

Lab 3: Servlet Project

Objectives:

- To develop a website, entirely using Servlet and JSP, with required functionalities.

Submission:

- Project showcasing.

Description:

In this lab, you will need to develop a website entirely using Servlet and JSP. The website will simulate the functionalities of an online course management system. The interface needs to be attractive. To beautify the website you will need to utilise Bootstrap (or other similar JS frameworks) within your JSP page. In addition, the website must be integrated with a backend database such as a MySQL or NoSQL (e.g. MongoDB) database.

The website must satisfy the following requirements:

- **R-1:** It must be able to handle three types of users: a student, a teacher and an admin.
- **R-2:** Each user needs to be authenticated using username and password. Creating a registration page is optional. You can directly create users in your database with their corresponding user types (e.g. student, teacher and so on).
- **R-3:** An admin user needs to be able to add new courses in the system and assign a particular teacher to a corresponding course.
- **R-4:** A student user should be able to register for a new course and view all his/her registered courses.
- **R-5:** A teacher user should be able to view his/her corresponding registered course(s) and to select a particular course, from these registered courses, to view the list of the registered students for that particular course.

Mark distribution:

The total marks of the project is 50. The mark distribution of the project is as follows:

Description	Mark
Requirements fulfilment	5x5=25
Design & Aesthetics	10
Proper documentation of code	5
Q/A during showcasing	10

Submission:

This project needs to be showcased to your teacher on a group basis. It is expected that everyone in the group will contribute equally during the development of the project. There will be rigorous Q/A session during the showcasing where each member of the group is expected to answer any question when asked.

The project needs to be showcased on 18 March. Your teacher will announce the schedule for this nearer to the time.

Resources:

A few useful resources are given below. If you use any online resources, you must reference it within your code.

- Code documentation: <https://medium.com/@andrewgoldis/how-to-document-source-code-responsibly-2b2f303aa525>
- Servlet MySQL: <https://www.tutorialspoint.com/servlets/servlets-database-access.htm>
- Servlet MongoDB: <https://www.journaldev.com/4011/mongodb-java-servlet-web-application-example-tutorial>
- JSP & Bootstrap: <http://javabyprakash.blogspot.com/2015/01/simple-login-demo-using-jsp-servlet-and.html>
- Servlet URL mapping: <https://javapapers.com/servlet/what-is-servlet-mapping/>