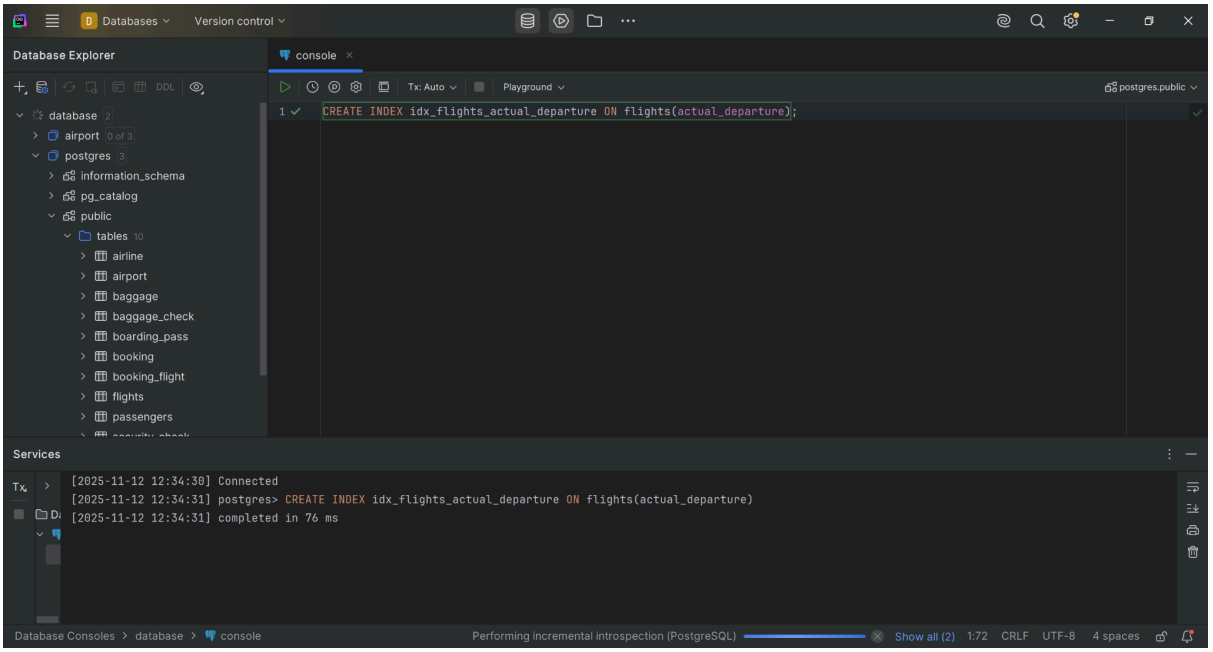
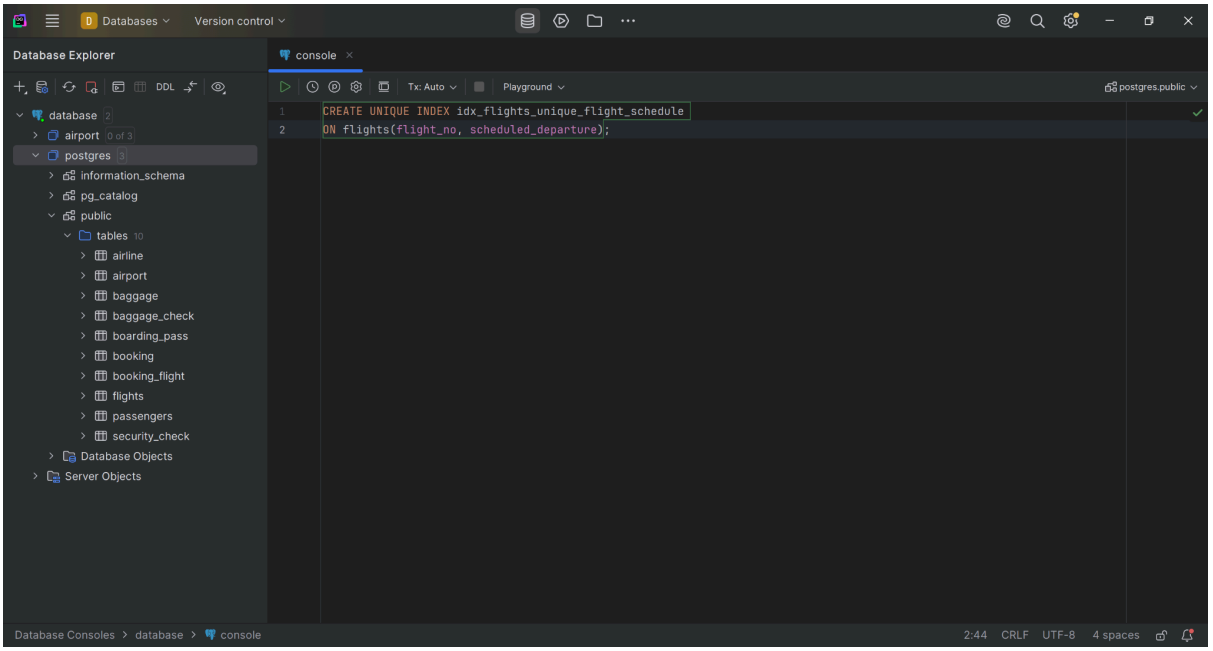
