



Linnéuniversitetet

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Report

Assignment 2

IDV701



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1 Problem 1

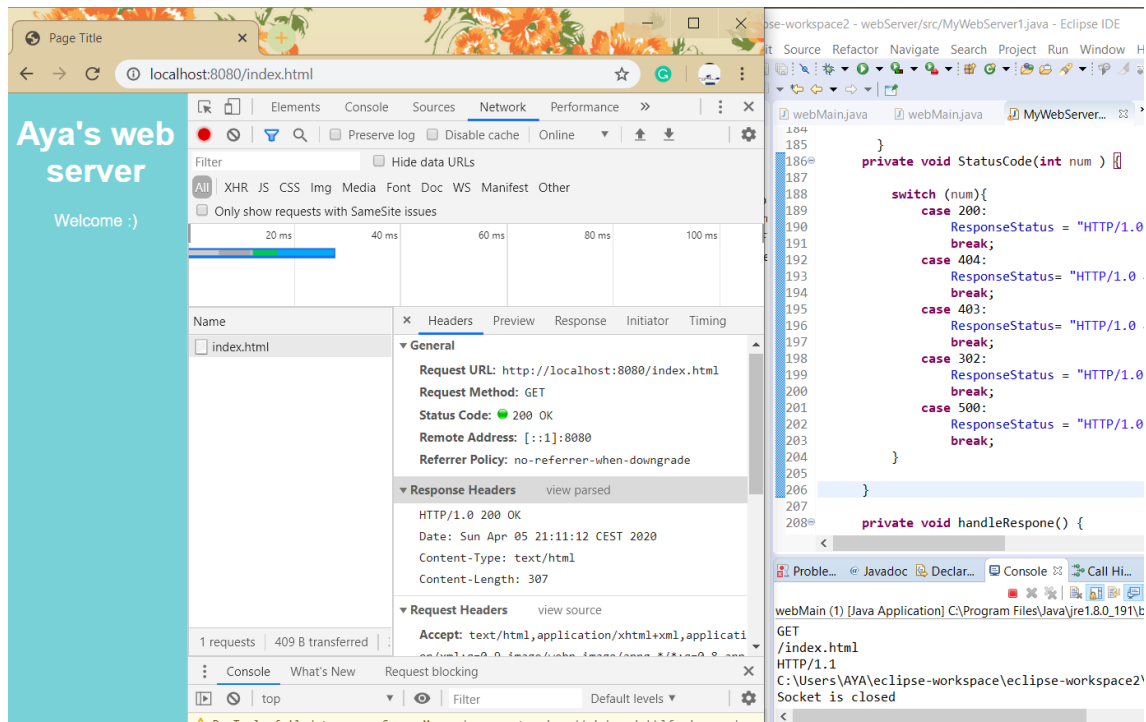


Figure 1- request index.html.

