# *Development Project I (420-E50-HR)*

# *Assignment 7 – Entity Framework & MVC*

Date assigned: Monday, September 24, 2017

Date due: **Thursday, September 27, 2016, 11:00 p.m.**

**Computer Science Late Policy Applies**

**Learning Objectives**

Upon successful completion of this assignment, the student will be able to:

* Use MVC and the Entity Framework to create a web application using the database first approach
* Use MVC and the Entity Framework to create a web application using the code first approach
* Use MVC and the Entity Framework to create a web application using the model first approach
* Describe the three approaches that can be used with the Entity Framework

To do:

1. Read the documentation on [Entity Framework Development Approaches](https://msdn.microsoft.com/en-us/library/ms178359(v=vs.110).aspx#dbfmfcf) or (https://msdn.microsoft.com/en-us/library/ms178359(v=vs.110).aspx#dbfmfcf) It provides context for understanding steps 2,3,4 and for answering the questions later in this assignment.
2. Complete parts 1-6 of the following tutorial series to build a web application using MVC, Entity Framework and the **database first** approach, changing the project name to be prefixed by your initials: <http://www.asp.net/mvc/overview/getting-started/database-first-development/setting-up-database>, **with the following change**:

Instead of creating a database project and a local database, create the database in CSDev with the name YourInitialsContoso1 and run the scripts to create and populate the tables using SQL Server Management Studio.

Note: Stop when you get to the step “Publish to Azure”.

1. Complete parts 1-3 of the following tutorial series to build a web application using MVC, Entity Framework and the **code first** approach, changing the project name to be prefixed by your initials: <https://www.asp.net/mvc/overview/getting-started/getting-started-with-ef-using-mvc/creating-an-entity-framework-data-model-for-an-asp-net-mvc-application>, **with the following changes**:

Instead of using a local database, create an empty database in CSDev with the name YourInitialsContoso2.

When changing the web.config file in part 1 to add the Context, change ContosoUniversity to YourInitialsContoso2.

Use the following connection string, replacing YourInitials: <add name="SchoolContext" providerName="System.Data.SqlClient" connectionString="Data Source=csdev;initial catalog=YourInitialsContoso2;integrated security=True;MultipleActiveResultSets=True;App=EntityFramework"/>

1. Complete the following steps to use the **model first** approach to create a simple web application:
   1. Create a new database in CSDev named YourInitialsCourseCatalog.
   2. Create a new web application named MVCCourseCatalog, using the MVC template.
   3. Complete the steps in the following tutorial to add a new ADO.NET Entity Data Model item named CourseCatalog to the Models folder: <https://www.exceptionnotfound.net/entity-framework-for-beginners-creating-a-model-first-model/>.
   4. Enter at least 3 rows of data in the teacher and course tables using SQL Server Management Studio.
   5. Use the MVC controller scaffolding to create teacher and course controllers and views.
   6. Change the teacher’s details view to include the list of courses taught by the teacher.
2. Rename this document as **YourUserName\_E50\_A08\_Entity\_Framework\_MVC.docx**, describe the differences between the three approaches in terms of the files that are created in the Models folder. (Put your answer below)

Code first approach:

* Create your tables by first writing your classes and automatically generating a database

Data first approach:

* Create your tables in your database first and then automatically generate your classes

Model first approach:

* Create your data model first and then automatically generate your database and your classes

1. What is main class that coordinates Entity Framework functionality for a given data model? What is the name that is given to this class in each of the three examples?

Metadata.cs

1. Briefly describe the two different ways to populate the database when using code first or model first.

Using a model first approach you can populate the database using series of SQL insert commands, and doing it code first you can insert data through a front end in MVC where .NET handles it all for you.

**To submit**

When you have completed the assignment, upload the three project folders (zipped)to Moodle as well as this document.