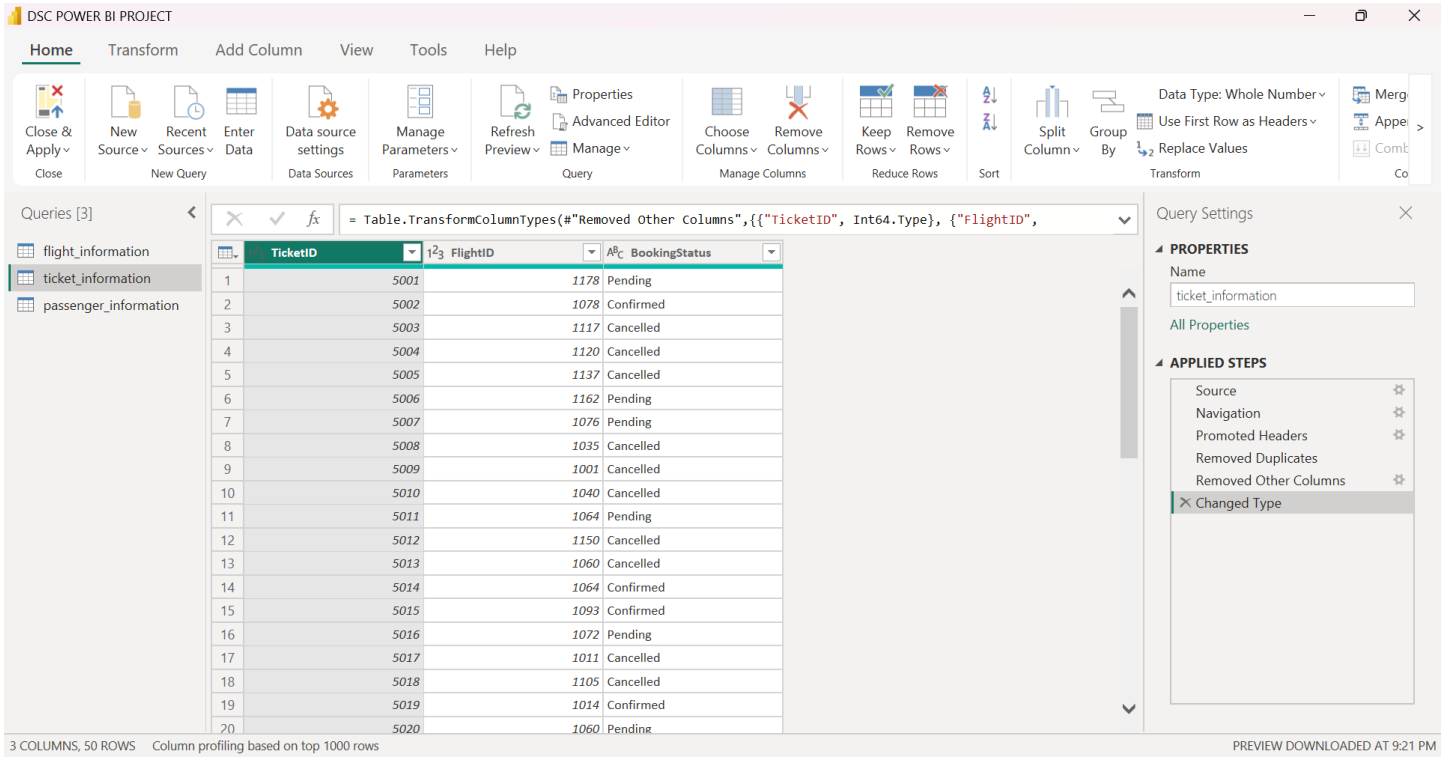
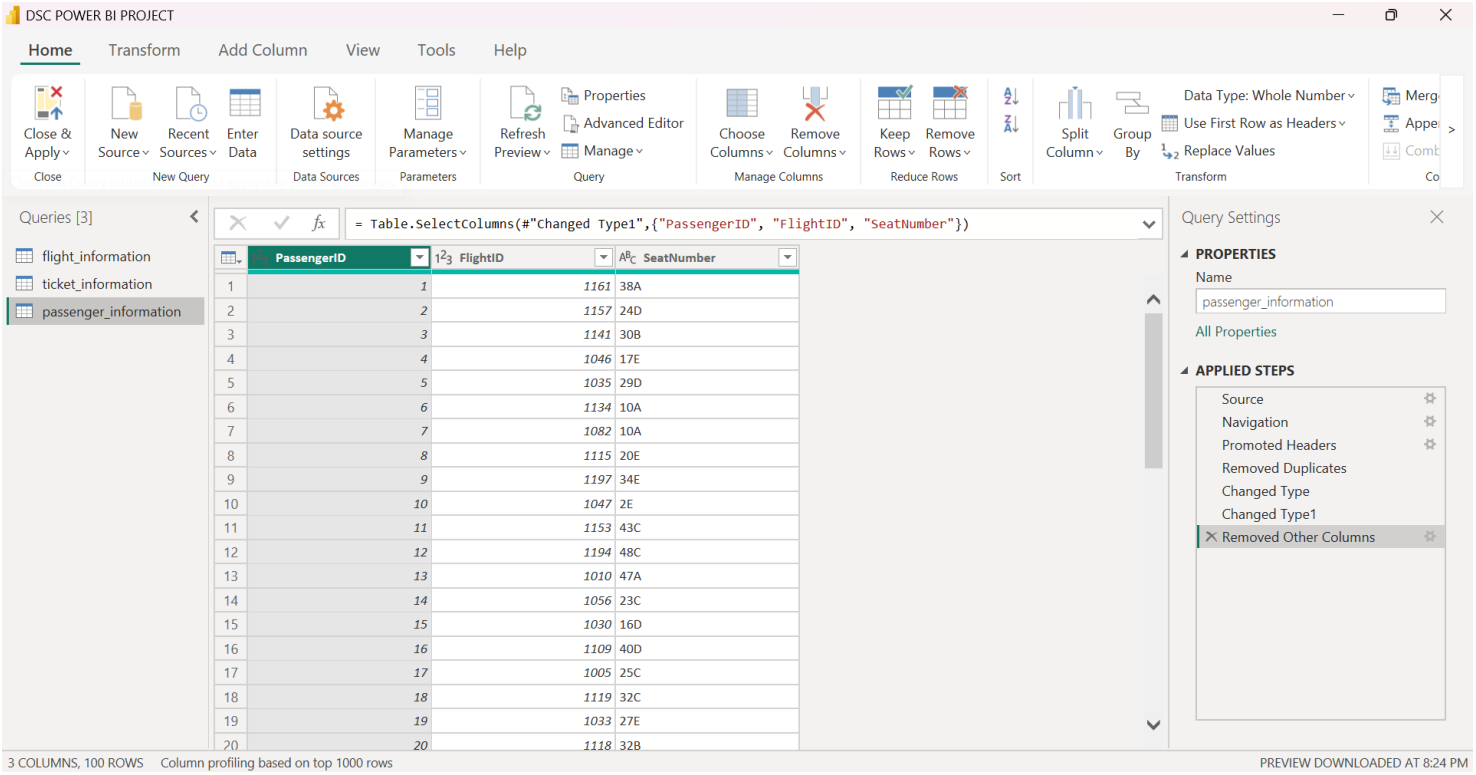
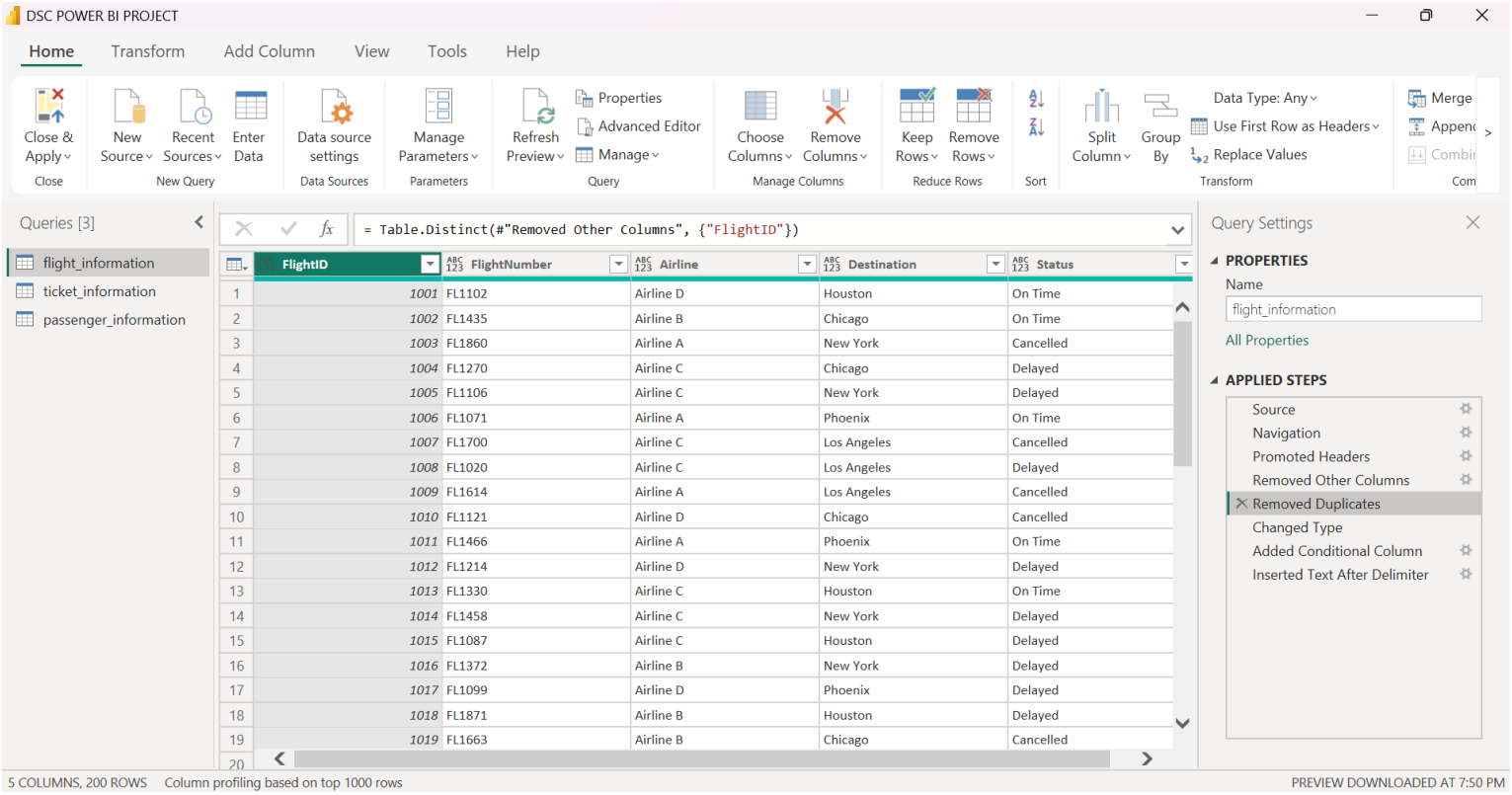
Task 1. Data Preparation and Cleaning



	TicketID	FlightID	BookingStatus
1	5001	1178	Pending
2	5002	1078	Confirmed
3	5003	1117	Cancelled
4	5004	1120	Cancelled
5	5005	1137	Cancelled
6	5006	1162	Pending
7	5007	1076	Pending
8	5008	1035	Cancelled
9	5009	1001	Cancelled
10	5010	1040	Cancelled
11	5011	1064	Pending
12	5012	1150	Cancelled
13	5013	1060	Cancelled
14	5014	1064	Confirmed
15	5015	1093	Confirmed
16	5016	1072	Pending
17	5017	1011	Cancelled
18	5018	1105	Cancelled
19	5019	1014	Confirmed
20	5020	1060	Pending



