

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

Procedures

Sequences

Tables (10)

- airline
- airport
- baggage
- baggage_check
- boarding_pass
- booking
- booking_flight
- flights

Columns (14)

- flight_id
- flight_no
- scheduled_departure
- scheduled_arrival
- departure_airport_id
- arrival_airport_id
- departing_gate
- arriving_gate
- airline_id
- status
- actual_departure
- actual_arrival
- created_at
- update_at

Constraints

Indexes

RLS Policies

Rules

Triggers

passengers

security_check

airport_database/postgres@labwork*

airport_database/postgres@labwork

No limit

Query

Query History

Scratch Pad

```
1 create index idx_actual_departure on flights(actual_departure)
```

Data Output

Messages

Notifications

CREATE INDEX

Query returned successfully in 67 msec.

Query returned successfully in 67 msec.

Total rows: Query complete 00:00:00.067

Ln 1, Col 62

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
- Columns (14)
 - flight_id
 - flight_no
 - scheduled_departure
 - scheduled_arrival
 - departure_airport_id
 - arrival_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - status
 - actual_departure
 - actual_arrival
 - created_at
 - update_at
- Constraints
- Indexes
- RLS Policies
- Rules
- Triggers
- passengers
- security_check

airport_database/postgres@labwork*

airport_database/postgres@labwork

No limit

Query Query History

```
1 create unique index idx_unique_flight_no_departure
2 on flights(flight_no, scheduled_departure);
3
```

Scratch Pad

Data Output Messages Notifications

ERROR: создать уникальный индекс "idx_unique_flight_no_departure" не удалось
Ключ (flight_no, scheduled_departure)=(US-AK, 2023-06-05) дублируется.

ОШИБКА: создать уникальный индекс "idx_unique_flight_no_departure" не удалось
SQL state: 23505
Detail: Ключ (flight_no, scheduled_departure)=(US-AK, 2023-06-05) дублируется.

Total rows: Query complete 00:00:00.064

LF Ln 2, Col 3

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
- Columns (14)
 - flight_id
 - flight_no
 - scheduled_departure
 - scheduled_arrival
 - departure_airport_id
 - arrival_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - status
 - actual_departure
 - actual_arrival
 - created_at
 - update_at
- Constraints
- Indexes
- RLS Policies
- Rules
- Triggers
- passengers
- security_check

airport_database/postgres@labwork* x

airport_database/postgres@labwork

No limit

Query Query History

```
1 create index departure_and_arrival_airport_id on flights(departure_airport_id, arrival_airport_id)
```

Data Output Messages Notifications

CREATE INDEX

Query returned successfully in 82 msec.

Total rows: Query complete 00:00:00.082

✓ Query returned successfully in 82 msec. ✕

LF Ln 1, Col 99



pgAdmin 4



File Object Tools Edit View Window Help

Object Explorer



- > Procedures
- > Sequences
- > Tables (10)
 - > airline
 - > airport
 - Columns (7)
 - airport_id
 - airport_name
 - country
 - state
 - city
 - created_at
 - update_at
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - Columns (14)
 - flight_id
 - flight_no
 - scheduled_departure
 - scheduled_arrival
 - departure_airport_id
 - arrival_airport_id
 - departing_gate
 - arriving_gate

airport_database/postgres@labwork* x

airport_database/postgres@labwork



Query Query History

```
1 explain analyze
2 select * from airport where country = 'Russia'
```

Scratch Pad x

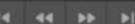
Data Output Messages Notifications



Showing rows: 1 to 5

Page No: 1

of 1



| | QUERY PLAN |
|---|--|
| | text |
| 1 | Seq Scan on airport (cost=0.00..1.25 rows=1 width=484) (actual time=0.017..0.023 rows=1 loop_... |
| 2 | Filter: ((country)::text = 'Russia'::text) |
| 3 | Rows Removed by Filter: 19 |
| 4 | Planning Time: 0.089 ms |
| 5 | Execution Time: 0.041 ms |

