

CSE 4344 Assignment 1 Spring 2020

Nihar Gupte

1001556441

For windows users:

To compile the program, use the following command in the local directory:

- `javac lab1.java`

To execute the program, i.e. start the server, use the following command:

- `java lab1`

(A makefile is also included for linux based OS)

Once the server is up and running, you can use any web browser (Mozilla Firefox, Google Chrome, Internet Explorer, Edge) to serve as your client. In the URL bar, input either `http://localhost:6789/index.html` or <http://127.0.0.1:6789/index.html> to test the client-server. Please note that port number 6789 is hardcoded into the program and hence must be used in conjunction with the URL. The webpage should load with a status code of 200. Similarly, if you open up the image, it should still give the status code of 200. Multi-threading is enabled as multiple browsers and multiple tabs will get the appropriate response messages.

Try changing the url to <http://127.0.0.1:6789/ind> or or <http://127.0.0.1:6789/page.html>. A status code of 404 will be returned along with an appropriate web page.

Now, try changing the url to or <http://127.0.0.1:6789/index.php> or or <http://127.0.0.1:6789/index.org>. A status code of 301 is returned along with automatic redirection to index.html page that is stored locally.

Please note the limitation here: When I was testing with, Firefox, Firefox is smart and automatically redirects index.php to index.html as its HTTP request without requiring any redirection from server, hence resulting in a normal status code of 200. However, when I used Microsoft Edge, the HTTP Request was still in the php format, and then the server was able to provide redirection to index.html using 301 Status code.

For other errors, an exception is caught and displayed on the server side.

Screenshots:

1. HTTP Request for 200

```
▼ Hypertext Transfer Protocol
  > GET /index.html HTTP/1.1\r\n
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8\r\n
    Accept-Language: en-US\r\n
    Upgrade-Insecure-Requests: 1\r\n
    User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML
    Accept-Encoding: gzip, deflate\r\n
    Host: 127.0.0.1:6789\r\n
    Connection: Keep-Alive\r\n
  > Cookie: ki_t=1532001367318%3B1532273773515%3B1532275556177%3B2%3B4; ki_s=; ki_r
    \r\n
    [Full request URI: http://127.0.0.1:6789/index.html]
    [HTTP request 1/1]
```

2. HTTP Response for 200

```
▼ Hypertext Transfer Protocol
  > HTTP/1.0 200 OK\r\n
    \r\n
    [HTTP response 1/1]
    [Time since request: 0.143861000 seconds]
    [Request in frame: 4124]
    [Request URI: app.appsflyer.com:443]
```

3. HTTP Request for 301

```
▼ Hypertext Transfer Protocol
  > GET /index.php HTTP/1.1\r\n
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8\r\n
    Accept-Language: en-US\r\n
    Upgrade-Insecure-Requests: 1\r\n
    User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML
    Accept-Encoding: gzip, deflate\r\n
    Host: 127.0.0.1:6789\r\n
    Connection: Keep-Alive\r\n
  > Cookie: ki_t=1532001367318%3B1532273773515%3B1532275556177%3B2%3B4; ki_s=; ki_r
    \r\n
    [Full request URI: http://127.0.0.1:6789/index.php]
    [HTTP request 1/1]
```

4. HTTP Response for 301

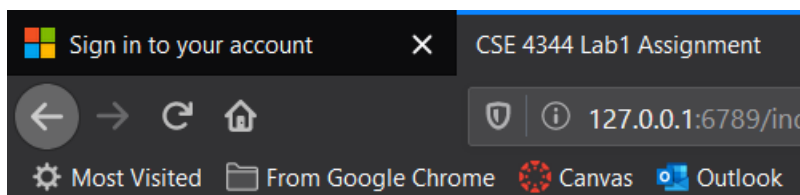
```
▼ Hypertext Transfer Protocol
  > HTTP/1.1 301 Moved Permanently\r\n
    Location: http://127.0.0.1:6789/index.html \r\n
    \r\n
    [HTTP response 1/1]
    [Time since request: 0.003920000 seconds]
    [Request in frame: 1447]
    [Request URI: http://127.0.0.1:6789/index.php]
```

5. HTTP Request for 404

```
▼ Hypertext Transfer Protocol
  > GET /page.html HTTP/1.1\r\n
    Host: 127.0.0.1:6789\r\n
    User-Agent: Mozilla/5.0 (Windows NT 10.0;
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8\r\n
    Accept-Language: en-US,en;q=0.5\r\n
    Accept-Encoding: gzip, deflate\r\n
    Connection: keep-alive\r\n
    Upgrade-Insecure-Requests: 1\r\n
```



HTTP Response Code 404 - File Not Found



HTTP Response Code 200 - Success

[Image](#)

References for code:

<https://www.iith.ac.in/~tbr/teaching/lab1.html>

<http://www.java2s.com/Code/Java/Network-Protocol/AmultithreadedSocketServer.htm>

<http://cs.fit.edu/~mmahoney/cse3103/java/>

Computer Networks A top down approach 5th edition