

L.J Institute of Computer Applications

Jafra Airlines

Airline Management System

**Developed by**: **Guided by:** **Names:** Jinit Trivedi **Names:**

Pratham Soni Himanshu Sharma

Parshwa Shah Niraj Gautam

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1. Introduction

An Airline System Project in Python is a multi-purpose on-board navigation, performance, and aircraft operations computer that provides virtual data and operational harmony between closed and open aspects connected with a flight from pre-engine start and take-off to landing and engine shut-down. A Jafra airline is a company that provides air transport services for traveling passengers and freight. This simple airline booking system project is written in Python.

The project file contains a python script and a database file. Talking about the application, the user can simply book a flight, cancel it and search for flights. An airline can be defined as a company that offers regular services for transporting passengers or goods via the air. These companies are said to make up the airline industry, which is also regarded as a sub-sector of the aviation sector and the wider travel industry. In this post, you will learn everything you need to know about airlines.

In order to book a flight, the user has to enter his/her destination, boarding class, day of travel and flight time. The user can search for flights by providing boarding, destination and day of travel. Airline System is a python-based project. We have developed Jafra Airline System using Python Django and MySQL. The main modules available in this project are airlines module which manages the functionalities of airline, reservation is normally used for managing reservation, Ticket booking contains all the functionalities related to ticket booking, Employee Manages the employee functionality, passenger has all the features of passenger and airline inquiry module manages the functionality of airline inquiry.

Aviation is the only global transportation network and it’s crucial for world business development, tourism, and connectivity. Air transportation is one of the most important services to offer significant social and economic growth. Essential for fast people move and cargo services across the world.

The airline business historically has been very seasonal. The summer months were extremely busy, as many people took vacations at that time of the year. Winter, on the other hand, was slower, with the exception of the holidays. The result of such peaks and valleys in travel patterns was that airline revenues also rose and fell significantly through the course of the year.

* 1. Existing System

The company follows a manual system for maintaining the Airline System. Whenever any requisition comes to counter to issue a ticket the firstly the ticket Capacity checked whether the required quantity of ticket is present or not. If the required ticket is present then issue a ticket and update the reservation information and entry is done to ticket issue register.

The day-to-day entries are made manually into the book that has gotten all the relevant entries. Check the ticket quantity regularly whether any ticket is not in, if so than ticket issue process is cancelled. In the same way ticket cancellation is followed. If fair is increased or decreased than changes into the fair book.

If new flight is introduced than entry on relevant book, that process applies to flight schedule, airbus and branch. At the end of the year or when an intermediate report is needed than prepare the report is required.

* 1. Problem Definition

The problems are: inability of passengers to select their preferred seat(s) from the reservation system, no option of passengers printing their boarding pass from the existing system, non-notification of passengers of flight cancellation or delays and passengers don ‘t have access to aircraft maintenance report to ease the fears associated with air travel and its disasters.

Normally a person wants to reserve his ticket and he has to contact at nearest Overseas Travels branch. The Airline Reservation System provides an interface to schedule flights and reservations for an airline through internet. Its responsibility is to keep track of system users, customers, Airbus information, flight information and cancellation

1.3 Core Components

* Login/Logout
* Registration/Sign-In
* Manage Bookings
* Flight status
* Flights available
* Offers
* Travel Info
* Baggage
* Student offers
* Online Boardings
* Cabin Features
* Family Travel
* Kids Arrangement
* Cargo flights
* Payment Methods
* Covid19 Queries
* Car Rental
* About Us
* Contact Us
* Feedback
* Manage

+`

1.4 Project Profile

|  |  |
| --- | --- |
| Project Name | Jafra Airlines |
| Front End | HTML, CSS |
| Back End | MYSQL, Django |
| IDE | Visual Studio code |

1.5 Assumptions and Constraints

Assumptions are those things that we believe to be true based on our knowledge, experience, and/or information provided by our team members or other stakeholders. It is important to document the project assumptions (including those considered when estimating the project’s scope, schedule, and costs) so that as the project progresses is able to verify and validate the accuracy of those assumptions and capture lessons learned.

Assumptions also feed into risk management, as each assumption can be tested by asking, “if this assumption was false, would it have an effect on the project?”. If so, the assumption should be documented as a risk. Let us assume that this is a distributed airline management system and

It is used in the following application: A request for booking/cancellation of a flight from any source to any destination, giving connected flights in case no direct flight between the specified Source-Destination pair exist. Calculation of highfliers (most frequent fliers) and calculating appropriate ward points for these fliers.

Assuming both the transactions are single transactions, we have designed a distributed database that is geographically dispersed ate four cities Delhi, Mumbai, Chennai, and Kolkata. The constraints are related in that if one constraint changes, there will most likely be an impact on the other constraints. The constraints also dictate the perceived quality of the project.

1.6 Advantages and Limitations of the Proposed System

ADVANTAGES OF PROPOSED SYSTEM

The proposed system due to computerized is much faster in reservation process, cancellation process and transactions. Transfer of information from various branches would become easier and faster.

Managing and maintaining data becomes easier and cost effective due to very high amount and reliability of storage space available in the proposed system.

Customer services can not only be satisfied but also enhanced to the extent that one can obtain or cancel a reservation.

LIMITATIONS OF PROPOSED SYSTEM

Passengers have been constrained to going to the airport to select their preferred seat(s) at the check in counter because they don ‘t have the choice of selecting seat(s) for their flights from the existing reservation system.

Passengers have been required to go to the check in counter at the airport after selecting their seat to pick up their boarding pass.

Passengers have not been promptly notified of flight cancellation or delays.

1. REQUIREMENT DETERMINATION & ANALYSIS

2.1 Requirement Determination and Analysis

As we have decided to develop a new system now it is time to determine the new requirements for the new system. As the user is the most important part of any system it is required to find the users requirements to develop a user-friendly system rather than having to develop a developer friendly system.

The outputs required by the user that must be included into the proposed system are as follows:

The work for the particular user must be personalized. Passport and valid visa are required for ticket booking.

Tickets are print as in required order.

The user must be provided easy if he wants to switch from one application to other at a time.

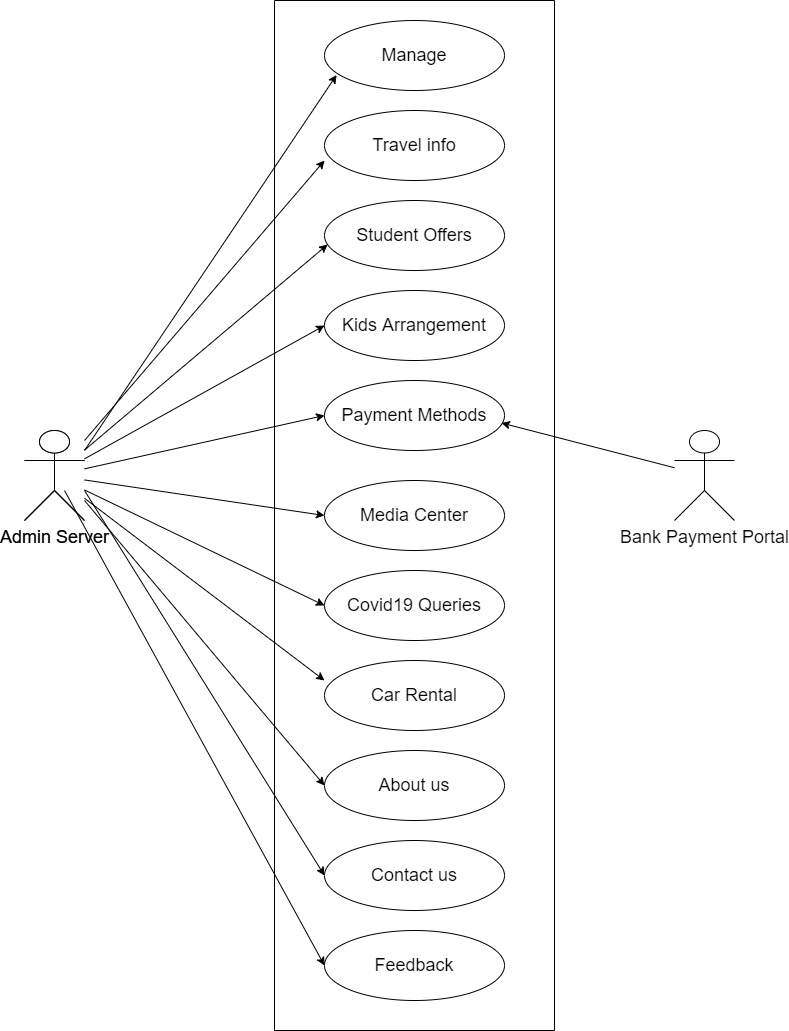
2.2 Targeted Users:

|  |  |  |
| --- | --- | --- |
| Name | Description | Tasks/Responsibility |
| Admin | Admin has a control  Over the whole  System. | Admin can login into the system.  Admin can manage user, manage requests and other facilities. |
| User/Client | User/Client of the System can use the service. | User can register and login in system.  User/Client can view the flight information and reserve as per requirement. |