	PassengerID	FlightID	SeatNumber
1	1	1161	38A
2	2	1157	24D
3	3	1141	30B
4	4	1046	17E
5	5	1035	29D
6	6	1134	10A
7	7	1082	10A
8	8	1115	20E
9	9	1197	34E
10	10	1047	2E
11	11	1153	43C
12	12	1194	48C
13	13	1010	47A
14	14	1056	23C
15	15	1030	16D
16	16	1109	40D
17	17	1005	25C
18	18	1119	32C
19	19	1033	27E
20	20	1118	32B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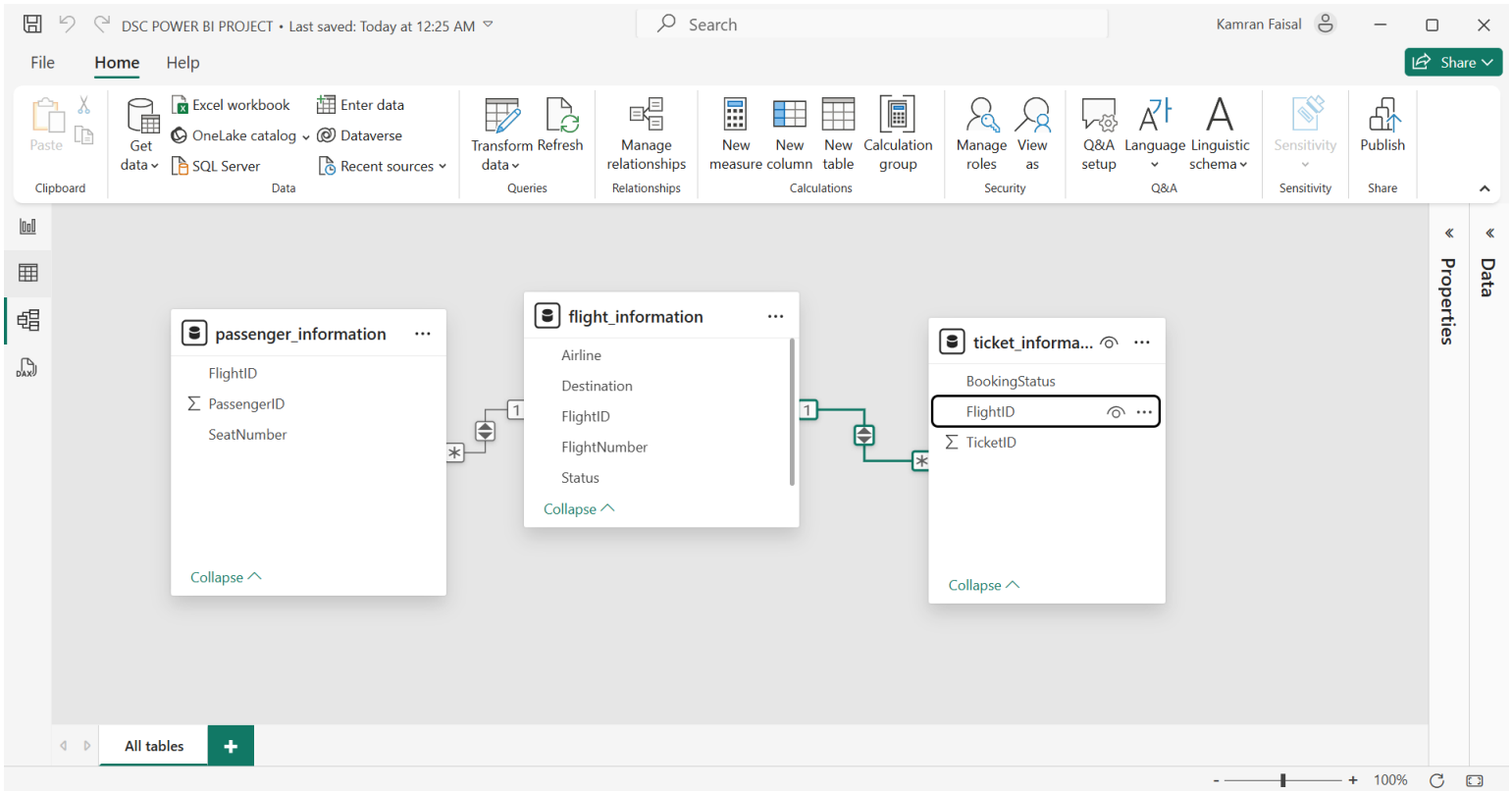
Recent Sources
Enter Data
Data source settings
Manage Parameters
Refresh Preview
Properties
Advanced Editor
Manage
Choose Columns
Remove Columns
Keep Rows
Remove Rows
Split Column
Group By
Data Type: Any
Use First Row as Headers
Replace Values
Merge
Close
New Query
Data Sources
Parameters
Query
Manage Columns
Reduce Rows
Sort
Transform
Queries [3]
flight_information
ticket_information
passenger_information
= Table.Distinct(#"Removed Other Columns", {"FlightID"})
FlightID
FlightNumber
Airline
Destination
Status
1001 FL1102 Airline D Houston On Time
1002 FL1435 Airline B Chicago On Time
1003 FL1860 Airline A New York Cancelled
1004 FL1270 Airline C Chicago Delayed
1005 FL1106 Airline C New York Delayed
1006 FL1071 Airline A Phoenix On Time
1007 FL1700 Airline C Los Angeles Cancelled
1008 FL1020 Airline C Los Angeles Delayed
1009 FL1614 Airline A Los Angeles Cancelled
1010 FL1121 Airline D Chicago Cancelled
1011 FL1466 Airline A Phoenix On Time
1012 FL1214 Airline D New York Delayed
1013 FL1330 Airline C Houston On Time
1014 FL1458 Airline C New York Delayed
1015 FL1087 Airline C Houston Delayed
1016 FL1372 Airline B New York Delayed
1017 FL1099 Airline D Phoenix Delayed
1018 FL1871 Airline B Houston Delayed
1019 FL1663 Airline B Chicago Cancelled
Query Settings
PROPERTIES
Name
flight_information
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Removed Other Columns
Removed Duplicates
Changed Type
Added Conditional Column
Inserted Text After Delimiter
5 COLUMNS, 200 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 7:50 PM

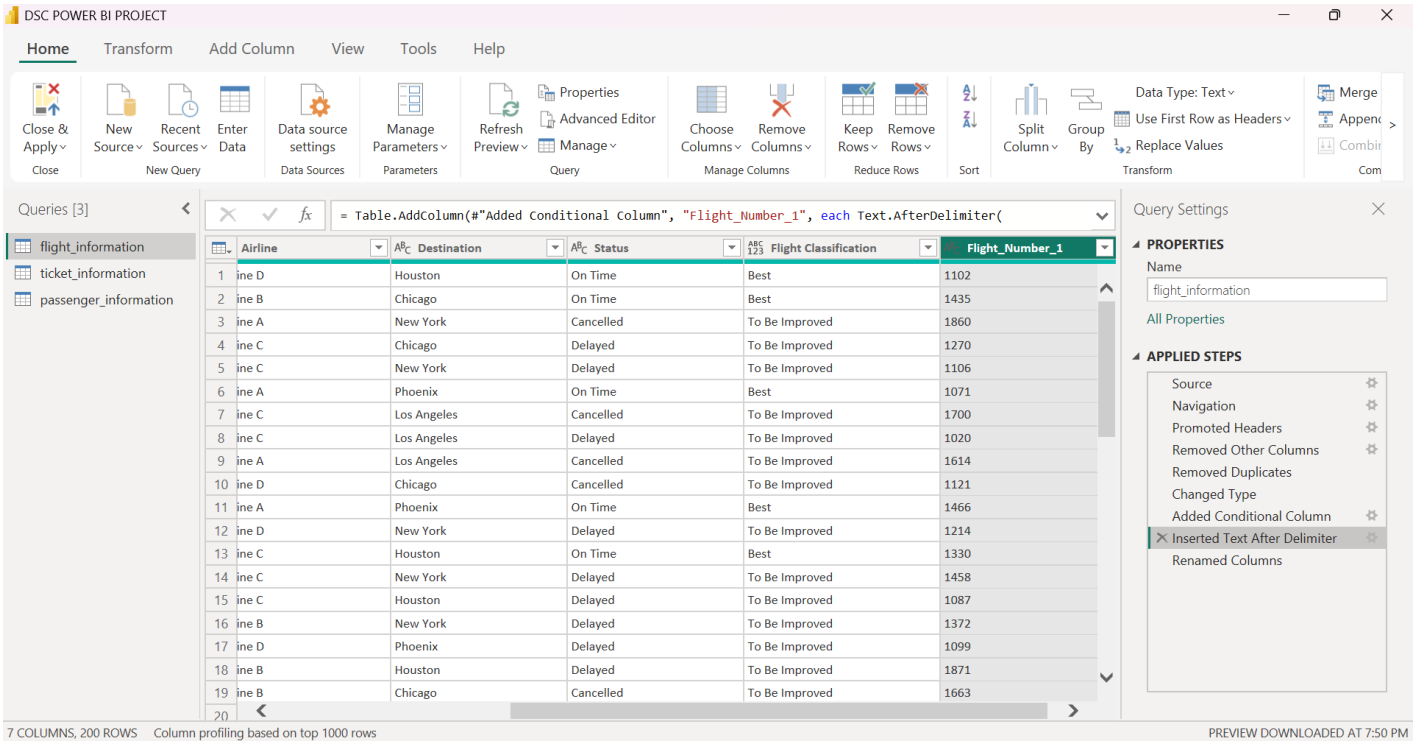
2. Data Modeling

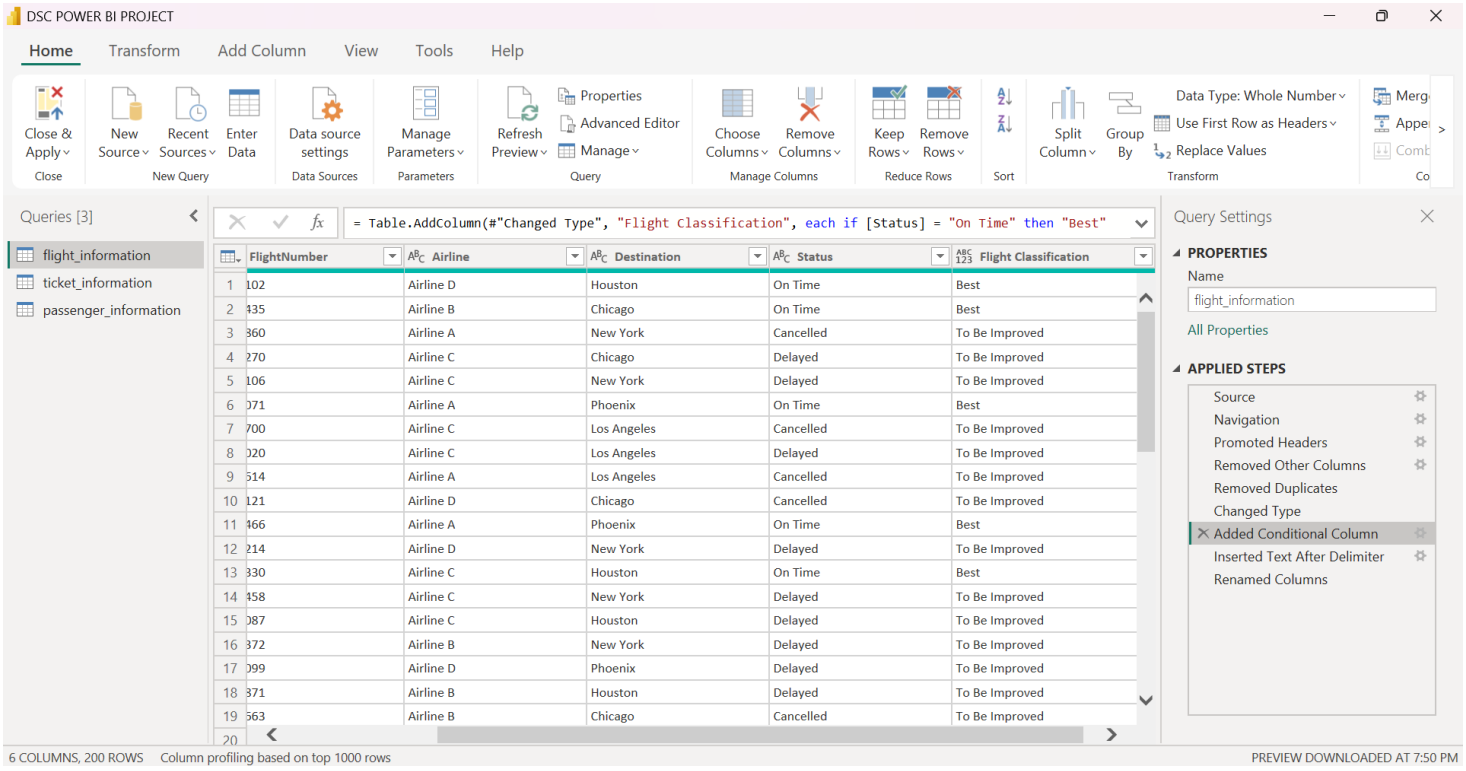
- Create relationships between datasets (FlightID as the key).
- Understand cardinality and configure the model appropriately.



3. Enhanced Data Insights

- Add a conditional column to classify flights as "Best" or "To Be Improved" based on status
- Use "Column from Examples" to extract the flight number from FlightNumber.

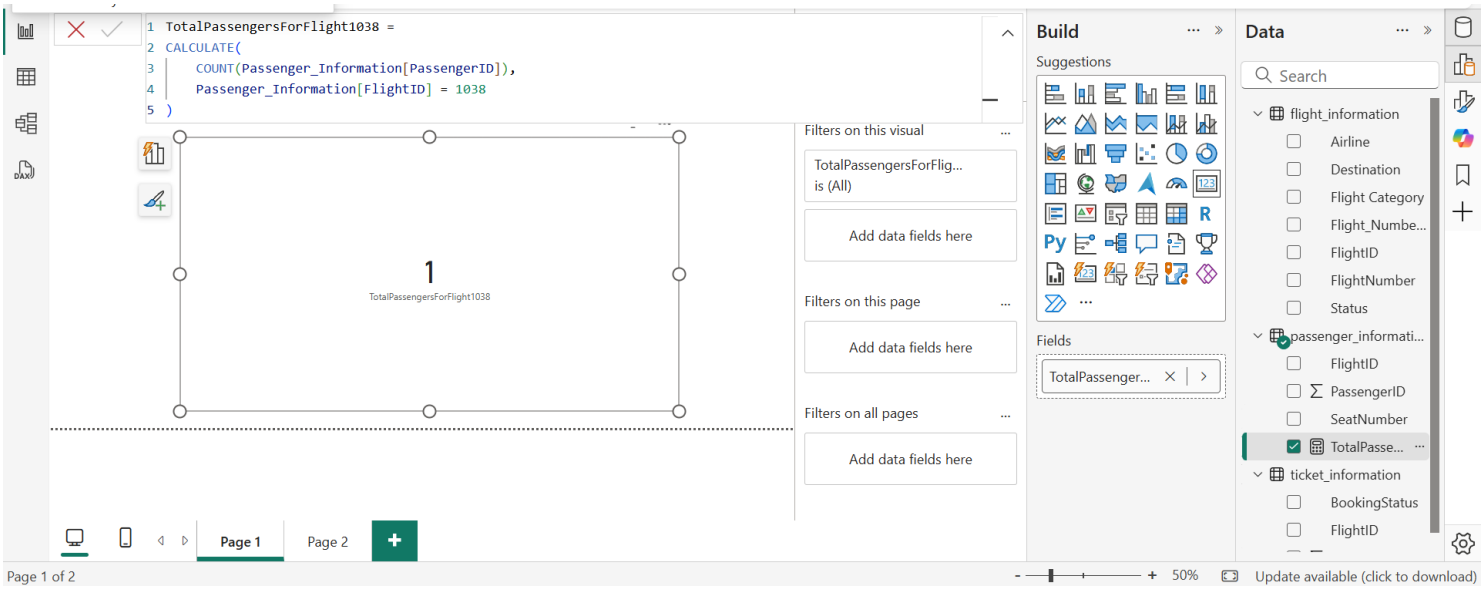




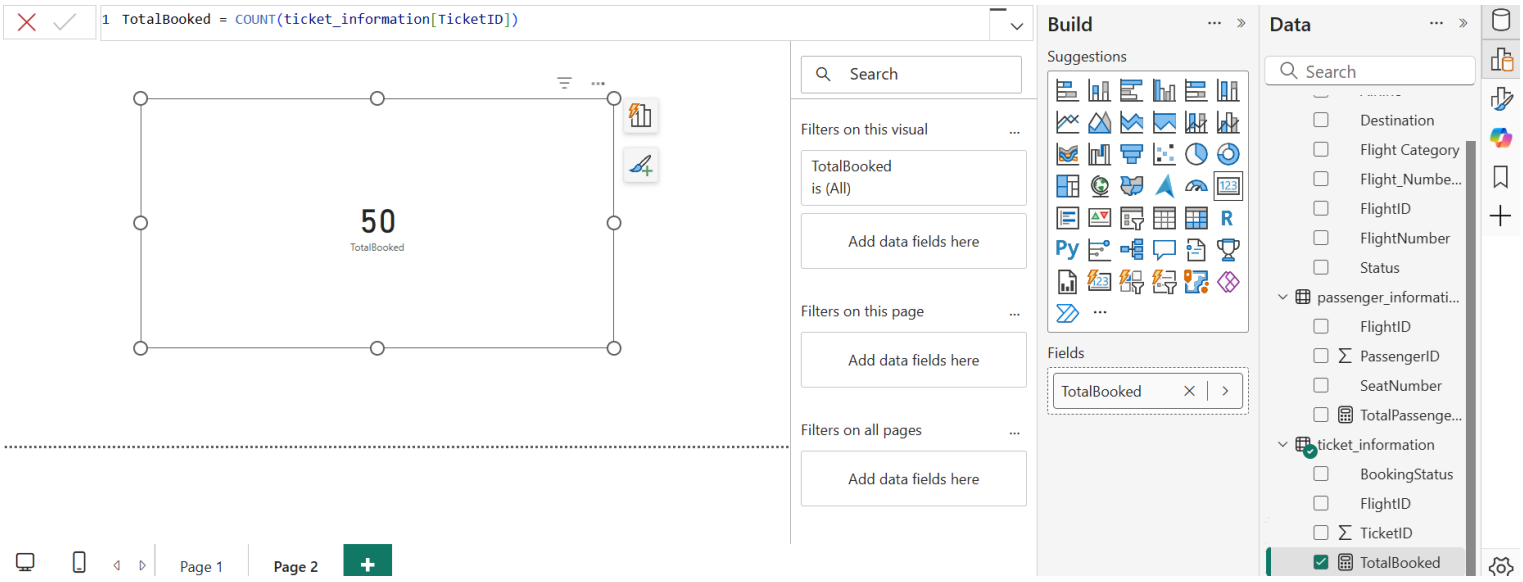
4. Calculations Using DAX

Calculate:

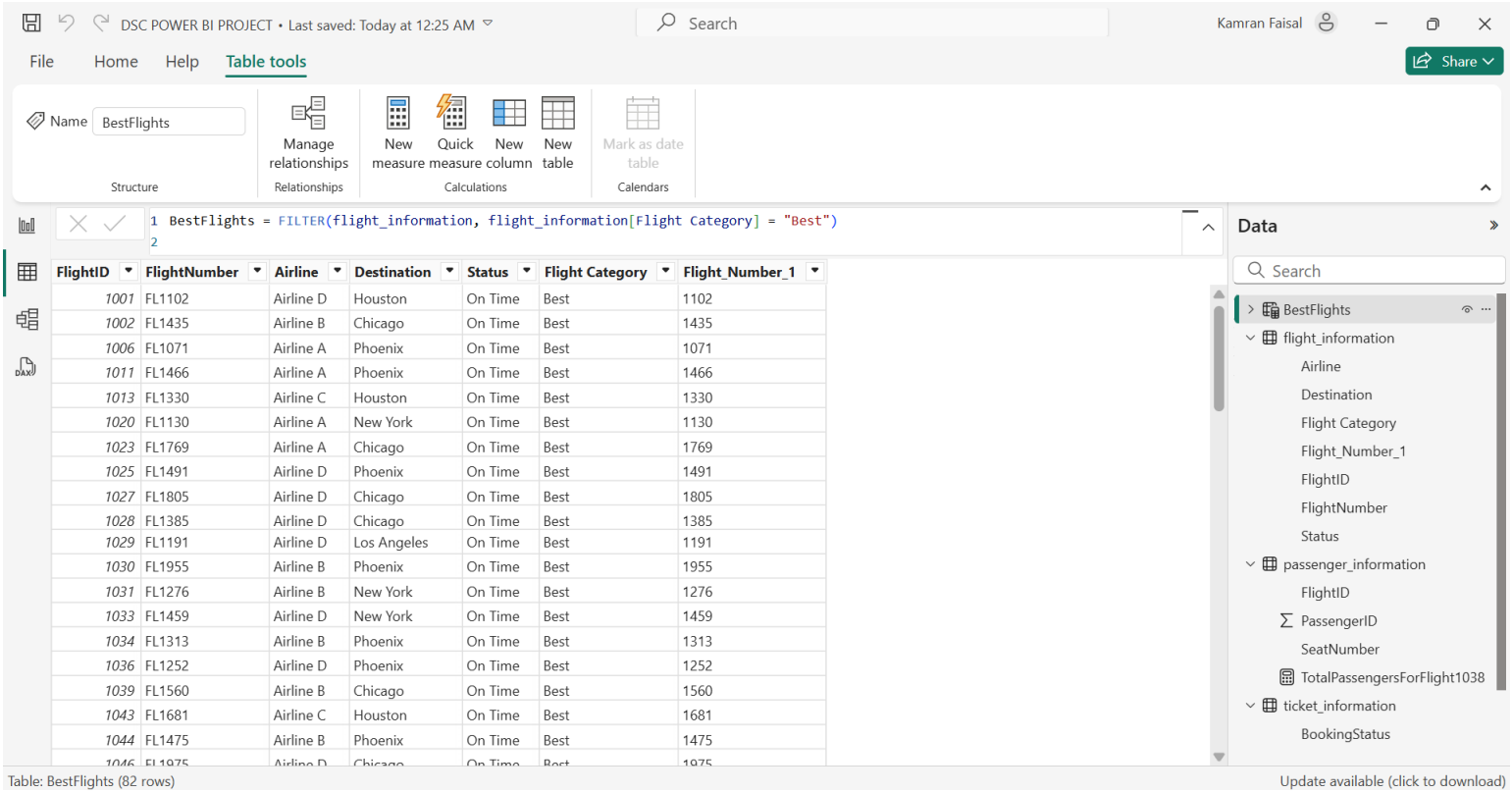
- Total passengers for a specific flight.



- Total tickets booked.



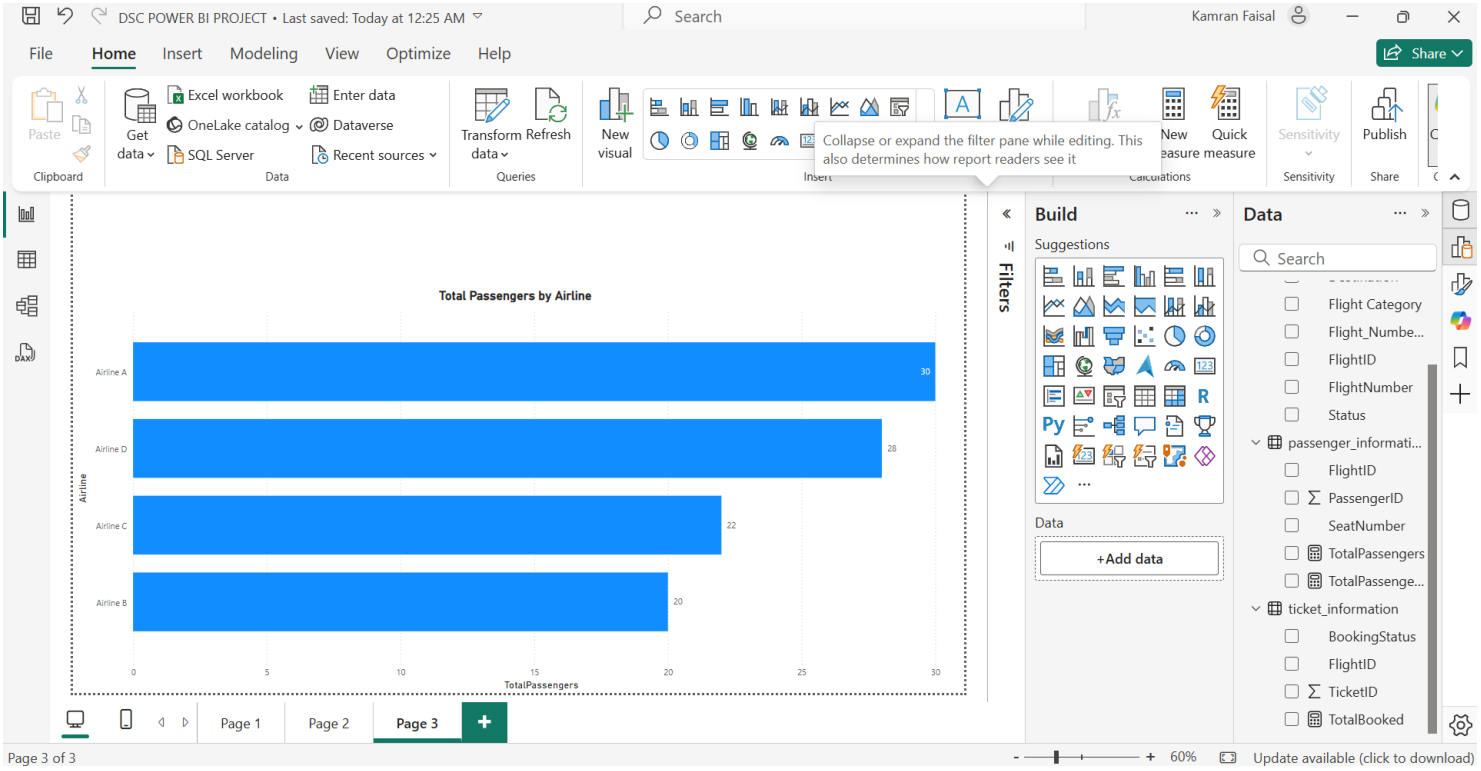
- Filtered table showing "Best" flights only.



