

Airline Data Management and Performance Analysis Dashboard in Power BI

Prepared and Cleaned Data

Flight Details

The screenshot shows the Power BI Data Editor interface with the following details:

- File ribbon:** Home, Transform, Add Column, View, Tools, Help.
- Queries [4]:** flight_information, passenger_informa..., ticket_information, ticket_info.
- Current Query:** flight_information. The formula bar shows: `= Table.RenameColumns(#"Removed Columns1", {"Text After Delimiter", "Flight Numbers Only"})`.
- Table Preview:** A grid of 20 rows and 7 columns. The columns are: FlightID, FlightNumber, Airline, Destination, Status, and two hidden columns (B and T). The data includes various flight details like Airline D from Houston to On Time.
- Transform ribbon:** Close & Apply, New Source, Recent Sources, Enter Data, Data source settings, Manage Parameters, Refresh Preview, Properties, Advanced Editor, Choose Columns, Remove Columns, Keep Rows, Remove Rows, Sort, Split Column, Group By, Replace Values, Data Type: Whole Number, Use First Row as Headers, Merge Queries, Append Queries, Combine Files, Combine, Text Analytics, Vision, Azure Machine Learning, AI Insights.
- Query Settings pane:** Name: flight_information, All Properties.
- Applied Steps pane:** Shows the history of transformations applied to the query, including: Source, Navigation, FilterNullAndWhitespace, Removed Other Columns, Promoted Headers, Changed Type, Removed Duplicates, Removed Blank Rows, Changed Type1, Added Conditional Column, Duplicated Column, Inserted Text After Delimiter, Removed Columns1, and Renamed Columns1.
- System status bar:** 7 COLUMNS, 200 ROWS, Column profiling based on top 1000 rows, PREVIEW DOWNLOADED AT 00:05, 30°C Haze, ENG IN, 00:13, 10-05-2025.

Passenger Details

PowerBIServiceFinalProject008

File Home Transform Add Column View Tools Help

Close & Apply New Sources Recent Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Properties Manage Columns Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Whole Number Use First Row as Headers Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning Close New Query Data Sources Parameters Query Manage Columns Sort Replace Values Combine AI Insights

Queries [4]

flight_information passenger_information ticket_information ticket_info

	PassengerID	FlightID	SeatNumber
1		1161	38A
2		1157	24D
3		1141	30B
4		1046	17E
5		1035	29D
6		1134	10A
7		1082	10A
8		1115	20E
9		1197	34E
10		1047	2E
11		1153	43C
12		1194	48C
13		1010	47A
14		1056	23C
15		1030	16D
16		1109	40D
17		1005	25C
18		1119	32C
19		1033	27E
20		1118	32B
21		1065	19E

3 COLUMNS, 100 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 00:05

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PROPERTIES
Name: passenger_information
All Properties

APPLIED STEPS
Source, Navigation, FilterNullAndWhitespace, Removed Other Columns, Promoted Headers, Changed Type, Removed Duplicates, Removed Blank Rows, **Changed Type**

Ticket Informations

PowerBI PowerBI Service Final Project 008

File **Home** **Transform** **Add Column** **View** **Tools** **Help**

Queries [4]

- flight_information
- passenger_informa...
- ticket_information**
- ticket_info

Query Settings

PROPERTIES

Name: ticket_information
All Properties

APPLIED STEPS

- Source
- Navigation
- FilterNullAndWhitespace
- Removed Other Columns
- Promoted Headers
- Changed Type
- Removed Duplicates
- Removed Blank Rows
- Changed Type1**

Table View

	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
21	5021	1030	Confirmed

3 COLUMNS, 50 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 00:05

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Search

00:14 10-05-2025

PowerBI PowerBI Service Final Project 008

File **Home** **Transform** **Add Column** **View** **Tools** **Help**

Queries [4]

- flight_information
- passenger_informa...
- ticket_information**
- ticket_info

Query Settings

PROPERTIES

Name: ticket_info
All Properties

APPLIED STEPS

- Source
- Expanded Table 1 (flight_infor...)**

Table View

	TicketID	FlightID	BookingStatus	FlightNumber	Airline
1	5009	1001	Cancelled	FL1102	Airline D
2	5024	1005	Confirmed	FL1106	Airline C
3	5008	1035	Cancelled	FL1021	Airline C
4	5022	1035	Confirmed	FL1021	Airline C
5	5010	1040	Cancelled	FL1474	Airline A
6	5035	1040	Confirmed	FL1474	Airline A
7	5017	1011	Cancelled	FL1466	Airline A
8	5019	1014	Confirmed	FL1458	Airline C
9	5039	1014	Cancelled	FL1458	Airline C
10	5021	1030	Confirmed	FL1955	Airline B
11	5045	1023	Confirmed	FL1769	Airline A
12	5032	1042	Confirmed	FL1510	Airline A
13	5040	1032	Cancelled	FL1160	Airline C
14	5037	1039	Pending	FL1560	Airline B
15	5013	1060	Cancelled	FL1818	Airline D
16	5020	1060	Pending	FL1818	Airline D
17	5029	1062	Pending	FL1020	Airline C
18	5046	1063	Cancelled	FL1840	Airline C
19	5011	1064	Pending	FL1166	Airline B
20	5014	1064	Confirmed	FL1166	Airline B
21	---	---	---	---	---