1. **System Design**

3.1 Use Case Diagram

3.1.1 Admin



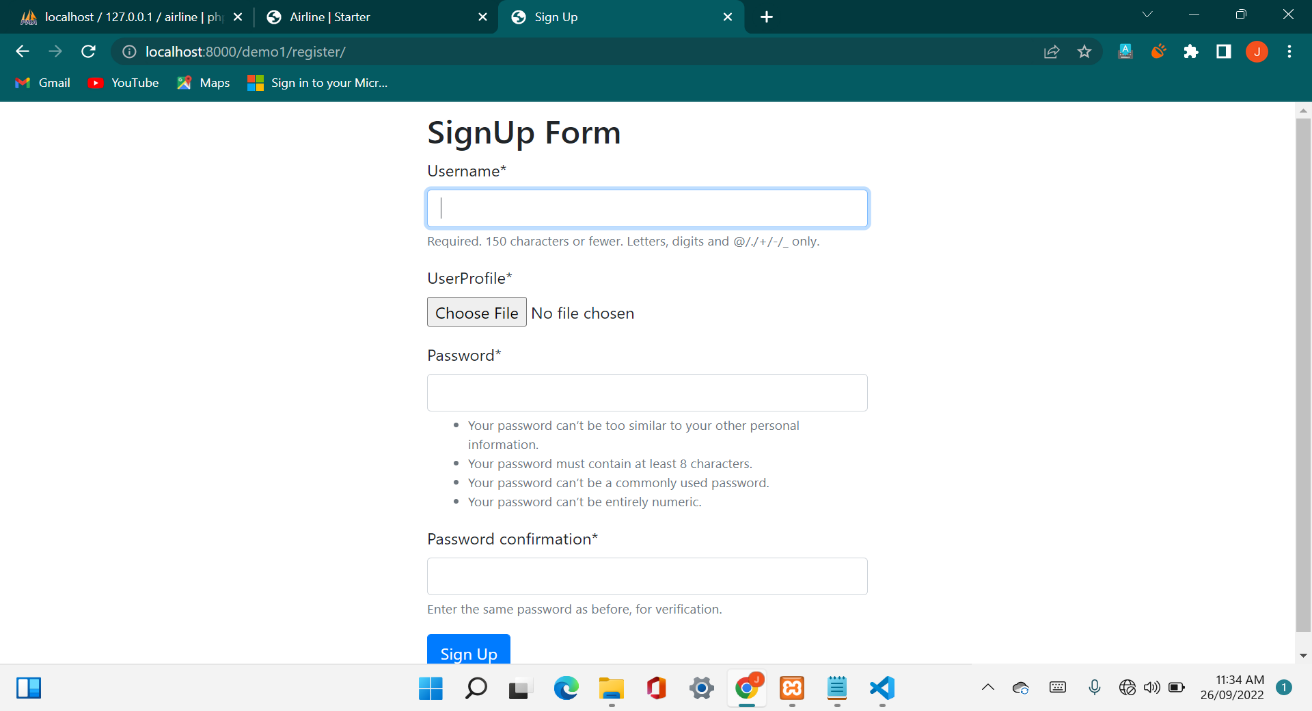
3.1.2 Passenger



3.2 Data Dictionary

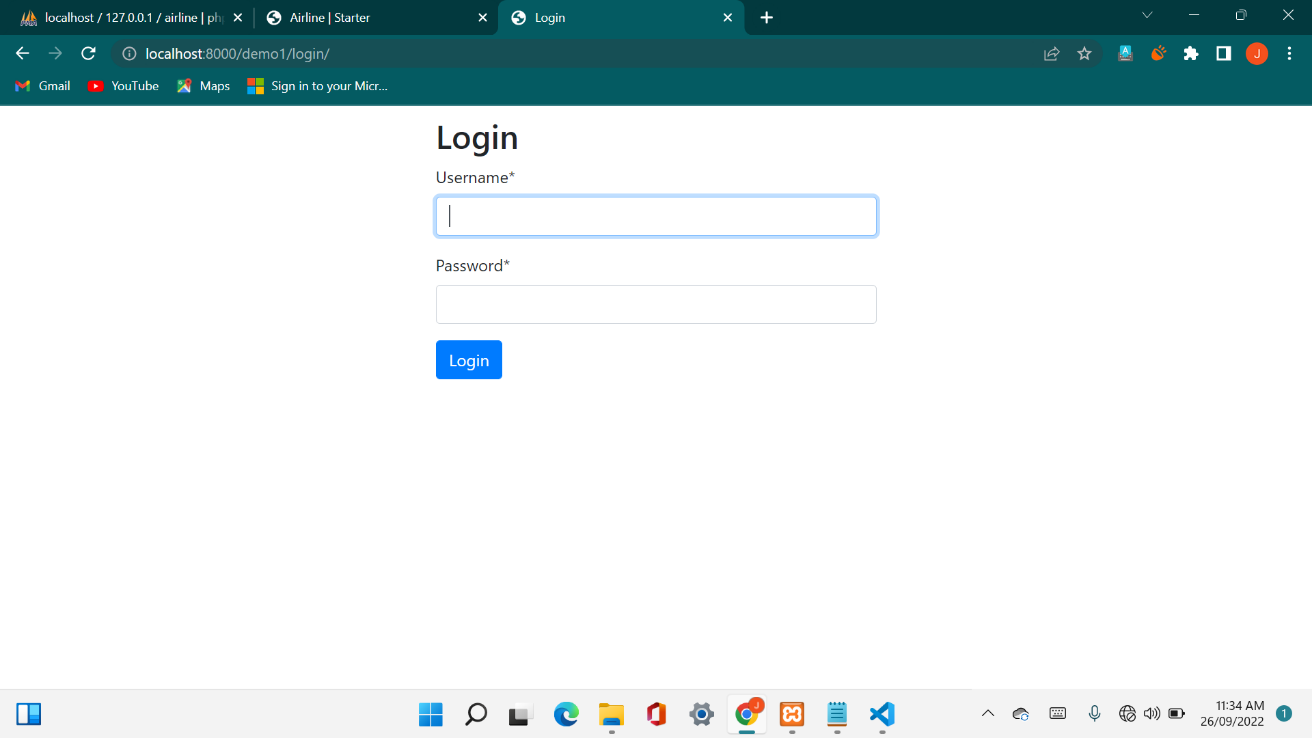
* Registeration:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Name | VarChar2(50) | NOT NULL | Name\_ID | Pratham |
| User Profile | VarChar2(100) | NOT NULL | Upload Photo | \*\*\*\*\*\* |
| Password | VarChar2(25) | NOT NULL | Password | \*\*\*\* |



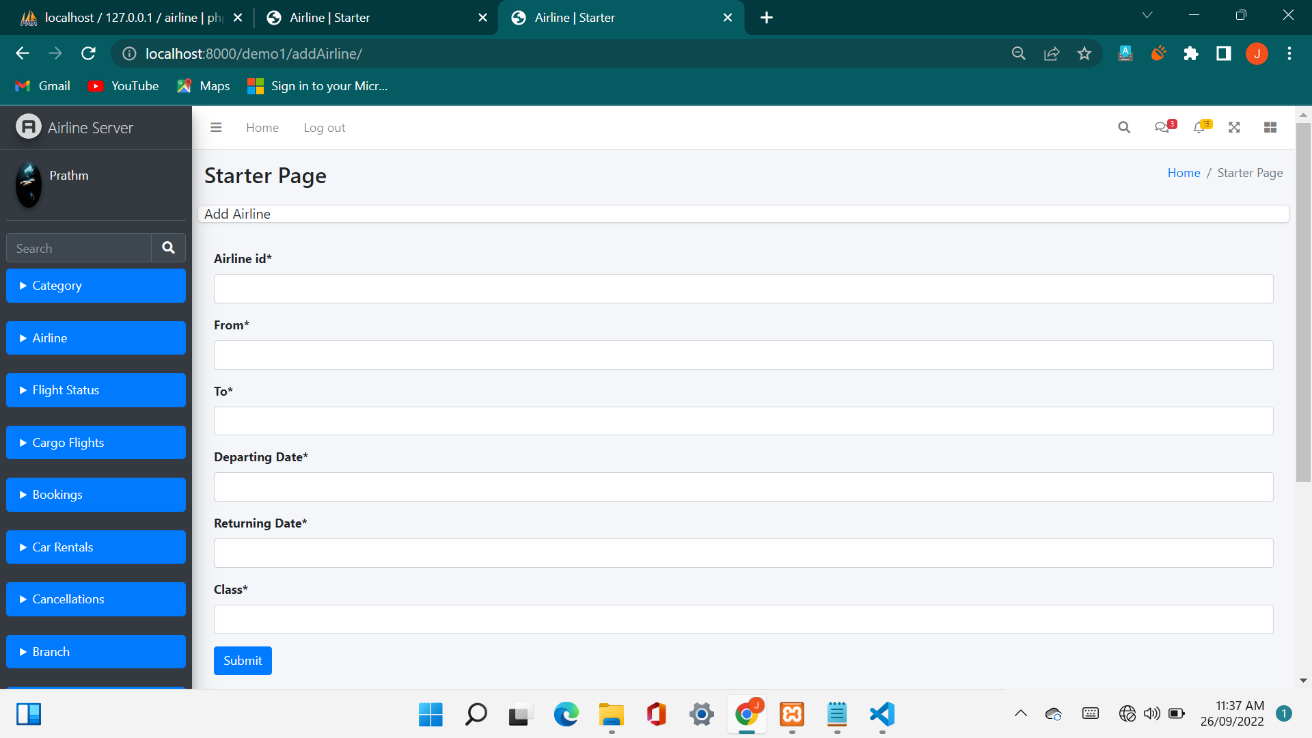
* Log In:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| User Name | VarChar2(25) | NOT NULL | User\_Name | Pratham |
| Password | VarChar2(25) | NOT NULL | Password | J123 |



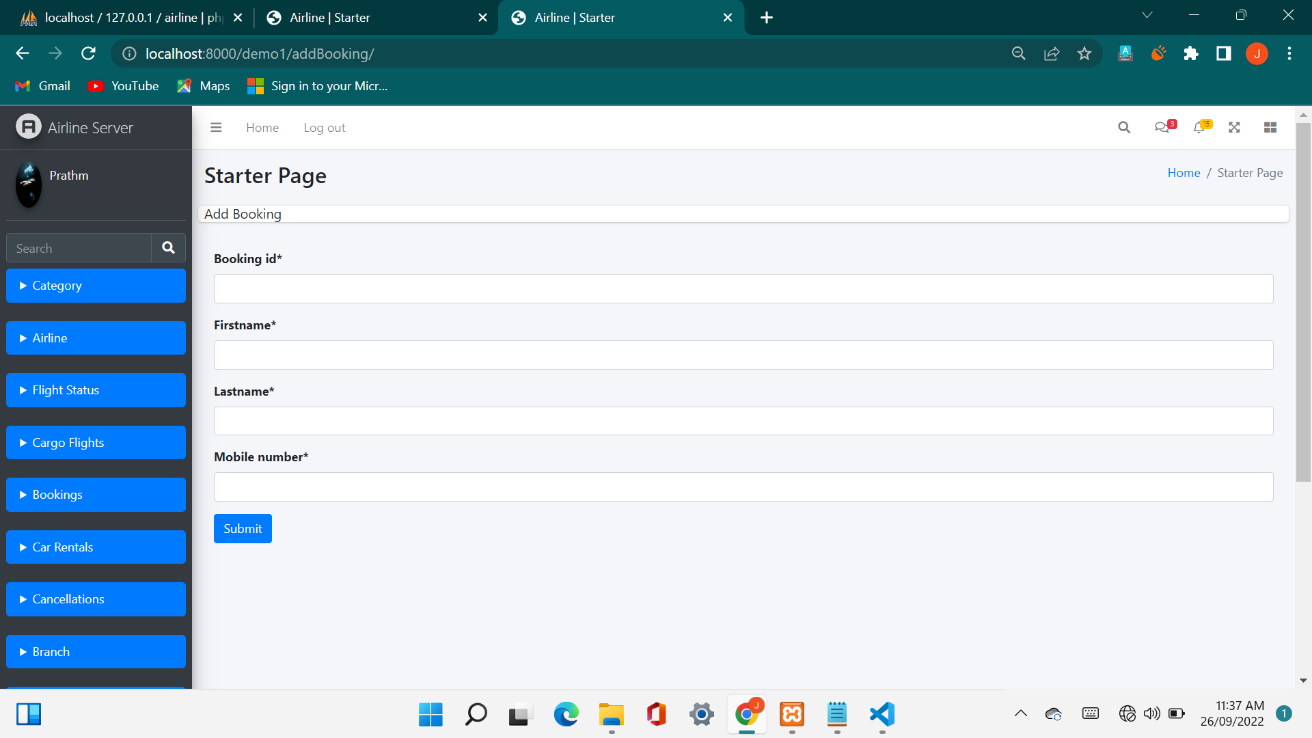
* Search Flight:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Airline Id | VarChar2(25) | PRIMARY | Airline\_Id | A123 |
| From | VarChar2(25) | NOT NULL | From | GOA |
| To | VarChar2(25) | NOT NULL | To | AHD |
| Departing Date | date(6) | NOT NULL | Dep\_Date | 12-09-2022 |
| Returning Date | date(6) | NOT NULL | Ret\_Date | 15-09-2022 |
| Class | VarChar2(25) | NOT NULL | Class | Economy |



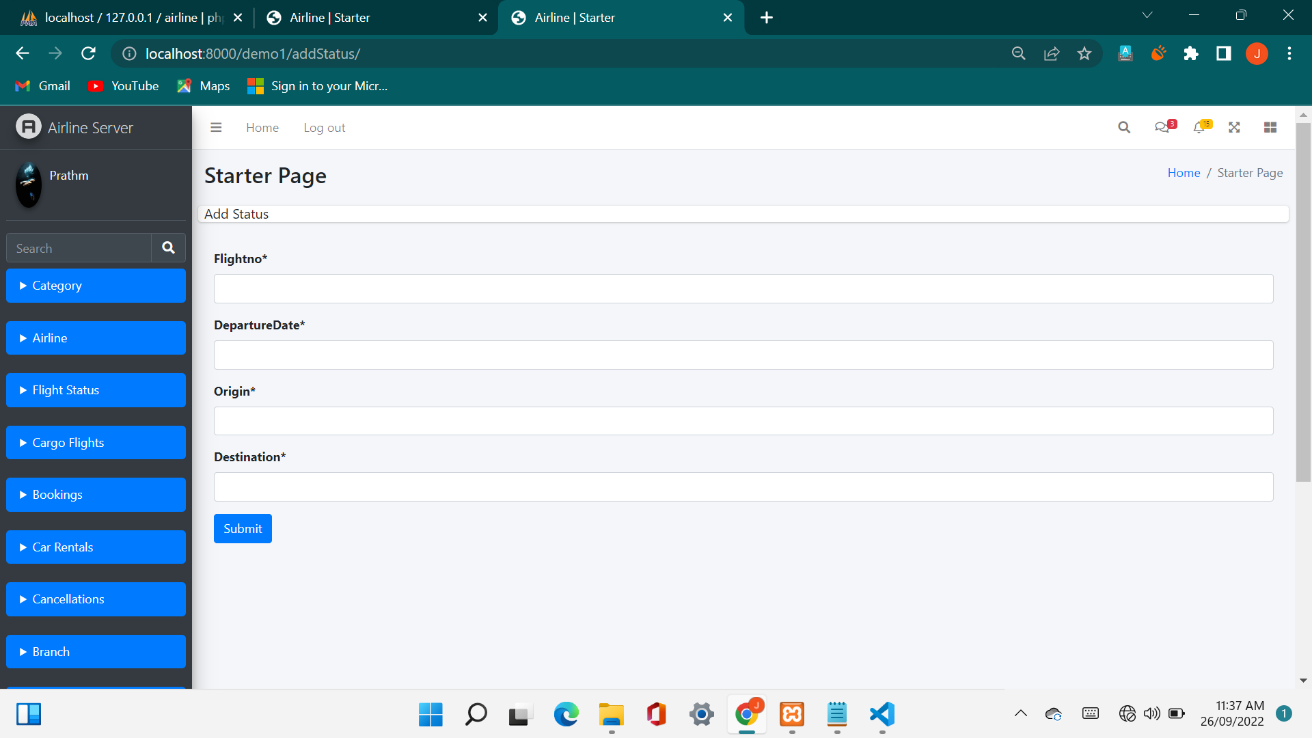
* Manage Booking:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Booking ID | VarChar2(12) | PRIMARY | Book\_ID | HH 5678910 |
| First Name | varChar2(20) | NOT NULL | F\_Name | Parshwa |
| Last Name | VarChar2(20) | NOT NULL | L\_Name | Shah |
| Number | Number(10) | NOT NULL | Number | 1234567889 |



