Linnéuniversitetet
Kalmar Växjö

Web Server

Assignment 2

Author: **jz222cv hz222bp**
Course code: 19VT-1DV701

Table of Contents

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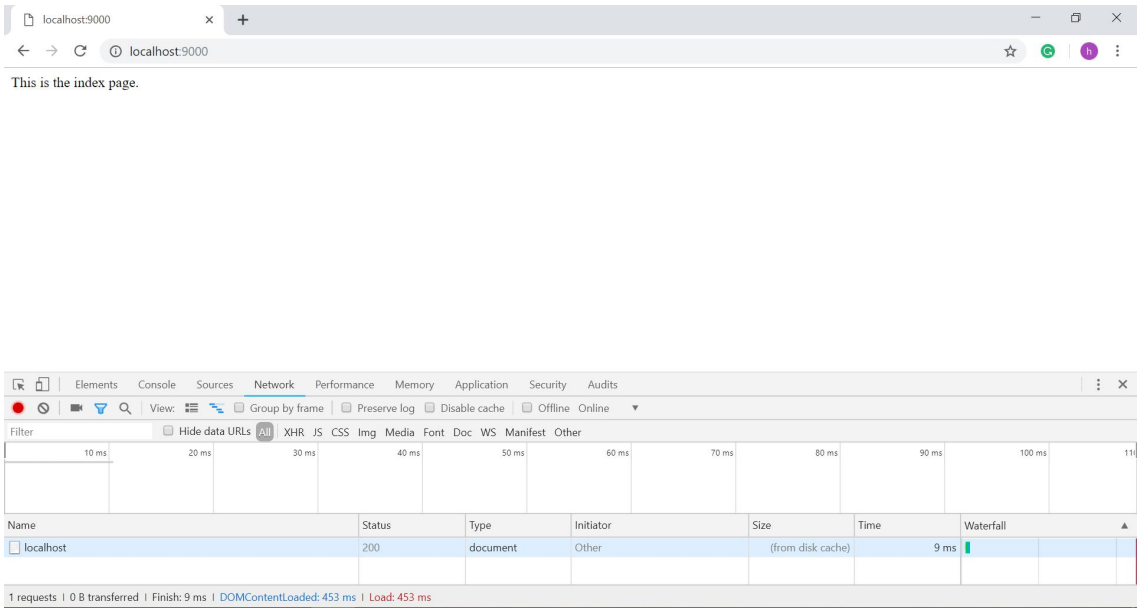
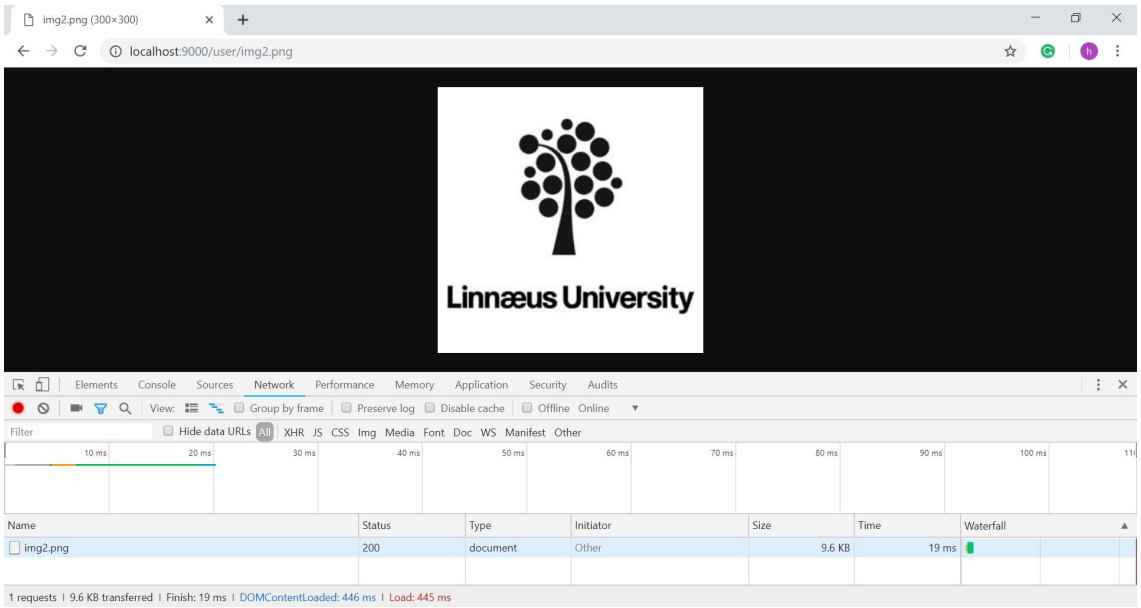
1 Problem 1

