



- Entities and Attributes
- Airport
 - Primary key: airport_id
 - Attributes: airport_name, country, state, city, created_at, updated_at
- Airline
 - Primary key: airline_id
 - Attributes: airline_code (unique), name, country, created_at, updated_at
- Flight
 - Primary key: flight_id
 - Attributes: departing_gate, arriving_gate, scheduled_departure, scheduled_arrival, actual_departure, actual_arrival, airline_id (FK to Airline), departure_airport_id (FK to Airport), arrival_airport_id (FK to Airport), created_at, updated_at
- Passenger
 - Primary key: passenger_id
 - Attributes: first_name, last_name, gender, date_of_birth, citizenship_country, residence_country, passport_number (unique recommended), created_at, updated_at
- Booking
 - Primary key: booking_id
 - Attributes: flight_id (FK to Flight), passenger_id (FK to Passenger), status, booking_platform, ticket_price, created_at, updated_at
- BookingChange
 - Primary key: change_id
 - Attributes: booking_id (FK to Booking), changed_at, changed_by (optional), change_type, change_details
- BoardingPass
 - Primary key: boarding_pass_id
 - Attributes: booking_id (FK to Booking), seat, boarding_time, created_at, updated_at
- Baggage
 - Primary key: baggage_id
 - Attributes: booking_id (FK to Booking), weight_kg, created_at, updated_at
- BaggageCheck
 - Primary key: baggage_check_id
 - Attributes: booking_id (FK to Booking), passenger_id (FK to Passenger), check_result, created_at, updated_at
- SecurityCheck
 - Primary key: security_check_id
 - Attributes: passenger_id (FK to Passenger), check_result, created_at, updated_at
- Relationships
- Airline 1 to many Flight
- Airport 1 to many Flight as departure airport
- Airport 1 to many Flight as arrival airport
- Flight 1 to many Booking
- Passenger 1 to many Booking
- Booking 1 to many BookingChange
- Booking 1 to 1 BoardingPass (optional)
- Booking 1 to many Baggage
- Booking 1 to many BaggageCheck
- Passenger 1 to many BaggageCheck
- Passenger 1 to many SecurityCheck
- screening results for passengers.

The model stores data about airports (Airport), airlines (Airline), flights (Flight), passengers (Passenger), and their bookings (Booking). A flight is operated by a single airline and is linked to a departure and an arrival airport. A passenger can make multiple bookings for different flights; at the booking level a boarding pass (BoardingPass) is issued—one booking corresponds to one pass—and baggage (Baggage) is registered, which may undergo one or more inspections (BaggageCheck). Passengers undergo security screening (SecurityCheck). Changes to a booking are recorded in a change history (BookingChange). The model is normalized to 3NF: transitive redundancy is eliminated (e.g., BaggageCheck stores only baggage_id), and keys and integrity constraints are defined to ensure the uniqueness of seats per flight and of passports, as well as referential correctness.