3.1.0 – Database Reverse Engineer

Introduction

This lesson will use the **eStore_2018** database to show how to create the Entity classes from an existing database. Once these classes are created, they will have some basic Entity Validation (which we will modify in the next lesson). This technique will be used with your exercises and project.

Reverse Engineer Database

Preparation

We need to install the **Entity Framework**, using the NuGet Package Manager in the **eStoreData** project; refer to Lesson 2.3.0 for details.

Step 1

1. Select the **Entities** folder of the **eStoreData** project.
2. Right-click the folder and select **Add-> New Item...**.

Figure 1: Add -> New Item...

3. Select **Data -> ADO.NET Entity Data Model**. For the name use **eStoreContext** (this will be the name of the DbContext class for this application) and click **Add**.
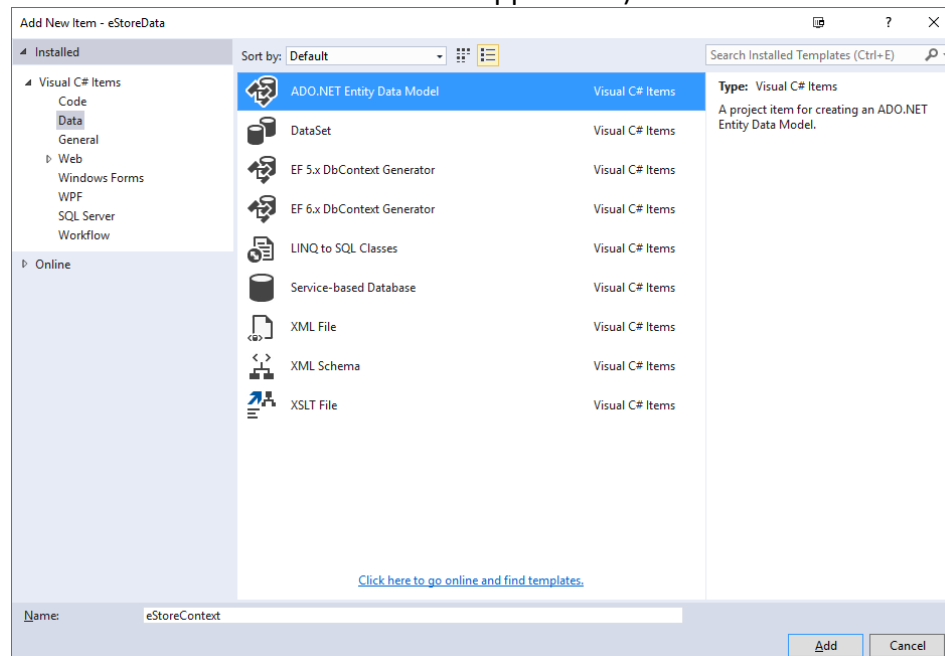

Figure 2: Add ADO.NET Data Model

4. From the Entity Data Model Wizard select **Code First from database** and click **Next>**
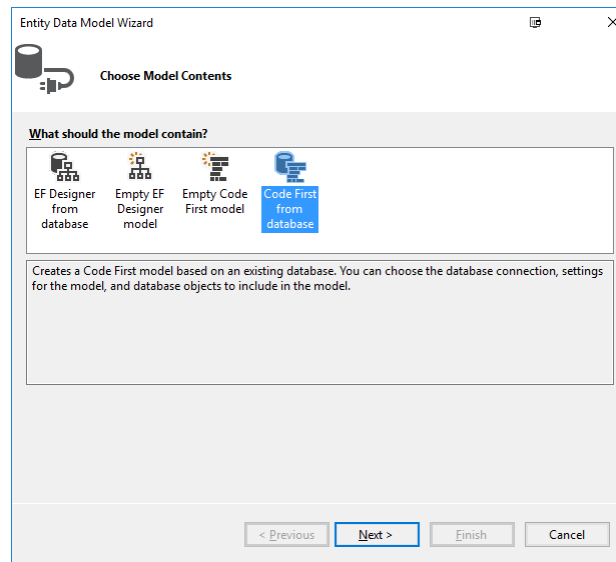