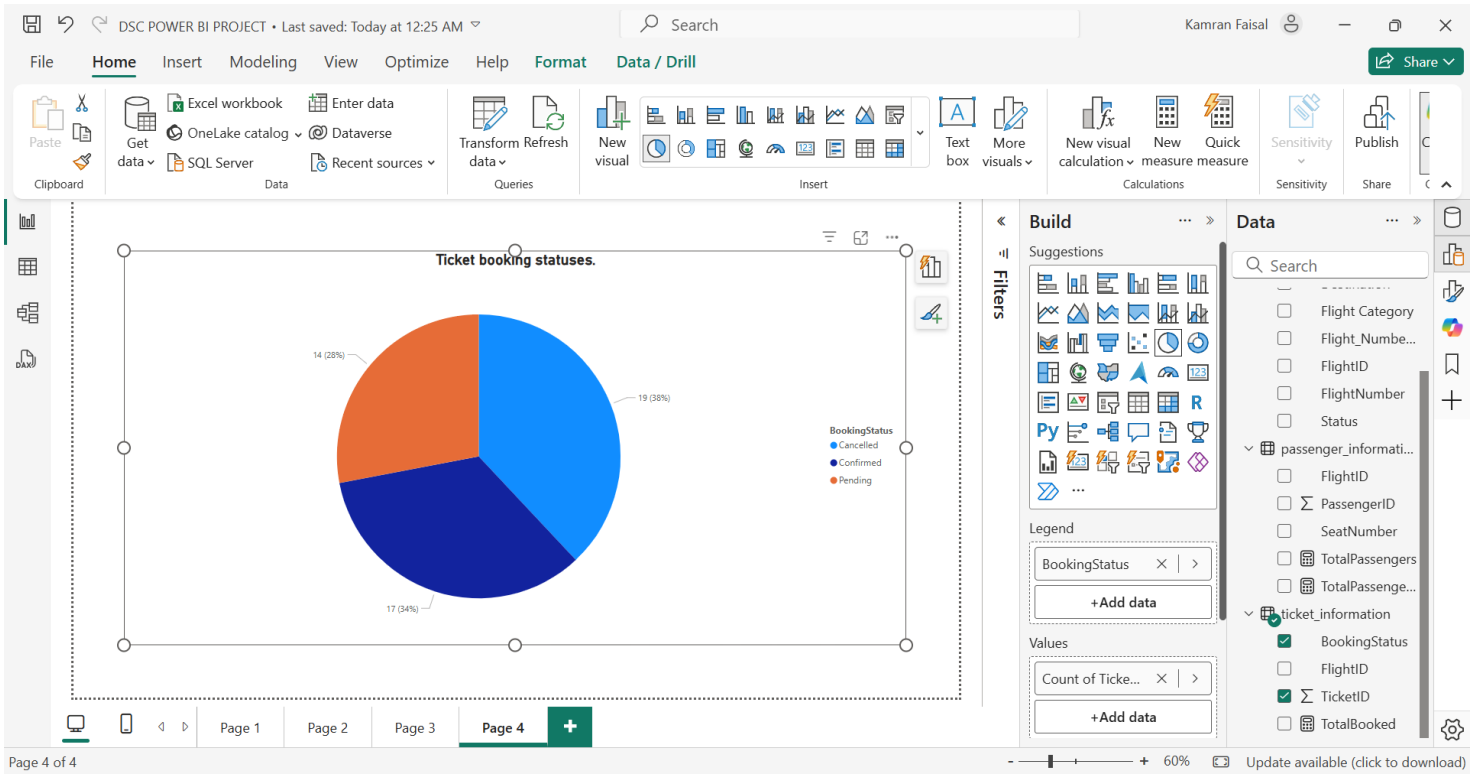
FlightID	FlightNumber	Airline	Destination	Status	Flight Category	Flight_Number_1
1001	FL1102	Airline D	Houston	On Time	Best	1102
1002	FL1435	Airline B	Chicago	On Time	Best	1435
1006	FL1071	Airline A	Phoenix	On Time	Best	1071
1011	FL1466	Airline A	Phoenix	On Time	Best	1466
1013	FL1330	Airline C	Houston	On Time	Best	1330
1020	FL1130	Airline A	New York	On Time	Best	1130
1023	FL1769	Airline A	Chicago	On Time	Best	1769
1025	FL1491	Airline D	Phoenix	On Time	Best	1491
1027	FL1805	Airline D	Chicago	On Time	Best	1805
1028	FL1385	Airline D	Chicago	On Time	Best	1385
1029	FL1191	Airline D	Los Angeles	On Time	Best	1191
1030	FL1955	Airline B	Phoenix	On Time	Best	1955
1031	FL1276	Airline B	New York	On Time	Best	1276
1033	FL1459	Airline D	New York	On Time	Best	1459
1034	FL1313	Airline B	Phoenix	On Time	Best	1313
1036	FL1252	Airline D	Phoenix	On Time	Best	1252
1039	FL1560	Airline B	Chicago	On Time	Best	1560
1043	FL1681	Airline C	Houston	On Time	Best	1681
1044	FL1475	Airline B	Phoenix	On Time	Best	1475
1046	FL1975	Airline D	Chicago	On Time	Best	1975

5. Visualization and Interactive Features

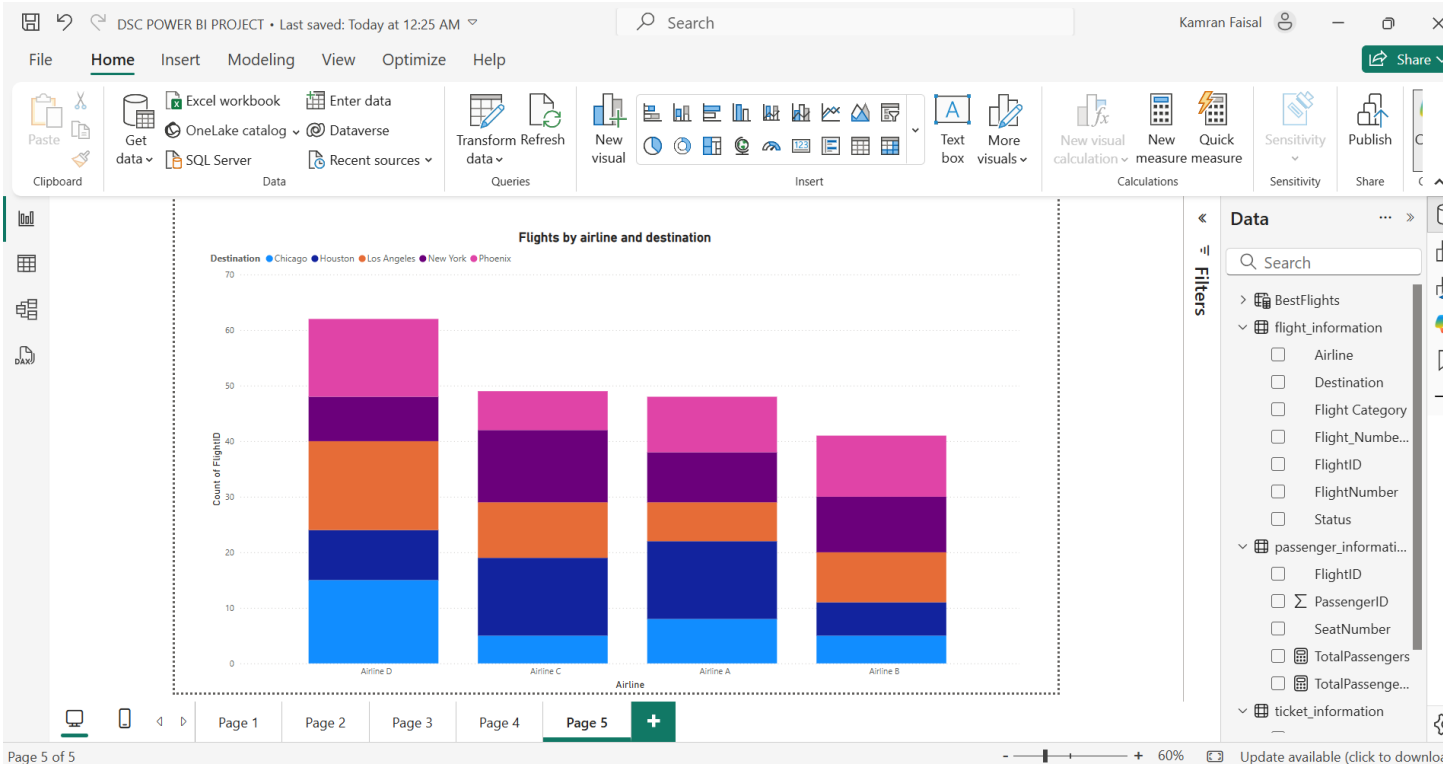
- Create visuals for:
    - Passenger count by airline.



