Lab 4: Inserting Initial Data into the Database

// Required NuGet Packages:

// - Microsoft.EntityFrameworkCore

// - Microsoft.EntityFrameworkCore.Sqlite

// - Microsoft.EntityFrameworkCore.Tools

using System;

using System.Collections.Generic;

using System.Linq;

using Microsoft.EntityFrameworkCore;

namespace RetailInventoryApp

{

// Model: Category

public class Category

{

public int CategoryId { get; set; }

public string Name { get; set; }

public List<Product> Products { get; set; } = new();

}

// Model: Product

public class Product

{

public int ProductId { get; set; }

public string Name { get; set; }

public int Quantity { get; set; }

public int CategoryId { get; set; }

public Category Category { get; set; }

}

// DbContext

public class RetailDbContext : DbContext

{

public DbSet<Category> Categories { get; set; }

public DbSet<Product> Products { get; set; }

protected override void OnConfiguring(DbContextOptionsBuilder options)

{

options.UseSqlite("Data Source=retail.db");

}

// Seed Initial Data

public void Seed()

{

if (!Categories.Any())

{

var electronics = new Category { Name = "Electronics" };

var groceries = new Category { Name = "Groceries" };

Products.AddRange(

new Product { Name = "Laptop", Quantity = 10, Category = electronics },

new Product { Name = "Smartphone", Quantity = 20, Category = electronics },

new Product { Name = "Rice", Quantity = 100, Category = groceries },

new Product { Name = "Sugar", Quantity = 80, Category = groceries }

);

SaveChanges();

Console.WriteLine("✅ Initial data inserted successfully.");

}

else

{

Console.WriteLine("ℹ️ Data already exists. Skipping seed.");

}

}

}

class Program

{

static void Main(string[] args)

{

using var db = new RetailDbContext();

db.Database.Migrate(); // Apply migration

db.Seed(); // Insert initial data

// Show data

var products = db.Products.Include(p => p.Category).ToList();

Console.WriteLine("\n📦 Products List:");

foreach (var p in products)

{

Console.WriteLine($"- {p.Name} ({p.Quantity}) in {p.Category.Name}");

}

}

}

}

Out Put:

