

Final project module 3

Task 1: Data Preparation and Cleaning

Remove Duplicates

Click **Remove Duplicates** from the **Home** tab.

Remove unnecessary columns which has only null values

The screenshot shows the Power Query Editor interface with the following details:

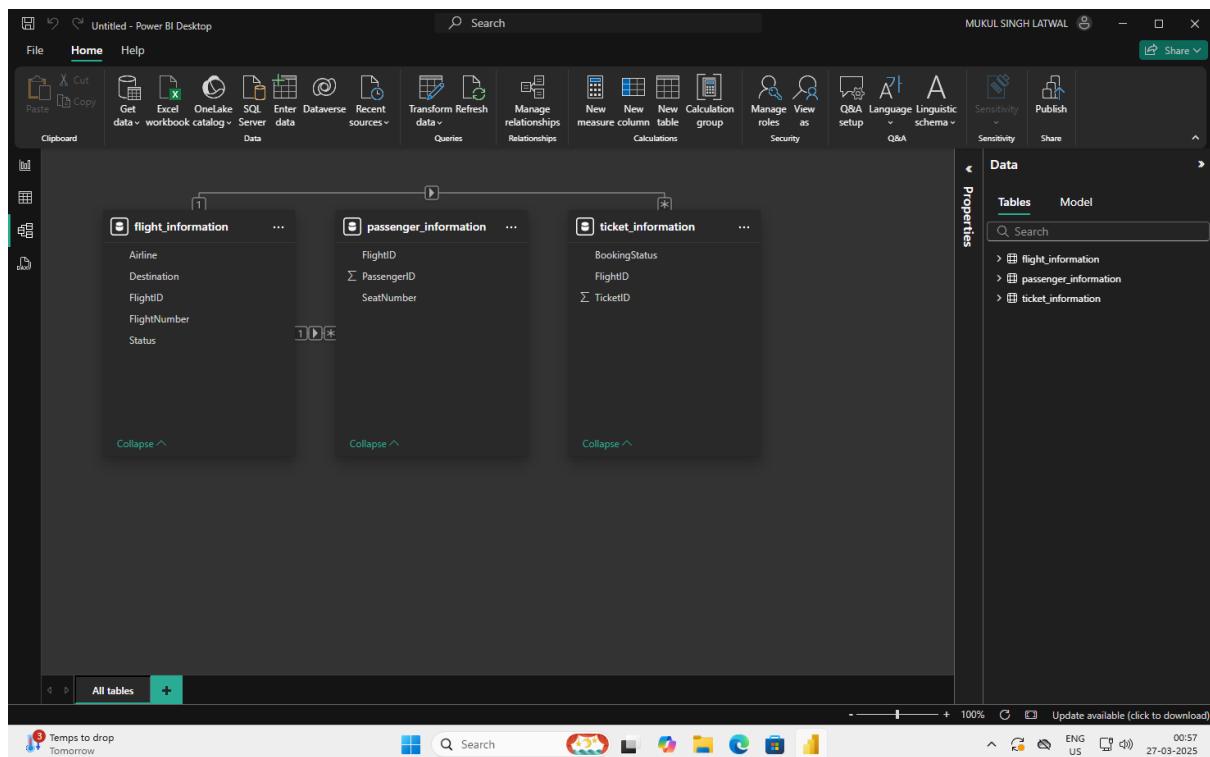
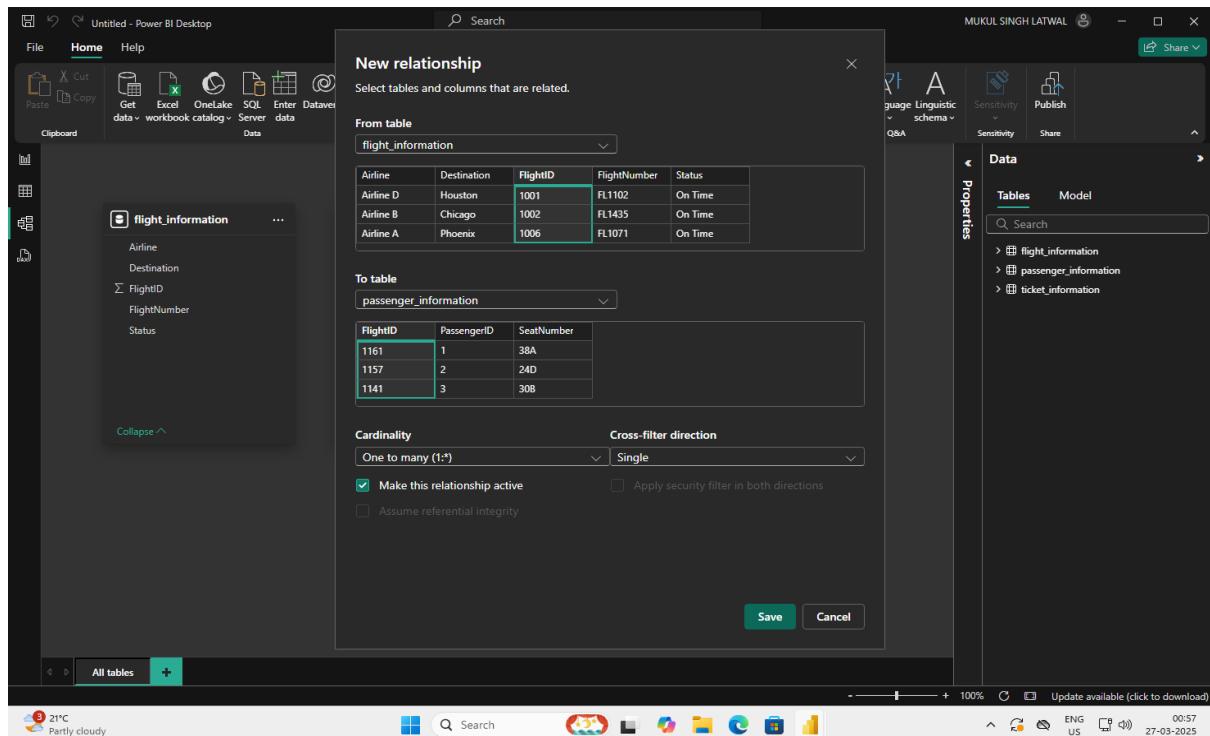
- Home Tab:** The "Remove Duplicates" button is located here.
- Queries [3]:** Contains three queries: "flight_information", "passenger_information", and "ticket_information".
- Table Preview:** Shows a table with 200 rows and 5 columns: FlightID, FlightNumber, Airline, Destination, and Status. The table is filtered to show only rows where FlightID is between 1172 and 1200.
- Applied Steps:** Shows the step "Removed Duplicates" under the "Applied Steps" section.
- Properties:** The query is named "flight_information".
- Bottom Bar:** Shows the Windows taskbar with various pinned icons like File Explorer, Edge, and Mail.

The screenshot shows the Power Query Editor interface with the following details:

- Home Tab:** The "Remove Duplicates" button is located here.
- Queries [3]:** Contains three queries: "flight_information", "passenger_information", and "ticket_information".
- Table Preview:** Shows a table with 100 rows and 3 columns: PassengerID, FlightID, and SeatNumber.
- Applied Steps:** Shows the step "Removed Duplicates" under the "Applied Steps" section.
- Properties:** The query is named "passenger_information".
- Bottom Bar:** Shows the Windows taskbar with various pinned icons like File Explorer, Edge, and Mail.

Task 2: Data Modeling

Create relationships between the datasets using FlightID as the key in Power BI's Model View.



Task 3: Enhanced Data Insights

you need to **add a conditional column, extract flight numbers, and transform the data in Power Query.**

Add a Conditional Column for Flight Status:-

The screenshot shows the Power Query Editor interface. On the left is a table view with two columns: 'Status' and 'FlightStatus'. The 'Status' column contains values like 'On Time', 'Cancelled', 'Delayed', etc. The 'FlightStatus' column contains values like 'Best', 'To Be Improved', etc. A formula bar at the top of the table view displays the formula: `"On Time" then "Best" else "To Be Improved"`. To the right of the table is the 'Query Settings' pane. Under 'PROPERTIES', the 'Name' is set to 'flight_information'. Under 'APPLIED STEPS', there is a list of steps: Source, Navigation, Promoted Headers, Changed Type, Removed Duplicates, Removed Other Columns, and a step labeled 'Added Conditional Column' which is currently selected. This step has a small 'X' icon next to it.

