



firstprVersion control

Database Explorer

postgres@localhost [2]

- baggage\_check
- boarding\_pass
- booking
- booking\_flight
- flights
  - columns 12
    - flight\_id integer
    - sch\_departure\_time timestamp
    - sch\_arrival\_time timestamp
    - departing\_airport\_id integer
    - arriving\_airport\_id integer
    - departing\_gate text
    - arriving\_gate varchar(50)
    - airline\_id integer
    - act\_departure\_time timestamp

console\_5console\_9lab5lab6lab7 ×airport\_db.sqlconsole\_7console\_8cons:lab2.public

1--lab7  
2--1  
3create index act\_depar\_index on flights (act\_arrival\_time);  
4--2  
5 ✓ create unique index unique\_index\_flights on flights (flight\_id, sch\_departure\_time);

Services

TX

[2024-11-07 14:05:46] Connected to lab2  
lab2> create index act\_depar\_index on flights (act\_arrival\_time)  
[2024-11-07 14:05:46] completed in 35 ms  
lab2.public> create unique index unique\_index\_flights on flights (flight\_id, sch\_departure\_time)  
[2024-11-07 14:12:45] completed in 21 ms

Database Consoles > postgres@localhost [2] > lab7

585CRLFUTF-84 spaces

Activate Windows  
Go to Settings to activate Windows.

14°C  
Smoke

Search

85

ENG14:12  
07.11.2024

firstprVersion control

Database Explorer

postgres@localhost [2]

baggage\_check

boarding\_pass

booking

booking\_flight

flights

columns 12

flight\_id integer

sch\_departure\_time timestamp

sch\_arrival\_time timestamp

departing\_airport\_id integer

arriving\_airport\_id integer

departing\_gate text

arriving\_gate varchar(50)

airline\_id integer

act\_departure\_time timestamp

console\_5console\_9lab5lab6lab7airport\_db.sqlconsole\_7console\_8cons

1234567

View Parameters

create index act\_depar\_index on flights (act\_arrival\_time);  
--2  
create unique index unique\_index\_flights on flights (flight\_id, sch\_departure\_time);  
--3  
create index compoiste\_index\_flights on flights(departing\_airport\_id,arriving\_airport\_id);

Services

TX +>

[2024-11-07 14:05:46] Connected to lab2  
lab2> create index act\_depar\_index on flights (act\_arrival\_time)  
[2024-11-07 14:05:46] completed in 35 ms  
lab2.public> create unique index unique\_index\_flights on flights (flight\_id, sch\_departure\_time)  
[2024-11-07 14:12:45] completed in 21 ms  
lab2.public> create index compoiste\_index\_flights on flights(departing\_airport\_id,arriving\_airport\_id)  
[2024-11-07 14:18:04] completed in 10 ms

Database Consoles > postgres@localhost [2] > lab7

Introspecting database lab2

Show all (2) 7:91 CRLF UTF-8 4 spaces

Activate Windows  
Go to Settings to activate Windows.

14°C  
Smoke

Search

85

ENG

14:18  
07.11.2024

firstpr Version control

Database Explorer

postgres@localhost [2]

- flight\_id integer
- sch\_departure\_time timestamp
- sch\_arrival\_time timestamp
- departing\_airport\_id integer
- arriving\_airport\_id integer
- departing\_gate text
- arriving\_gate varchar(50)
- airline\_id integer

console\_5 console\_9 lab5 lab6 lab7 x airport\_db.sql console\_7 console\_8 cons: 2

```
3 create index act_depar_index on flights (act_arrival_time);
4 --2
5 create unique index unique_index_flights on flights (flight_id, sch_departure_time);
6 --3
7 create index compoiste_index_flights on flights(departing_airport_id,arriving_airport_id);
8 --4
9 select * from flights where flight_id = 88;
10
11 create index flight_id_index on flights(flight_id);
12
```

Services

Output --4

- lab2.public> create index compoiste\_index\_flights on flights(departing\_airport\_id,arriving\_airport\_id)  
[2024-11-07 14:18:04] completed in 10 ms
- lab2.public> select \* from flights where flight\_id = 88  
[2024-11-07 14:22:35] 1 row retrieved starting from 1 in 453 ms (execution: 36 ms, fetching: 417 ms)
- lab2.public> create index flight\_id\_index on flights(flight\_id)  
[2024-11-07 14:23:45] completed in 6 ms
- lab2.public> from  
[2024-11-07 14:23:53] [42601] ОШИБКА: ошибка синтаксиса (примерное положение: "from")  
[2024-11-07 14:23:53] Position: 1
- lab5 lab2.public> select \* from flight\_id\_index where flight\_id = 88  
[2024-11-07 14:24:13] [42809] ОШИБКА: открыть отношение "flight\_id\_index" нельзя  
[2024-11-07 14:24:13] Detail: Эта операция не поддерживается для индексов.  
[2024-11-07 14:24:13] Position: 16
- lab2.public> select \* from flights where flight\_id = 88  
[2024-11-07 14:33:37] 1 row retrieved starting from 1 in 100 ms (execution: 20 ms, fetching: 80 ms)

Database Consoles > postgres@localhost [2] > lab7

9:11 CRLF UTF-8 4 spaces

14°C Smoke

Search

14:34 07.11.2024

Activate Windows  
Go to Settings to activate Windows.

firstprVersion control

Database Explorer

postgres@localhost [2]

flight\_id integer

sch\_departure\_time timestamp

sch\_arrival\_time timestamp

departing\_airport\_id integer

arriving\_airport\_id integer

departing\_gate text

arriving\_gate varchar(50)

airline\_id integer

act\_departure\_time timestamp

act\_arrival\_time timestamp

console\_5console\_9lab5lab6lab7 ×airport\_db.sqlconsole\_7console\_8cons: ×

lab2.public

2

8--4

9select \* from flights where flight\_id = 86;

10

11create index flight\_id\_index on flights(flight\_id);

12--5\

13✓explain analyze select \* from flights where arriving\_airport\_id = 50 and departing\_airport\_id = 80;

14

Services

×

Output--5\ ×

Database

postgres

cons

cons

cons

cons

lab6

la

lab5

la

cons

ex

QUERY PLAN

1 Seq Scan on flights (cost=0.00..3.29 rows=1 width=70) (actual time=0.098..0.098 rows=0 loops=1)

2 Filter: ((arriving\_airport\_id = 50) AND (departing\_airport\_id = 80))

3 Rows Removed by Filter: 86

4 Planning Time: 0.445 ms

5 Execution Time: 0.546 ms

Database Consoles > postgres@localhost [2] > lab7

141CRLFUTF-84 spaces

Activate Windows  
Go to Settings to activate Windows.

14°C  
Smoke

Search

85

ENG

14:41  
07.11.2024





Database Explorer

postgres@localhost [2] (3 of 7)

lab2

Information\_schema

pg\_catalog

public

tables 10

airline

airport

baggage

baggage\_check

boarding\_pass

booking

booking\_flight

role\_9

lab5

lab5

lab7

airport\_db.sql

console\_7

console\_6

console\_2

console\_3

lab2.public

2

4

firstpr

Scratches

Database

postgres@localhost [2]

lab2

Information\_schema

pg\_catalog

public

tables 10

airline

airport

baggage

baggage\_check

boarding\_pass

booking

booking\_flight

Services

Tx

Output

Result 11

[2024-11-07 15:25:08] completed in 11 ms

lab2.public> INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RESIDENCE, PASSPORT\_NUMBER, CREATED\_AT,

[2024-11-07 15:26:23] [23514] ОШИБКА: новая строка в отношении "passengers" нарушает ограничение-проверку "check\_age"

[2024-11-07 15:26:23] Detail: Ошибочная строка содержит (1158, ALIKHAN, MARAT, 2015-12-20, Male, Kazakhstan, Dominican Republic, 71070565679, 2020-09-29 10:55:35, 2024-08-

lab2.public> INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RESIDENCE, PASSPORT\_NUMBER, CREATED\_AT,

[2024-11-07 15:26:39] 1 row affected in 10 ms

lab2.public> INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RESIDENCE, PASSPORT\_NUMBER, CREATED\_AT,

[2024-11-07 15:26:42] 1 row affected in 3 ms

Activate Windows

Go to Settings to activate Windows.

Database Consoles > postgres@localhost [2] > lab7

17:196 CRLF UTF-8 4 spaces

14°C

Smoke

Search

85

ENG

15:26

07.11.2024

Database Explorer

postgres@localhost [2] 3 of 7

db 3

lab2 3

information\_schema

pg\_catalog

public

tables 10

airline

airport

baggage

baggage\_check

boarding\_pass

booking

booking\_flight

role\_9 lab5 lab6 lab7 x airport\_db.sql console\_7 console\_6 console\_2 console\_3

lab2.public

2 7

Tx: Auto Playground

10

11 create index flight\_id\_index on flights(flight\_id);

12 --5\

13 explain analyze select \* from flights where arriving\_airport\_id = 50 and departing\_airport\_id = 80;

14 --6

15 drop index passport\_number\_index;

16 create index passport\_number\_index on passengers(passport\_number);

17 INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RES

18 INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RES

19

20 --7

21 create index fullname\_age\_index on passengers(first\_name, last\_name, date\_of\_birth, country\_of\_citizenship);

22 INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RES

23 ✓ explain analyze select \* from passengers where country\_of\_citizenship = 'Philippines' and extract(year from date\_of\_birth

24

25 select

Services

Tx + >

Output Result 25 x

la

cons

1 Seq Scan on passengers (cost=0.00..4.08 rows=1 width=74) (actual time=0.076..0.077 rows=1 loops=1)

2 Filter: (((country\_of\_citizenship)::text = 'Philippines'::text) AND (EXTRACT(year FROM date\_of\_birth) = '1984'::numeric))

3 Rows Removed by Filter: 118

4 Planning Time: 3.294 ms

5 Execution Time: 0.358 ms

CSV

Activate Windows

Go to Settings to activate Windows.

Database Consoles > postgres@localhost [2] > lab7

23:14 CRLF UTF-8 4 spaces

14°C Smoke

Search

85

ENG

15:32 07.11.2024



Database Explorer

postgres@localhost [2]

baggage\_check

boarding\_pass

booking

booking\_flight

flights

passengers

columns 10

passenger\_id integer

first\_name varchar(50)

last\_name varchar(50)

date\_of\_birth date

gender varchar(50)

country\_of\_citizenship varchar

country\_of\_residence

role\_9 lab5 lab6 lab7 x airport\_db.sql console\_7 console\_6 console\_2 console\_3

lab2.public

16 create index passport\_number\_index on passengers(passport\_number);

17 INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RES

18 INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RES

19

20 --7

21 create index fullname\_age\_index on passengers(first\_name, last\_name, date\_of\_birth, country\_of\_citizenship);

22 INSERT INTO Passengers(PASSENGER\_ID, FIRST\_NAME, LAST\_NAME, DATE\_OF\_BIRTH, GENDER, COUNTRY\_OF\_CITIZENSHIP, COUNTRY\_OF\_RES

23 explain analyze select \* from passengers where country\_of\_citizenship = 'Philippines' and extract(year from date\_of\_birth)

24

25 --8

26 ✓ select indexname as index\_name, indexdef as difintion from pg\_indexes where tablename = 'passengers';

27

28

29

30

31 select

Services

Output --8 x

4 rows

CSV

1 passengers\_pkey CREATE UNIQUE INDEX passengers\_pkey ON public.passengers USING btree (passenger\_id)

2 unique\_passen\_id CREATE UNIQUE INDEX unique\_passen\_id ON public.passengers USING btree (passenger\_id)

3 passport\_number\_index CREATE INDEX passport\_number\_index ON public.passengers USING btree (passport\_number)

4 fullname\_age\_index CREATE INDEX fullname\_age\_index ON public.passengers USING btree (first\_name, last\_name, date\_of\_birth, country\_of\_citizenship)

Database Consoles > postgres@localhost [2] > lab7

28,102 CRLF UTF-8 4 spaces

Activate Windows  
Go to Settings to activate Windows.