

The screenshot shows a dark-themed database management interface. In the top navigation bar, there are icons for file operations (New, Open, Save, etc.), a search bar, and a settings gear icon. The title bar displays "laboratory_work2" and "Version control". The main area has tabs for "console_38" (selected), "flights", "airline", and "console_40". On the left, the "Database Explorer" sidebar shows a tree structure of databases and tables. The "fank_emp" database is expanded, showing "lab2" (with 3 items), "information_schema", "pg_catalog", and "public" (with 11 tables: airline, airport, baggage, baggage check, etc.). The "airline" table is currently selected. The central workspace contains a code editor with the following SQL query:

```
--Task1
SELECT f.flight_id, f.sch_departure_time, f.sch_arrival_time, a.airline_name
FROM flights f
JOIN airline a 1..n<->1: ON f.airline_id = a.airline_id
WHERE a.airline_name = 'KBTU_AIR';
```

The screenshot shows a dark-themed database management interface. In the top navigation bar, there are icons for file operations (New, Open, Save, etc.), a search bar, and a settings gear icon. The title bar displays "laboratory_work2" and "Version control". The main area has tabs for "Output" (selected) and "Result 5". On the left, the "Services" sidebar shows a list of transactions (Tx) and their execution times. The "console_38" transaction is currently selected. The central workspace contains a results grid with the following data:

flight_id	sch_departure_time	sch_arrival_time	airline_name
1	2025-09-24 05:06:26.877961	2025-09-24 07:06:26.877961	KBTU_AIR

At the bottom, there is a status bar showing "Database Consoles > fank_emp > console_38", system time "5:35", and other system information like "CRLF", "UTF-8", "4 spaces", and a battery icon.

Database Explorer

console_38 console_41 flights airline

DDL Tx: Auto Playground lab2.public

fank_emp 2
lab2 3
information_schema
pg_catalog
public
tables 11
airline
airport
baggage

```
--Task2
SELECT f.flight_id, f.sch_departure_time, a.airport_name AS departure_airport
from flights f
JOIN airport a 1..n<->1: ON f.departing_airport_id = a.airport_id;
```

Services

Tx + Output Result 2

Database

fank_emp
flights 623 ms
console_41 410 ms
console_40
console_38 410 ms
airline 534 ms

	flight_id	sch_departure_time	departure_airport
1	9	2025-09-24 05:06:26.877961	Airport 10
2	10	2025-09-24 06:06:26.877961	Airport 11
3	11	2025-09-24 07:06:26.877961	Airport 12
4	12	2025-09-24 08:06:26.877961	Airport 13
5	13	2025-09-24 09:06:26.877961	Airport 14
6	14	2025-09-24 10:06:26.877961	Airport 15
7	15	2025-09-24 11:06:26.877961	Airport 16
8	16	2025-09-24 12:06:26.877961	Airport 17
9	17	2025-09-24 13:06:26.877961	Airport 18
10	18	2025-09-24 14:06:26.877961	Airport 19
11	19	2025-09-24 15:06:26.877961	Airport 191 rows ...
12	20	2025-09-24 16:06:26.877961	Airport 21

The screenshot shows a database management interface with the following components:

- Top Bar:** Includes icons for file operations (New, Open, Save, etc.), a project name "laboratory_work2", version control, and system settings.
- Database Explorer:** A tree view on the left showing the database structure:
 - fank_emp**: Contains **lab2** (3 objects), **information_schema**, **pg_catalog**, and **public**. **public** is expanded, showing **tables** (11 objects) including **airline** and **airport**.
- Console Tab:** Shows multiple tabs: **console_38**, **console_41**, **console_40** (selected), **flights**, and **airline**. The **console_40** tab contains the following SQL query:

```
--Task3
SELECT a.airline_name
FROM airline a
LEFT JOIN flights f ON a.airline_id = f.airline_id
AND f.sch_departure_time >= CURRENT_TIMESTAMP
AND f.sch_departure_time < CURRENT_DATE + INTERVAL '1 month'
GROUP BY a.airline_name
HAVING COUNT(f.flight_id) = 0;
```
- Services Tab:** Shows a list of services and their execution times:

Service	Time
flights	623 ms
console_41	410 ms
console_40	501 ms
console_38	410 ms
airline	534 ms

The screenshot shows the results of the executed query in the **console_40** tab:

airline_name
Air 181
Air 165
Air 93
Air 91
Air 11
Air 36
Air 141
Air 172
Air 200
Air 164
Air 74
Air 199

Below the table, it says **194 rows**.

The screenshot shows a PostgreSQL database management interface with the following details:

- Top Bar:** Includes icons for file operations, a project named "laboratory_work2", version control, and system settings.
- Database Explorer:** Shows the schema of the "fank_emp" database, including the "lab2" schema which contains tables: airline, airport, baggage, baggage_check, boarding_pass, booking, and booking_flight.
- Consoles:** Multiple consoles are open:
 - console_38
 - console_41
 - console_40
 - console_42 (selected)
 - booking_flight
 - booking
- Query Editor:** The selected console (console_42) contains the following SQL query:

```
--Task4
SELECT p.first_name, p.last_name, p.passport_number
FROM passengers p
JOIN booking b ON b.booking_id = p.passenger_id
JOIN booking_flight bf 1<->1: ON b.booking_id = bf.booking_id
WHERE bf.flight_id = 9;
```
- Services:** Shows a list of active database connections and their execution times.

The Services panel displays the following information:

Connection	Execution Time
console_41	410 ms
console_40	501 ms
booking	502 ms
console_38	410 ms
console_42	412 ms
booking_flight	480 ms

LW laboratory_work2 Version control

Database Explorer

console_38 console_41 console_40 console_42 console_43 booking

Playground

lab2.public

```
-- Task5
SELECT f.flight_id,
       AVG(b.ticket_price) AS avg_price,
       SUM(b.ticket_price) AS total_price,
       MAX(b.ticket_price) AS max_price,
       MIN(b.ticket_price) AS min_price
FROM flights f
JOIN booking_flight bf ON f.flight_id = bf.booking_id
JOIN booking b 1<->1: ON bf.booking_id = b.booking_id
GROUP BY f.flight_id;
```

Services

Tx

Output Result 2

Database

fank_emp

console_41 410 ms
console_40 501 ms
booking 502 ms
console_38 410 ms
console_42 412 ms
console_43 461 ms

	flight_id	avg_price	total_price	max_price	min_price
1	184	11711.6	11711.6	11711.6	11711.6
2	116	11633.4	11633.4	11633.4	11633.4
3	87	11600.05	11600.05	11600.05	11600.05
4	71	11581.65	11581.65	11581.65	11581.65
5	68	11578.2	11578.2	11578.2	11578.2
6	51	11558.65	11558.65	11558.65	11558.65
7	146	11667.9	11667.9	11667.9	11667.9
8	80	11592	11592	11592	11592
9	70	11580.5	11580.5	11580.5	11580.5
10	52	11559.8	190 rows	11559.8	11559.8
11	190	11718.5	11718.5	11718.5	11718.5

The screenshot shows the Database Explorer in a code editor interface. The left sidebar displays a tree view of database schemas and tables, including 'fank_emp' (selected), 'lab2' (with 3 items), 'information_schema', 'pg_catalog', and 'public'. The 'public' schema has 'tables' (11), 'airline' (1 item), and 'airport' (1 item). The main area shows a code editor with tabs for 'console_38', 'console_41', 'console_40', 'console_42', 'console_43', and 'console_44'. The 'console_44' tab is active, containing the following SQL query:

```
--Task6
SELECT f.flight_id, f.sch_departure_time, f.sch_arrival_time, a.airport_name AS destination_airport, a.country AS destination_country
FROM flights f
JOIN airport a 1..n->->1 ON f.arriving_airport_id = a.airport_id
WHERE a.country = 'Kazakhstan';
```

