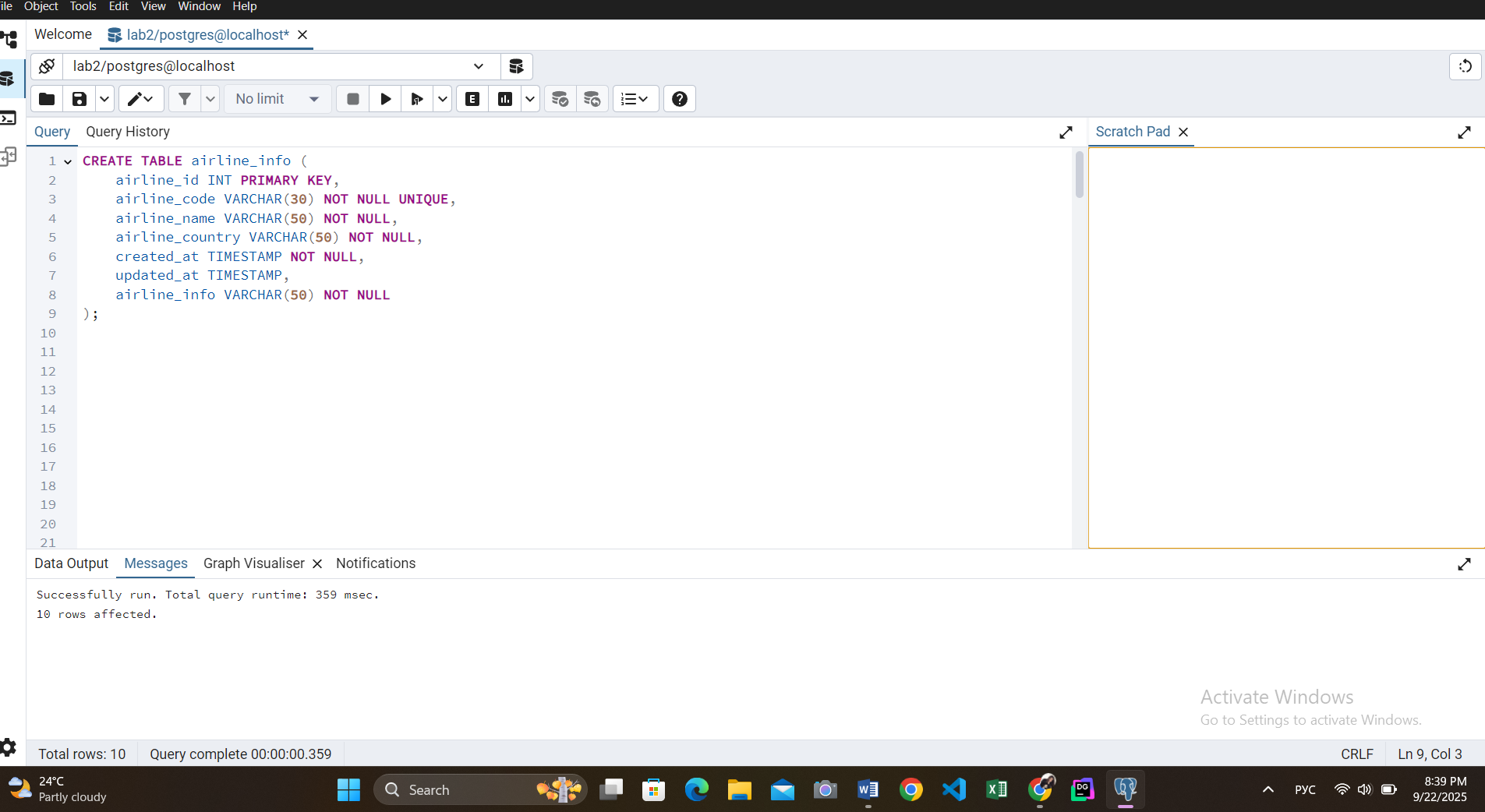
Lab2

**DDL**

1-4.



CREATE TABLE airline\_info (

airline\_id INT PRIMARY KEY,

airline\_code VARCHAR(30) NOT NULL UNIQUE,

airline\_name VARCHAR(50) NOT NULL,

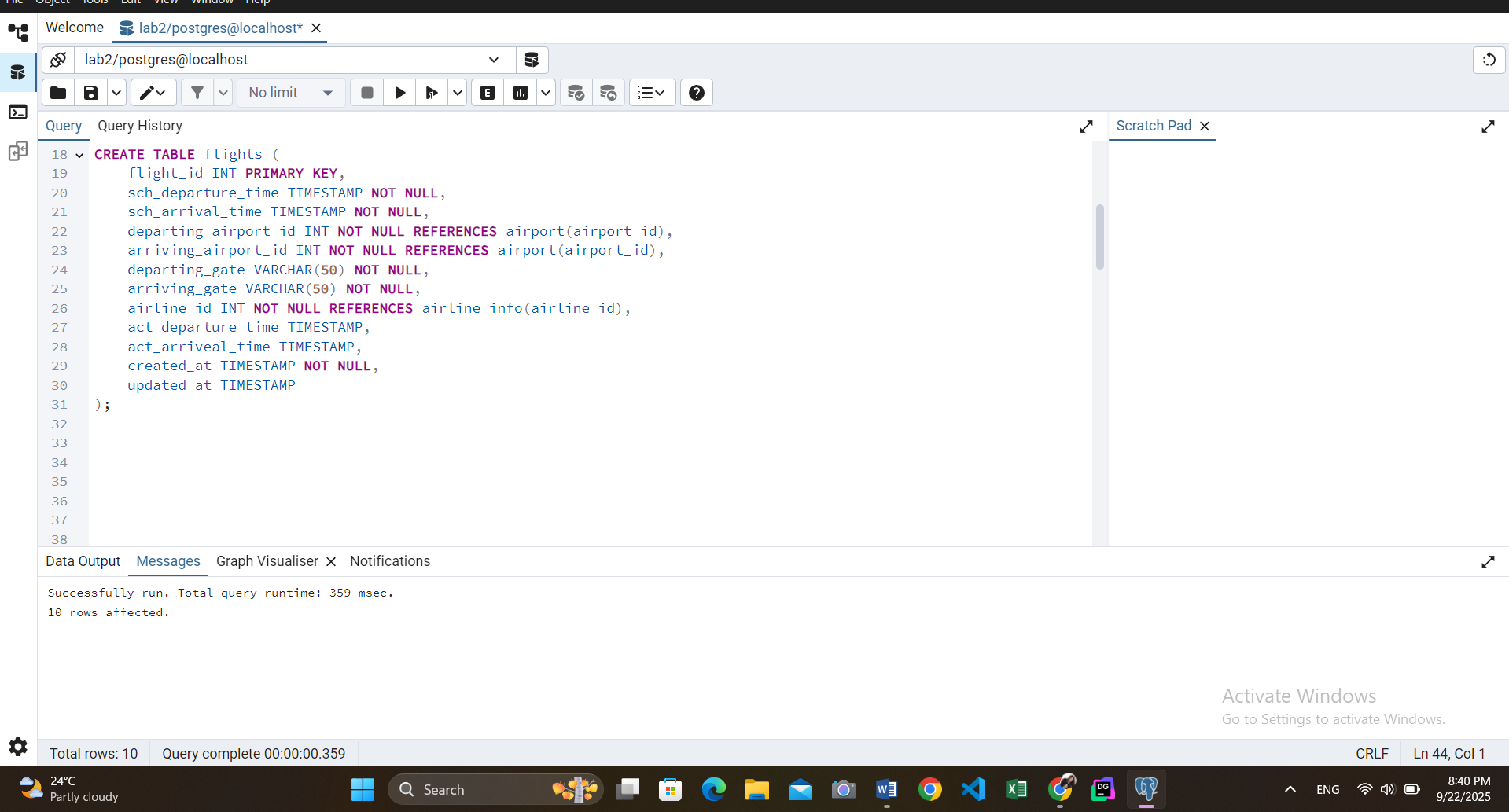
airline\_country VARCHAR(50) NOT NULL,

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP,

airline\_info VARCHAR(50) 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 REFERENCES airport(airport\_id),

