

Take Home Assignment Letter

CoverGo Challenge - Fullstack Engineer Assignment

Assignment Description

You have been given the task to develop an insurance system for an insurance company. The system should allow insurance company admins to create insurance policy proposal and calculate the total premium of the policy. The focus of this assignment is to test your skills in test-driven development and domain-driven design while adhering to best software development practices.

You only have to implement BE part!

Template

You can use the template from [CoverGo/HiringFullstackTemplate \(github.com\)](https://github.com/CoverGo/HiringFullstackTemplate) to speed up your setup. It has pre-configured BE & FE communication + basic queries.

Requirements

- Implement the **domain** logic for the provided user stories in backend in C#.
- **Write tests** to validate your BE application
- **Persistence** part can be done in-memory

Ubiquitous language

Insurance company admin - a person who is responsible for configuring the system, managing insurance offers and policies

Member plan - determines insurance coverage, benefits and price per member. In group medical health insurance there may be a base plan that allows to visit a therapist/gastroenterologist doctor for free. And premium plan allows you to visit a psychotherapist as well, but costs 250\$ more.

Premium - amount of money that client has to pay

Proposal - Insurance company sends a client company an information with an amount of covered members, their respective insurance plans, total premium per proposal

Group Medical Insurance - a group of people are covered under the same insurance policy. it usually costs less than buying it for one person because the risk is spread across multiple members. For example, company ABC buys group insurance for 500 members with Base plan and for 100 members with Premium plan.

User Stories

US1

As an insurance company admin

I want to create proposal for the client company

So that I can send it to client later for approval

There are 3 clients in a system: ABC, CoverGo, Horns & Hooves

US2

As an insurance company admin

I want to add insured group to proposal with N employees of specific plan

So that I can send it to client later

One proposal can have multiple insured groups. Insured group has an amount of members and their plan.

There are two plans available: Base for 500\$ and Premium for 750\$

US3

As an insurance company admin

I want to see the total premium of a proposal

So that I can understand how much the client company will pay us

US4

As an insurance company admin I want to create a discount so that for every X members in a proposal with a selected plan - 1 member's insurance is free

Expectations

You are expected to demonstrate mastery in the following areas:

- Clean and maintainable code: Ensure your code is readable, well-organized, and follows best practices.
- Test-driven development: Write unit tests first to verify the correctness of your domain logic.
- Domain-driven design: Design the system with a focus on the domain model and encapsulation of business logic.
- Modern Architecture (Clean Architecture or Vertical Slices): please, separate your code with cohesion/layers in mind
- SOLID principles: Apply SOLID principles to promote code maintainability and extensibility.
- KISS principles: Keep your code simple and avoid overengineering.
- Design patterns: Utilize appropriate design patterns when necessary.

Helpful tips

- Don't create APIs or any other functionality that would not be used by US

Notes

- Please allocate no more than 2 hours for this challenge.
- Focus on implementing clean code

How to send code

Share cloud link.

Provide **one** zip archive.

The solution **must** only contain artifacts produced by the developer, i.e. **NO** bin, obj, node_modules, etc