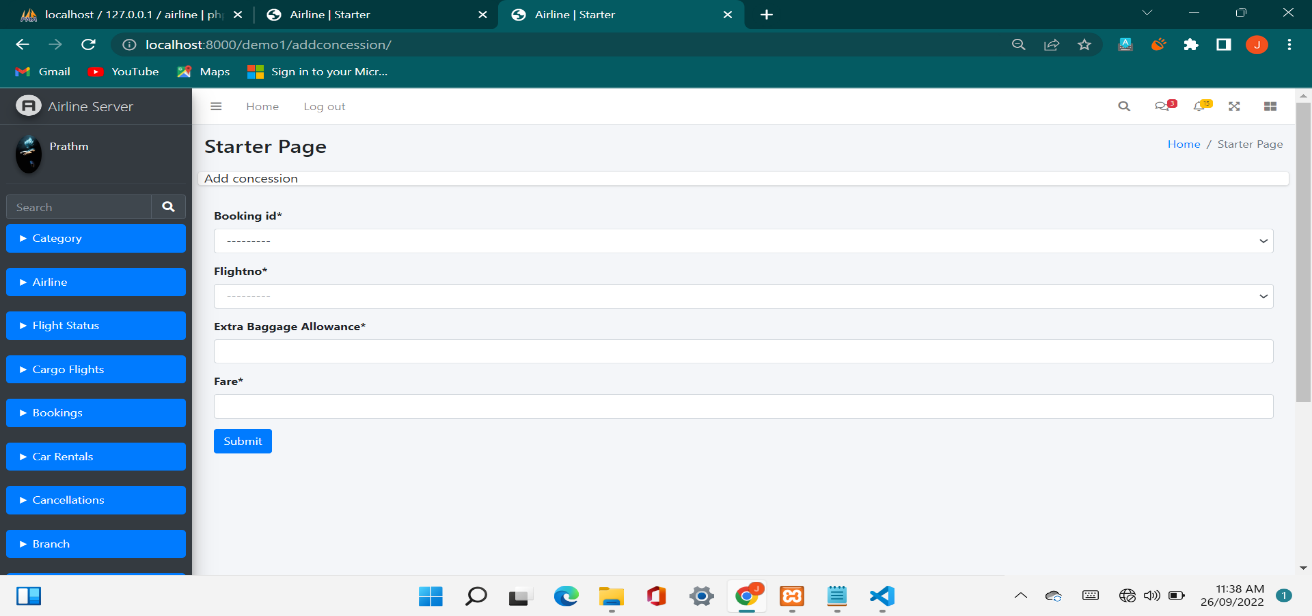
* Flight Status:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Flight No. | VarChar2(12) | PRIMARY | Flight\_No | AB 5405 |
| Date - Time | datetime | NOT NULL | Date | 12-09-2022 |
| Origin | VarChar2(20) | NOT NULL | Origin | ABD |
| Destination | VarChar2(20) | NOT NULL | Destination | GOA |



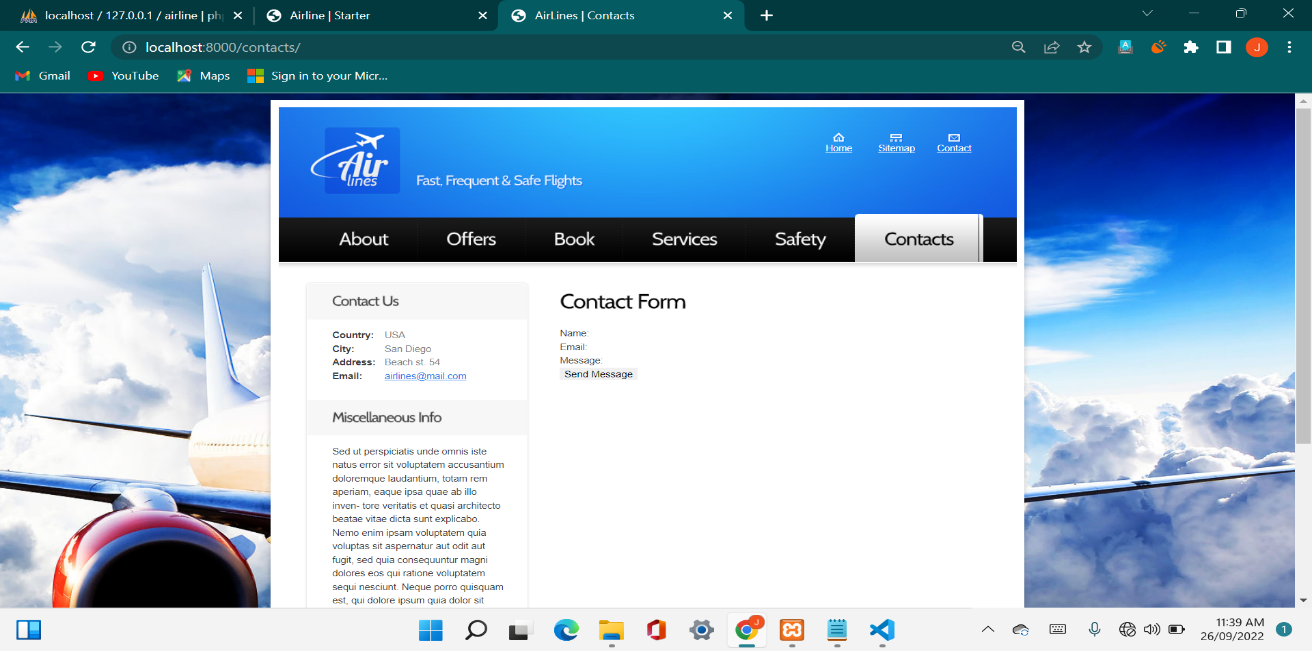
* Concession:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Booking ID | VarChar2(12) | FOERIGN | Book\_ID | HH 5678910 |
| Flight No | VarChar2(12) | PRIMARY | Flight\_No | AB 5405 |
| Extra Baggage Allowance | VarChar2(25) | NOT NULL | Extra\_Baggage\_Kgs | 15kg |
| Fare | Number(10) | NOT NULL | Fare | 1500 |