arriving\_airport\_id INT NOT NULL REFERENCES airport(airport\_id),

departing\_gate VARCHAR(50) NOT NULL,

arriving\_gate VARCHAR(50) NOT NULL,

airline\_id INT NOT NULL REFERENCES airline\_info(airline\_id),

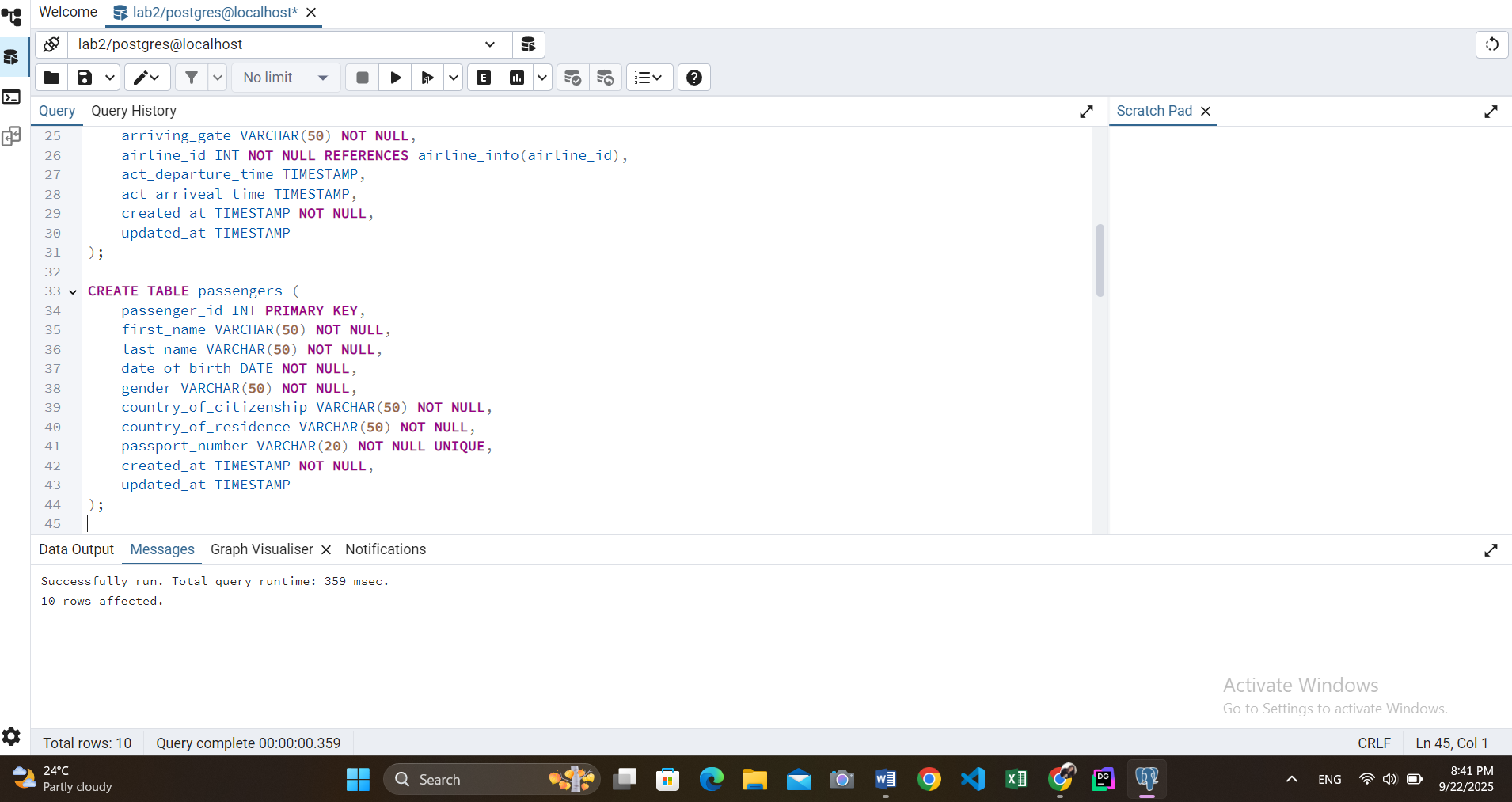
act\_departure\_time TIMESTAMP,

act\_arriveal\_time TIMESTAMP,

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP

);



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,

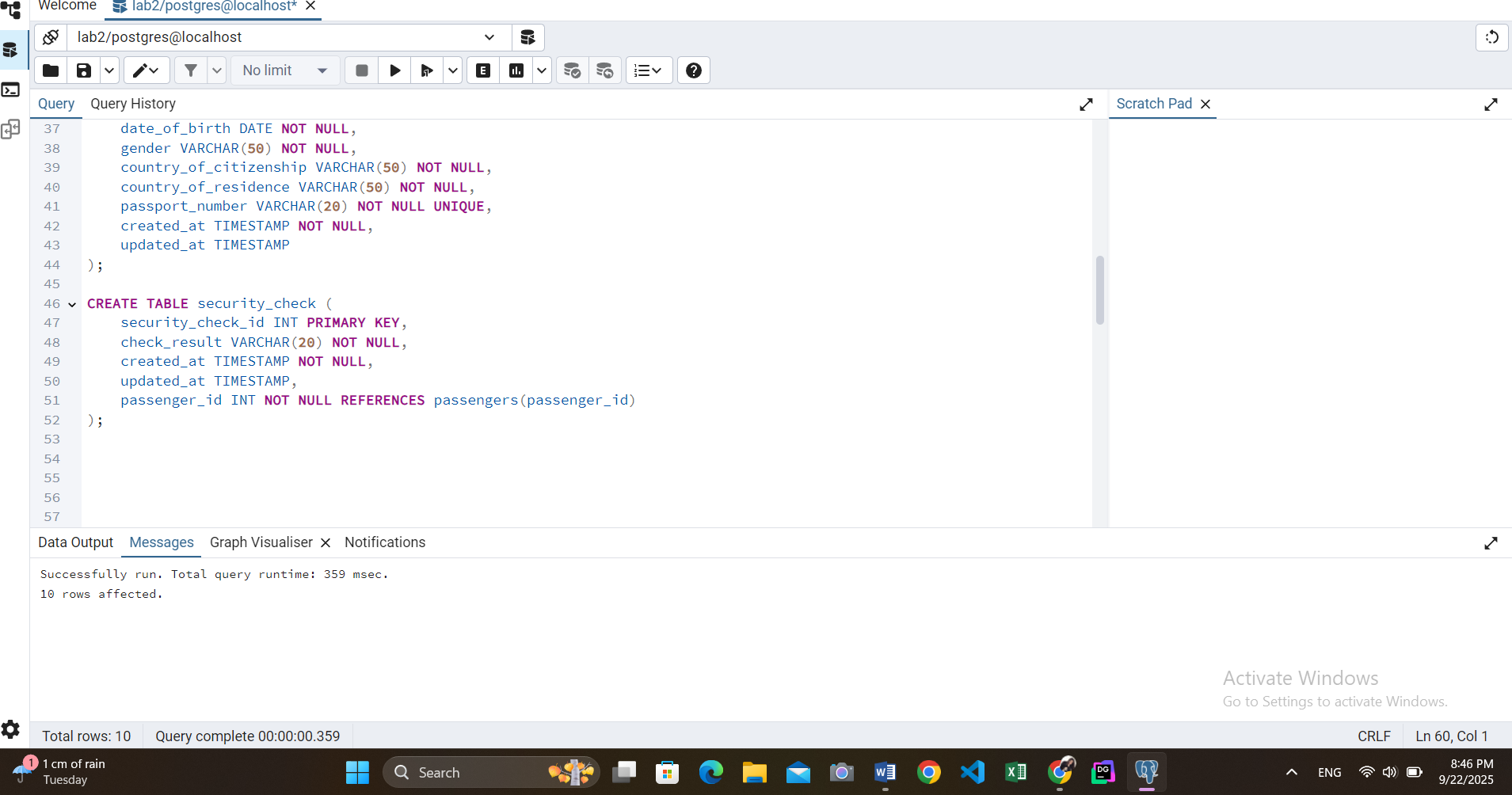
country\_of\_residence VARCHAR(50) NOT NULL,

passport\_number VARCHAR(20) NOT NULL UNIQUE,

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP

);