Total rows: 5 Query complete 00:00:00.109

✓ Successfully run. Total query runtime: 109 msec. 5 rows affected. ✗

LF Ln 2, Col 46

pgAdmin 4

✕

File

Object

Tools

Edit

View

Window

Help

Object Explorer

🔍

📄

📊

🔍

📄

- > Procedures
- > 1.3 Sequences
- > Tables (10)
- > airline
- > airport
- > Columns (7)
- airport_id
- airport_name
- country
- state
- city
- created_at
- update_at
- > Constraints
- > Indexes
- > RLS Policies
- > Rules
- > Triggers
- > baggage
- > baggage_check
- > boarding_pass
- > booking
- > booking_flight
- > flights
- > Columns (14)
- flight_id
- flight_no
- scheduled_departure
- scheduled_arrival
- departure_airport_id
- arrival_airport_id
- departing_gate
- arriving_gate

airport_database/postgres@labwork* ✕

airport_database/postgres@labwork

📄

📁

📄

🔍

🔍

No limit

📄

▶

▶

▶

🔍

📄

🔍

🔍

🔍

🔍

🔍

🔍

🔍

Query

Query History

↗

```
1 create index idx_airport_country on airport(country)
```

Scratch Pad ✕

↗

Data Output

Messages

Notifications

↗

```
CREATE INDEX

Query returned successfully in 98 msec.
```

Total rows:

Query complete 00:00:00.098

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - Columns (7)
 - airport_id
 - airport_name
 - country
 - state
 - city
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - Columns (14)
 - flight_id
 - flight_no
 - scheduled_departure
 - scheduled_arrival
 - departure_airport_id
 - arrival_airport_id
 - departing_gate
 - arriving_gate

airport_database/postgres@labwork*

airport_database/postgres@labwork

No limit

Query Query History

```
1 explain analyze
2 select * from airport where country = 'Russia'
```

Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 5 Page No: 1 of 1

QUERY PLAN

text

| | |
|---|---|
| 1 | Seq Scan on airport (cost=0.00..1.25 rows=1 width=484) (actual time=0.012..0.015 rows=1 loop... |
| 2 | Filter: ((country)::text = 'Russia')::text |
| 3 | Rows Removed by Filter: 19 |
| 4 | Planning Time: 0.258 ms |
| 5 | Execution Time: 0.030 ms |

Total rows: 5 Query complete 00:00:00.103

Successfully run. Total query runtime: 103 msec. 5 rows affected.

LF Ln 2, Col 40

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - Columns (5)
 - baggage_id
 - weight_in_kg
 - created_date
 - update_date
 - booking_id
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
 - security_check
- Trigger Functions
- Types

airport_database/postgres@labwork* x

airport_database/postgres@labwork

No limit

Query Query History

```
1 explain analyze
2 select * from baggage where weight_in_kg > 2.00
```

Scratch Pad x

Data Output Messages Notifications

Showing rows: 1 to 5 Page No: 1 of 1

QUERY PLAN

text

| | |
|---|---|
| 1 | Seq Scan on baggage (cost=0.00..11.25 rows=483 width=21) (actual time=0.012..0.172 rows=483 loop... |
| 2 | Filter: (weight_in_kg > 2.00) |
| 3 | Rows Removed by Filter: 17 |
| 4 | Planning Time: 0.176 ms |
| 5 | Execution Time: 0.228 ms |

Total rows: 5 Query complete 00:00:00.122

Successfully run. Total query runtime: 122 msec. 5 rows affected.

LF Ln 2, Col 48

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - Columns (5)
 - baggage_id
 - weight_in_kg
 - created_date
 - update_date
 - booking_id
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
 - security_check
 - Trigger Functions
 - Types

airport_database/postgres@labwork*

airport_database/postgres@labwork

No limit

Query Query History

```
1
2 create index idx_baggage_weight on baggage(weight_in_kg)
```

Data Output Messages Notifications

CREATE INDEX

Query returned successfully in 110 msec.