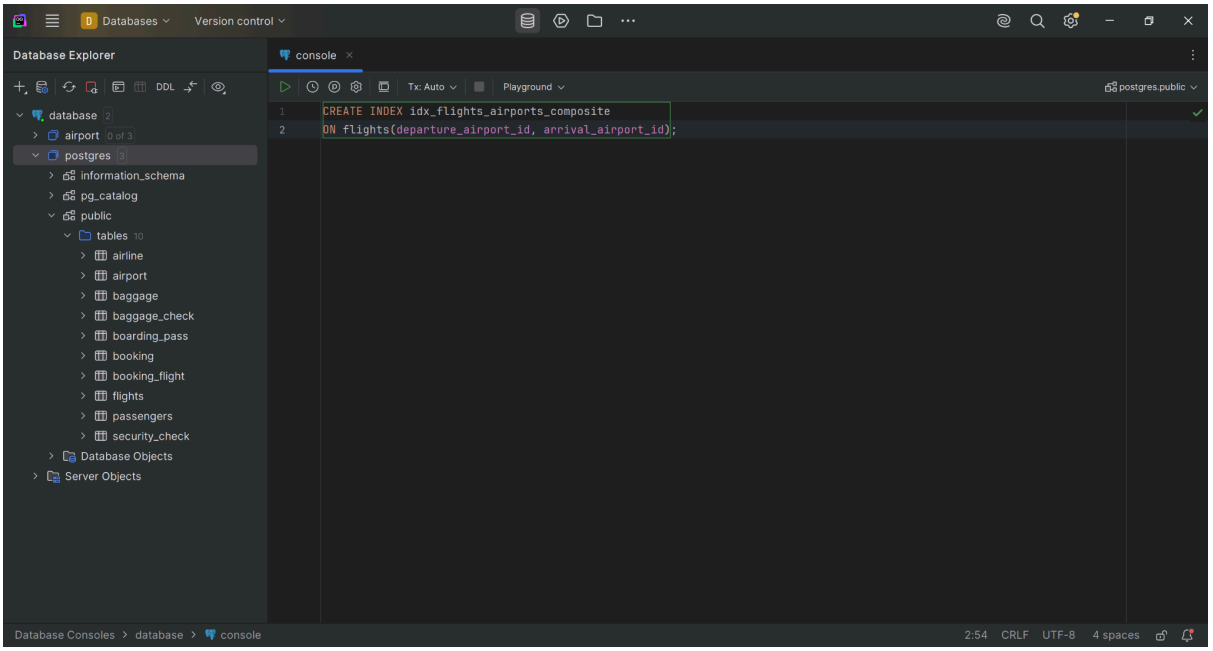
1)


