

## DDL

### 1.Task

```
CREATE TABLE airline_info ( airline_id INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
airline_code VARCHAR(30) NOT NULL, airline_name VARCHAR(50) NOT NULL,  
airline_country VARCHAR(50) NOT NULL, created_at TIMESTAMP NOT NULL DEFAULT  
NOW(), updated_at TIMESTAMP NOT NULL DEFAULT NOW(), info VARCHAR(50) NOT NULL  
);
```

```
CREATE TABLE airport ( airport_id INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
airport_name VARCHAR(50) NOT NULL, country VARCHAR(50) NOT NULL, state  
VARCHAR(50) NOT NULL, city VARCHAR(50) NOT NULL, created_at TIMESTAMP NOT NULL  
DEFAULT NOW(), updated_at TIMESTAMP NOT NULL DEFAULT NOW() );
```

```
CREATE TABLE passengers ( passenger_id INT GENERATED ALWAYS AS IDENTITY PRIMARY  
KEY, first_name VARCHAR(50) NOT NULL, last_name VARCHAR(50) NOT NULL,  
date_of_birth DATE NOT NULL, gender VARCHAR(50) NOT NULL, country_of_citizenship  
VARCHAR(50) NOT NULL, country_of_residence VARCHAR(50) NOT NULL,  
passport_number VARCHAR(20) NOT NULL, created_at TIMESTAMP NOT NULL DEFAULT  
NOW(), updated_at TIMESTAMP NOT NULL DEFAULT NOW() );
```

```
CREATE TABLE flights ( flight_id INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
sch_departure_time TIMESTAMP NOT NULL, sch_arrival_time TIMESTAMP NOT NULL,  
departing_airport_id INT NOT NULL, arriving_airport_id INT NOT NULL, departing_gate  
VARCHAR(50) NOT NULL, arriving_gate VARCHAR(50) NOT NULL, airline_id INT NOT NULL,  
act_departure_time TIMESTAMP NOT NULL, act_arrival_time TIMESTAMP NOT NULL,  
created_at TIMESTAMP NOT NULL DEFAULT NOW(), updated_at TIMESTAMP NOT NULL  
DEFAULT NOW() );
```

```
CREATE TABLE booking ( booking_id INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
flight_id INT NOT NULL, passenger_id INT NOT NULL, booking_platform VARCHAR(50) NOT  
NULL, created_at TIMESTAMP NOT NULL DEFAULT NOW(), updated_at TIMESTAMP NOT  
NULL DEFAULT NOW(), status VARCHAR(50) NOT NULL, price DECIMAL(7,2) NOT NULL );
```

```
CREATE TABLE booking_flight ( booking_flight_id INT GENERATED ALWAYS AS IDENTITY  
PRIMARY KEY, booking_id INT NOT NULL, flight_id INT NOT NULL, created_at TIMESTAMP  
NOT NULL DEFAULT NOW(), updated_at TIMESTAMP NOT NULL DEFAULT NOW() );
```

```
CREATE TABLE boarding_pass ( boarding_pass_id INT GENERATED ALWAYS AS IDENTITY  
PRIMARY KEY, booking_id INT NOT NULL, seat VARCHAR(50) NOT NULL, boarding_time  
TIMESTAMP NOT NULL, created_at TIMESTAMP NOT NULL DEFAULT NOW(), updated_at  
TIMESTAMP NOT NULL DEFAULT NOW() );
```

```
CREATE TABLE baggage ( baggage_id INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,  
weight_in_kg DECIMAL(4,2) NOT NULL, created_at TIMESTAMP NOT NULL DEFAULT NOW(),  
updated_at TIMESTAMP NOT NULL DEFAULT NOW(), booking_id INT NOT NULL );
```

```
CREATE TABLE baggage_check ( baggage_check_id INT GENERATED ALWAYS AS IDENTITY  
PRIMARY KEY, check_result VARCHAR(50) NOT NULL, created_at TIMESTAMP NOT NULL  
DEFAULT NOW(), updated_at TIMESTAMP NOT NULL DEFAULT NOW(), booking_id INT NOT  
NULL, passenger_id INT NOT NULL );
```

```
CREATE TABLE security_check ( security_check_id INT GENERATED ALWAYS AS IDENTITY  
PRIMARY KEY, check_result VARCHAR(20) NOT NULL, created_at TIMESTAMP NOT NULL  
DEFAULT NOW(), updated_at TIMESTAMP NOT NULL DEFAULT NOW(), passenger_id INT  
NOT NULL );
```

2.done

4.done

5.ALTER TABLE airline\_info RENAME TO airline;

6.ALTER TABLE booking RENAME COLUMN price TO ticket\_price;

7.ALTER TABLE flights ALTER COLUMN departing\_gate TYPE TEXT;

8.ALTER TABLE airline DROP COLUMN info;

9.ALTER TABLE booking ADD CONSTRAINT fk\_booking\_passenger FOREIGN KEY  
(passenger\_id) REFERENCES passengers(passenger\_id) ON DELETE CASCADE, ADD

CONSTRAINT fk\_booking\_flight FOREIGN KEY (flight\_id) REFERENCES flights(flight\_id) ON DELETE CASCADE;

-- booking\_flight references booking and flights ALTER TABLE booking\_flight ADD CONSTRAINT fk\_booking\_flight\_\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id) ON DELETE CASCADE, ADD CONSTRAINT fk\_booking\_flight\_\_flights FOREIGN KEY (flight\_id) REFERENCES flights(flight\_id) ON DELETE CASCADE;

-- boarding\_pass references booking ALTER TABLE boarding\_pass ADD CONSTRAINT fk\_boarding\_pass\_\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id) ON DELETE CASCADE;

-- baggage references booking ALTER TABLE baggage ADD CONSTRAINT fk\_baggage\_\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id) ON DELETE CASCADE;

-- baggage\_check references booking and passengers ALTER TABLE baggage\_check ADD CONSTRAINT fk\_baggage\_check\_\_booking FOREIGN KEY (booking\_id) REFERENCES booking(booking\_id) ON DELETE CASCADE, ADD CONSTRAINT fk\_baggage\_check\_\_passenger FOREIGN KEY (passenger\_id) REFERENCES passengers(passenger\_id) ON DELETE CASCADE;

-- security\_check references passengers ALTER TABLE security\_check ADD CONSTRAINT fk\_security\_check\_\_passenger FOREIGN KEY (passenger\_id) REFERENCES passengers(passenger\_id) ON DELETE CASCADE;

-- flights references airport (departing/arriving) and airline ALTER TABLE flights ADD CONSTRAINT fk\_flights\_\_departing\_airport FOREIGN KEY (departing\_airport\_id) REFERENCES airport(airport\_id) ON DELETE RESTRICT, ADD CONSTRAINT fk\_flights\_\_arriving\_airport FOREIGN KEY (arriving\_airport\_id) REFERENCES airport(airport\_id) ON DELETE RESTRICT, ADD CONSTRAINT fk\_flights\_\_airline FOREIGN KEY (airline\_id) REFERENCES airline(airline\_id) ON DELETE RESTRICT;

## DML

1.WITH countries AS ( SELECT UNNEST(ARRAY[  
'Kazakhstan','Turkey','France','Brazil','Poland','USA','Germany','Spain','Italy','Canada',  
'UK','UAE','Qatar','Japan','Korea','India','China','Australia','Mexico','Netherlands' ]) AS country ),

```

states AS ( SELECT UNNEST(ARRAY[ 'Almaty
Region','Akmola','Ankara','Istanbul','Île-de-France','São Paulo','Mazowieckie','Lesser Poland',
'California','Texas','Bavaria','Catalonia','Lombardy','Ontario','England','Dubai','Doha','Tokyo',
'Seoul','Delhi','Beijing','NSW','Jalisco','Noord-Holland' ]) AS state ), cities AS ( SELECT
UNNEST(ARRAY[ 'Almaty','Astana','Ankara','Istanbul','Paris','São Paulo','Warsaw','Kraków', 'Los
Angeles','San Francisco','Munich','Barcelona','Milan','Toronto','London',
'Dubai','Doha','Tokyo','Seoul','New Delhi','Beijing','Sydney','Guadalajara','Amsterdam' ]) AS city
) INSERT INTO airport (airport_name, country, state, city) SELECT 'Airport ' || gs::TEXT AS
airport_name, (SELECT country FROM countries ORDER BY random() LIMIT 1) AS country,
(SELECT state FROM states ORDER BY random() LIMIT 1) AS state, (SELECT city FROM cities
ORDER BY random() LIMIT 1) AS city FROM generate_series(1,200) AS gs;

```

```

2.INSERT INTO airline (airline_code, airline_name, airline_country) VALUES
('KZ','KazAir','Kazakhstan');

```

```

3.UPDATE airline SET airline_country = 'Turkey', updated_at = NOW() WHERE airline_name
= 'KazAir';

```

```

4.INSERT INTO airline (airline_code, airline_name, airline_country) VALUES
('AE','AirEasy','France'), ('FH','FlyHigh','Brazil'), ('FF','FlyFly','Poland');

```

```

5.DELETE FROM flights WHERE EXTRACT(YEAR FROM act_arrival_time) = 2024 OR
EXTRACT(YEAR FROM sch_arrival_time) = 2024;

```

```

6.UPDATE booking SET ticket_price = ROUND(ticket_price * 1.15, 2), updated_at = NOW();

```

```

7.DELETE FROM booking WHERE ticket_price < 10000;

```