

# Senior .Net/PHP Developer

## Take-Home assignments

### Context

You're developing an online course platform where users can enrol in courses, view lectures, submit assignments, and participate in forums. To manage user interactions and data access, you need a well-designed RESTful API.

### Task

Design and implement a RESTful API for managing user enrolments in courses. The API should support the following functionalities:

- Create Enrolment: Create a new enrolment record for a user in a specific course.
- Get Enrolment: Retrieve details of a specific user's enrolment in a course.
- Update Enrolment: Update the status of a user's enrolment (e.g., from active to completed).
- List Enrolments: Retrieve a list of all enrolments for a specific course or all enrolments for a specific user.

### Additional Requirements:

- Use standard HTTP methods (GET, POST, PUT, DELETE) for each operation.
- Define resource paths for accessing enrolments using unique identifiers.
- Implement appropriate authentication and authorization mechanisms to restrict access to authorized users.
- Handle errors gracefully and provide informative error messages.
- Design the API for scalability and easy integration with other platform components.

### Bonus Points:

- Implement pagination for listing enrolments to handle large datasets efficiently.
- Include rate limiting to prevent API abuse.
- Use Containerized environment.
- Create example client code (e.g., using .NET or PHP) that demonstrates how to use the API.
- Document the API using OpenAPI Specification (OAS) or another standard format.
- Use GIT source control.

### Evaluation Criteria:

- Correctness and completeness of API functionality.
- Efficiency and performance of API requests.
- Quality and adherence to RESTful design principles.
- Code cleanliness, maintainability, and best practices.
- Effective use of collaboration tools to document and manage the project.