

# The Airline Management System

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**Github:** <https://github.com/RanaTayyab/AirlineManagement-Sem>

## Abstract

Airline Management System is a computerized system used to store and retrieve information and conduct transactions related to air travel. It's a web-based project. The project is aimed at exposing the relevance and importance of Airline Reservation Systems. It is projected towards enhancing the relationship between customers and airline agencies using ARSs, and thereby making it convenient for the customers to book the flights as when they require such that they can utilize this software to make reservations.

I implemented the following roles: Airline Admin, Airline Manager and the Customer. User part is used as a front end and administrator is the back end. Administrator is used by airline authority. It will allow the admins to access database and allow new customers to sign up for online access. Airline Manager can see a list of seats which the admin has added or edited when logs in.

The system allows the airline passenger to search for flights that are available between the two travel cities, namely the "Departure city" and "Arrival city" for a particular departure and arrival dates. The system displays all the flight's details such as flight no, name, price and duration of journey etc.

After search the system display list of available flights and allows customer to choose a particular flight. Then the system checks for the availability of seats on the flight. If the seats are available, then the system allows the passenger to book a seat. Otherwise, it asks the user to choose another flight. When the customer selects the seat, he will be taken to a payment page where the total price will be shown. When the customer presses the pay button, it will complete the transaction and mark the seat sold. Once the seat is sold, send an email to the customer with the flight invoice.

To book a flight the system asks the customer to enter his details such as name, address, city, state, and credit card number and contact number. Then it checks the validity of card and book the flight and update the airline database and user database. The system also allows the customer to cancel his/her reservation, if any problem occurs.

The main purpose of this software is to reduce the manual errors involved in the airline reservation process and make it convenient for the customers to book the flights as when they require such that they can utilize this software to make reservations, modify reservations or cancel a particular reservation.

## I. PROBLEM STATEMENT

The existing airline reservation systems has many shortcomings associated with it. In the existing system airline used to set flight reservation levels higher than seating capacity to compensate for passenger cancellation and no-shows accounting to overbooking in the agent frequently to do so thus wasting time and money for all. In the existing system integration of different airlines on a single platform was not met. With the advent of the online reservation system these flaws can be overcome.

## II. GOALS AND OBJECTIVES

The main purpose of this software is to reduce the manual errors involved in the airline reservation process and make it convenient for the customers to book the flights as when they require such that they can utilize this software to make reservations, modify reservations or cancel a particular reservation.

## III. PROJECT DETAILS

There are three users of the system.

- 1-Airline Admin
- 2-Airline Manager
- 3-Customer

The project scope is as follows:

1. Airline Admin will set the prices of the seats. There will be three types of seats:
  - a. First Class
  - b. Business
  - c. Economy
2. The Airline Admin can create and update the features of each type of seat.
3. The Airline Admin can set the total number of seats for each flight.

4. Airline Manager can see a list of seats which the Admin has added or edited when logs in.
5. The Customer can buy seats based on availability.
6. When a customer buys a ticket the system will be able to calculate how many seats are left. If all seats are bought the application will not let the customers buy more seats.
7. The Customer will be able to select the following, to select a seat:
  - a. origin and destination cities
  - b. dates of travel
  - c. number of people traveling
8. When the customer selects the seat he will be taken to a payment page where the total price will be shown. When the customer presses the pay button, it will complete the transaction and mark the seat sold.
9. Once the seat is sold, send an email to the customer with the flight invoice.

## IV. TECHNICAL INFORMATION

- The project is based on MVC architecture.
- The project is developed using NetBeans/Eclipse.

## V. MAIN FEATURES

The main features of the project are briefly discussed as follows:

- **Flight Searching**

Customer can search the desired flight

- **Flight Availability**

Customer can check the availability of a flight

- **Flight Booking**

Customer can book the ticket of an airline online

- **Flight Cancellation**

Customer can also cancel the flight which he had booked by sending a cancel request

- **Flight Change Details**

Customer can change the detail of flight also

- **Sending Email alerts to the travelers**

Whenever customer book or cancel ticket an email alert is send to him.

