

Scenario-Based Coding Assignment: Managing a Library System with EF Core

1. Project Title

Library Management System with EF Core (Code First & Database First)

2. Introduction

- Brief description of the project:
This project implements a Library Management System using Entity Framework Core (EF Core). It manages Books, Authors, and Genres with CRUD operations, relationships, and advanced queries. Both Code First and Database First approaches are demonstrated.
 - Purpose:
To provide hands-on experience with EF Core, migrations, reverse engineering, and relationship handling in ASP.NET Core MVC applications.
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3. Tools and Technologies

- ASP.NET Core MVC
- Entity Framework Core (Code First & Database First)
- SQL Server / LocalDB
- Visual Studio 202

- C#
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4. Project Structure

- **Models:** Book.cs, Author.cs, Genre.cs
 - **Data:** LibraryContext.cs (DbContext class)
 - **Controllers:** BooksController, AuthorsController, GenresController
 - **Views:** Razor views for CRUD (Index, Create, Edit, Details, Delete)
 - **Migrations:** Code First migration files
 - **Program.cs:** Configures EF Core and routing
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5. Conclusion

- Successfully implemented a Library Management System with EF Core.
- Learned both Code First and Database First approaches.
- Implemented CRUD operations, relationships (1-M, M-M), and advanced queries.
- Practiced migrations, reverse engineering, and best practices for data integrity and performance.