An Airline Portal System: Entity Framework Case Study

Travify.com an Airline Booking Portal System maintains Airlines and their Flights for the passengers to search and book.

Portal Administrator will perform following management activities to manage the airline information.
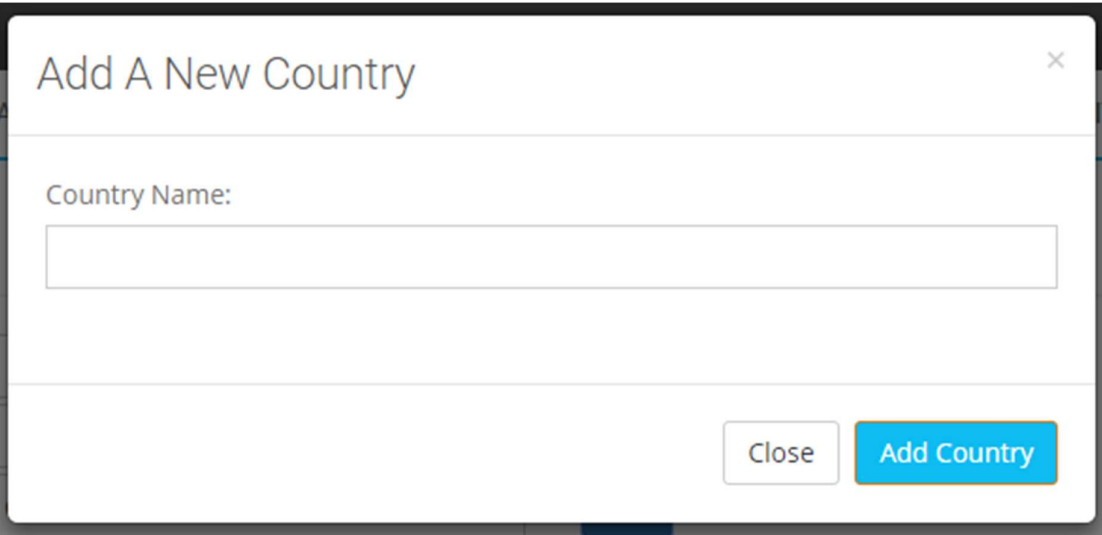
1. Add, Edit, View Airline
2. Add, Edit, View Flights with different seating capacity to Airline
3. Add, Edit, View Countries, Cities
4. Add, Edit, View Routs between two different cities
5. Add, Edit, View Flight Schedules between routes
6. And the passengers will search flights

The User Interface Team is working on the Web UI and they need a Data Access Layer to consume in the UI Layer for above use cases.

The Data Access Team need to Analyse the below UI Screens and come out with the following

1. Identify and Design the Model Classes
2. Design the Back-End Data Access Layer using Entity Framework Code First Approach
3. Consume the DAL Layer by creating Console Application to perform all Admin and Passenger activities as mentioned above.
4. Visit the hosted site at http://172.31.11.5:8065/Account/Login
   a. with login id admin@travify.com
   b. password: Admin@123456

UI Screens

Cities

City Code:

City Name:

Choose A Country: ---Choose Country---   ⊕   Add A New Country

Add City

Add Airline

Airline Code

Airline Logo   Choose File No file chosen

Airline Name

Create

AddFlight

Airline Name   -- Select Airline --

Flight Name

Add Flight Class

Flight Class Type   -- Select Class Type --   **Add A Flight Class**

Total No Seats

Flight Class Type   -- Select Class Type --

Total No Seats   ✖

Flight Class Type   -- Select Class Type --

Total No Seats   ✖

⊕ Add Flight Capacity   ⊖ Remove All Capacities

Create

Routes

Choose From City: Bengaluru ▼

Choose To City: Bengaluru ▼

Distance in Kilometers:

Add Route

Add Schedule

Departure Date: dd-mm-yyyy   --:--

Arrival Date: dd-mm-yyyy   --:--

Choose Route: -- Choose Route -- ▼   Choose Flight: -- Choose Flight -- ▼

Duration (Mins):   Currency Code:

Flight Costs Per Class Type:

Economy Class	
Business Class	
Premium Economy Class	
First Class	

Create Schedule

✈ FLIGHTS

Search for Cheap Flights

One Way   Round Trip

From

📍 Mar 10

To

📍 Mar 10

Departing

📅 Mar 10

Passengers

1 ▼

Flight Class

Economy Class ▼

Airline

▼

Search Now   **Fare Calculator**

Flight Search Results

Airline	Departure	Arrival	Price
Vistara	03:10 PM 10 March 2017 Bengaluru	06:00 PM 10 March 2017 New Delhi	4740 INR /person Class: Economy Class
Air Costa	04:10 PM 10 March 2017 Bengaluru	07:00 PM 10 March 2017 New Delhi	5525 INR /person Class: Economy Class
AirAsia India	01:10 PM 10 March 2017 Bengaluru	04:00 PM 10 March 2017 New Delhi	5800 INR /person Class: Economy Class
Jet Airways	11:10 AM 10 March 2017 Bengaluru	02:00 PM 10 March 2017 New Delhi	5810 INR /person Class: Economy Class
Indigo	06:10 AM 10 March 2017 Bengaluru	09:00 AM 10 March 2017 New Delhi	6331 INR /person Class: Economy Class

Data Base ER Diagrams

Airlines
- AirlineID
- AirlineCode
- AirlineLogo
- AirlineName
- Country

Flights
- FlightID
- FlightName
- AirlineID

FlightCapacities
- FlightCapacityID
- FlightClassID
- TotalSeats
- Flight_FlightID

FlightClasses
- FlightClassID
- FlightClassType

FlightSchedules
- FlightScheduleID
- FlightDepartureDate
- FlightArrivalDate

FlightRoutes
- FlightRouteID
- ArrivalTime
- DepartureTime
- FlightDurationInMin
- FlightID
- RouteID
- FlightScheduleID

FlightCosts
- FlightCostID
- CostPerSeat
- CurrencyCode
- FlightClassID
- FlightRoute_FlightRouteID

Routes
- RouteID
- FromCityID
- ToCityID
- DistanceInKms

Cities
- CityID
- CityName
- CityCode
- CountryID

Countries
- CountryID
- Name