CREATE TABLE security\_check (

security\_check\_id INT PRIMARY KEY,

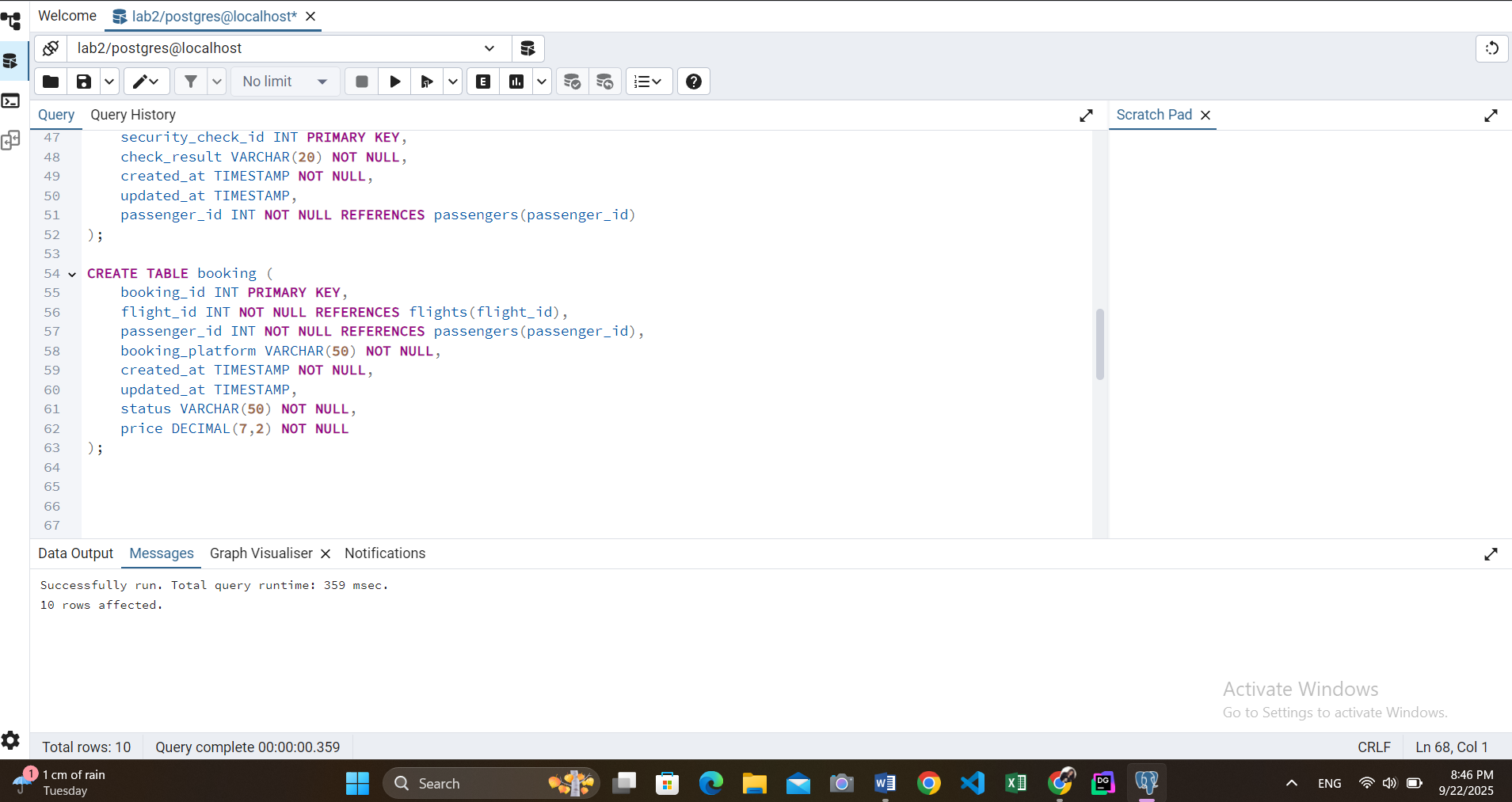
check\_result VARCHAR(20) NOT NULL,

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP,

passenger\_id INT NOT NULL REFERENCES passengers(passenger\_id)

);



CREATE TABLE booking (

booking\_id INT PRIMARY KEY,

flight\_id INT NOT NULL REFERENCES flights(flight\_id),

passenger\_id INT NOT NULL REFERENCES passengers(passenger\_id),

booking\_platform VARCHAR(50) NOT NULL,

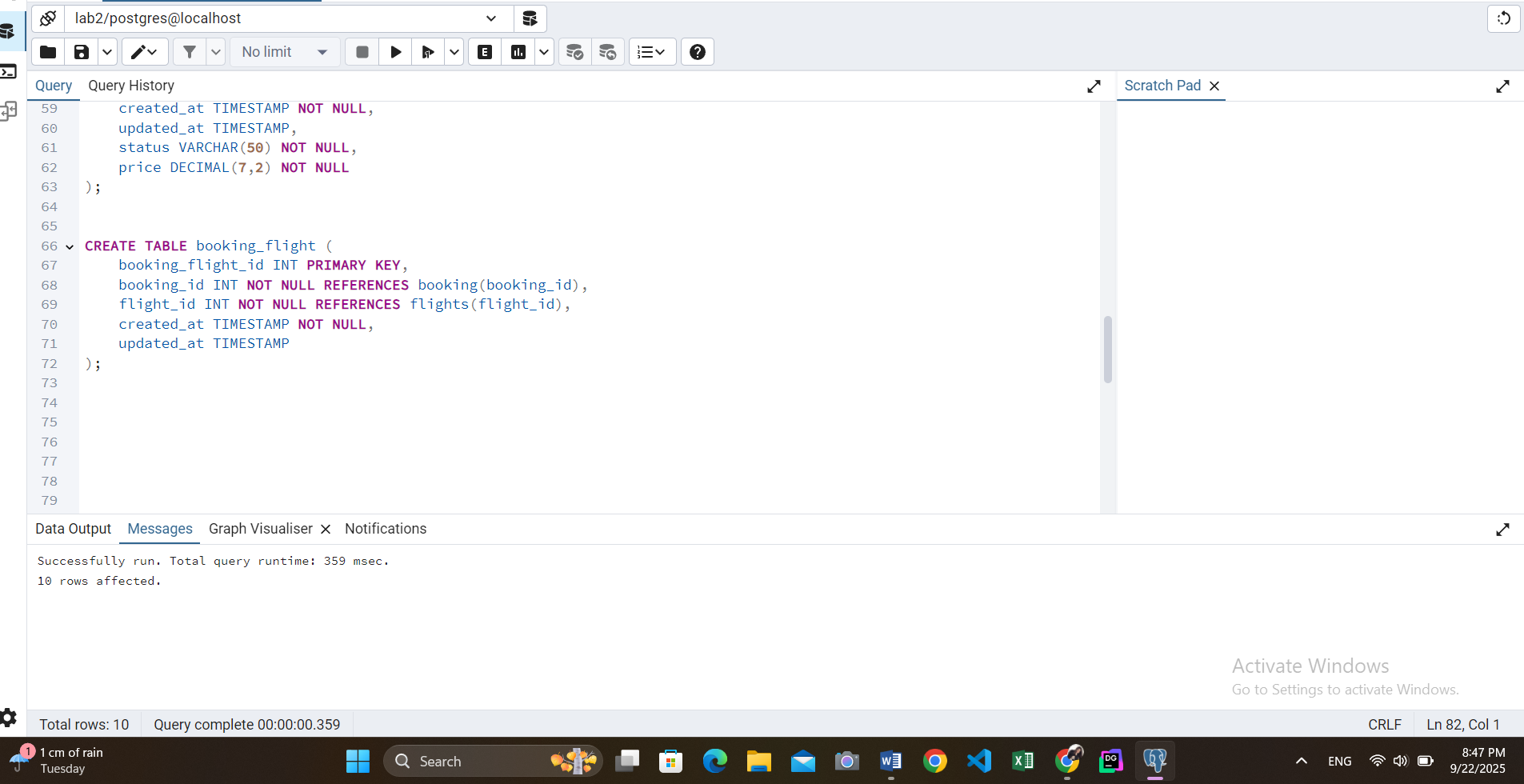
created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP,

status VARCHAR(50) NOT NULL,

price DECIMAL(7,2) NOT NULL

);



CREATE TABLE booking\_flight (

booking\_flight\_id INT PRIMARY KEY,

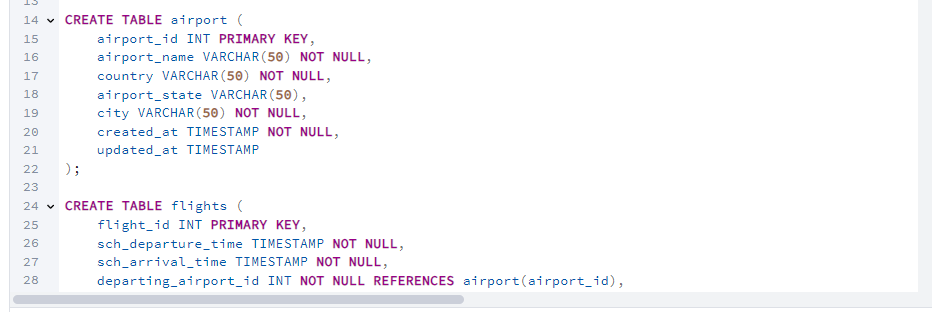
booking\_id INT NOT NULL REFERENCES booking(booking\_id),

flight\_id INT NOT NULL REFERENCES flights(flight\_id),

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP

);



