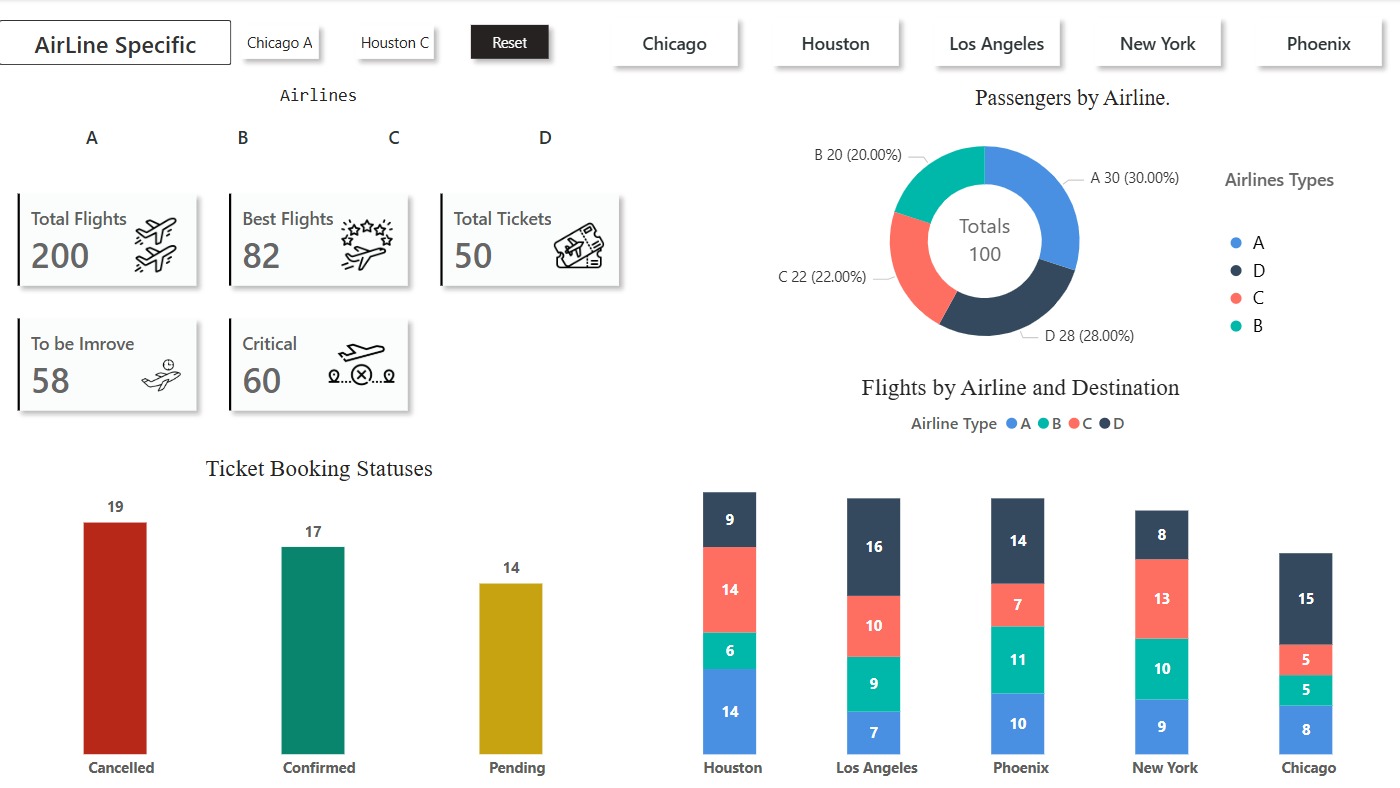
1. **Slicer** for **Destination** and **Airline** to filters the visuals
2. **Drill through** by right click on any airline visual and **Bookmarks** for **Quick views** that matters.  
   

