

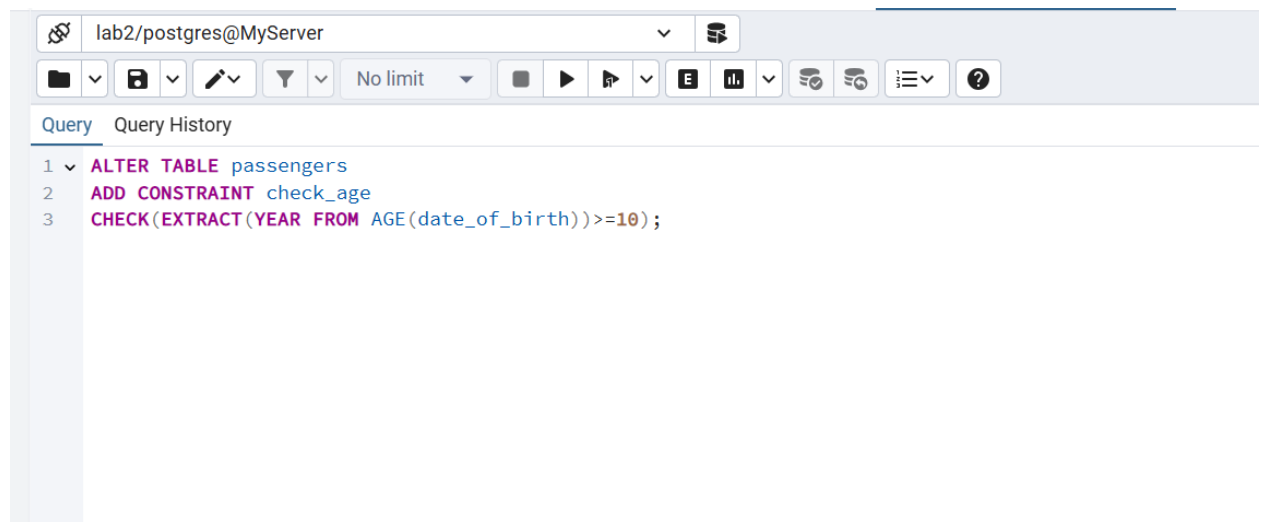
Abdykamat Adilet lab5 . DATABASES

1. Add a CHECK constraint to passenger table to provide that passengers must be at least 10 years old.

ALTER TABLE passenger

ADD CONSTRAINT check_age

CHECK (EXTRACT(YEAR FROM AGE(date_of_birth)) >= 10);



2. Add a CHECK constraint to accept values in booking price not more than 50000tg and less than 0tg.

ALTER TABLE booking

ADD CONSTRAINT checking_booking_price

CHECK(ticket_price >= 0 and ticket_price <=50000);

The screenshot shows a database query editor with two tabs: "Query" and "Query History". The "Query" tab is active, displaying a SQL query with three lines:

```
1 ALTER TABLE booking
2 ADD CONSTRAINT checking_booking_price
3 CHECK(ticket_price >= 0 and ticket_price <=50000);
```

Below the query editor, there are three tabs: "Data Output", "Messages", and "Notifications". The "Messages" tab is active, showing the text:

```
ALTER TABLE
Query returned successfully in 100 msec.
```

At the bottom right, a green status bar indicates: "✓ Query returned successfully in 100 msec. ✕".

3. Add a CHECK constraint to accept the luggage weight between 1 and 23 kg.

ALTER TABLE baggage

ADD CONSTRAINT check_weight

CHECK (weight_in_kg BETWEEN 1 AND 23);

The screenshot shows a database query editor with two tabs: "Query" and "Query History". The "Query" tab is active, displaying a SQL query with four lines:

```
1 ALTER TABLE baggage
2 ADD CONSTRAINT check_weight
3 CHECK (weight_in_kg BETWEEN 1 AND 23);
4
```

