Contact

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HTTP Server

1. Objectives

- Building distributed systems
- Synchronous network communication systems
- Introduction to HTTP protocol and HTTP servers

2. Prerequisites

- Java programming

3. Description

a) Run the provided example of server program, and the example of client program.

b) What do these programs do?

c) Extend the server program in order to allow it to handle HTTP GET method.

d) Add to the server some resources, e.g., HTML files.

e) Run this new version of the web server, then run a web browser (i.e., a web client) and type the URL of a resource of the web server. Are you able to visualize the resource correctly?

f) Web client requests can also be run using telnet (c.f., lecture), or using other software tools, e.g., Postman.

g) Extend the web server to allow it to handle other types of HTTP requests, e.g., POST, HEAD, PUT, DELETE, etc.

h) Test these new HTTP requests through interactive web client requests.

i) Extend the web server to allow it to handle several types of resources, e.g., text/HTML, images, audio, video. Then, run a web client and type the URLs of resources on the web server. Are you able to visualize the different types of resources correctly?

j) Extend the web server in order to take into account different HTTP status code, e.g., 200, 404, 500, etc. Then, run different web client requests to test the different HTTP status codes.

k) Test the web server with a dynamic resource, e.g., the provided example of JavaScript. Are you able to visualize the result?

l) Provide other examples of dynamic resources/JavaScripts, and test them with the web server.

4. Software environment

Used software

- Java 2 SDK
- IDE (e.g. Eclipse)

Directory organization

Organize your directory as follows:

- src/
  - .java files
- bin/
  - .class files
- doc/
  - Javadoc API and HTML files
- lib/
  - .jar files