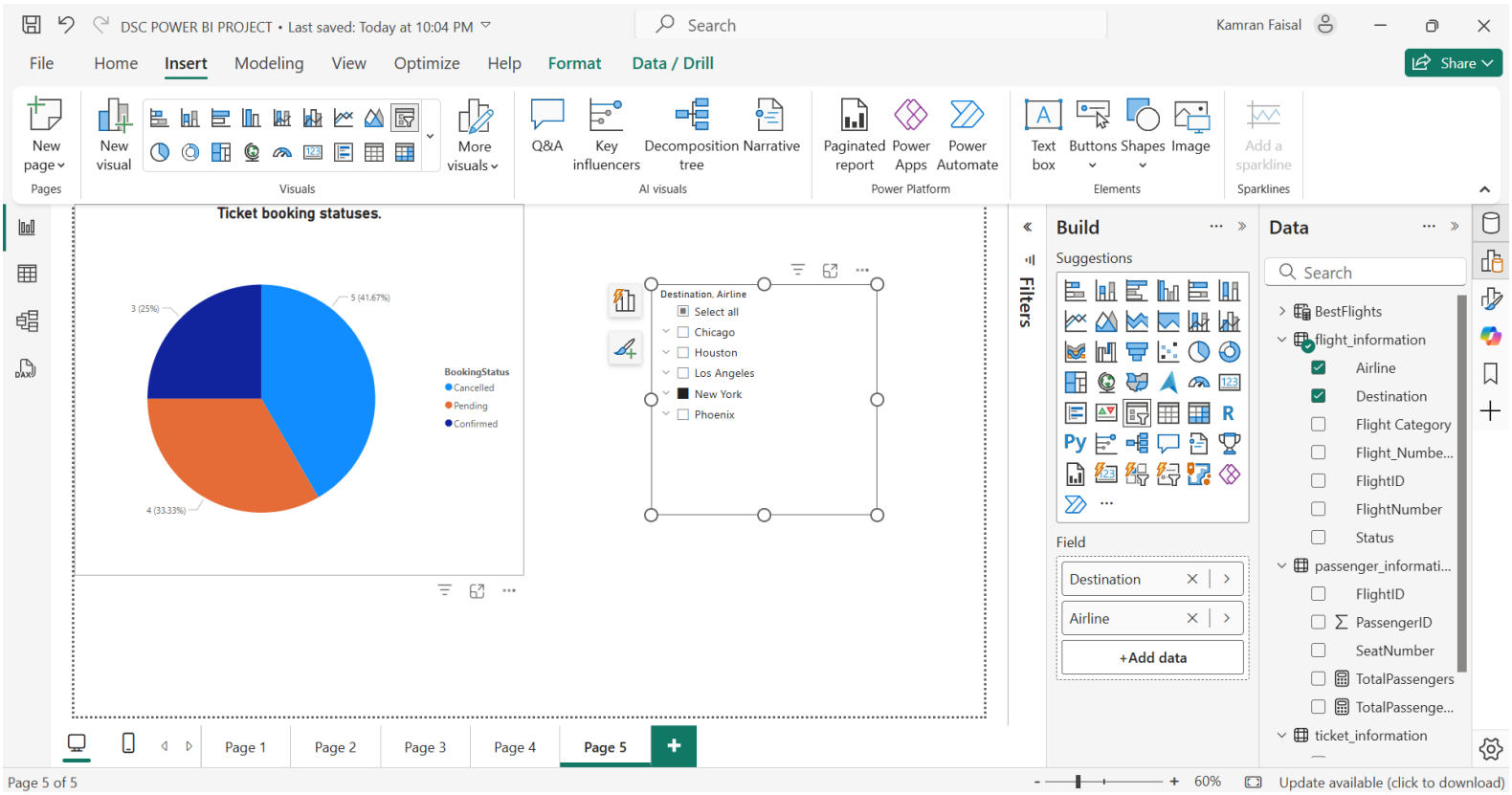
- Ticket booking statuses.
-

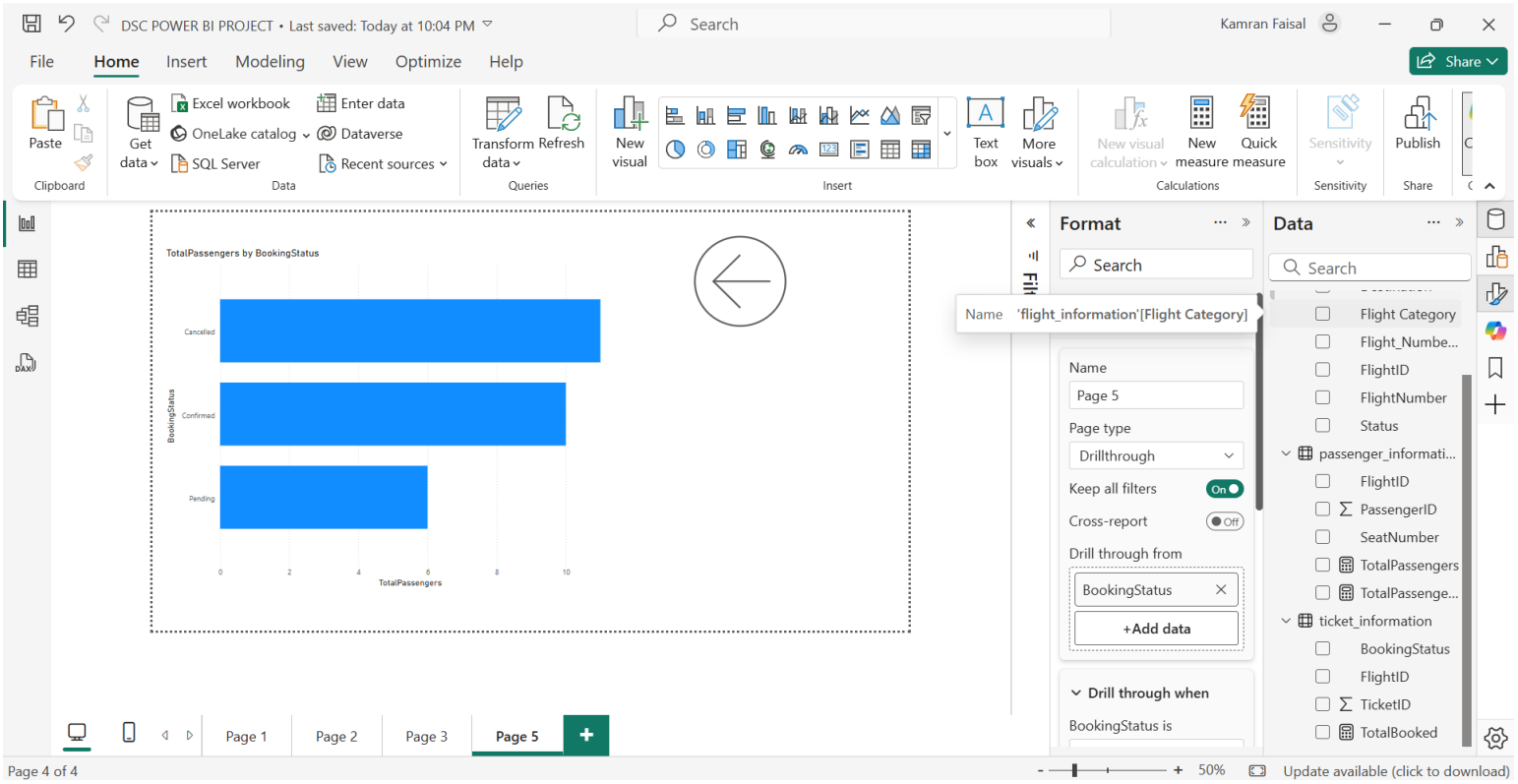


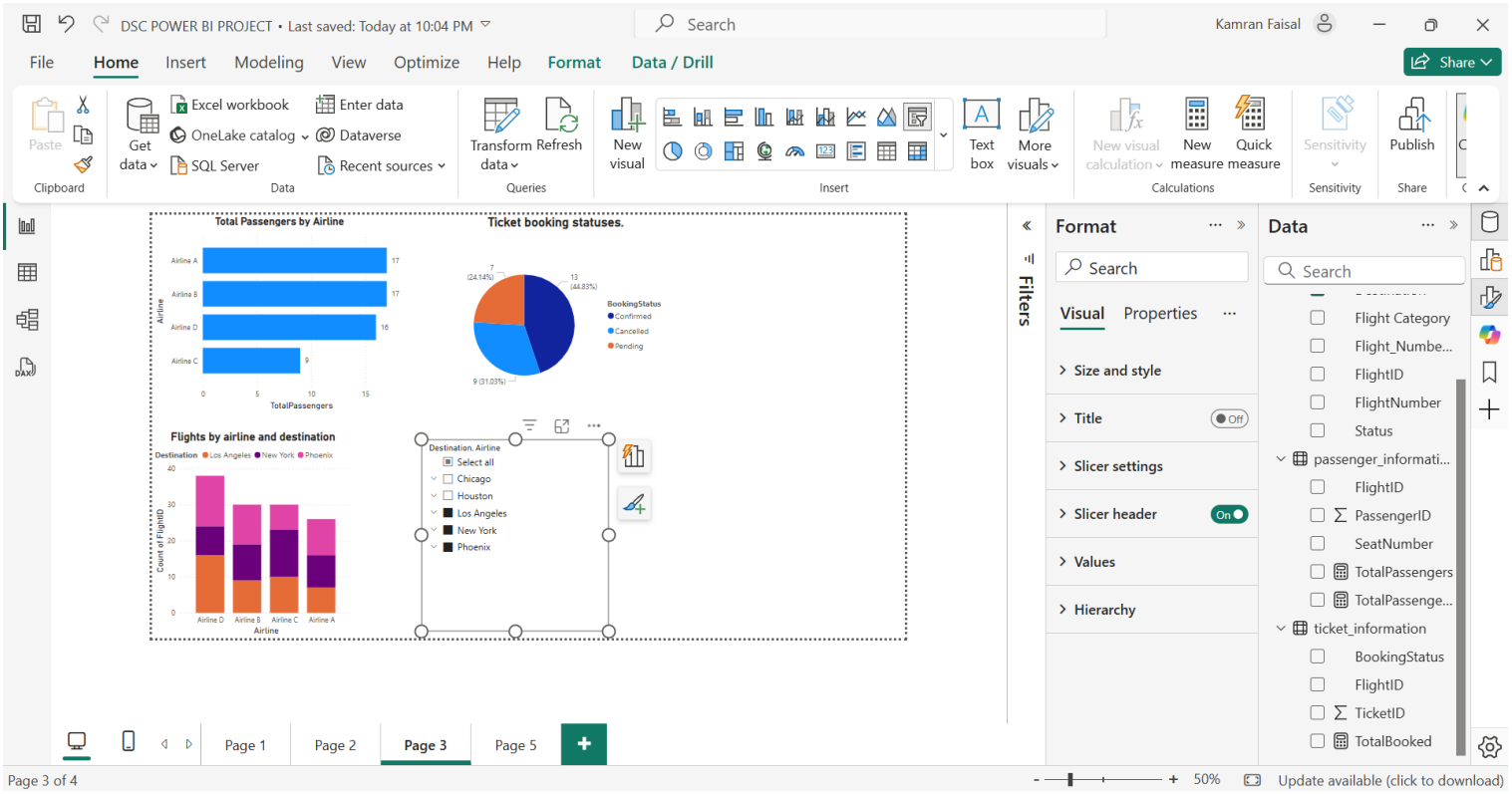
- Flights by airline and destination



- Add interactive features for:
    - Destination and Airline.
    - Quick views.
    - Airline-specific pages.