Databases
Version control
Database Explorer
console
Tx: Auto
Playground
postgres.public
CREATE INDEX idx_flights_actual_departure ON flights(actual_departure);
database
airport
postgres
information_schema
pg_catalog
public
tables
airline
airport
baggage
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
Services
[2025-11-12 12:34:30] Connected
[2025-11-12 12:34:31] postgres> CREATE INDEX idx_flights_actual_departure ON flights(actual_departure)
[2025-11-12 12:34:31] completed in 76 ms
Database Consoles
database
console
Performing incremental introspection (PostgreSQL)
Show all (2)
1:72
CRLF
UTF-8
4 spaces

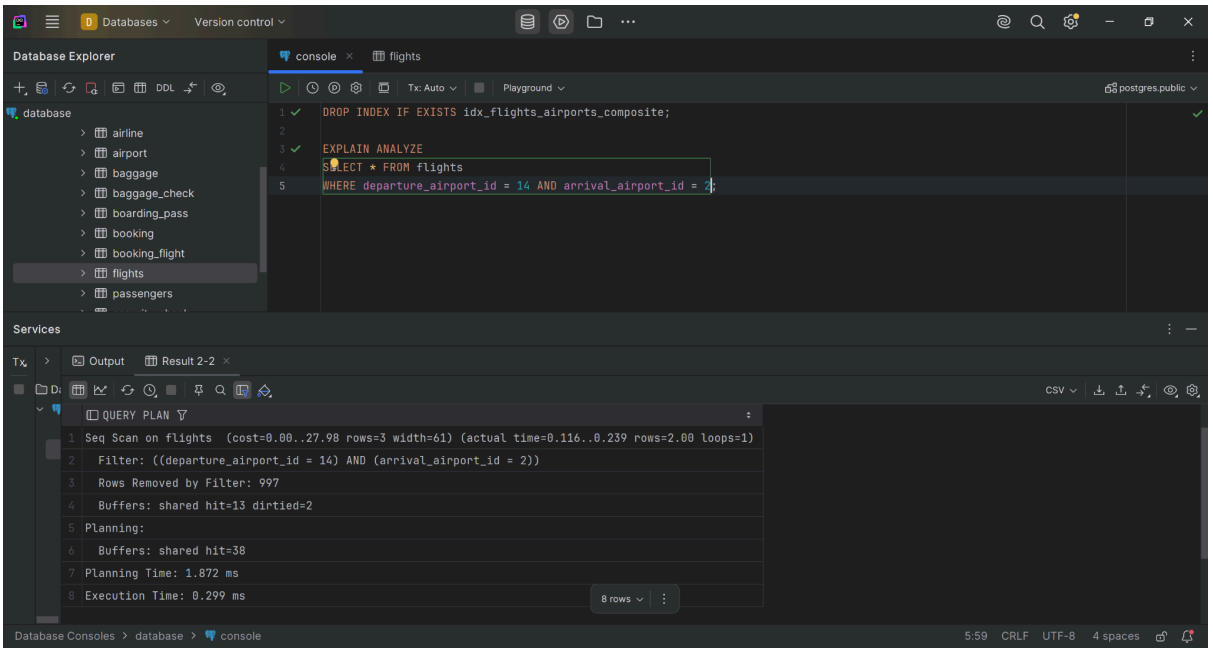
2)