Total rows: Query complete 00:00:00.110

✓ Query returned successfully in 110 msec. ✕

LF Ln 1, Col 1

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - Columns (5)
 - baggage_id
 - weight_in_kg
 - created_date
 - update_date
 - booking_id
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
 - security_check
- Trigger Functions
- Types

airport_database/postgres@labwork* x

airport_database/postgres@labwork

No limit

Query Query History

```
1 explain analyze
2 select * from baggage where weight_in_kg > 2
```

Scratch Pad x

Data Output Messages Notifications

Showing rows: 1 to 5 Page No: 1 of 1

QUERY PLAN

text

| | |
|---|---|
| 1 | Seq Scan on baggage (cost=0.00..11.25 rows=483 width=21) (actual time=0.007..0.080 rows=483 loop... |
| 2 | Filter: (weight_in_kg > '2'::numeric) |
| 3 | Rows Removed by Filter: 17 |
| 4 | Planning Time: 0.209 ms |
| 5 | Execution Time: 0.108 ms |

Total rows: 5 Query complete 00:00:00.069

Successfully run. Total query runtime: 69 msec. 5 rows affected.

LF Ln 2, Col 35

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - > passengers
- > Columns (10)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
 - created_at
 - update_at
- > Constraints
- > Indexes
- > RLS Policies

airport_database/postgres@labwork* x

airport_database/postgres@labwork

No limit

Query Query History

```
1 --create index idx_unique_passport_number on passengers(passport_number);
2
3
4 select indexname, indexdef from pg_indexes where tablename = 'passengers'
```

Scratch Pad x

Data Output Messages Notifications

Showing rows: 1 to 2 Page No: 1 of 1

| | indexname | indexdef |
|---|----------------------------|---|
| | name | text |
| 1 | passengers_pkey | CREATE UNIQUE INDEX passengers_pkey ON public.passengers USING btree (passenger_id) |
| 2 | idx_unique_passport_num... | CREATE INDEX idx_unique_passport_number ON public.passengers USING btree (passport_num... |

Total rows: 2 Query complete 00:00:00.076

LF Ln 4, Col 28

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers

Columns (10)

- passenger_id
- first_name
- last_name
- date_of_birth
- gender
- country_of_citizenship
- country_of_residence
- passport_number
- created_at
- update_at

- > Constraints
- > Indexes
- > RLS Policies

airport_database/postgres@labwork* X

airport_database/postgres@labwork

No limit

Query Query History

```
1 --create index idx_unique_passport_number on passengers(passport_number);
2
3
4 --select indexname, indexdef from pg_indexes where tablename = 'passengers'
5
6 insert into passengers(passenger_id,first_name, last_name, passport_number) values ('543', 'egor', 'dyomin', '12
7 34');
8 insert into passengers(passenger_id,first_name, last_name, passport_number) values ('321', 'jalen', 'brown', '12
9 34');
10
```

Scratch Pad X

Data Output Messages Notifications

ERROR: повторяющееся значение ключа нарушает ограничение уникальности "passengers_pkey"
Ключ "(passenger_id)=(543)" уже существует.

ОШИБКА: повторяющееся значение ключа нарушает ограничение уникальности "passengers_pkey"
SQL state: 23505
Detail: Ключ "(passenger_id)=(543)" уже существует.

Total rows: Query complete 00:00:00.067

LF Ln 10, Col 1

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - > passengers

Columns (10)

- passenger_id
- first_name
- last_name
- date_of_birth
- gender
- country_of_citizenship
- country_of_residence
- passport_number
- created_at
- update_at

- > Constraints
- > Indexes
- > RLS Policies

airport_database/postgres@labwork* X

airport_database/postgres@labwork

No limit

Query Query History

```
1 create index idx_passenger_info
2 on passengers (first_name, last_name, date_of_birth, country_of_citizenship);
3
4
5 explain analyze
6 select * from passengers
7 where country_of_citizenship = 'Philippines'
8 and extract (year from date_of_birth) = 1984;
```

Scratch Pad X

Data Output Messages Notifications

Showing rows: 1 to 5 Page No: 1 of 1

QUERY PLAN

text

- Seq Scan on passengers (cost=0.00..6.59 rows=1 width=64) (actual time=0.017..0.047 rows=1 loops=1)
- Filter: (((country_of_citizenship)::text = 'Philippines'::text) AND (EXTRACT(year FROM date_of_birth) = '1984'::num...))
- Rows Removed by Filter: 204
- Planning Time: 0.395 ms
- Execution Time: 0.059 ms

Total rows: 5 Query complete 00:00:00.097

✓ Successfully run. Total query runtime: 97 msec. 5 rows affected. ✕

LF Ln 8, Col 46

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - > passengers
- > Columns (10)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
 - created_at
 - update_at
- > Constraints
- > Indexes
- > RLS Policies

airport_database/postgres@labwork*

airport_database/postgres@labwork

No limit

Query Query History

```
1 create index idx_passenger_info
2 on passengers (first_name, last_name, date_of_birth, country_of_citizenship);
3
4
5 explain analyze
6 select * from passengers
7 where country_of_citizenship = 'Philippines'
8 and extract (year from date_of_birth) = 1984;
9
10 create index idx_passenger_country_dob
11 ON passengers (country_of_citizenship, date_of_birth);
12
```

Data Output Messages Notifications

CREATE INDEX

Query returned successfully in 120 msec.

Total rows: Query complete 00:00:00.120

✓ Query returned successfully in 120 msec. ✕

LF Ln 10, Col 4

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - > passengers

Columns (10)

- passenger_id
- first_name
- last_name
- date_of_birth
- gender
- country_of_citizenship
- country_of_residence
- passport_number
- created_at
- update_at

- > Constraints
- > Indexes
- > RLS Policies

airport_database/postgres@labwork* X

airport_database/postgres@labwork

No limit

Query Query History

```
1 create index idx_passenger_info
2 on passengers (first_name, last_name, date_of_birth, country_of_citizenship);
3
4
5 explain analyze
6 select * from passengers
7 where country_of_citizenship = 'Philippines'
8 and extract (year from date_of_birth) = 1984;
9
10 create index idx_passenger_country_dob
11 ON passengers (country_of_citizenship, date_of_birth);
12
13 explain analyze
14 select * from passengers
15 where country_of_citizenship = 'Philippines'
16 and date_of_birth between '1984-01-01' and '1984-12-31';
```

Data Output Messages Notifications

Showing rows: 1 to 5 Page No: 1 of 1

QUERY PLAN

text

- Seq Scan on passengers (cost=0.00..6.59 rows=1 width=64) (actual time=0.016..0.062 rows=1 loops=1)
- Filter: ((date_of_birth >= '1984-01-01'::date) AND (date_of_birth <= '1984-12-31'::date) AND ((country_of_citizenship)::text = 'Philippines'...
- Rows Removed by Filter: 204
- Planning Time: 0.374 ms
- Execution Time: 0.081 ms

Total rows: 5 Query complete 00:00:00.080

✓ Successfully run. Total query runtime: 80 msec. 5 rows affected. ✗

LF Ln 16, Col 43

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
- Columns (10)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
 - created_at
 - update_at
- Constraints
- Indexes
- RLS Policies

airport_database/postgres@labwork*

airport_database/postgres@labwork

No limit

Query Query History

```
1 select indexname, indexdef
2 from pg_indexes
3 where tablename = 'passengers';
4
```

Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 4 Page No: 1 of 1

| | indexname name | indexdef text |
|---|----------------------------|---|
| 1 | passengers_pkey | CREATE UNIQUE INDEX passengers_pkey ON public.passengers USING btree (passenger_id) |
| 2 | idx_unique_passport_num... | CREATE INDEX idx_unique_passport_number ON public.passengers USING btree (passport_number) |
| 3 | idx_passenger_info | CREATE INDEX idx_passenger_info ON public.passengers USING btree (first_name, last_name, date_of_birth, country_of_citizen... |
| 4 | idx_passenger_country_dob | CREATE INDEX idx_passenger_country_dob ON public.passengers USING btree (country_of_citizenship, date_of_birth) |

Total rows: 4 Query complete 00:00:00.140

✓ Successfully run. Total query runtime: 140 msec. 4 rows affected. ✕

LF Ln 3, Col 7