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Total Passengers by Airline
Airline A
Airline B
Airline D
Airline C
17
17
16
9
Airline
TotalPassengers
Ticket booking statuses.
7 (24.14%)
13 (44.83%)
9 (31.03%)
BookingStatus
Confirmed
Cancelled
Pending
Flights by airline and destination
Destination
Los Angeles
New York
Phoenix
Count of FlightID
Airline D
Airline B
Airline C
Airline A
Destination, Airline
Select all
Chicago
Houston
Los Angeles
New York
Phoenix
Filters
Format
Search
Visual
Properties
Size and style
Title
Off
Slicer settings
Slicer header
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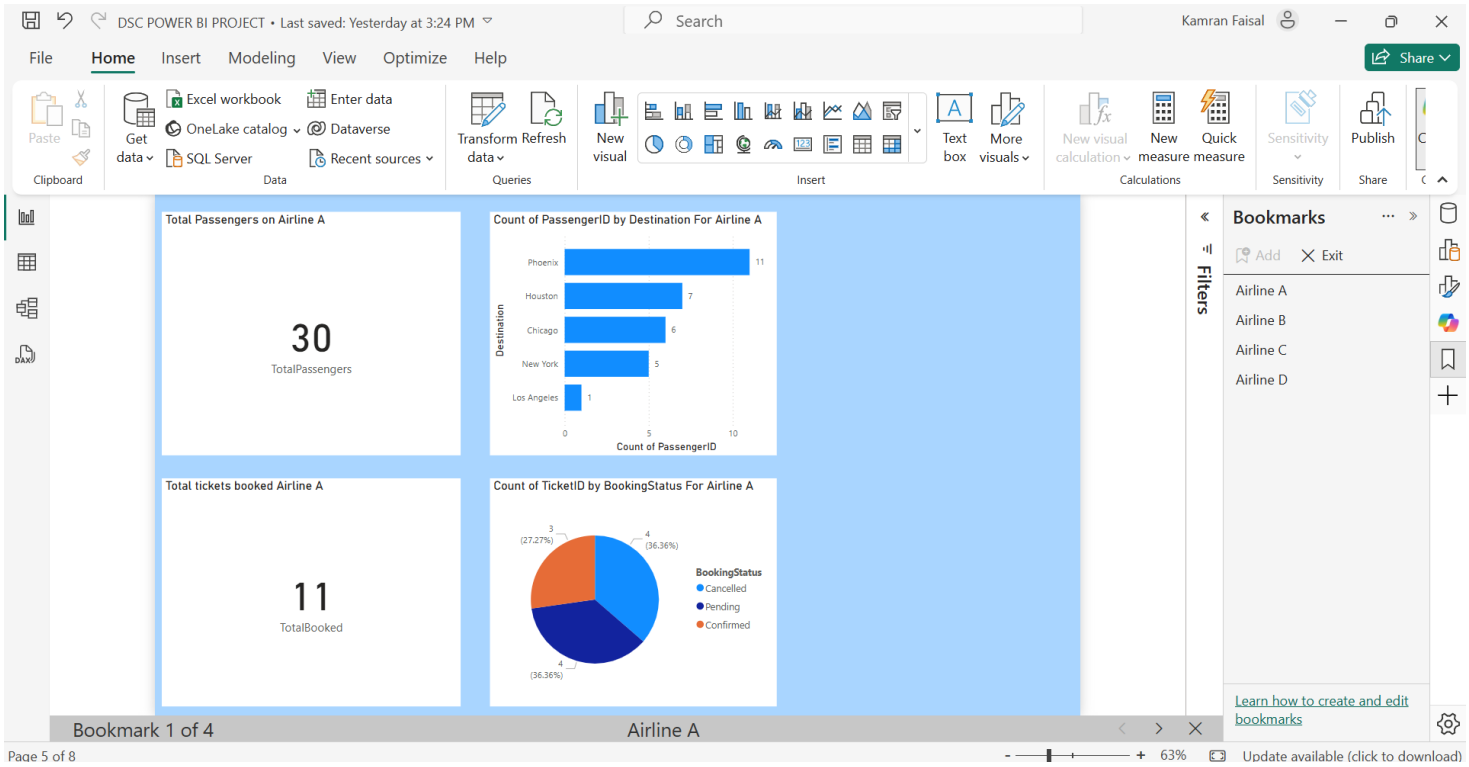
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Total Passengers on Airline A
30
TotalPassengers
Count of PassengerID by Destination For Airline A
Phoenix
Houston
Chicago
New York
Los Angeles
11
7
6
5
1
Destination
Count of PassengerID
Total tickets booked Airline A
11
TotalBooked
Count of TicketID by BookingStatus For Airline A
3 (27.27%)
4 (36.36%)
4 (36.36%)
BookingStatus
Cancelled
Pending
Confirmed
Filters
Bookmarks
Add
Exit
Airline A
Airline B
Airline C
Airline D
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Bookmark 1 of 4
Airline A
Page 5 of 8
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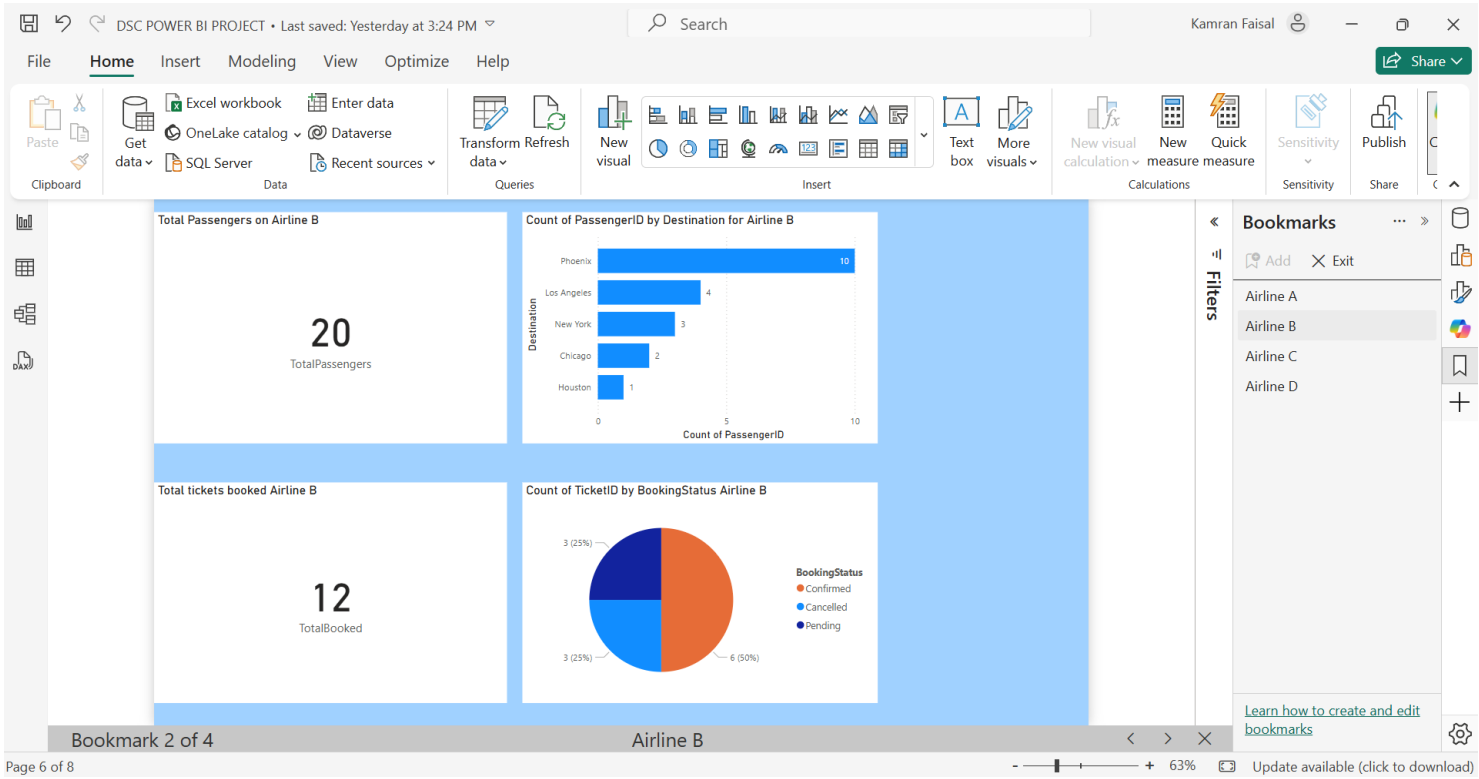
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New measure
Quick measure
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Clipboard
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Calculations
Sensitivity
Share
Total Passengers on Airline B
20
TotalPassengers
Count of PassengerID by Destination for Airline B
Phoenix
Los Angeles
New York
Chicago
Houston
Destination
Count of PassengerID
Total tickets booked Airline B
12
TotalBooked
Count of TicketID by BookingStatus Airline B
3 (25%)
3 (25%)
6 (50%)
BookingStatus
Confirmed
Cancelled
Pending
Filters
Bookmarks
Add
Exit
Airline A
Airline B
Airline C
Airline D
Learn how to create and edit bookmarks
Bookmark 2 of 4
Airline B
Page 6 of 8
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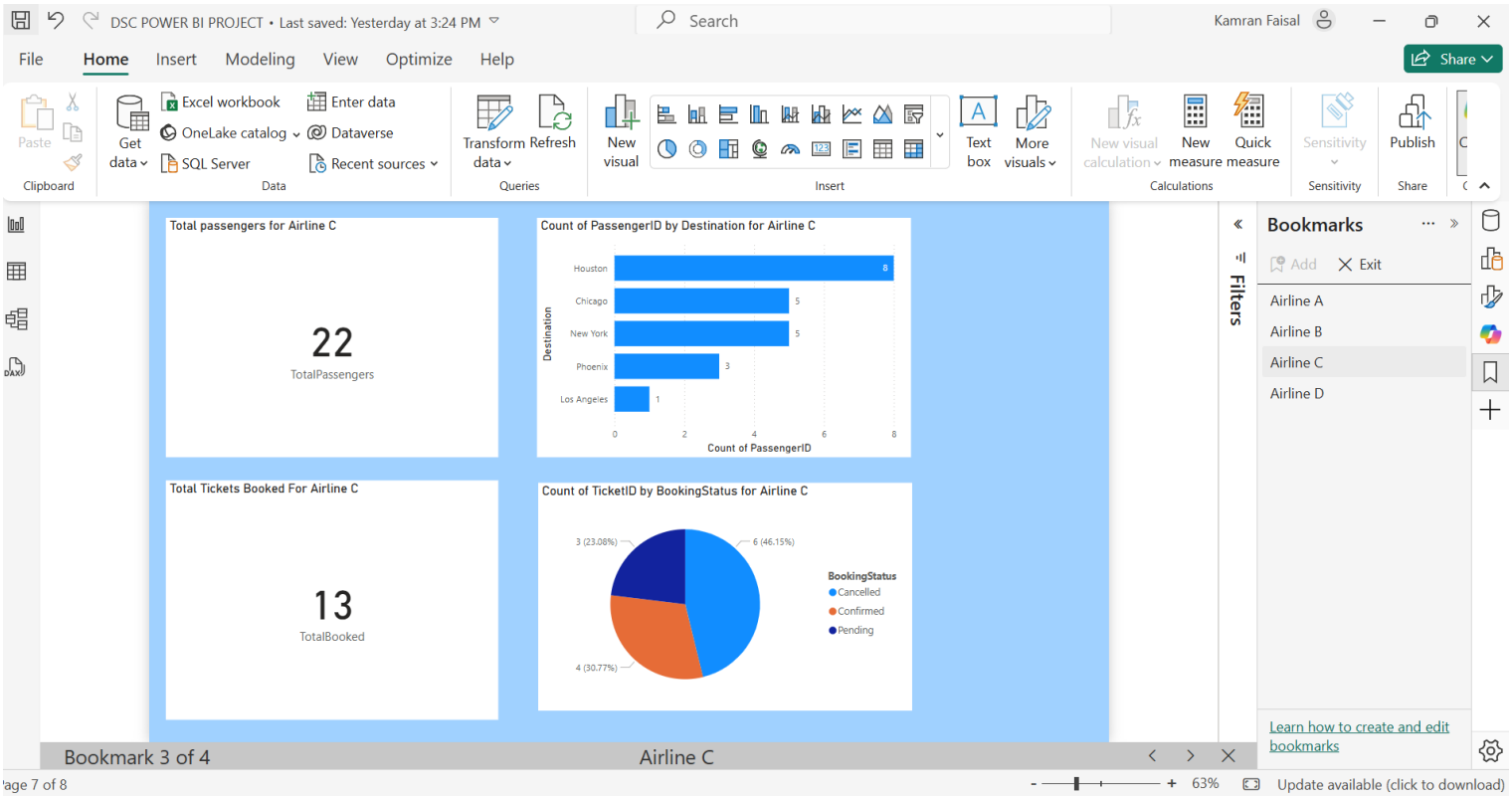
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New visual
Text box
More visuals
New visual calculation