Status	FlightStatus
On Time	Best
On Time	Best
Cancelled	To Be Improved
Delayed	To Be Improved
Delayed	To Be Improved
On Time	Best
Cancelled	To Be Improved
Delayed	To Be Improved
Cancelled	To Be Improved
Cancelled	To Be Improved
On Time	Best
Delayed	To Be Improved
On Time	Best
Delayed	To Be Improved
Cancelled	To Be Improved
On Time	Best
Cancelled	To Be Improved
Delayed	To Be Improved
On Time	Best
Delayed	To Be Improved
On Time	Best
Cancelled	To Be Improved
On Time	Best
On Time	Best
On Time	Best

Extract Flight Number Using "Column from Examples"

The screenshot shows the Power Query Editor interface. On the left, there is a preview pane displaying a list of flight numbers. The first column is labeled 'A' and the second column is labeled 'B'. The second column contains the values: flightnumberonly, 1102, 1435, 1860, 1270, 1106, 1071, 1700, 1020, 1614, 1121, 1466, 1214, 1330, 1458, 1087, 1372, 1099, 1871, 1663, 1130, 1661, 1308, 1769, 1343, 1491, 1413, 1805, and 1385. The second column is highlighted with a teal header. On the right, the 'Query Settings' dialog is open. Under the 'PROPERTIES' section, the 'Name' is set to 'flight_information'. Under the 'APPLIED STEPS' section, several steps are listed: Source, Navigation, Promoted Headers, Changed Type, Removed Duplicates, Removed Other Columns, Added Conditional Column, and Inserted Text After Delimiter. The 'Renamed Columns' step is highlighted with a teal bar at the bottom of the list. At the bottom of the editor, it says 'PREVIEW DOWNLOADED AT 00:38'.

Task 4: Calculations Using DAX

In this task, you will create **DAX measures** to calculate:

1. Total passengers for a specific flight
2. Total tickets booked
3. A filtered table showing only "Best" flights

Calculate Total Passengers for a Specific Flight

Dax formula-Total_Passenger = COUNT(Passenger_Information[PassengerID])

Use a **Slicer** with Flightid.

The screenshot shows the Power BI Desktop interface. On the left, there's a large empty rectangular visual area containing the number "100" and the text "Total_Passenger". To the right of this visual is a "Slicer" control with the header "FlightID" and two options: "1001" and "1197". The Power BI ribbon at the top has "Home" selected. The "Data" pane on the right shows a hierarchy of data sources: flight_information, MeasureTable, passenger_information, and ticket_information. Under "passenger_information", "Total_Passenger" is listed. The "Fields" section of the ribbon also lists "Total_Passenger". The bottom status bar shows "Page 1 of 1", "Air: Moderate Now", and the date "27-03-2025".

Calculate Total Tickets Booked

This measure counts all booked tickets.

Dax formula-Total_Tickets = COUNT(Ticket_Information[TicketID])

The screenshot shows the Power BI Desktop interface. On the left, there's a large empty rectangular visual area containing the number "50" and the text "Total_Tickets". To the right of this visual is a "Slicer" control with the header "Total_Tickets" and the option "is (All)". The Power BI ribbon at the top has "Home" selected. The "Data" pane on the right shows a hierarchy of data sources: flight_information, MeasureTable, passenger_information, and ticket_information. Under "MeasureTable", "Total_Tickets" is listed. The "Fields" section of the ribbon also lists "Total_Tickets". The bottom status bar shows "Page 1 of 1", "Air: Moderate Now", and the date "27-03-2025".

