

NETWORK ASSIGNMENT REPORT

NETWORK ASSIGNMENT3 – WEB SERVER

2014310198

NAM JAEYOUN

DEVELOPMENT ENVIRONMENT

Operating system
: Mac OSX version 10.11.3

Programming language and Compiler version
: python 3.7

Web Browser
: google chrome

HOW TO TEST PROGRAM

1. Put 'server.py', 'index.html', 'secret.html', and other files in a zip file.
2. Enter 'python server.py' to run server on terminal.
3. Open browser and connect to 'http://ip:10080/index.html'
4. Enter any id and password.
5. Watch some contents in 'secret.html' and load '/cookie.html' to see cookie's information.
6. Access files after cookie expires to test 403 ERROR
7. Access files that are not in directory to test 404 ERROR.
8. Open other browser to test concurrency.

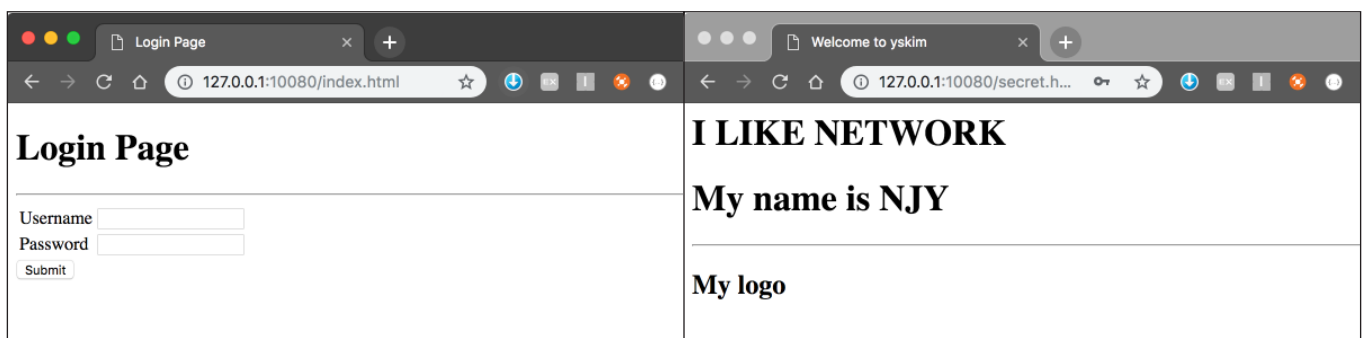


FIGURE 1. INDEX.HTML

FIGURE 2. SECRET.HTML

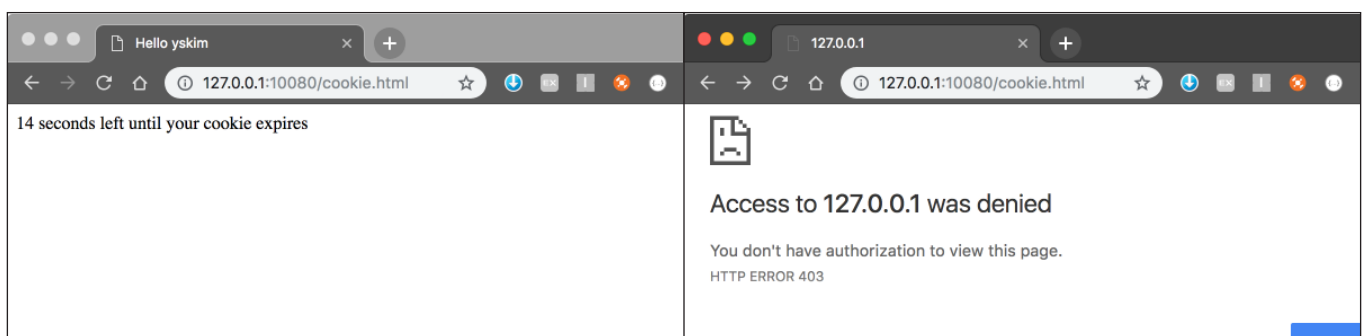


FIGURE 3. COOKIE.HTML

FIGURE 4. 403 ERROR

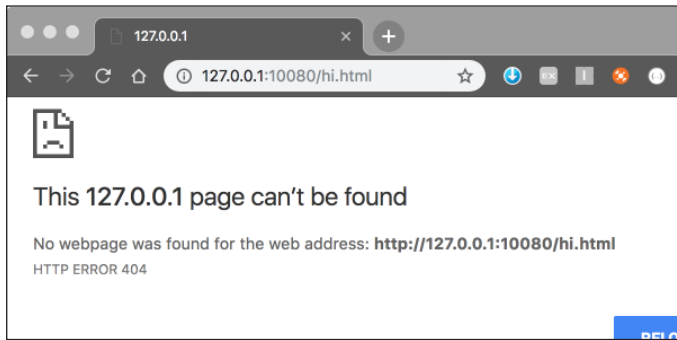


FIGURE 5. 404 ERROR

SERVER WORK FLOW

1. Prepare server socket, bind and listen.
2. Server socket accept client and fork itself.
3. Parent closes connected socket and wait for another request while child processes handle request.
4. To handle zombie processes, zombie handler wait for any child process's signal.

MAIN WORK FLOW

1. Receive request from clients.
2. First, get a request method.
3. Second, get file name and do appropriate job.
4. If it is not 'index.html', check whether there is cookie or not. If not, then response 403 Error.
5. If there is no file in directory, send 404 Error.
6. If method is 'POST', then redirect to 'secret.html' using 302 FOUND. Get id and set cookies.

COOKIE EXPIRE

1. When set cookie, set additional cookie named 'id expire'.
2. It contains current time value (minute*60+second)
3. When client access 'cookie.html', then get that cookie's value and calculate expire time.

FILE SEND

1. Get a file extension, and send proper http header with Content-type.
2. For sending big files, read 1024 bytes and send it to client until the file ends.