Library Management System Documentation

Overview

I developed the Library Management System as an ASP.NET Core MVC application designed to manage book and author operations within a library. This system allows users to add, edit, delete, and view books and authors while adhering to Object-Oriented Programming (OOP) principles.

Project Structure

I organized the project into several key components:

1. **Models**
    - **Book**: This model represents the book entity with properties such as Id, Title, AuthorId, Genre, PublishDate, ISBN, and CopiesAvailable.
    - **Author**: This model represents the author entity with properties like Id, FirstName, LastName, and DateOfBirth.
    - **User**: This model represents library members, containing properties like Id, FullName, Email, Password, PhoneNumber, and JoinDate.
2. **ViewModels**
    - **BookViewModel**: I created this ViewModel to display book details and lists.
    - **AuthorViewModel**: This ViewModel is used for displaying author details and lists.
    - **SignUpViewModel**: I implemented this ViewModel for user registration.
    - **LoginViewModel**: This ViewModel is used for user login.
3. **Controllers**
    - **BookController**: This controller manages book-related actions, including List, Details, Create, Edit, and Delete.
    - **AuthorController**: This controller handles author-related actions, such as List, Details, Create, Edit, and Delete.
    - **AuthController**: This controller manages user authentication processes for SignUp and Login.
4. **Views**
    - **Book Views**: I created views for managing books, including List, Details, Create, and Edit.
    - **Author Views**: I developed views for managing authors, including List, Details, Create, and Edit.
    - **User Views**: I designed Sign Up and Login views for user management.

Setup Instructions

1. **Prerequisites**
    - I ensured that the .NET Core SDK was installed on my machine.
    - I used a code editor, such as Visual Studio or Visual Studio Code.

Usage

- **Registering Users**: I navigated to the Sign Up page, filled in the required details, and submitted the form.
- **Logging In**: I used the Login page to enter my email and password to access the system.
- **Managing Books**: I implemented functionality that allows users to view, create, edit, or delete books in the Book section.
- **Managing Authors**: Similarly, I created options for users to view, create, edit, or delete authors in the Author section.

Testing

- I tested the application manually by navigating through various functionalities.
- I ensured that the validation logic (such as password confirmation during signup) worked correctly.
- I verified the CRUD operations for books and authors to confirm that data was being handled properly.

Conclusion

This documentation reflects my process in developing the Library Management System, providing an overview of its structure, setup, and usage. It serves as a guide for both developers and users to understand the application's functionality.