The basic version of this web server was implemented during the problem 1. During this period, we assume that the user will not request current files and directories. After launching the server by the running the Main method in the bin directory, the screenshot of the web browser are listed as following:

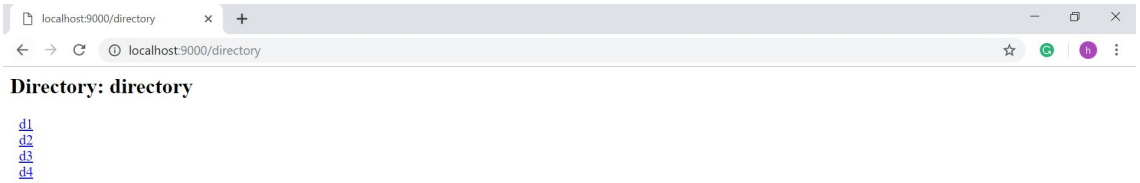
Request a named HTML page:

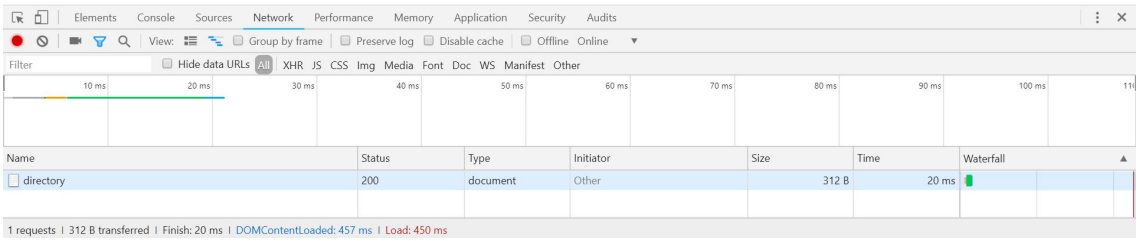


Request an image:



Request a directory:

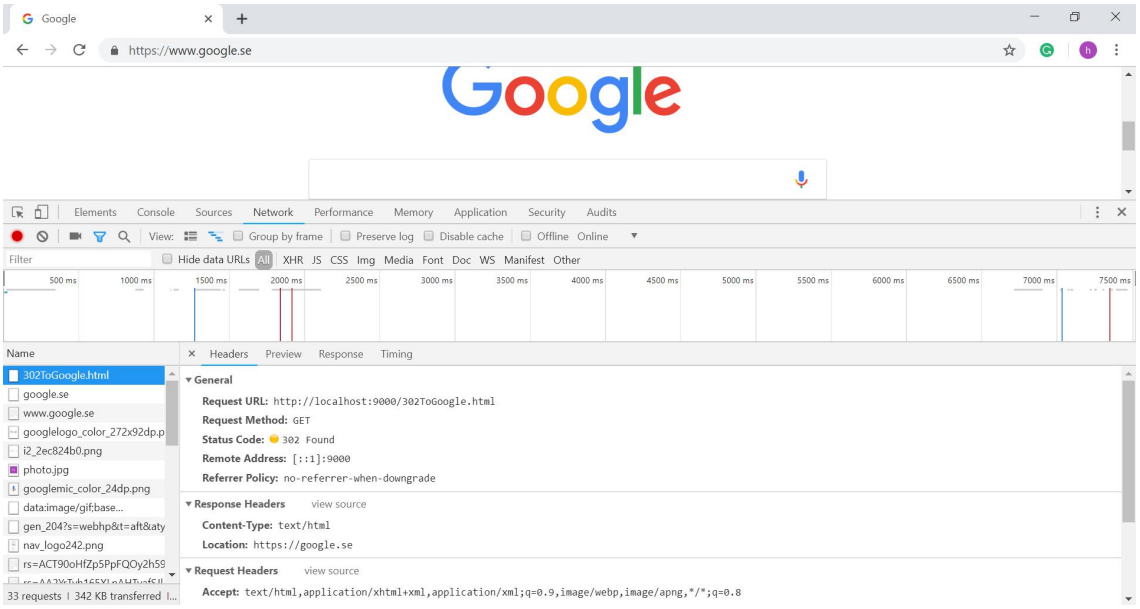




2 Problem 2

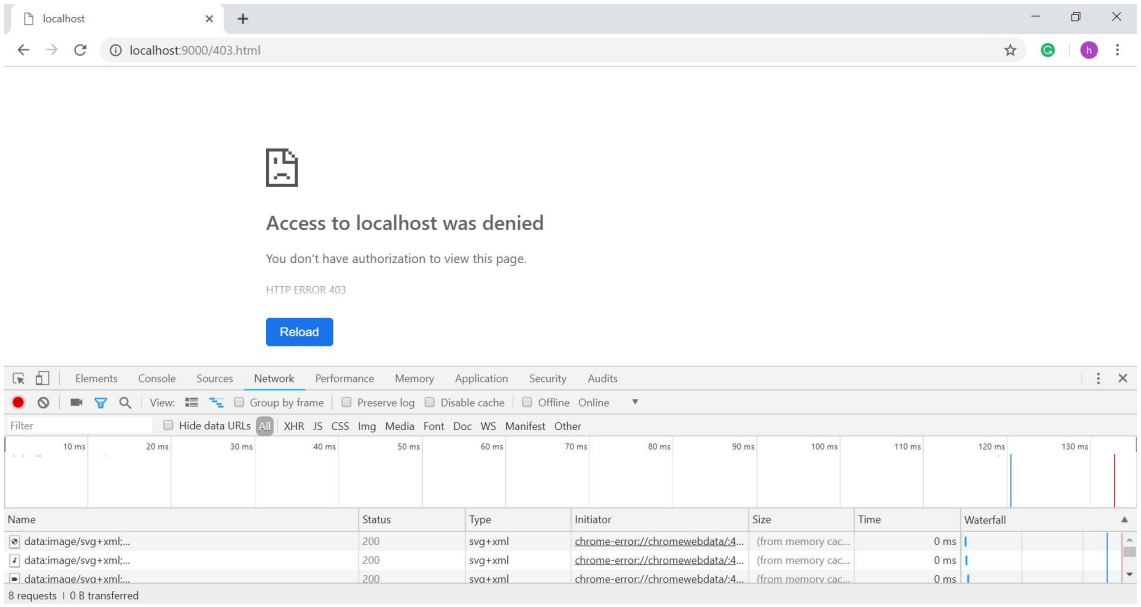
After the above chapter illustrated the HTTP response 200 OK, the following response types will be documented with explanation about the reasonable assumptions and design.

302 Found



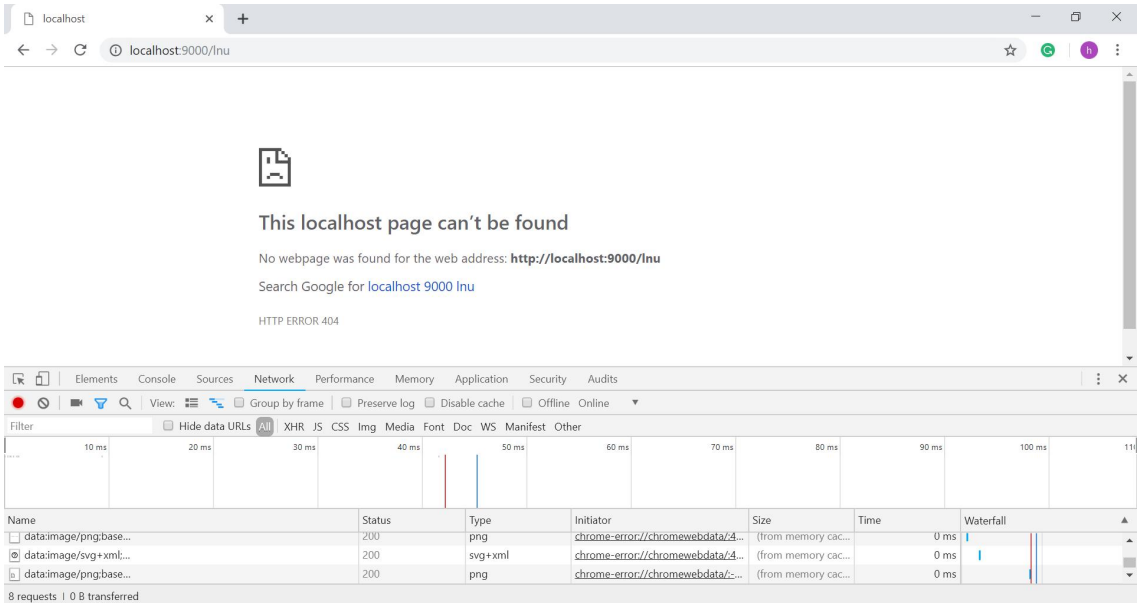
If the client tires access 302ToGoogle.html, the URL redirect to www.Google.se automatically.

403 Forbidden



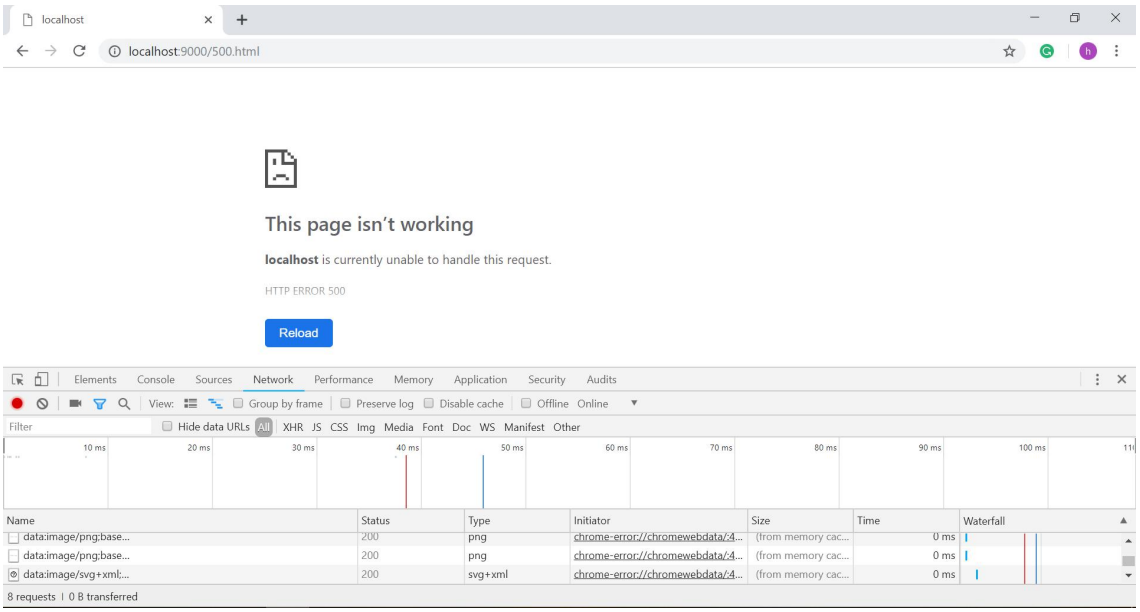
If the client tries to access secret.html, the server would response 403 which means that this operation is not allowed for the file. Besides, if the client uses other request methods instead of PUT, POST, and GET, the server would also response 403 to inform that this request method is not supported.

404 Not Found



If the client tries to request contents which do not exist, the system will response 404. For example, the lnu file is not included in the server.

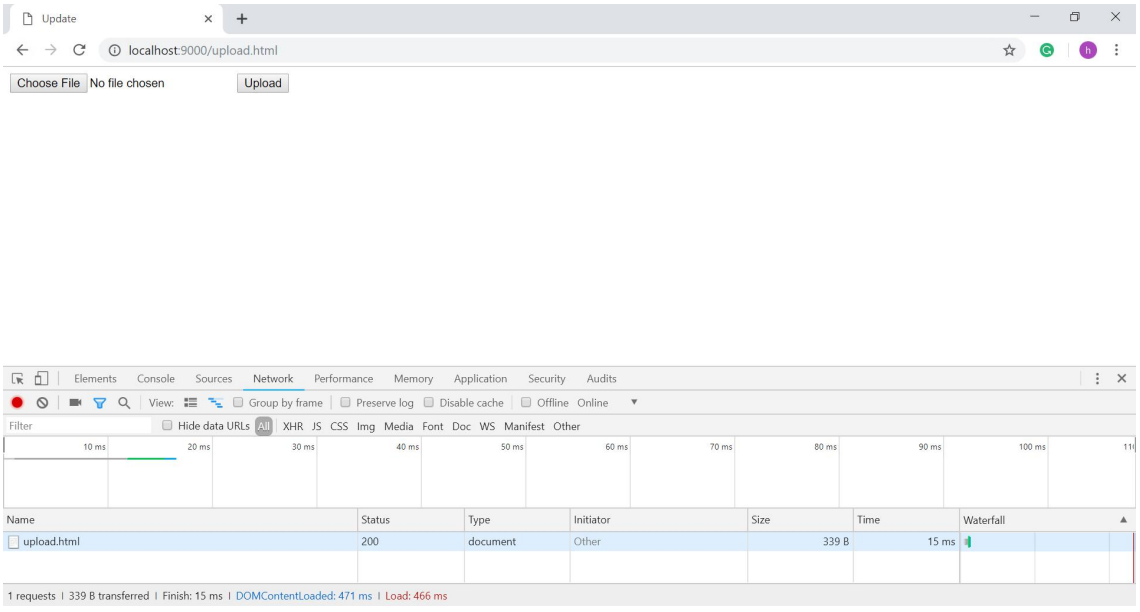
500 Internal Server Error

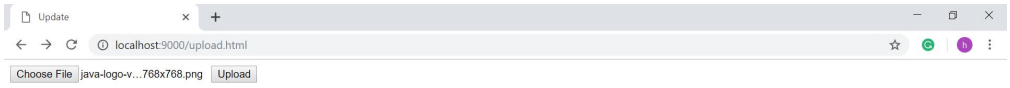


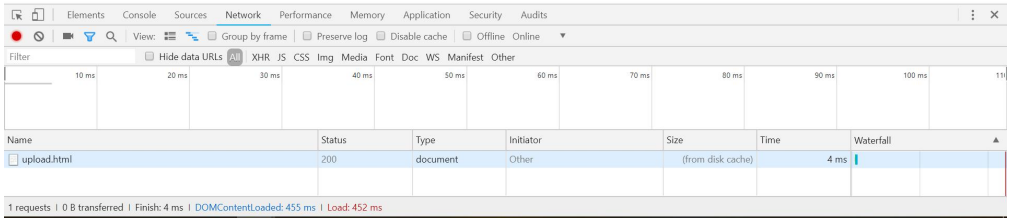
This is an internal server error. This status code would appear when there are some problems in the program. Our codes used IOEexception to handle this error.

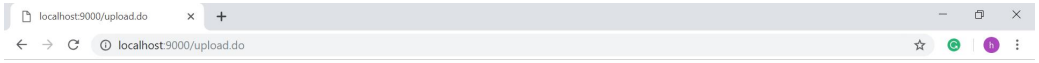
2.1 VG-task 1

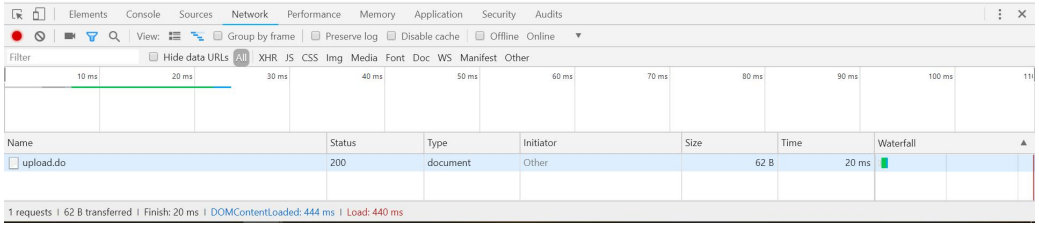
This web server also supports the HTTP POST method. The screenshot illustrated a webpage with a form for users to upload images in directory hierarchy. After successfully uploading the image, it can be found in the upload folder inside the webroot.











