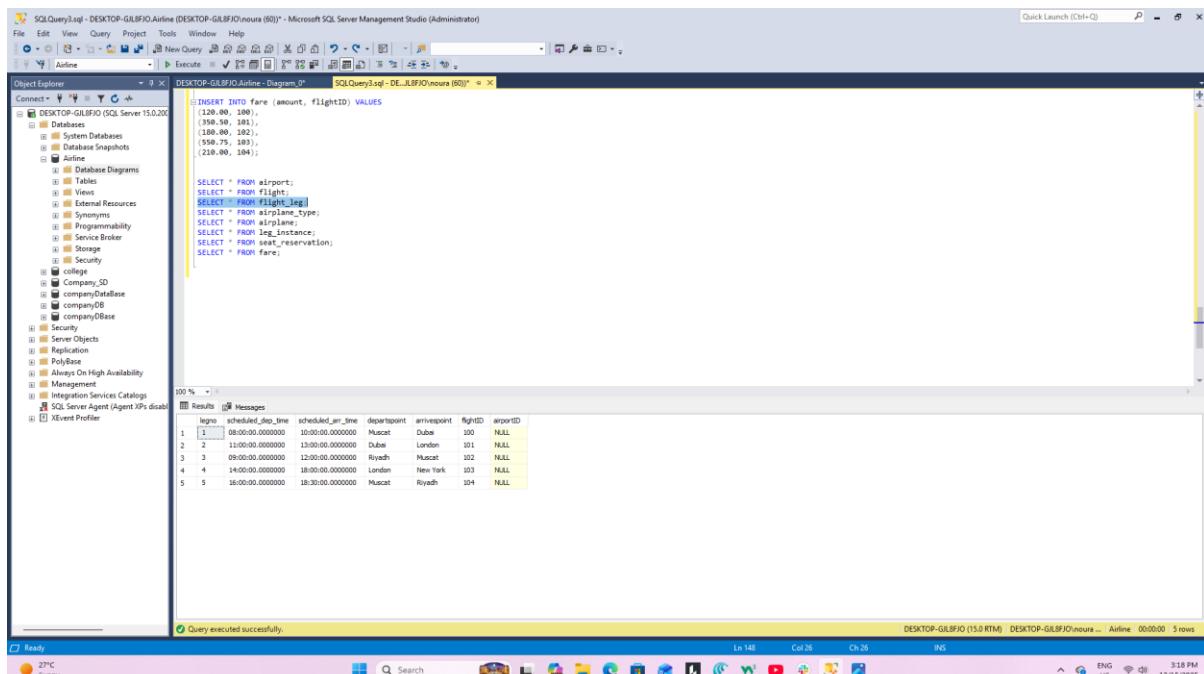


DML & DQL task on Airline database

DQL

1. Display all flight leg records.



```
SQLQuery1.sql - DESKTOP-GILBFJO\Airline (DESKTOP-GILBFJO\inouva (60)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help
[...]
Airline
Object Explorer
[...]
DESKE... - Airline - Diagrams -> SQLQuery1.sql - DE... - JLBFIJO\inouva (60) ->
[...]
SELECT * FROM airport;
SELECT * FROM flight_leg;
SELECT * FROM airplane_type;
SELECT * FROM airplane_instance;
SELECT * FROM leg_instance;
SELECT * FROM seat_reservation;
SELECT * FROM fare;
```

Results

	legno	scheduled_dep_time	scheduled_arr_time	departaport	arriveport	flightID	airportID
1	1	08:00:00.0000000	10:00:00.0000000	Muscat	Dubai	100	NULL
2	2	10:00:00.0000000	12:00:00.0000000	Muscat	London	101	NULL
3	3	09:00:00.0000000	12:00:00.0000000	Riyadh	Muscat	102	NULL
4	4	14:00:00.0000000	18:00:00.0000000	London	New York	103	NULL
5	5	16:00:00.0000000	18:30:00.0000000	Muscat	Riyadh	104	NULL

Query executed successfully.