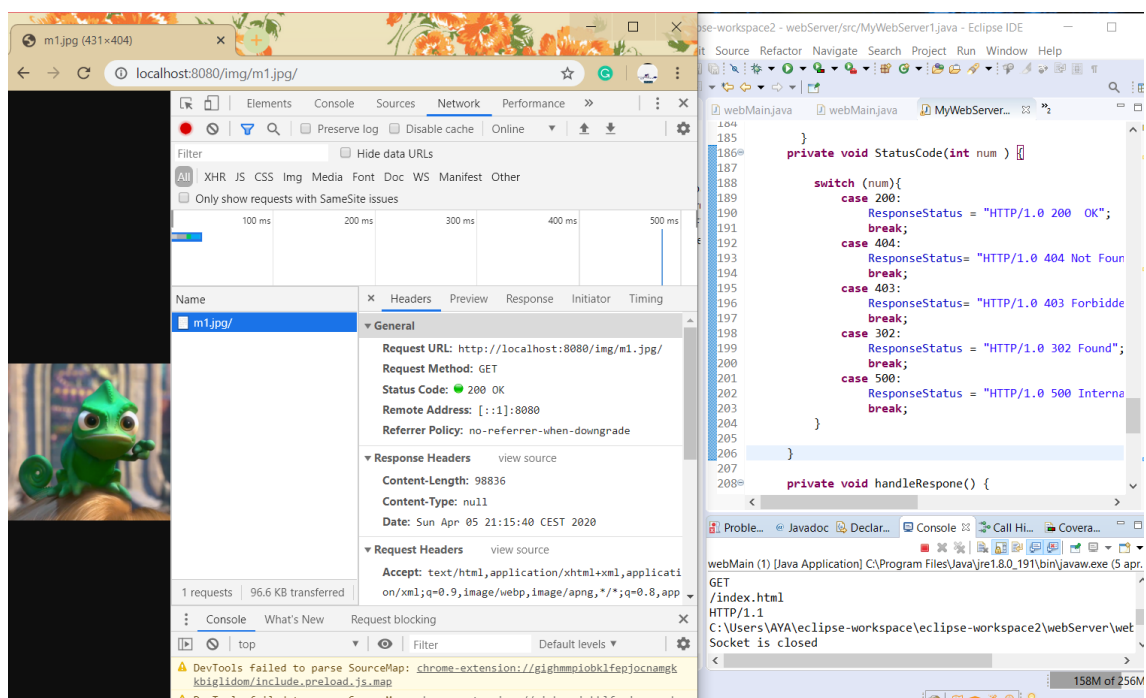


Figure 2- request an image in inside a subdirectory.

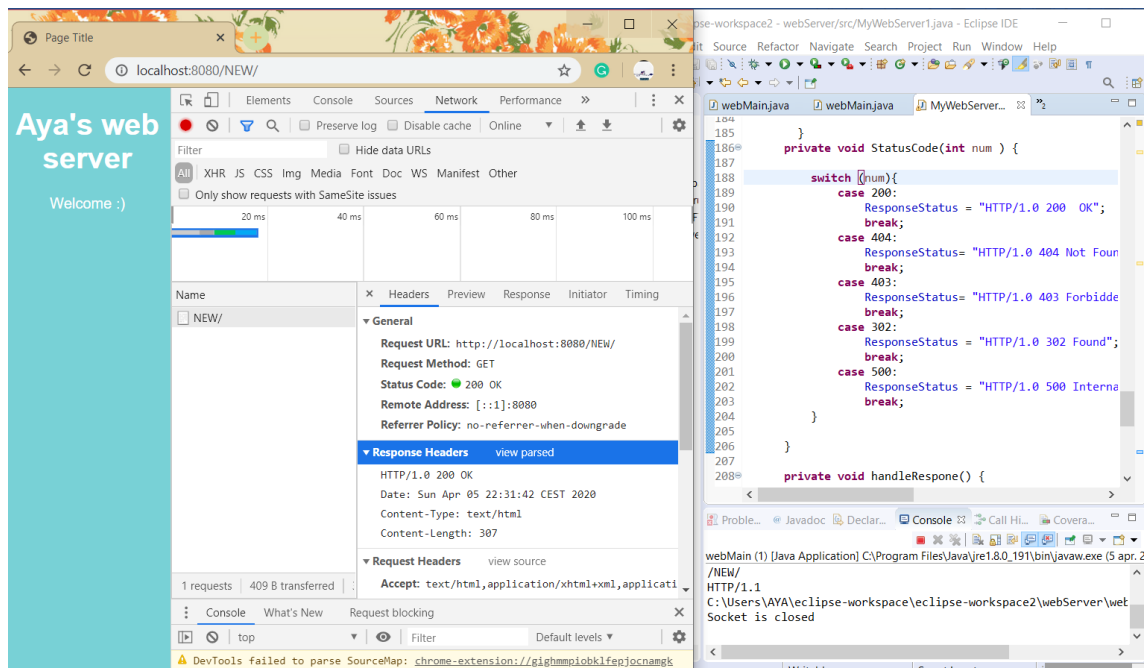


Figure 3 request directory.

