# Homework: Entity Framework

This document defines the homework assignments from the ["Database Applications" Course @ Software University](https://softuni.bg/trainings/21/Database-Applications-Mar-2015). Please submit as homework a single zip / rar / 7z archive holding the solutions (source code) of all below described problems.

## Create a DbContext for the SoftUni database

Your task is to create a DbContext for the SoftUni database using the Visual Studio Entity Framework Designer

## Create a DAO class

Your task is to create a Data Access Object class with static methods which provides functionality for inserting, modifying and deleting customers. Write a testing class.

## Write a method that finds customers with orders

Your task is to write a method that finds all customers who have orders made in 1997 year and shipped to Canada.

## Implement previous by using native SQL query

Your task is to solve the previous task by using native SQL query and executing it through the DbContext.

## Write a method that finds sales by region and period

Your task is to write a method that finds all sales by specified region and period (start / end dates).

## Create a database called SoftUniTwin

Your task is to create a database called **SoftUniTwin** with the same structure as **SoftUni** using the features from DbContext. Find for the API for schema generation in MSDN or in Google.

## Try to open two different data contexts

Your task is to try to open two different data contexts and to perform concurrent changes on the same records. What will happen at **SaveChanges()**? How to deal with it?

## Create a class which allows employees to access their corresponding territories

Your task is to create a class which allows employees to access their corresponding territories as property of the type **EntitySet<T>** by inheriting the Employee entity class.

## Create a method that places a new order in the SoftUni database TODO: FIX IT!

Your task is to create a method that places a new order in the SoftUni database. The order should contain several order items. Use transaction to ensure the data consistency.

## Create a stored procedures in the SoftUni database

Your task is to create a stored procedures in the SoftUni database for finding the total incomes for given supplier name and period (start date, end date). Implement a C# method that calls the stored procedure and returns the retuned record set.

## Create a database holding users and groups

Your task is to create a database holding users and groups. Create a transactional EF based method that creates a user and puts it in a group "Admins". In case the group "Admins" do not exist, create the group in the same transaction. If some of the operations fail (e.g. the username already exist), cancel the entire transaction.

## \* Play with SQL Server Profiler

Your task is to use SQL Server Profiler to view all your queries from the previous homework tasks.

## \* Explore the full source code of Entity Framework

Your task is to download (clone the repository) and explore the full source code of Entity Framework. You can find it on <http://entityframework.codeplex.com/>