

DB DB lab2

alary\_batch\_summary [postgres@localhost [2]] customer\_balance\_summary [postgres@localhost [2]] daily\_transaction\_report [postgres@localhost [2]] suspicious\_activity\_view [postgres@localhost [2]]

CSV

Database E

postgres@localhost [2] 4 of 3

public

tables 6

- accounts
- audit\_log
- customers
- exchange\_rates
- salary\_batch\_log
- transactions

materialized views

- salary\_batch\_summary

views 3

- customer\_balance
- daily\_transaction
- suspicious\_activity

routines 2

sequences 6

Database Objects

university\_archive 0 of 3

university\_backup 0 of 3

university\_main 1 of 3

Server Objects

postgres@localhost DB 2 of 3

advanced\_lab 0 of 3

postgres 1 of 3

Server Objects

0 rows

Services

Database > postgres@localhost [2] > postgres > public > views > suspicious\_activity\_view

DB DB lab2

Database Explorer

transactions [postgres@localhost [2]] salary\_batch\_summary [postgres@localhost [2]] customer\_balance\_summary [postgres@localhost [2]] daily\_transaction\_report [postgres@localhost [2]]

CSV

	day	type	total_kzt	tx_count	avg_kzt	running_total_kzt	day_over_day_growth
1	2025-12-12	deposit	150000	2	75000	414000	<null>
2	2025-12-12	transfer	253500	6	42250	414000	<null>
3	2025-12-12	withdrawal	11300	2	5650	414000	<null>

postgres@localhost [2]

- public
  - accounts
  - audit\_log
  - customers
  - exchange\_rates
  - salary\_batch\_log
  - transactions
- materialized views
  - salary\_batch\_summary
- views
  - customer\_balance
  - daily\_transaction\_report
  - suspicious\_activity
- routines

Database Explorer

DB DB lab2

postgres@localhost [2] salary\_batch\_log [postgres@localhost [2]] transactions [postgres@localhost [2]] salary\_batch\_summary [postgres@localhost [2]] customer\_balance\_summary [postgres@localhost [2]]

WHERE ORDER BY

customer\_id full\_name account\_number balance currency balance\_kzt total\_kzt used\_today limit\_usage\_percent balance\_rank

customer_id	full_name	account_number	balance	currency	balance_kzt	total_kzt	used_today	limit_usage_percent	balance_rank
10	Aktau Rybol	KZ12345678901	50000.00	KZT	50000	50000	0	0	1
9	Burhan Tlsw	KZ12345678902	50000.00	KZT	50000	50000	0	0	1
7	Aksan Yelamai	KZ12345678903	20000.00	USD	940000	940000	141400	23.5	3
1	Aldos Nuryshev	KZ12345678904	100000.00	KZT	100000	714000	67000	15.4	4
2	Aldos Nuryshev	KZ12345678905	12000.00	USD	564000	714000	67000	13.4	4
3	Dana Almatseva	KZ12345678906	700.00	KDR	457000	457000	65000	21.666666666666667	6
2	Dana Almatseva	KZ12345678907	30000.00	KZT	30000	457000	65000	21.666666666666667	6
6	Leire Kalyr	KZ12345678908	450000.00	KZT	450000	450000	100000	25	8
4	Anuchan Daraviva	KZ12345678909	90000.00	KZT	90000	90000	30000	2.8	9
5	Nurzhan Teresh	KZ123456789010	20000.00	KDR	70000	70000	23000	32.333333333333333	10
3	Serat Khisan	KZ123456789011	6000.00	KZT	6000	6000	10400	10.4	11
8	Zhamna Sadyk	KZ123456789012	1000.00	KZT	1000	1000	900	1.8	12

customer\_id full\_name account\_number balance currency balance\_kzt total\_kzt used\_today limit\_usage\_percent balance\_rank

The screenshot shows a PostgreSQL database management interface. The left sidebar displays the schema structure of the 'postgres' database's 'public' schema. The visible objects include:

- Tables: accounts, audit\_log, customers, exchange\_rates, salary\_batch\_log, transactions.
- Materialized views: salary\_batch\_summary.
- Views: customer\_balance\_summary, daily\_transaction, suspicious\_activity.
- Routines: (empty).
- Sequences: (empty).

The top bar shows several open tabs, including 'host [2]', 'exchange\_rates [postgres@localhost [2]]', 'salary\_batch\_log [postgres@localhost [2]]', 'transactions [postgres@localhost [2]]', and 'salary\_batch\_summary [postgres@localhost [2]]'. The 'salary\_batch\_summary' tab is currently active.

