

-- lab5

--1)

ALTER TABLE Passengers

ADD CONSTRAINT chk_passenger_age_min_10

CHECK (DATE_PART('year', AGE(date_of_birth)) >= 10);

--2)

ALTER TABLE Booking

ADD CONSTRAINT chk_ticket_price_range

CHECK (ticket_price BETWEEN 0 AND 50000);

--3)

ALTER TABLE Baggage

ADD CONSTRAINT chk_baggage_weight

CHECK (weight_in_kg BETWEEN 1 AND 23);

--4)

ALTER TABLE Airport

ADD CONSTRAINT chk_airport_name_length

CHECK (CHAR_LENGTH(airport_name) >= 10);

--5)

ALTER TABLE Airline

ADD CONSTRAINT uq_airline_code UNIQUE (airline_code);

ALTER TABLE Passengers

ADD CONSTRAINT uq_passport_number UNIQUE (passport_number);

```
ALTER TABLE Airport
```

```
ADD CONSTRAINT uq_airport_name UNIQUE (airport_name);
```

```
ALTER TABLE Booking
```

```
ADD CONSTRAINT uq_booking UNIQUE (flight_id, passenger_id);
```

```
--6)
```

```
ALTER TABLE Passengers
```

```
ADD CONSTRAINT chk_gender_age
```

```
CHECK (
```

```
    (gender = 'Male' AND DATE_PART('year', AGE(date_of_birth)) >= 18)
```

```
    OR (gender = 'Female' AND DATE_PART('year', AGE(date_of_birth)) >= 19)
```

```
);
```

```
--7)
```

```
ALTER TABLE Passengers
```

```
ADD CONSTRAINT chk_country_age
```

```
CHECK (
```

```
    (country_of_citizenship = 'Kazakhstan' AND DATE_PART('year', AGE(date_of_birth)) >= 18)
```

```
    OR (country_of_citizenship = 'France' AND DATE_PART('year', AGE(date_of_birth)) >= 17)
```

```
    OR (country_of_citizenship NOT IN ('Kazakhstan', 'France') AND DATE_PART('year', AGE(date_of_birth)) >= 19)
```

```
);
```

--8)

ALTER TABLE Booking

ADD COLUMN ticket_discount DECIMAL(5,2);

ALTER TABLE Booking

ADD CONSTRAINT chk_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)

);

1)

The screenshot shows a PostgreSQL IDE interface. The top toolbar includes icons for Object Explorer, Servers, local, and various query execution tools. The main window is titled 'airport_dbb/postgres@local' and contains a query editor with the following SQL code:

```
379 -- lab5
380 --1)
381 ALTER TABLE Passengers
382 ADD CONSTRAINT chk_passenger_age_min_10
383 CHECK (DATE_PART('year', AGE(date_of_birth)) >= 10);
```

The bottom panel shows the 'Data Output' tab with the message: 'ALTER TABLE Query returned successfully in 240 msec.'

Total rows: Query complete 00:00:00.240 LF Ln 394, Col 1

2)

Object Explorer | board | Properties | SQL | Statistics | Dependencies | Dependents | Processes | airport_dbb/postgres@local* | public.passengers...

Foreign Data Wrappers
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Tables (10)
airline
airport
baggage
baggage_check
boarding_pass
booking
booking_flight
flights
passengers
security_check
Trigger Functions
Types
Views
Subscriptions
postgres
Login/Group Roles
Tablespaces
local

Query | Query History | Scratch Pad

```
--10)
SELECT flight_id, sch_arrival_time, act_arrival_time FROM Flights
WHERE act_arrival_time > sch_arrival_time;

-- lab5
--1)
ALTER TABLE Passengers
ADD CONSTRAINT chk_passenger_age_min_10
CHECK (DATE_PART('year', AGE(date_of_birth)) >= 10);

--2)
ALTER TABLE Booking
ADD CONSTRAINT chk_ticket_price_range
CHECK (ticket_price BETWEEN 0 AND 50000);
```

Data Output | Messages | Notifications

ALTER TABLE

Query returned successfully in 97 msec.

Total rows: Query complete 00:00:00.097 LF Ln 399, Col 1

Query returned successfully in 97 msec.

3)

Object Explorer | board | Properties | SQL | Statistics | Dependencies | Dependents | Processes | airport_dbb/postgres@local* | public.passengers...

