Revature Project 1

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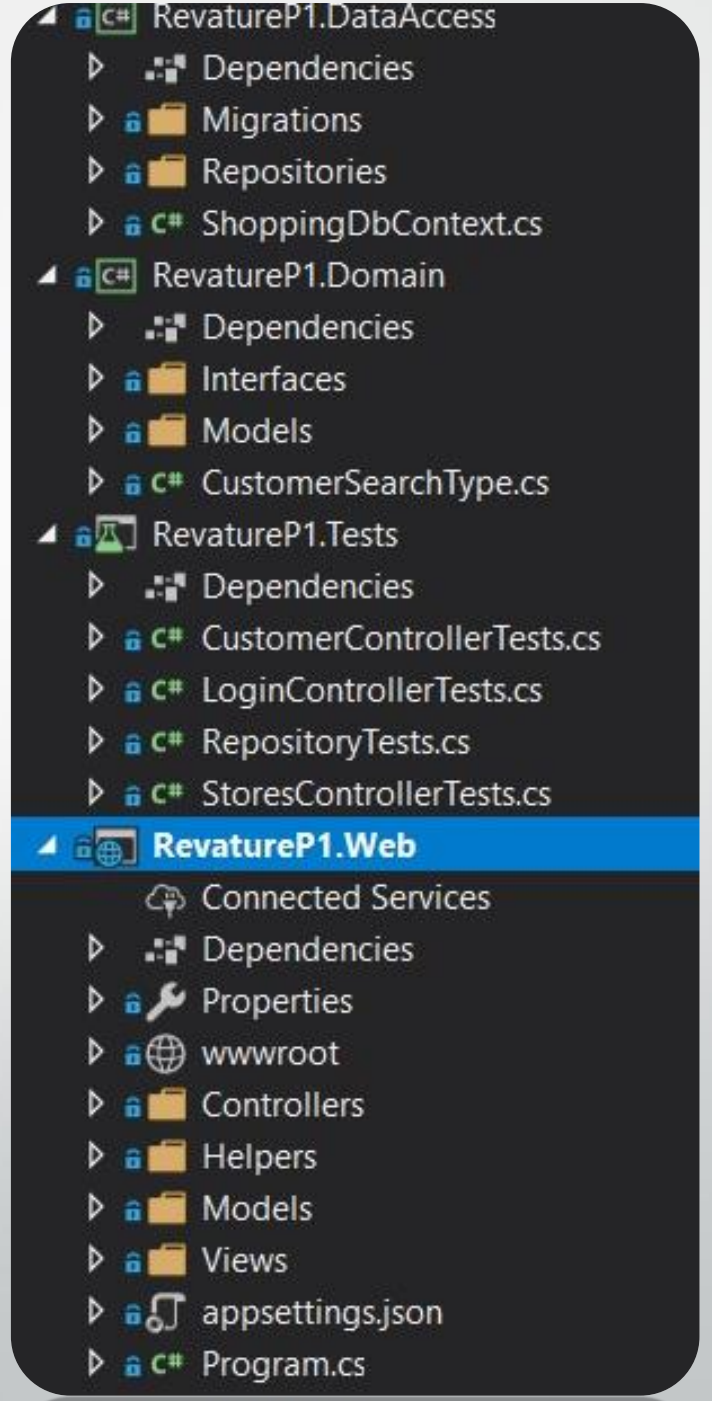
Project Demo

Technologies Used

- C# Programming Language
- .NET Core
- Entity Framework Core
- ASP.NET Core MVC
- SQL Server 2019 Express
- xUnit

Architecture

- MVC Design Pattern to separate the display from business logic
- Unit of Work – Repository Pattern for abstraction and Separation of Concerns
- Dependency Injection (DI) for loose coupling and Inversion of Control (IoC)



