

pgAdmin 4 Object Tools Edit View Window Help pgAdmin 4 lab3@ruslan@RuslanUser Untitled sql* Mon 10 Nov 10:01 AM

Object Explorer Servers(1) RuslanUser Databases(4) Instagram_bot lab3 Casts Catalogs Event Triggers Extensions Foreign Data Wrappers Languages Publications Schemas(1) public Aggregates Collations Domains FTS Configurations FTS Dictionaries Aa FTS Parsers FTS Templates Foreign Tables Functions Materialized Views Operators Procedures 1.3 Sequences Tables(10) airline Columns(6) airline_id airline_code airline_name airline country

Dashboard Properties SQL Statistics Dependencies Dependents Processes Query History CREATE INDEX idx_actual_departure ON flights(actual_departure);

Data Output Messages Notifications CREATE INDEX Query returned successfully in 53 msec.

Total rows: Query complete 00:00:00.053 LF Ln 1, Col 64

pgAdmin 4 Object Tools Edit View Window Help pgAdmin 4 lab3@ruslan@RuslanUser Untitled sql* Mon 10 Nov 10:07 AM

Object Explorer rules Triggers baggage baggage_check boarding_pass Columns(5) Constraints Indexes RLS Policies Rules Triggers booking Columns(5) Constraints Indexes RLS Policies Rules Triggers booking_flight Columns(5) booking_flight_id booking_id flight_id created_at update_at Constraints Indexes RLS Policies Rules Triggers flights Columns(5) Constraints Indexes

Dashboard Properties SQL Statistics Dependencies Dependents Processes Query History CREATE UNIQUE INDEX idx_unique_flight_no_sched_dep ON flights(flight_no, scheduled_departure);

Data Output Messages Notifications CREATE INDEX Query returned successfully in 26 msec.

Total rows: Query complete 00:00:00.026 ✓ LF Ln 3, Col 1

The screenshot shows the pgAdmin 4 interface. The left sidebar is the Object Explorer, displaying database schemas like 'ruies', 'baggage', 'boarding_pass', 'booking', and 'booking_flight'. The 'Columns' section under 'booking_flight' is currently selected, showing columns such as 'booking_flight_id', 'booking_id', 'flight_id', 'created_at', and 'update_at'. The main pane shows a SQL editor with the following query:

```
1 CREATE INDEX idx_departure_arrival
2 ON flights(departure_airport_id, arrival_airport_id);
```

The 'Messages' tab in the bottom right shows the message: "Query returned successfully in 22 msec." The status bar at the bottom indicates "Total rows: 0 Query complete 00:00:00.022".

The screenshot shows the pgAdmin 4 interface on a Mac OS X desktop. The title bar indicates it's running on a Mac with battery power at 100% and a network connection. The date and time shown are Monday, November 10, 2019, at 10:11 AM.

The main window displays the Object Explorer on the left, showing database schemas like `flights`, `baggage`, `boarding_pass`, `booking`, and `booking_flight`. The `booking_flight` schema is currently selected, and its `Columns` (5) are listed: `booking_flight_id`, `booked_id`, `flight_id`, `created_at`, and `updated_at`.

The central pane contains a query editor with the following SQL code:

```
1 EXPLAIN ANALYZE
2 SELECT * FROM flights
3 WHERE departure_airport_id = 1 AND arrival_airport_id = 2;
4
```

The results pane shows the query plan and execution details:

QUERY PLAN

text
1 Bitmap Heap Scan on flights (cost=4.30..9.97 rows=2 width=61) (actual time=0.099..0.103 rows=2 loops=1)
2 Recheck Cond: ((departure_airport_id = 1) AND (arrival_airport_id = 2))
3 Heap Blocks: exact=2
4 -> Bitmap Index Scan on idx_departure_arrival (cost=0.00..4.29 rows=2 width=0) (actual time=0.075..0.076 rows=2 loops=1)
5 Index Cond: ((departure_airport_id = 1) AND (arrival_airport_id = 2))
6 Planning Time: 1.499 ms
7 Execution Time: 0.135 ms

Data Output shows the results of the query, which is empty as no data was found for the specified conditions.

Messages and **Notifications** panes are also visible.

At the bottom, a status bar indicates "Successfully run. Total query runtime: 34 msec. 7 rows affected." and the timestamp "Mon Nov 10 10:11 AM". The bottom right corner shows the current screen resolution as "LF Ln 4, Col 1".

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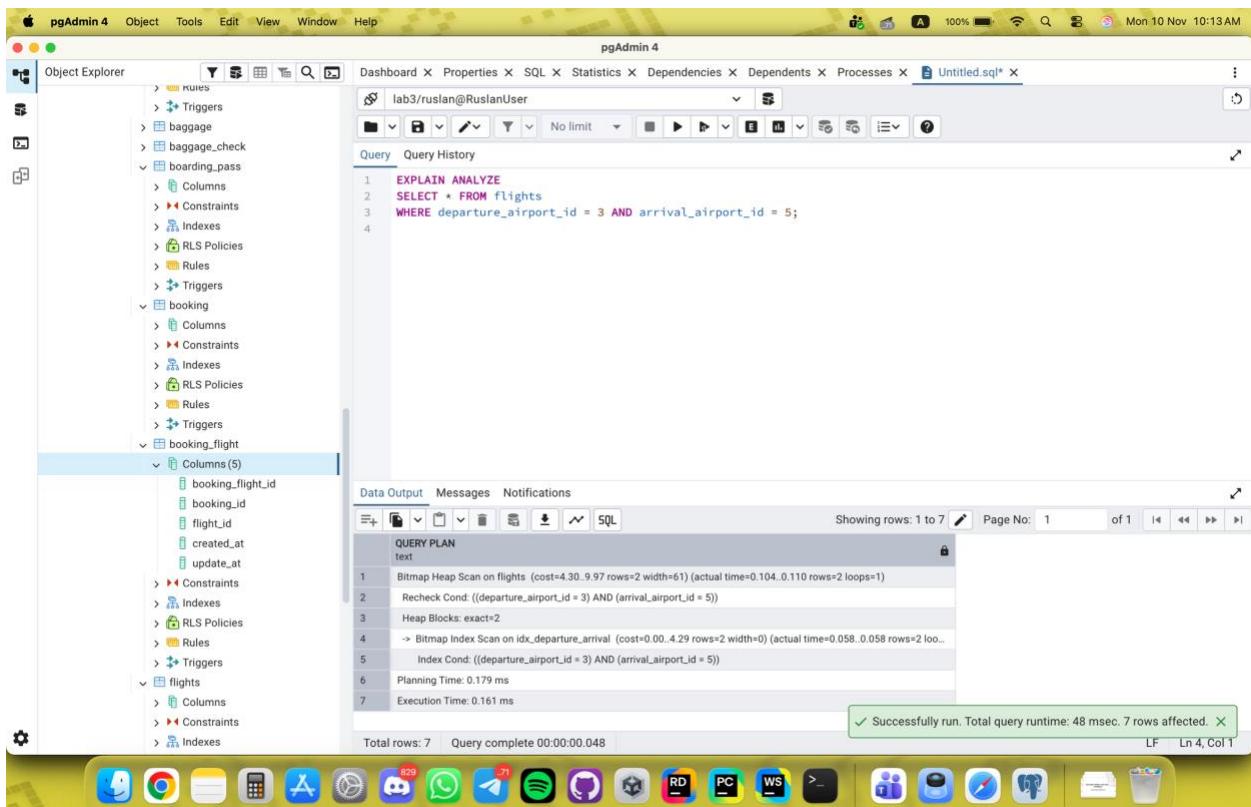
```
1 EXPLAIN ANALYZE
2 SELECT * FROM flights
3 WHERE departure_airport_id = 3 AND arrival_airport_id = 5;
4
```

Data Output Messages Notifications

QUERY PLAN

```
1 Bitmap Heap Scan on flights (cost=4.30..9.97 rows=2 width=61) (actual time=0.104..0.110 rows=2 loops=1)
2   Recheck Cond: ((departure_airport_id = 3) AND (arrival_airport_id = 5))
3   Heap Blocks: exact=2
4   -> Bitmap Index Scan on idx_departure_arrival (cost=0.00..4.29 rows=2 width=0) (actual time=0.058..0.058 rows=2 loops=1)
5     Index Cond: ((departure_airport_id = 3) AND (arrival_airport_id = 5))
6   Planning Time: 0.179 ms
7   Execution Time: 0.161 ms
```

Total rows: 7 Query complete 00:00:00.048 ✓ Successfully run. Total query runtime: 48 msec. 7 rows affected. LF Ln 4, Col 1



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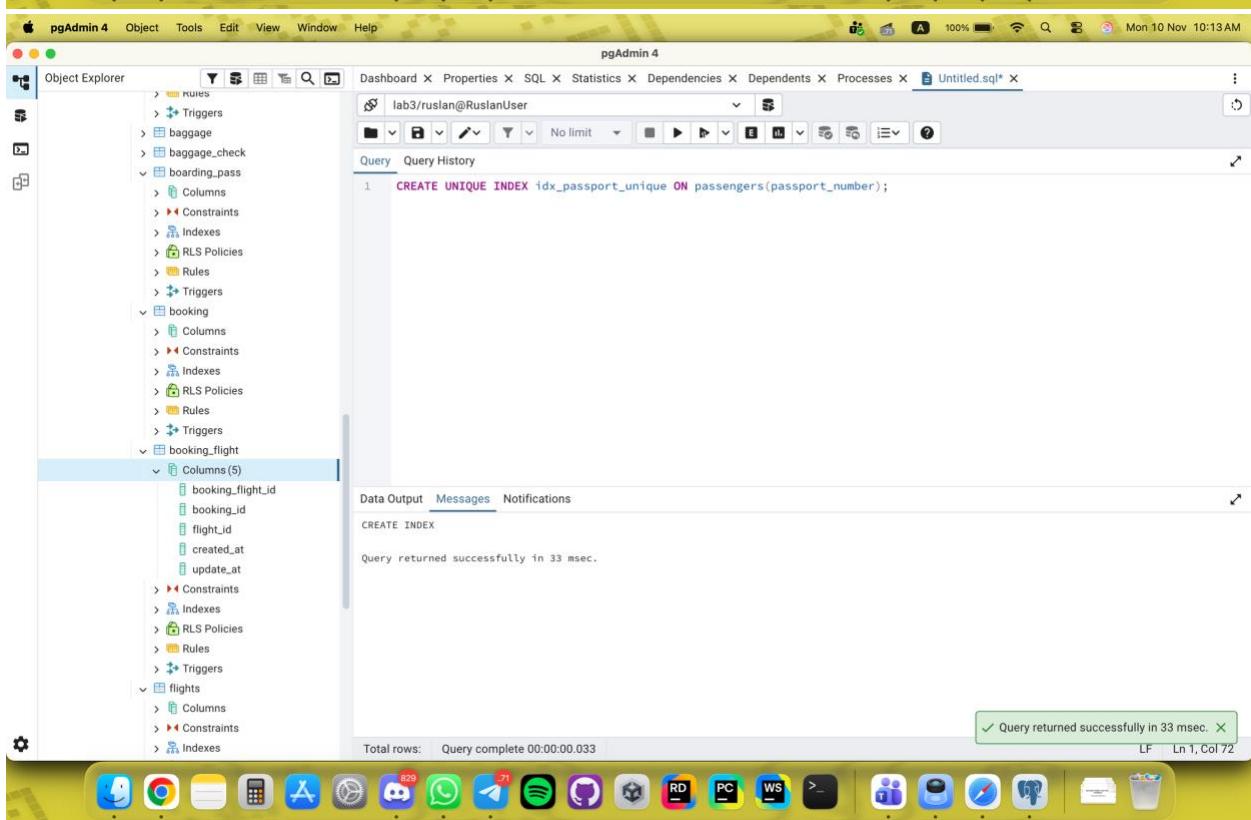
```
1 CREATE UNIQUE INDEX idx_passport_unique ON passengers(passport_number);
```

Data Output Messages Notifications

CREATE INDEX

Query returned successfully in 33 msec.