After **DrillTrough** we lands to **Airline specific Pages** containing **Bookmarks** and **slicer** with **Dynamic Page Title** and **Key insights** in card visual  
  
**Back Arrow** to go back to main dashboard for **drill-through** to **different** **Airline** **Specific** **Pages  
Bookmarks** for **destination Chicago** with **Airlines A**

**Bookmarks** for **destination Houstin** with **Airlines C**

**Reset** for **Removes** all **Filters  
Slicer** for **Destinations  
columns chart** for **Total Booking Status** and **Flights** by **Destination**



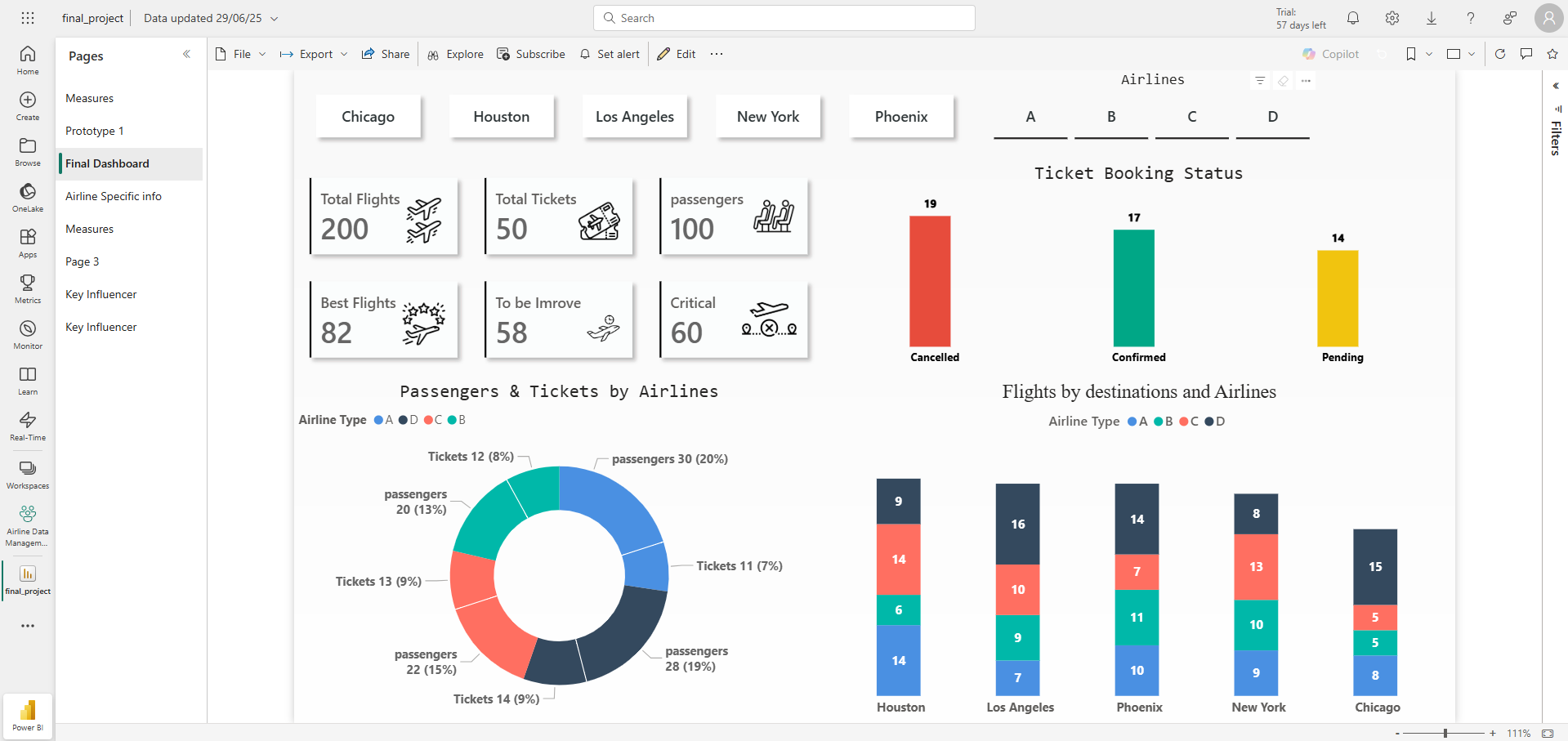
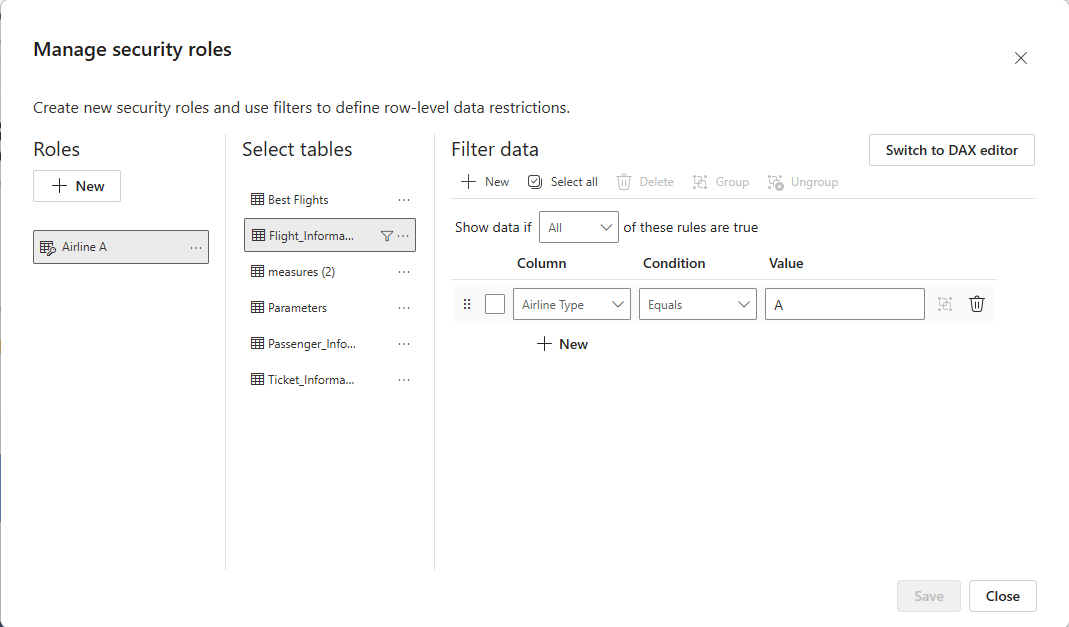
