Travel API Design Document

Data Model

Data model is used determine the structure of data to make application use. There are three model created to help to show the fare information based on the search criteria.

AIRPORT

Airport data model has structure of information to populate Origin and destination information in the Availability / Fare search Page.

Sample JSON Structure

```
{
	"id" : 1,
	"code" : "AMS",
	"name" : "Amsterdam",
	"description" : "Amsterdam Airport Schiphol",
	"country" : "NL"

}
```

Properties

Id	: Unique id of Airport data model.
Code	: Airport code
Name	: City Name
Description	: Airport Name
Country	: country code of Airport.

FLIGHT

Flight data model is help to hold the flight information. Fight data model has one to many relationship with Fare data model.

Sample JSON Structure

```
		{
		"id": 1,
		"origin": "DXB",
		"destination": "AMS",
		"validBetween": {
			"start" : "2019-01-01",
			 "end"  : "2019-12-31"
		 },
```

```
            "carrierCode" : "KL",
            "flightNumber" : "0001",
            "flightTime": "7h 30m",
            "departTime": "08:40",
            "arrivalTime": "13:35"
      }
```

Properties

Id	: unique id
Origin	: Origin of the flight
Destination	: Destination of the flight
Valid between	: mentioned date which is applicable or valid to display along with fares in fare search screen
Carrier Code	: Carrier code of the flight
Flight Number	: Flight number of the flight
Flight Time	: Total journey time of the flight.
DepartTime	: Departure time of the flight
ArrivalTime	: Arrival time of the flight.

FARES

Fares data model is help to hold the fare information. Fares data model has one to many relationship with Fare data model.

`"applicableFlights" : [1,2,3,4] -> Array of applicable flight property will hold the flight id of the flight model which are eligible for corresponding fare.`

Sample JSON Structure

```
      {
            "id" : "1",
            "currencyCode" : "EUR",
            "economyFare" : "100.5",
            "businessFare" : "250.4",
            "firtClassFare" : "1200.4",
            "faresApplicableDate": {
                  "startDate" : "2019-01-01",
                  "endDate" : "2019-01-01"
            },
            "applicableFlights" : [1,2,3,4]
      }
```

ADD NEW DATA INTO DATA MODEL

To add new data into data model to display airport and fares, please follow the steps,

Data model location is : .../original-case/src/main/esources/data

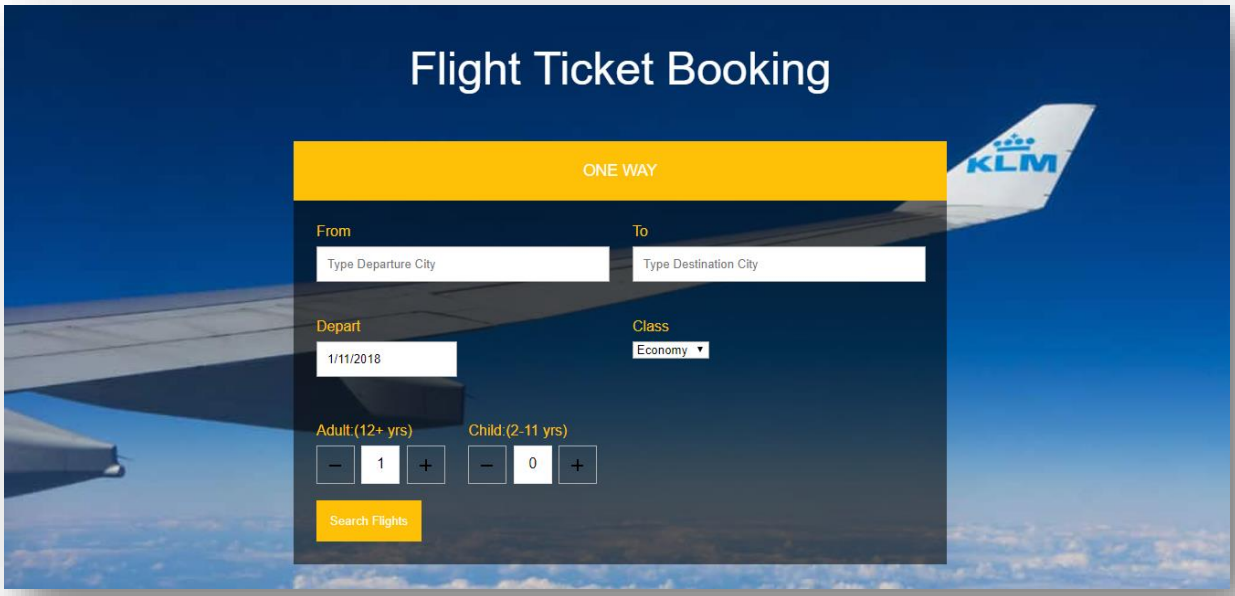
FILE NAME	COMMENTS
AIRPORTS.JSON	ADD NEW AIRPORT INFORMATION WHICH WE NEED TO DISPLAY IN **"FROM & TO "** ON BOOKING SEARCH SCREEN
FLIGHTS.JSON	ADD NEW AIRPORTS WITH UNIQUE ID
FARES.JSON	FARES TO DISPLAY FOR APPLICABLE FLIGHTS. WE NEED TO MENTION THE FLIGHT ID INSIDE THE APPLICABLE FLIGHT ID PROPERTY WHICH THE CURRENT FARES IS APPLICABLE FOR.

Fare search page

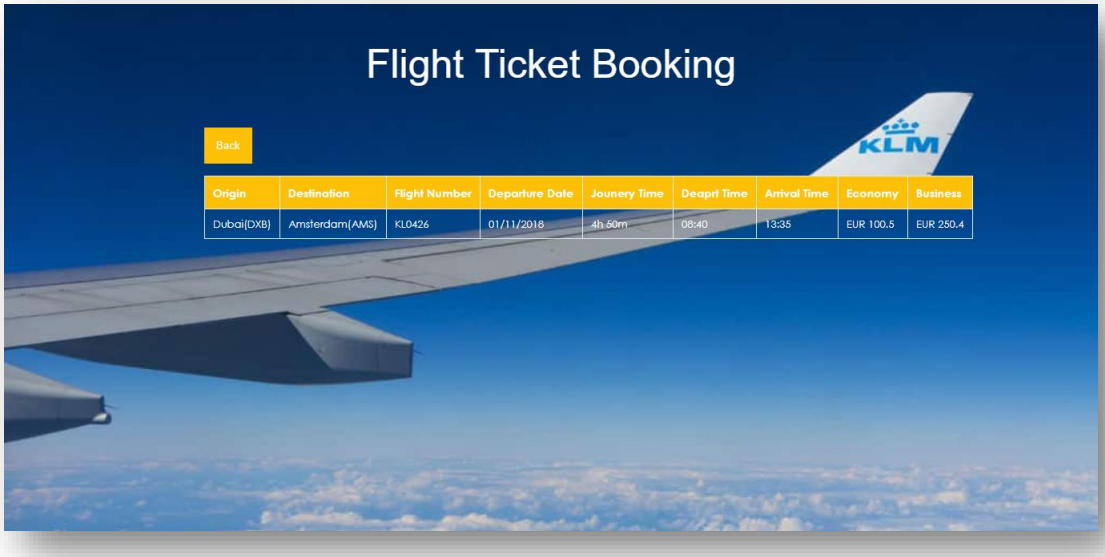
Fare search page looks like below. When user enters 2 digit of airport name / code on From or To, application will provide sugguestions based on the data from airport data model

We can access this Travel API by using this below URL.

http://localhost:9000/travel/index.html



Fare Results



How Search will work?

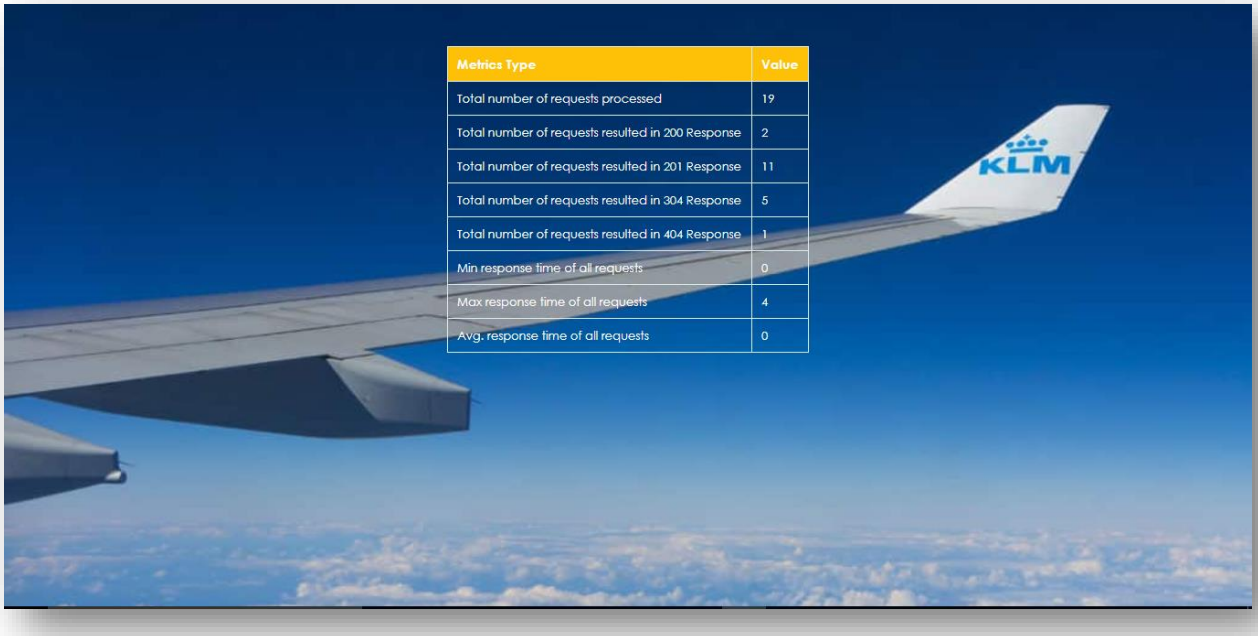
Based on the user entered search criteria, application will find the right flights based on the origin, destination and departure date. And it will check whether any applicable fares are available for the matched flight based on the flight id which is there in fare data mode.

Statistics

Application is enabled with Aspects to track the request which received in the application. And its keep on monitoring the each service success and failure count. And response time of the each request, and eligible to provide min, max and avg response time.

We can access this page to see the consolidate metrics by using below URL.

http://localhost:9000/travel/statistics.html



Metrics Type	Value
Total number of requests processed	19
Total number of requests resulted in 200 Response	2
Total number of requests resulted in 201 Response	11
Total number of requests resulted in 304 Response	5
Total number of requests resulted in 404 Response	1
Min response time of all requests	0
Max response time of all requests	4
Avg. response time of all requests	0