- **Login/signup.**

User can sign up and login

- **Payment.**

When the customer selects the seat he will be taken to a payment page where the total price will be shown. When the customer presses the pay button, it will complete the transaction and mark the seat sold.

- **Airline Admin**

1. Airline Admin will set the prices of the seats. There will be three types of seats:
  - a. First Class
  - b. Business
  - c. Economy
2. The Airline Admin can create and update the features of each type of seat.
3. The Airline Admin can set the total number of seats for each flight.

- **Airline Manager**

Airline Manager can see a list of seats which the Admin has added or edited when logs in.

## VI. TOOLS USED

- **Netbeans IDE:**

I used netbeans IDE for both the front and back end development of the web application, as it caters to all the needs and is a favorable environment for java and HTML5 web programming.

- **MSSQL Server:**

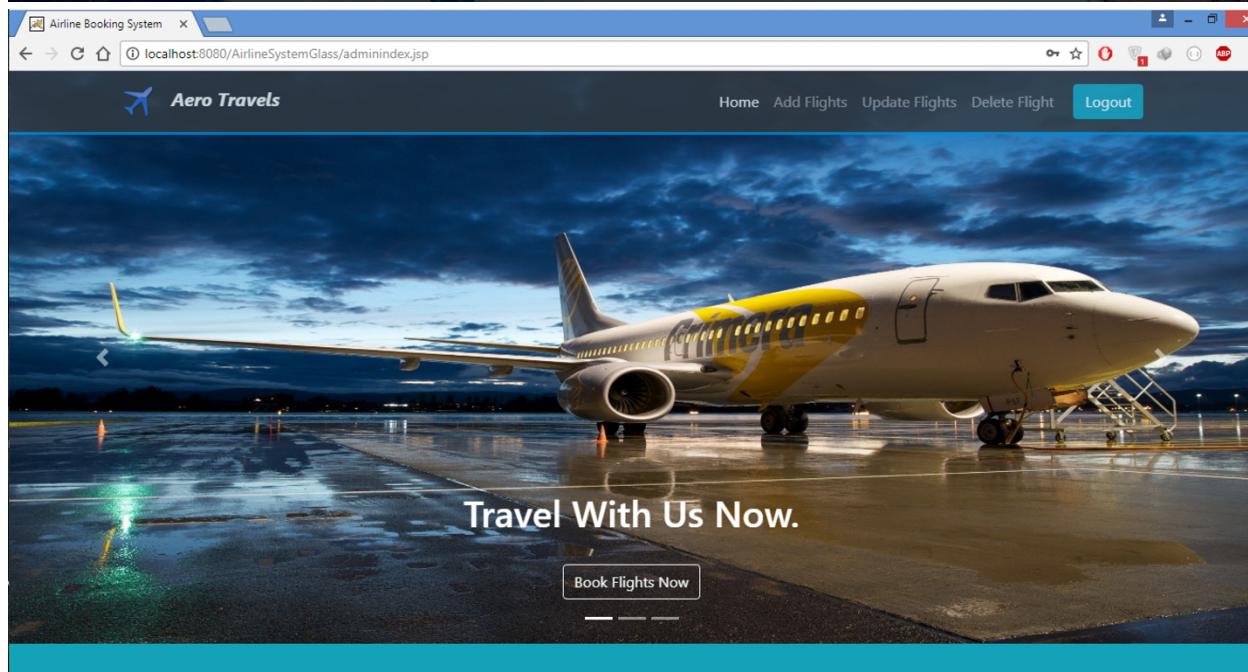
I used Microsoft SQL server to store all information of the application as it an easier and portable way for nascent projects to work with databases. I stored store records of all posted tenders and applicants. In addition to this, I also stored rankings of all the given proposals according to their interviews for future reference.

