

Video Explanation link:

https://drive.google.com/file/d/180FBx5B5Hxp0MOFT4g0aPum9hCKOhkYX/view?usp=drive_link

Task-01: Data Preparation & Cleaning

Untitled - Power Query Editor

Home Transform Add Column View Tools Help

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

Queries [3] `= Table.SelectRows(#"Removed Duplicates", each not List.IsEmpty(List.RemoveMatchingItems(Record.FieldValues(_), {"", null})))`

Flight Information...

PassengerID FlightID Airline Destination Status

100% Valid 100% Valid 100% Valid 100% Valid 100% Valid

0% Error 0% Error 0% Error 0% Error 0% Error

0% Empty 0% Empty 0% Empty 0% Empty 0% Empty

209 distinct, 209 unique 185 distinct, 179 unique 4 distinct, 0 unique 3 distinct, 0 unique 3 distinct, 0 unique

PassengerID	FlightID	Airline	Destination	Status
1	2001 FL1102	Airline B	Houston	On Time
2	2002 FL1435	Airline B	Chicago	On Time
3	2003 FL1860	Airline A	New York	Cancelled
4	2004 FL1270	Airline C	Chicago	Delayed
5	2005 FL1106	Airline C	New York	Delayed
6	2006 FL1071	Airline A	Phoenix	On Time
7	2007 FL1300	Airline C	Los Angeles	Cancelled
8	2008 FL1020	Airline C	Los Angeles	Delayed
9	2009 FL1614	Airline A	Los Angeles	Cancelled
10	2010 FL1121	Airline D	Chicago	Cancelled
11	2011 FL1466	Airline A	Phoenix	On Time
12	2012 FL1214	Airline D	New York	Delayed
13	2013 FL1330	Airline C	Houston	On Time
14	2014 FL1458	Airline C	New York	Delayed
15	2015 FL1097	Airline C	Houston	Delayed
16	2016 FL1372	Airline B	New York	Delayed
17	2017 FL1099	Airline D	Phoenix	Delayed
18	2018 FL1871	Airline B	Houston	Delayed
19	2019 FL1663	Airline B	Chicago	Cancelled
20	2020 FL1130	Airline A	New York	On Time

5 COLUMNS, 200 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 00:01

Untitled - Power Query Editor

Home Transform Add Column View Tools Help

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

Queries [3] `= Table.SelectRows(#"Removed Duplicates", each not List.IsEmpty(List.RemoveMatchingItems(Record.FieldValues(_), {"", null})))`

Passenger Information...

PassengerID FlightID SeatNumber

100% Valid 100% Valid 100% Valid

0% Error 0% Error 0% Error

0% Empty 0% Empty 0% Empty

100 distinct, 100 unique 83 distinct, 67 unique 39 distinct, 63 unique

PassengerID	FlightID	SeatNumber
1	2	1161 32A
2	2	1157 24D
3	3	1141 30B
4	4	1046 17E
5	5	1035 29D
6	6	1174 10A
7	7	1082 10A
8	8	1115 20E
9	8	1197 34E
10	10	1047 2C
11	11	1153 43C
12	12	1194 48C
13	13	1010 47A
14	14	1056 23C
15	15	1030 14D
16	16	1109 40D
17	17	1005 25C
18	18	1119 32C
19	19	1033 27E
20	20	1118 32B

3 COLUMNS, 100 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 00:03

Untitled - Power Query Editor

Home Transform Add Column View Tools Help

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

Queries [3] `= Table.SelectRows(#"Removed Duplicates", each not List.IsEmpty(List.RemoveMatchingItems(Record.FieldValues(_), {"", null})))`

Ticket Information...

TicketID FlightID BookingStatus

100% Valid 100% Valid 100% Valid

0% Error 0% Error 0% Error

0% Empty 0% Empty 0% Empty

50 distinct, 50 unique 42 distinct, 34 unique 3 distinct, 0 unique

TicketID	FlightID	BookingStatus
5001	1178	Pending
5002	1078	Confirmed
5003	1117	Cancelled
5004	1120	Cancelled
5005	1137	Cancelled
5006	1162	Pending
5007	1076	Pending
5008	1035	Cancelled
5009	1001	Cancelled
5010	1040	Cancelled
5011	1064	Pending
5012	1150	Cancelled
5013	1060	Cancelled
5014	1064	Confirmed
5015	1093	Confirmed
5016	1072	Pending
5017	1011	Cancelled
5018	1105	Cancelled
5019	1014	Confirmed
5020	1060	Pending

3 COLUMNS, 50 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 00:04

Task-02: Data Modeling

Edit relationship

Select tables and columns that are related.

From table
Ticket_Information - ticket_information

BookingStatus	FlightID	TicketID
Pending	1178	5001
Confirmed	1078	5002
Cancelled	1117	5003