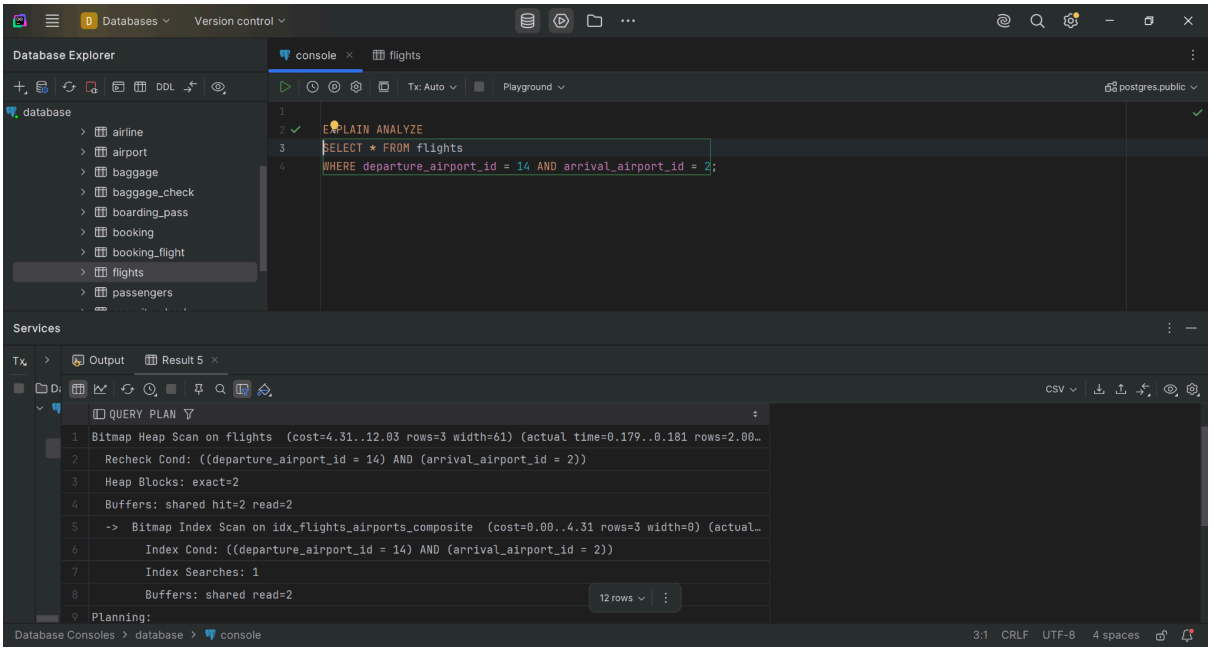

Databases
Version control
Database Explorer
console
Tx: Auto
Playground
postgres.public
CREATE UNIQUE INDEX idx_flights_unique_flight_schedule
ON flights(flight_no, scheduled_departure);
database
airport
postgres
information_schema
pg_catalog
public
tables
airline
airport
baggage
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
security_check
Database Objects
Server Objects
Database Consoles
database
console
2:44
CRLF
UTF-8
4 spaces

3)