- **Technologies Used:**

- 1) J2EE MVC Framework
- 2) JSP
- 3) HTML5, CSS3, Bootstrap, Javascript & jQuery
- 4) SQL language for databases

## VII. SCREENS

A screenshot of a web browser showing the 'Admin Panel - Add Flights' page. The title bar says 'Airline Booking System' and the address bar shows 'localhost:8080/AirlineSystemGlass/adminadd.jsp'. The page has a dark background with palm trees. On the left, there are two checkmark icons with text: 'Whether it's your first flight or simply your latest, we work to anticipate your every need.' and 'Take your next family vacation in Dubai with our special fares and enjoy non-stop adventurous journey.' In the center, a blue modal window titled 'Add the Flights' contains fields for 'Add Flight No.', 'Add Arrival', 'Add Departure', 'mm/dd/yyyy', 'Economy Class Seats', 'Economy Price', 'Business Class Seats', 'Business Price', 'First Class Seats', 'First Class Price', and a 'Add Flight' button.



Airline Booking System

localhost:8080/AirlineSystemGlass/admindelete.jsp

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Home Add Flights Update Flights Delete Flight Logout

# Admin Panel - Delete Flights with The Best System.

Whether it's your first flight or simply your latest, we work to anticipate your every need.

Take your next family vacation in Dubai with our special fares and enjoy non-stop adventurous journey.

**Delete the Flights**  
Please fill out this form for deleting the flights.

Old Flight No.

mm/dd/yyyy

**Delete Flight**

Airline Booking System

localhost:8080/AirlineSystemGlass/

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Airline Booking System

localhost:8080/AirlineSystemGlass/

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# Special Offers

In Dubai complimentary daily lunch or dinner can be availed at over 60 restaurants, including the Burj Al Arab Jumeirah ? an exclusive summer special. As well as staying and dining in world-famous resorts, guests can enjoy unlimited access to Wild Wadi Waterpark and complimentary access to Kid's Club.