New measure
Quick measure
Sensitivity
Publish
Clipboard
Data
Queries
Insert
Calculations
Sensitivity
Share
Total passengers for Airline C
22
TotalPassengers
Count of PassengerID by Destination for Airline C
Houston
Chicago
New York
Phoenix
Los Angeles
Destination
Count of PassengerID
Total Tickets Booked For Airline C
13
TotalBooked
Count of TicketID by BookingStatus for Airline C
3 (23.08%)
6 (46.15%)
4 (30.77%)
BookingStatus
Cancelled
Confirmed
Pending
Filters
Bookmarks
Add
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Airline B
Airline C
Airline D
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Bookmark 3 of 4
Airline C
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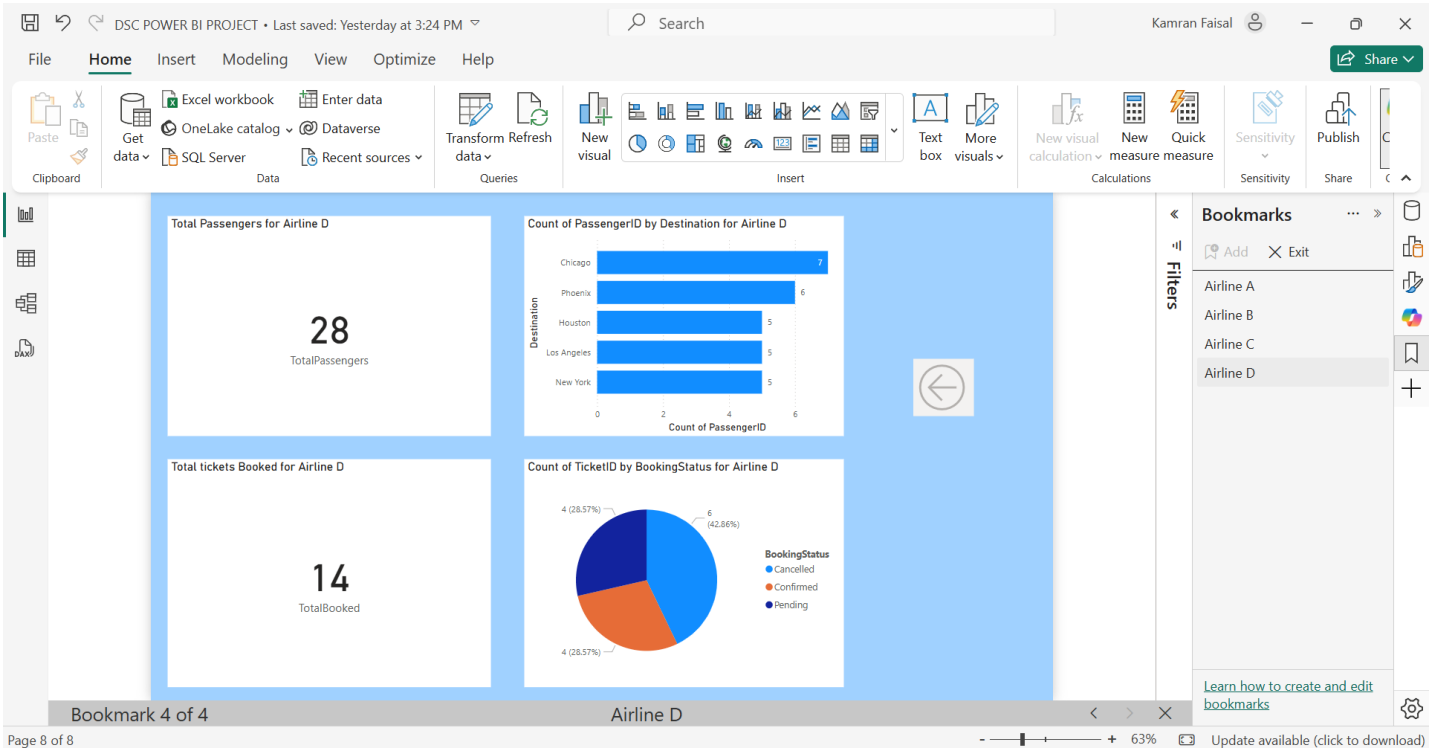
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Total Passengers for Airline D
28
TotalPassengers
Count of PassengerID by Destination for Airline D
Chicago
Phoenix
Houston
Los Angeles
New York
Destination
Count of PassengerID
Total tickets Booked for Airline D
14
TotalBooked
Count of TicketID by BookingStatus for Airline D
BookingStatus
Cancelled
Confirmed
Pending
Bookmarks
Add
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Airline A
Airline B
Airline C
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Learn how to create and edit bookmarks
Bookmark 4 of 4
Airline D
Page 8 of 8
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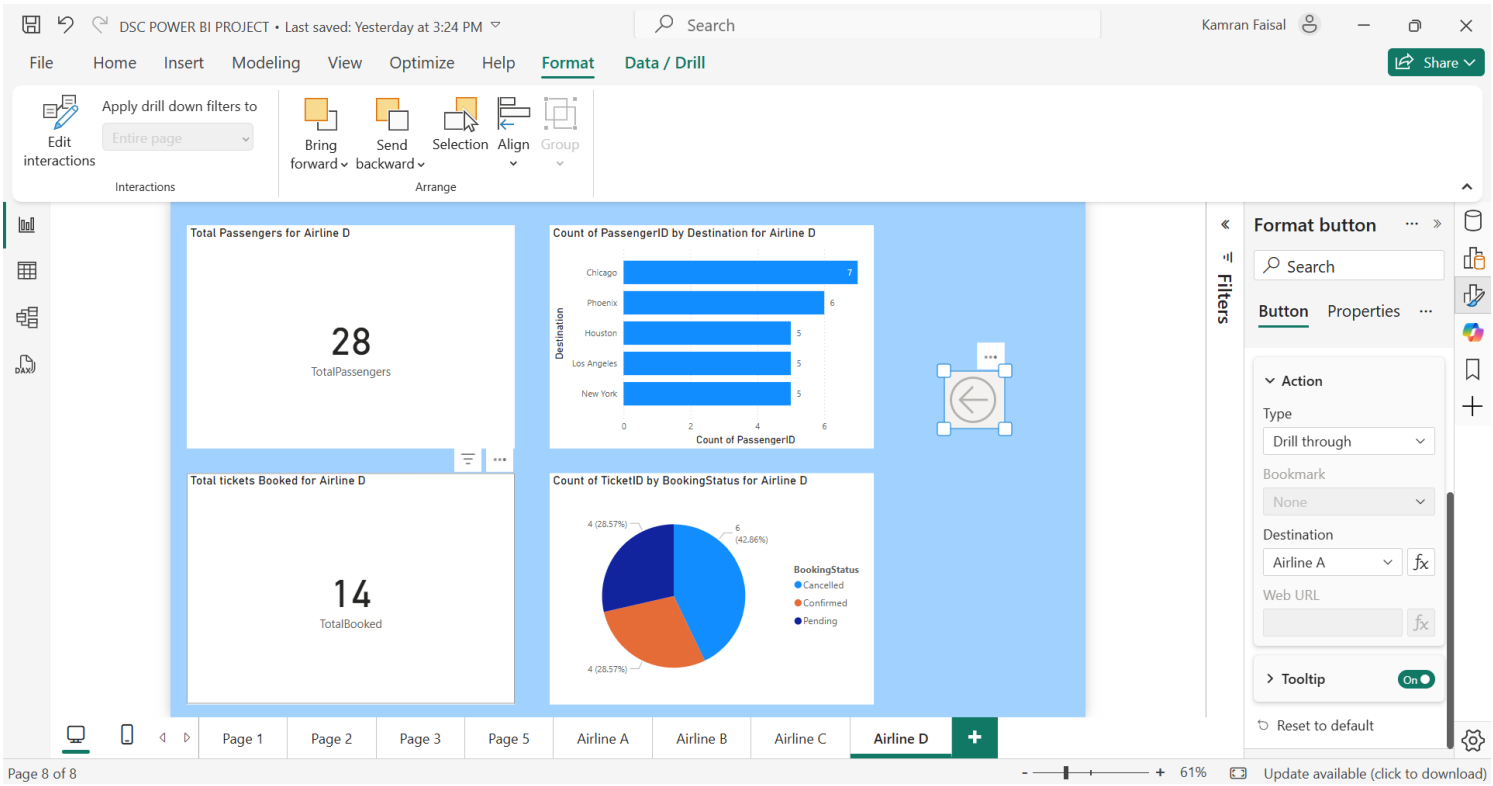
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Apply drill down filters to
Entire page
Interactions
Bring forward
Send backward
Selection
Align
Group
Arrange
Total Passengers for Airline D
28
TotalPassengers
Count of PassengerID by Destination for Airline D
Total tickets Booked for Airline D
14
TotalBooked
Count of TicketID by BookingStatus for Airline D
Format button
Search
Button
Properties
Action
Type
Drill through
Bookmark
None
Destination
Airline A
Web URL
Tooltip
On
Reset to default
Page 1
Page 2
Page 3
Page 5
Airline A
Airline B
Airline C
Airline D
Page 8 of 8
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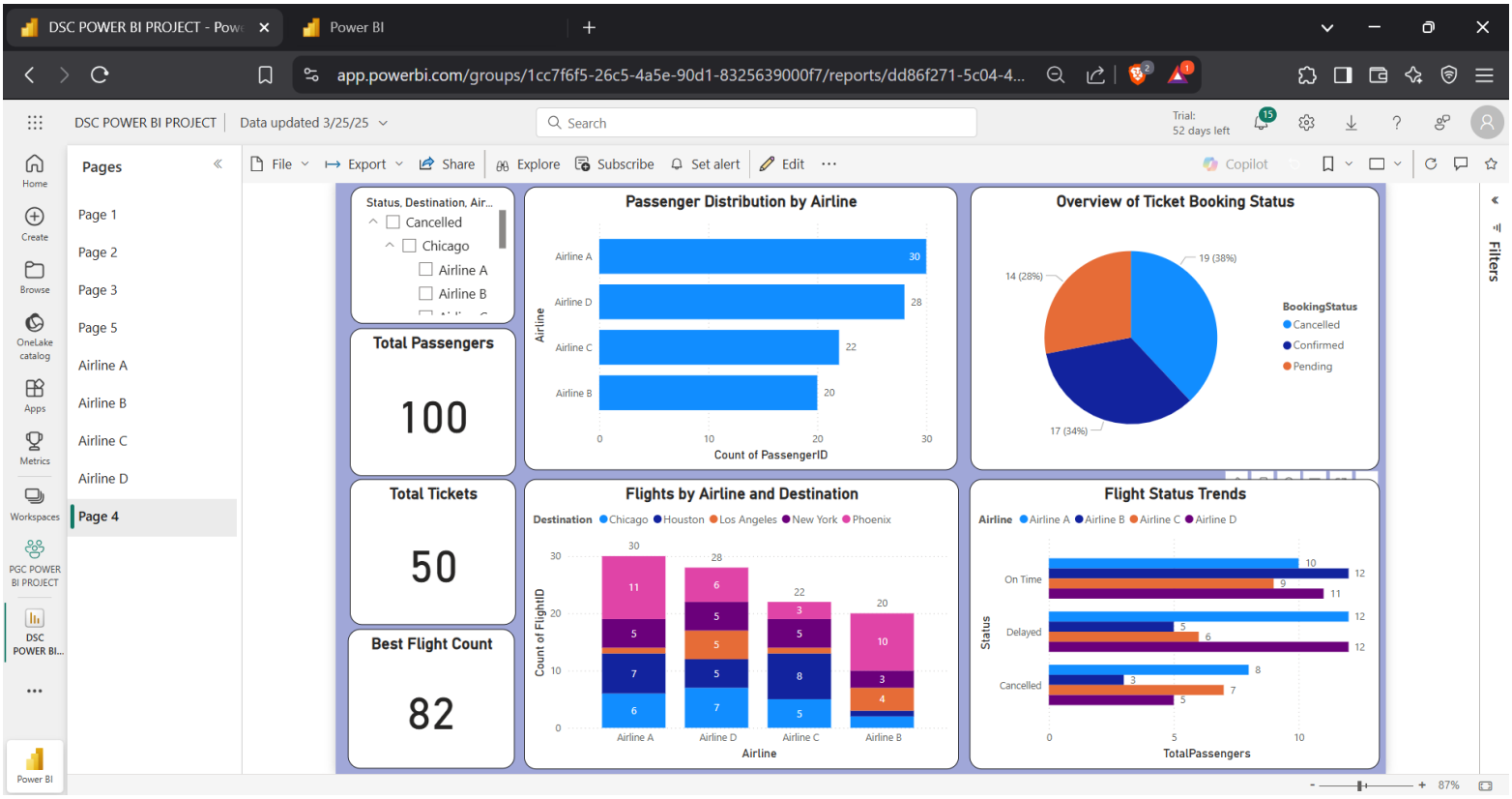
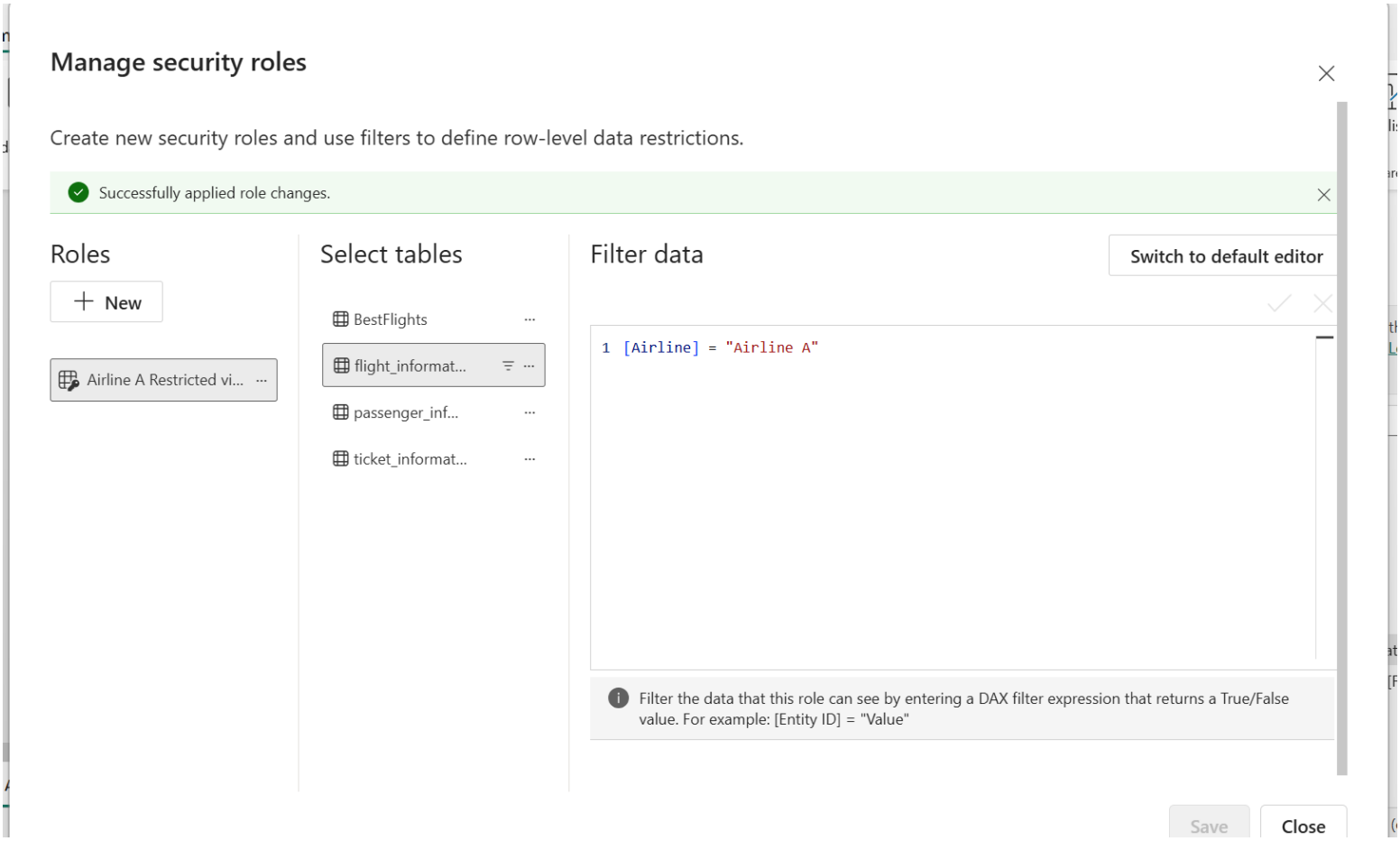
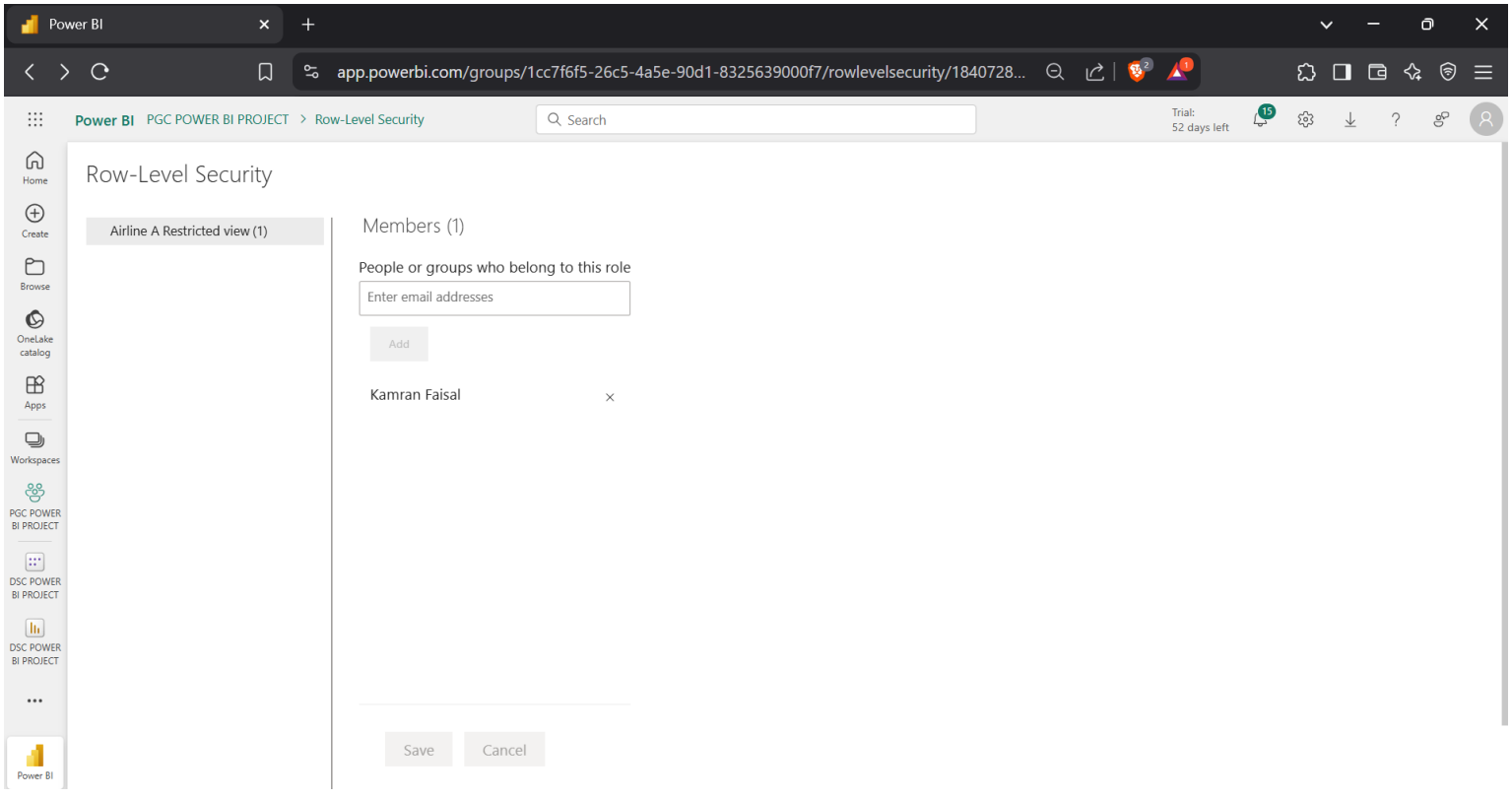
6. Final Dashboard and Power BI Service (20 Marks)

