**Online Book Store Application Documentation**

**Project Overview:**

The Online Book Store Application is a web-based platform built using ASP.NET Core 5, HTML, and jQuery with ADO.NET and SQL Server. In the backend, we have utilized the repository pattern. There are three projects for the UI, a WebAPI for backend operations, and a model project for common shared classes between both applications. This project has been developed for demonstration purposes. The primary objective of this project is to provide a user-friendly online store for customers to browse, search, and purchase books. Below is a comprehensive guide to the application.

**Installation and Setup:**

To set up the development environment for the Online Book Store Application, follow these steps:

**Prerequisites:**

* Install SQL Server and create a database.
* Install Visual Studio.
* Install .NET Core 5 SDK.

**Database Setup:**

* Restore DB backup file in your PC.
* Run some manual scripts for manual entries in table like Books, Country, State, City.
* Update the connection string in the appsettings.json file to point to your SQL Server instance.

**Run the Application:**

* Open the project in Visual Studio.
* Install all necessary Nugat libraries.
* Build and run the application.

**Database Structure:**

**Tables:**

1. **tbl\_Books: It will store all the details of books. Need to insert data mannualy.**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| Id | INT | Primary key auto increment. |
| Title | NVARCHAR | To store Title of book. |
| Author | NVARCHAR | To store book Author name. |
| Price | Decimal(18,2) | To store book price. |
| ISBN | NVARCHAR | To store ISBN of book. |
| Description | NVARCHAR | Any description of book. |
| Image | NVARCHAR | Store the file name of cover photo |

1. **tbl\_Users: It will store all the details of users.**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| Id | INT | Primary key auto increment. |
| FirstName | NVARCHAR | To store first name of user. |
| LastName | NVARCHAR | To store last name of user. |
| Email | NVARCHAR | To store email address of users which they will use as a username for access system. |
| Password | NVARCHAR | To store password of system. |
| MobileNo | NVARCHAR | To store mobile number |
| Gender | Int | To store gender |
| CountryId | Int | Reference key of country table for store country of user. |
| StateId | Int | Reference key of state table for store state of user. |
| CityId | Int | Reference key of City table for store city of user |
| Address | NVARCHAR | Store the residential Address of user. |
| Pincode | NVARCHAR | Stores zip code of user address. |
| ProfileImage | NVARCHAR | Stores the profile photo file name. |
| Is2FAEnable | Bit | Store true if user enable 2 factor authentication via app else false. |
| AuthRecoveryCode | NVARCHAR | Stores system generated GUID in case use authenticator app loosed. |

1. **tbl\_Country: It will store countries. Need to add data manual.**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| Id | INT | Primary key auto increment. |
| CountryName | NVARCHAR | To Store country Name. |

1. **tbl\_State: It will store states country wise. Need to add data manual.**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| Id | INT | Primary key auto increment. |
| StateName | NVARCHAR | To Store state Name. |
| CountryId | INT | Reference key of Country table. |

1. **tbl\_City: It will store city state wise. Need to add data manual.**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| Id | INT | Primary key auto increment. |
| CityName | NVARCHAR | To Store City Name. |
| StateId | INT | Reference key of state table. |

1. **tbl\_Cart: It will cart details of user.**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| Id | INT | Primary key auto increment. |
| UserId | INT | Reference key of users table. |
| BookId | INT | Reference key of books table. |
| Quantity | Int | Stores Quantity of added book. |
| DateAdded | Datetime | Stores date and time when user added particular book into cart. |

1. **tbl\_Orders: It will Order main details like shipping address, total qty, etc.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | | **Description** | |
| Id | INT | | Primary key auto increment. | |
| UserId | INT | | Reference key of users table. | |
| TotalQty | INT | | Stores Total Quantities of the order. | |
| TotalAmount | DECIMAL(18,2) | | Stores total amount of order. | |
| OrderDate | Datetime | | Stores date and time when user put order. | |
| PaymentStatus | VARCHAR | | Store payment status. | |
| Name | NVARCHAR | | To store billing person name. | |
| CountryId | | Int | | Reference key of country table for store country of shipping address. |
| StateId | | Int | | Reference key of state table for store state of shipping address. |
| CityId | | Int | | Reference key of City table for store city of shipping address. |
| Address | | NVARCHAR | | Store the shipping address of user. |
| Pincode | | NVARCHAR | | Stores zip code of user shipping address. |

1. **tbl\_OrdersDetails: It will Order details like book details, qty, etc.**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Description** |
| Id | INT | Primary key auto increment. |
| OrderId | INT | Reference key of Orders table. |
| BookId | INT | Reference key of user table. |
| Quantity | Int | Stores qty of book. |
| Price | DECIMAL(18,2) | Stores per qty price of book. |
| TotalAmount | DECIMAL(18,2) | Stores Total price like qty\*price |

**User Authentication:**

The Online Book Store Application includes user registration and login features with a user-friendly UI:

**User Registration:**

* Users can create accounts by providing a unique username and a secure password.

**User Login:**

* Registered users can log in using their username and password.
* Authentication is performed securely with password.

**API Access:**

* Use given username and password for generate JWT Token.
* Pass this token in headers for every request.

**Shopping Cart Functionality:**

The application supports shopping cart functionality, allowing users to add books to their cart and proceed to place order:

**Adding Books to Cart:**

* Users can browse and search for books and add them to their shopping cart.

**Place Order:**

* Users can view and edit of their cart.
* After reviewing, they can place an order.

**Order Storage:**

* Order details are stored in the database, including the order date and total amount.

**Security Practices:**

The application follows essential security practices:

**Input Validation:**

* User inputs are validated to prevent common vulnerabilities such as SQL injection and cross-site scripting (XSS).

**Protection Against Common Web Vulnerabilities:**

* Security measures like input validation and output encoding protect against SQL injection and XSS.
* Anti-CSRF tokens are implemented for secure forms.

**Authentication and Authorization:**

* Users must log in to access certain functionalities, ensuring data privacy.

**Two-Factor Authentication (2FA):**

The application supports Two-Factor Authentication (2FA) with an authenticator app for added security:

**Enabling 2FA:**

* Users can enable 2FA in their account settings.
* To enable 2FA, they must scan a QR code using their authenticator app.

**Using 2FA:**

* After enabling 2FA, users must enter the one-time code generated by their authenticator app during login in addition to their password.

**2FA UI:**

* The application provides a user-friendly interface for configuring and using 2FA.