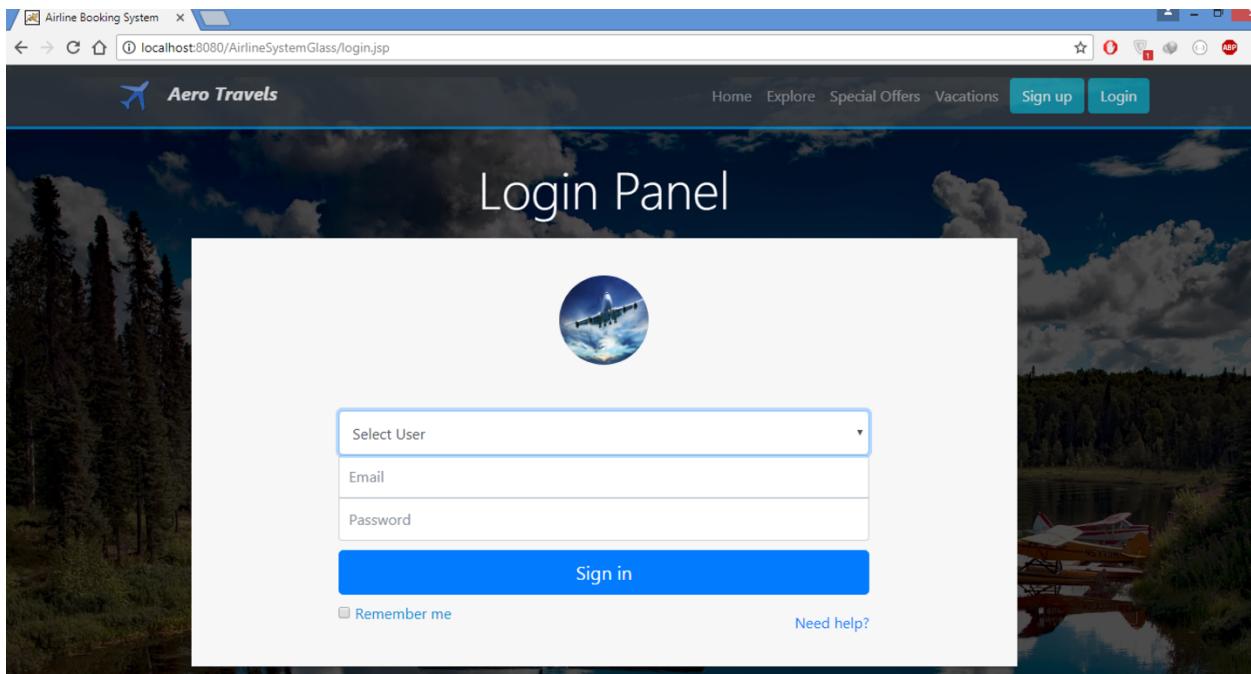
Find Out More

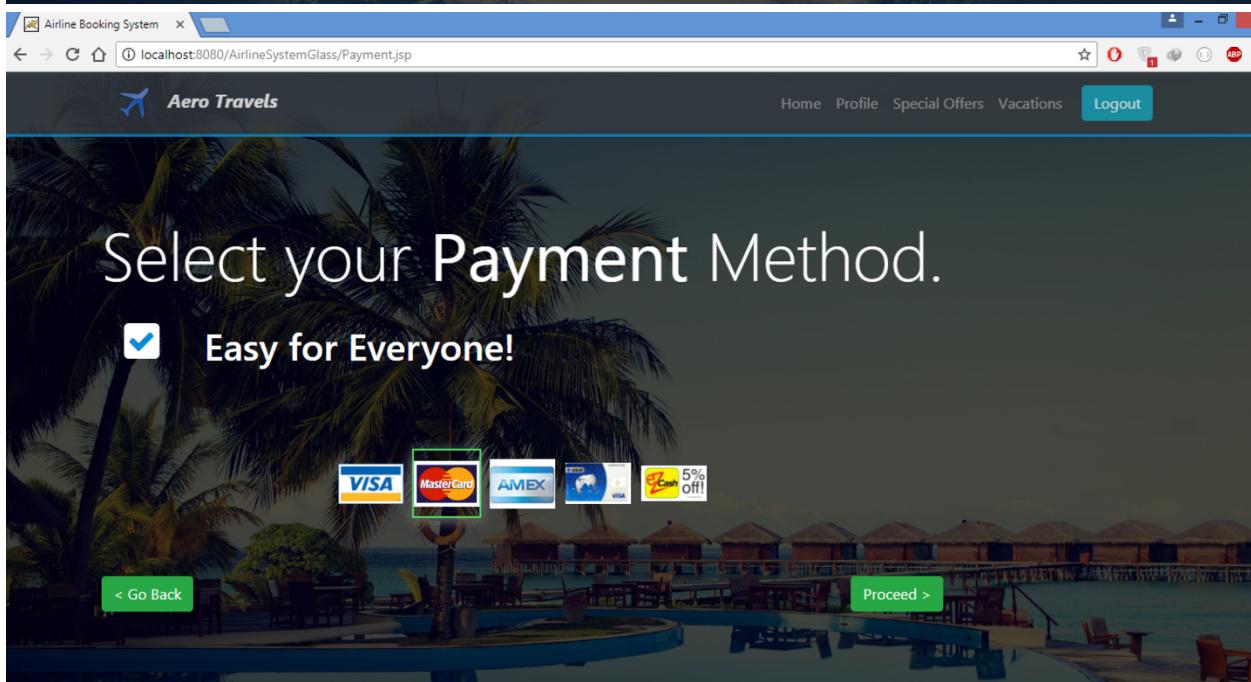
