Summary from lectures

`pgago@pja.edu.pl`

21 April 2020

Lecture 1

- Description of the software/tools required during the exercises

- Basics of working with Visual Studio

- Creating a simple console application in C

Lecture 2

- Discussion of the SOLID acronym and basic example of its use

- Basics of API REST web applications

- Discussion of the construction of URLs in accordance with the REST principles

- Create first controllers and terminals

- Introduction to routing

Lecture 3

- Discussion of how middleware works

- Discussion of the embedded dependency injection mechanism on the example of a mocked database

- Overview of different ways to pass data to methods in the controller - URL segment, query string and body of the request

- Overview of creating endpoints that respond to different types of requests - HTTP POST, HTTP PUT, HTTP DELETE

- Discussion of various error codes compatible with the HTTP protocol

Lecture 4

- Discussion the basics of low-level communication with the database using the SqlConnection and SqlCommand classes

- Overview of the Dispose() method and the using clause

- Overview of ConnectionString's construction rules

- Overview of performing SELECT queries and reading responses

- Overview of communications in a single transaction

- Discussion of separating the communication with the database to a separate service

Lecture 5

- Overview of implementation for more complex examples of endpoints

- Discussion of the use of DTOs vs business models

- Overview of model validation using annotations (declarative validation).

- Discussion of working with transactions at the level of the SqlConnection, SqlCommand classes and stored procedures

Lecture 6

- Discussion of the implementation of interactive documentation with the help of OpenAPI and Swagger

- Overview of adding your own middleware as the Lambda expression

- Discussion of adding your own middleware as an external class

- Describe how conditional middleware works with the UseWhen() method

- Overview of the implementation of global middleware for error handling

Lecture 7 i 8 - those topics will not be on the first test

- Overview of API Key authentication mechanisms

- Discussion of authentication mechanisms based on HTTP Basic auth

- Overview of authentication mechanisms based on the JWT token

- Discuss the differences between the presented authentication methods

- Discussion of the JWT token structure