



CS454: Software Engineering 3

Assignment 3 – REST Web Services

Objective

The purpose of this assignment is to introduce students to Web Services development using RESTful Java Web Services. In assignment solutions, students shall demonstrate how this technique can be used to construct interoperable software modules in service environments implemented by **Java** and tested using **Postman application**.

Description

Implement a Message Management System (using a java web service interface / API) where users are able to store, list, subscribe/unsubscribe and retrieve messages.

The Message should have the following attributes: Id, timestamp, sender_id, topic_id, content

The User should have the following attributes: Id, username

The Topic should have the following attributes: Id, username

- you can add any other attributes you need during implementation

The Server should expose the following services:

1. **Post Message:** Store a message on the server
2. **List Messages:** takes a topic as a parameter and returns a list of all the messages that have this topic.
3. **Retrieve a certain message:** by id
4. **List Topics:** List all the unique topics of the messages stored on the server.
5. **Subscribe user:** subscribe user to a certain topic
6. **Unsubscribe User:** unsubscribe user from a certain topic
7. **List subscribers:** returns a list of all subscribers of a certain topic

Notes

- ✓ **In the labs material on blackboard,** you will find a recorded video of the lab, all the jars you need to run web services on eclipse and a sample project that is illustrated and tested in the lab.
- ✓ **P.S.** You must handle any exceptions that may occur.
- ✓ **Team size:** The assignment should be done in teams of size 2 at most.
- ✓ **Submission:** You should submit all the needed source code to properly run the application, as one zip file. Submission should be done solely through Blackboard. Email submissions will be ignored.
- ✓ **Submission naming:** ID1_ID2_Group
- ✓ **Deadline: Wednesday 6th of January**