CREATE TABLE airport (

airport\_id INT PRIMARY KEY,

airport\_name VARCHAR(50) NOT NULL,

country VARCHAR(50) NOT NULL,

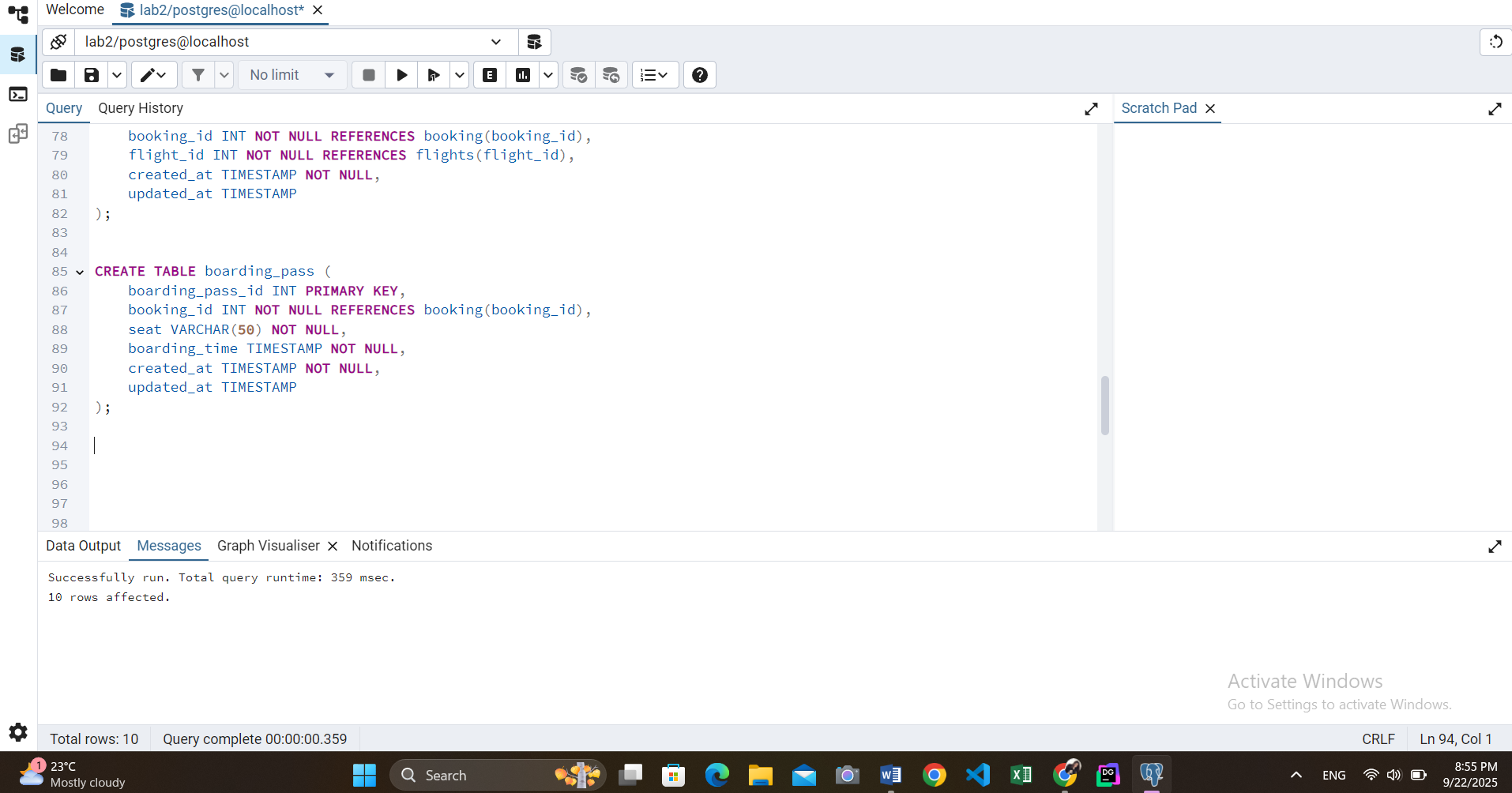
airport\_state VARCHAR(50),

city VARCHAR(50) NOT NULL,

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP

);



CREATE TABLE boarding\_pass (

boarding\_pass\_id INT PRIMARY KEY,

booking\_id INT NOT NULL REFERENCES booking(booking\_id),

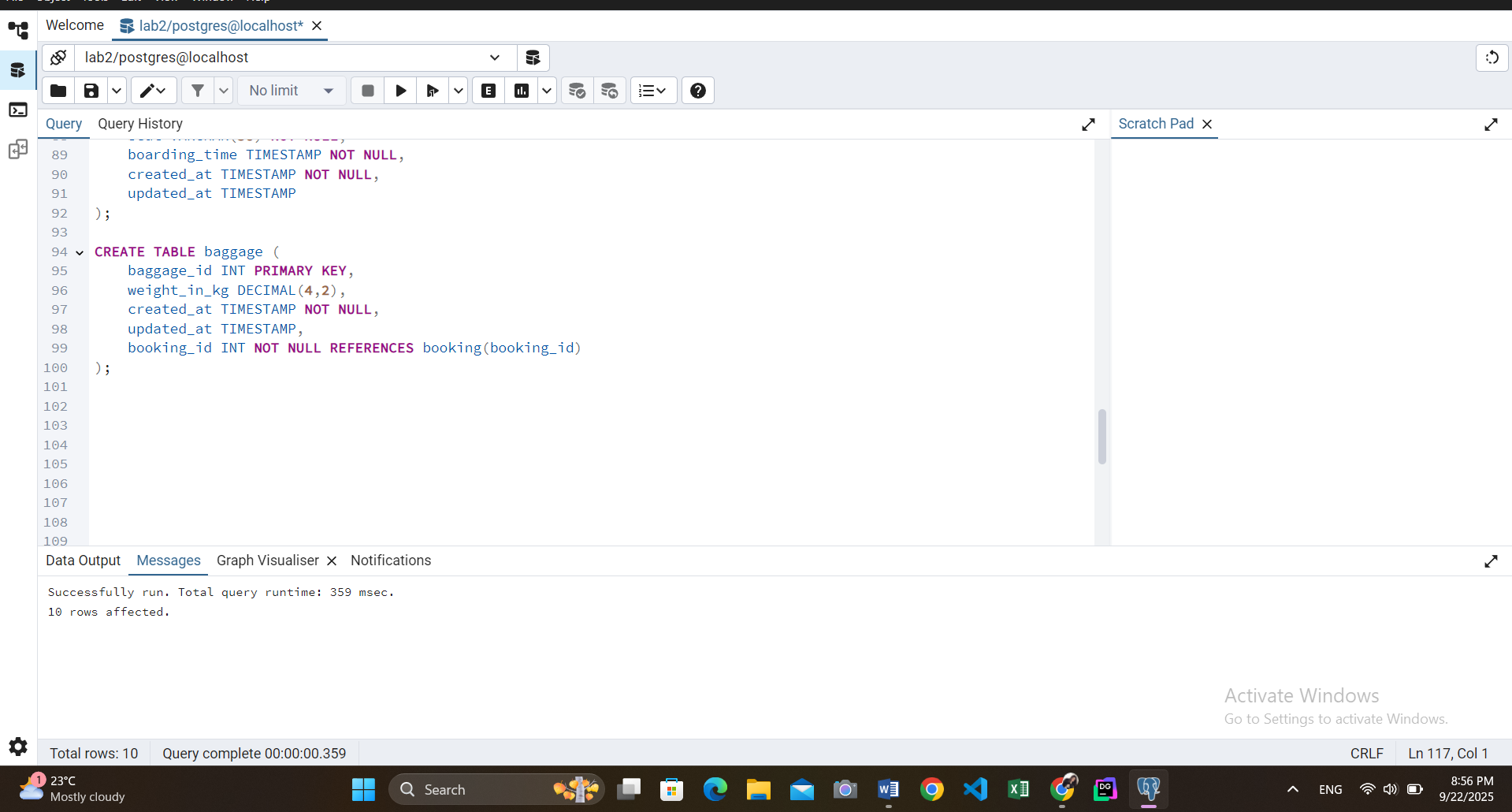
seat VARCHAR(50) NOT NULL,

boarding\_time TIMESTAMP NOT NULL,

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP

);



CREATE TABLE baggage (

baggage\_id INT PRIMARY KEY,

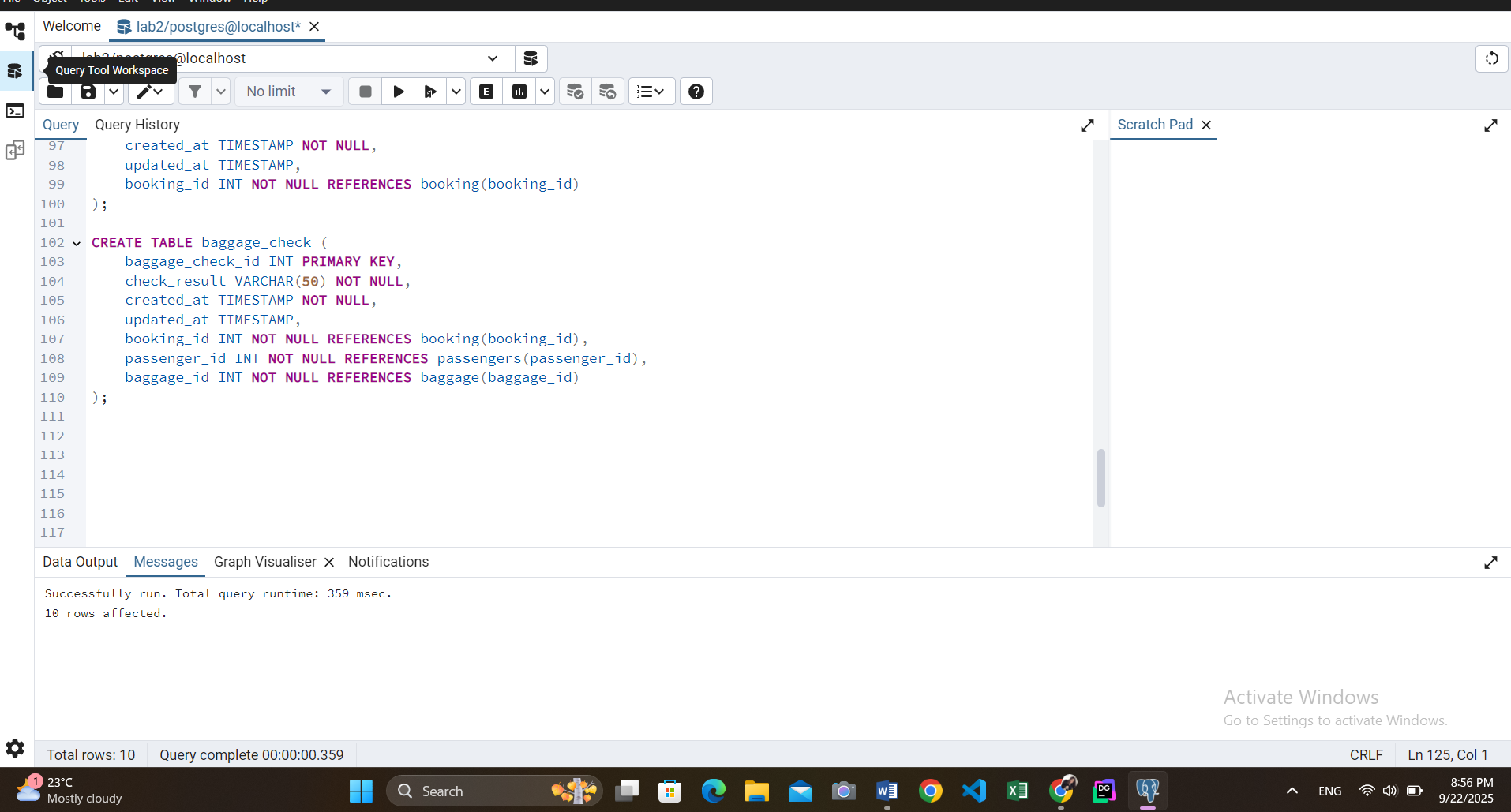
weight\_in\_kg DECIMAL(4,2),

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP,

booking\_id INT NOT NULL REFERENCES booking(booking\_id)

);



CREATE TABLE baggage\_check (

baggage\_check\_id INT PRIMARY KEY,

check\_result VARCHAR(50) NOT NULL,

created\_at TIMESTAMP NOT NULL,

updated\_at TIMESTAMP,

booking\_id INT NOT NULL REFERENCES booking(booking\_id),

passenger\_id INT NOT NULL REFERENCES passengers(passenger\_id),

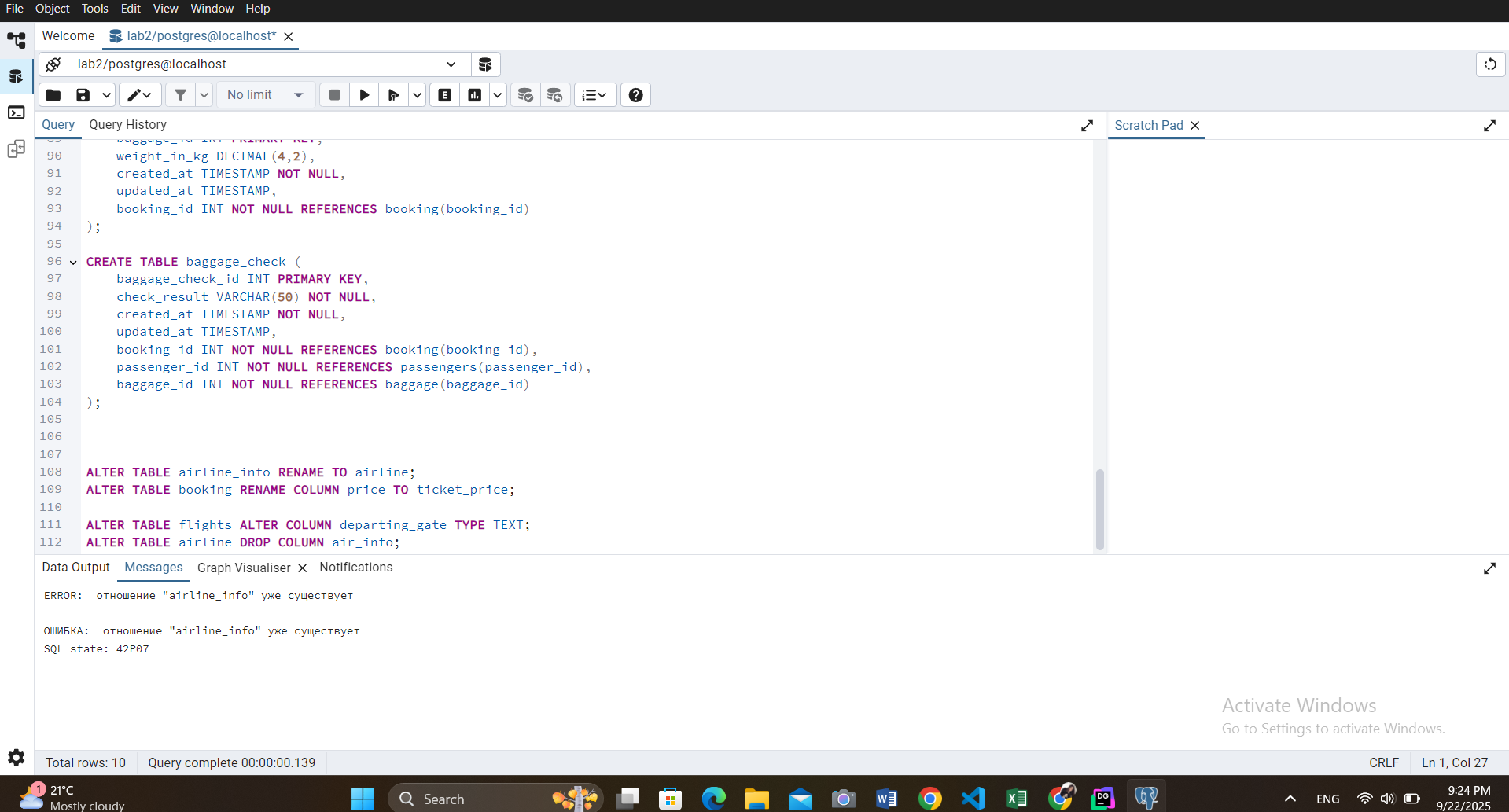
baggage\_id INT NOT NULL REFERENCES baggage(baggage\_id)

);

\*Also, there is another way of defining FOREIGN KEY: ex:

ALTER TABLE security\_check ADD CONSTRAINT fk\_passenger FOREIGN KEY (passenger\_id) REFERENCES passengers(passenger\_id);

5-8.



ALTER TABLE airline\_info RENAME TO airline;

ALTER TABLE booking RENAME COLUMN price TO ticket\_price;

ALTER TABLE flights ALTER COLUMN departing\_gate TYPE TEXT;

ALTER TABLE airline DROP COLUMN air\_info;

9.

Doing it by second method:

***Airport with Flights by departing\_airport\_id:***

ALTER TABLE flights ADD CONSTRAINT fk\_flights\_departing\_airport FOREIGN KEY (departing\_airport\_id) REFERENCES airport(airport\_id);

***Airport with Flights by arriving\_airport\_id:***

ALTER TABLE flights ADD CONSTRAINT fk\_flights\_arriving\_airport FOREIGN KEY (arriving\_airport\_id) REFERENCES airport(airport\_id);

***Airline with Flights by airline\_id:***

ALTER TABLE flights ADD CONSTRAINT fk\_flights\_airline FOREIGN KEY (airline\_id) REFERENCES airline(airline\_id);

***Passengers with Secuitiry\_check, Booking, Baggage\_check by passenger\_id:***

ALTER TABLE security\_check ADD CONSTRAINT fk\_security\_check\_passenger FOREIGN KEY (passenger\_id) REFERENCES passengers(passenger\_id);

ALTER TABLE booking ADD CONSTRAINT fk\_booking\_passenger FOREIGN KEY (passenger\_id) REFERENCES passengers(passenger\_id);

ALTER TABLE baggage\_check ADD CONSTRAINT fk\_baggage\_check\_passenger FOREIGN KEY (passenger\_id) REFERENCES passengers(passenger\_id);

***Flights with Booking\_flight by flight\_id:***

ALTER TABLE booking ADD CONSTRAINT fk\_booking\_flight FOREIGN KEY (flight\_id) REFERENCES flights(flight\_id);

***Booking with Baggage\_check, Baggage, Boarding\_pass, Booking\_flight by booking\_id:***

ALTER TABLE booking\_flight ADD CONSTRAINT fk\_booking\_flight\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id);

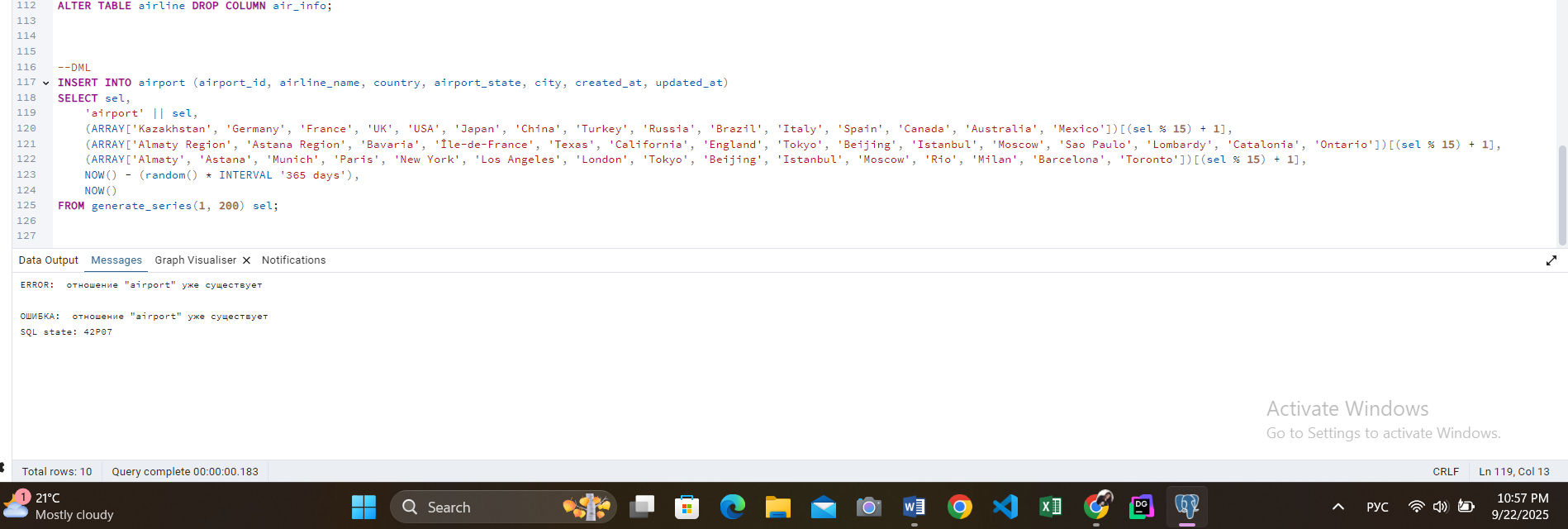
ALTER TABLE boarding\_pass ADD CONSTRAINT fk\_boarding\_pass\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id);

ALTER TABLE baggage ADD CONSTRAINT fk\_baggage\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id);

ALTER TABLE baggage\_check ADD CONSTRAINT fk\_baggage\_check\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id);

**DML**

1



INSERT INTO airport (airport\_id, airport\_name, country, airport\_state, city, created\_at, updated\_at)

SELECT sel,

'airport' || sel,

(ARRAY['Kazakhstan', 'Germany', 'France', 'UK', 'USA', 'Japan', 'China', 'Turkey', 'Russia', 'Brazil', 'Italy', 'Spain', 'Canada', 'Australia', 'Mexico'])[(sel % 15) + 1],

(ARRAY['Almaty Region', 'Astana Region', 'Bavaria', 'Île-de-France', 'Texas', 'California', 'England', 'Tokyo', 'Beijing', 'Istanbul', 'Moscow', 'Sao Paulo', 'Lombardy', 'Catalonia', 'Ontario'])[(sel % 15) + 1],

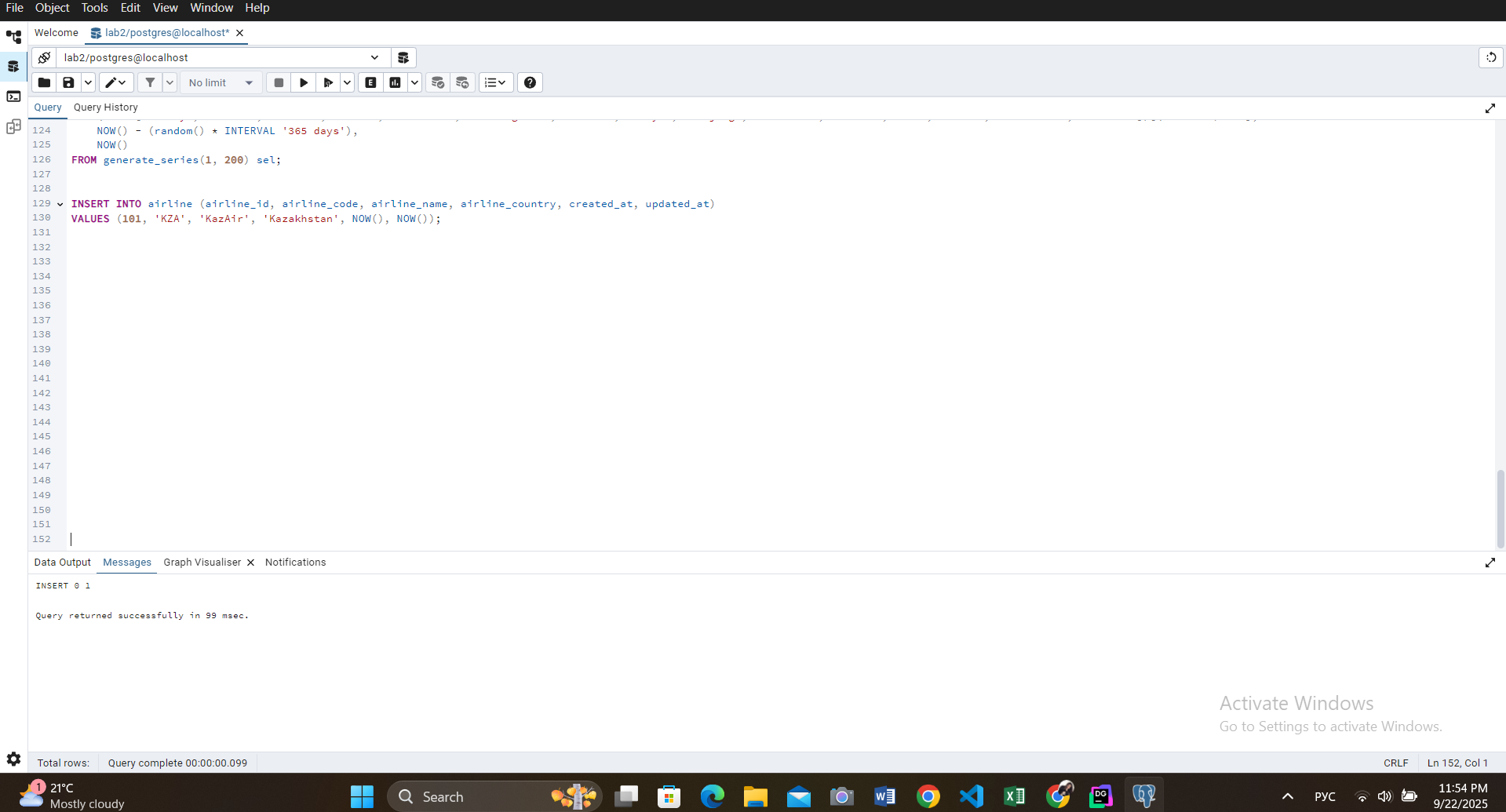
(ARRAY['Almaty', 'Astana', 'Munich', 'Paris', 'New York', 'Los Angeles', 'London', 'Tokyo', 'Beijing', 'Istanbul', 'Moscow', 'Rio', 'Milan', 'Barcelona', 'Toronto'])[(sel % 15) + 1],

NOW() - (random() \* INTERVAL '365 days'),

NOW()

FROM generate\_series(1, 200) sel;

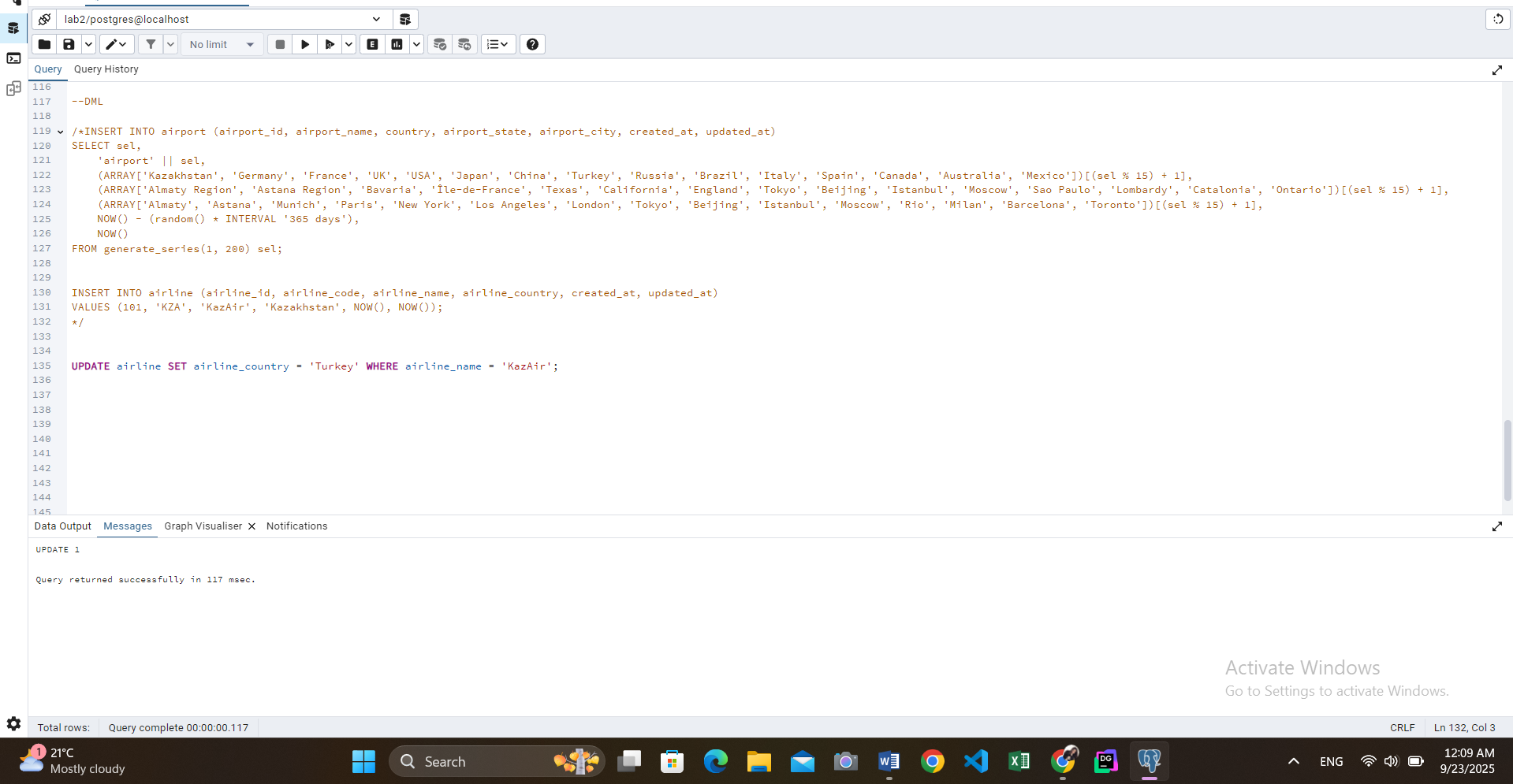
2



INSERT INTO airline (airline\_id, airline\_code, airline\_name, airline\_country, created\_at, updated\_at)

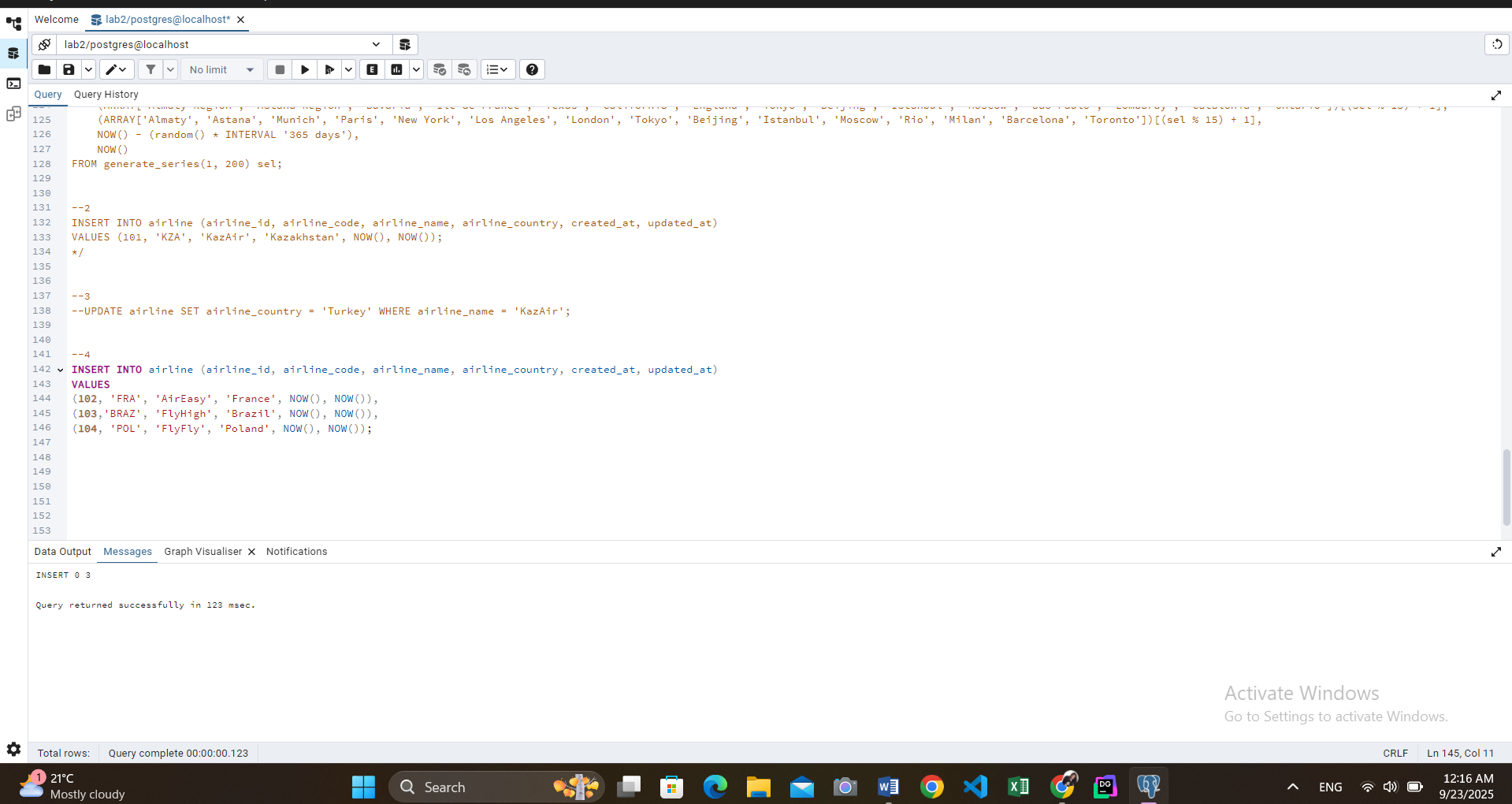
VALUES (101, 'KZA', 'KazAir', 'Kazakhstan', NOW(), NOW());

3



UPDATE airline SET airline\_country = 'Turkey' WHERE airline\_name = 'KazAir';

4



INSERT INTO airline (airline\_id, airline\_code, airline\_name, airline\_country, created\_at, updated\_at)

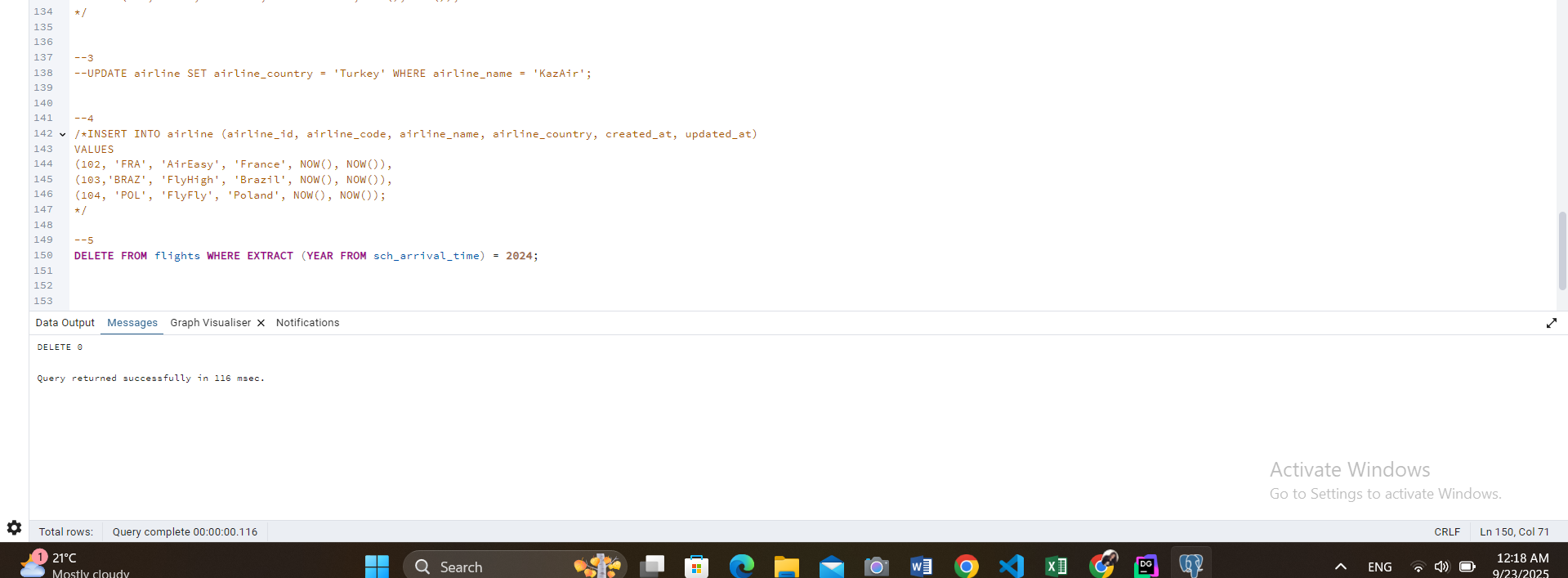
VALUES

(102, 'FRA', 'AirEasy', 'France', NOW(), NOW()),

(103,'BRAZ', 'FlyHigh', 'Brazil', NOW(), NOW()),

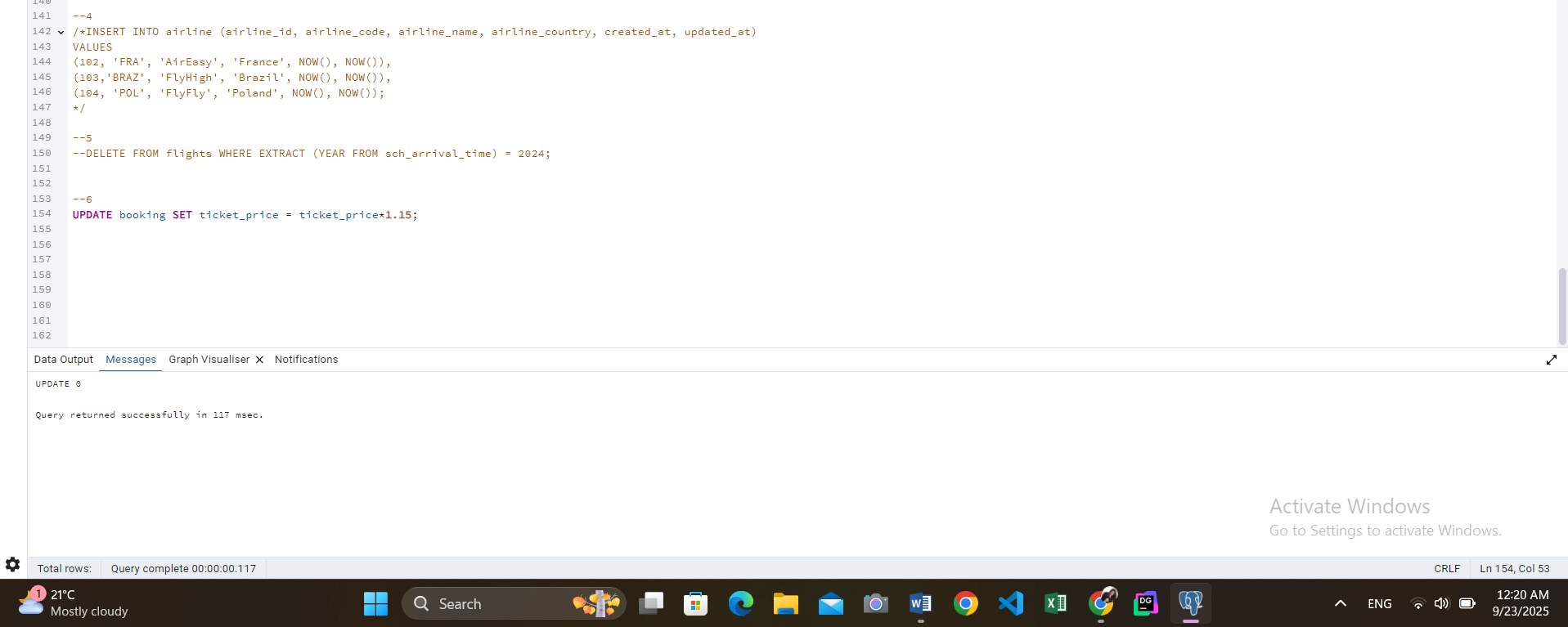
(104, 'POL', 'FlyFly', 'Poland', NOW(), NOW());

5



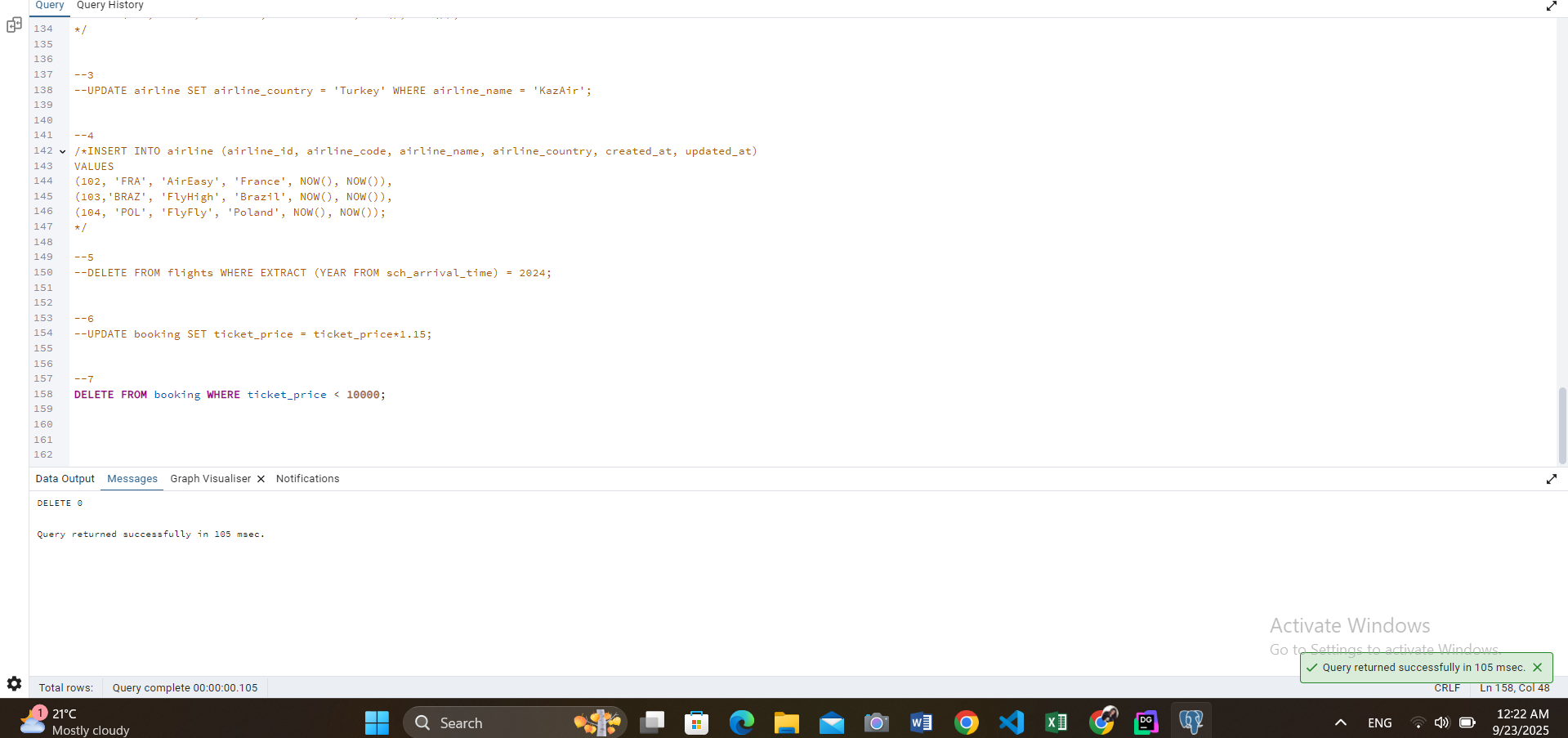
DELETE FROM flights WHERE EXTRACT (YEAR FROM sch\_arrival\_time) = 2024;

6



UPDATE booking SET ticket\_price = ticket\_price\*1.15;

7



DELETE FROM booking WHERE ticket\_price < 10000;