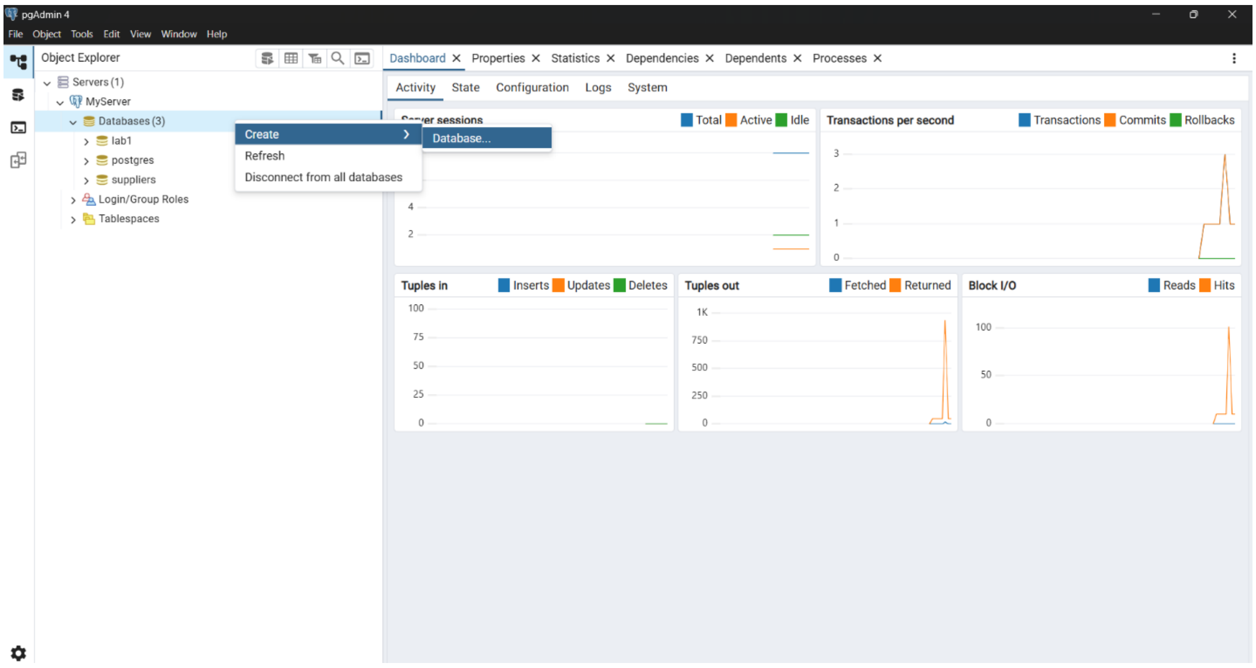
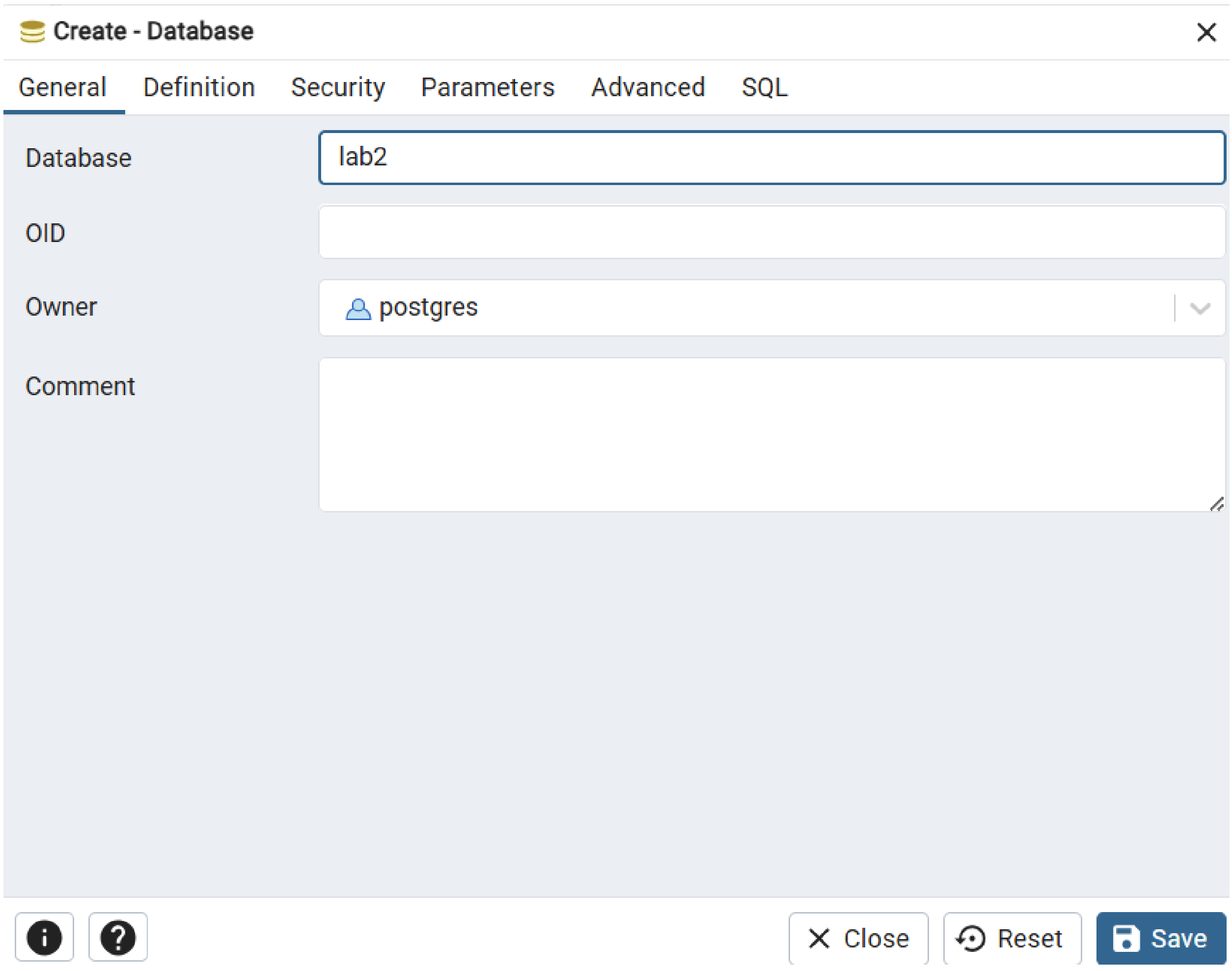
Lab 2 Abdykamat Adilet

DDL

1) In the first one, i opened the lab2 database.