Figure 3: Code First from Database

5. Select **New Connection…** and select the Data source: use Microsoft SQL Server, and press **Continue**. (depending on how your computer is setup, you may not see this step)
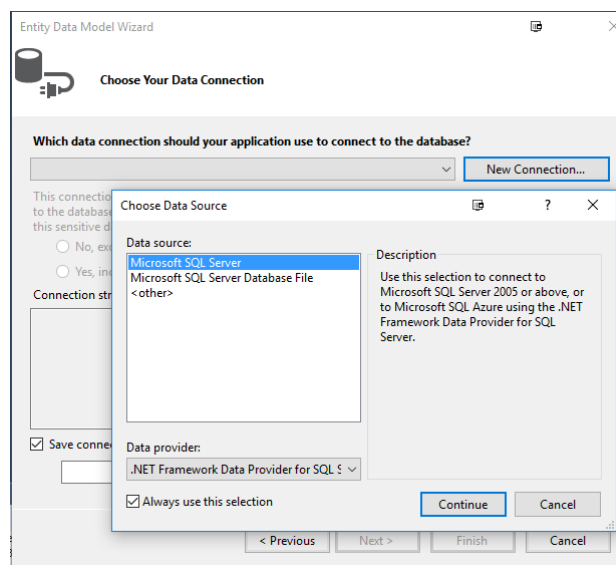

Figure 4: Data Connection (1)

6. For the Server name, enter **.\SQLEXPRESS**
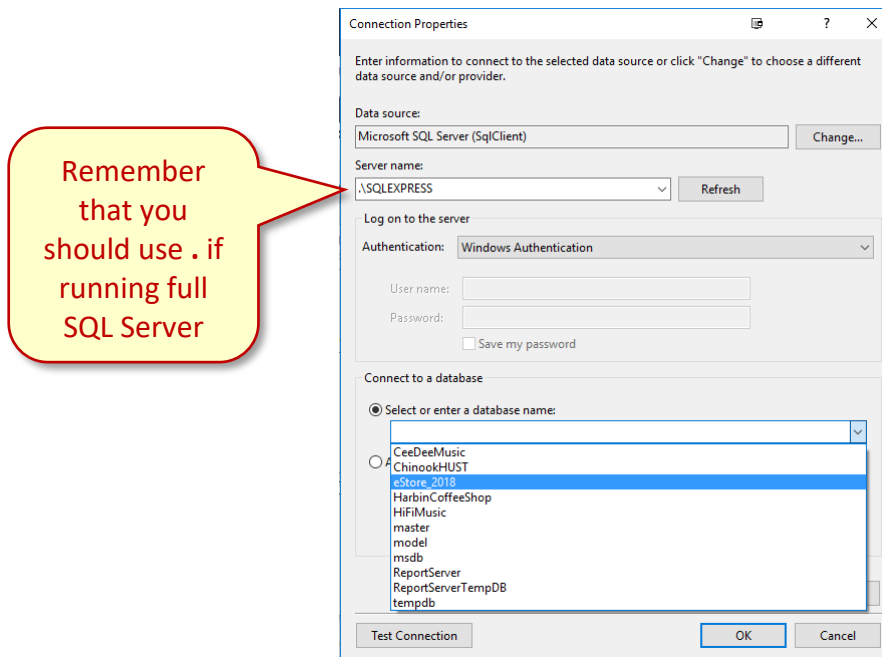7. Select **eStore_2018** from the database dropdown list and press **OK**.

Remember that you should use **.** if running full SQL Server

Figure 5: Data Connection (2)

8. You should now see the following:

Your computer name will be the first part of the database connection.

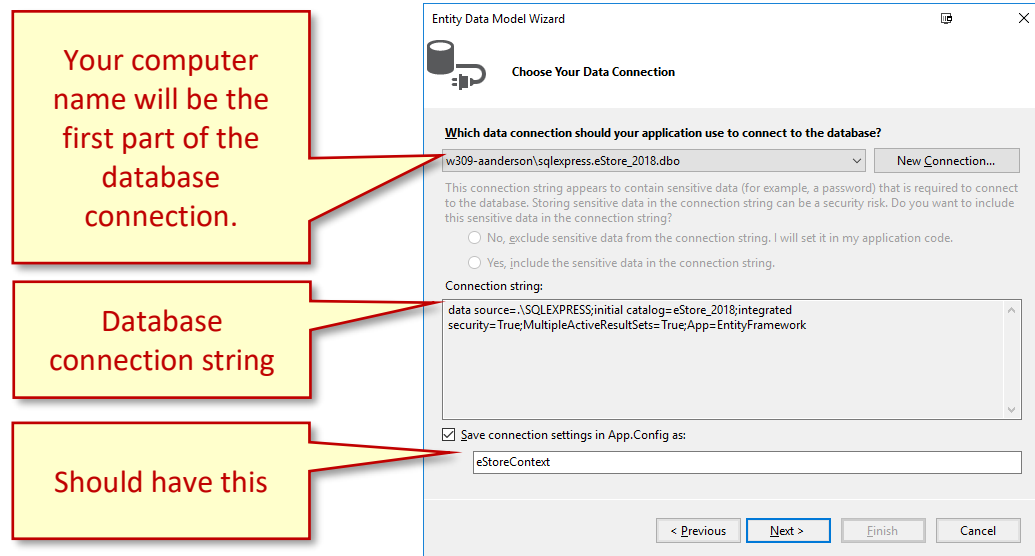Database connection string

Should have this

Figure 6: Database Connection Information

9. Press **Next>**. ON the next wizard screen select Tables (you can expand to see all the tables that will be added). Then press **Finish**.
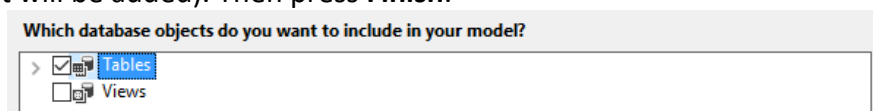

Figure 7: Select All Tables

At this time, the system will create your entity classes within the Entities folder. Additionally, you will have a file, **eStoreContext.cs**, created.
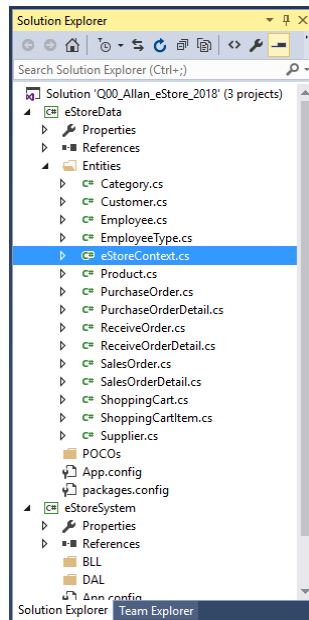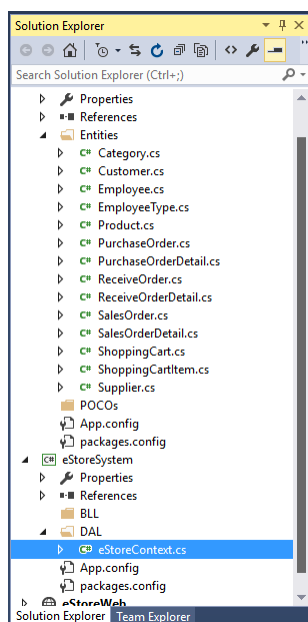

Figure 8: Entities Created

Step 2

1. Move the Context class, **eStoreContext.cs**, to your DAL folder. To do this, select and drag from the **Entities** folder to the **DAL** folder in the **eStoreSystem** project, then delete the **eStoreContext.cs** file from the **Entities** folder.
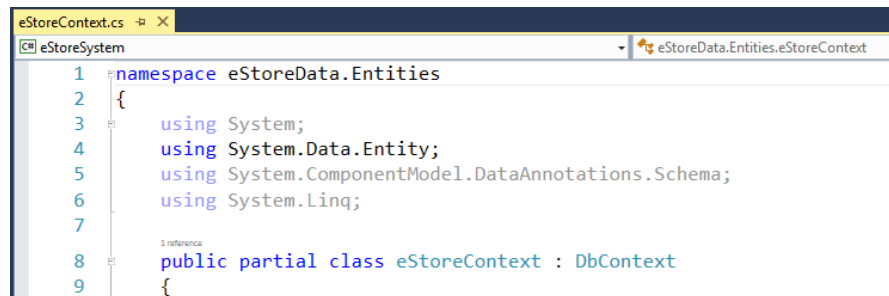

To move:
1. Copy the file
2. Paste the file into the **DAL** folder.
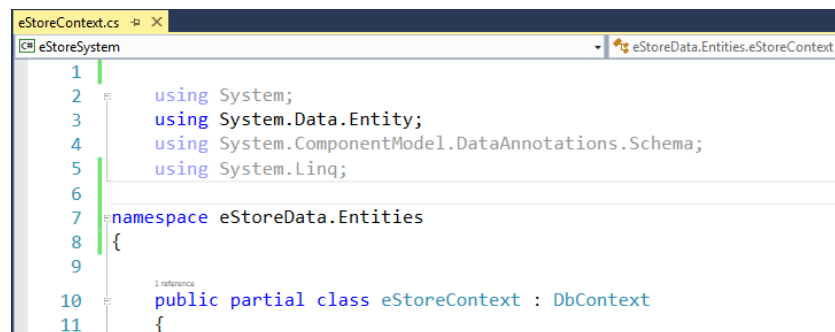3. Delete from the **Entities** folder.

Figure 9: Context Class Moved

2. Open the Context class. You will notice the namespace is placed at the top of this physical file. You may move this statement and its opening "{" bracket before the public partial class statement and after the using statements (as you are used to seeing).
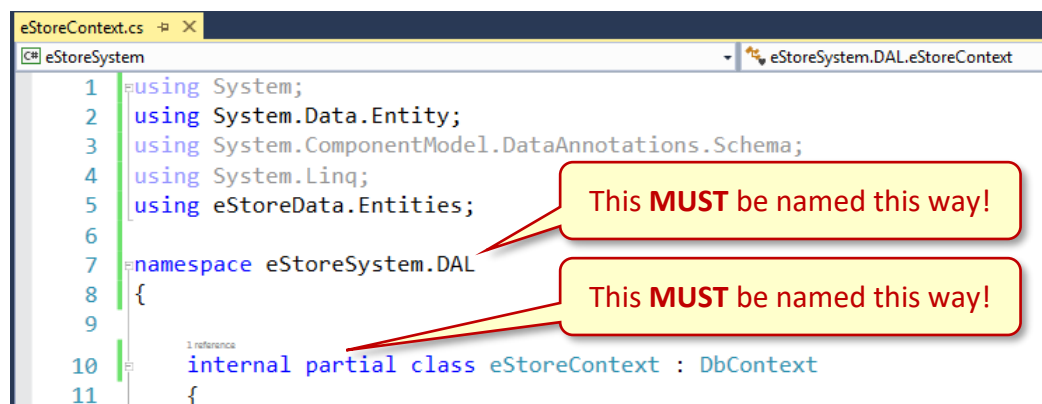
Figure 10: Original Position of namespace

Figure 11: Optional New Position of namespace

3. Make the following changes to **eStoreContext.cs**:
   a. Change the class from **public** to **internal**
   b. Change the namespace from **eStoreData.Entities** to **eStoreSystem.DAL**
   c. Add a **using** statement to point to the location of your Entity classes.

Figure 12: eStoreContext.cs Modifications

4. **Build** your solution.

Exercise

Complete Exercise 3.1.1.