6 COLUMNS, 50 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 00:05

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Search

00:15 10-05-2025

Data Modeling

The screenshot shows the Power BI Data Modeling interface. At the top, the ribbon has tabs for File, Home, Help, and various data sources like Excel workbook, OneLake catalog, and Dataverse. The Home tab is selected. Below the ribbon, there are sections for Clipboard, Data, Queries, Relationships, Calculations, Security, Q&A, Sensitivity, and Share.

The main area displays four data tables:

- flight_information**: Contains columns: Airline, Destination, Flight Category, Flight Numbers Only, FlightID. Relationships: 1 to passenger_information (FlightID), 1 to ticket_info (FlightID).
- passenger_information**: Contains columns: FlightID, PassengerID, SeatNumber. Relationships: * to flight_information (FlightID), 1 to ticket_info (FlightID).
- ticket_info**: Contains columns: BookingStatus, FlightID, TicketID. Relationships: 1 to flight_information (FlightID), 1 to Best Flights (FlightID).
- Best Flights**: Contains columns: Airline, Destination, Flight Category, FlightID, FlightNumber. Relationships: * to ticket_info (FlightID).

Relationships are shown as arrows between the tables. The 'Properties' pane on the right shows the current table selected: **ticket_info**.

At the bottom, there's a navigation bar with 'All tables' and a '+' button, along with system status icons like weather, search, and connectivity.

Enhanced Data Insights

Best Flight Details

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File Home Help Table tools

Name Best Flights

Manage relationships New Quick New measure column New measure table Mark as date table Calculations Calendars

Structure Relationships

FlightID FlightNumber Airline Destination Status Flight Category FlightNumber Only

FlightID	FlightNumber	Airline	Destination	Status	Flight Category	FlightNumber Only
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
1048	FL1189	Airline A	New York	On Time	Best	1189

Table: Best Flights (82 rows)

Search

Flight information passenger information ticket info ticket information

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Calculations Using DAX

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Search Utkarsh Anand

File Home Insert Modeling View Optimize Help

Cut Copy Format painter Paste Get data ▾ Excel OneLake SQL Server Enter data Dataverse Recent sources ▾ Transform Refresh data ▾ New visual Text box More visuals ▾ New visual calculation ▾ Quick measure Sensitivity Publish Copilot Clipboard Data Queries Insert Calculations Sensitivity Share Copilot

100 Total Passengers for Selected Flight

50 Total Tickets Booked

Count of PassengerID by Airline

Airline A

Airline D

Airline C

Airline B

FlightNumber

- FL1020
- FL1021
- FL1027
- FL1040
- FL1091
- FL1102
- FL1106
- FL1160
- FL1166
- FL1343
- FL1345
- FL1391
- FL1458
- FL1466
- FL1474
- FL1476
- FL1498
- FL1502
- FL1510
- FL1560
- FL1565
- FL1642
- FL1674
- FL1690

Count of PassengerID

FlightNumber	Airline	Status	Flight Category
FL1004	Airline C	On Time	Best
FL1014	Airline D	On Time	Best
FL1020	Airline C	On Time	Best
FL1027	Airline D	On Time	Best
FL1032	Airline B	On Time	Best
FL1040	Airline C	On Time	Best
FL1047	Airline B	On Time	Best
FL1071	Airline A	On Time	Best
FL1091	Airline B	On Time	Best
FL1095	Airline B	On Time	Best
FL1102	Airline D	On Time	Best
FL1128	Airline C	On Time	Best
FL1130	Airline A	On Time	Best
FL1134	Airline A	On Time	Best
FL1166	Airline B	On Time	Best
FL1189	Airline A	On Time	Best
FL1191	Airline D	On Time	Best
FL1216	Airline A	On Time	Best
FL1243	Airline B	On Time	Best
FL1251	Airline B	On Time	Best
FL1252	Airline D	On Time	Best
FL1276	Airline B	On Time	Best
FL1313	Airline B	On Time	Best
FL1330	Airline C	On Time	Best
FL1345	Airline A	On Time	Best
FL1366	Airline C	On Time	Best
FL1378	Airline C	On Time	Best
FL1385	Airline D	On Time	Best
FL1389	Airline A	On Time	Best
FL1391	Airline A	On Time	Best
FL1418	Airline D	On Time	Best

Question 4 - DAX Calculations Question 5 - Visualizations and Interactions Question 6 - Final Dashboard and Power BI ...

