Joseph Annand

DSE 6210

Project 2

## Part I: Background

In Project 1, the flight\_ms schema was designed based on the SRS document for an airline database. The schema was created using a relational model in PostgreSQL. Figure 1 shows the entity-relationship diagram for the schema

A computer screen shot of a computer

AI-generated content may be incorrect.

Figure : Flight\_ms Schema Crow's foot diagram

## Part 2: Implementation

### 2.1 SQL Queries to JSON

#### 2.1.1

#### 2.1.2 Copy Itinerary View to JSON

SELECT json\_build\_object(

'passenger\_id', MAX(passenger\_id),

'reservation\_id', MAX(reservation\_id),

'legs', json\_agg(

json\_build\_object(

'flight\_number', flight\_number,

'origin\_airport', origin\_airport,

'destination\_airport', destination\_airport,

'actual\_departure\_time', actual\_departure\_time,

'actual\_arrival\_time', actual\_arrival\_time,

'leg\_id', leg\_id,

'ticket\_type', ticket\_type,

'travel\_class', travel\_class

)

)

) AS itinerary\_json

INTO TEMP TABLE temp\_itinerary\_json

FROM itinerary

WHERE passenger\_id = 202

GROUP BY passenger\_id, reservation\_id;

---must use \copy in SQL shell

\copy temp\_itinerary\_json TO 'C:/Users/janna/Documents/Merrimack MSDS/DSE6210/Project 2/itinerary\_json.json' WITH (FORMAT text, HEADER false);

### 2.2 JSON Files

#### 2.2.1 Sample Document JSON

#### 2.2.2 Itinerary View JSON

{"passenger\_id" : 202, "reservation\_id" : 302, "legs" : [{"flight\_number" : 1001, "origin\_airport" : "JFK International", "destination\_airport" : "LAX International", "actual\_departure\_time" : "2025-02-01T08:00:00", "actual\_arrival\_time" : "2025-02-01T11:00:00", "leg\_id" : 501, "ticket\_type" : "Round-Trip", "travel\_class" : "Business"}, {"flight\_number" : 1002, "origin\_airport" : "LAX International", "destination\_airport" : "O'Hare International", "actual\_departure\_time" : "2025-02-02T09:00:00", "actual\_arrival\_time" : "2025-02-02T12:00:00", "leg\_id" : 502, "ticket\_type" : "Round-Trip", "travel\_class" : "Business"}]}

### 2.3 Documents in MongoDB Compass

#### 2.3.1 Sample Document

#### 2.3.2 Itinerary View Document

A screenshot of a computer

AI-generated content may be incorrect.

Figure 3: Sample Itinerary Document in MongoDB

## Part 3: Discussion