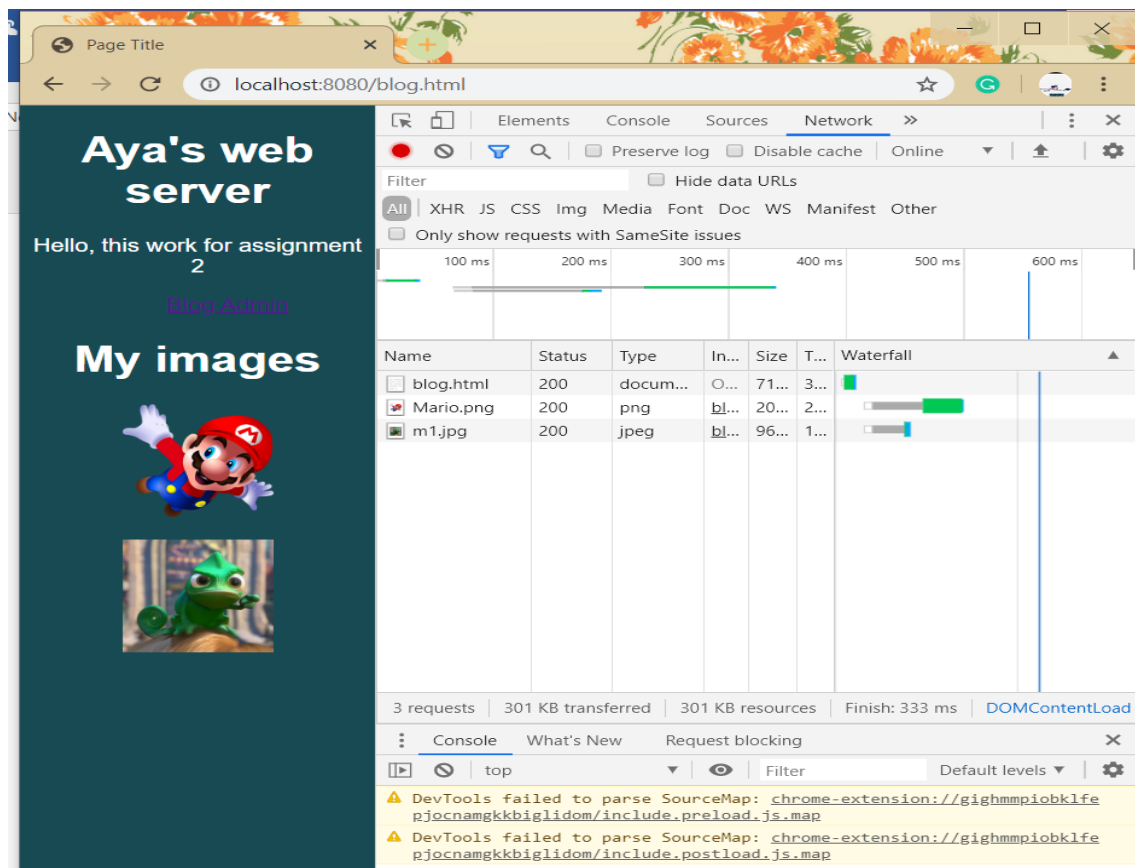


Figure 4 request another page include images.

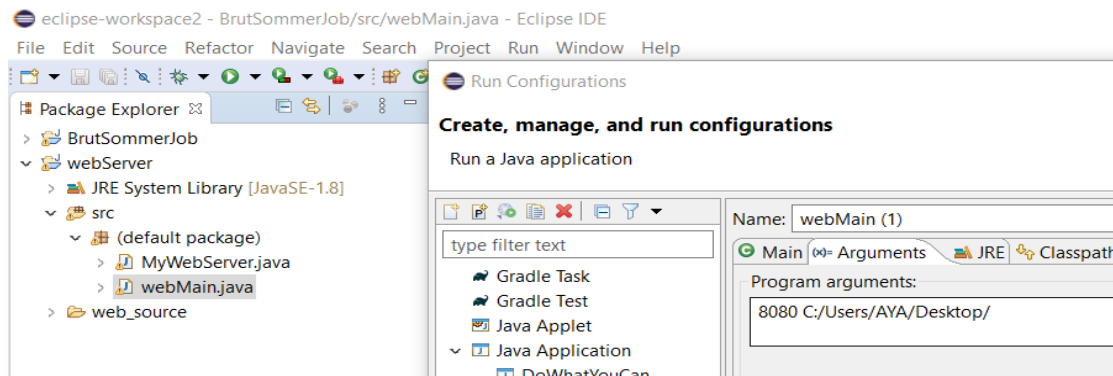
1.1 Discussion

In order to run the program, two parameters need to be set:

1- Port, example: 8080

2- Path, example: C:/Users/AYA/Desktop/

All the web source files should be placed inside a file called (web_source), for example: C:/Users/AYA/Desktop/web_source/index.html



Solving the problem:

- In order to handle multiple client connections, I used Threads that accept multiple connections at the same time.
- While the server is running, it listing to the specified port for the clients to connect.
- readClientRequest(Socket client) method reads client requests, whenever the data end with a blank line that means client HTTP header is ended.
- The server write a response to the client depends on its request.
- If the user request a directory such as “/” or “NEW/ “ , the server returns index.html if the file is exist in that directory. In my case, ‘index.html’ exist in both “/” or “NEW/ “.
- In case the file is not exist in that directory, the server returns 404 not found.

2 Problem

In the first case, when a user requests a wrong/not exist page or image. The server will respond with 404 Not. See the image below:

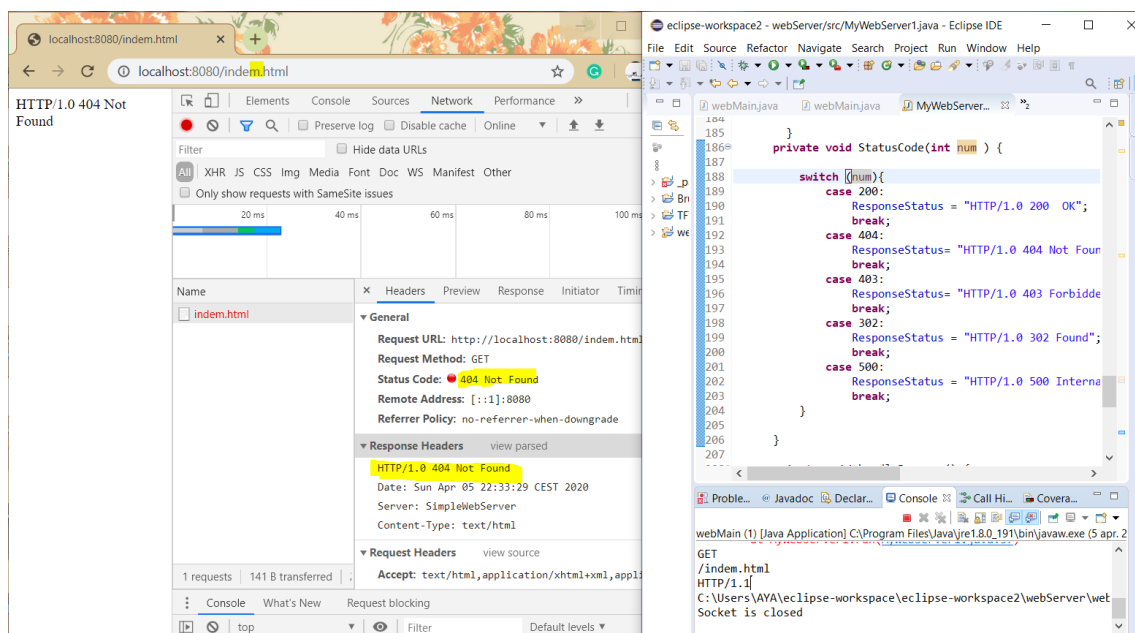


Figure 1- 404 Not Found

In the second case, if a user tries to access a page restricted only for admins. The server will respond with 403 forbidden error. In my case below, admin.html is a page restricted only for admins should access.

