console_49   console_50   console_51   console_52   console_53   console_54   passengers

Database Explorer

DDL

Tx: Auto ⌄   Playground ⌄

```
1    --Task1
2
3 ✓  CREATE INDEX idx_actual_departure ON flights (act_departure_time);
4
```

fank_emp
  public
    tables 11
      airline
      airport
      baggage
      baggage_check
      boarding_pass
      booking
      booking_flight
      flights
      passanger_me
      passengers
      security_check
    Database Objects
  postgres 1 of 3

Services

Tx

console_45
console_52
console_44
console_40
console_54 40 ms
console_49 1 s 924 m
console_48
console_46
console_43

```
[2025-11-12 01:05:31] Connected to lab2
[2025-11-12 01:05:31] lab2> CREATE INDEX idx_actual_departure ON flights (act_departure_time)
[2025-11-12 01:05:31] completed in 37 ms
```

console_49   console_50   console_51   console_52   console_53   console_54   passengers

Database Explorer

Tx: Auto   Playground

- fank_emp
  - public
    - tables   11
      - airline
      - airport
      - baggage
      - baggage_check
      - boarding_pass
      - booking
      - booking_flight
      - flights
      - passanger_me
      - passengers
      - security_check
    - Database Objects
  - postgres   1 of 3

```
1   --Task2
2
3   CREATE UNIQUE INDEX idx_flight_id_scheduled_departure
4   ON flights (flight_id, sch_departure_time);
5
```

Services

- fank_emp
  - console_51   133 ms
  - console_50   60 ms
  - passengers   550 ms
  - console_41
  - console_38
  - console_47
  - console_53   543 ms

```
[2025-11-12 01:07:16] lab2> CREATE UNIQUE INDEX idx_flight_no_scheduled_departure
                            ON flights (flight_no, sch_departure_time)
[2025-11-12 01:07:16] [42703] ОШИБКА: столбец "flight_no" не существует
[2025-11-12 01:08:24] lab2.public> CREATE UNIQUE INDEX idx_flight_no_scheduled_departure
                            ON flights (ch_departure_time)
[2025-11-12 01:08:24] [42703] ОШИБКА: столбец "ch_departure_time" не существует
[2025-11-12 01:10:33] lab2.public> CREATE UNIQUE INDEX idx_flight_id_scheduled_departure
                            ON flights (flight_id, sch_departure_time)
[2025-11-12 01:10:33] completed in 21 ms
```

```
--Task3

CREATE INDEX idx_departure_arrival_airports
ON flights (departing_airport_id, arriving_airport_id);
```

Database Explorer

fank_emp
  public
    tables 11
      airline
      airport
      baggage
      baggage_check
      boarding_pass
      booking
      booking_flight
      flights
      passanger_me
      passengers
      security_check
    Database Objects
  postgres 1 of 3

Services

Database
  fank_emp
    console_51   133 ms
    console_50   60 ms
    passengers   550 ms
    console_41
    console_38
    console_47

```
[2025-11-12 01:10:58] Connected to lab2
[2025-11-12 01:10:58] lab2> CREATE INDEX idx_departure_arrival_airports
                            ON flights (departing_airport_id, arriving_airport_id)
[2025-11-12 01:10:58] completed in 8 ms
```

```
--Task4
-- Without index


explain analyse
select flight_id
from flights
where  departing_airport_id = 1
    and arriving_airport_id = 2;
```

QUERY PLAN

	QUERY PLAN
1	Seq Scan on flights (cost=0.00..5.87 rows=1 width=4) (actual time=0.057..0.057 rows=0 loops=1)
2	Filter: ((departing_airport_id = 1) AND (arriving_airport_id = 2))
3	Rows Removed by Filter: 191
4	Planning Time: 3.220 ms
5	Execution Time: 0.126 ms

5 rows

Database Explorer

DDL

fank_emp 2
   lab2 3
     information_schema
     pg_catalog
     public
       tables 11
         airline
         airport
         baggage
         baggage_check
         boarding_pass
         booking
         booking_flight
         flights
         passanger_me

Tx: Auto   Playground

```sql
2   -- without index
3
4   explain analyse
5   select flight_id
6   from flights
7   where  departing_airport_id = 1
8       and arriving_airport_id = 2;
9
10
11  -- with index
12✓ create index idx_flights_dep_arriv on flights(departing_airport_id, arriving_airport_id)
13✓ explain analyse
14      select  flight_id
15      from flights
16      where departing_airport_id = 1
17          and arriving_airport_id = 2;
```

Services

Tx

Output   Result 2-2

console_53 543 ms
console_42
console_45
console_52 410 ms
console_44
console_40
console_54 24 ms
console_49 1 s 924 m
console_48
console_46

CSV

	QUERY PLAN	
1	Seq Scan on flights (cost=0.00..5.87 rows=1 width=4) (actual time=0.053..0.053 rows=0 loops=1)	
2	Filter: ((departing_airport_id = 1) AND (arriving_airport_id = 2))	
3	Rows Removed by Filter: 191	
4	Planning Time: 1.505 ms	
5	Execution Time: 0.071 ms	

5 rows

```
--Task5

EXPLAIN ANALYZE
SELECT *
FROM flights
WHERE departing_airport_id = 100 AND arriving_airport_id = 200;
```

QUERY PLAN
Seq Scan on flights (cost=0.00..5.87 rows=1 width=76) (actual time=0.037..0.038 rows=0 loops=1)
Filter: ((departing_airport_id = 100) AND (arriving_airport_id = 200))
Rows Removed by Filter: 191
Planning Time: 4.513 ms
Execution Time: 0.073 ms

Ножницы

Снимок экрана скопирован в буфер обмена
Автоматически сохраняются в папке СНИМКОВ
экрана.

Разметка и общий доступ

```
--Task6
CREATE UNIQUE INDEX idx_passport_number ON passengers (passport_number);

SELECT *
FROM pg_indexes
WHERE tablename = 'passengers' AND indexname = 'idx_passport_number';
```

schemaname	tablename	indexname	tablespace	indexdef
1 public	passengers	idx_passport_number	\<null\>	CREATE UNIQUE INDEX idx_passport_number ON public.passeng…

```sql
--Task6
CREATE UNIQUE INDEX idx_passport_number ON passengers (passport_number);

SELECT *
FROM pg_indexes
WHERE tablename = 'passengers' AND indexname = 'idx_passport_number';


INSERT INTO passengers (passenger_id, first_name, last_name, date_of_birth, gender, country_of_citizenship, country_of_residence, passport_numb
VALUES ( passenger_id 205, first_name 'John', last_name 'Doe', date_of_birth '1990-01-01', gender 'male', country_of_citizenship 'USA', country_of_residence

INSERT INTO passengers (passenger_id, first_name, last_name, date_of_birth, gender, country_of_citizenship, country_of_residence, passport_numb
VALUES ( passenger_id 206, first_name 'Jane', last_name 'Smith', date_of_birth '1985-02-20', gender 'female', country_of_citizenship 'Canada', country_of_
```

schemaname	tablename	indexname	tablespace	indexdef
1	public	passengers	idx_passport_number	<null>	CREATE UNIQUE INDEX idx_passport_number ON public.passeng…

1 row

```
--Task7

CREATE INDEX idx_passenger_details

ON passengers (first_name, last_name, date_of_birth, country_of_citizenship);


SELECT *
FROM passengers
WHERE country_of_citizenship = 'Philippines'
    AND EXTRACT(YEAR FROM date_of_birth) = 1984;
```

```
1    --Task8
2
3    SELECT indexname, indexdef
4    FROM pg_indexes
5    WHERE tablename = 'passengers';
6
```

	indexname	indexdef
1	passengers_pkey	CREATE UNIQUE INDEX passengers_pkey ON public.passengers USING btree (passenger_id)
2	uq_passport_number	CREATE UNIQUE INDEX uq_passport_number ON public.passengers USING btree (passport_number)
3	idx_passport_number	CREATE UNIQUE INDEX idx_passport_number ON public.passengers USING btree (passport_number)
4	idx_passenger_details	CREATE INDEX idx_passenger_details ON public.passengers USING btree (first_name, last_name, date_of_birth, country_o...

4 rows

```
1   --Task8
2
3   SELECT indexname, indexdef
4   FROM pg_indexes
5   WHERE tablename = 'passengers';
6
7 ✓ DROP INDEX IF EXISTS idx_passport_number;
8 ✓ DROP INDEX IF EXISTS idx_passenger_details;
9
10
```

Services

	indexname ▽		indexdef ▽	
1	passengers_pkey		CREATE UNIQUE INDEX passengers_pkey ON public.passengers…	
2	uq_passport_number		CREATE UNIQUE INDEX uq_passport_number ON public.passeng…	
3	idx_passport_number		CREATE UNIQUE INDEX idx_passport_number ON public.passen…	
4	idx_passenger_details		CREATE INDEX idx_passenger_details ON public.pa_____	

4 rows