**Adding a New Table to Your Project: From Zero to API Control**

**Table name : Categories**

**1. SQL Server: Create the Table**

1. **Create the New Table**
   * Open SQL Server Management Studio (SSMS).
   * Define the table structure and constraints as needed.

CREATE TABLE [dbo].[Categories] ( [CategoryId] INT IDENTITY(1,1) NOT NULL PRIMARY KEY, [Name] NVARCHAR(100) NOT NULL, [Description] NVARCHAR(255) NULL );

**2. C# Project: Set Up Entity Framework Core**

1. **Install Entity Framework Core Tools**

1.1 **Using Package Manager Console (Visual Studio)**

* + Ensure you are in the **Infrastructure** layer.
  + Run these commands in the Package Manager Console:

Install-Package Microsoft.EntityFrameworkCore.SqlServer

Install-Package Microsoft.EntityFrameworkCore.Tools

1. **Scaffold the Existing Database**

* **For All Tables:**

Scaffold-DbContext "Name=BookStoreDatabase" Microsoft.EntityFrameworkCore.SqlServer -OutputDir Models -Context BookStoreDbContext -Force

* **For Specific Tables:**

Scaffold-DbContext "Name=BookStoreDatabase" Microsoft.EntityFrameworkCore.SqlServer -OutputDir Models -Context BookStoreDbContext -Tables Categories, Book -Force

*This will automatically create the Entity Models (e.g., Categories) and the DbContext (e.g., BookStoreDbContext). You’ll use these files in the next steps.*

**3. Update Thek Core Layer (Domain)**

1. **Add the Entity**
   * Move the entity class (e.g., Category.cs) to the BookStore.Core.Entities folder.
2. **Update Other Entities**
   * Modify other entities if necessary (e.g., Book.cs).
3. **Create the Repository Interface**
   * In the BookStore.Core.Interfaces folder, create a file named ICategoryRepository.cs.

**4. Update the Infrastructure Layer**

1. **Create the Repository**
   * In the BookStore.Infrastructure.Data.Repositories folder, create a file named CategoryRepository.cs.
2. **Update the DbContext**
   * Copy the OnModelCreating configuration block from the scaffolded DbContext and paste it into your main DbContext file (e.g., BookStoreDbContext.cs).

**5. Update the Application Layer**

1. **Create a DTO**
   * In BookStore.Application.DTOs, create a file named CategoryDto.cs.
2. **Create a Service Interface**
   * In BookStore.Application.Interfaces, create a file named ICategoryService.cs.
3. **Implement the Service**
   * In BookStore.Application.Services, create a file named CategoryService.cs.
4. **Update the Mapping Profile**
   * In MappingProfile.cs, add the mappings for Category and CategoryDto.

**6. Update the API Layer**

1. **Create a Controller**
   * In BookStore.API.Controllers, create a file named CategoriesController.cs.