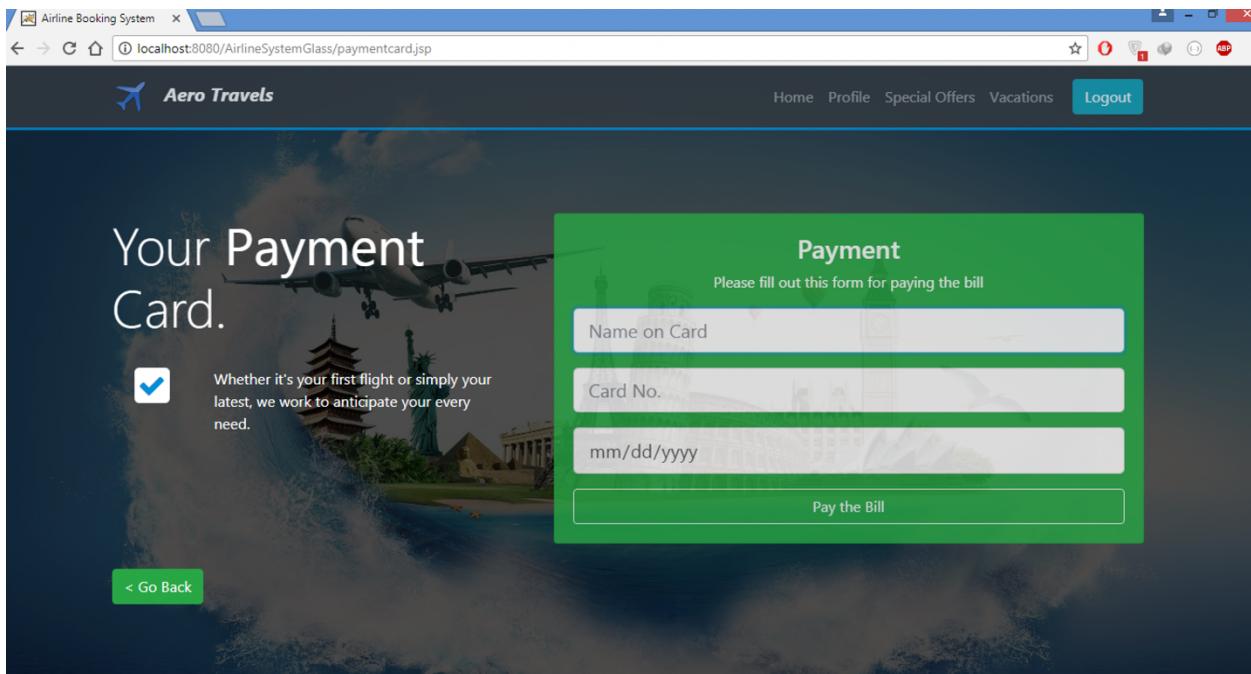
## Check for Offers