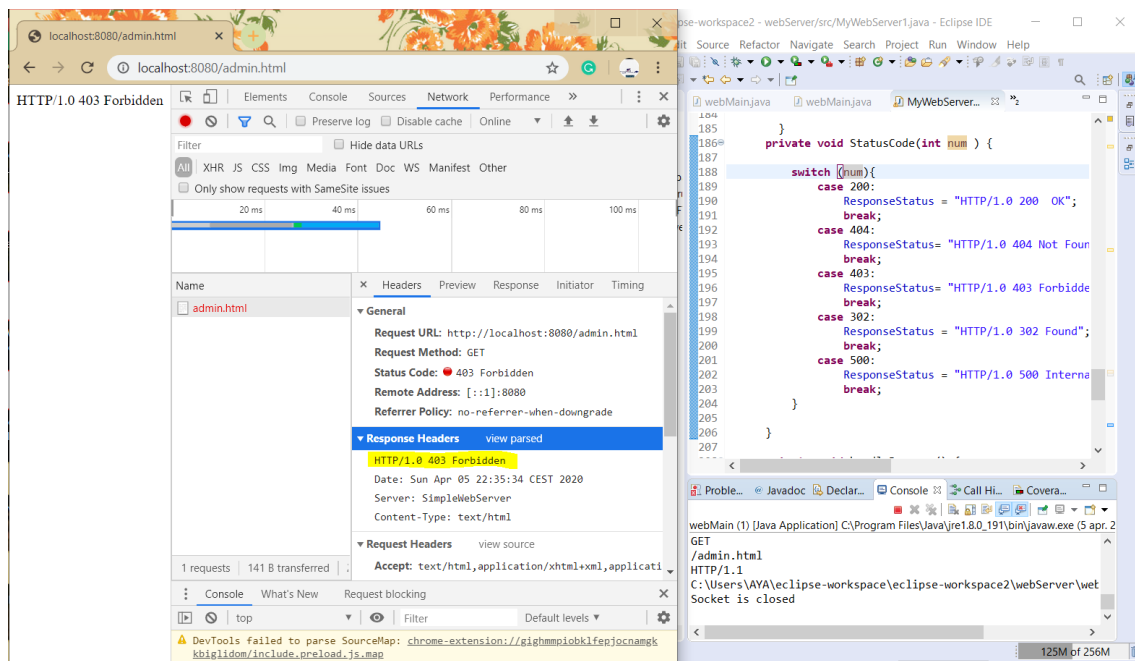


Figure 2- 403 forbidden

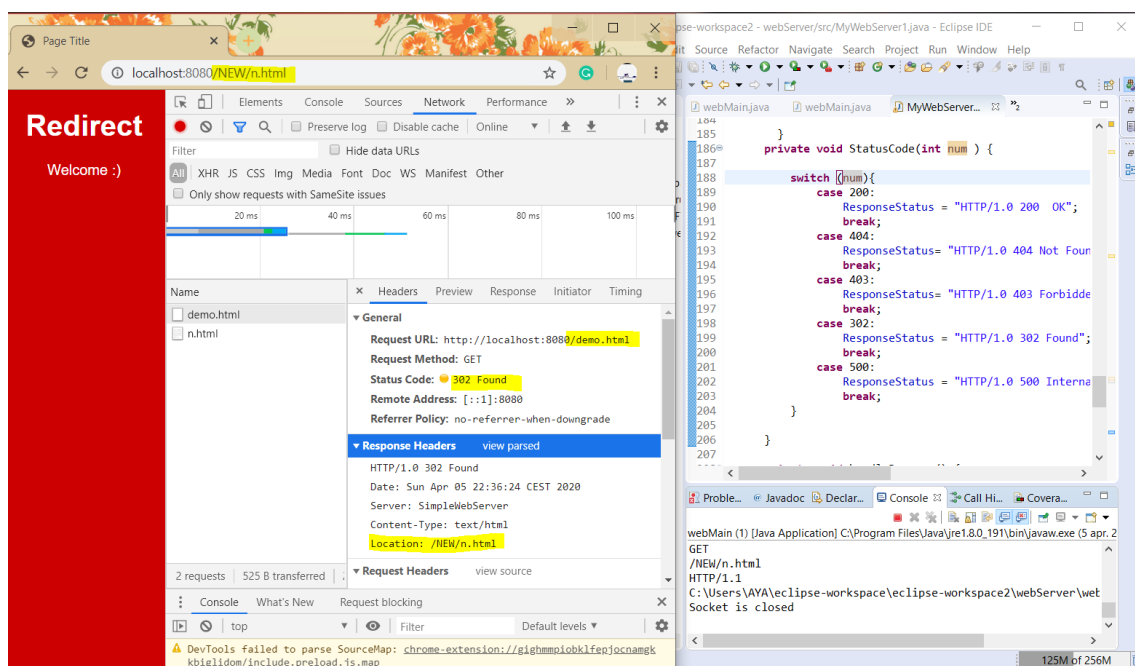


Figure 3- 302 moved

In the third case, if the user requests a page that may be moved to another directory. In our case it is demo.html, when the user requests the page the server will respond with 302 moved to demo.html and redirect the browser to /NEW/n.html.

The last case we have when the server is down. In this case, the server will send 500 error, telling the user the server is down.

