

Shubham Arya 1001650536

CSE 4344 – 900 Project 1 README

Instructions to run the program:

Download the zip file and unzip it. Open the terminal of your computer. Locate to the directory where this folder is saved on the terminal using 'cd' commands. Once you have reached the folder with the .java file of this assignment in the terminal, type the following commands:

```
javac WebServer.java
java WebServer
```

This will run the program. It will establish a socket and listen for any connection on the port 6789. Now, go to your web browser and search for <http://localhost:6789/index.html>. If the file exists on your server i.e., the index.html file, then it will show a success message. If the file doesn't exist, then it will say file not found. I have added the index.html file in the folder so the file not found error wouldn't show.

Instructions to generate .JAR file:

In the terminal of your computer, use cd to reach the directory of this folder. Then in the terminal enter javac WebServer.java and then jar -cvf WebServer.jar WebServer.java. This will create a WebServer.jar file.

Outgoing and Incoming HTTP responses:

```
shubhamarya@Shubhams-MacBook-Pro CSE-4344-Project % javac WebServer.java
shubhamarya@Shubhams-MacBook-Pro CSE-4344-Project % java WebServer
Server socket is established and started.
Listening for any connections on port : 6789

Below is the request line and the header lines...

GET /index.html HTTP/1.1
Host: localhost:6789
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.121 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
Sec-Fetch-Site: none
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9
filename is ./index.html

HTTP/1.1 200 OK
Date: Fri Oct 02 19:38:25 IST 2020
Server: shubhamarya
Content-length: 271
Content-type: text/html

Entity body:
<!DOCTYPE html>
<html lang=en dir=ltr>
  <head>
    <meta charset=utf-8>
  </head>
  <body>
    <h1>Success!</h1>
    <h2>HTTP/1.1 200 OK. This is the index.html file. Displaying this file means that the webserver successfully found this file.</h2>
  </body>
</html>
Connection closed
```

```

shubhamarya@Shubhams-MacBook-Pro CSE-4344-Project % javac WebServer.java
shubhamarya@Shubhams-MacBook-Pro CSE-4344-Project % java WebServer
Server socket is established and started.
Listening for any connections on port : 6789

Below is the request line and the header lines...

GET /index.html HTTP/1.1
Host: localhost:6789
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.121 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
Sec-Fetch-Site: none
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9
filename is ./index.html

HTTP/1.1 404 NOT FOUND
Date: Fri Oct 02 19:49:57 IST 2020
Server: shubhamarya
Content-length: 0
Content-type: text/html

Entity body:
<HTML><HEAD><h1><center>404 Not Found</center></h1></HEAD><br><BODY><center><h3>This file doesn't exist</h3></center></BODY></HTML>
Connection closed

```

Reference:

- 1) <https://www.codejava.net/java-se/networking/java-socket-server-examples-tcp-ip>
- 2) <https://stackoverflow.com/questions/10788125/a-simple-http-server-with-java-socket>
- 3) <https://javarevisited.blogspot.com/2015/06/how-to-create-http-server-in-java-serversocket-example.html>
- 4) <https://medium.com/@ssaurel/create-a-simple-http-web-server-in-java-3fc12b29d5fd>
- 5) https://www.net.t-labs.tu-berlin.de/teaching/computer_networking/ap01.htm