Data Management and Access

- EF Core code first design
- SQL Express DB in 3NF

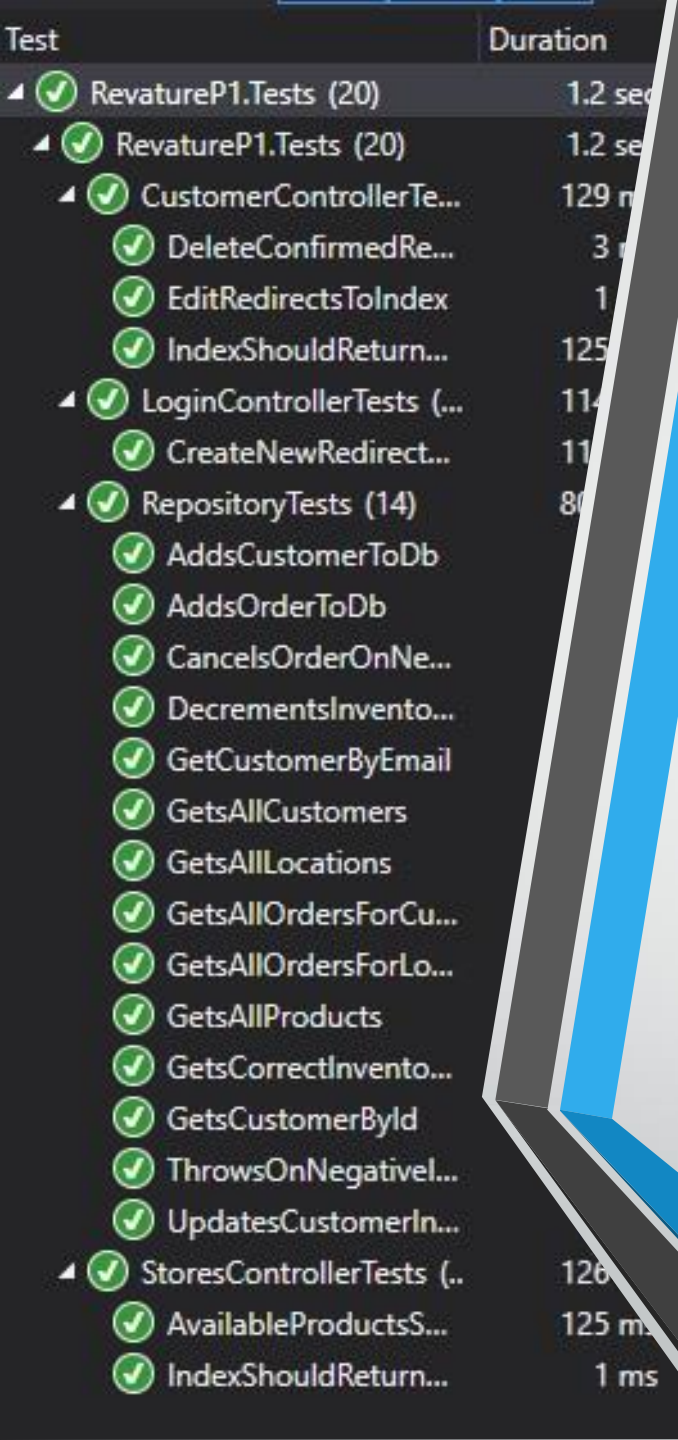
```
namespace Revaturep1.DataAccess
{
    /// <summary>
    /// Context used to access the database
    /// </summary>
    46 references
    public class ShoppingDbContext : DbContext
    {
        /// <summary>
        /// The Customers Table
        /// </summary>
        2 references | 1/1 passing
        public DbSet<Customer> Customers { get; set; }
        /// <summary>
        /// The Products Table
        /// </summary>
        0 references
        public DbSet<Product> Products { get; set; }
        /// <summary>
        /// The Orders Table
        /// </summary>
        7 references | 2/2 passing
        public DbSet<Order> Orders { get; set; }
        /// <summary>
        /// The Order Details/Line Items Table
        /// </summary>
        0 references
        public DbSet<OrderDetails> OrderDetails { get; set; }
        /// <summary>
        /// The Store Locations Table
        /// </summary>
        3 references
        public DbSet<Store> Stores { get; set; }
        /// <summary>
        /// The Store Locatations Inventory Table
        /// </summary>
        4 references | 1/1 passing
        public DbSet<Inventory> StoreInventories { get; set; }
```

```
namespace Revaturep1.Domain.Interfaces
{
    16 references
    public interface IRepository<T>
    {
        12 references | 7/7 passing
        Task<T> Add(T entity);
        10 references | 2/2 passing
        Task<T> Update(T entity);
        15 references | 1/1 passing
        Task<T> Get(int? id);
        15 references | 6/6 passing
        Task<IEnumerable<T>> All();
        12 references | 4/4 passing
        Task<IEnumerable<T>> Find(Expression<Func<T, bool>> predicate);
        3 references | 1/1 passing
        void Delete(int? id);
        1 reference
        void SaveChanges();
    }
```

- Repository Pattern design used to create abstraction and Separation of Concerns

- Unit of Work utilized to minimize database interaction

```
namespace RevaturePI.Domain.Interfaces
{
    18 references
    public interface IUnitOfWork
    {
        12 references | 4/4 passing
        IRepository<Order> OrderRepository { get; }
        4 references
        IRepository<Product> ProductRepository { get; }
        14 references | 4/4 passing
        IRepository<Customer> CustomerRepository { get; }
        9 references | 2/2 passing
        IRepository<Store> StoreRepository { get; }
        1 reference
        IRepository<Inventory> InventoryRepository { get; }
    }
```



Testing

- xUnit used for unit testing
- In memory database used for testing repositories
- Moq used for testing in isolation

Questions?