Create a Filtered Table for "Best" Flights Only

Go to "Modeling" → "New Table"

Best_Flights_Table = FILTER(Flight_Information, Flight_Information[FlightStatus] = "Best")

The screenshot shows the Power BI Desktop interface with the title bar "Untitled - Power BI Desktop" and the status bar "MUKUL SINGH LATWAL". The ribbon menu is visible with tabs like File, Home, Insert, Modeling, View, Optimize, Help, Format, Data / Drill, and Table tools. A search bar is at the top right. The main area contains a table visual titled "Best_Flights_Table" with the formula: `1 Best_Flights_Table = FILTER(Flight_Information, Flight_Information[FlightStatus] = "Best")`. The table has columns "FlightID" and "FlightStatus" with data from 1001 to 1039 all marked as "Best". To the right is the "Data" pane showing the schema of the "Best_Flights_Table" and other data sources like "flight_information", "MeasureTable", "passenger_information", and "ticket_information". The bottom status bar shows "Page 3 of 3", weather "20°C Partly cloudy", and system info "Update available (click to download)".

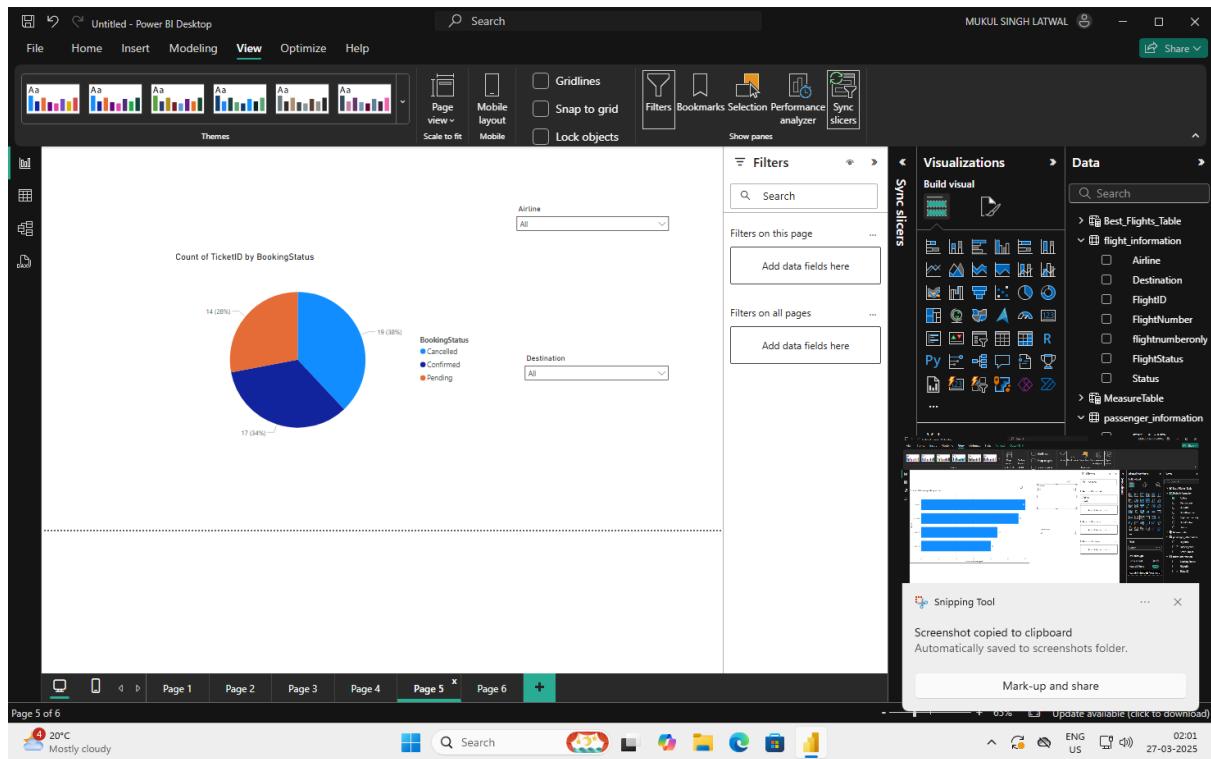
Task 5: Visualization and Interactive Features