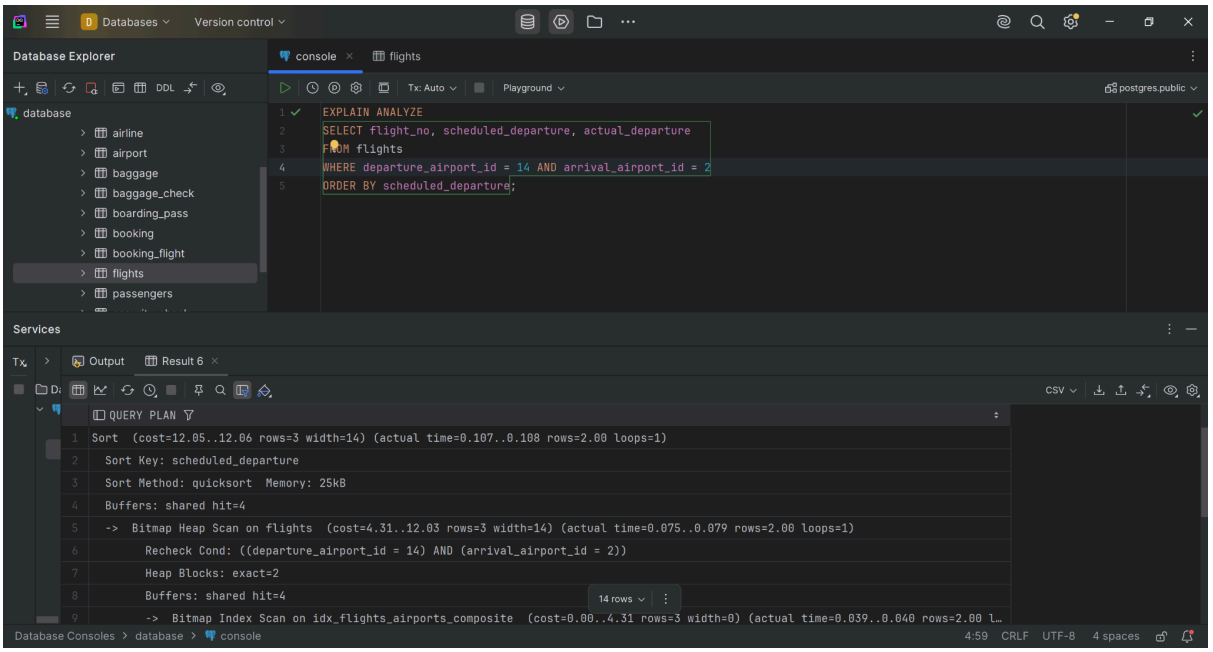

Databases
Version control
Database Explorer
console
DDL
Tx: Auto
Playground
postgres.public
database
airport
postgres
information_schema
pg_catalog
public
tables
airline
airport
baggage
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
security_check
Database Objects
Server Objects
CREATE INDEX idx_flights_airports_composite
ON flights(departure_airport_id, arrival_airport_id);
Database Consoles
database
console
2:54
CRLF
UTF-8
4 spaces

4)

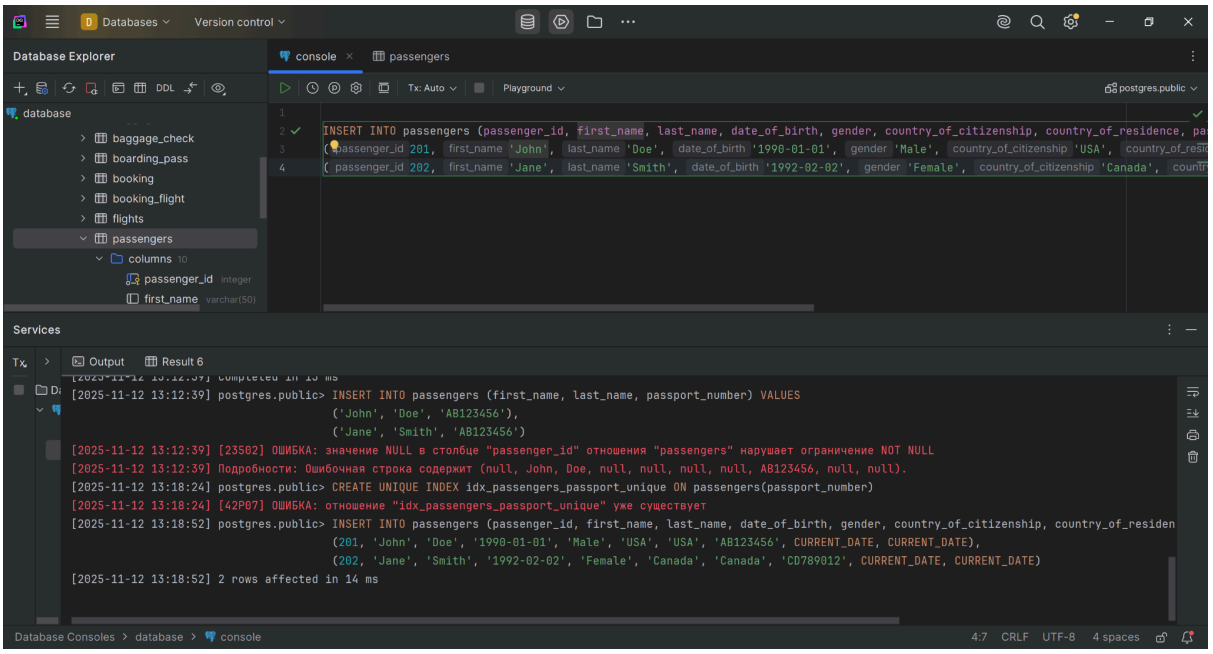

Databases
Version control
Database Explorer
console
flights
DDL
Tx: Auto
Playground
postgres.public
database
airline
airport
baggage
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
DROP INDEX IF EXISTS idx_flights_airports_composite;
EXPLAIN ANALYZE
SELECT * FROM flights
WHERE departure_airport_id = 14 AND arrival_airport_id = 2;
Services
Output
Result 2-2
CSV
QUERY PLAN
Seq Scan on flights (cost=0.00..27.98 rows=3 width=61) (actual time=0.116..0.239 rows=2.00 loops=1)
Filter: ((departure_airport_id = 14) AND (arrival_airport_id = 2))
Rows Removed by Filter: 997
Buffers: shared hit=13 dirtied=2
Planning:
Buffers: shared hit=38
Planning Time: 1.872 ms
Execution Time: 0.299 ms
8 rows
Database Consoles
database
console
5:59
CRLF
UTF-8
4 spaces