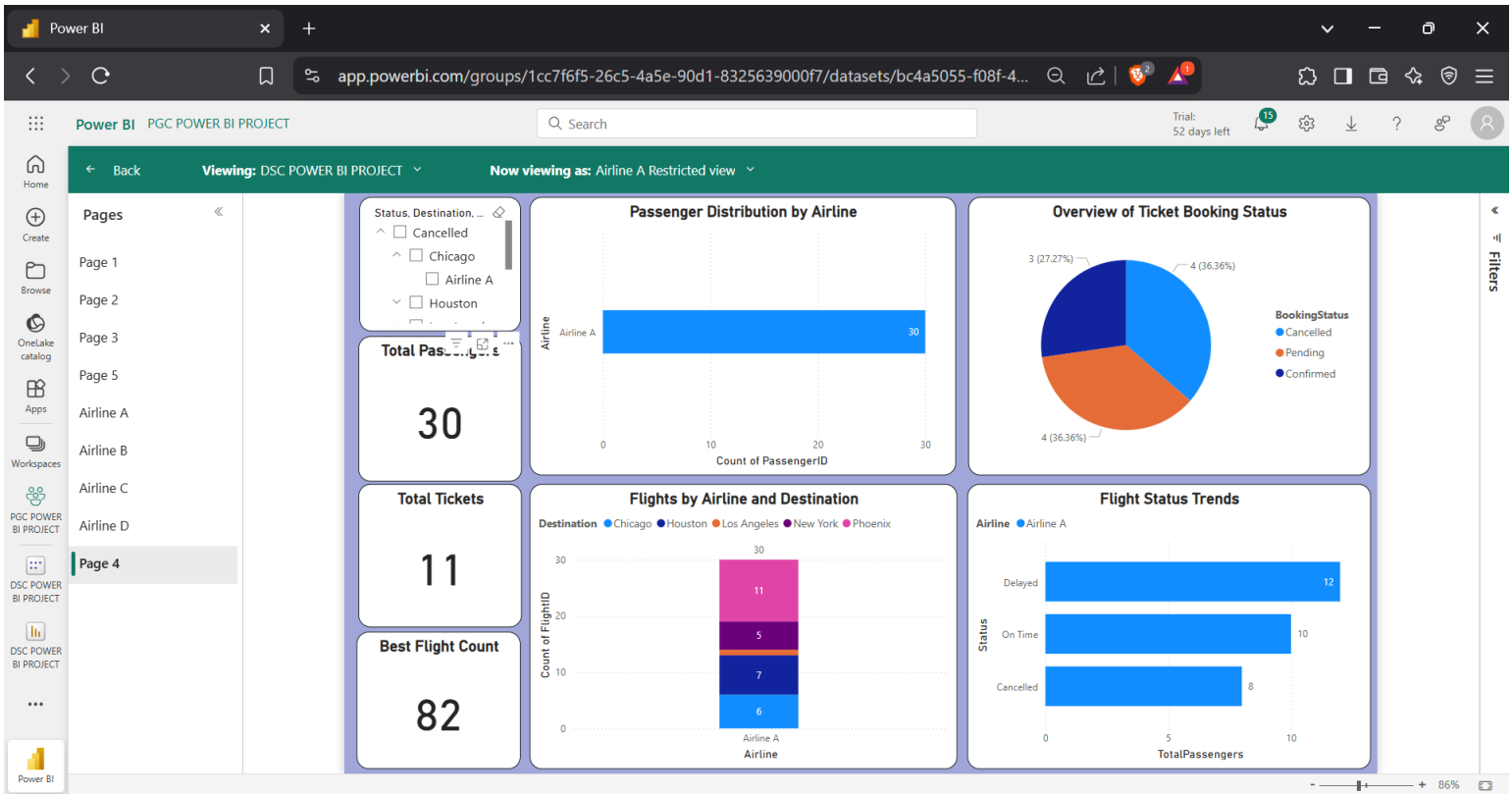
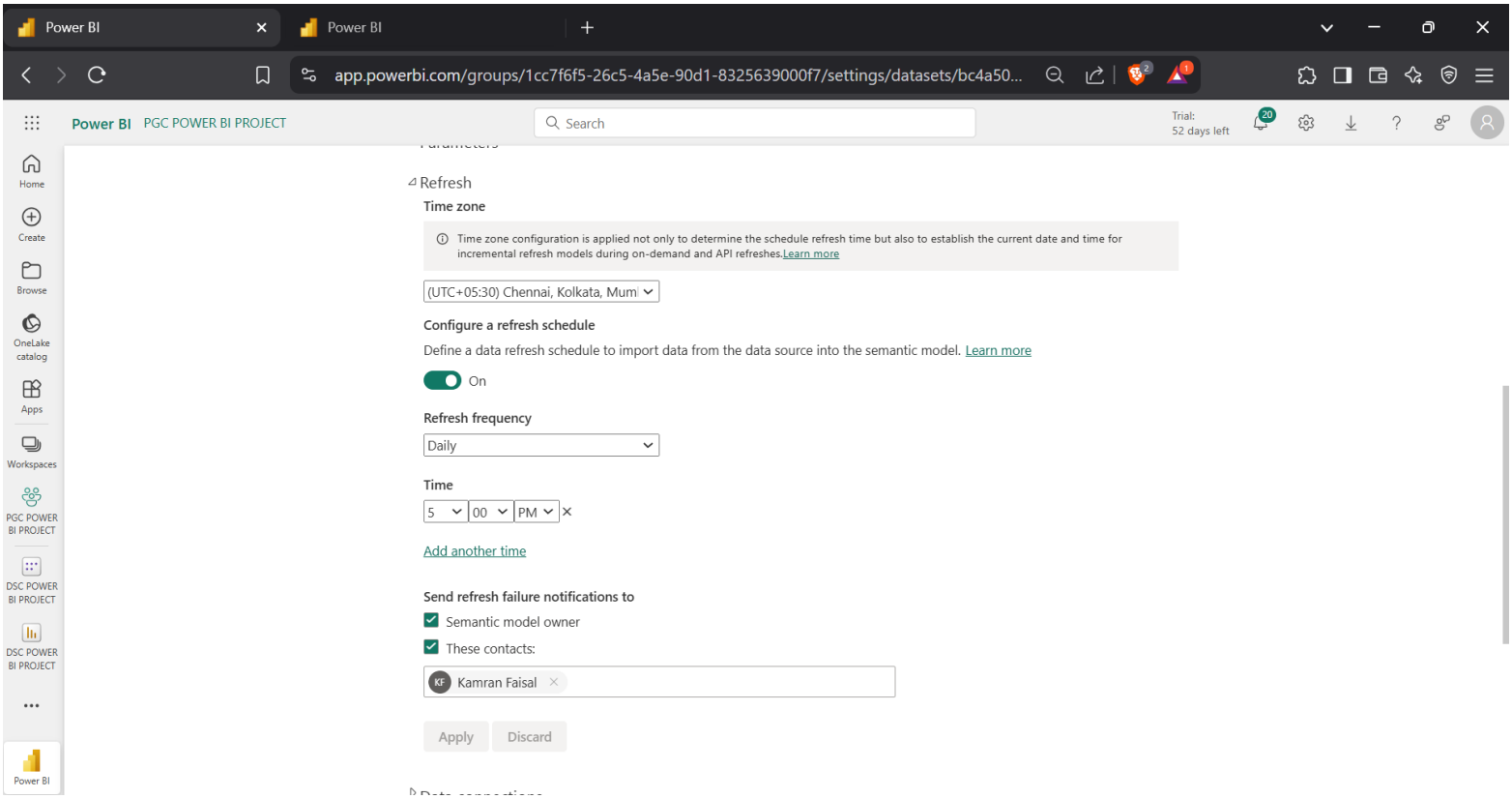
- Design a comprehensive dashboard with key visuals and insights. .



- Configure Row-Level Security (RLS) for Airline A data and assign it to a user







- Set up a schedule refresh at 5 PM daily.