Bar Chart: Passenger Count by Airline

The screenshot shows the Power BI Desktop interface with the title bar "Untitled - Power BI Desktop" and the status bar "MUKUL SINGH LATWAL". The ribbon menu is visible with tabs like File, Home, Insert, Modeling, View, Optimize, Help, Format, Data / Drill, and View. The view tab is selected, showing various themes and layout options. The main area contains a bar chart titled "Count of PassengerID by Airline" with the formula: `Count of PassengerID by Airline`. The chart shows four bars for Airline A (30), Airline D (28), Airline C (22), and Airline B (20). To the right is the "Data" pane showing the schema of the "Best_Flights_Table" and other data sources like "flight_information", "MeasureTable", "passenger_information", and "ticket_information". The bottom status bar shows "Page 4 of 6", weather "20°C Mostly cloudy", and system info "Update available (click to download)".

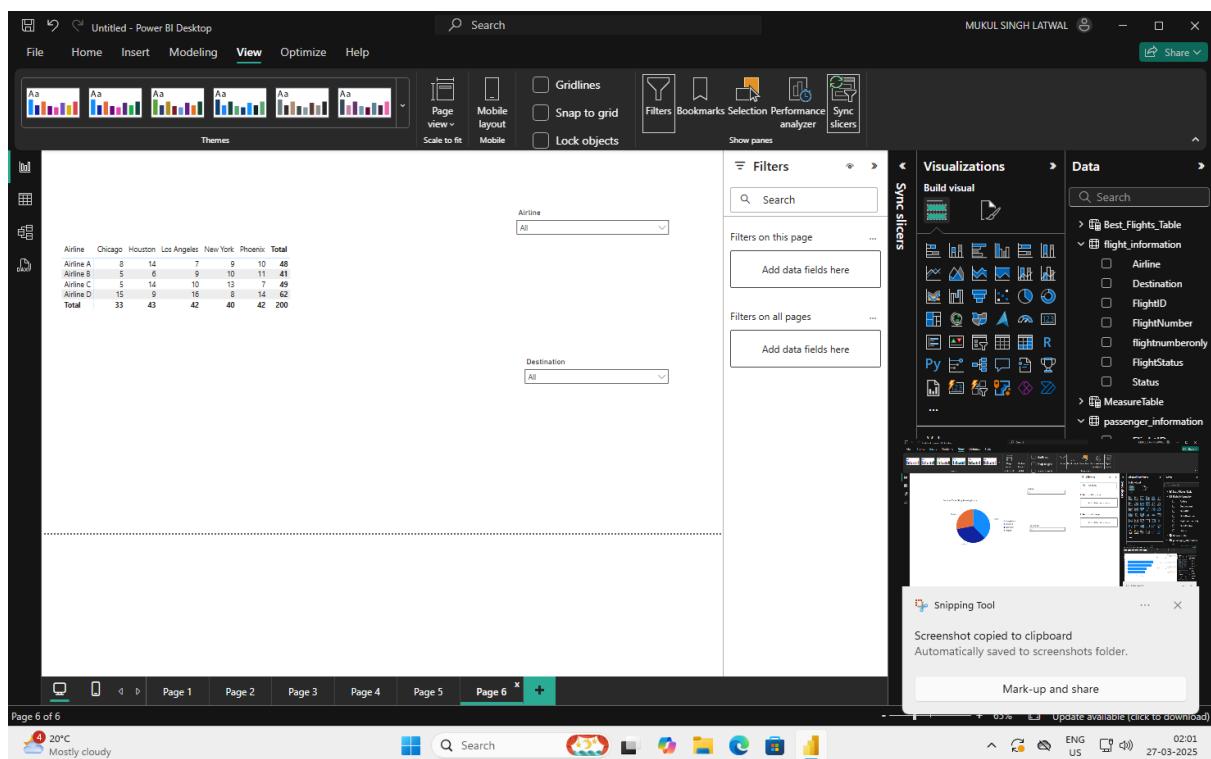
Pie Chart: Ticket Booking Status

Show different booking statuses in a percentage format.



Matrix Table: Flights by Airline and Destination

Show the number of flights each airline has for different destinations.