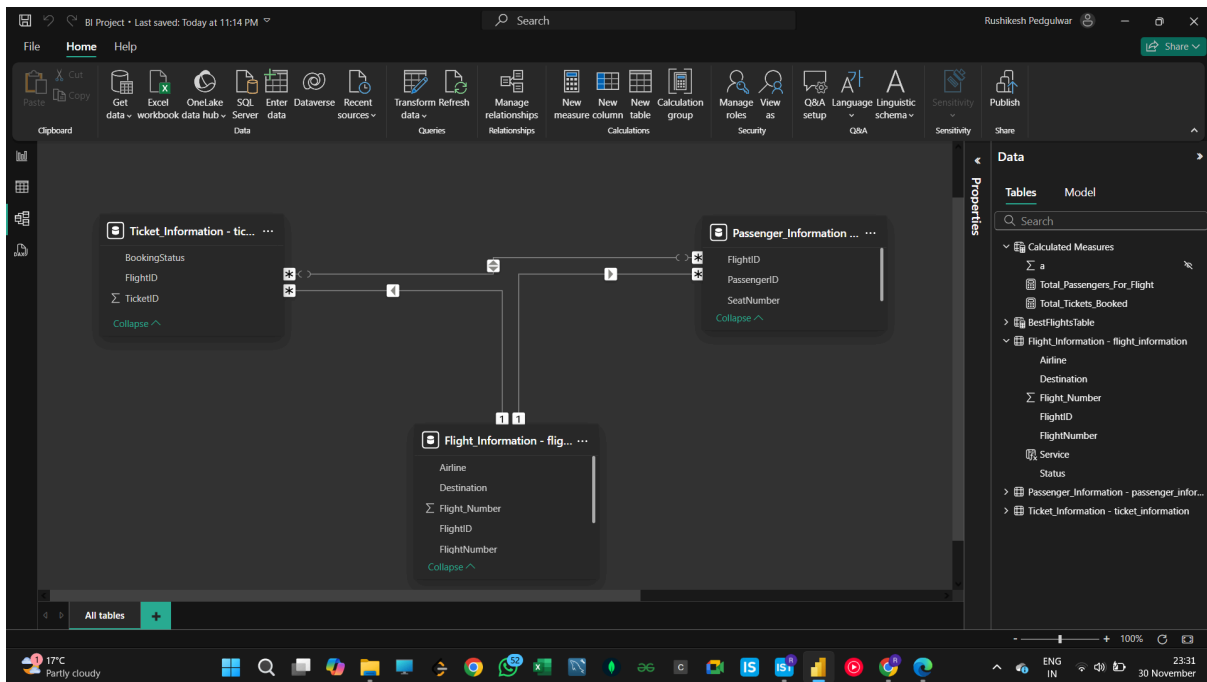
To table
Passenger_Information - passenger_information

FlightID	PassengerID	SeatNumber
1161	1	38A
1157	2	24D
1141	3	30B

Cardinality
Many to many (*)

Cross-filter direction
Both

☒ Make this relationship active
☐ Assume referential integrity
☐ Apply security filter in both directions



Task-03: Enhanced Data Insights

3.1: Conditional Column

The screenshot shows the Power BI Desktop interface. The 'Column tools' ribbon is active, displaying the 'Service' column. The formula bar contains the conditional column formula: `= If('Flight_Information - flight_information'[Status]='On Time','Best','To be improved')`. The data table below shows the following columns: FlightID, FlightNumber, Airline, Destination, Status, and Service. The 'Service' column contains values 'Best' or 'To be improved' based on the 'Status' column.

FlightID	FlightNumber	Airline	Destination	Status	Service
1001	FL1102	Airline D	Houston	On Time	Best
1002	FL1435	Airline B	Chicago	On Time	Best
1006	FL1071	Airline A	Phoenix	On Time	Best
1011	FL1466	Airline A	Phoenix	On Time	Best
1013	FL1330	Airline C	Houston	On Time	Best
1020	FL1130	Airline A	New York	On Time	Best
1023	FL1769	Airline A	Chicago	On Time	Best
1025	FL1491	Airline D	Phoenix	On Time	Best
1027	FL1805	Airline D	Chicago	On Time	Best
1028	FL1385	Airline D	Chicago	On Time	Best
1029	FL1191	Airline D	Los Angeles	On Time	Best
1030	FL1955	Airline B	Phoenix	On Time	Best
1031	FL1276	Airline B	New York	On Time	Best
1033	FL1459	Airline D	New York	On Time	Best
1034	FL1313	Airline B	Phoenix	On Time	Best
1036	FL1252	Airline D	Phoenix	On Time	Best
1039	FL1560	Airline B	Chicago	On Time	Best
1043	FL1681	Airline C	Houston	On Time	Best
1044	FL1475	Airline B	Phoenix	On Time	Best
1046	FL1975	Airline D	Chicago	On Time	Best
1048	FL1189	Airline A	New York	On Time	Best
1050	FL1686	Airline C	Phoenix	On Time	Best
1052	FL1562	Airline D	Phoenix	On Time	Best
1053	FL1875	Airline C	Chicago	On Time	Best
1055	FL1243	Airline B	New York	On Time	Best
1057	FL1504	Airline A	Phoenix	On Time	Best
1060	FL1818	Airline D	Chicago	On Time	Best

3.2: Column from example

The screenshot shows the Power Query Editor interface. The 'Add Column' ribbon is active, displaying the 'Conditional Column' button. The formula bar contains the conditional column formula: `= Table.AddColumn(#"Removed Blank Rows", "Flight_Number", each Text.AfterDelimiter([FlightNumber], "-", type text))`. The data table below shows the following columns: FlightID, FlightNumber, Airline, Destination, Status, and Flight_Number. The 'Flight_Number' column contains values extracted from the 'FlightNumber' column using the conditional column formula.

FlightID	FlightNumber	Airline	Destination	Status	Flight_Number
1	1001 FL1102	Airline D	Houston	On Time	1102
2	1002 FL1435	Airline B	Chicago	On Time	1435
3	1003 FL1860	Airline A	New York	Cancelled	1860
4	1004 FL1270	Airline C	Chicago	Delayed	1270
5	1005 FL1106	Airline C	New York	Delayed	1106
6	1006 FL1071	Airline A	Phoenix	On Time	1071
7	1007 FL1700	Airline C	Los Angeles	Cancelled	1700
8	1008 FL1020	Airline C	Los Angeles	Delayed	1020
9	1009 FL1614	Airline A	Los Angeles	Cancelled	1614
10	1010 FL1121	Airline D	Chicago	Cancelled	1121
11	1011 FL1466	Airline A	Phoenix	On Time	1466
12	1012 FL1214	Airline D	New York	Delayed	1214
13	1013 FL1330	Airline C	Houston	On Time	1330
14	1014 FL1458	Airline C	New York	Delayed	1458
15	1015 FL1087	Airline C	Houston	Delayed	1087
16	1016 FL1372	Airline B	New York	Delayed	1372
17	1017 FL1099	Airline D	Phoenix	Delayed	1099