Database: lab2

OID:

Owner: postgres

Comment:

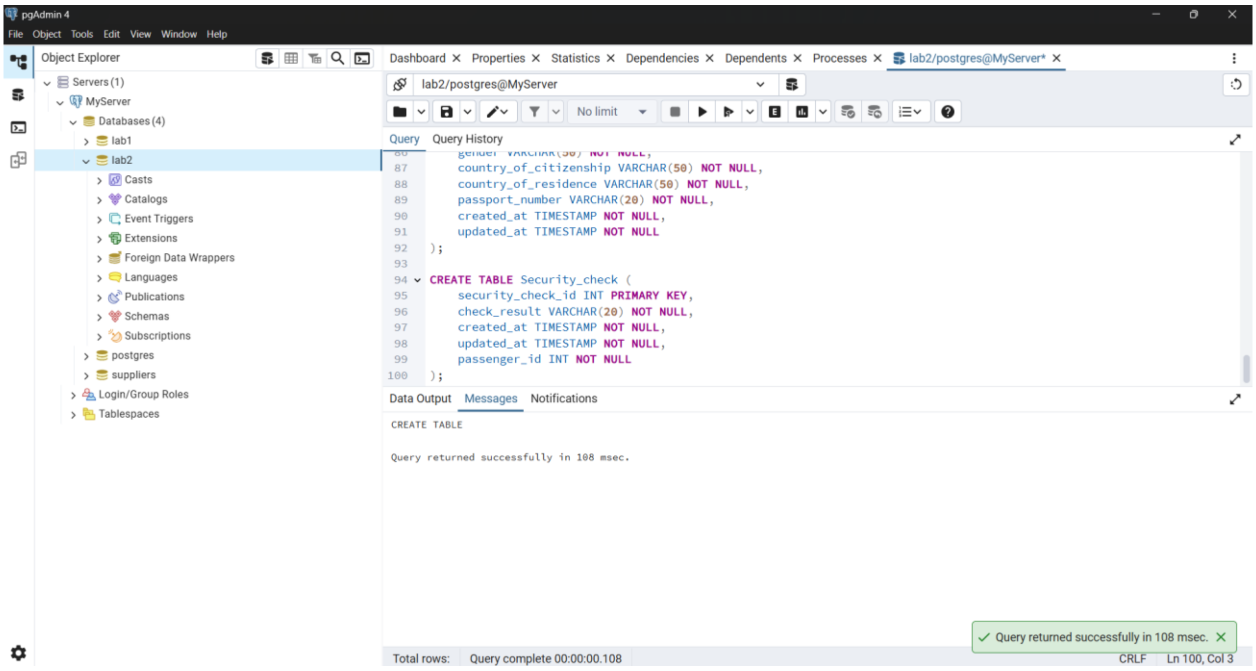
2) Creating tables

Then I created all the tables specified in the assignment.

```
CREATE TABLE Airline_info (
   airline_id INT PRIMARY KEY,
   airline_code VARCHAR(30) NOT NULL,
   airline_name VARCHAR(50) NOT NULL,
   airline_country VARCHAR(50) NOT NULL,
   created_at TIMESTAMP NOT NULL,
   updated_at TIMESTAMP NOT NULL,
   info VARCHAR(50) NOT NULL
);

CREATE TABLE Airport (
   airport_id INT PRIMARY KEY,
   airport_name VARCHAR(50) NOT NULL,
   country VARCHAR(50) NOT NULL,
   state VARCHAR(50) NOT NULL,
   city VARCHAR(50) NOT NULL,
   created_at TIMESTAMP NOT NULL,
   updated_at TIMESTAMP NOT NULL
);

CREATE TABLE Baggage_check (
   baggage_check_id INT PRIMARY KEY,
   check_result VARCHAR(50) NOT NULL,
   created_at TIMESTAMP NOT NULL,
   updated_at TIMESTAMP NOT NULL,
   booking_id INT NOT NULL,
   passenger_id INT NOT NULL
);
```

```
CREATE TABLE Baggage (
    baggage_id INT PRIMARY KEY,
    weight_in_kg DECIMAL(4,2) NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL,
    booking_id INT NOT NULL
);

CREATE TABLE Boarding_pass (
    boarding_pass_id INT PRIMARY KEY,
    booking_id INT NOT NULL,
    seat VARCHAR(50) NOT NULL,
    boarding_time TIMESTAMP NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL
);

CREATE TABLE Booking_flight (
    booking_flight_id INT PRIMARY KEY,
    booking_id INT NOT NULL,
    flight_id INT NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL
);

CREATE TABLE Booking (
    booking_id INT PRIMARY KEY,
    flight_id INT NOT NULL,
    passenger_id INT NOT NULL,
    booking_platform VARCHAR(50) NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL,
    status VARCHAR(50) NOT NULL,
    price DECIMAL(7,2) NOT NULL
);

CREATE TABLE Flights (
    flight_id INT PRIMARY KEY,
    sch_departure_time TIMESTAMP NOT NULL,
    sch_arrival_time TIMESTAMP NOT NULL,
    departing_airport_id INT NOT NULL,
    arriving_airport_id INT NOT NULL,
    departing_gate VARCHAR(50) NOT NULL,
    arriving_gate VARCHAR(50) NOT NULL,
    airline_id INT NOT NULL,
    act_departure_time TIMESTAMP NOT NULL,
    act_arrival_time TIMESTAMP NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL
);

CREATE TABLE Passengers (
    passenger_id INT PRIMARY KEY,
    first_name VARCHAR(50) NOT NULL,
    last_name VARCHAR(50) NOT NULL,
    date_of_birth DATE NOT NULL,
    gender VARCHAR(50) NOT NULL,
    country_of_citizenship VARCHAR(50) NOT NULL,
    country_of_residence VARCHAR(50) NOT NULL,
    passport_number VARCHAR(20) NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL
);
```

```
CREATE TABLE Security_check (
    security_check_id INT PRIMARY KEY,
    check_result VARCHAR(20) NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL,
    passenger_id INT NOT NULL
);
```

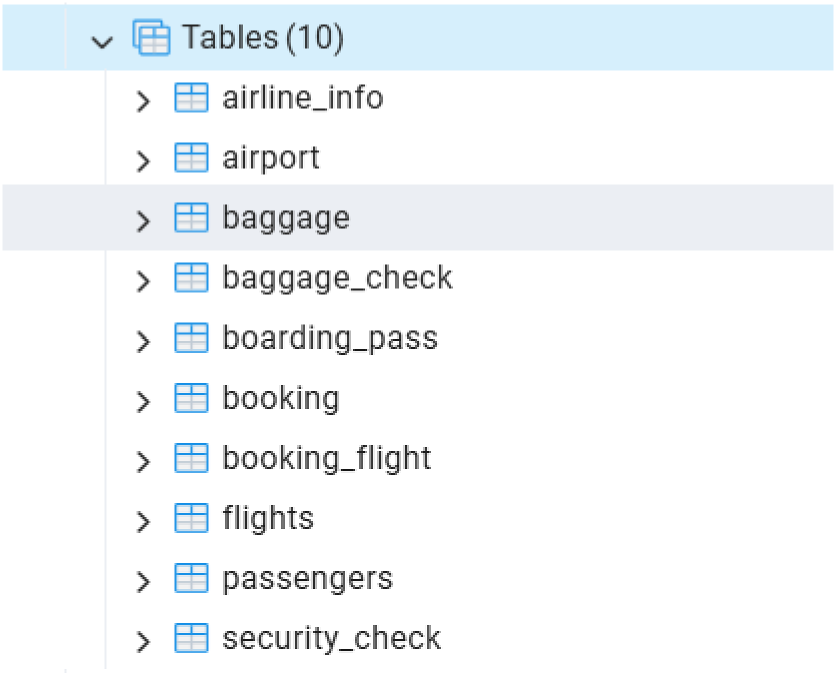


```
    gender VARCHAR(50) NOT NULL,
    country_of_citizenship VARCHAR(50) NOT NULL,
    country_of_residence VARCHAR(50) NOT NULL,
    passport_number VARCHAR(20) NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL
);

CREATE TABLE Security_check (
    security_check_id INT PRIMARY KEY,
    check_result VARCHAR(20) NOT NULL,
    created_at TIMESTAMP NOT NULL,
    updated_at TIMESTAMP NOT NULL,
    passenger_id INT NOT NULL
);
```

```
CREATE TABLE

Query returned successfully in 108 msec.
```

Query returned successfully in 108 msec.

Total rows: Query complete 00:00:00.108 CRLF Ln 100, Col 3

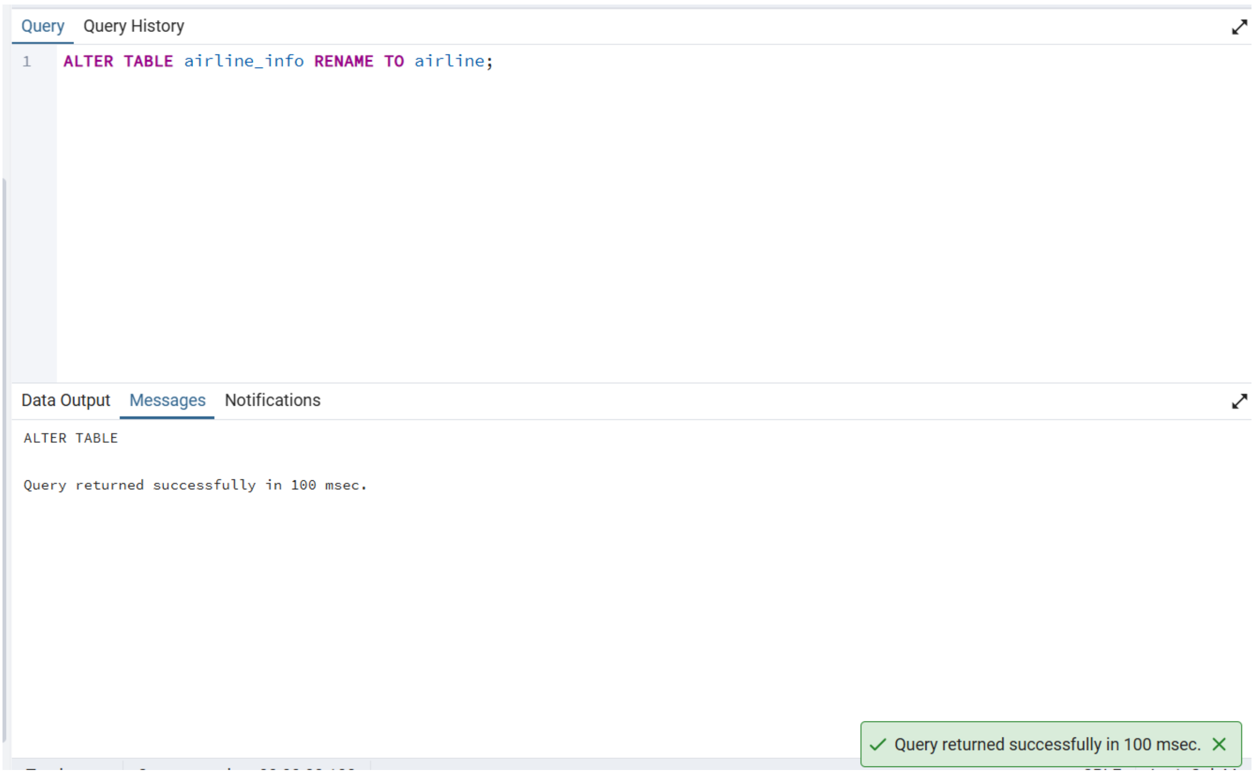


Tables (10)
- airline_info
- airport
- baggage
- baggage_check
- boarding_pass
- booking
- booking_flight
- flights
- passengers
- security_check

3) Rename the airline_info table to airline

I executed the following query:

ALTER TABLE airline_info RENAME TO airline;



```
ALTER TABLE airline_info RENAME TO airline;
```

```
ALTER TABLE

Query returned successfully in 100 msec.
```

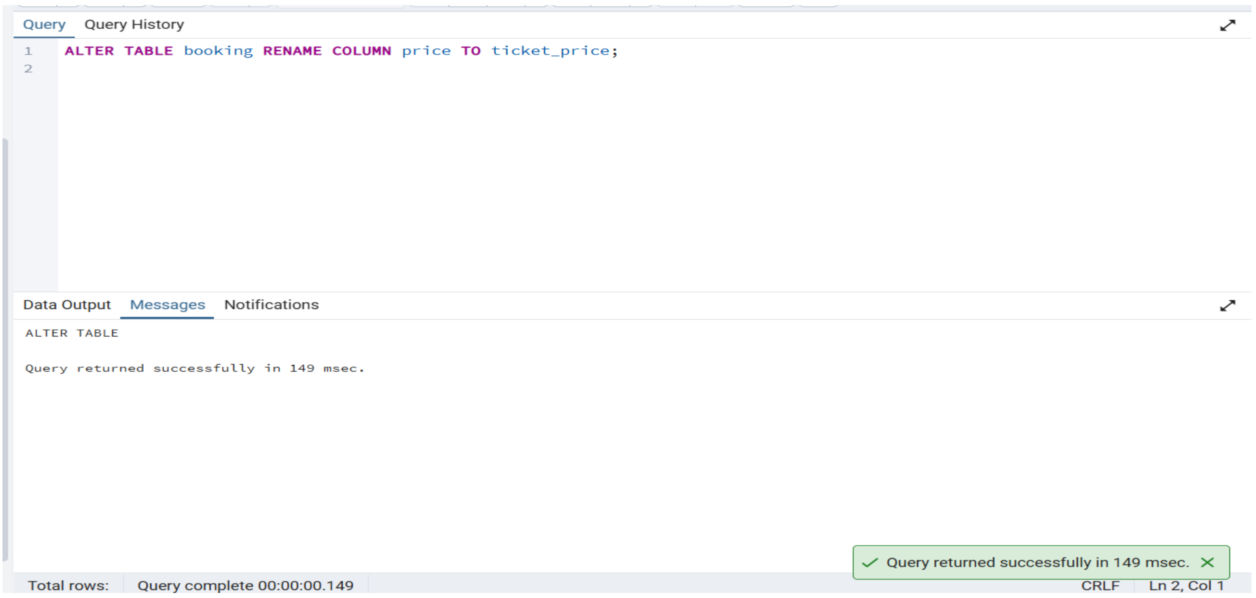
Query returned successfully in 100 msec.

The table was successfully renamed.

4) Rename the column price to ticket_price in the booking table

Query:

ALTER TABLE booking RENAME COLUMN price TO ticket_price;



```
ALTER TABLE booking RENAME COLUMN price TO ticket_price;

```

```
ALTER TABLE

Query returned successfully in 149 msec.
```

Query returned successfully in 149 msec.

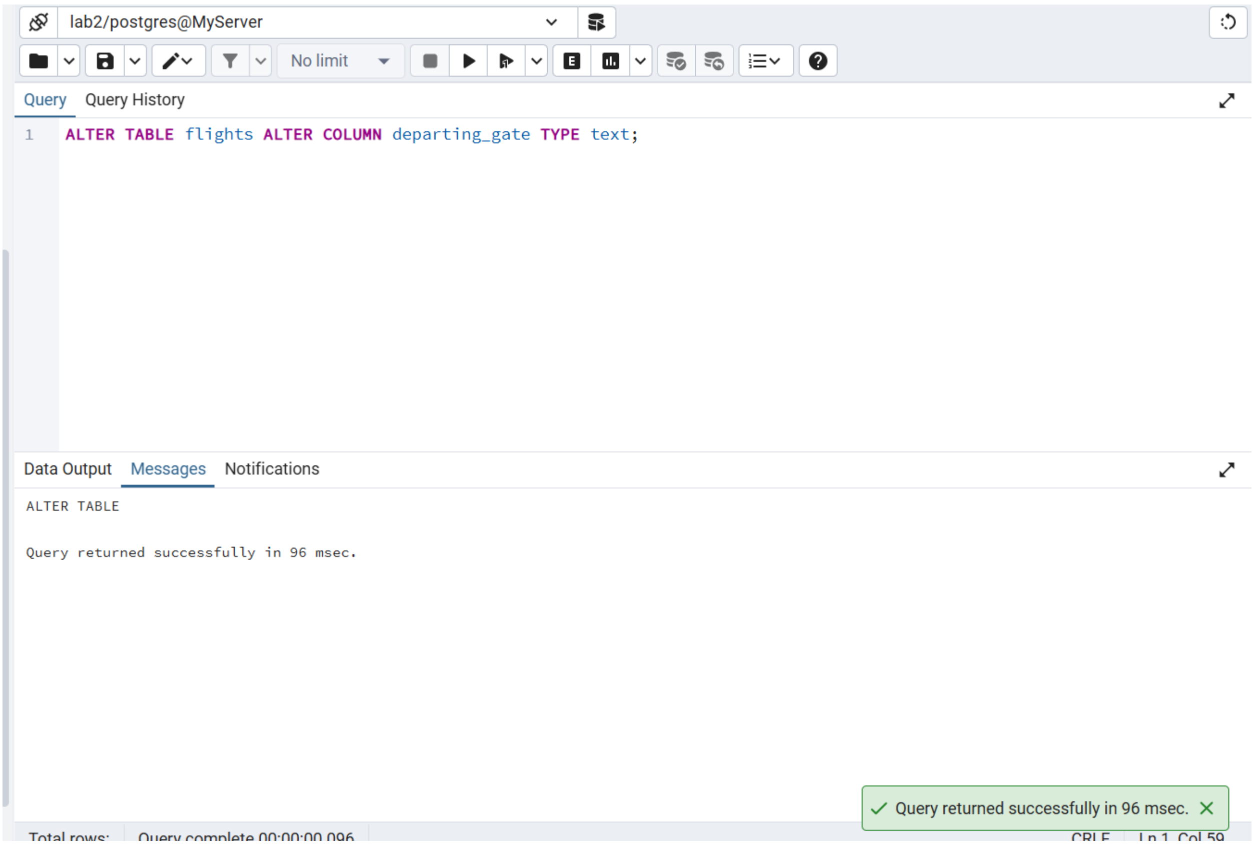
Total rows: Query complete 00:00:00.149 CRLF Ln 2, Col 1

The column was successfully renamed.

5) Change the data type of departing_gate from varchar(50) to text

Query:

ALTER TABLE flights ALTER COLUMN departing_gate TYPE text;



```
ALTER TABLE flights ALTER COLUMN departing_gate TYPE text;
```

```
ALTER TABLE

Query returned successfully in 96 msec.
```

Query returned successfully in 96 msec.

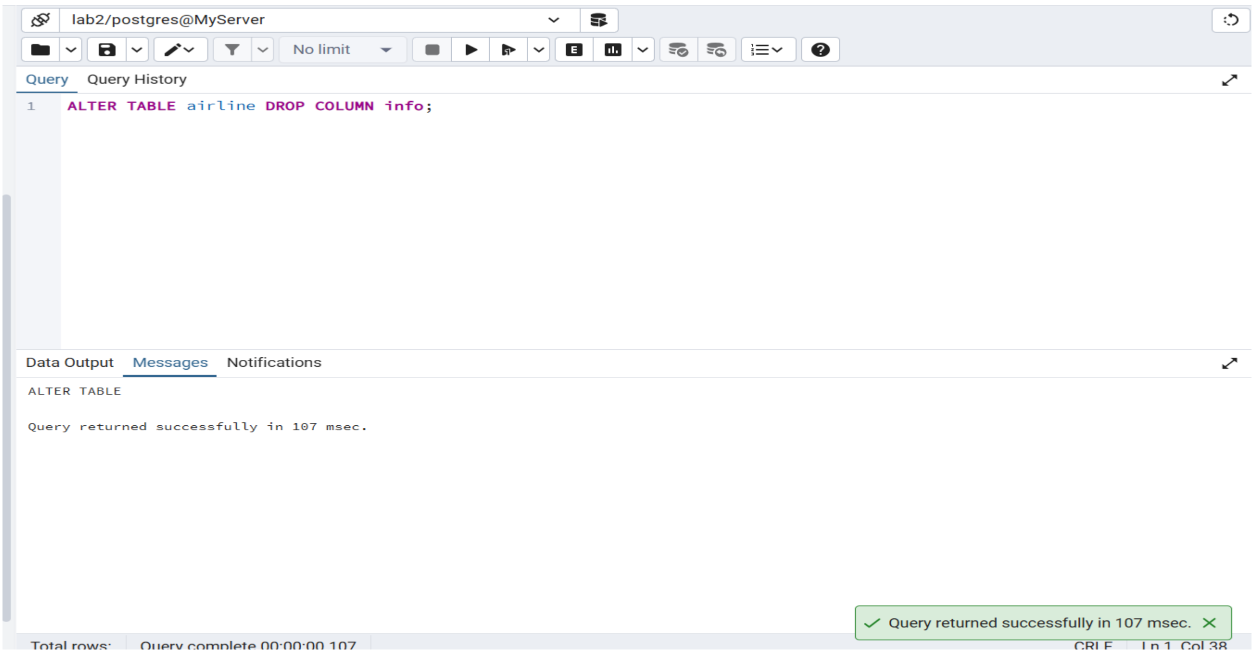
Total rows: Query complete 00:00:00.096 CRLF Ln 1, Col 59

The data type was successfully changed.

6) Drop the column info (varchar(50)) from the airline table

Query:

ALTER TABLE airline DROP COLUMN info;



```
ALTER TABLE airline DROP COLUMN info;
```

```
ALTER TABLE

Query returned successfully in 107 msec.
```

Query returned successfully in 107 msec.

Total rows: Query complete 00:00:00.107 CRLF Ln 1, Col 38

7) Relationships between tables

I created relationships using foreign keys:

Passenger with Security_check, Booking, Baggage_check

ALTER TABLE security_check ADD CONSTRAINT fk_passenger FOREIGN KEY (passenger_id) REFERENCES passengers(passenger_id);

ALTER TABLE booking ADD CONSTRAINT fk_passenger_booking FOREIGN KEY (passenger_id) REFERENCES passengers(passenger_id);

ALTER TABLE baggage_check ADD CONSTRAINT fk_passenger_baggage FOREIGN KEY (passenger_id) REFERENCES passengers(passenger_id);

Booking with Baggage_check, Baggage, Boarding_pass, Booking_flight

ALTER TABLE baggage_check ADD CONSTRAINT fk_booking_baggagecheck FOREIGN KEY (booking_id) REFERENCES booking(booking_id);

ALTER TABLE baggage ADD CONSTRAINT fk_booking_baggage FOREIGN KEY (booking_id) REFERENCES booking(booking_id);

ALTER TABLE boarding_pass ADD CONSTRAINT fk_booking_boarding FOREIGN KEY (booking_id) REFERENCES booking(booking_id);

ALTER TABLE booking_flight ADD CONSTRAINT fk_booking_flight FOREIGN KEY (booking_id) REFERENCES booking(booking_id);

Flights with Booking_flight

ALTER TABLE booking_flight ADD CONSTRAINT fk_flight FOREIGN KEY (flight_id) REFERENCES flights(flight_id);

