



We are excited to let you know that you were chosen for the next stage of the FlamingSoft hiring process. On this stage our senior developers will evaluate your coding practices, your troubleshooting skills, and your research skills.

The deadline for submitting your code has been set to **July 10th at 11:59 PM CDMX/GDL time**. You must commit your code on Bitbucket or GitHub and share it with cesarc@flamingsoft.com.mx and cesarc@flamingsoftinc.com to validate your submission. You must email both of those addresses a link to the repository for final submission. Commits done after the deadline will be ignored.

The code you write must be documented, annotated, and commented accordingly. You will have to use C# coding standards, and best practices.

For the database, you will have to use MSSQL standards and syntax.

At the end of this document, you can find a link to download all the necessary tools you need for development.

Technologies to use:

- ASP .Net 5
- Blazor WebAssembly
- API
- MSSQL
- C#
- Bootstrap CSS
- HTML 5
- CSS
- Any libraries you might choose that are Blazor compatible such as Syncfusion Community (Blazor Components), MatBlazor, Radzen components for blazor, MudBlazor, etc.
- Entity Framework 6

Challenge:

Using the provided boilerplate, create a solution for the following problem:

As HR staff of a growing company, I can't use excel to track the employees of the company anymore. I need to track hours worked each day, hours taken as vacation, and sick days or hours. I need the employee Id, First and Last names, as well as which department they are from. I want to be able to calculate the pay that each worker will have for the last month worked. If the employee is a contractor, the sick days are not paid, and vacations are paid in half. If the employee is permanent sick days and vacations are paid as worked days. If the employee works more than 48 hours a week, the extra hours worked will have to be paid as double time (2 x base salary).

Roles and Security

As an employee I can manage my own time but cannot see anybody's else. I cannot see any modules (pages) other than time management.

As a HR manager I can manage all employee's times, as well as all the lookups. I can see all pages.

Requirements:

SQL

Design the database in MSSQL with the proper PK, FK, Constraints, and Defaults. Add tables as you feel necessary.

The database name must be FlamingSoftHR (provided base script for identity tables)

Foreign keys have to be like FK_ThisTable_To_ThatTable (i.e FK_Employees_To_AspNetUsers)

Primary keys have to be like PK_ThisTable (i.e PK_Employees)

Employee:

Id – Int starting at (100000) and incrementing by 1 automatically – REQUIRED

UserId – String of 128 characters pointing to the AspNetUser Id - REQUIRED

First Name – String - REQUIRED

Middle Name - String

Last Name – String - REQUIRED

Department:

Id – Int starting at (1) and incrementing by 1 automatically - REQUIRED

Name – String - REQUIRED

Employee Type:

Id - Int starting at (1) and incrementing by 1 automatically - REQUIRED

Description – String - REQUIRED

Logged Time

Id – Int starting at (1) and incrementing by 1 automatically - REQUIRED

Date Logged – DateTime - REQUIRED

Hours – Double with a max of 12.00 - REQUIRED

Log Type (such as regular, sick, vacation) – Int - REQUIRED

Logged Time Type

Id – Int starting at (1) and incrementing by 1 automatically - REQUIRED

Description – String – REQUIRED

C#



Create all the entities from the database using entity framework. Can use reverse engineer from the database or write them yourself. Use data annotation for business rules such as length and required fields.

All the sections, including lookups (Employee type and Logged time type), must have a module (page) in the application.

All modules must have CRUD (Create, Read, Update, Delete) actions enabled.

Controllers do not have any database connections directly and they cannot handle any business rules other than authentication and authorization.

Handle exceptions as needed.

Bonus

Create unit tests for the solution. Unit tests can be done in any way you feel comfortable and using any technology compatible with C#, Asp .Net 5, and Blazor.

Links

VISUAL STUDIO

<https://visualstudio.microsoft.com/downloads/>

MSSQL DEVELOPER

<https://go.microsoft.com/fwlink/?linkid=866662>

SSMS

<https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver15>

NOTES:

You can develop in Mac using docker for MSSQL, Azure Data Studio (same as SSMS), and Visual Studio Mac.

If you have any question along the process, you can use any forums, resources, ask somebody, or ask me directly and I will try to help as much as I can without giving an advantage.

Best of luck! And thanks for considering being part of the FlamingSoft family!

Cesar Cebaleros
Director