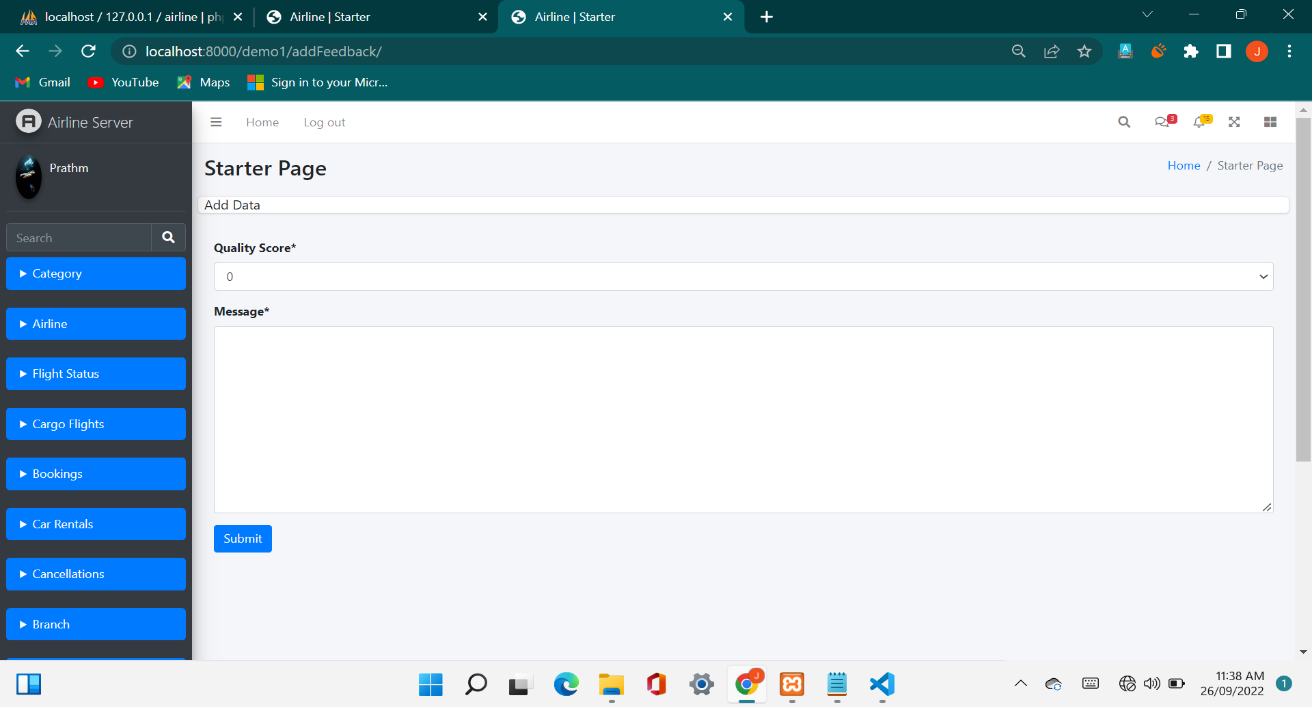
* Contact Us:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Id | BigInt | PRIMARY | ID | 1 |
| User Name | VarChar2(25) | NOT NULL | User\_Name | Pratham |
| E-mail | VarChar2(25) | NOT NULL | Email\_ID | p123@gmail.com |
| Message | VarChar2(25) | NOT NULL | Message | Extra Baggage Allowances |



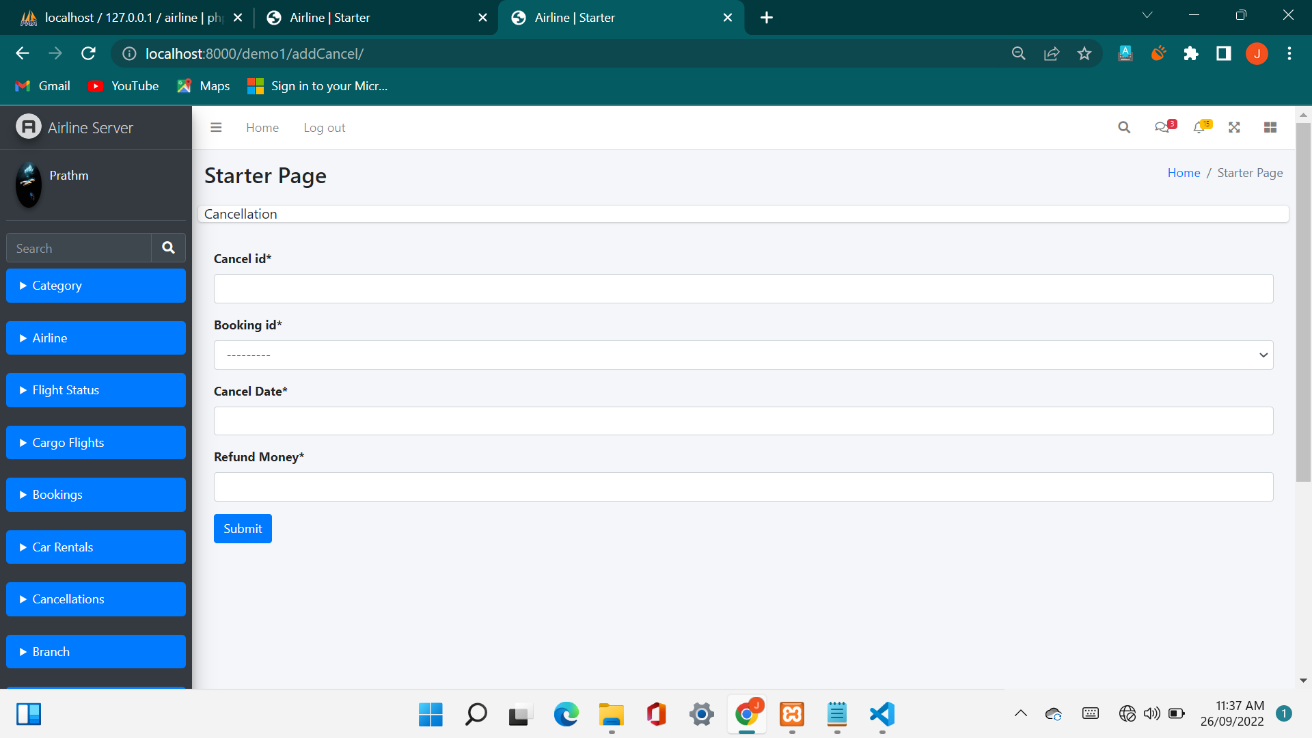
* Feed Back:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Quality Score | VarChar2 | NOT NULL | Quality\_Score | 1 |
| Message | VarChar2 | NOT NULL | Message | Good |



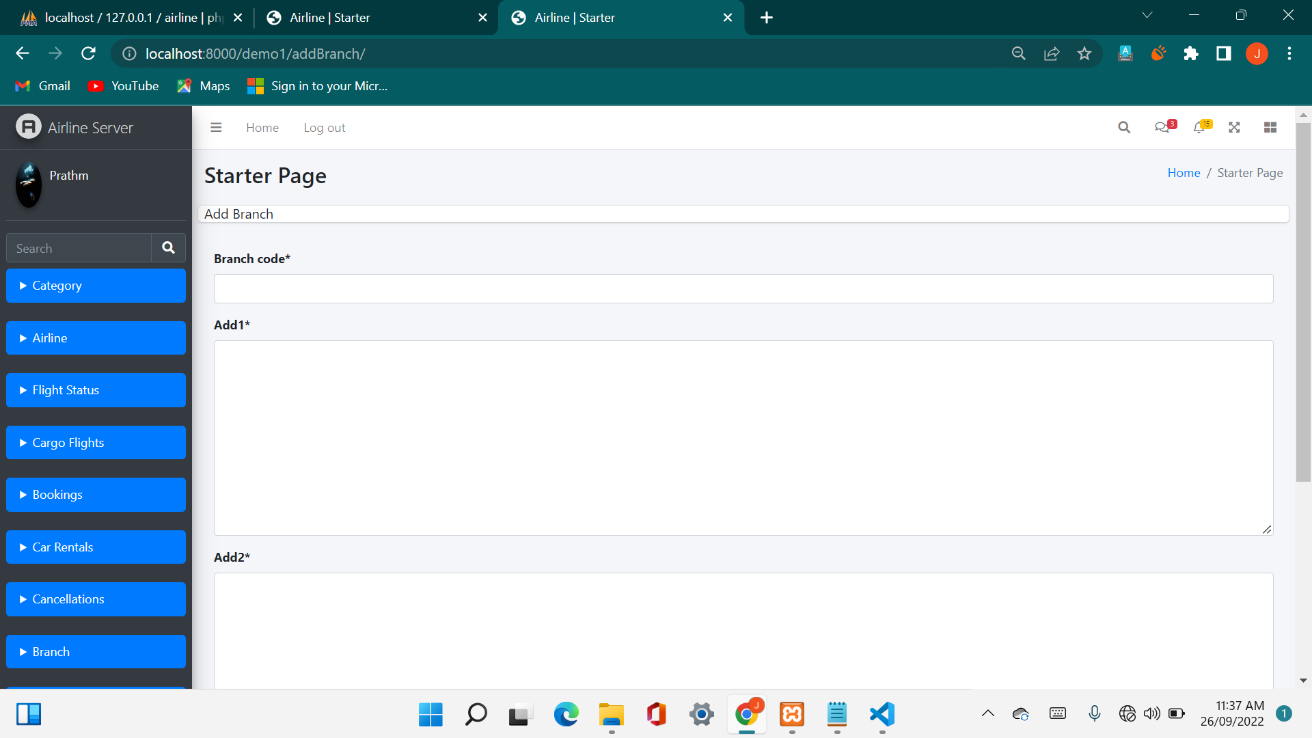
* Cancellation:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Cancel Id | VarChar2(10) | PRIMARY | Cancellation\_ID | AA 5687 |
| Booking ID | VarChar2(10) | FOREIGN | Book\_ID | HH 567890 |
| Cancel Date | date | NOT NULL | Date\_of\_Cancel | 25-09-2022 |
| Refund Money | Number(20) | NOT NULL | Refund Money | 2500 |



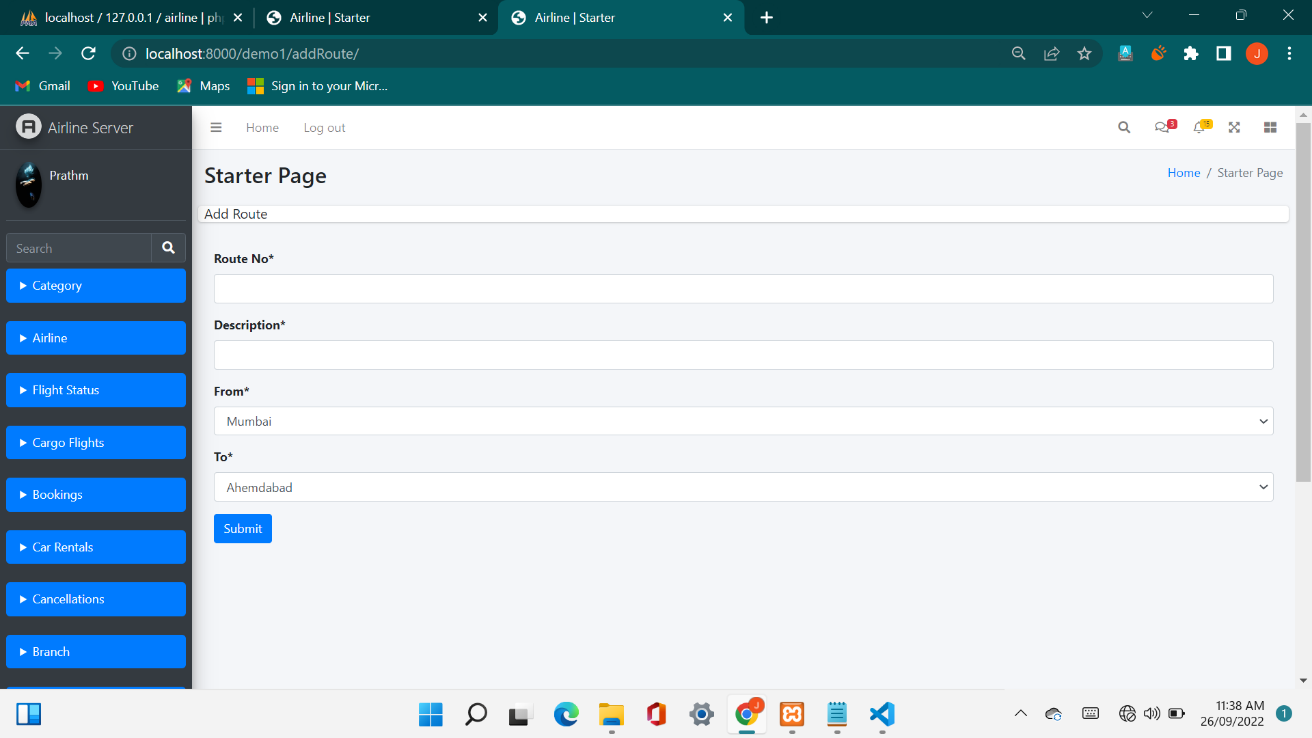
* Branch:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Branch Code | VarChar2(5) | PRIMARY | B\_Code | B12 |
| Address | VarChar2(20) | NOT NULL | B\_Add | 2, ABC |
| City | VarChar2(20) | NOT NULL | City | GOA |
| Telephone | Number(8) |  | Tel\_No | 12345678 |



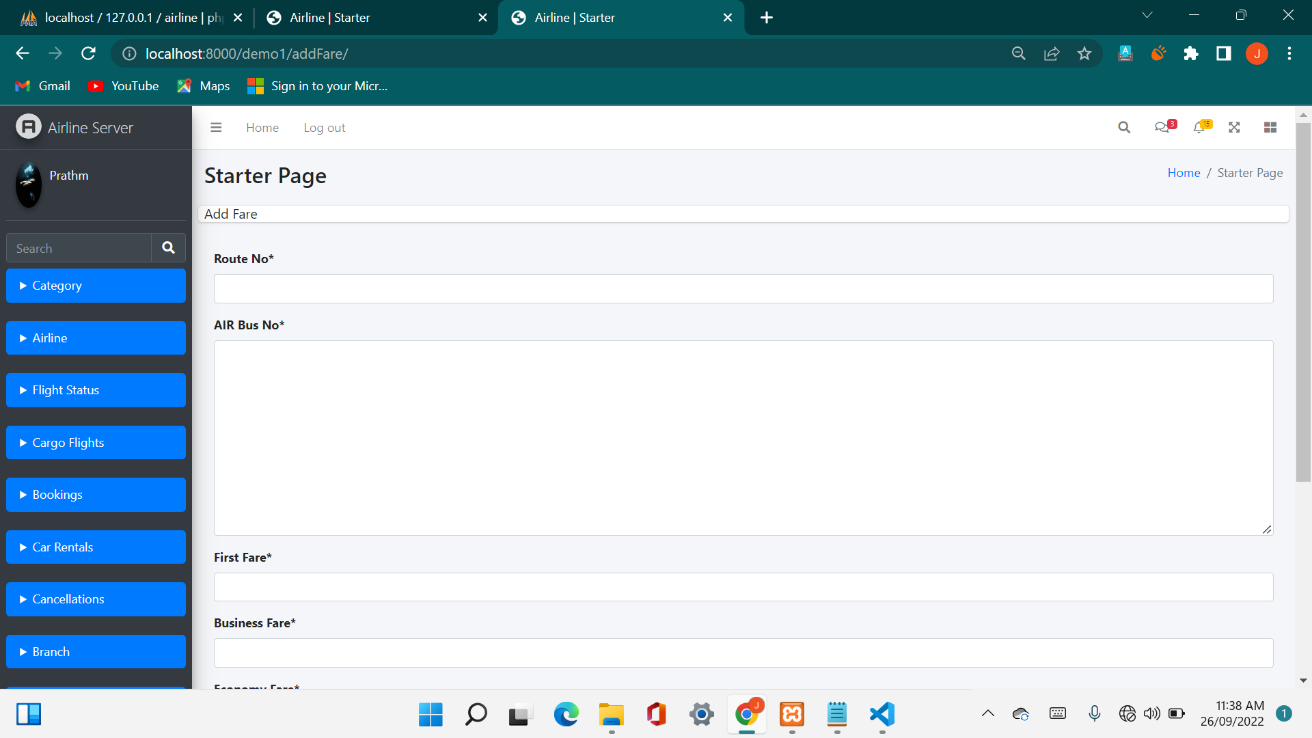
* Route:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Route No | VarChar2(5) | PRIMARY | R\_No | A 123 |
| Description | VarChar2(25) | NOT NULL | R\_Desc |  |
| From | VarChar2(25) | NOT NULL | From | GOA |
| To | VarChar2(25) | NOT NULL | To | AHD |