Task-04: Calculations using DAX

4.1: DAX for “Total passengers for a specific flight”

The screenshot shows the Power BI Desktop interface. The main view displays a table with the following data:

Status	Service	FlightNumber
On Time	Best	FL1004
On Time	Best	FL1014
On Time	Best	FL1030
On Time	Best	FL1027
On Time	Best	FL1032
On Time	Best	FL1040
On Time	Best	FL1047
On Time	Best	FL1071
On Time	Best	FL1091
On Time	Best	FL1095
On Time	Best	FL1102
On Time	Best	FL1126
On Time	Best	FL1130
On Time	Best	FL1134
On Time	Best	FL1156
On Time	Best	FL1189
On Time	Best	FL1191
On Time	Best	FL1216
On Time	Best	FL1249

The DAX formula bar shows the following formula:

```
BestFlightsTable =  
FILTER(  
    'Flight_Information - flight_information',  
    'Flight_Information - flight_information'[Service] = "Best"  
)
```

4.2: DAX for “Total tickets booked”

The screenshot shows the Power BI Desktop interface. The main view displays a card visual with the following data:

17
Total Tickets Booked

The DAX formula bar shows the following formula:

```
Total_Tickets_Booked =  
CALCULATE(  
    COUNT('Ticket_Information - ticket_information'[TicketID]),  
    'Ticket_Information - ticket_information'[BookingStatus] = "Confirmed"  
)
```

4.3: DAX for “Filtered table showing "Best" flights only”

The screenshot shows the Power BI Desktop interface. The main view displays a card visual with the following data:

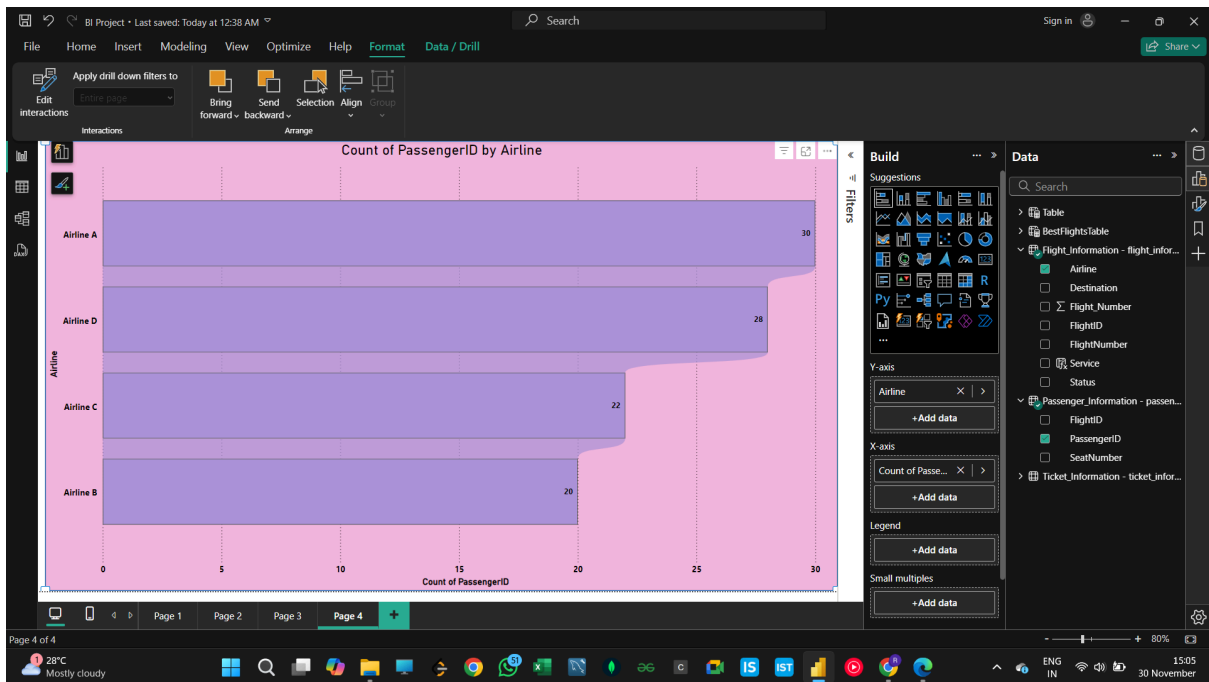
1
Total Passengers for flight-1194

The DAX formula bar shows the following formula:

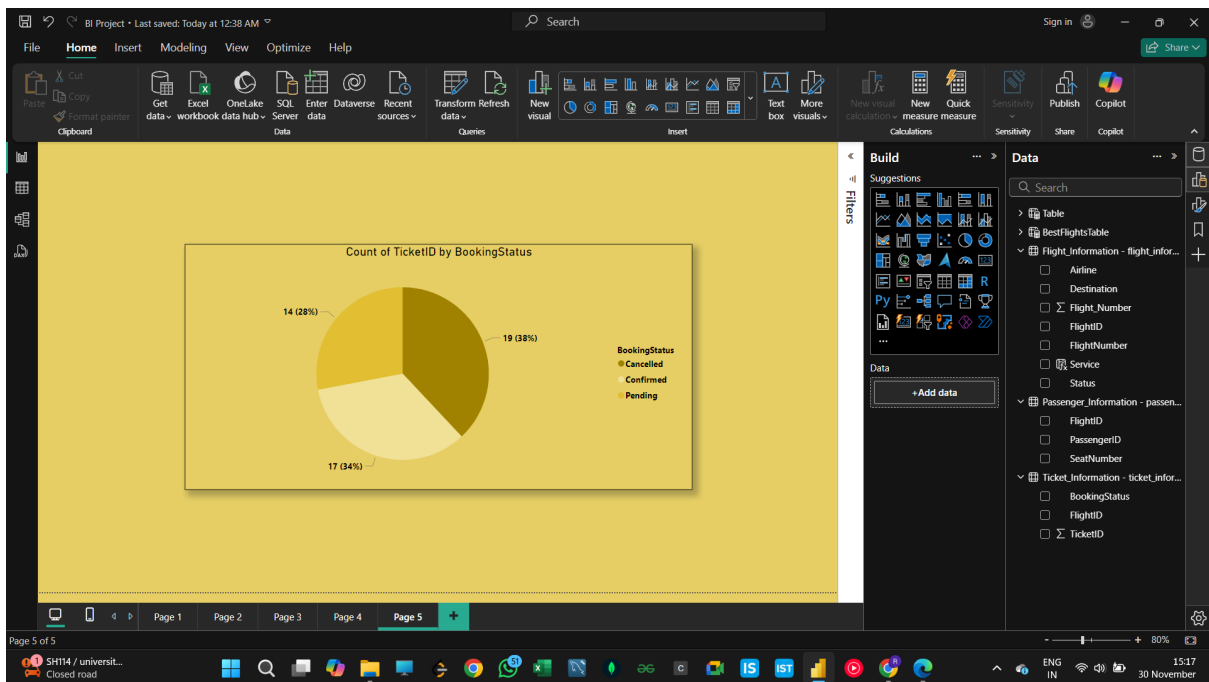
```
Total_Passengers_For_Flight =  
CALCULATE(  
    COUNT('Passenger_Information - passenger_information'[PassengerID]),  
    'Passenger_Information - passenger_information'[FlightID] = "1194"  
)
```