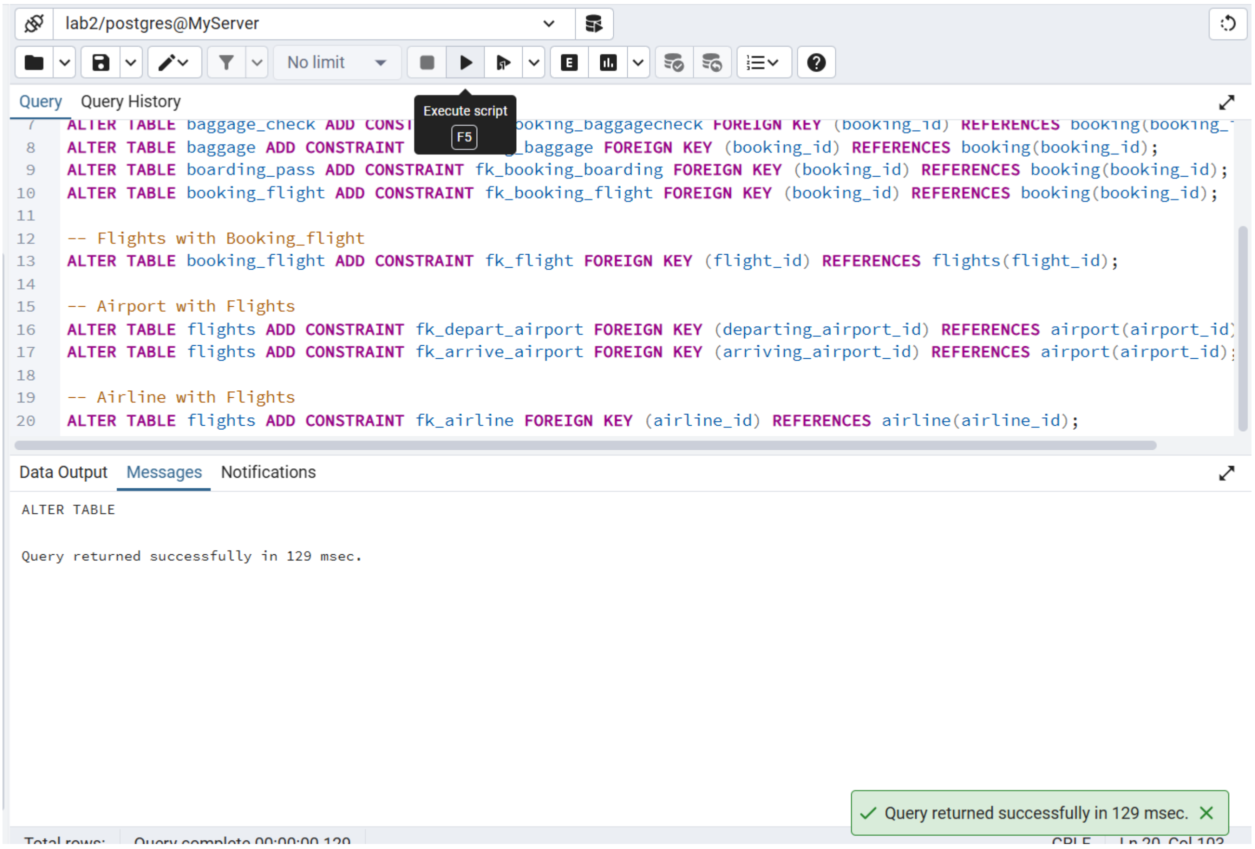
Airport with Flights

ALTER TABLE flights ADD CONSTRAINT fk_depart_airport FOREIGN KEY (departing_airport_id) REFERENCES airport(airport_id);

ALTER TABLE flights ADD CONSTRAINT fk_arrive_airport FOREIGN KEY (arriving_airport_id) REFERENCES airport(airport_id);

Airline with Flights

ALTER TABLE flights ADD CONSTRAINT fk_airline FOREIGN KEY (airline_id) REFERENCES airline(airline_id);



```
ALTER TABLE baggage_check ADD CONST          ooking_baggagecheck FOREIGN KEY (booking_id) REFERENCES booking(booking_
ALTER TABLE baggage ADD CONSTRAINT           _baggage FOREIGN KEY (booking_id) REFERENCES booking(booking_id);
ALTER TABLE boarding_pass ADD CONSTRAINT fk_booking_boarding FOREIGN KEY (booking_id) REFERENCES booking(booking_id);
ALTER TABLE booking_flight ADD CONSTRAINT fk_booking_flight FOREIGN KEY (booking_id) REFERENCES booking(booking_id);

-- Flights with Booking_flight
ALTER TABLE booking_flight ADD CONSTRAINT fk_flight FOREIGN KEY (flight_id) REFERENCES flights(flight_id);

-- Airport with Flights
ALTER TABLE flights ADD CONSTRAINT fk_depart_airport FOREIGN KEY (departing_airport_id) REFERENCES airport(airport_id
ALTER TABLE flights ADD CONSTRAINT fk_arrive_airport FOREIGN KEY (arriving_airport_id) REFERENCES airport(airport_id);

-- Airline with Flights
ALTER TABLE flights ADD CONSTRAINT fk_airline FOREIGN KEY (airline_id) REFERENCES airline(airline_id);
```

```
ALTER TABLE

Query returned successfully in 129 msec.
```

✓ Query returned successfully in 129 msec.

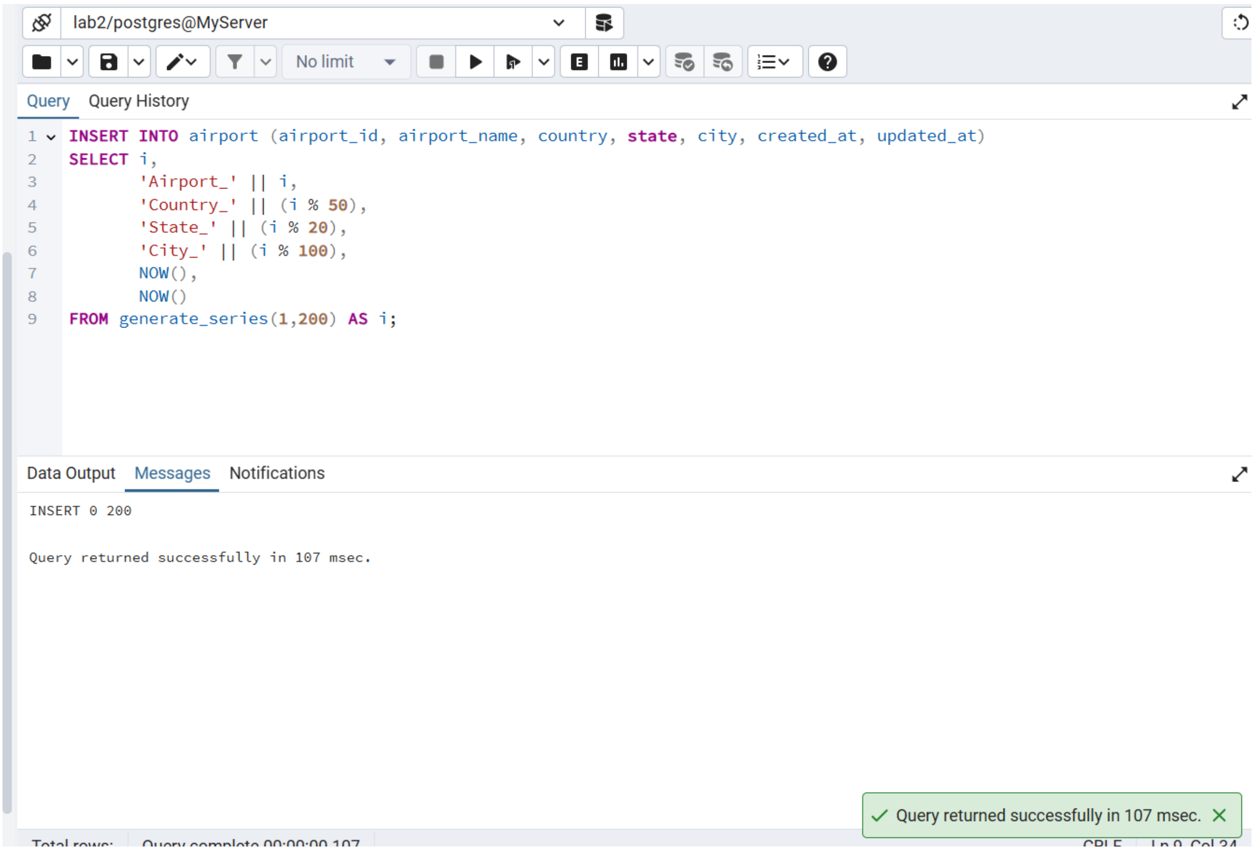
Total rows: Query complete 00:00:00.129   CRLF   Ln 20, Col 103