* Fare:

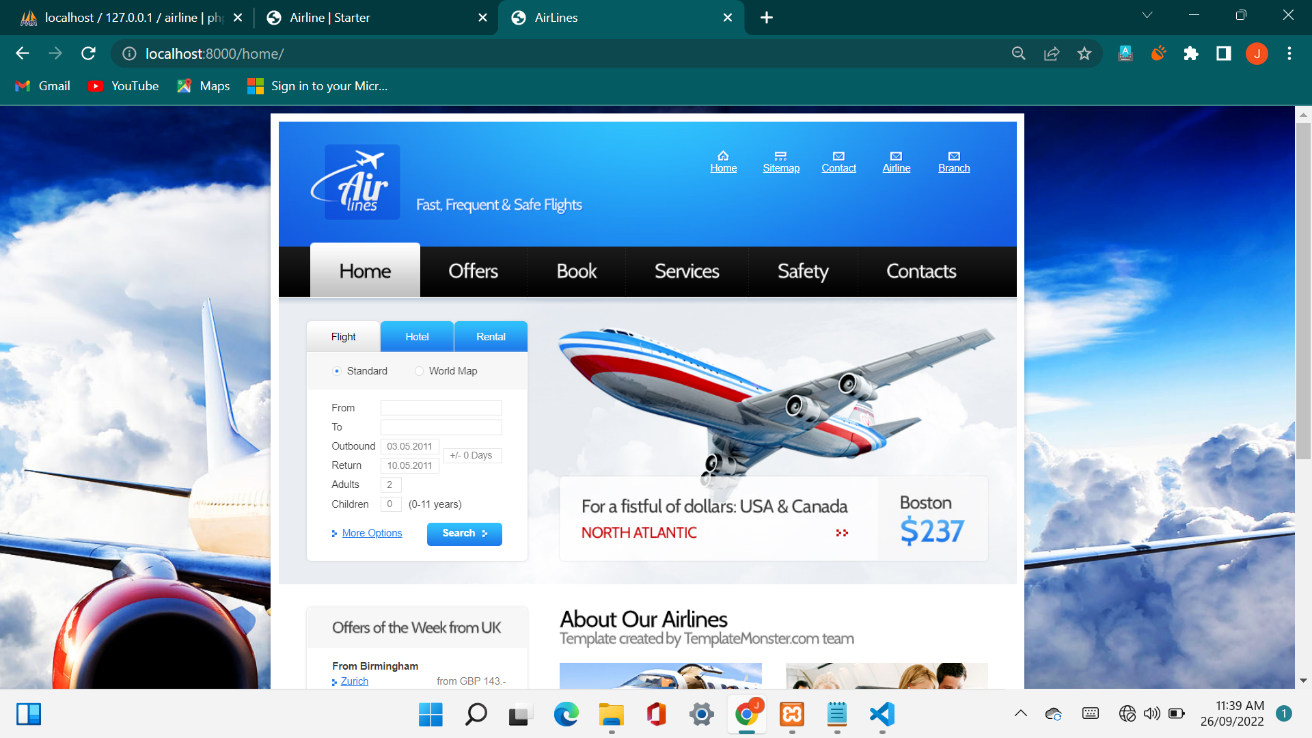
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Constraint | Description | Sample Data |
| Route No | VarChar2 | FOREIGN | R\_No | 1 |
| AIR Bus No | VarChar2 | FOREIGN | AIR\_Bus\_No | Good |
| First Fare | Number(10) | NOT NULL | F\_Fare | 2500 |
| Business Fare | Number(10) | NOT NULL | B\_Fare | 5000 |
| Economy Fare | Number(10) | NOT NULL | E\_Fare | 2000 |