Total rows: 0 Query complete 00:00:00.033 ✓ Query returned successfully in 33 msec. LF Ln 1, Col 72



The screenshot shows the pgAdmin 4 interface on a Mac OS X desktop. The left sidebar is titled 'Object Explorer' and lists several database objects under 'boarding_pass': rules, baggage, baggage_check, Columns, Constraints, Indexes, RLS Policies, Rules, Triggers, booking, booking_columns (5), booking_id, flight_id, created_at, update_at, Constraints, Indexes, RLS Policies, Rules, Triggers, flights, Columns, Constraints, and Indexes. The main panel has tabs for 'Dashboard', 'Properties', 'SQL', 'Statistics', 'Dependencies', 'Dependents', 'Processes', and 'Untitled sql*'. The 'Untitled sql*' tab contains the following SQL code:

```
1 INSERT INTO passengers (first_name, last_name, passport_number, date_of_birth, country_of_citizenship)
2 VALUES ('jd', 'ods', 'asjf', '1990-01-01', 'Kazakhstan');
3
4 INSERT INTO passengers (first_name, last_name, passport_number, date_of_birth, country_of_citizenship)
5 VALUES ('jd', 'ods', 'asjf', '1991-02-02', 'Kazakhstan');
```

The 'Messages' tab shows an error message:

ERROR: null value in column "passenger_id" of relation "passengers" violates not-null constraint
Failing row contains (null, jd, ods, 1990-01-01, null, Kazakhstan, null, asjf, null, null).

SQL state: 23502
Detail: Failing row contains (null, jd, ods, 1990-01-01, null, Kazakhstan, null, asjf, null, null).

Total rows: Query complete 00:00:00.035

the index protects the column from repeated values, ensuring uniqueness

The screenshot shows the pgAdmin 4 interface. The left sidebar is the Object Explorer, displaying a tree structure of database objects. The current node selected is 'Columns (5)' under the 'booking_flight' table. The main pane shows a SQL editor with the following query:

```
1 CREATE INDEX idx_passenger_full
2 ON passengers(first_name, last_name, date_of_birth, country_of_citizenship);
3
```

The 'Messages' tab in the SQL editor shows the result of the query:

CREATE INDEX

Query returned successfully in 26 msec.

At the bottom, a status bar indicates 'Total rows: 0' and 'Query complete 00:00:00.026'. A green message box at the bottom right says 'Query returned successfully in 26 msec.' with a checkmark icon.

The screenshot shows the pgAdmin 4 interface on a Mac OS X desktop. The top menu bar includes 'Object', 'Tools', 'Edit', 'View', 'Window', and 'Help'. The title bar says 'pgAdmin 4' and 'Dashboard > Properties > SQL > Statistics > Dependencies > Dependents > Processes > Untitled.sql*'. The main window has a 'Object Explorer' sidebar on the left listing database objects like 'rules', 'Triggers', 'baggage', 'baggage_check', 'boarding_pass', 'booking', 'booking_flight', and 'flights'. The 'boarding_pass' node is expanded, showing 'Columns', 'Constraints', 'Indexes', 'RLS Policies', 'Rules', and 'Triggers'. The 'Columns' node under 'boarding_pass' is also expanded, showing columns: 'booking_flight_id', 'booking_id', 'flight_id', 'created_at', and 'update_at'. The central pane contains a query editor with the following SQL code:

```
1 EXPLAIN ANALYZE
2 SELECT * FROM passengers
3 WHERE country_of_citizenship = 'Philippines'
4 AND date_of_birth BETWEEN '1984-01-01' AND '1984-12-31';
5
```