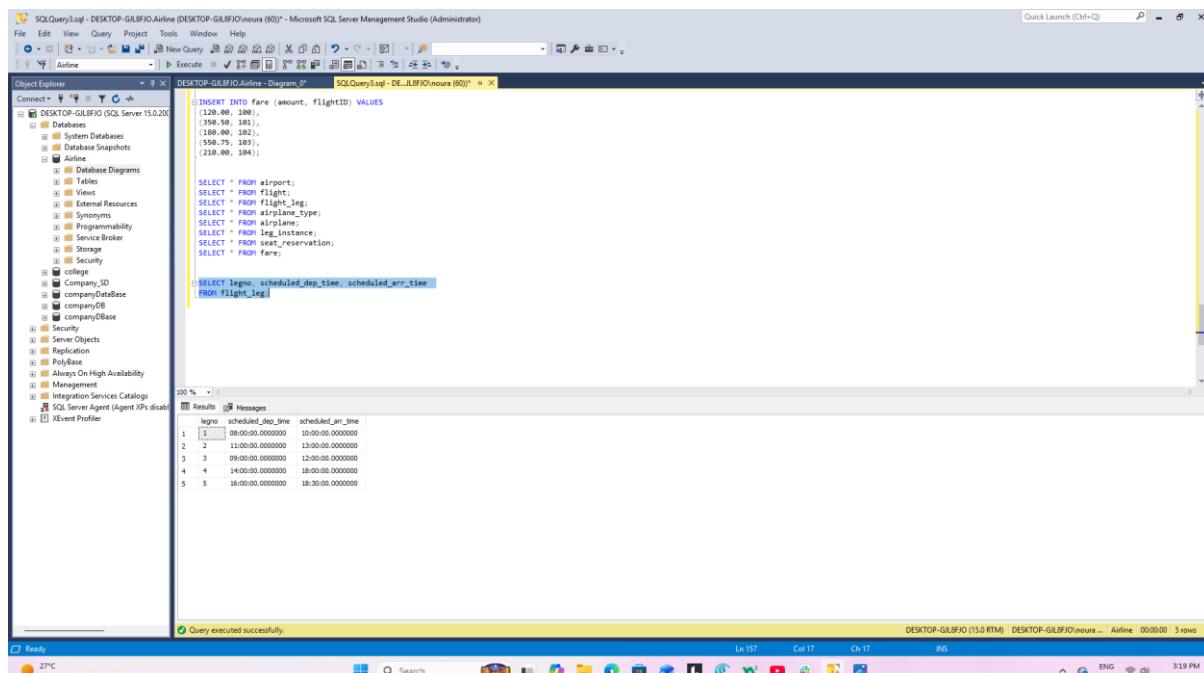
DESKTOP-GILBFJO (15.0 RTM) DESKTOP-GILBFJO\inouva ... Airline 00:00:00 5 rows

Ready 27°C Sunny

27°C Sunny

27°C Sunny

2. Display each flight leg ID, scheduled departure time, and arrival time.



```
SQLQuery2.sql - DESKTOP-GILBFJO\Airline (DESKTOP-GILBFJO\inouva (60)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help
[...]
Airline
Object Explorer
[...]
DESKE... - Airline - Diagrams -> SQLQuery2.sql - DE... - JLBFIJO\inouva (60) ->
[...]
SELECT * FROM airport;
SELECT * FROM flight_leg;
SELECT * FROM airplane_type;
SELECT * FROM airplane_instance;
SELECT * FROM leg_instance;
SELECT * FROM seat_reservation;
SELECT * FROM fare;
```

Results

	legno	scheduled_dep_time	scheduled_arr_time
1	1	08:00:00.0000000	10:00:00.0000000
2	2	11:00:00.0000000	13:00:00.0000000
3	3	09:00:00.0000000	12:00:00.0000000
4	4	14:00:00.0000000	18:00:00.0000000
5	5	16:00:00.0000000	18:30:00.0000000

Query executed successfully.

DESKTOP-GILBFJO (15.0 RTM) DESKTOP-GILBFJO\inouva ... Airline 00:00:00 5 rows

Ready 27°C Sunny

27°C Sunny

3. Display each airplane's ID, type, and seat capacity.

SQLQuery3.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\neura (60)) - Microsoft SQL Server Management Studio (Administrator)

```

INSERT INTO fare (amount, flightID) VALUES
(120, 100),
(150, 101),
(190, 102),
(180, 103),
(190, 104),
(210, 105);

SELECT * FROM airport;
SELECT * FROM flight;
SELECT * FROM flight_leg;
SELECT * FROM airplane_type;
SELECT * FROM leg_instance;
SELECT * FROM leg_reservation;
SELECT * FROM seat_reservation;
SELECT * FROM fare;

SELECT legno, scheduled_dep_time, scheduled_arr_time
FROM flight_leg;

SELECT airplaneID, typename, total_no_seats
FROM airplane;

```

airplaneID	typename	total_no_seats
1	A320	180
2	A330	250
3	B737	160
4	B787	290
5	A350	320

Query executed successfully.