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Search ENG IN 00:17 10-05-2025

Visualizations and Interactive Features

Screenshot of a Power BI dashboard titled "PowerBlandPowerBIServiceFinalProject008". The dashboard features several visualizations and interactive elements:

- Visualizations:**
 - A horizontal bar chart showing the count of TicketID by Airline (Airline A, B, C, D).
 - A grid table showing FlightID values (1001 to 1021).
 - A pie chart showing the count of TicketID by Status (Delayed vs. Not Delayed).
 - A vertical bar chart showing the count of PassengerID by FlightID.
 - A large central value "100" representing the total passengers in the selected flight.
 - A horizontal bar chart showing the count of PassengerID by FlightID.
 - A grid table showing the total number of passengers by destination city (Chicago, Houston, Los Angeles, New York, Phoenix) for each airline.
- Interactive Elements:**
 - Filter panes on the right side allow filtering by Airline, Destination, and Status.
 - Navigation tabs at the bottom include "Question 4 - DAX Calculations", "Question 5 - Visualizations and Interactions" (selected), and "Question 6 - Final Dashboard and Power BI ...".
- Header and Footer:**
 - The top header includes the file name, last save time, and user "Utkarsh Anand".
 - The bottom footer shows system status (30°C Haze), search bar, and system icons.
 - The bottom right corner displays the date and time (10-05-2025, 00:17).

Final Dashboard and Power BI Service

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File Home Insert Modeling View Optimize Help

Search

Clipboard Data Queries Insert Calculations Sensitivity Share Copilot

Count of PassengerID: 100

Count of FlightID: 200

Count of TicketID: 50

Count of TicketID and Count of FlightID by BookingStatus

BookingStatus: Cancelled (14), Confirmed (19), Pending (17)

Count of FlightID by Destination and Airline

Airline	Destination	Count of FlightID
Airline A	Chicago	~10
Airline A	Houston	~15
Airline A	New York	~10
Airline A	Phoenix	~10
Airline B	Chicago	~15
Airline B	Houston	~10
Airline B	New York	~10
Airline B	Phoenix	~15
Airline C	Chicago	~5
Airline C	Houston	~15
Airline C	New York	~10
Airline C	Phoenix	~10
Airline D	Chicago	~10
Airline D	Houston	~15
Airline D	New York	~15
Airline D	Phoenix	~10

Count of FlightID and First Destination by Airline

Question 4 - DAX Calculations Question 5 - Visualizations and Interactions Question 6 - Final Dashboard and Power BI Service

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Row Level Security

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Power BI Pro Project Viewing: PowerBlandPowerBIServiceFin... Now viewing as: Airline A Information Viewer Trial: 51 days left

Pages Question 4 - DAX Calcul... Question 5 - Visualizati... Question 6 - Final Dash...

30 Count of PassengerID

48 Count of FlightID

Count of TicketID and Count of FlightID by BookingStatus

BookingStatus: Cancelled (36.36%), Confirmed (27.27%), Pending (36.36%)

View as... Select role: Select person Nitin Kumar Effective permission: None Assigned roles: Airline A Information Viewer Email: 21051828@kiit.ac.in UPN: 21051828@kiit.ac.in Username: Nitin Kumar Apply

Airline: Airline A

BookingStatus: Cancelled, Confirmed, Pending

Count of FlightID by Airline

Count of FlightID

Count of FlightID by Airline

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Row-Level Security

Airline A Information Viewer (1)

Members (1)

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Power BI Pro Project

Viewing: PowerBlandPowerBIServiceFinalProject008 - Power BI Service

Now viewing as: Nitin Kumar

This user does not have access to the dataset or report.

Question 4 - DAX Calcul...

Question 5 - Visualizati...

Question 6 - Final Dash...

Count of FlightID by Destination and Airline

Destination	Count of FlightID
Chicago	8
Houston	15
Los Angeles	5
New York	10
Phoenix	7

Count of TicketID and Count of FlightID by BookingStatus

BookingStatus	Count
Cancelled	4
Pending	4
Confirmed	3

Count of FlightID and First Destination by Airline

Airline	Count of FlightID
Airline A	60

Project Introduction and Key Findings:

[https://drive.google.com/drive/folders/1y3kNLfGKXq_wMHtZDtEAHAWhAzq3UI_T?
usp=sharing](https://drive.google.com/drive/folders/1y3kNLfGKXq_wMHtZDtEAHAWhAzq3UI_T?usp=sharing)

Report Deliverables by Utkarsh Anand

Thank you for your attention and for reviewing this report.

Thank You