DB DB v lab2 v

main.sql accounts [postgres@localhost [2]] audit\_log [postgres@localhost [2]] x lab.sql

WHERE ORDER BY

	log_id	table_name	record_id	action	old_values	new_values	changed_by	changed_at	ip_address
1	customers	1	1	INSERT	<null>	{"full_name": "Aidos Nurpeisov"}	system	2025-12-12 15:01:40.993372	127.0.0.1
2	accounts	1	1	INSERT	<null>	{"balance": 150000}	system	2025-12-12 15:01:40.993372	127.0.0.1
3	transactions	1	1	INSERT	<null>	{"amount": 20000}	system	2025-12-12 15:01:40.993372	127.0.0.1
4	customers	3	1	UPDATE	<null>	{"status": "blocked"}	admin	2025-12-12 15:01:40.993372	10.0.0.2
5	accounts	10	1	UPDATE	<null>	{"is_active": false}	admin	2025-12-12 15:01:40.993372	10.0.0.2
6	transactions	6	1	UPDATE	<null>	{"status": "failed"}	fraud_bot	2025-12-12 15:01:40.993372	10.0.0.8
7	customers	5	1	INSERT	<null>	{"full_name": "Miras Berik"}	system	2025-12-12 15:01:40.993372	127.0.0.1
8	exchange_rates	1	1	UPDATE	<null>	{"rate": 470}	system	2025-12-12 15:01:40.993372	127.0.0.1
9	transactions	9	1	UPDATE	<null>	{"status": "pending"}	system	2025-12-12 15:01:40.993372	127.0.0.1
10	audit_log	1	1	UPDATE	<null>	{}	system	2025-12-12 15:01:40.993372	127.0.0.1

Screenshot of a PostgreSQL database interface showing the 'customers' table.

The table has the following structure:

- Customer ID (customer\_id)
- Phone number (phone)
- Email address (email)
- Status (status)
- Creation date (created\_at)
- Daily limit in KZT (daily\_limit\_kzt)

The data in the table is as follows:

	customer_id	full_name	phone	email	status	created_at	daily_limit_kzt
1	1 990101123456	Aidos Nurpeisov	+77015555501	aidos@mail.kz	active	2025-12-12 15:01:40.965616	500000.00
2	2 010202654321	Dana Akmetova	+77012223344	dana@gmail.com	active	2025-12-12 15:01:40.965616	300000.00
3	3 970303777888	Samat Khasen	+77019998877	samat@mail.kz	blocked	2025-12-12 15:01:40.965616	100000.00
4	4 960404112233	Aruzhana Omarova	+77015556677	aruzhan@mail.kz	active	2025-12-12 15:01:40.965616	250000.00
5	5 950505998877	Miras Berik	+77017775544	miras@mail.kz	frozen	2025-12-12 15:01:40.965616	75000.00
6	6 930606443322	Laura Kaiyr	+77014443322	laura@mail.kz	active	2025-12-12 15:01:40.965616	400000.00
7	7 920707111999	Askan Yelaman	+77019997766	askan@mail.kz	active	2025-12-12 15:01:40.965616	600000.00
8	8 91080833222	Zhanna Sadyk	+77016665544	zhanna@mail.kz	blocked	2025-12-12 15:01:40.965616	50000.00
9	9 900909666111	Nurlan Tleu	+77013334455	nurlan@mail.kz	active	2025-12-12 15:01:40.965616	150000.00
10	10 89101022333	Amina Ryskul	+77018889977	amina@mail.kz	active	2025-12-12 15:01:40.965616	350000.00

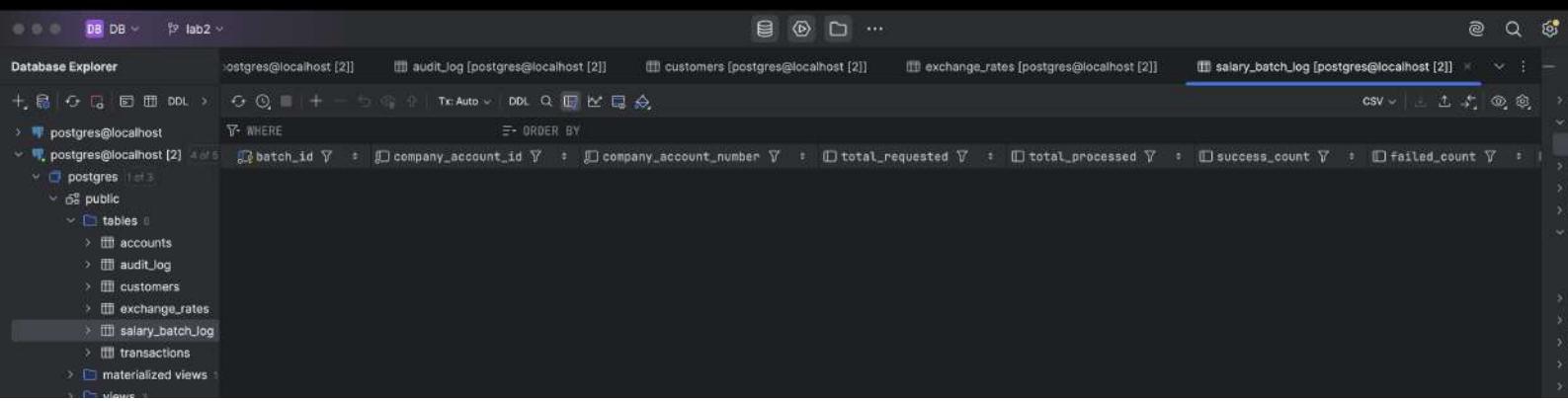
lab2

main.sql accounts [postgres@localhost [2]] audit\_log [postgres@localhost [2]] customers [postgres@localhost [2]] exchange\_rates [postgres@localhost [2]] lab.sql

WHERE ORDER BY

	rate_id	from_currency	to_currency	rate	valid_from	valid_to
1	1	USD	KZT	470.000000	2025-01-01 00:00:00.000000	<null>
2	2	EUR	KZT	510.000000	2025-01-01 00:00:00.000000	<null>
3	3	RUB	KZT	5.200000	2025-01-01 00:00:00.000000	<null>
4	4	KZT	USD	0.002100	2025-01-01 00:00:00.000000	<null>
5	5	KZT	EUR	0.001900	2025-01-01 00:00:00.000000	<null>
6	6	USD	EUR	0.930000	2025-01-01 00:00:00.000000	<null>
7	7	EUR	USD	1.070000	2025-01-01 00:00:00.000000	<null>
8	8	USD	RUB	92.000000	2025-01-01 00:00:00.000000	<null>
9	9	RUB	USD	0.011000	2025-01-01 00:00:00.000000	<null>
10	10	KZT	RUB	0.190000	2025-01-01 00:00:00.000000	<null>

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DB DB lab2

Tx Auto DDL

audit\_log [postgres@localhost [2]] customers [postgres@localhost [2]] exchange\_rates [postgres@localhost [2]] salary\_batch\_log [postgres@localhost [2]] transactions [postgres@localhost [2]] lab.sql

WHERE ORDER BY

	from_account_id	to_account_id	amount	currency	exchange_rate	amount_left	type	status	created_at	completed_at	description
1.	1	5	2000.00	KZT	3.000000	2000.00	transfer	completed	2025-12-12 15:01:40.985109	null	Bank payment
2.	2	7	100.00	USD	470.000000	47000.00	transfer	completed	2025-12-12 15:01:40.985109	null	Send dollars
3.	3	9	50000.00	KZT	1.000000	50000.00	deposit	completed	2025-12-12 15:01:40.985109	null	ATM deposit
4.	4	1	15000.00	KZT	1.000000	15000.00	transfer	completed	2025-12-12 15:01:40.985109	null	Return loan
5.	5	6	2000.00	RUB	5.200000	10400.00	withdrawal	completed	2025-12-12 15:01:40.985109	null	Cash out
6.	6	8	7000.00	KZT	3.000000	7000.00	transfer	failed	2025-12-12 15:01:40.985109	null	Wrong account
7.	7	1	50.00	USD	470.000000	2350.00	transfer	completed	2025-12-12 15:01:40.985109	null	Family support
8.	8	9	100000.00	KZT	1.000000	100000.00	deposit	completed	2025-12-12 15:01:40.985109	null	Salary
9.	9	7	300.00	USD	470.000000	342000.00	transfer	pending	2025-12-12 15:01:40.985109	null	Online purchase
10.	10	null	100.00	KZT	1.000000	900.00	withdrawal	completed	2025-12-12 15:01:40.985109	null	ATM cash

	account_id	customer_id	account_number	currency	balance	is_active	opened_at	closed_at
1	1	1	KZ123A0001	KZT	150000.00	true	2025-12-12 15:01:40.974122	<null>
2	2	1	KZ123A0002	USD	1200.00	true	2025-12-12 15:01:40.974122	<null>
3	3	2	KZ123B0001	KZT	30000.00	true	2025-12-12 15:01:40.974122	<null>
4	4	2	KZ123B0002	EUR	900.00	true	2025-12-12 15:01:40.974122	<null>
5	5	3	KZ123C0001	KZT	5000.00	false	2025-12-12 15:01:40.974122	<null>
6	6	4	KZ123D0001	KZT	98000.00	true	2025-12-12 15:01:40.974122	<null>
7	7	5	KZ123E0001	RUB	15000.00	true	2025-12-12 15:01:40.974122	<null>
8	8	6	KZ123F0001	KZT	450000.00	true	2025-12-12 15:01:40.974122	<null>
9	9	7	KZ123G0001	USD	2000.00	true	2025-12-12 15:01:40.974122	<null>
10	10	8	KZ123H0001	KZT	1000.00	false	2025-12-12 15:01:40.974122	<null>