

Backend Developer Test

The below is a fictitious yet realistic scenario, created with the sole purpose of understanding the candidate's technical knowledge. Candidates are expected to follow the scenario explained below using the specified technologies, however they are free to display any other technical skills that they deem suitable.

Problem

In a bid to shift from a monolith to micro-service architecture, the bank has earmarked the currency exchange functionality as a suitable module to build the first micro-service. The micro-service has to offer the same functionality that currently exists in the bank's solution, such as,

- Integrating to a rate provider to obtain the latest currency exchange rates. (Example <https://fixer.io/> or <https://exchangeratesapi.io/>)
- Retaining information about currency exchange trades carried out by its clients
- When an exchange rate is used it should never be older than 30 minutes (*Bonus question*)
- Limiting each client to 10 currency exchange trades per hour (*Bonus question*)

Instructions

In your solution you are expected to make use of (but not limited to),

- C# (.NET Core 3.1 or higher)
- Entity Framework Core
- Database of your choice
- Caching
- RESTful APIs
- Unit Tests
- Logging

Project delivery

Once the project is completed, please send us back a solution with all the code. You can send us a link to a remote repository or send us the complete solution folder. This should include any documentation and test cases you have worked on.