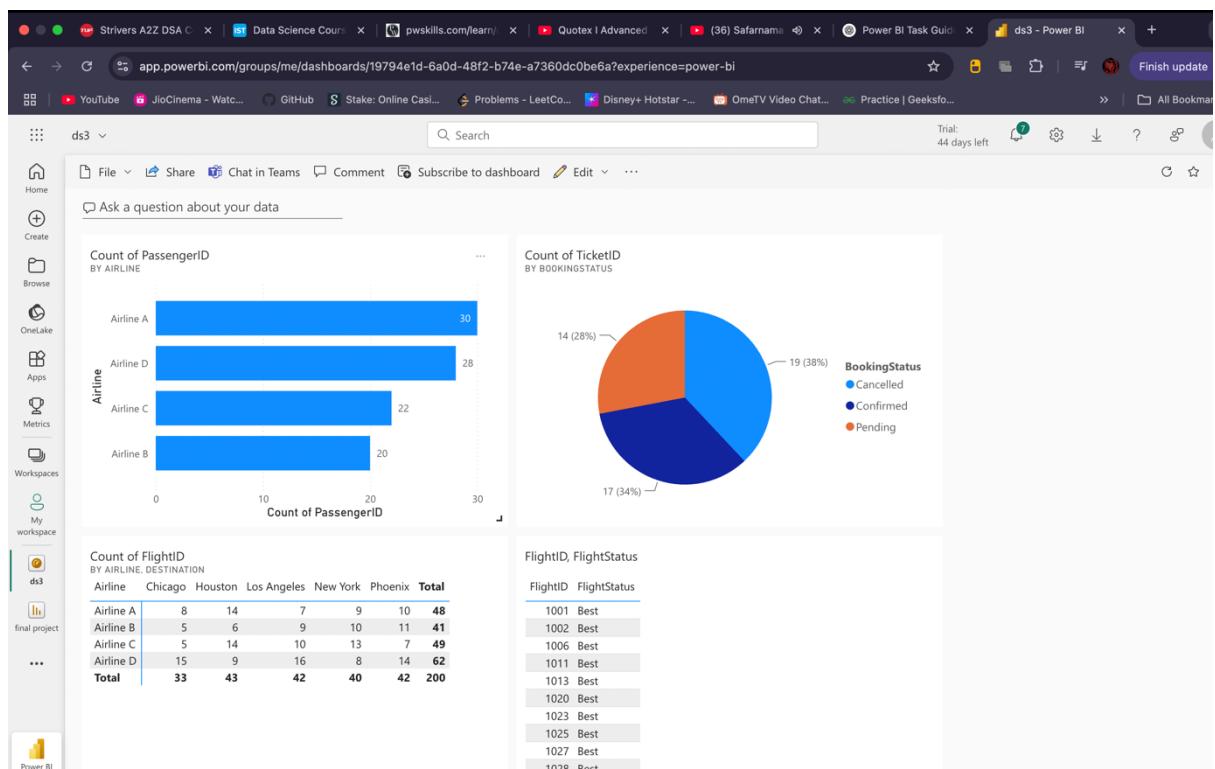


Task 6: Final Dashboard and Power BI Service

Open **Power BI Desktop**.

Click on "File" → "Publish" → "Power BI Service".

Select your **Workspace**



Configure Row-Level Security (RLS) in Power BI Service

1 Go to **Datasets** → Click on "..." → **Security**.

2 Select the role you created ("AirlineA_RLS").

3 Add users who should only see **Airline A data**.

Set Up Scheduled Refresh at 5 PM Daily

1 Go to **Datasets** in Power BI Service.

2 Click on "..." → **"Schedule Refresh"**.

3 Turn on **Keep Data Updated**.

4 Set **Refresh Time = 5:00 PM**.

final project * Last saved: Today at 2:06 AM

MUKUL SINGH LATWAL

File Home Insert Modeling View Optimize Help

Manage relationships Relationships

New visual calculation

Quick measure

Model

Share

Manage security roles

Create new security roles and use filters to define row-level data restrictions.

Roles

+ New

Airline_A_RLS

Select tables

Best_Flights_Ta...
flight_informat...
MeasureTable
passenger_inf...
ticket_informat...