Foreign Data Wrappers
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Query | Query History | Scratch Pad

```
--1)
ALTER TABLE Passengers
ADD CONSTRAINT chk_passenger_age_min_10
CHECK (DATE_PART('year', AGE(date_of_birth)) >= 10);

--2)
ALTER TABLE Booking
ADD CONSTRAINT chk_ticket_price_range
CHECK (ticket_price BETWEEN 0 AND 50000);

--3)
ALTER TABLE Baggage
ADD CONSTRAINT chk_baggage_weight
CHECK (weight_in_kg BETWEEN 1 AND 23);
```

Data Output | Messages | Notifications

ERROR: check constraint "chk_baggage_weight" of relation "baggage" is violated by some row

SQL state: 23514

Total rows: Query complete 00:00:00.068 LF Ln 404, Col 1

4)

Object Explorer | board | Properties | SQL | Statistics | Dependencies | Dependents | Processes | airport_dbb/postgres@local | public.passengers...

Query History

```

394 ALTER TABLE Passengers
395 ADD CONSTRAINT chk_passenger_age_min_10
396 CHECK (DATE_PART('year', AGE(date_of_birth)) >= 10);
397
398 --2)
399 ALTER TABLE Booking
400 ADD CONSTRAINT chk_ticket_price_range
401 CHECK (ticket_price BETWEEN 0 AND 50000);
402
403 --3)
404 ALTER TABLE Baggage
405 ADD CONSTRAINT chk_baggage_weight
406 CHECK (weight_in_kg BETWEEN 1 AND 23);
407
408 --4)
409 ALTER TABLE Airport
410 ADD CONSTRAINT chk_airport_name_length
411 CHECK (CHAR_LENGTH(airport_name) >= 10);

```

Data Output | Messages | Notifications

ERROR: check constraint "chk_airport_name_length" of relation "airport" is violated by some row

SQL state: 23514

Total rows: Query complete 00:00:00.068 LF Ln 408, Col 1

5)

Object Explorer | board | Properties | SQL | Statistics | Dependencies | Dependents | Processes | airport_dbb/postgres@local | public.passengers...

Query History

```

406 CHECK (weight_in_kg BETWEEN 1 AND 23);
407
408 --4)
409 ALTER TABLE Airport
410 ADD CONSTRAINT chk_airport_name_length
411 CHECK (CHAR_LENGTH(airport_name) >= 10);
412
413 --5)
414 ALTER TABLE Airline
415 ADD CONSTRAINT uq_airline_code UNIQUE (airline_code);
416
417 ALTER TABLE Passengers
418 ADD CONSTRAINT uq_passport_number UNIQUE (passport_number);
419
420 ALTER TABLE Airport
421 ADD CONSTRAINT uq_airport_name UNIQUE (airport_name);
422
423 ALTER TABLE Booking
424 ADD CONSTRAINT uq_booking UNIQUE (flight_id, passenger_id);

```

Data Output | Messages | Notifications

ALTER TABLE

Query returned successfully in 52 msec.

✓ Query returned successfully in 52 msec. ✕

Total rows: Query complete 00:00:00.052 LF Ln 413, Col 1

6)

Object Explorer | board | Properties | SQL | Statistics | Dependencies | Dependents | Processes | airport_dbb/postgres@local | public.passengers...

Foreign Data Wrappers | Languages | Publications | Schemas (1) | public | Aggregates | Collations | Domains | FTS Configurations | 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 | security_check | Trigger Functions | Types | Views | Subscriptions | postgres | Login/Group Roles | Tablespaces | local

Query | Query History | Scratch Pad

```
--5
ADD CONSTRAINT uq_flight_code UNIQUE (flight_code);
415
416
417 ALTER TABLE Passengers
418 ADD CONSTRAINT uq_passport_number UNIQUE (passport_number);
419
420 ALTER TABLE Airport
421 ADD CONSTRAINT uq_airport_name UNIQUE (airport_name);
422
423 ALTER TABLE Booking
424 ADD CONSTRAINT uq_booking UNIQUE (flight_id, passenger_id);
425
--6
426 ALTER TABLE Passengers
427 ADD CONSTRAINT chk_gender_age
428 CHECK (
429 (gender = 'Male' AND DATE_PART('year', AGE(date_of_birth)) >= 18)
430 OR (gender = 'Female' AND DATE_PART('year', AGE(date_of_birth)) >= 19)
431 );
```

Data Output | Messages | Notifications

ALTER TABLE

Query returned successfully in 38 msec.

Total rows: Query complete 00:00:00.038 LF Ln 426, Col 1

Query returned successfully in 38 msec.

7)

Object Explorer | board | Properties | SQL | Statistics | Dependencies | Dependents | Processes | airport_dbb/postgres@local | public.passengers...

Foreign Data Wrappers | Languages | Publications | Schemas (1) | public | Aggregates | Collations | Domains | FTS Configurations | 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 | security_check | Trigger Functions | Types | Views | Subscriptions | postgres | Login/Group Roles | Tablespaces | local

Query | Query History | Scratch Pad

```
--6
425
426 ALTER TABLE Passengers
427 ADD CONSTRAINT chk_gender_age
428 CHECK (
429 (gender = 'Male' AND DATE_PART('year', AGE(date_of_birth)) >= 18)
430 OR (gender = 'Female' AND DATE_PART('year', AGE(date_of_birth)) >= 19)
431 );
432
--7
433
434 ALTER TABLE Passengers
435 ADD CONSTRAINT chk_country_age
436 CHECK (
437 (country_of_citizenship = 'Kazakhstan' AND DATE_PART('year', AGE(date_of_birth)) >=
438 OR (country_of_citizenship = 'France' AND DATE_PART('year', AGE(date_of_birth)) >= 17)
439 OR (country_of_citizenship NOT IN ('Kazakhstan', 'France') AND DATE_PART('year', AGE(d
440
441 );
```

Data Output | Messages | Notifications

ALTER TABLE

Query returned successfully in 42 msec.

Total rows: Query complete 00:00:00.042 LF Ln 435, Col 1

Query returned successfully in 42 msec.

8)

The screenshot shows the DBeaver SQL editor interface. The left sidebar displays the 'Object Explorer' with a tree view of the database schema, including 'public' schema, 'airline', 'airport', 'baggage', 'baggage_check', 'boarding_pass', 'booking', 'booking_flight', 'flights', 'passengers', 'security_check', 'Trigger Functions', 'Types', 'Views', and 'Subscriptions'. The main editor window shows the 'Query' tab with the following SQL code:

```
--7)
CHECK (
  (gender = 'Male' AND DATE_PART('year', AGE(date_of_birth)) >= 18)
  OR (gender = 'Female' AND DATE_PART('year', AGE(date_of_birth)) >= 19)
);

--8)
ALTER TABLE Passengers
ADD CONSTRAINT chk_country_age
CHECK (
  (country_of_citizenship = 'Kazakhstan' AND DATE_PART('year', AGE(date_of_birth)) >=
  OR (country_of_citizenship = 'France' AND DATE_PART('year', AGE(date_of_birth)) >= 17)
  OR (country_of_citizenship NOT IN ('Kazakhstan', 'France') AND DATE_PART('year', AGE(d
));

--8)
ALTER TABLE Booking
ADD COLUMN ticket_discount DECIMAL(5,2);
```

The 'Data Output' tab shows the message: 'Query returned successfully in 39 msec.' The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.039' and 'LF Ln 444, Col 1'.

The screenshot shows the DBeaver SQL editor interface. The left sidebar displays the 'Object Explorer' with a tree view of the database schema, including 'public' schema, 'airline', 'airport', 'baggage', 'baggage_check', 'boarding_pass', 'booking', 'booking_flight', 'flights', 'passengers', 'security_check', 'Trigger Functions', 'Types', 'Views', and 'Subscriptions'. The main editor window shows the 'Query' tab with the following SQL code:

```
--8)
ALTER TABLE Passengers
ADD CONSTRAINT chk_country_age
CHECK (
  (country_of_citizenship = 'Kazakhstan' AND DATE_PART('year', AGE(date_of_birth)) >=
  OR (country_of_citizenship = 'France' AND DATE_PART('year', AGE(date_of_birth)) >= 17)
  OR (country_of_citizenship NOT IN ('Kazakhstan', 'France') AND DATE_PART('year', AGE(d
));

--8)
ALTER TABLE Booking
ADD COLUMN ticket_discount DECIMAL(5,2);

ALTER TABLE Booking
ADD CONSTRAINT chk_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)
);
```

The 'Data Output' tab shows the message: 'Query returned successfully in 42 msec.' The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.042' and 'LF Ln 452, Col 3'.