DML

1. Generate and insert 200 rows into airport

Query:

```
INSERT INTO airport (airport_id, airport_name, country, state, city, created_at, updated_at)

SELECT i,

    'Airport_' || i,

    'Country_' || (i % 50),

    'State_' || (i % 20),

    'City_' || (i % 100),

    NOW(),

    NOW()

FROM generate_series(1,200) AS i;
```



```
INSERT INTO airport (airport_id, airport_name, country, state, city, created_at, updated_at)
SELECT i,
       'Airport_' || i,
       'Country_' || (i % 50),
       'State_' || (i % 20),
       'City_' || (i % 100),
       NOW(),
       NOW()
FROM generate_series(1,200) AS i;
```

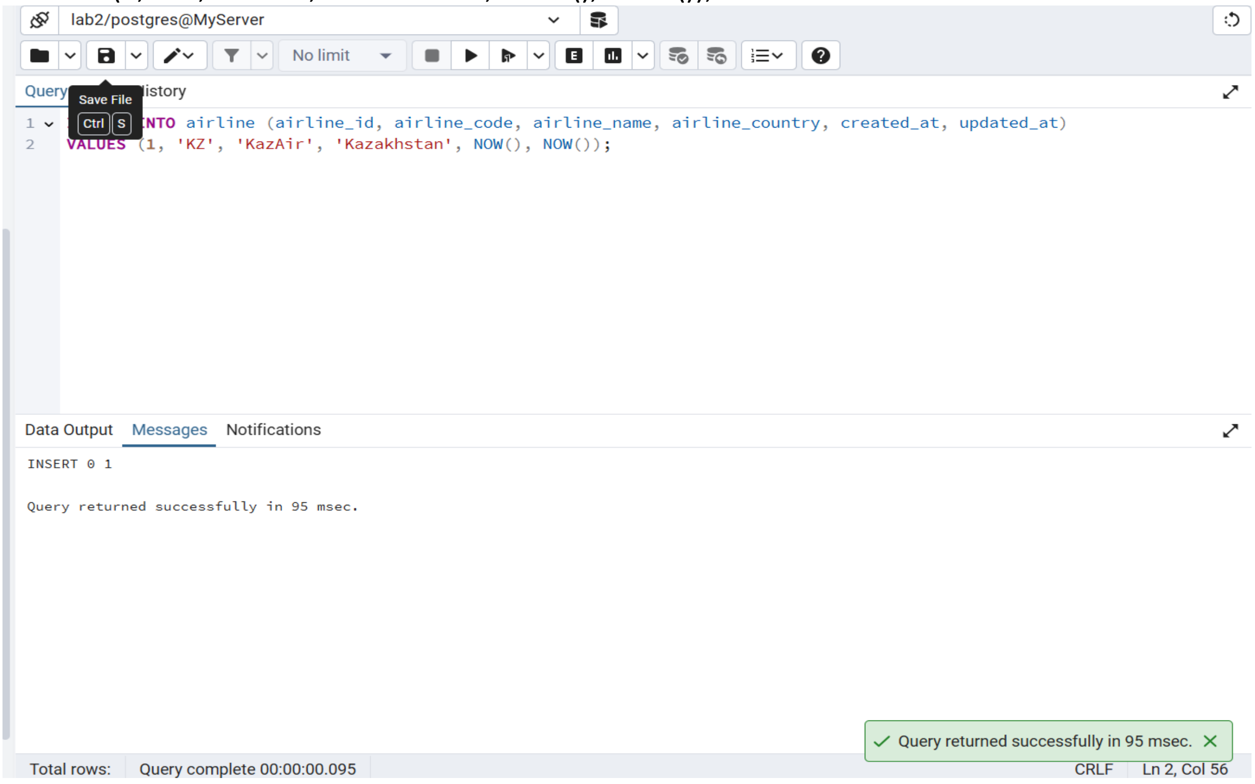
```
INSERT 0 200

Query returned successfully in 107 msec.
```

Query returned successfully in 107 msec.

2. Add a new airline named "KazAir" based in "Kazakhstan"

INSERT INTO airline (airline_id, airline_code, airline_name, airline_country, created_at, updated_at)

VALUES (1, 'KZ', 'KazAir', 'Kazakhstan', NOW(), NOW());



```
INSERT INTO airline (airline_id, airline_code, airline_name, airline_country, created_at, updated_at)
VALUES (1, 'KZ', 'KazAir', 'Kazakhstan', NOW(), NOW());
```

```
INSERT 0 1

Query returned successfully in 95 msec.
```

Query returned successfully in 95 msec.

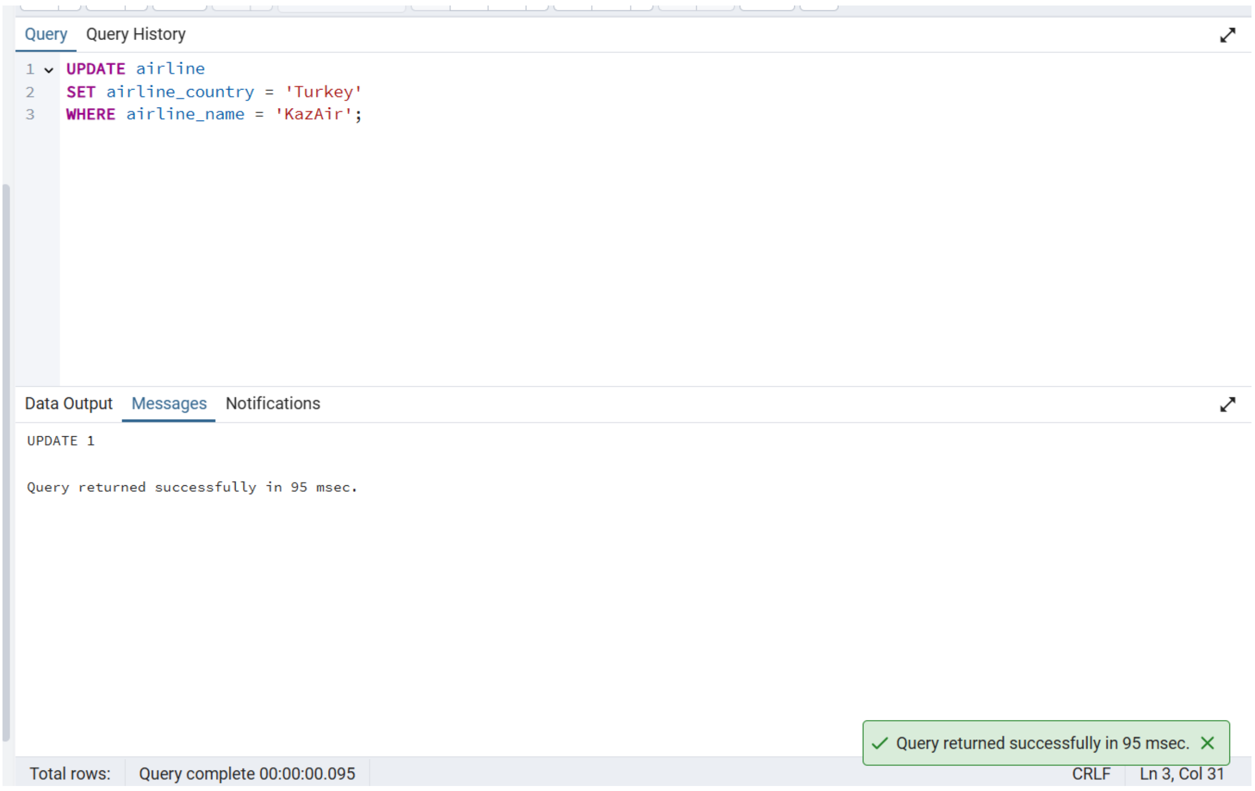
Total rows: Query complete 00:00:00.095 CRLF Ln 2, Col 56