Filter data

1 [Airline] = "Airline A"

Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"

Save Close

Data

Best_Flights_Table

flight_information

Airline
Destination
FlightID
FlightNumber
flightnumberonly
FlightStatus
Status

MeasureTable

passenger_information

FlightID
PassengerID
SeatNumber

ticket_information

BookingStatus
FlightID
TicketID

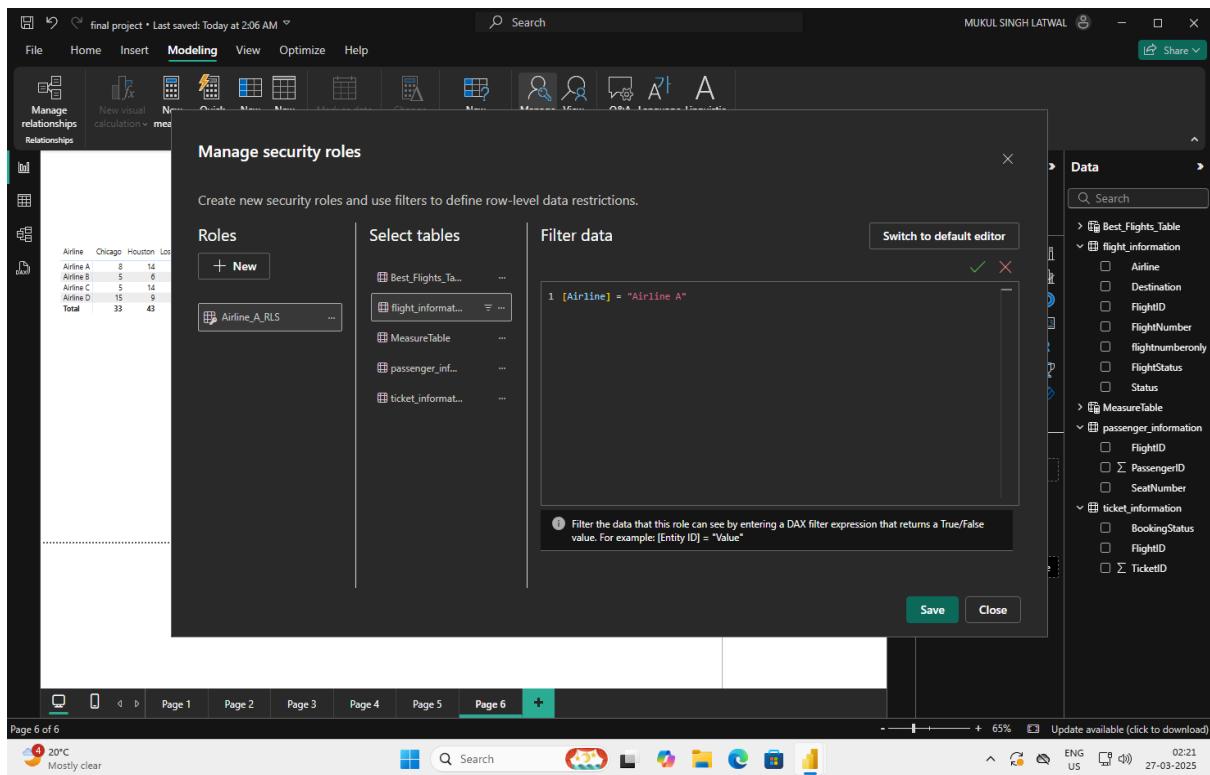
Page 6 of 6

20°C Mostly clear

Search

Update available (click to download)

02:21 27-03-2025



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Power BI My workspace

Q Search Trial: 44 days left

Data source credentials

Flight_Information.xlsx
Passenger_Information.xlsx
Ticket_Information.xlsx

Parameters

Refresh

Time zone

Time zone configuration is applied not only to determine the schedule refresh time but also to establish the current date and time for incremental refresh models during on-demand and API refreshes. [Learn more](#)

(UTC) Coordinated Universal Time

Configure a refresh schedule

Define a data refresh schedule to import data from the data source into the semantic model. [Learn more](#)

On

Refresh frequency

Daily

Time

5 00 PM

Add another time

Send refresh failure notifications to

Semantic model owner

These contacts:

Enter email addresses

Apply Discard