Plan your summer escape with Marriott and enjoy an exclusive offer at more than 60 hotels across the Middle East and Africa, as well as France. Experience the inspiring grandeur of Paris, or take the kids to the UAE for a summer extravaganza of family events and shows. Wherever you choose to explore get more from your getaway with Marriott.

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Airline Booking System ×

localhost:8080/AirlineSystemGlass/booking.jsp

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# Book your Airline Flights with The Best System.

Whether it's your first flight or simply your latest, we work to anticipate your every need.

Take your next family vacation in Dubai with our special fares and enjoy non-stop adventurous journey.

Now customers enjoy 3,000 bonus Skywards Miles when they book their first stay at over 400,000 hotels worldwide with our partner Rocketmiles.

**Travel With Us**  
Please fill out this form for booking

Departure

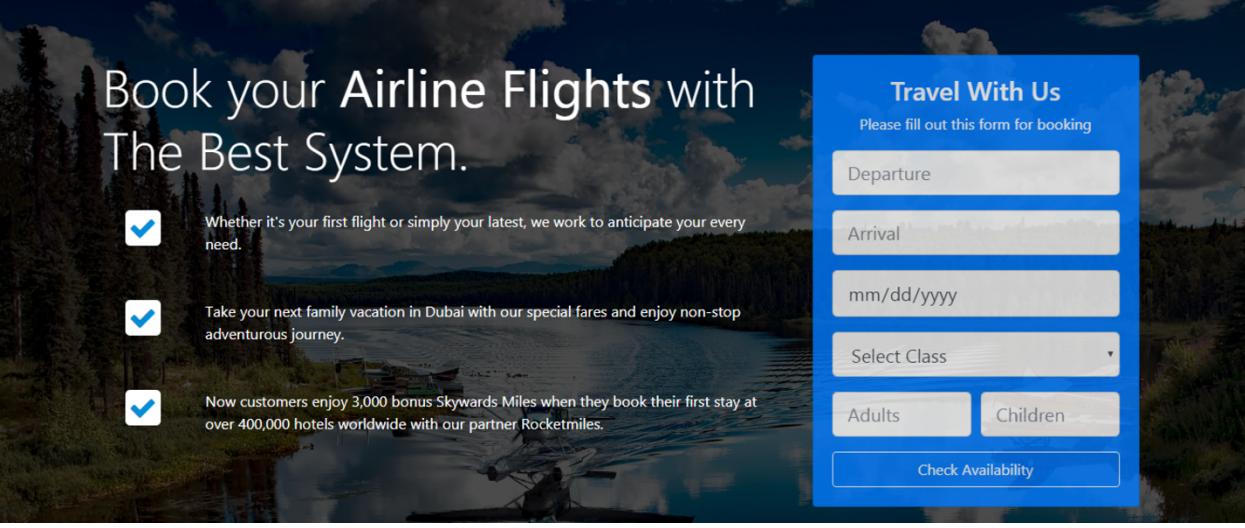
Arrival

mm/dd/yyyy

Select Class

Adults Children

Check Availability



Airline Booking System ×

localhost:8080/AirlineSystemGlass/signup.jsp

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# Sign Up



Full Name

Email

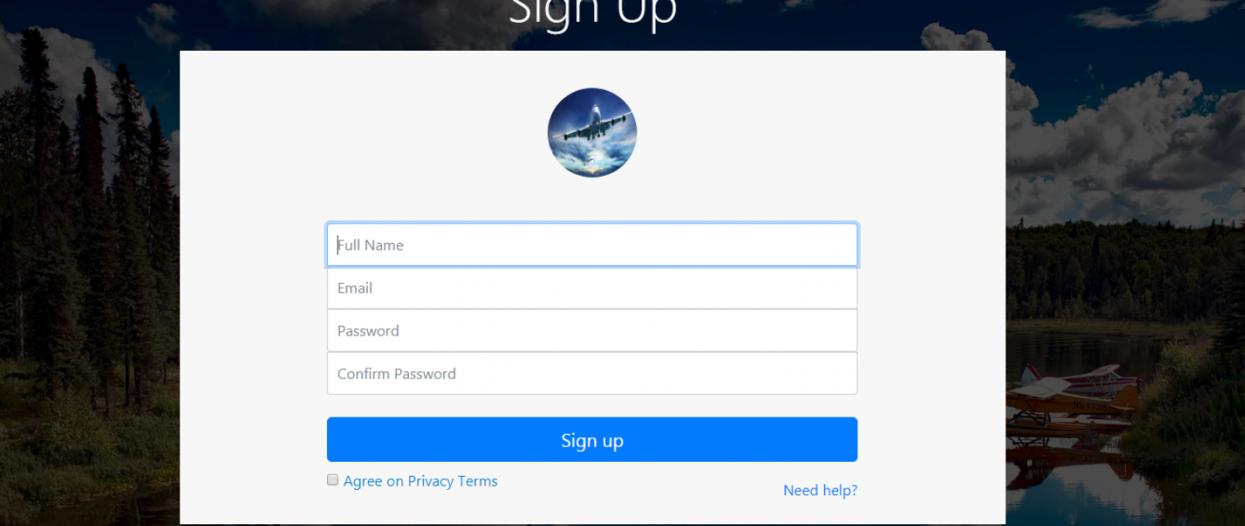
Password

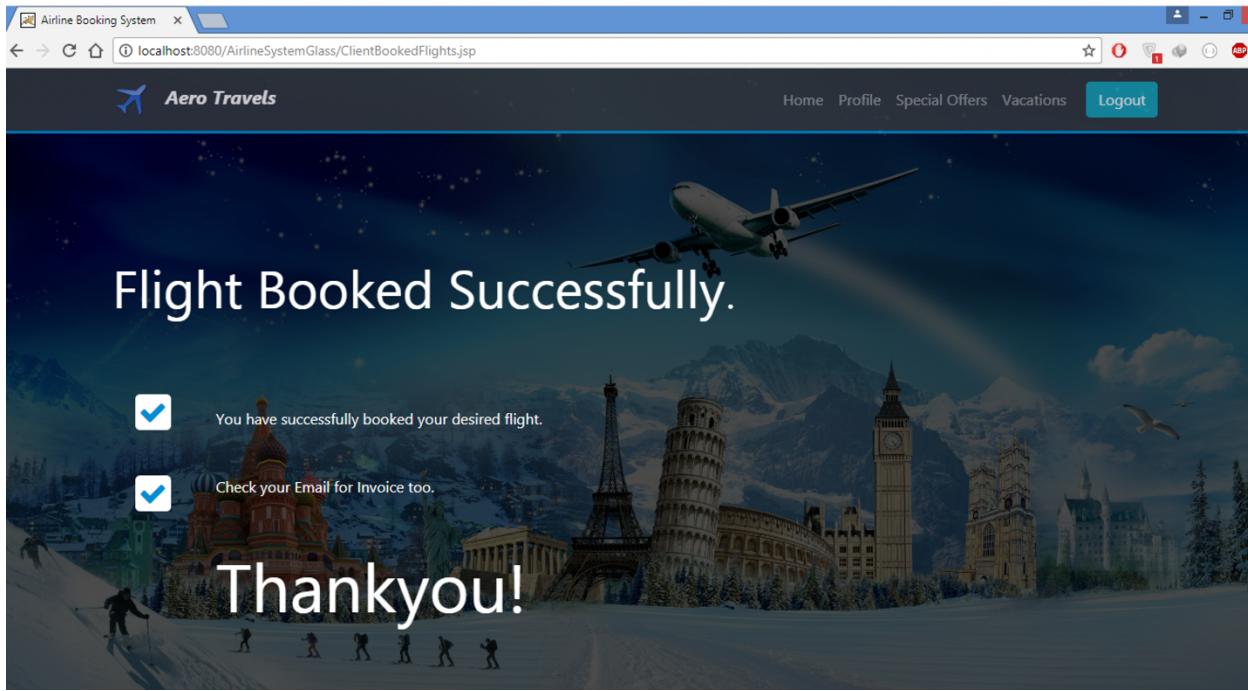
Confirm Password

Sign up

Agree on Privacy Terms

Need help?





A screenshot of a web browser showing the Admin Panel for updating flights. The title bar says "Airline Booking System" and the address bar shows "localhost:8080/AirlineSystemGlass/adminupdate.jsp". The header includes a logo, the text "Aero Travels", and navigation links for "Home", "Add Flights", "Update Flights" (which is highlighted in blue), "Delete Flight", and "Logout". The main content features a background image of various travel landmarks like the Eiffel Tower, Big Ben, and the Leaning Tower of Pisa. On the left, there's promotional text: "Admin Panel - Update Flights with The Best System.", "Whether it's your first flight or simply your latest, we work to anticipate your every need.", and "Take your next family vacation in Dubai with our special fares and enjoy non-stop adventurous journey." On the right, a blue modal window titled "Update the Flights" contains a form with fields for "Old Flight No.", "Update Arrival" and "Update Departure" (with date input fields "mm/dd/yyyy" and "--:-- --"), "Update Economy Class Seats" and "Update Economy Price", "Update Business Class Seats" and "Update Business Price", "Update First Class Seats" and "Update First Class Price", and a large "Update Flight" button at the bottom.

192.168.1.8



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