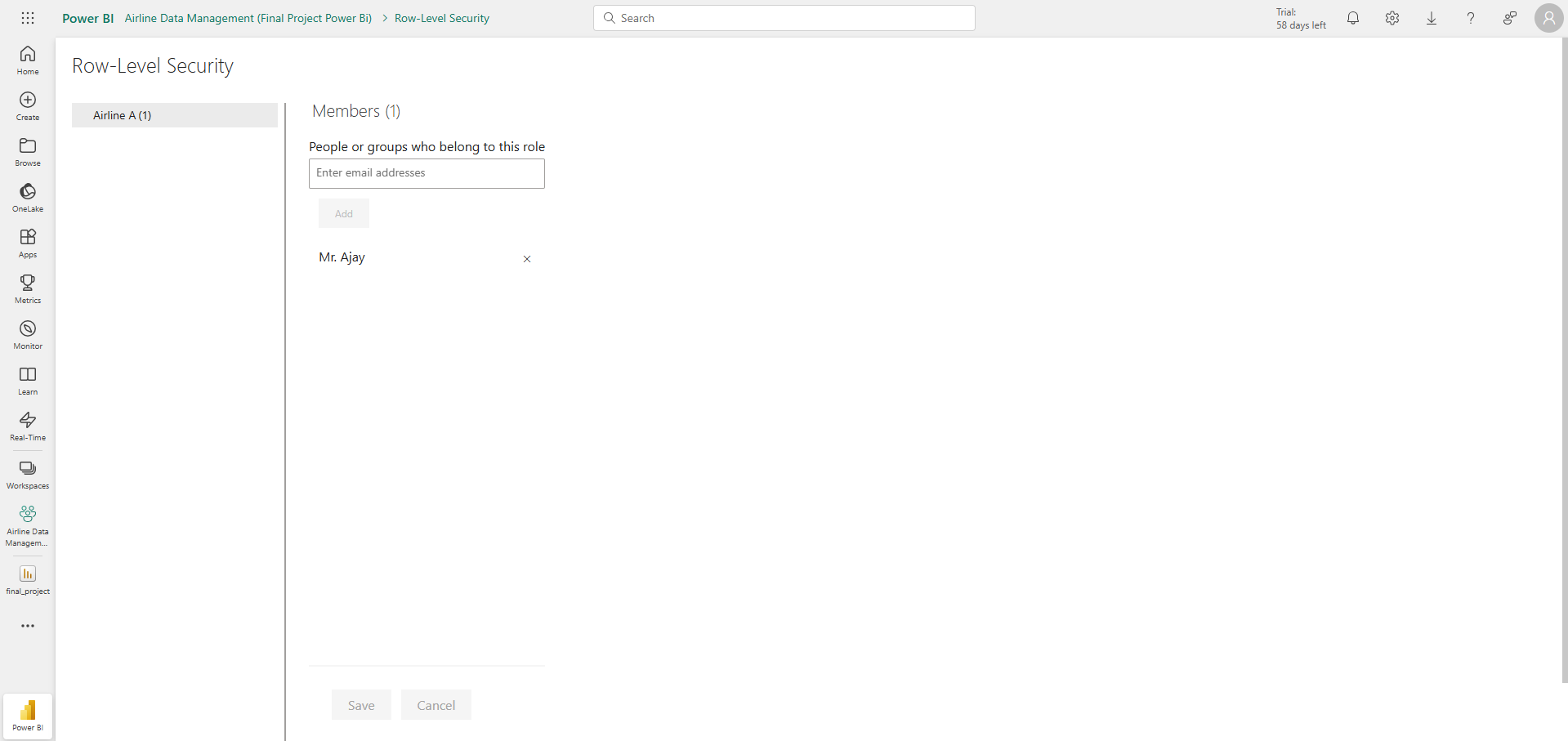
1. Created Airline specific page focused on **Airline**-**specific** **All** **Info** with **interactive Slicers** for **Airline** and **Destinations** with **Key Insights** and **visuals**

# Task 6: Final Dashboard and Power BI Service

# Objective:

## The objective was to design a comprehensive dashboard and publish it to the Power BI Service with scheduled refresh and Row-Level Security (RLS).

## Steps Completed:

* Designed a final **dashboard** with key visuals and insights over power Bi Service   
  **Pie Chart** = Shows **Total Passengers and Total Tickets** with **Dynamic Title  
  Column Chart =** Column Chart Shows Total Booking Status   
  **Stacked Column Chart** = Shows Total Flights By Destination and Airline  
  **Slicers** = **Slicer** for **Airlines** Types and **Destinations  
  key visuals** **= Uses Cards** for **Total** | **Best** | **Delayed(To Be Improved)** | **Cancelled(Critical)** flights and **Total Tickets** , **Total Passengers**.  
    
  
* Configured **Row-Level Security (RLS)** in Power Bi Desktop for **Airline A**  
    
  **Assigned it to a specific user** using **Power Bi Service**.  
  
* Scheduled data **refresh** to run daily at **5 PM** for India Time Zone.  
  