

Lab2Version control

Database Explorer

postgres@localhost

- tables 10
  - airline
  - airport
  - baggage
  - baggage\_check
  - boarding\_pass
  - booking
  - booking\_flight
  - flights
  - passengers
  - security\_check
- Database Objects
- Server Objects

Services

- Database
  - postgres@localhost
    - passengers 769 ms
    - flights 787 ms
    - console 79 ms
    - airline 409 ms

flightsconsolepassengersairline

1 ✓ drop index idx\_flight\_no\_scheduled\_departure

Output postgres.pg\_catalog.pg\_indexes

- [2025-11-12 01:10:12] completed in 314 ms
- [2025-11-12 01:10:26] postgres.public> drop index idx\_passenger\_info
- [2025-11-12 01:10:26] completed in 15 ms
- [2025-11-12 01:10:38] postgres.public> drop index idx\_departure\_arrival\_airports
- [2025-11-12 01:10:38] completed in 10 ms
- [2025-11-12 01:10:51] postgres.public> drop index idx\_actual\_departure
- [2025-11-12 01:10:51] completed in 8 ms
- [2025-11-12 01:11:02] postgres.public> drop index idx\_flight\_no\_scheduled\_departure
- [2025-11-12 01:11:02] completed in 12 ms

Database Consoles > postgres@localhost > console1:45CRLFUTF-84 spacesENG1:1112.11.2025

Поиск

1:1112.11.2025

The screenshot displays the IntelliJ IDEA IDE interface with the following components:

- Database Explorer:** Shows a PostgreSQL database connection named 'postgres@localhost'. Under the 'tables' folder, several tables are listed, including 'flights', 'passengers', and 'baggage'. The 'passengers' table is currently selected.
- SQL Console:** The 'console' tab is active, showing a SQL query: `drop index idx_actual_departure`. The query is highlighted in green, indicating it is ready to be executed.
- Services Panel:** The 'Output' tab is active, showing the execution of the query. The output indicates that the query was executed successfully, with 4 rows retrieved and the index dropped.

The bottom status bar shows the current file is 'Database Consoles > postgres@localhost > console', the time is 1:32, and the encoding is UTF-8.

The screenshot displays a database management tool interface with a dark theme. The top bar includes a menu icon, a 'Lab2' tab, and a 'Version control' dropdown. The main workspace is divided into three panels:

- Database Explorer (Left):** Shows a tree view of the database structure. The 'postgres@localhost' connection is selected, showing the 'public' schema with 10 tables: 'airline', 'airport', 'baggage', 'baggage\_check', 'boarding\_pass', 'booking', 'booking\_flight', 'flights' (highlighted), 'passengers', and 'security\_check'.
- Console (Top Right):** Shows a SQL query being executed: `select * from flights where departing_airport_id = 23 and arriving_airport_id = 24`. The query is successful, indicated by a green checkmark.
- Services (Bottom Left):** Shows a list of services. The 'postgres@localhost' service is selected, showing the 'flights' table with 611 ms and the 'console' with 983 ms.

The bottom panel displays the 'Output' window, showing the execution log:

```
[2025-11-12 00:09:19] Connected
[2025-11-12 00:09:19] postgres.public> select * from flights where departing_airport_id = 23 and arriving_airport_id = 24
[2025-11-12 00:09:20] 1 row retrieved starting from 1 in 643 ms (execution: 21 ms, fetching: 622 ms)
```

The bottom status bar shows the current file path: 'Database Consoles > postgres@localhost > console'. The system tray at the bottom right indicates the time is 1:33, the date is 12.11.2025, and the system is in 'CRLF' and 'UTF-8' encoding with '4 spaces' indentation.

The image shows a screenshot of a database management application, likely DBeaver, with a dark theme. The top bar includes a menu, a tab labeled 'Lab2', and a 'Version control' dropdown. Below this, the 'Database Explorer' on the left shows a tree view of a PostgreSQL database at 'localhost'. The tree is expanded to show the 'public' schema, which contains a 'tables' folder with 10 items. The 'airline' table is selected. The main area is a 'console' tab showing a SQL query: 'create index idx\_actual\_departure on flights(act\_departure\_time);'. The query is executed, and the results show a success message: '[2025-11-11 23:47:20] Connected', '[2025-11-11 23:47:20] postgres> create index idx\_actual\_departure on flights(act\_departure\_time)', and '[2025-11-11 23:47:20] completed in 76 ms'. The bottom status bar shows 'Database Consoles > postgres@localhost > console', the file encoding 'UTF-8', and the time '23:49 11.11.2025'.

The image shows a screenshot of a database management tool interface, likely DBeaver, with a dark theme. The top bar includes a menu, a tab labeled 'Lab2', and a 'Version control' dropdown. Below this, the 'Database Explorer' on the left shows a tree view of a PostgreSQL database at 'postgres@localhost'. The tree is expanded to show the 'public' schema, which contains ten tables: 'airline', 'airport', 'baggage', 'baggage\_check', 'boarding\_pass', 'booking', 'booking\_flight', 'flights' (highlighted), 'passengers', and 'security\_check'. The main area is split into two panes. The top pane, titled 'console', shows a SQL command: 'create index idx\_departure\_arrival\_airports on flights(departing\_airport\_id, arriving\_gate);'. The bottom pane, titled 'Output', shows the execution log for the 'postgres.public.flights' table. The log indicates a successful connection, a query execution for 'select \* from flights where departing\_airport\_id = 23 and arriving\_airport\_id = 24' returning one row, and the successful creation of the index 'idx\_departure\_arrival\_airports' on the 'flights' table. The bottom status bar shows 'Database Consoles > postgres@localhost > console', the time '1:02', and encoding 'CRLF UTF-8 4 spaces'. The Windows taskbar at the very bottom shows the 'Поиск' (Search) bar and several application icons.



The image shows a PostgreSQL IDE interface. On the left, the 'Database Explorer' panel shows a tree view of the database structure: 'postgres@localhost' (1 of 3) contains a 'postgres' database (1 of 3), which has a 'public' schema. The 'public' schema contains 10 tables: 'airline', 'airport', 'baggage', 'baggage\_check', 'boarding\_pass', 'booking', 'booking\_flight', 'flights' (highlighted), 'passengers', and 'security\_check'. Below this is the 'Services' panel, showing a list of database consoles: 'Database' (expanded) contains 'postgres@localhost' (expanded), which includes 'console' (32 ms), 'flights' (611 ms), and 'airline' (6 s). The main area is the 'console' tab, showing a SQL query: 'create index idx\_departure\_arrival\_airports on flights(departing\_airport\_id, arriving\_airport\_id)'. The query is executed, and the output shows: '[2025-11-11 23:52:43] postgres.public> select \* from flights order by act\_departure\_time'. The output also shows: '[2025-11-11 23:52:43] 24 rows retrieved starting from 1 in 378 ms (execution: 7 ms, fetching: 371 ms)'. The bottom status bar shows 'Database Consoles > postgres@localhost > console', '1:98', 'CRLF', 'UTF-8', '4 spaces', and the system clock '23:57 11.11.2025'.

Lab2Version control

Database Explorer

postgres@localhost

- tables 10
  - airline
  - airport
  - baggage
  - baggage\_check
  - boarding\_pass
  - booking
  - booking\_flight
  - flights
  - passengers
  - security\_check
- Database Objects
- Server Objects

Services

- Database
  - postgres@localhost
    - passengers 769 ms
    - flights 787 ms
    - console 77 ms
    - airline 409 ms

flightsconsolepassengersairline

1 ✓ drop index idx\_departure\_arrival\_airports

Output postgres.pg\_catalog.pg\_indexes

- [2025-11-12 01:08:03] 5 rows retrieved starting from 1 in 474 ms (execution: 15 ms, fetching: 459 ms)
- [2025-11-12 01:09:26] postgres.public> select \* from pg\_indexes where tablename = 'passengers'
- [2025-11-12 01:09:27] 4 rows retrieved starting from 1 in 766 ms (execution: 314 ms, fetching: 452 ms)
- [2025-11-12 01:10:11] postgres.public> drop index idx\_passport\_number
- [2025-11-12 01:10:12] completed in 314 ms
- [2025-11-12 01:10:26] postgres.public> drop index idx\_passenger\_info
- [2025-11-12 01:10:26] completed in 15 ms
- [2025-11-12 01:10:38] postgres.public> drop index idx\_departure\_arrival\_airports
- [2025-11-12 01:10:38] completed in 10 ms

Database Consoles > postgres@localhost > console1:42CRLFUTF-84 spacesENG1:1012.11.2025

Поиск

ENG

Lab2Version control

Database Explorer

postgres@localhost1 of 3

postgres1 of 3

public

tables10

airline

airport

baggage

baggage\_check

boarding\_pass

booking

booking\_flight

flights

passengers

security\_check

flightsconsole

1 ✓

select \* from flights where departing\_airport\_id = 23 and arriving\_airport\_id = 24

Services

Database

postgres@localhost

flights611 ms

console555 ms

Outputpostgres.public.flights

[2025-11-12 00:09:19] Connected  
[2025-11-12 00:09:19] postgres.public> select \* from flights where departing\_airport\_id = 23 and arriving\_airport\_id = 24  
[2025-11-12 00:09:20] 1 row retrieved starting from 1 in 643 ms (execution: 21 ms, fetching: 622 ms)  
[2025-11-12 00:10:06] postgres.public> create index idx\_departure\_arrival\_airports on flights(departing\_airport\_id, arriving.  
[2025-11-12 00:10:06] completed in 29 ms  
[2025-11-12 00:10:38] postgres.public> select \* from flights where departing\_airport\_id = 23 and arriving\_airport\_id = 24  
[2025-11-12 00:10:38] 1 row retrieved starting from 1 in 482 ms (execution: 19 ms, fetching: 463 ms)

Database Consoles > postgres@localhost > console

1:83CRLFUTF-84 spaces0:1012.11.2025



Database Explorer

postgres@localhost 1 of 3

postgres 1 of 3

public

tables 10

airline

airport

baggage

baggage\_check

boarding\_pass

booking

booking\_flight

flights

passengers

security\_check

console flights airline

1 create unique index idx\_flight\_no\_scheduled\_departure on flights(flight\_id, sch\_departure\_time);

2

Services

Database

postgres@localhost

console 320 ms

flights 611 ms

airline 6 s

Output postgres.public.flights

[2025-11-11 23:52:21] postgres.public> drop index idx\_actual\_departure

[2025-11-11 23:52:22] completed in 343 ms

[2025-11-11 23:52:43] postgres.public> select \* from flights

order by act\_departure\_time

[2025-11-11 23:52:43] 24 rows retrieved starting from 1 in 378 ms (execution: 7 ms, fetching: 371 ms)

[2025-11-11 23:53:44] postgres.public> create index idx\_actual\_departure on flights(act\_departure\_time)

[2025-11-11 23:53:44] completed in 6 ms

[2025-11-11 23:56:20] postgres.public> create unique index idx\_flight\_no\_scheduled\_departure on flights(flight\_id, sch\_departure\_time)

[2025-11-11 23:56:20] completed in 294 ms

Database Consoles > postgres@localhost > console

2:1 CRLF UTF-8 4 spaces

Поиск

23:56 11.11.2025

Lab2Version control

Database Explorer

postgres@localhost

- tables 10
  - airline
  - airport
  - baggage
  - baggage\_check
  - boarding\_pass
  - booking
  - booking\_flight
  - flights
  - passengers
  - security\_check
- Database Objects
- Server Objects

Services

- Database
  - postgres@localhost
    - passengers 769 ms
    - flights 787 ms
    - console 91 ms
    - airline 409 ms

flightsconsolepassengersairline

1 ✓ drop index idx\_passenger\_info

Outputpostgres.pg\_catalog.pg\_indexes

```
select * from passengers
where country_of_citizenship = 'USA' and date_of_birth between '1984-01-01' and '1984-
[2025-11-12 01:08:03] 5 rows retrieved starting from 1 in 474 ms (execution: 15 ms, fetching: 459 ms)
[2025-11-12 01:09:26] postgres.public> select * from pg_indexes where tablename = 'passengers'
[2025-11-12 01:09:27] 4 rows retrieved starting from 1 in 766 ms (execution: 314 ms, fetching: 452 ms)
[2025-11-12 01:10:11] postgres.public> drop index idx_passport_number
[2025-11-12 01:10:12] completed in 314 ms
[2025-11-12 01:10:26] postgres.public> drop index idx_passenger_info
[2025-11-12 01:10:26] completed in 15 ms
```

Database Consoles > postgres@localhost > console1:30CRLFUTF-84 spacesENG1:1012.11.2025

Поиск

1:1012.11.2025

Lab2Version control

Database Explorer

postgres@localhost

tables 10

airline

airport

baggage

baggage\_check

boarding\_pass

booking

booking\_flight

flights

passengers

security\_check

Database Objects

Server Objects

Services

Database

postgres@localhost

console 90 ms

passengers 769 ms

flights 787 ms

airline 409 ms

flightsconsolepassengersairline

Tx: AutoPlayground

postgres.public

insert into passengers (passenger\_id, first\_name, last\_name, date\_of\_birth, gender, country\_of\_citizenship, country\_of\_residence, passport\_number, age)

values

(passenger\_id 18, first\_name 'John', last\_name 'Doe', date\_of\_birth '2005-03-15', gender 'M', country\_of\_citizenship 'USA', country\_of\_residence 'USA', passport\_number 'E1234567', age 16)

(passenger\_id 19, first\_name 'Jane', last\_name 'Smith', date\_of\_birth '2004-06-22', gender 'F', country\_of\_citizenship 'Canada', country\_of\_residence 'Canada', passport\_number 'B2345678', age 17)

[23505] ERROR: duplicate key value violates unique constraint "idx\_passport\_number"

Подобности: Key (passport\_number)=(E1234567) already exists.

OutputResult 8

(2, 'Jane', 'Smith', '2004-06-22', 'F', 'Canada', 'Canada', 'B2345678', now(), now(), 17)

[2025-11-12 00:55:13] [23505] ERROR: duplicate key value violates unique constraint "passengers\_pkey"

[2025-11-12 00:55:13] Подобности: Key (passenger\_id)=(1) already exists.

[2025-11-12 00:57:41] postgres.public> insert into passengers (passenger\_id, first\_name, last\_name, date\_of\_birth, gender, country\_of\_citizenship, country\_of\_residence, passport\_number, age)

values

(18, 'John', 'Doe', '2005-03-15', 'M', 'USA', 'USA', 'E1234567', now(), now(), 16)

(19, 'Jane', 'Smith', '2004-06-22', 'F', 'Canada', 'Canada', 'E1234567', now(), now(), 17)

[2025-11-12 00:57:41] [23505] ERROR: duplicate key value violates unique constraint "idx\_passport\_number"

[2025-11-12 00:57:41] Подобности: Key (passport\_number)=(E1234567) already exists.

Database Consoles > postgres@localhost > console1:1 CRLF UTF-8 4 spacesENG0:5712.11.2025

Поиск

0:5712.11.2025



Lab2Version control

Database Explorer

postgres@localhost

- tables 10
  - airline
  - airport
  - baggage
  - baggage\_check
  - boarding\_pass
  - booking
  - booking\_flight
  - flights
  - passengers
  - security\_check
- Database Objects
- Server Objects

postgres@localhost

- passengers 769 ms
- flights 787 ms
- console 821 ms
- airline 409 ms

flightsconsolepassengersairline

1 ✓select \* from pg\_indexes where tablename = 'passengers'

Output postgres.pg\_catalog.pg\_indexes

- 1 publicpassengerspassengers\_pkey<null>CREATE UNIQUE INDEX passengers\_pkey ON publ
- 2 publicpassengersunique\_passenger\_id<null>CREATE UNIQUE INDEX unique\_passenger\_id ON p
- 3 publicpassengersidx\_passport\_number<null>CREATE UNIQUE INDEX idx\_passport\_number ON p
- 4 publicpassengersidx\_passenger\_info<null>CREATE INDEX idx\_passenger\_info ON public.p

Database Consoles > postgres@localhost > console1:56CRLFUTF-84 spaces1:0912.11.2025



Поиск



РУС



1:09  
12.11.2025



Lab2Version control

Database Explorer

postgres@localhost

- tables 10
  - airline
  - airport
  - baggage
  - baggage\_check
  - boarding\_pass
  - booking
  - booking\_flight
  - flights
  - passengers
  - security\_check
- Database Objects
- Server Objects

postgres@localhost

- flights
- console
- passengers
- airline

1 ✓ create index idx\_passenger\_info on passengers(first\_name, last\_name, date\_of\_birth, country\_of\_citizenship)

Services

- Database
  - postgres@localhost
    - console 54 ms
    - passengers 769 ms
    - flights 787 ms
    - airline 409 ms

OutputResult 8

- [2025-11-12 00:55:13] Подробности: Key (passenger\_id)=(1) already exists.
- [2025-11-12 00:57:41] postgres.public> insert into passengers (passenger\_id, first\_name, last\_name, date\_of\_birth, gender, co
  - values
  - (18, 'John', 'Doe', '2005-03-15', 'M', 'USA', 'USA', 'E1234567', now(), now(), 16)
  - (19, 'Jane', 'Smith', '2004-06-22', 'F', 'Canada', 'Canada', 'E1234567', now(), no
- [2025-11-12 00:57:41] [23505] ERROR: duplicate key value violates unique constraint "idx\_passport\_number"
- [2025-11-12 00:57:41] Подробности: Key (passport\_number)=(E1234567) already exists.
- [2025-11-12 00:58:41] postgres.public> create index idx\_passenger\_info on passengers(first\_name, last\_name, date\_of\_birth, co
- [2025-11-12 00:58:41] completed in 13 ms

Database Consoles > postgres@localhost > console1:108CRLFUTF-84 spaces0:5812.11.2025

Поиск

0:5812.11.2025

Database Explorer

postgres@localhost

- tables 10
  - airline
  - airport
  - baggage
  - baggage\_check
  - boarding\_pass
  - booking
  - booking\_flight
  - flights
  - passengers
  - security\_check
- Database Objects
- Server Objects

Services

- Database
  - postgres@localhost
    - console 191 ms
    - flights 787 ms
    - airline 409 ms

flights console airline

1 ✓ create unique index idx\_passport\_number on passengers(passport\_number)

Output

Result 8

```
select * from flights
where departing_airport_id = 115 and arriving_airport_id = 116
[2025-11-12 00:52:31] 5 rows retrieved starting from 1 in 472 ms (execution: 17 ms, fetching: 455 ms)
[2025-11-12 00:53:08] postgres.public> EXPLAIN ANALYZE
select * from flights
where departing_airport_id = 151 and arriving_airport_id = 152
[2025-11-12 00:53:09] 5 rows retrieved starting from 1 in 541 ms (execution: 16 ms, fetching: 525 ms)
[2025-11-12 00:54:50] postgres.public> create unique index idx_passport_number on passengers(passport_number)
[2025-11-12 00:54:50] completed in 72 ms
```

Database Consoles > postgres@localhost > console 1:71 CRLF UTF-8 4 spaces 0:54 12.11.2025

Lab2Version control

Database Explorer

postgres@localhost

- tables 10
  - airline
  - airport
  - baggage
  - baggage\_check
  - boarding\_pass
  - booking
  - booking\_flight
  - flights
  - passengers
  - security\_check
- Database Objects
- Server Objects

Services

- Database
  - postgres@localhost
    - passengers 769 ms
    - flights 787 ms
    - console 542 ms
    - airline 409 ms

flightsconsolepassengersairline

TX: AutoPlayground

postgres@public

1EXPLAIN ANALYZE

2select \* from passengers

3where country\_of\_citizenship = 'USA' and date\_of\_birth between '1984-01-01' and '1984-12-31';

4

OutputResult 3

QUERY PLAN

1Seq Scan on passengers (cost=0.00..1.30 rows=1 width=676) (actual time=0.054..0.054 rows=0 loops=1)

2Filter: ((date\_of\_birth >= '1984-01-01'::date) AND (date\_of\_birth <= '1984-12-31'::date) AND ((country\_of\_citizenship)::te...

3Rows Removed by Filter: 17

4Planning Time: 0.263 ms

5Execution Time: 0.087 ms

5 rows

Database Consolespostgres@localhostconsole

1:16CRLFUTF-84 spacesENG1:0812.11.2025



Поиск



The screenshot displays the IntelliJ IDEA IDE interface with a PostgreSQL database connection. On the left, the 'Database Explorer' panel shows the 'postgres@localhost' connection with a tree view of database objects. The 'passengers' table is highlighted under the 'tables' folder. The main editor area shows a SQL script with the command 'drop index idx\_passport\_number'. Below the editor, the 'Services' panel shows the 'postgres@localhost' connection with a list of tables and their sizes. The 'Output' panel at the bottom shows the execution of the SQL script, including the 'EXPLAIN ANALYZE' query and the 'drop index' command. The bottom status bar indicates the current file is 'pg\_indexes' and the database is 'postgres@localhost'.