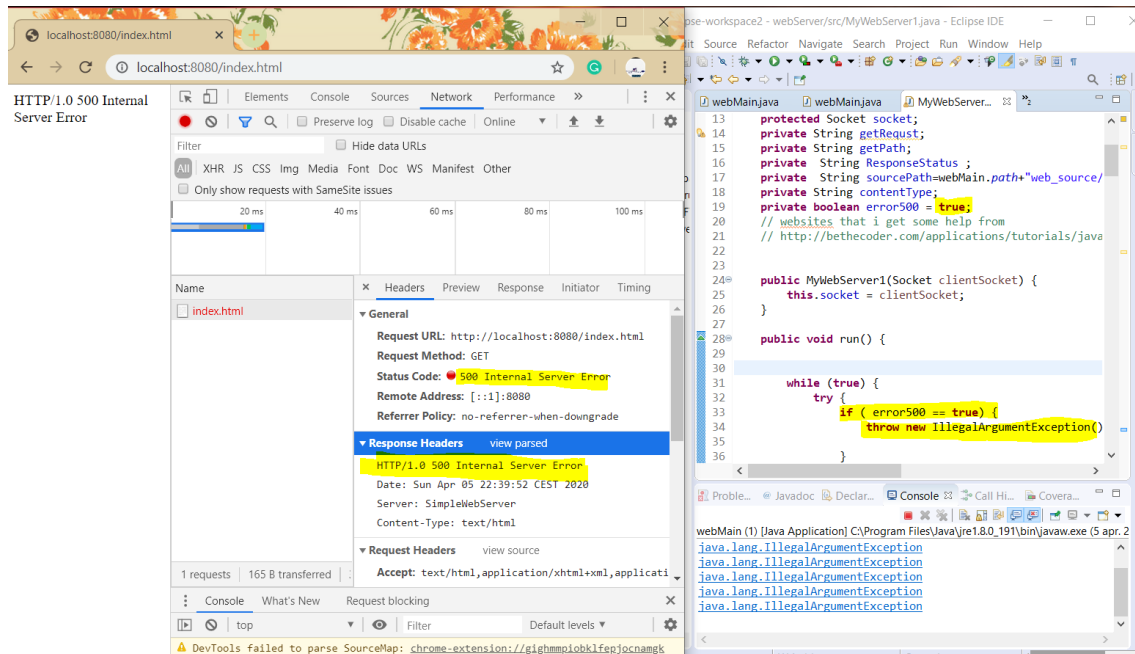


Figure 4- 500 server is down

2.1 Discussion

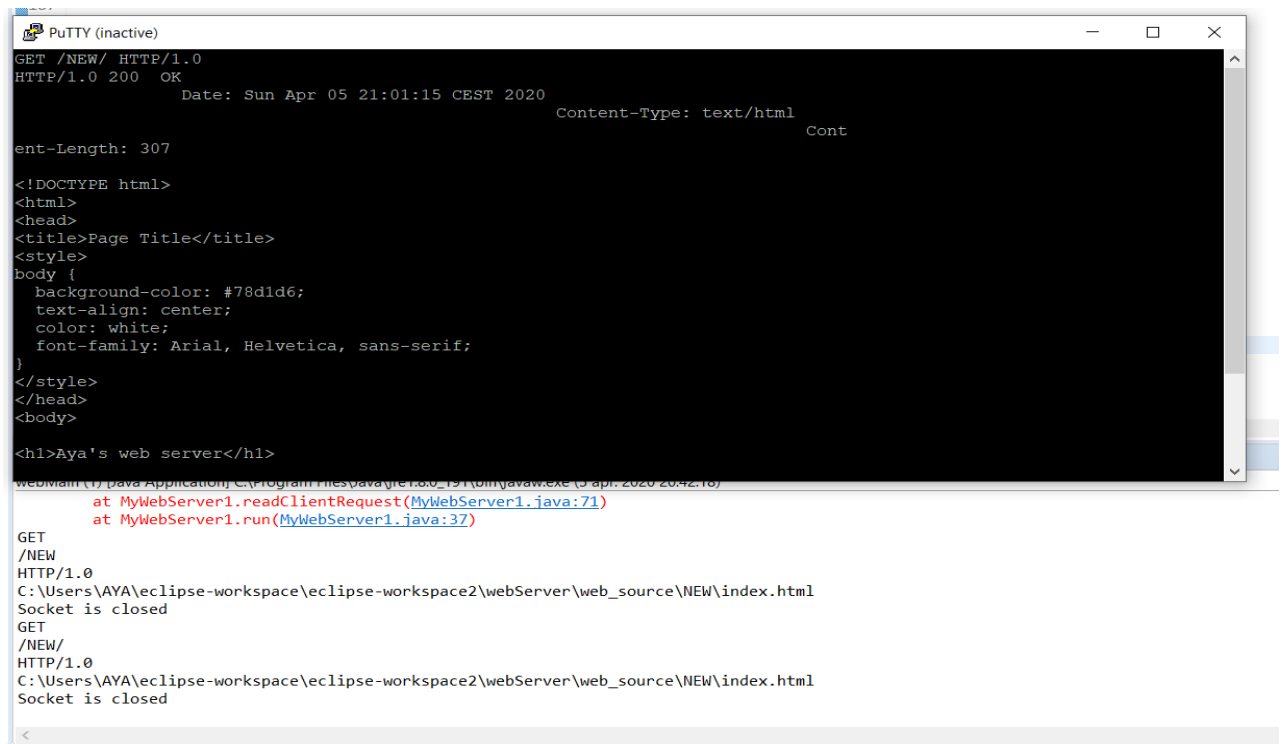
- The server handle different responses depending on the URL that the client request.
- If the request path/URL correct, the server returns 200 Ok in the header and direct the browser to the correct page. Otherwise it returns Error code with explanation.