2.2 VG-task 2

The PUT method is tested with telnet.

The fundamental difference between the POST and PUT requests is reflected in the different meaning of the Request-URI. The detailed differences are listed as following:

PUT	POST
Known URL	Unknown URL
Idempotent: 1. sending retry multiple times should be equivalent to single request modification. 2. The response can cache.	NOT idempotent: 1. sending retry N times would have N resources with N different URLS created on the server. 2. The response can not cache excepting it includes appropriate Cache-Control or Expires header fields.
Replacing the entirety which is already a part of resources collection.	Adding a child resource under resources collection.
Identifier is chosen by the client.	Identifier is returned by the server.
PUT semantics fits well for modifying resources	POST is often use to create resources

3 Problem 3

All two group members use Windows system, we use telnet client instead of the web browser to connect the server. There are the screenshot of the terminal window.

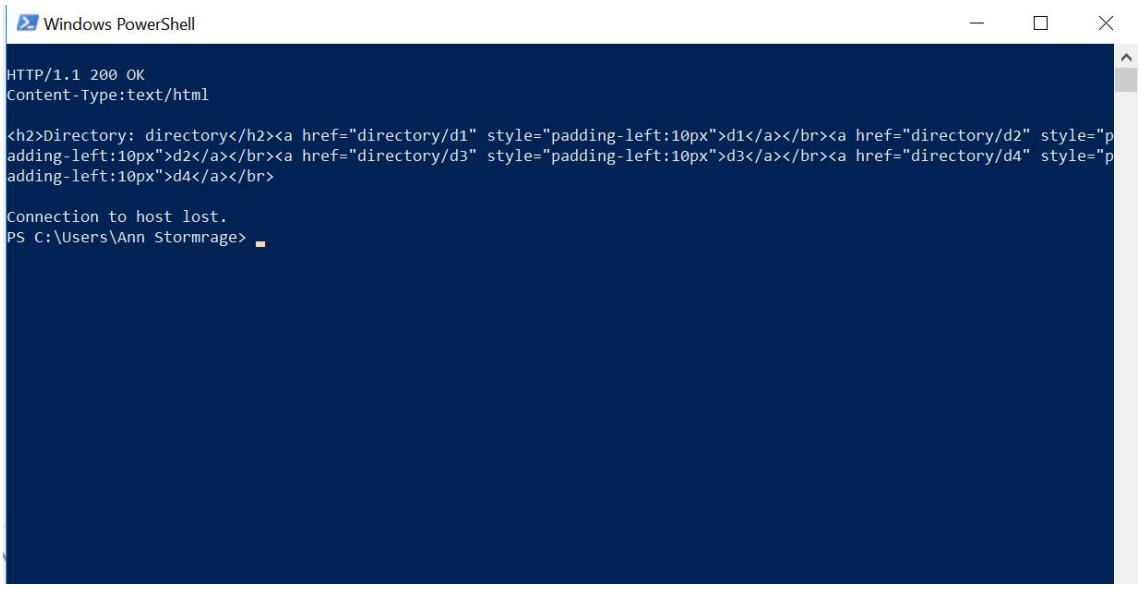
GET a named HTML page:

Instead of the web browser, the telnet client also can request the main page of the web server by inputting commands in the PowerShell.

GET an image:

We think the mojibakes are the result of the telnet client use ASCII characters to show the image. Excepting the content, the screenshot also illustrates the information about this image in the beginning. The png image is getting by the client successfully since the HTTP response 200 OK.

GET a directory:



Comparing with requesting the directory by the web browser, the telnet provides more details, for example, the format and other front-end settings of the directory can be viewed as the picture shows.

4 Summary

This web server was implemented and documented by two members. Regarding the workload, we decided Jinzhe Zhao (jz222cv) contributed 55%, who is responsible for two VG-tasks, Problem 3. The last 45% of participants are finished by Hailing Zhang (hz222bp), who is in charge of problem 1, problem 2, and report.