

Practice Exercise

Create a single layer console application that can extract data and combine it with a processed XML file.

CREATE DATABASE (3,5 POINTS)

- Create a Service-based Database with the name Recipes
- Fill the database with the data found in Recipes.sql
- Generate the entity classes using scaffold-dbcontext

ACCESS THE XML FILE (5 POINTS)

- Create a *Product* class with the following properties
ProductName (string)
Quantity (int)
- Create a *Fridge* class with the following properties
Brand (string)
Capacity (int)
Products (List<Product>)
- Create a static method that is capable to load the *fridge.xml* and parse it into a *Fridge* instance, with the *Products* list included

ATTRIBUTE (4 POINTS)

- Create an attribute with the name *ImportantProperty!* Using this we can set which property(properties) are the most important in a class
- This attribute is only valid to be used with properties!
- It must have a public *Reason* property where we have to specify a string reason for using the attribute. This value must be specified in the constructor.
- Place this attribute in the *Fridge* and *Product* classes *Brand* and *ProductName* properties.

HELPER CLASS (5 POINTS)

- Create a Helper class that is capable of returning a string for any instances; this string must contain the property values of all properties inside the instance that are marked with the *ImportantProperty* attribute.

USING THE TWO DATA SOURCES, SOLVE THE FOLLOWING QUESTIONS (32.5 POINTS)

- How many recipes there are in the database?
- Display only the favourite recipes!
- Select the recipes that have „Olaj” as one of the ingredients, and sort them according to the prices, descending!
- If we prepare all recipes, then how much do we need from the individual ingredients? Display the ingredient name and the total required amount; display the list in the ascending order of the total amounts.
- Display the contents of the fridge. When displaying the products, use the Helper class with the product instances (and display the value of the property marked with *ImportantProperty* in the class).
- Ask the user for a recipe name. Then decide if the recipe is doable or not using the contents of the fridge!
- Decide if all recipes are doable based on the contents of the fridge or not!

Have fun while developing!