2.2 VG 2

2.2.1 Discussion

3 Problem 3

In problem 3 we are required to use telnet. To use telnet, I had used putty. In putty we have to select the passive mode, the reason is the putty will not send any command until we type, in contrast with an active mode which starts to negotiate directly. In the pictures below, I made a GET different requests:



```
PuTTY (inactive)
GET /NEW/ HTTP/1.0
HTTP/1.0 200 OK
Date: Sun Apr 05 21:01:15 CEST 2020
Content-Type: text/html
Content-Length: 307

<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
<style>
body {
background-color: #78d1d6;
text-align: center;
color: white;
font-family: Arial, Helvetica, sans-serif;
}
</style>
</head>
<body>

<h1>Aya's web server</h1>

WebMain (1) java Application: C:\Program Files\Java\jre1.8.0_191\bin\java.exe (3 Apr 2020 20:42:16)
at MyWebServer1.readClientRequest(MyWebServer1.java:71)
at MyWebServer1.run(MyWebServer1.java:37)

GET
/NEW
HTTP/1.0
C:\Users\AYA\eclipse-workspace\eclipse-workspace2\webServer\web_source\NEW\index.html
Socket is closed
GET
/NEW/
HTTP/1.0
C:\Users\AYA\eclipse-workspace\eclipse-workspace2\webServer\web_source\NEW\index.html
Socket is closed
```

Figure 1 request a directory



```
PuTTY (inactive)
GET /index.html HTTP/1.0
HTTP/1.0 200 OK
Date: Sun Apr 05 20:45:14 CEST 2020
Content-Type: text/html
Content-Length: 307

<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
<style>
body {
background-color: #78d1d6;
text-align: center;
color: white;
font-family: Arial, Helvetica, sans-serif;
}
</style>
</head>
<body>

<h1>Aya's web server</h1>
```

