

SW4BAD mandatory assignment 2:

EfCore

Remember to read the whole assignment before you start working and before you hand in, so you are sure you hand in the correct files.

This assignment is done in groups of 4 people, and you must deliver 2 ER models and 1 EfCore-based ASP Solution (*cleaned and zipped*). The assignment consists of 5 parts, which are described below.

A. Consolidation

The first part of the assignment is a review and consolidation exercise. In your group, you should review each other's Assignment 1 models, so you combine the different solutions into a single, improved, and coherent joint model.

This should end up with a consolidated model, which you need to draw in an E/R diagram* and a short text explaining why you have discarded and keep the things from your previous individual solutions.

Deliverable: One PDF with an E/R diagram and review of the models you started with. The file should name BAD_MA2_Model_1_grp<grp-no>.pdf (e.g., **BAD_MA2_Model_1_grp42.pdf**)

* **IMPORTANT:** Only diagrams in Chen notation will be accepted at full grade. A comparison of notations is available [here](#). Please do not use UML or IE, ...

B. Entity Framework Core Solution

The second part of the assignment is to implement the model obtained above in an Entity Framework Core .NET solution. This must be an ASP.NET application.

Your application must provide a REST API that exposes the necessary endpoints to query the database **with all the queries** from Mandatory Assignment 2. This API should be callable from a Swagger page and from Postman. Data should be returned as JSON. Your solution should have an approach to seed the database with dummy data as part of the application's startup – e.g., have a create a seed () method (or what you call it that will insert data into the empty database).

Deliverable: As part of E. - see later

C. REST

In this part you are expected to implement the missing CRUD operations to test your API. Minimally you should be able to change the values on the tables used to produce Query 2:

1. Add a new portion.
2. Update the quantity of a portion.
3. Delete a portion.

In addition, we expect you to at least validate the portion price to be non-negative and provide detailed errors in case a negative value is provided. It is not enough to get an error code; we expect you to implement a Custom Validation Attribute. Optional add a Swashbuckle filter for your custom validator.

Deliverable: As part of E. - see later

D. New requirements

In this part we will change the E/R model. At this point you have already developed a working solution for the customer, but of course before we can release this to Brightspace, the customer has asked for some slight changes. This results in 3 migrations.

1. There is a new law requiring cooks to pass a mandatory food safety course. This affects query no. 1.
We expect the migration to add a new attribute to store a Boolean.
2. There is a new law forbidding CPR numbers to be collected. This affects query no.1
We expect the migration removes the attribute storing the CPR.
3. It was decided to change the time interval format to “DDMMYYYY HHMM”. This affects query no. 2.
We expect the migration to change the attribute types from time to datetime.

Deliverable: One PDF with an updated E/R diagram. The file should be named `BAD_MA3_Model_2_grp<grp-no>.pdf` (e.g., `BAD_MA2_Model_2_grp42.pdf`)

E. Updated solution

In this part you must implement the changes defined in part D to your EFCore project and reflect them in both the data model and the REST endpoints.

This should be achieved using the **EFCore migrations** feature. We expect to see one migration for each of the above features and you must name them '**Migration1**', '**Migration2**' and '**Migration3**' - each migration corresponds to the changes required above.

Deliverable: A cleaned and zipped .NET Solution into a file named `BAD_MA2_Solution_grp<grp-no>.zip` (e.g., `BAD_MA2_Solution_grp42.zip`)

Hand In “formalities”:

- All the above artefacts should be packed into the **zip** file named '**sw4bad-mas2-grp<id>.zip** NOT rar, 7z or something else. Example `sw4bad-mas2-grp42.zip`
- This hand in should be uploaded to **Brightspace** before the deadline.

Assignment check:

- All members of the group are expected to participate in the assignment check.
- All members are expected to have the solution running on their individual computer
- All members must demonstrate/ explain any parts of the assignment.
- Each group member gets an individual pass/fail grade as a combination of the assignment grade and check Q&A performance.
- The assignment is graded by:
 - 0 (zero) Assignment is not accepted.
 - Missing deadline gives grade 0 whatever is handed ind. In case of problems, contact instructors ***well in advance***.
 - A **timely submitted** assignment solution that is not approved (i.e. is graded 0) will be given **one** more try. The deadline and scope of the new solution is given by educators.
 - 1 (one) Assignment approved with an acceptable solution.
- ***If your Mandatory Assignment 2 ends up with grade 0 (Zero) the SW4BAD course is then "Ikke bestået" as all four assignments in course must be approved.'***