4. Display each flight leg's ID and available seats as AvailableSeats.

SQLQuery3.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\neura (60)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT * FROM airport;
SELECT * FROM flight;
SELECT * FROM flight_leg;
SELECT * FROM airplane_type;
SELECT * FROM airplane;
SELECT * FROM leg_instance;
SELECT * FROM seat_reservation;
SELECT * FROM fare;

SELECT legno, scheduled_dep_time, scheduled_arr_time
FROM flight_leg;

SELECT airplaneID, typename, total_no_seats
FROM airplane;

SELECT leg_instance_id AS FlightLegID, number_of_available_seats AS AvailableSeats
FROM leg_instance;

```

FlightLegID	AvailableSeats
1	150
2	200
3	140
4	270
5	300

Query executed successfully.

5. List flight leg IDs with available seats greater than 100.

SQLQuery2.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\neura (60)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT leg_instance_id
FROM leg_instance
WHERE number_of_available_seats > 100;

```

Results

leg_instance_id
1
2
3
4
5

Query executed successfully.

6. List airplane IDs with seat capacity above 300.

SQLQuery3.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\neura (60)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT airplaneID
FROM airplane
WHERE total_no_seats > 300;

```

Results

airplaneID
1

Query executed successfully.

7. Display airport codes and names where city = 'Cairo'.

The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the connection is to DESKTOP-GILBFJ0.Airline (DESKTOP-GILBFJ0\ourea (60)) - Microsoft SQL Server Management Studio (Administrator). The left pane is the Object Explorer, displaying the database structure for 'DESKTOP-GILBFJ0\ourea'. The right pane contains a query window titled 'SQLQuery1.sql - DE_GILBFJ0\ourea (60)' with the following T-SQL code:

```
SELECT airplaneID, typename, total_no_seats
FROM airplane;

SELECT leg_instance_id AS FlightingID, number_of_available_seats AS AvailableSeats
FROM leg_instance;

SELECT leg_instance_id
FROM leg_instance
WHERE number_of_available_seats > 100;

SELECT airplaneID
FROM airplane
WHERE total_no_seats > 300;

SELECT airportID, airponame
FROM airport
WHERE city = 'Calno'.
```

The results pane shows the output of the last query:

airportID	airponame

At the bottom, a status bar shows 'Query executed successfully.' and the system tray includes icons for battery, signal, and date/time (12/15/2025).

8. Display flight legs scheduled on 2025-06-10.

The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The title bar reads "SQLQuery3.sql - DESKTOP-GILBFQJ\Airline (DESKTOP-GILBFQJ\inouva (50)) - Microsoft SQL Server Management Studio (Administrator)". The main area displays a query window with the following T-SQL code:

```
SELECT * FROM leg_instance WHERE number_of_available_seats > 100;  
  
SELECT airplaneID  
FROM airplane  
WHERE total_no_seats > 300;  
  
SELECT airportID, airportname  
FROM airport  
WHERE city = 'Cairo';  
  
SELECT *  
FROM leg_instance  
WHERE flight_leg_date = '2023-06-18';
```

The results pane shows the output of the last query:

leg_instance_id	number_of_available_seats	arrival_time	departure_time	flight_leg_date	legno	airplaneID
1	100	2023-06-18T12:00:00	2023-06-18T13:00:00	2023-06-18	1	1

At the bottom, a status bar indicates "Query executed successfully." and "0 rows". The system tray shows the date as "12/25/2023".

9. Display flight legs ordered by departure time.

SQLQuery3.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\inoua (60)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT *
FROM leg_instance
WHERE number_of_available_seats > 100;

```

leg_instance_id	Number_of_available_seats	arrival_time	departure_time	flight_leg_date	lego	airplaneID
1	150	10:00:00.000000	08:00:00.000000	2025-01-10	1	1
2	140	12:15:00.000000	09:00:00.000000	2025-01-12	3	3
3	200	13:10:00.000000	11:00:00.000000	2025-01-11	2	2
4	270	18:20:00.000000	14:00:00.000000	2025-01-13	4	4
5	300	18:40:00.000000	16:00:00.000000	2025-01-14	5	5

Query executed successfully.

10. Display the maximum, minimum, and average available seats.

SQLQuery3.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\inoua (60)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT *
FROM airplane
WHERE total_no_seats > 300;

```

```

SELECT *
FROM leg_instance
WHERE flight_leg_date = '2025-06-10';

```

```

SELECT *
FROM leg_instance
ORDER BY departure_time;

```

```

SELECT
    MAX(number_of_available_seats) AS MaxSeats,
    MIN(number_of_available_seats) AS MinSeats,
    AVG(number_of_available_seats) AS AvgSeats
FROM leg_instance;

```

MaxSeats	MinSeats	AvgSeats
300	140	212

Query executed successfully.

11. Display total number of flight legs.

SQLQuery2.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\inura (60)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT
    MAX(number_of_available_seats) AS MaxSeats,
    MIN(number_of_available_seats) AS MinSeats,
    AVG(number_of_available_seats) AS AvgSeats
FROM leg_instance;

SELECT COUNT(*) AS TotalFlightlegs
FROM flight_leg;

SELECT
    COUNT(*)
FROM airplane
WHERE typename LIKE 'Boeing%';

```

Results

TotalFlightlegs
5

Query executed successfully.

