

.NET 9 App Dev Hands-On Lab

EF Lab 9 (Optional) – XML Serialization Support

This lab involves updating the entities to support serialization into XML. This is an optional lab unless you do the optional content negotiation lab in the RESTful services module. Before starting this lab, you must have completed EF Lab 6. This entire lab works on the `AutoLot.Models` project.

Part 1: Update the Global Usings

- Add the following line to the `GlobalUsings.cs` file:

```
global using System.Xml.Serialization;
```

Part 2: Update the Entities

The section updates the entities to support XML serialization. The classes must be marked as `[Serializable]`, and the navigation properties must be marked with `[XmlIgnore]`.

Step 1: Update the Car Entity

- Update the `Car.cs` class in the `Entities` folder by adding the following **bold** changes (extra lines omitted for brevity):

```
namespace AutoLot.Models.Entities;
[Serializable]
//omitted for brevity
public class Car : BaseEntity
{
    //omitted for brevity

    [ForeignKey(nameof(MakeId))]
    [InverseProperty(nameof(Make.Cars))]
    [XmlIgnore]
    public Make MakeNavigation { get; set; }

    [InverseProperty(nameof(Radio.CarNavigation))]
    [XmlIgnore]
    public Radio RadioNavigation { get; set; }

    [InverseProperty(nameof(Driver.Cars))]
    [XmlIgnore]
    public IEnumerable<Driver> Drivers { get; set; } = new List<Driver>();

    [InverseProperty(nameof(CarDriver.CarNavigation))]
    [XmlIgnore]
    public IEnumerable<CarDriver> CarDrivers { get; set; } = new List<CarDriver>();

    //omitted for brevity
}
```

Step 2: Update the CarDriver Entity

- Update the CarDriver.cs class in the Entities folder by adding the following **bold** changes (extra lines omitted for brevity):

```
namespace AutoLot.Models.Entities;
[Serializable]
//omitted for brevity
public class CarDriver : BaseEntity
{
    //omitted for brevity

    [ForeignKey(nameof(DriverId))]
    [XmlIgnore]
    public Driver DriverNavigation { get; set; }

    //omitted for brevity

    [ForeignKey(nameof(CarId))]
    [XmlIgnore]
    public Car CarNavigation { get; set; }
}
```

Step 3: Update the Driver Entity

- Update the Driver.cs class in the Entities folder by adding the following **bold** changes (extra lines omitted for brevity):

```
namespace AutoLot.Models.Entities;
[Serializable]
//omitted for brevity
public class Driver : BaseEntity
{
    //omitted for brevity

    [InverseProperty(nameof(Car.Drivers))]
    [XmlIgnore]
    public IEnumerable<Car> Cars { get; set; } = new List<Car>();

    [InverseProperty(nameof(CarDriver.DriverNavigation))]
    [XmlIgnore]
    public IEnumerable<CarDriver> CarDrivers { get; set; } = new List<CarDriver>();
}
```

Step 4: Update the Make Entity

- Update the Make.cs class in the Entities folder by adding the following **bold** changes (extra lines omitted for brevity):

```
namespace AutoLot.Models.Entities;
[Serializable]
//omitted for brevity
public class Make : BaseEntity
{
    //omitted for brevity

    [InverseProperty(nameof(Car.MakeNavigation))]
    [XmlIgnore]
    public IEnumerable<Car> Cars { get; set; } = new List<Car>();
}
```

Step 5: Update the Radio Entity

- Update the Radio.cs class in the Entities folder by adding the following **bold** changes (extra lines omitted for brevity):

```
namespace AutoLot.Models.Entities;
[Serializable]
//omitted for brevity
public class Radio : BaseEntity
{
    //omitted for brevity

    [ForeignKey(nameof(CarId))]
    [XmlIgnore]
    public Car CarNavigation { get; set; }
}
```

Summary

In this lab, you updated the entities to support XML serialization.