Task-05: Visualization and Interactive Features

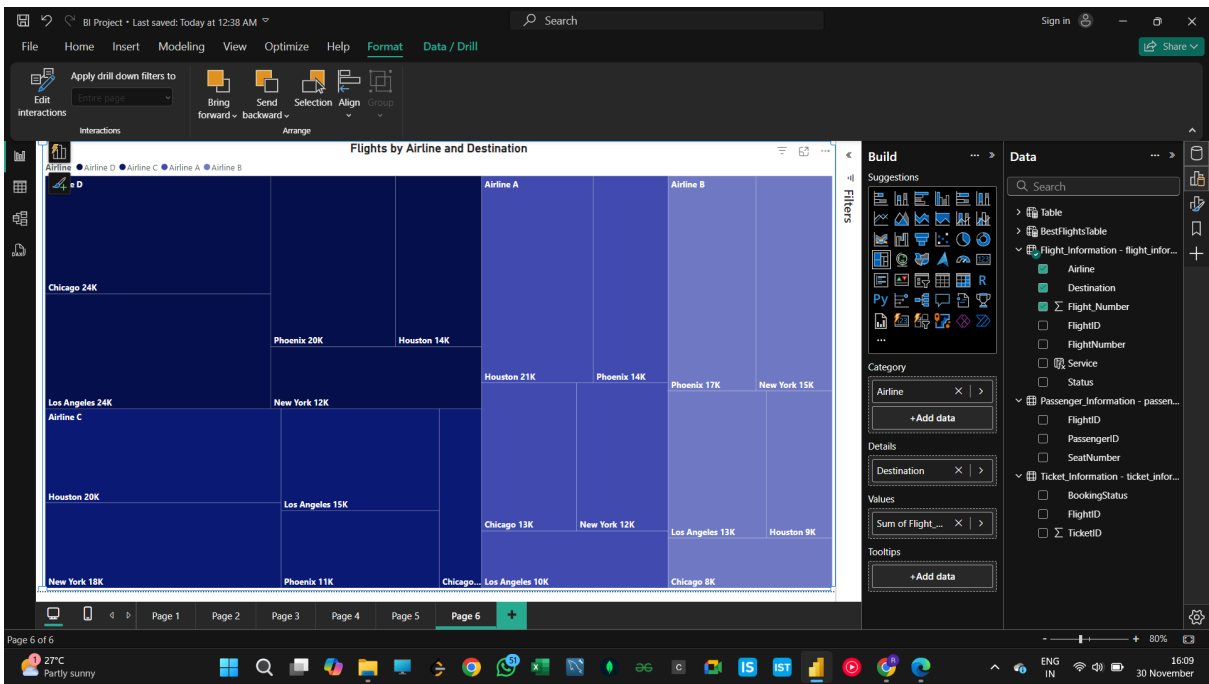
5.1: Passenger count by Airline



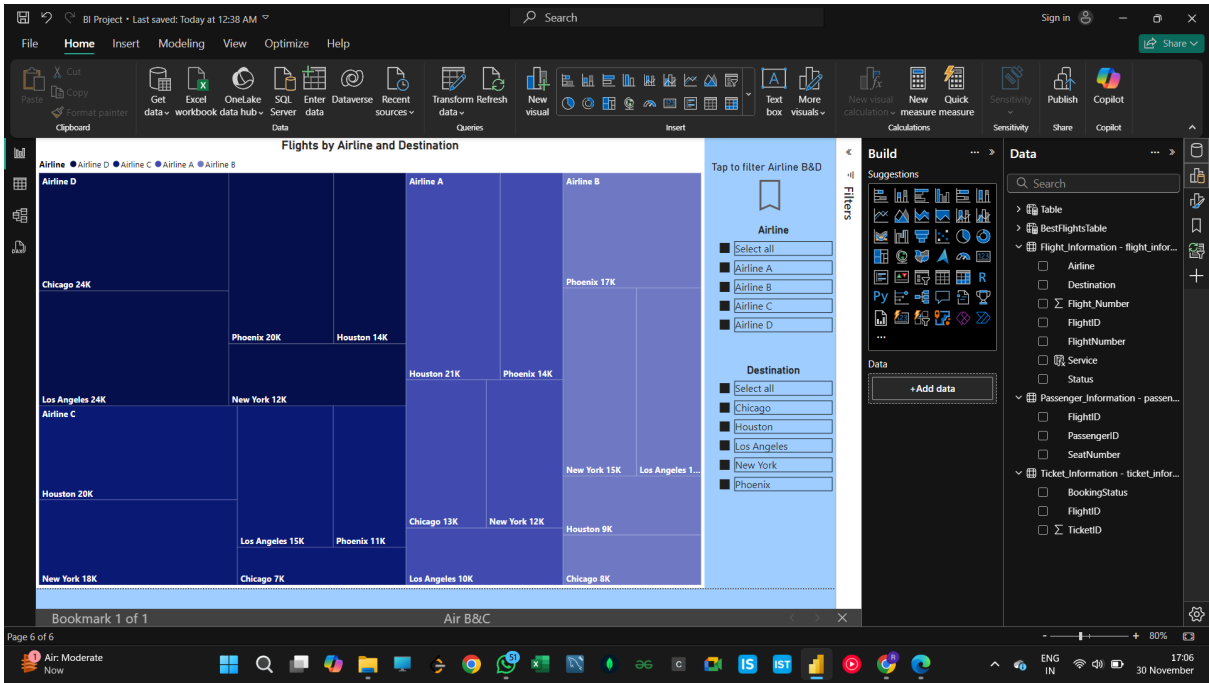
5.2: Ticket Booking Status



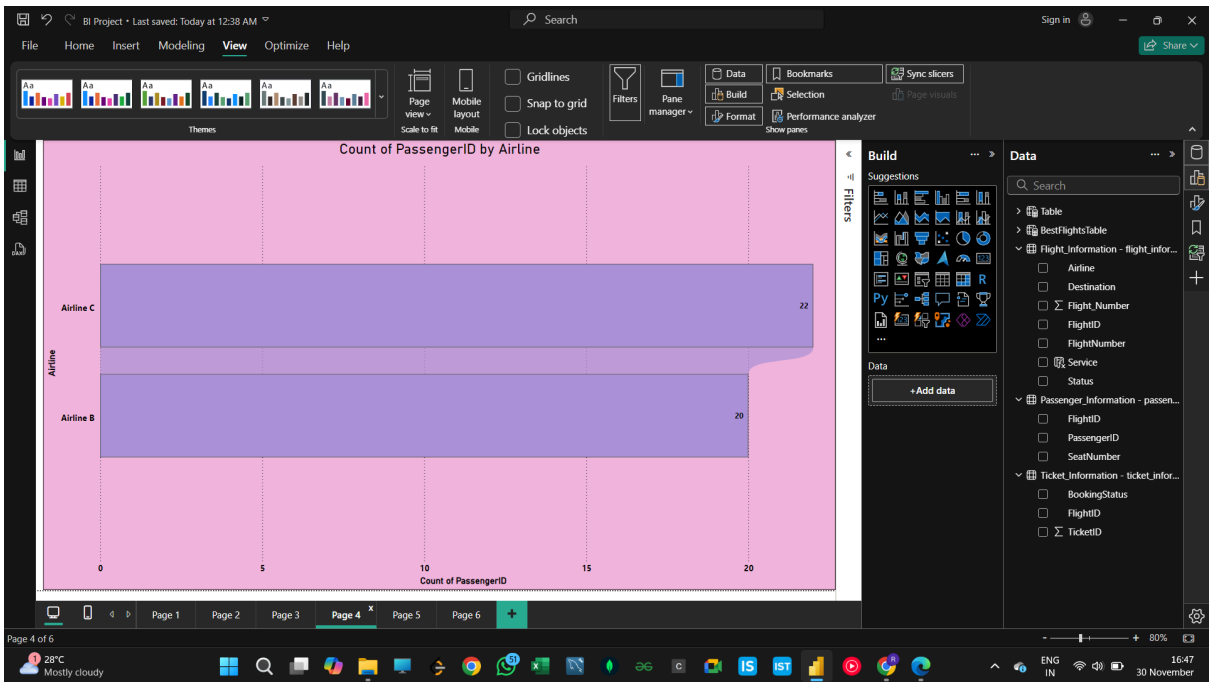
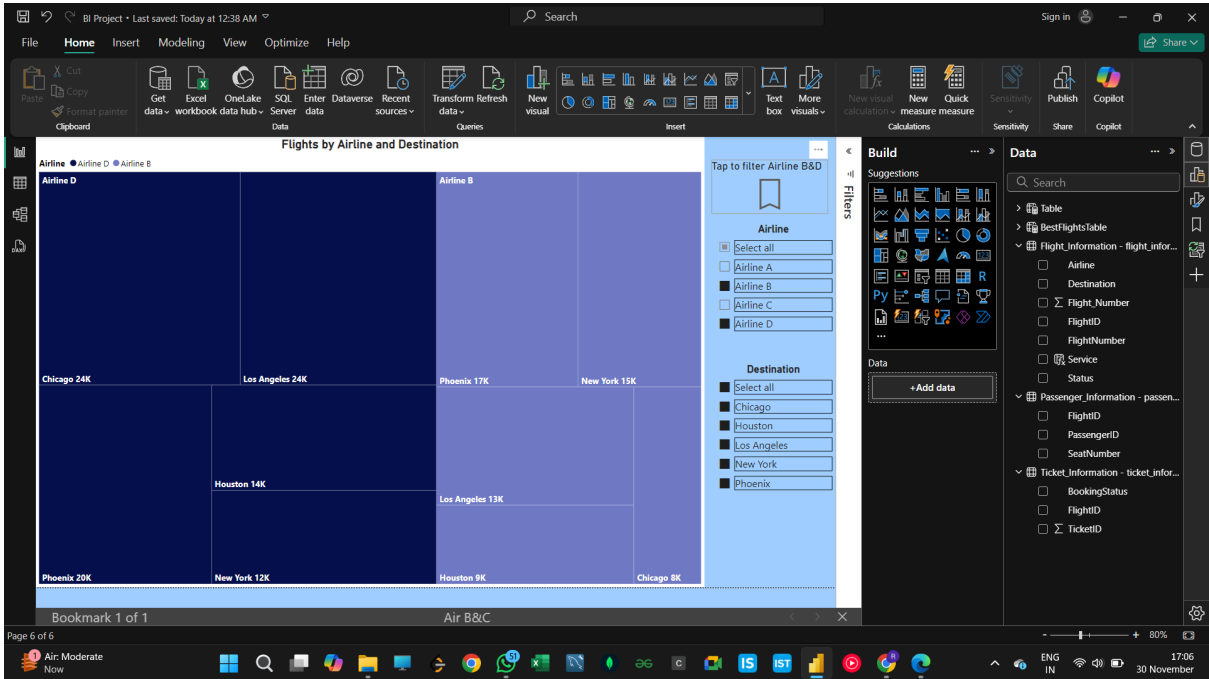
5.3: Flights by Airline & Destination



5.4: Slicers & Bookmark

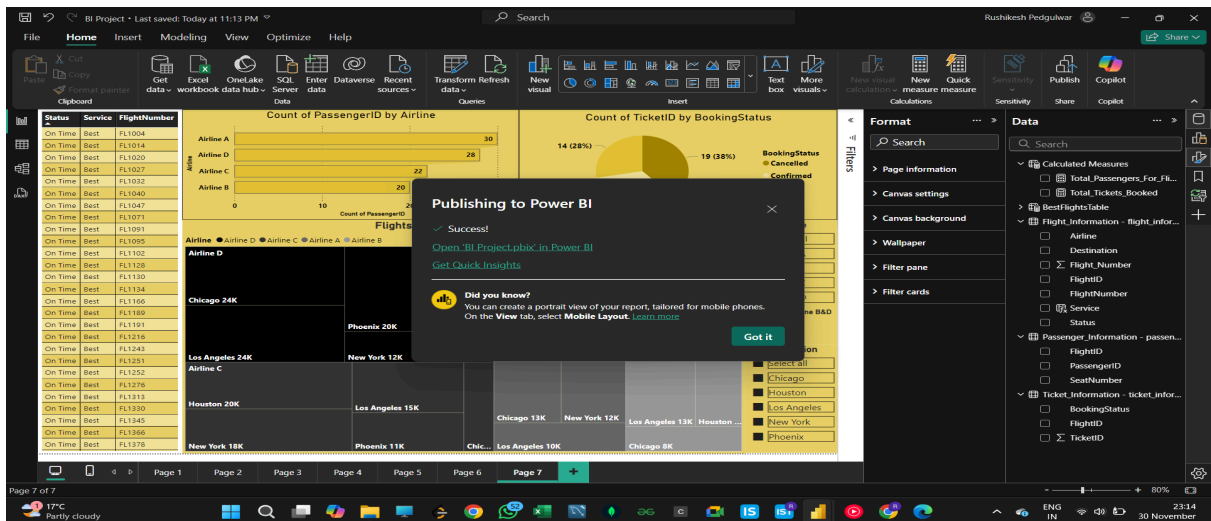
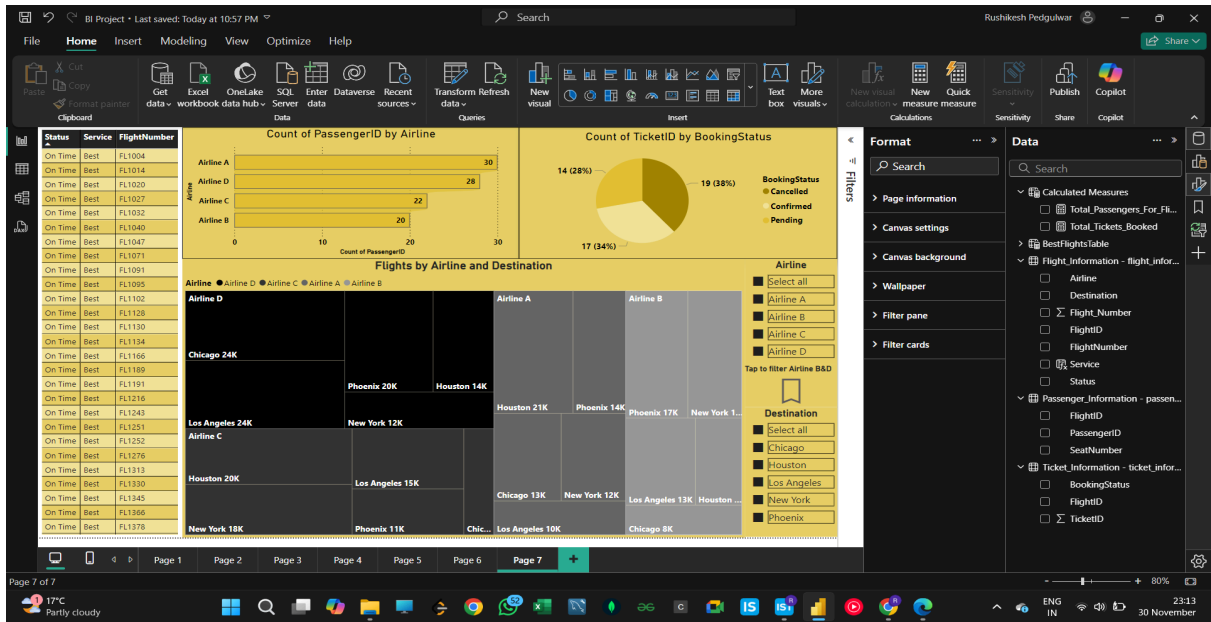


5.5: Bookmark View



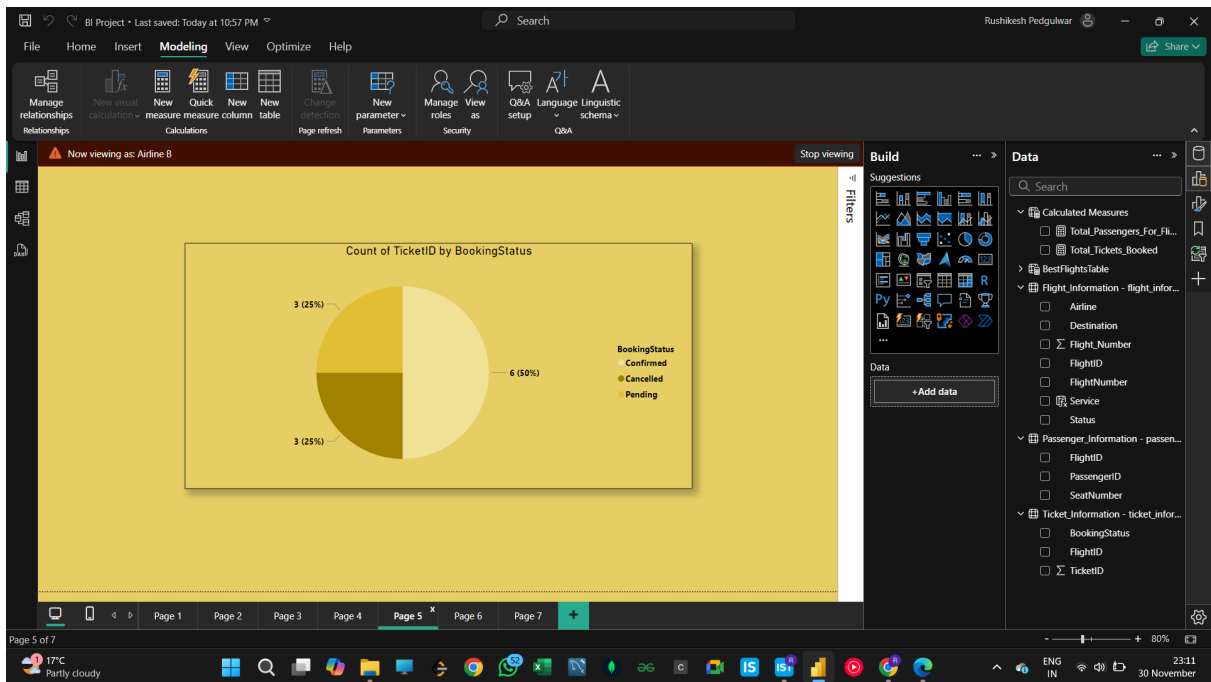
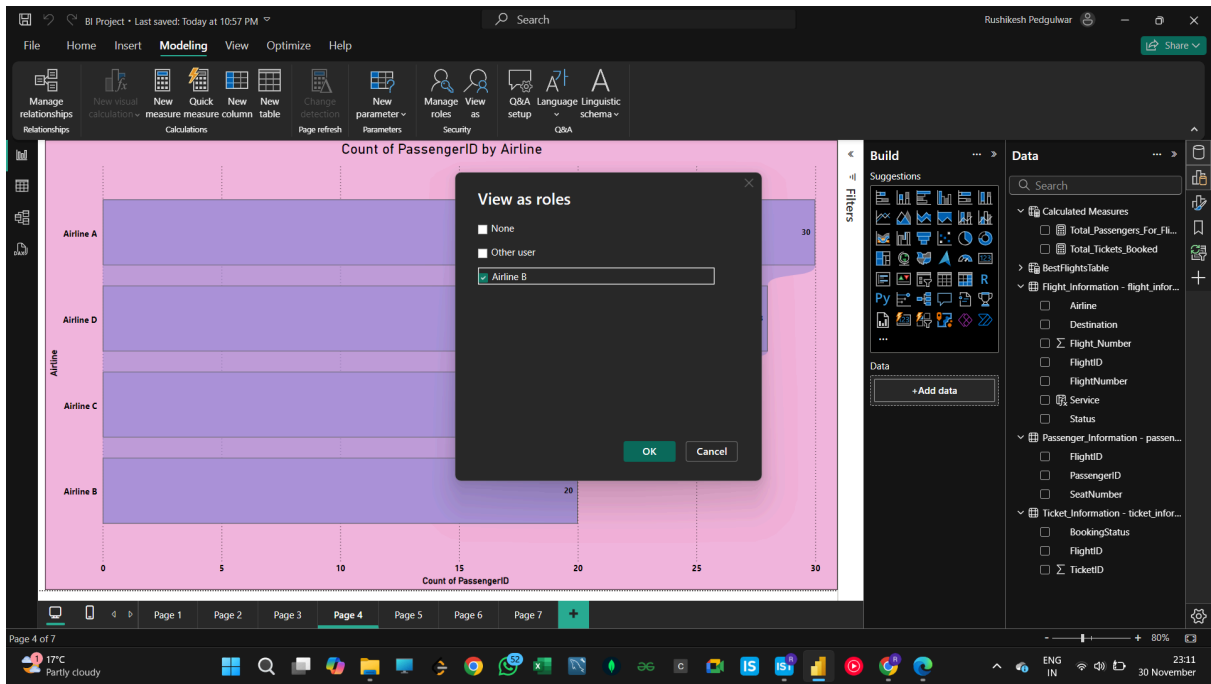
Task-06: Final Dashboard and Power-BI Service

6.1: Publishing the final Dashboard

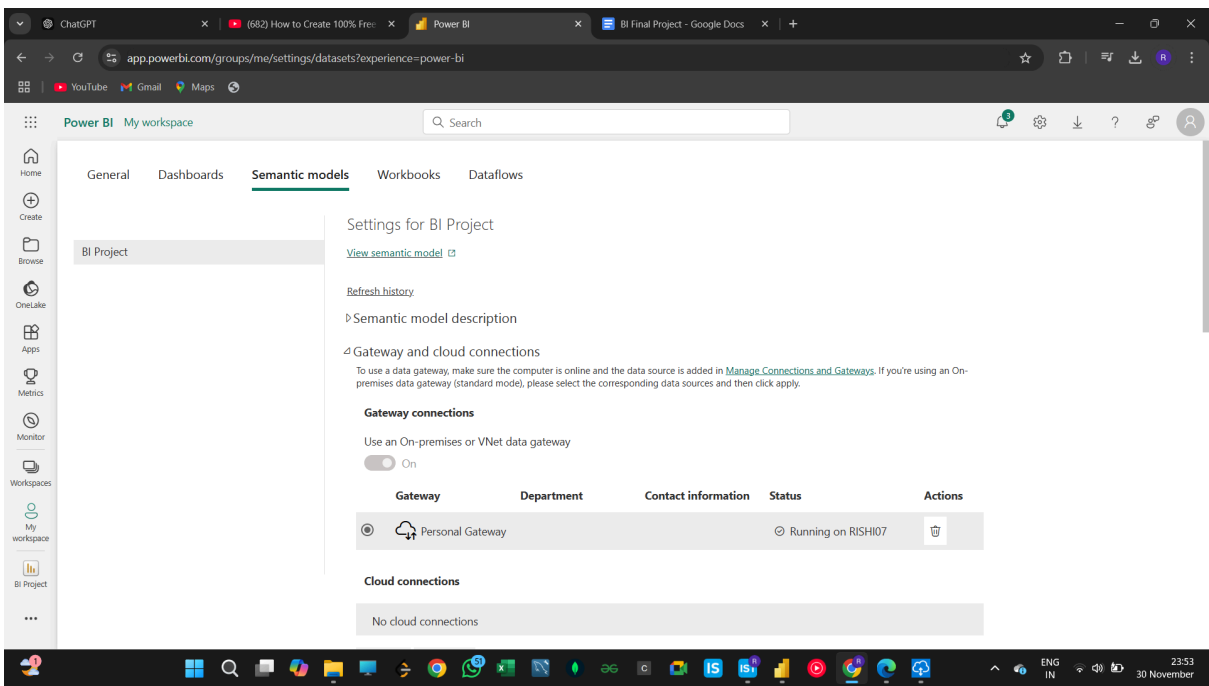
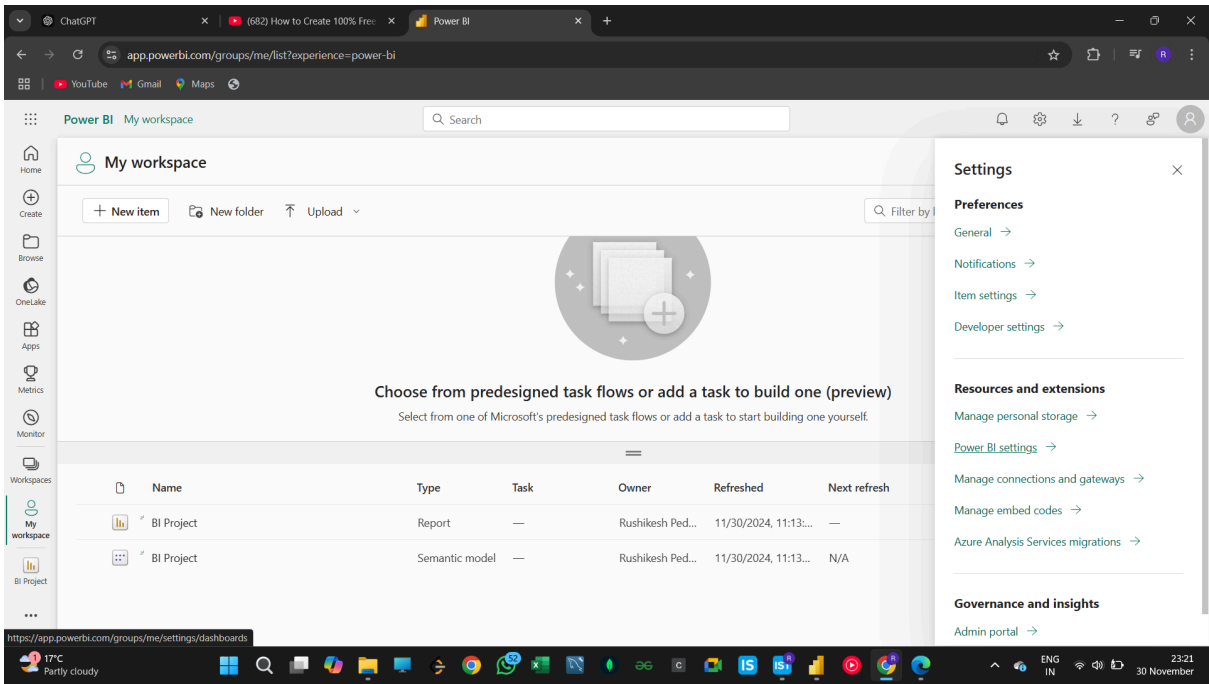


The screenshot shows the Power BI service web interface. The main area displays the "My workspace" page, which includes a list of workspaces and a table of tasks.

Name	Type	Task	Owner	Refreshed	Next refresh	Endorsement	Sensitivity
BI Project	Report	—	Rushikesh Ped...	11/30/2024, 11:13:...	—	—	—
BI Project	Semantic model	—	Rushikesh Ped...	11/30/2024, 11:13:...	N/A	—	—



6.3: Using Schedule Refresh



Power BI My workspace

Search

Home
Create
Browse
OneLake
Apps
Metrics
Monitor
Workspaces
My workspace
BI Project

4 Data source credentials

- Flight_Information - flight_information.csv [Edit credentials](#) [Show in lineage view](#)
- Passenger_Information - passenger_information.csv [Edit credentials](#) [Show in lineage view](#)
- Ticket_Information - ticket_information.csv [Edit credentials](#) [Show in lineage view](#)

Parameters

4 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

12 00 PM X

[Add another time](#)

Send refresh failure notifications to

☒ Semantic model owner

☐ These contacts:

23:53 30 November