Databases
Version control
Database Explorer
console
flights
Tx: Auto
Playground
postgres.public
database
airline
airport
baggage
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
EXPLAIN ANALYZE
SELECT * FROM flights
WHERE departure_airport_id = 14 AND arrival_airport_id = 2;
Services
Output
Result 5
CSV
QUERY PLAN
Bitmap Heap Scan on flights (cost=4.31..12.03 rows=3 width=61) (actual time=0.179..0.181 rows=2.00…
Recheck Cond: ((departure_airport_id = 14) AND (arrival_airport_id = 2))
Heap Blocks: exact=2
Buffers: shared hit=2 read=2
-> Bitmap Index Scan on idx_flights_airports_composite (cost=0.00..4.31 rows=3 width=0) (actual…
Index Cond: ((departure_airport_id = 14) AND (arrival_airport_id = 2))
Index Searches: 1
Buffers: shared read=2
Planning:
12 rows
Database Consoles
database
console
3:1
CRLF
UTF-8
4 spaces

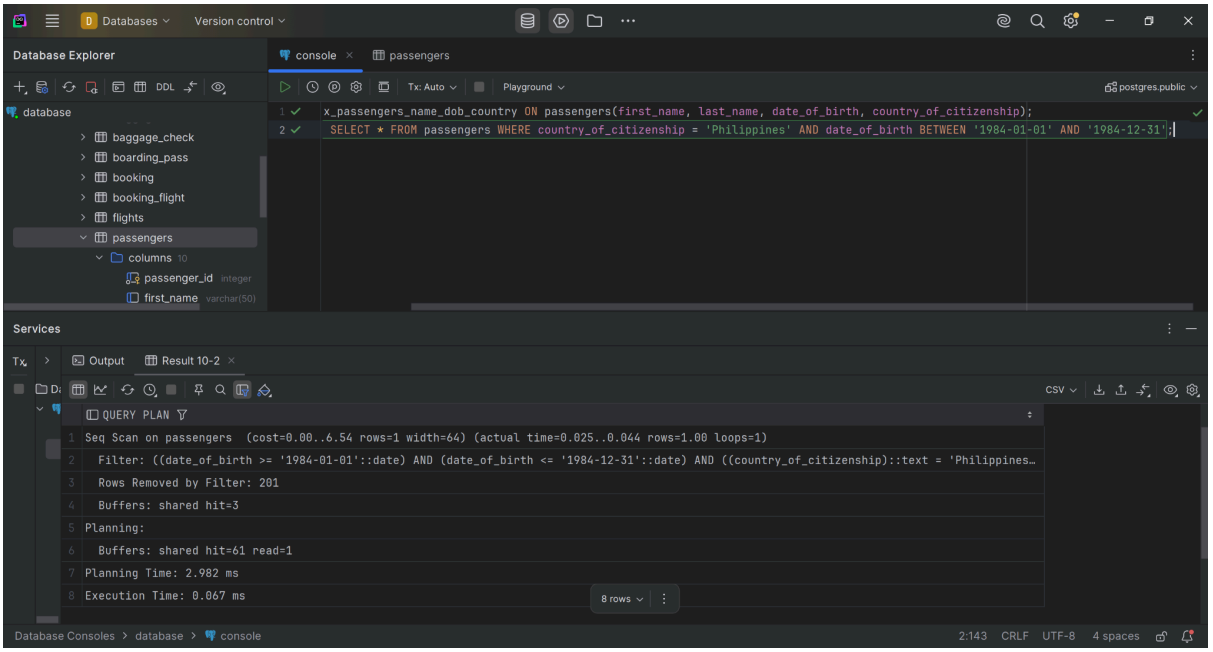
5)


Databases
Version control
Database Explorer
console
flights
Tx: Auto
Playground
postgres.public
database
airline
airport
baggage
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
EXPLAIN ANALYZE
SELECT flight_no, scheduled_departure, actual_departure
FROM flights
WHERE departure_airport_id = 14 AND arrival_airport_id = 2
ORDER BY scheduled_departure;
Services
Output
Result 6
CSV
QUERY PLAN
Sort (cost=12.05..12.06 rows=3 width=14) (actual time=0.107..0.108 rows=2.00 loops=1)
Sort Key: scheduled_departure
Sort Method: quicksort Memory: 25kB
Buffers: shared hit=4
-> Bitmap Heap Scan on flights (cost=4.31..12.03 rows=3 width=14) (actual time=0.075..0.079 rows=2.00 loops=1)
Recheck Cond: ((departure_airport_id = 14) AND (arrival_airport_id = 2))
Heap Blocks: exact=2
Buffers: shared hit=4
-> Bitmap Index Scan on idx_flights_airports_composite (cost=0.00..4.31 rows=3 width=0) (actual time=0.039..0.040 rows=2.00 l…
14 rows
Database Consoles
database
console
4:59
CRLF
UTF-8
4 spaces

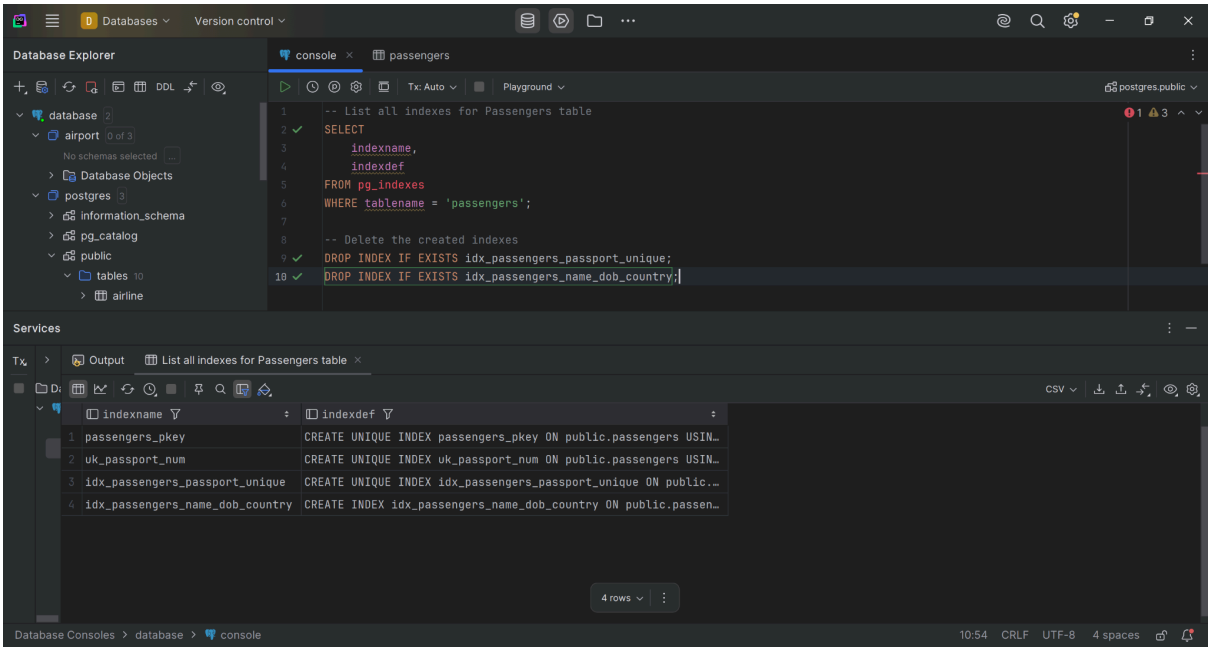
6)


Databases
Version control
Database Explorer
console
passengers
Tx: Auto
Playground
postgres.public
database
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
columns 10
passenger_id integer
first_name varchar(50)
INSERT INTO passengers (passenger_id, first_name, last_name, date_of_birth, gender, country_of_citizenship, country_of_residence, pa
(passenger_id 201, first_name 'John', last_name 'Doe', date_of_birth '1990-01-01', gender 'Male', country_of_citizenship 'USA', country_of_resi
(passenger_id 202, first_name 'Jane', last_name 'Smith', date_of_birth '1992-02-02', gender 'Female', country_of_citizenship 'Canada', countr
Services
Output
Result 6
[2025-11-12 13:12:39] postgres.public> INSERT INTO passengers (first_name, last_name, passport_number) VALUES
('John', 'Doe', 'AB123456'),
('Jane', 'Smith', 'AB123456')
[2025-11-12 13:12:39] [23502] ОШИБКА: значение NULL в столбце "passenger_id" отношения "passengers" нарушает ограничение NOT NULL
[2025-11-12 13:12:39] Подробности: Ошибочная строка содержит (null, John, Doe, null, null, null, null, AB123456, null, null).
[2025-11-12 13:18:24] postgres.public> CREATE UNIQUE INDEX idx_passengers_passport_unique ON passengers(passport_number)
[2025-11-12 13:18:24] [42P07] ОШИБКА: отношение "idx_passengers_passport_unique" уже существует
[2025-11-12 13:18:52] postgres.public> INSERT INTO passengers (passenger_id, first_name, last_name, date_of_birth, gender, country_of_citizenship, country_of_residen
(201, 'John', 'Doe', '1990-01-01', 'Male', 'USA', 'USA', 'AB123456', CURRENT_DATE, CURRENT_DATE),
(202, 'Jane', 'Smith', '1992-02-02', 'Female', 'Canada', 'Canada', 'CD789012', CURRENT_DATE, CURRENT_DATE)
[2025-11-12 13:18:52] 2 rows affected in 14 ms
Database Consoles
database
console
4:7
CRLF
UTF-8
4 spaces

7)


Databases
Version control
Database Explorer
console
passengers
Tx: Auto
Playground
postgres.public
database
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
columns 10
passenger_id integer
first_name varchar(50)
x_passengers_name_dob_country ON passengers(first_name, last_name, date_of_birth, country_of_citizenship);
SELECT * FROM passengers WHERE country_of_citizenship = 'Philippines' AND date_of_birth BETWEEN '1984-01-01' AND '1984-12-31';
Services
Output
Result 10-2
CSV
QUERY PLAN
Seq Scan on passengers (cost=0.00..6.54 rows=1 width=64) (actual time=0.025..0.044 rows=1.00 loops=1)
Filter: ((date_of_birth >= '1984-01-01'::date) AND (date_of_birth <= '1984-12-31'::date) AND ((country_of_citizenship)::text = 'Philippines…
Rows Removed by Filter: 201
Buffers: shared hit=3
Planning:
Buffers: shared hit=61 read=1
Planning Time: 2.982 ms
Execution Time: 0.067 ms
8 rows
Database Consoles
database
console
2:143
CRLF
UTF-8
4 spaces

8)


Databases
Version control
Database Explorer
console
passengers
DDL
Tx: Auto
Playground
postgres.public
database
airport
No schemas selected
Database Objects
postgres
information_schema
pg_catalog
public
tables
airline
-- List all indexes for Passengers table
SELECT
indexname,
indexdef
FROM pg_indexes
WHERE tablename = 'passengers';
-- Delete the created indexes
DROP INDEX IF EXISTS idx_passengers_passport_unique;
DROP INDEX IF EXISTS idx_passengers_name_dob_country;
Services
Output
List all indexes for Passengers table
CSV
indexname
indexdef
passengers_pkey
CREATE UNIQUE INDEX passengers_pkey ON public.passengers USIN…
uk_passport_num
CREATE UNIQUE INDEX uk_passport_num ON public.passengers USIN…
idx_passengers_passport_unique
CREATE UNIQUE INDEX idx_passengers_passport_unique ON public.…
idx_passengers_name_dob_country
CREATE INDEX idx_passengers_name_dob_country ON public.passen…
4 rows
Database Consoles
database
console
10:54
CRLF
UTF-8
4 spaces