The bottom pane shows the 'QUERY PLAN' tab with the following output:

	text
1	Seq Scan on passengers (cost=0.00..6.52 rows=1 width=64) (actual time=0.017..0.062 rows=1 loops=1)
2	Filter: ((date_of_birth >= '1984-01-01':date) AND (date_of_birth <= '1984-12-31':date) AND ((country_of_citizenship).text = 'Philippines'))
3	Rows Removed by Filter: 200
4	Planning Time: 0.143 ms
5	Execution Time: 0.078 ms

The status bar at the bottom indicates 'Total rows: 5' and 'Query complete 00:00:00.032'. A green message box in the bottom right corner says 'Successfully run. Total query runtime: 32 msec. 5 rows affected.' The bottom dock shows various application icons.

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Object Explorer

- rules
- Triggers
- baggage
- baggage_check
- boarding_pass
 - Columns
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- booking
 - Columns
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- booking_flight
 - Columns (5)
 - booking_flight_id
 - booking_id
 - flight_id
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- flights
 - Columns
 - Constraints
 - Indexes

Query Query History

```
1 SELECT indexname, indexdef
2 FROM pg_indexes
3 WHERE tablename = 'passengers';
```

Data Output Messages Notifications

indexname	indexdef
passenger_pkey	CREATE UNIQUE INDEX passengers_pkey ON public.passengers USING btree (passenger_id)
idx_passport_unique	CREATE UNIQUE INDEX idx_passport_unique ON public.passengers USING btree (passport_number)
idx_passenger_full	CREATE INDEX idx_passenger_full ON public.passengers USING btree (first_name, last_name, date_of_birth, country_of_citiz...

Showing rows: 1 to 3 Page No: 1 of 1 < << > >> >>>

Total rows: 3 Query complete 00:00:00.030 ✓ Successfully run. Total query runtime: 30 msec. 3 rows affected. LF Ln 3, Col 32

This screenshot shows the pgAdmin 4 interface. The left pane is the Object Explorer, displaying database objects like rules, triggers, baggage, baggage_check, boarding_pass, booking, booking_flight, flights, and columns. The boarding_pass node is expanded, showing its columns (booking_flight_id, booking_id, flight_id, created_at, update_at), constraints, indexes, RLS policies, rules, and triggers. The booking_flight node is also expanded, showing its columns (booking_flight_id, booking_id, flight_id, created_at, update_at), constraints, indexes, RLS policies, rules, and triggers. The flights node is collapsed. The right pane contains a query editor with the SQL command to select indexes from pg_indexes where tablename is 'passengers'. Below it is a data output window showing three rows of index information: passenger_pkey (CREATE UNIQUE INDEX passengers_pkey ON public.passengers USING btree (passenger_id)), idx_passport_unique (CREATE UNIQUE INDEX idx_passport_unique ON public.passengers USING btree (passport_number)), and idx_passenger_full (CREATE INDEX idx_passenger_full ON public.passengers USING btree (first_name, last_name, date_of_birth, country_of_citiz...)). A message at the bottom indicates the query was successfully run with a total runtime of 30 msec and 3 rows affected.

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Object Explorer

- rules
- Triggers
- baggage
- baggage_check
- boarding_pass
 - Columns
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- booking
 - Columns
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- booking_flight
 - Columns (5)
 - booking_flight_id
 - booking_id
 - flight_id
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- flights
 - Columns
 - Constraints
 - Indexes

Query Query History

```
1 DROP INDEX idx_passport_unique;
2 DROP INDEX idx_passenger_full;
```

Data Output Messages Notifications

DROP INDEX

Query returned successfully in 20 msec.

Total rows: 0 Query complete 00:00:00.020 LF Ln 2, Col 31

This screenshot shows the pgAdmin 4 interface. The left pane is the Object Explorer, identical to the previous screenshot. The right pane contains a query editor with the SQL commands to drop two indexes: idx_passport_unique and idx_passenger_full. Below it is a data output window showing the message "DROP INDEX". A message at the bottom indicates the query was successfully run with a total runtime of 20 msec and 0 rows affected.