

# Senior .NET Core Developer Assignment

## Project Title: Order Management API (Senior-Level)

Create a RESTful Order Management API using .NET 8 that supports CRUD operations for Customers and Orders, showcasing clean architecture, security, testing, and DevOps knowledge. This is meant to evaluate your ability to design and build maintainable, scalable APIs as a senior developer.

## Functional Requirements

- CRUD for Customers and Orders
- Each Order contains multiple OrderItems (ProductName, Quantity, UnitPrice, Subtotal)
- TotalAmount is calculated automatically on Order creation/update
- Filter Orders by CustomerId and Date Range
- Implement soft delete for Customers and prevent Order creation if deleted

## Technical Requirements

1. Use .NET 8 Web API
2. Apply Clean Architecture (preferably Onion or Modular)
3. Use Entity Framework Core with code-first and SQLite or SQL Server
4. Implement repository and service layers
5. Use Dependency Injection
6. Use FluentValidation or DataAnnotations for input validation
7. Proper error handling with standard HTTP codes and messages
8. Use Swagger UI for API documentation
9. Implement JWT-based Authentication and role-based Authorization (Admin, Staff)
10. Write unit tests for service/business logic layer
11. Optional: Integration tests for selected endpoints

## Bonus Points

- Dockerize the application with docker-compose (API + DB)
- Setup CI using GitHub Actions or GitLab CI
- Use API versioning
- Seed sample data with EF Core migrations

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## Submission Guidelines

- GitHub repository or zip file with all code
- Include a README.md with:
  - Setup instructions
  - Architecture explanation
  - Known limitations or trade-offs