3. Update the airline country of "KazAir" to "Turkey"

UPDATE airline

SET airline_country = 'Turkey'

WHERE airline_name = 'KazAir';



Query Query History

```
UPDATE airline
SET airline_country = 'Turkey'
WHERE airline_name = 'KazAir';
```

Data Output Messages Notifications

```
UPDATE 1

Query returned successfully in 95 msec.
```

Query returned successfully in 95 msec.

Total rows: Query complete 00:00:00.095 CRLF Ln 3, Col 31

4. Add three airlines at once

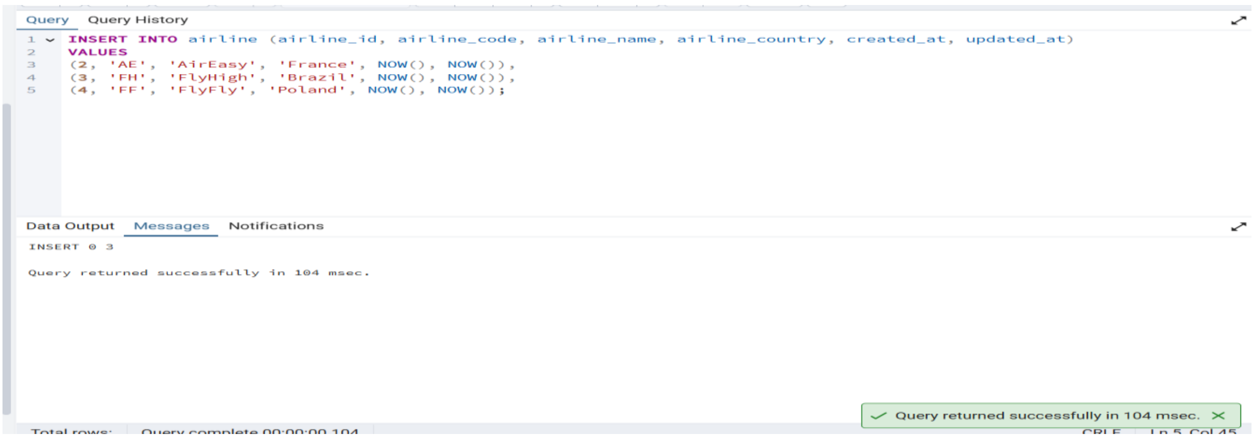
INSERT INTO airline (airline_id, airline_code, airline_name, airline_country, created_at, updated_at)

VALUES

(2, 'AE', 'AirEasy', 'France', NOW(), NOW()),

(3, 'FH', 'FlyHigh', 'Brazil', NOW(), NOW()),

(4, 'FF', 'FlyFly', 'Poland', NOW(), NOW());



Query Query History

```
INSERT INTO airline (airline_id, airline_code, airline_name, airline_country, created_at, updated_at)
VALUES
(2, 'AE', 'AirEasy', 'France', NOW(), NOW()),
(3, 'FH', 'FlyHigh', 'Brazil', NOW(), NOW()),
(4, 'FF', 'FlyFly', 'Poland', NOW(), NOW());
```

Data Output Messages Notifications

```
INSERT 0 3

Query returned successfully in 104 msec.
```

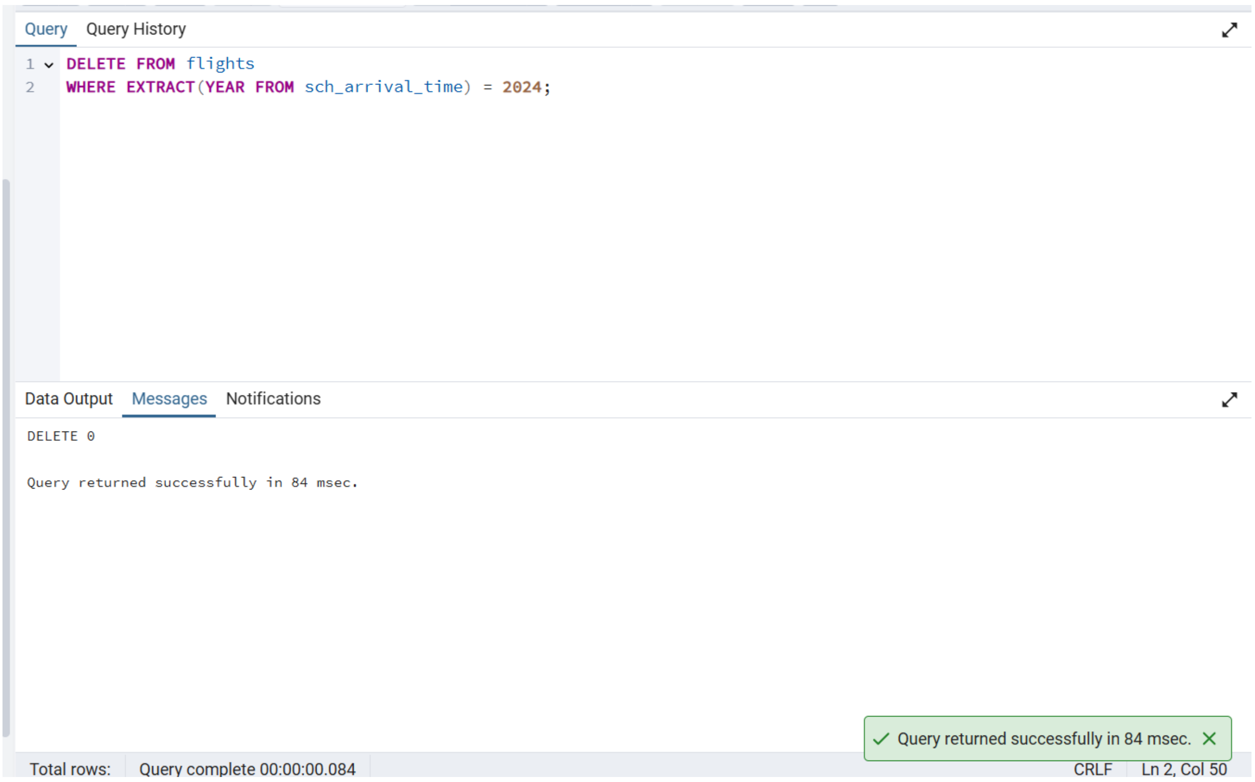
Query returned successfully in 104 msec.