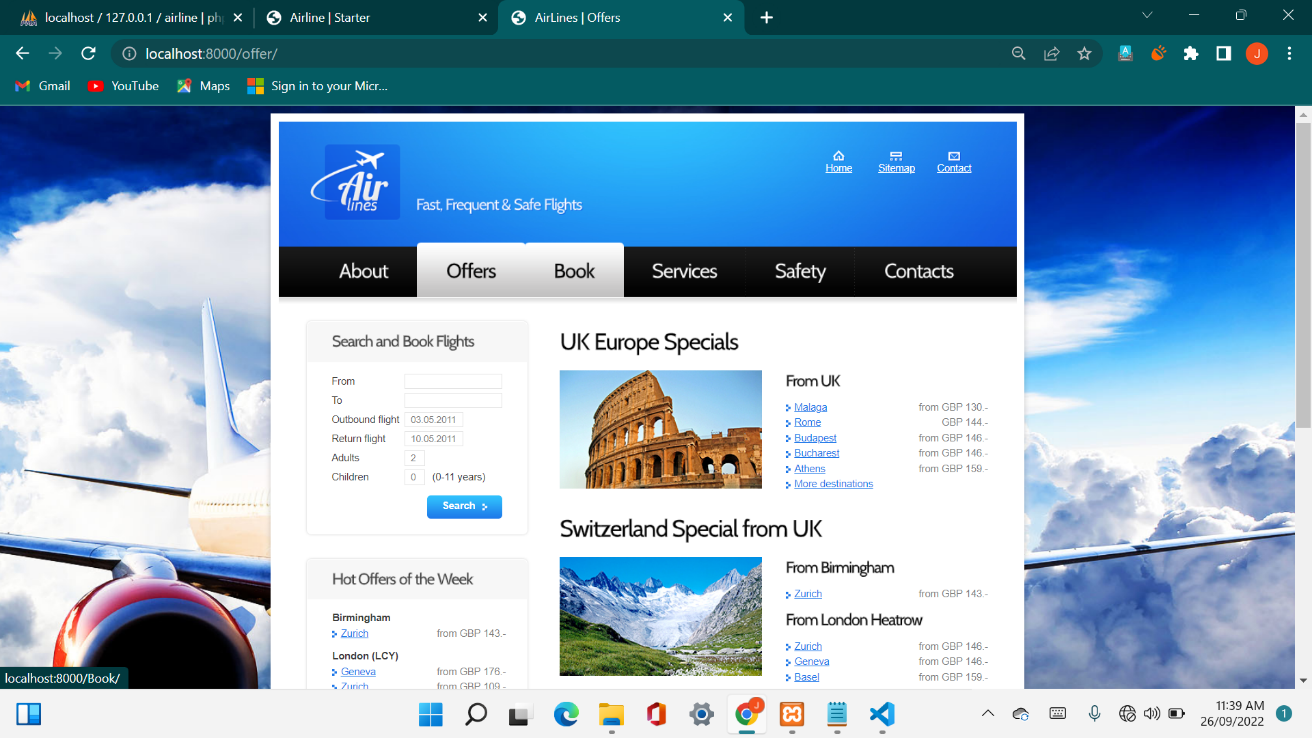
4. Development

4.1 Screenshots

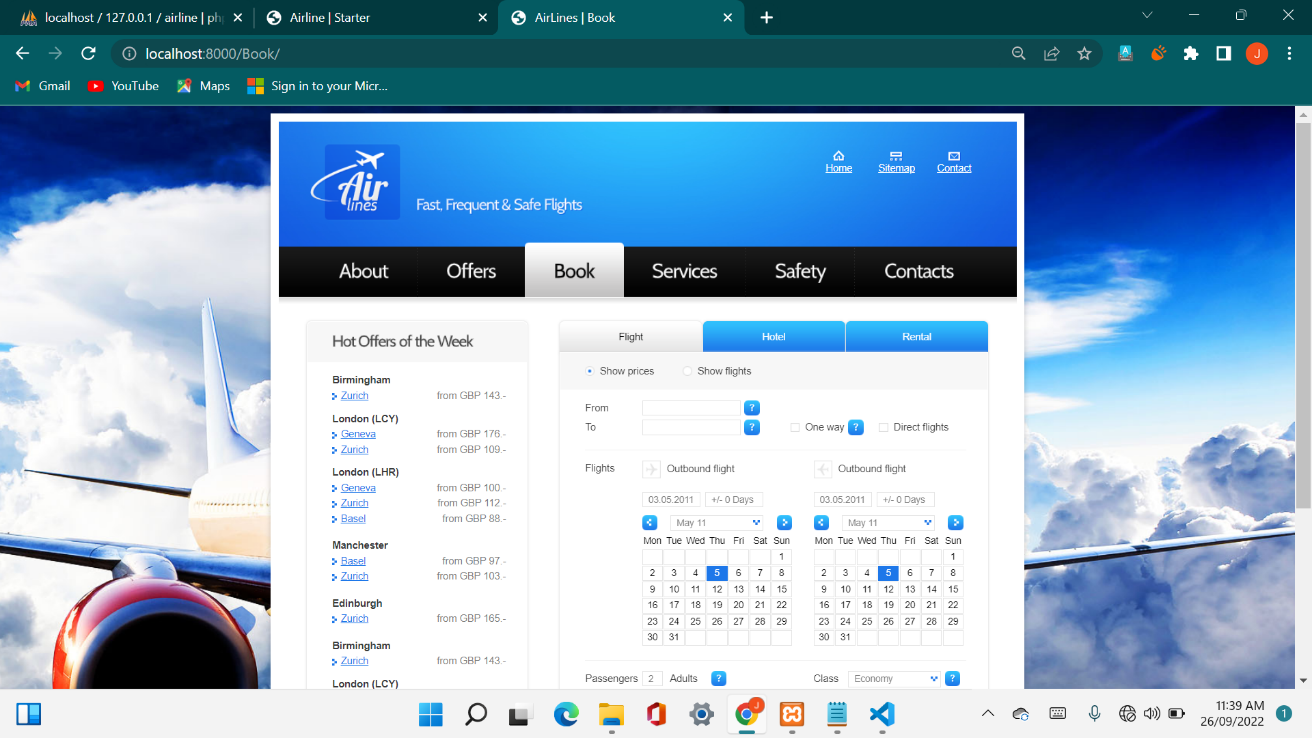
* Home:



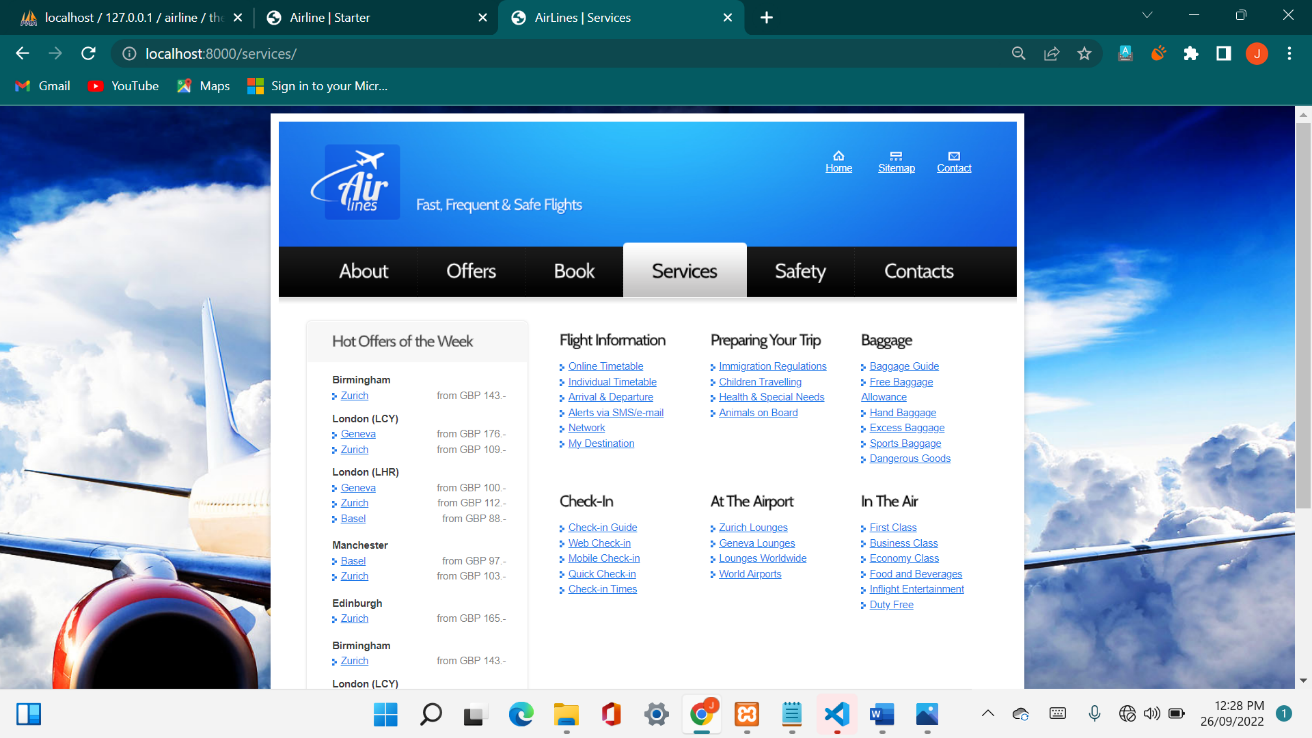
* Offers:



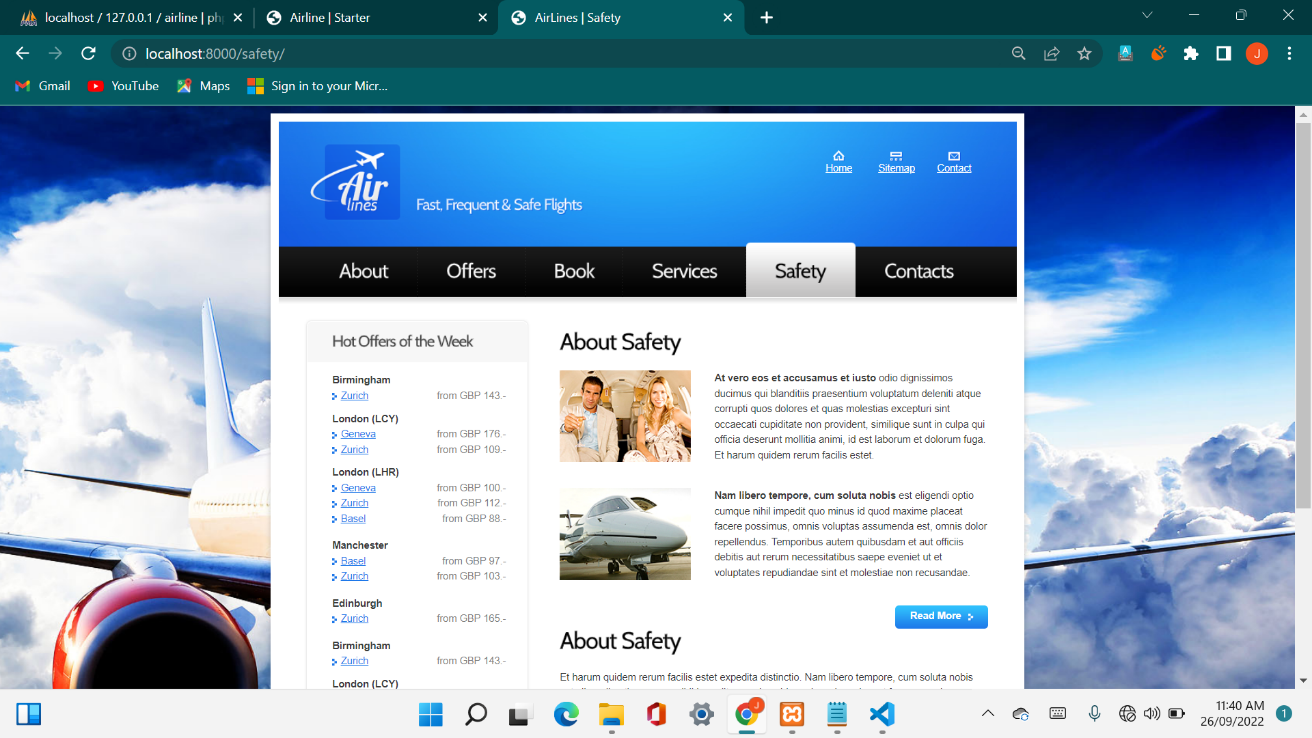
* Book:



* Services:



* Safety:



* Contact:

