

Task-4

1.1 Security in REST Web Service

Goal

Learn to use Security in REST Web Services.

Prerequisites

Learn what a REST web service Security is. Review lecture materials and suggested there learning materials.

Task

This assignment contains a programming part as well as couple of slides explaining background behind your implementation (Authentication type and Role-based Access Control of service Authorization, etc.). The main idea of the task is to supply a REST Web Service (developed in Task-3) with corresponding Authentication and Authorization mechanisms.

Implementation should fulfill a set of following requirements:

- Implement a user registration mechanism and store user profile with corresponding credentials;
- Support your REST web service with Basic Authentication;
- Provide a mechanism of Role-based Access control to the resources of your service;
- Additionally, support your service with one extra functionality, e.g.:
 - Digest Access Authentication;
 - JWT based authentication;
 - or even try to implement OAuth.

Add a step-by-step description of authentication flow to the presentation (what kind of requests is sent, where it is sent, with what content and headers, what server/client verifies, what server/client sends/gets as a response, etc.). So, write kind of own tutorial for corresponding implementation. Provide the references to the external tutorials and online materials that were used for this sub-task.

1.2 Returning the task

Provide the result of the task as an archive of the following files:

- *presentation slides* (do not forget to list your group members)
- *project source code*
- *WAR file*

Send the Task-4 result as an archive **TIES4560-Task-4.zip** (provide a link to the archive placed in the web) to lecturer (oleksiy.khriyenko@jyu.fi)

Deadline: **07.10.2025 (before 23:59)**