The screenshot shows the Services panel with the 'Result 1' tab selected. The left sidebar shows a list of database consoles: 'console_41 410 ms', 'console_44 621 ms' (selected), 'console_40 501 ms', 'console_38 410 ms', 'console_42 412 ms', and 'console_43 461 ms'. The main area displays the results of the executed query in a table format:

	flight_id	sch_departure_time	sch_arrival_time	destination_airport	destination_country
1	11	2025-09-24 07:06:26.877961	2025-09-24 09:06:26.877961	Airport 12	Kazakhstan
2	21	2025-09-24 17:06:26.877961	2025-09-24 19:06:26.877961	Airport 22	Kazakhstan
3	26	2025-09-24 22:06:26.877961	2025-09-25 00:06:26.877961	Airport 27	Kazakhstan
4	42	2025-09-25 14:06:26.877961	2025-09-25 16:06:26.877961	Airport 43	Kazakhstan
5	50	2025-09-25 22:06:26.877961	2025-09-26 00:06:26.877961	Airport 51	Kazakhstan
6	65	2025-09-26 13:06:26.877961	2025-09-26 15:06:26.877961	Airport 66	Kazakhstan
7	93	2025-09-27 17:06:26.877961	2025-09-27 19:06:26.877961	Airport 94	Kazakhstan
8	125	2025-09-29 01:06:26.877961	2025-09-29 03:06:26.877961	Airport 126	Kazakhstan
9	128	2025-09-29 04:06:26.877961	2025-09-29 06:06:26.877961	Airport 129	Kazakhstan
10	134	2025-09-29 10:06:26.877961	2025-09-29 12:06:26.877961	Airport 135	Kazakhstan
11	139	2025-09-29 15:06:26.877961	2025-09-29 17:06:26.877961	Airport 140	Kazakhstan
12	144	2025-09-29 20:06:26.877961	2025-09-29 21:18 rows	Airport 145	Kazakhstan

Database Consoles > fank_emp > console_44

6:32 CRLF UTF-8 4 spaces ⌂ 23:15

The screenshot shows a database development interface with the following components:

- Top Bar:** Includes icons for file operations (New, Open, Save, etc.), a search bar, and a settings gear icon.
- Database Explorer:** On the left, it shows a tree view of databases and tables. The 'lab2' database is selected, and its 'tables' folder contains 11 entries: airline, airport, baggage, baggage_check, boarding_pass, flight, passenger, passenger_id, route, seat, and stop.
- Console:** The main area displays a SQL query in a code editor:

```
--Task7
SELECT p.first_name, p.last_name, a.city AS destination_city
FROM passengers p
JOIN booking b 1<->1..n: ON p.passenger_id = b.passenger_id
JOIN booking_flight bf 1<->1: ON b.booking_id = bf.booking_id
JOIN flights f 1..n<->1: ON bf.flight_id = f.flight_id
JOIN airport a 1..n<->1: ON f.arriving_airport_id = a.airport_id
WHERE EXTRACT(YEAR FROM AGE(p.date_of_birth)) < 18;
```
- Services:** A panel on the right showing the execution history of queries from the 'fank_emp' database, with 'console_45' highlighted.

The results panel displays the output of the executed query:

first_name	last_name	destination_city

Below the table, it says "0 rows".

The screenshot shows a PostgreSQL database management interface. The top navigation bar includes icons for file, edit, and settings, followed by the project name "laboratory_work2" and "Version control". The main area has tabs for "Database Explorer" and several consoles: "console_38", "console_41", "console_40", "console_42", "console_43", "console_44", "console_45", and "console_46". The "console_46" tab is active, showing a query in the "Playground" section:

```
--TASK8
SELECT p.first_name || ' ' || p.last_name AS full_name, p.passport_number, f.act_arrival_time
FROM passengers p
JOIN booking b 1<->1..n: ON p.passenger_id = b.passenger_id
JOIN booking_flight bf 1<->1: ON b.booking_id = bf.booking_id
JOIN flights f 1..n<->1: ON bf.flight_id = f.flight_id;
```

The screenshot shows the execution results of the query in the "Result 1" tab. The results are presented in a table with three columns: "full_name", "passport_number", and "act_arrival_time". The table contains 13 rows of data, with a total of 191 rows shown.

full_name	passport_number	act_arrival_time
Ilya Ivanov	P71601618	2025-09-24 07:06:26.877961
Asel Kim	P16272737	2025-09-24 08:06:26.877961
Asel Ivanov	P93288234	2025-09-24 09:06:26.877961
Ilya Lee	P88461751	2025-09-24 10:06:26.877961
Alikhan Zhaksylyk	P32368088	2025-09-24 11:06:26.877961
Alikhan Petrov	P78226579	2025-09-24 12:06:26.877961
Alikhan Suleimenov	P20145768	2025-09-24 13:06:26.877961
Sanzhar Suleimenov	P52871221	2025-09-24 14:06:26.877961
Alikhan Brown	P43888523	2025-09-24 15:06:26.877961
Dana Akhmetov	P13325981	2025-09-24 16:06:26.877961
Aigerim Ivanov	P34547326	2025-09-24 17:06:26.877961
Sanzhar Kim	P82583598	2025-09-24 18:06:26.877961
Mira Smirnov	P64307775	2025-09-24 19:06:26.877961

Database Explorer

console_38 console_41 console_40 console_42 console_43 console_44 console_45 console_46 console_47

DDL Tx: Auto Playground

--task9

```
SELECT f.flight_id, f.sch_departure_time, f.sch_arrival_time, a.airport_name, a.country AS origin_country
FROM flights f
JOIN airport a 1..n->1: ON f.departing_airport_id = a.airport_id
JOIN airline al 1..n->1: ON f.airline_id = al.airline_id
WHERE al.airline_country = a.country;
```

Services

Tx + ⏪ ⏴ ⏵ ⏳

Output Result 1

Database

fank_emp

console_41 410 ms
console_44 621 ms
console_40 501 ms
console_47 656 ms
console_38 410 ms
console_42 412 ms
console_46 522 ms
console_43 461 ms
console_45 546 ms

flight_id	sch_departure_time	sch_arrival_time	airport_name	origin_country
16	2025-09-24 12:06:26.877961	2025-09-24 14:06:26.877961	Airport 17	France
20	2025-09-24 16:06:26.877961	2025-09-24 18:06:26.877961	Airport 21	Brazil
32	2025-09-25 04:06:26.877961	2025-09-25 06:06:26.877961	Airport 33	France
36	2025-09-25 08:06:26.877961	2025-09-25 10:06:26.877961	Airport 37	USA
37	2025-09-25 09:06:26.877961	2025-09-25 11:06:26.877961	Airport 38	France
41	2025-09-25 13:06:26.877961	2025-09-25 15:06:26.877961	Airport 42	UK
54	2025-09-26 02:06:26.877961	2025-09-26 04:06:26.877961	Airport 55	Brazil
57	2025-09-26 05:06:26.877961	2025-09-26 07:06:26.877961	Airport 58	UK
63	2025-09-26 11:06:26.877961	2025-09-26 13:06:26.877961	Airport 64	Brazil
64	2025-09-26 12:06:26.877961	2025-09-26 14:06:26.877961	Airport 65	France
123	2025-09-28 23:06:26.877961	2025-09-29 01:06:26.877961	Airport 124	France
143	2025-09-29 19:06:26.877961	2025-09-29 20:06:26.877961	Airport 144	UK
146	2025-09-29 22:06:26.877961	2025-09-30 00:06:26.877961	Airport 147	Germany

Database Consoles > fank_emp > console_47

7:38 CRLF UTF-8 4 spaces



Поиск



ENG WiFi

23:23 04.11.2025