Total rows: Query complete 00:00:00.104 CRLF Ln 5, Col 45

5. Delete all flights arriving in the year 2024

DELETE FROM flights

WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024;



```sql
DELETE FROM flights
WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024;
```

```
DELETE 0

Query returned successfully in 84 msec.
```

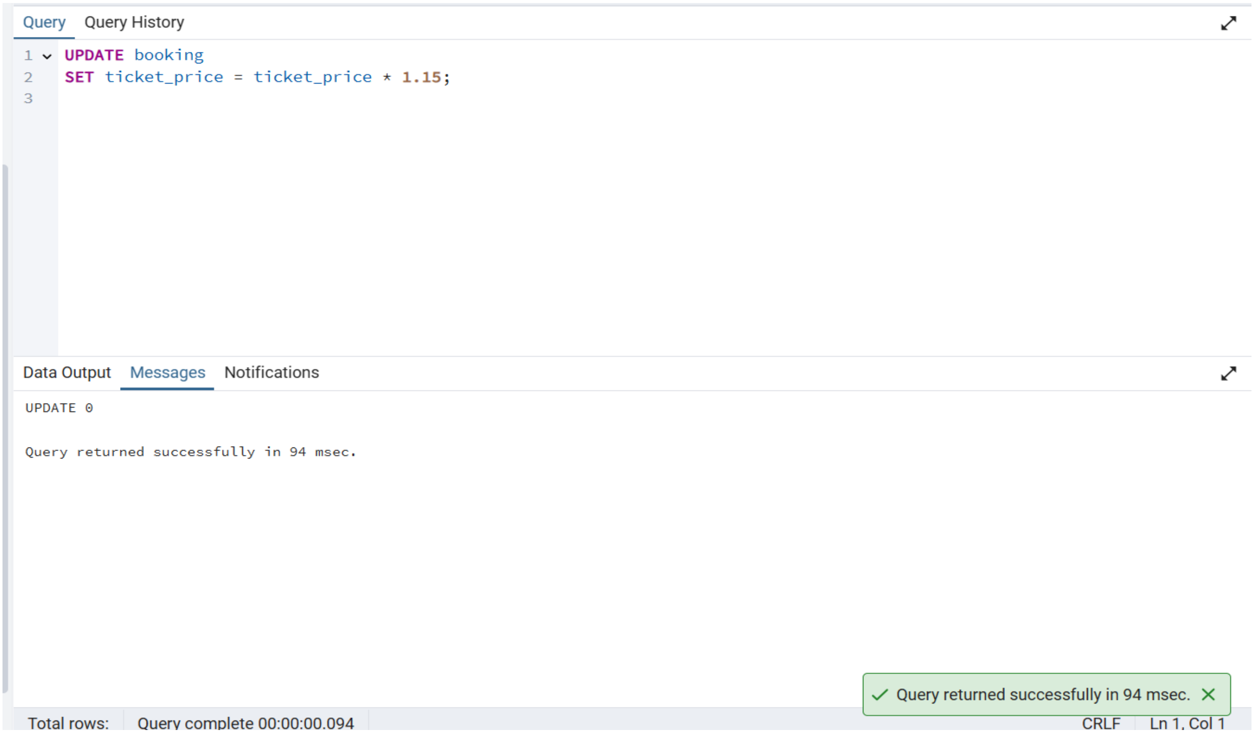
Query returned successfully in 84 msec.

Total rows: Query complete 00:00:00.084 CRLF Ln 2, Col 50

6. Increase the price of all tickets in booking by 15%

UPDATE booking

SET ticket_price = ticket_price * 1.15;



```sql
UPDATE booking
SET ticket_price = ticket_price * 1.15;

```

```
UPDATE 0

Query returned successfully in 94 msec.
```

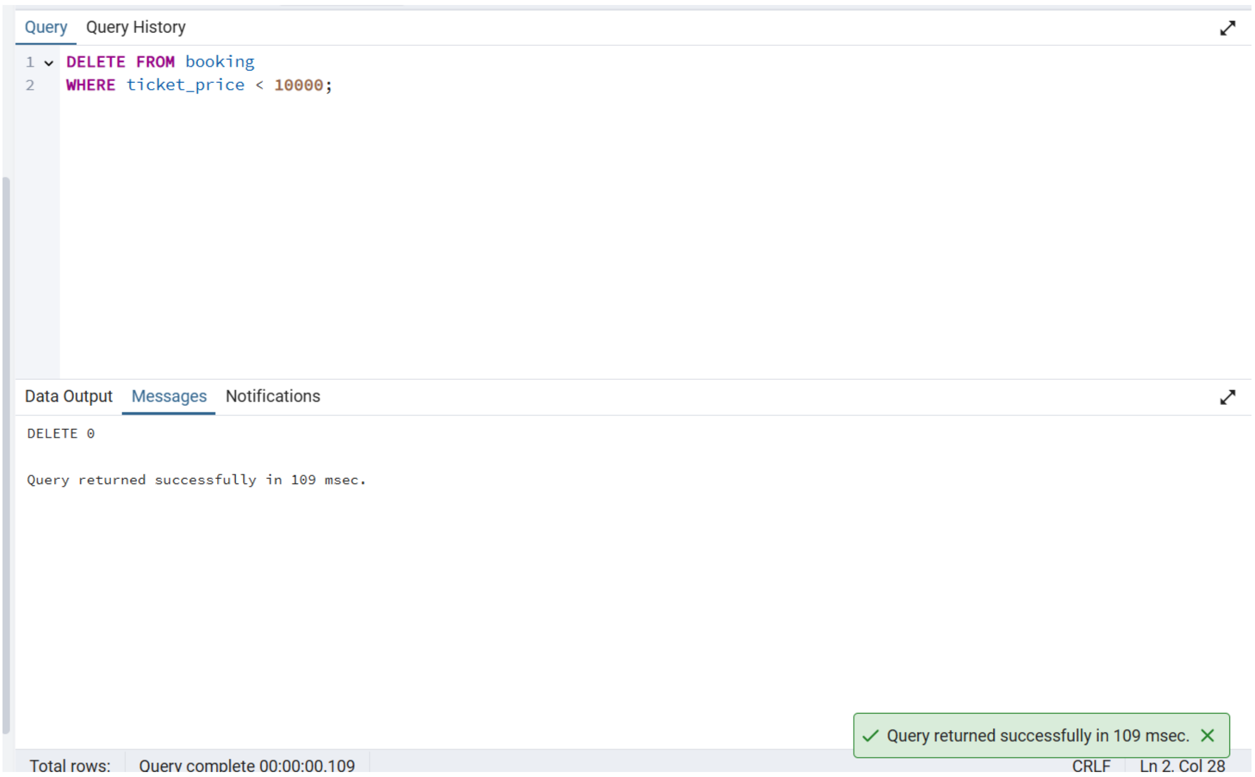
Query returned successfully in 94 msec.

Total rows: Query complete 00:00:00.094 CRLF Ln 1, Col 1

7. Delete all tickets where the price is less than 10000

DELETE FROM booking

WHERE ticket_price < 10000;



```sql
DELETE FROM booking
WHERE ticket_price < 10000;
```

```
DELETE 0

Query returned successfully in 109 msec.
```

Query returned successfully in 109 msec.
Total rows:
Query complete 00:00:00.109
CRLF
Ln 2, Col 28