12. Display airplanes whose type contains 'Boeing'.

SQLQuery3.sql - DESKTOP-GILBFIO.Airline (DESKTOP-GILBFIO\inura (60)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT
    MAX(number_of_available_seats) AS MaxSeats,
    MIN(number_of_available_seats) AS MinSeats,
    AVG(number_of_available_seats) AS AvgSeats
FROM leg_instance;

SELECT COUNT(*) AS TotalFlightlegs
FROM flight_leg;

SELECT
    COUNT(*)
FROM airplane
WHERE typename LIKE 'Boeing%';

```

Results

airplaneID	total_no_seats	typename

Query executed successfully.

DML

13. Insert a new flight leg departing from 'CAI' to 'DXB' on 2025-06-10.

```

SQLQuery3.sql - DESKTOP-GILBFJO.Airline (DESKTOP-GILBFJO\neura (60)) - Microsoft SQL Server Management Studio (Administrator)
File Edit View Query Project Tools Window Help
[...]
Object Explorer - 9 x DESKTOP-GILBFJO.Airline - Diagram_0* SQLQuery3.sql - DE_JLBFI0\neura (60)*
[...]
SELECT *
FROM airplane
WHERE typename LIKE '%Boeing%';

INSERT INTO flight (airline, weekdays, restrictions)
VALUES ('EgyptAir', 'Daily', 'None');

SELECT flightID FROM flight ORDER BY flightID DESC;

INSERT INTO flight_leg
(llegno, scheduled_dep_time, scheduled_arr_time, departspoint, arrivespoint, flightID, airportID)
VALUES ('ECA', '09:00', '09:30', 'CAI', 'DXB', 105, 1000);

INSERT INTO leg_instance
(number_of_available_seats, arrival_time, departure_time, flight_leg_date, llegno, airplaneID)
VALUES
(100, '13:00', '09:00', '2025-06-10', 6, 1);

100 % 0 rows
[...]
1 row affected
1 row affected
Completion time: 2025-12-15T15:30:49.928800+04:00
[...]

```

Query executed successfully.

14. Insert a customer with NULL contact number.

15. Reduce available seats of your inserted flight leg by 5.

```

SQLQuery3.sql - DESKTOP-GILBFJO.Airline (DESKTOP-GILBFJO\neura (60)) - Microsoft SQL Server Management Studio (Administrator)
File Edit View Query Project Tools Window Help
[...]
Object Explorer - 9 x DESKTOP-GILBFJO.Airline - Diagram_0* SQLQuery3.sql - DE_JLBFI0\neura (60)*
[...]
SELECT *
FROM leg_instance
WHERE leg_instance_id = 6;

UPDATE leg_instance
SET number_of_available_seats = number_of_available_seats - 5
WHERE leg_instance_id = 6;

100 % 0 rows
[...]
0 rows affected
Completion time: 2025-12-15T15:56:51.7048326+04:00
[...]

```

Query executed successfully.

16. Increase available seats by 10 for all domestic flights.

```

-- Insert initial data
INSERT INTO leg_instance
VALUES (100, '13:00', '09:00', '2025-06-10', 6, 1);

-- Update leg_instance
UPDATE leg_instance
SET number_of_available_seats = number_of_available_seats - 5
WHERE leg_instance_id = 6;

-- Update leg_instance
UPDATE li
SET li.number_of_available_seats = li.number_of_available_seats - 10
FROM leg_instance li
INNER JOIN flight_leg f1 ON li.legno = f1.legno
WHERE f1.departspoint = f1.arrivespoint;

-- Update airplane
UPDATE airplane
SET total_no_seats = total_no_seats + 20
WHERE total_no_seats < 150;

```

Completion time: 2025-12-15T15:58:00.8183457+04:00

0 rows affected.

Query executed successfully.

17. Update airplane seat capacity by +20 where capacity < 150.

```

-- Insert initial data
INSERT INTO leg_instance
VALUES (100, '13:00', '09:00', '2025-06-10', 6, 1);

-- Update leg_instance
UPDATE leg_instance
SET number_of_available_seats = number_of_available_seats - 5
WHERE leg_instance_id = 6;

-- Update leg_instance
UPDATE li
SET li.number_of_available_seats = li.number_of_available_seats - 10
FROM leg_instance li
INNER JOIN flight_leg f1 ON li.legno = f1.legno
WHERE f1.departspoint = f1.arrivespoint;

-- Update airplane
UPDATE airplane
SET total_no_seats = total_no_seats + 20
WHERE total_no_seats < 150;

```

Completion time: 2025-12-15T15:58:32.0790740+04:00

0 rows affected.

Query executed successfully.