

CSSE 477 – Milestone 1 – Web Server

You are provided with a working web server that can handle GET requests. The web server at the moment does not handle POST, PUT, DELETE, and HEAD requests. Note that the main purpose of this homework is to help you understand how a web server works so that you can extend this homework to build a Web Application Server such as Tomcat and Glassfish servers that provide web containers for Java applications in Milestone 2. Please refer to Section 9 of HTTP RFC [<http://tools.ietf.org/html/rfc2616>] and response codes [<http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html>] to understand the details of POST, PUT, and DELETE.

You will work in a **group of two** (ideal) to **three** (max) for the course project. There are altogether four weekly milestones like this one in the project.

Features

Here is the feature request for the server:

F1 – Redesign and Refactor

Redesign and refactor the existing project by implementing appropriate design patterns to **avoid modifying the same source code files multiple times** for implementing the next three requests and corresponding responses. Also make other appropriate design improvements where applicable. [15 points]

F2 – Basic Support for the POST Request

Your POST request will **create** a new file if one does not exist or **append** the contents in the body of the request to an existing file. Assume plain text files for this milestone. [10 points]

F3 – Basic Support for the PUT Request

The POST request must **create** a new file or **overwrite** an existing file in the root directory hosted by the web server with the content in the body (payload) of the request. [10 points]

F4 – Basic Support for the DELETE Request

Your DELETE request will delete an existing file. [10 points]

Note that for all of these requests, your server must return an appropriate status response back to the client.

Deliverables

Report [pdf]

Your report must contain the following items:

1. You have already developed architecture for the web server as a part of Paper Review 3. You must have a new found understanding of how the web server works through this exercise. Use this new found understanding to refine your architecture diagram and present it in the report. [2 points]

2. You have also developed a detailed design of the web server as a part of Paper Review 3. Refine the detailed design as well. List all of the **design patterns** you have used in your new design. [4 points]
3. List down places where you can improve the current design further (You do not have to implement them.) [2 points]
4. Provide a test report that clearly shows that all the features are complete. **Your server must be tested using a web browser in addition to other test tools.** You may use JUnit, snapshots of browser in action, etc (be creative). [10 points]

Source Code [zip]

5. Bundle and turn-in the project on Moodle. [5 points]

Timeline

- The deliverables are due on Moodle by **8:00 am on Monday, Oct 19th, 2015.**
- **On the same day, during class time,** you will show your work to the instructor and have the milestone graded.