Figure 2 request index.html

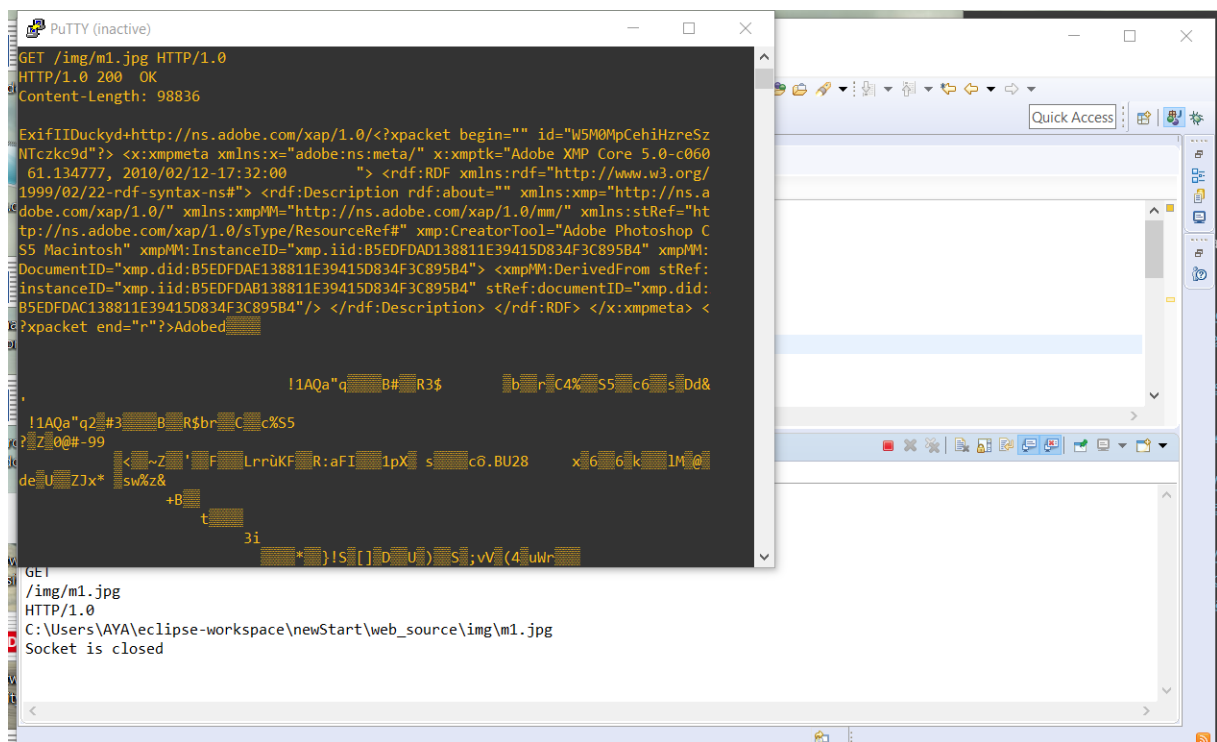


Figure 3 request an image

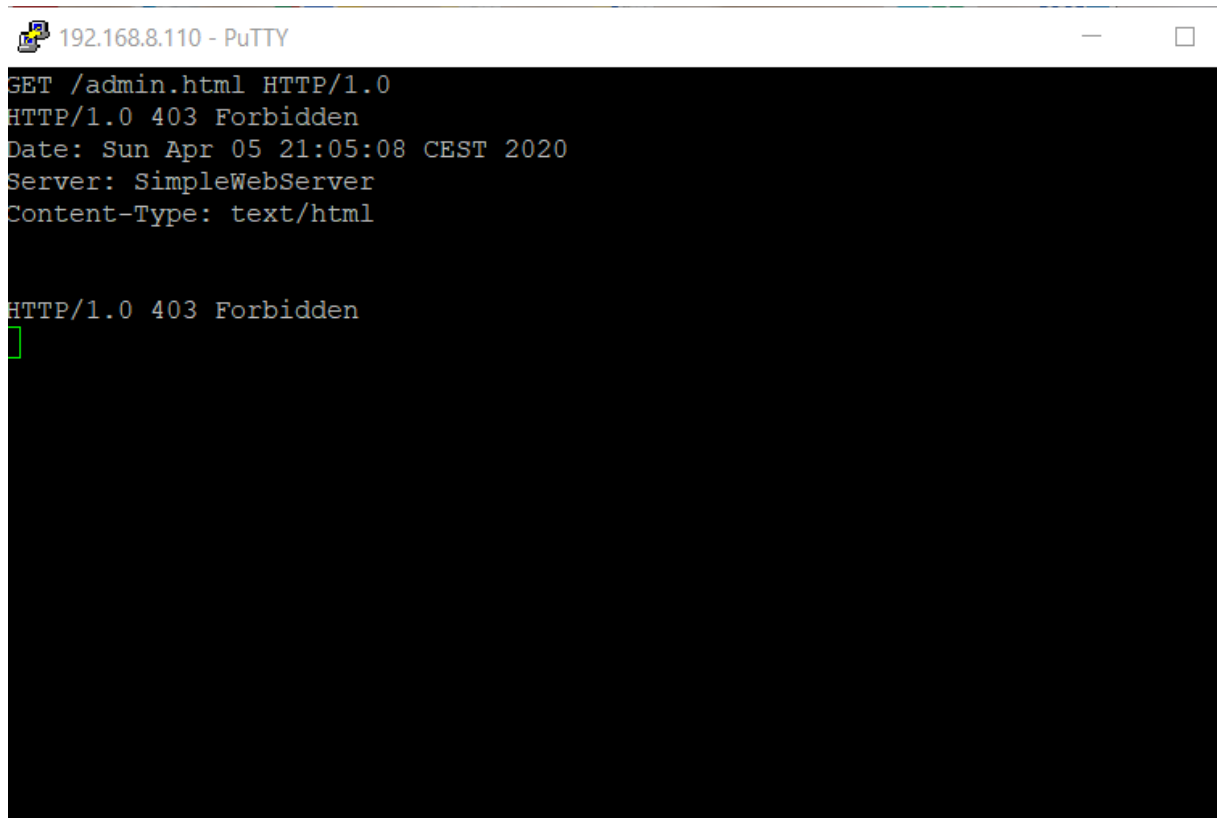


Figure 4 request admin.html, that is only restricted for admins

3.1 Discussion