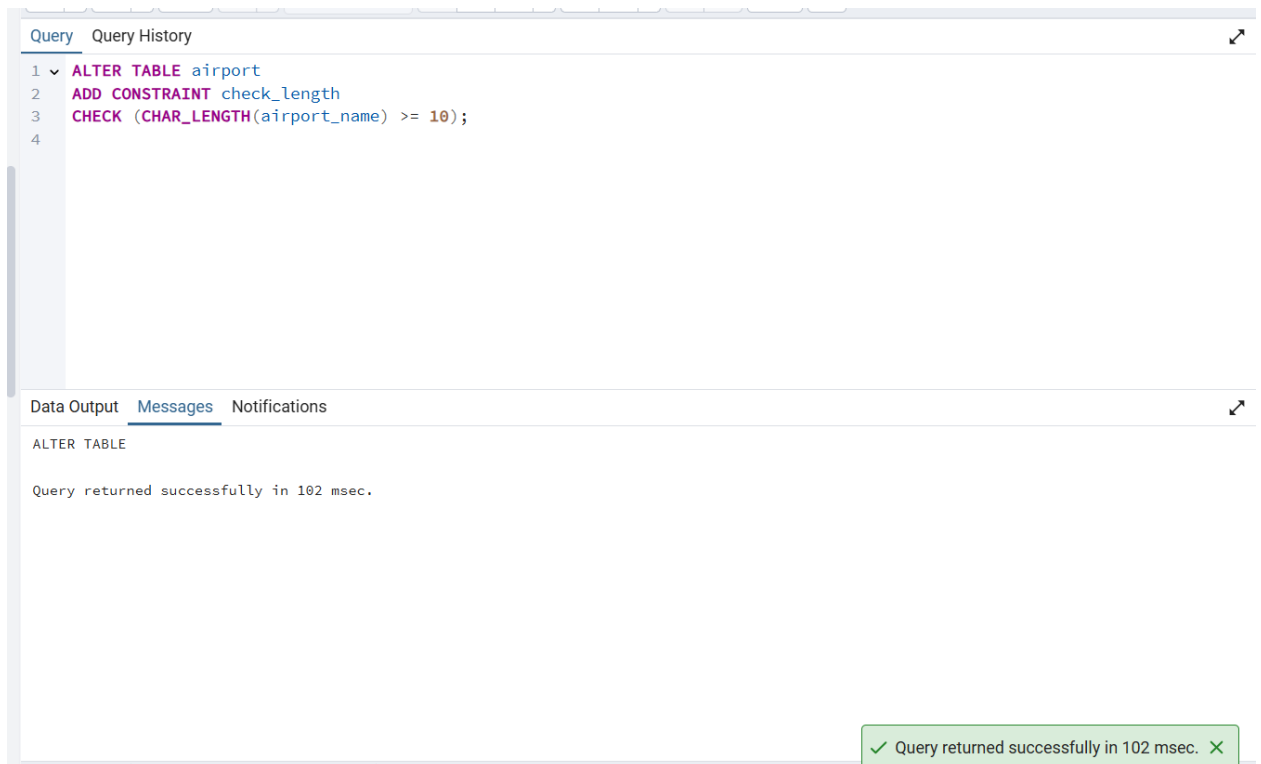
Below the query editor, there are three tabs: "Data Output", "Messages", and "Notifications". The "Messages" tab is active, showing the text:

```
ALTER TABLE
Query returned successfully in 93 msec.
```

At the bottom right, a green status bar indicates: "✓ Query returned successfully in 93 msec. ✕".

4. Add a CHECK constraint to ensure that all values in airport_name must have at least 10 characters.

```
ALTER TABLE airport  
ADD CONSTRAINT check_length  
CHECK (CHAR_LENGTH(airport_name) >= 10);
```



5. Add UNIQUE constraint to some columns in each table in database.

```
ALTER TABLE passengers  
ADD CONSTRAINT unique_passport  
UNIQUE (passport_number);  
  
ALTER TABLE airport  
ADD CONSTRAINT unique_airport_id  
UNIQUE (airport_id);
```

The screenshot shows a SQL query execution window with two tabs: "Query" and "Query History". The "Query" tab is active, displaying two SQL queries. The first query is for the "passengers" table, adding a unique constraint on the "passport_number" column. The second query is for the "airport" table, adding a unique constraint on the "airport_id" column. The "Messages" tab is also visible, showing the execution status of the first query: "ALTER TABLE" and "Query returned successfully in 138 msec.". A green status bar at the bottom right indicates "Query returned successfully in 138 msec.". The bottom status bar shows "Total rows: Query complete 00:00:00.138" and "CRLF Ln 1, Col 23".

```
1 ALTER TABLE passengers
2 ADD CONSTRAINT unique_passport
3 UNIQUE (passport_number);
4
5 ALTER TABLE airport
6 ADD CONSTRAINT unique_airport_id
7 UNIQUE (airport_id);
```

ALTER TABLE

Query returned successfully in 138 msec.

