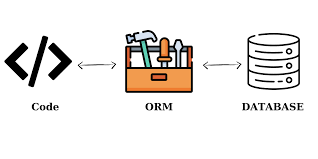
Lab 1: Understanding ORM with a Retail Inventory System Scenario:

Key Learnings And Understandings :

1.What is ORM?

An Object-Relational Mapping (ORM) framework is a programming technique that creates a "bridge" between object-oriented programming languages and relational databases. It allows developers to interact with the database using the familiar syntax of their programming language, rather than directly writing SQL. This abstraction layer simplifies database interactions, reduces boilerplate code, and can improve developer productivity.

2. EF Core vs EF Framework:

**1.Entity Framework (EF)** is an **Object-Relational Mapper (ORM)** for .NET that enables developers to work with a database using .NET objects. It eliminates the need for most of the data-access code that developers usually write.

There are two major versions:

* **EF 6.x**: Often referred to as **Entity Framework (EF)** or **EF Framework** – the older, mature version.
* **EF Core**: A **modern**, lightweight, and **cross-platform** rewrite of EF.

**2.EF Core** is a completely rewritten version of Entity Framework and is designed to be lightweight, extensible, and modern. It is cross-platform, meaning it runs on Windows, Linux, and macOS. This makes EF Core suitable for modern .NET applications, especially those using .NET Core, .NET 5, .NET 6, or later.

3.EF Core 8.0 Key Features

1. **JSON Column Mapping**: Store nested objects or arrays in a JSON column.

2. **Compiled Models**: Boost performance during startup.

3. **Interceptors**: Customize or log SQL queries.

4. **Bulk Updates/Inserts**: Better performance for large datasets.

4. Create a .NET Console App

* .NET SDK installed
* Any code editor (Visual Studio 2022)
* On Windows, open **Command Prompt**
* Type > dotnet new console -n RetailShop

Here Iam Manually Creating RetailInventory using CreateNew Project>Console app(.Net)>Project Name as “RetailShop”>Create

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5. Install EF Core Packages:

* dotnet add package Microsoft.EntityFrameworkCore.SqlServer
* dotnet add package Microsoft.EntityFrameworkCore.Design

here I have Install packages throw the Tools>NuGet package Manager>

Manage NuGet Packages for solution.

Here I have attached the Installation of Tools in Nuget Package Manager.

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