✓ Query returned successfully in 138 msec. ✕

Total rows: Query complete 00:00:00.138 CRLF Ln 1, Col 23

6. Add a CHECK constraint to ensure that male passengers must be at least 18 years old and female passengers must be 19 years old.

```
ALTER TABLE passengers
```

```
ADD CONSTRAINT check_gender_age
```

```
CHECK (
```

```
(gender = 'M' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 18)
```

```
OR
```

```
(gender = 'F' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 19)
```

```
);
```

```
1 ALTER TABLE passengers
2 ADD CONSTRAINT check_gender_age
3 CHECK (
4     (gender = 'M' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 18)
5     OR
6     (gender = 'F' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 19)
7 );
8
```

ALTER TABLE

Query returned successfully in 108 msec.

✓ Query returned successfully in 108 msec. ✕

Total rows: Query complete 00:00:00.108 CRLF Ln 6. Col 58

7. Add a CHECK constraint to add rule as follow (use column country_of_citizenship):

- Passengers from Kazakhstan must be at least 18 years old.
- Passengers from France must be at least 17 years old.
- Passengers from other countries must be at least 19 years old.

```
ALTER TABLE passengers
```

```
ADD CONSTRAINT check_age_by_country
```

```
CHECK (
```

```
    (country_of_citizenship = 'Kazakhstan' AND EXTRACT(YEAR FROM AGE(date_of_birth))  
>= 18)
```

```
    OR
```

```
    (country_of_citizenship = 'France' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >=  
17)
```

```
    OR
```

```
    (country_of_citizenship NOT IN ('Kazakhstan', 'France') AND EXTRACT(YEAR FROM  
AGE(date_of_birth)) >= 19));
```

The screenshot shows a SQL IDE interface with a 'Query History' tab. The query being executed is:

```
1 ALTER TABLE passengers
2 ADD CONSTRAINT check_age_by_country
3 CHECK (
4     (country_of_citizenship = 'Kazakhstan' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 18)
5     OR
6     (country_of_citizenship = 'France' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 17)
7     OR
8     (country_of_citizenship NOT IN ('Kazakhstan', 'France') AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 19)
9 );
10
```

Below the query, the 'Messages' tab is active, showing the message: 'Query returned successfully in 112 msec.' A green status bar at the bottom right confirms: '✓ Query returned successfully in 112 msec. ✕'. The bottom status bar indicates 'Total rows: Query complete 00:00:00.112', 'CRLF', and 'Ln 8, Col 100'.

8. Add a ticket_discount column to table booking and a CHECK constraint to apply some discount based on ticket price and created time:

- **the constraint applies a 5% discount for tickets created after 2024-01-01, and 10% discount for tickets created before 2024-01-01.**

ALTER TABLE booking

ADD COLUMN ticket_discount numeric;

ALTER TABLE booking

ADD CONSTRAINT check_ticket_discount

CHECK (

(created_at >= '2024-01-01' AND ticket_discount = ticket_price * 0.05)

OR

(created_at < '2024-01-01' AND ticket_discount = ticket_price * 0.10)

);

Query

Query History

1

ALTER TABLE booking

2

ADD COLUMN ticket_discount numeric;

3

4

ALTER TABLE booking

5

ADD CONSTRAINT check_ticket_discount

6

CHECK (

7

(created_at >= '2024-01-01' AND ticket_discount = ticket_price * 0.05)

8

OR

9

(created_at < '2024-01-01' AND ticket_discount = ticket_price * 0.10)

10

);

11

Data Output

Messages

Notifications

ALTER TABLE

Query returned successfully in 172 msec.

✓ Query returned successfully in 172 msec. ✕

Total rows: Query complete 00:00:00.172 CRLF Ln 9, Col 66