CS50011 Lab 7 HTTP Server

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1.Introduction

In this lab, we are going to implement two style of the process style for server to receive the request from the client and send back the result such as image/file/code's result/html/directory to the client.

In this way, we can know the basic knowledge of the http 's protocol and implement our own web server.

The main knowledge we can learn from this lab is in the following:

1.System based execution for the file.

2.Using the system's library to help us to show more detail about the file.

3.http's protocol

4.Coding ability.

After running the the bash as ./run.sh in my code.

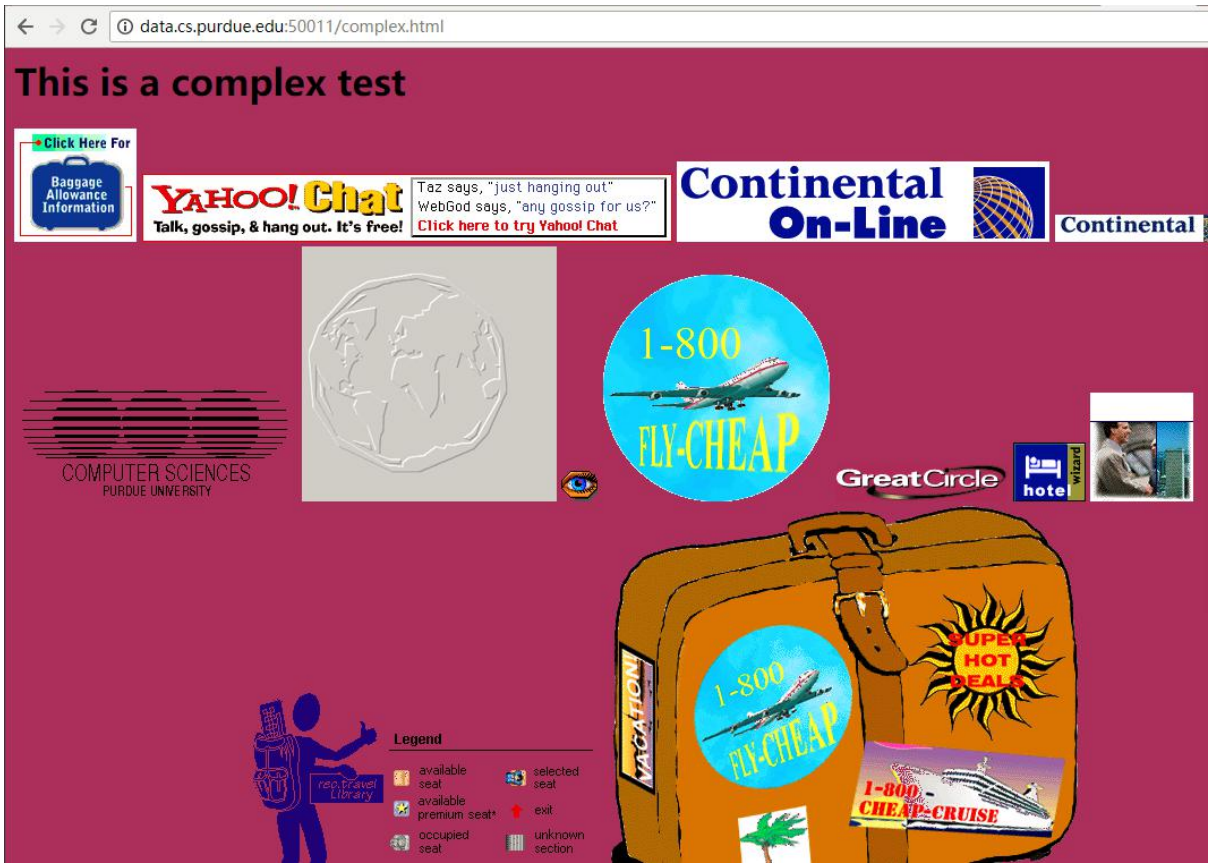
It will automatically run the http server in -p mode.

The index.html look likes:

2.Simple Test

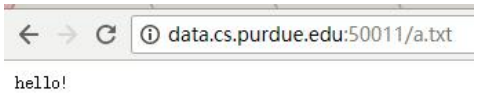
After click on the Simple Test, we have the following results:

3. Complex Test

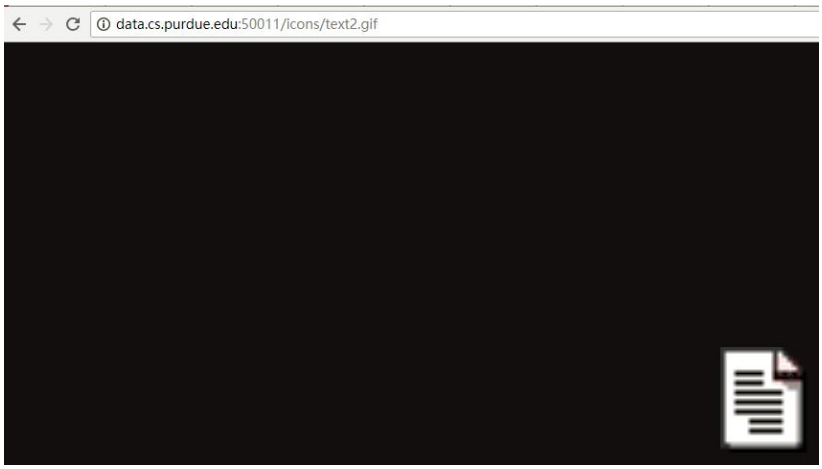


4. Showing normal file

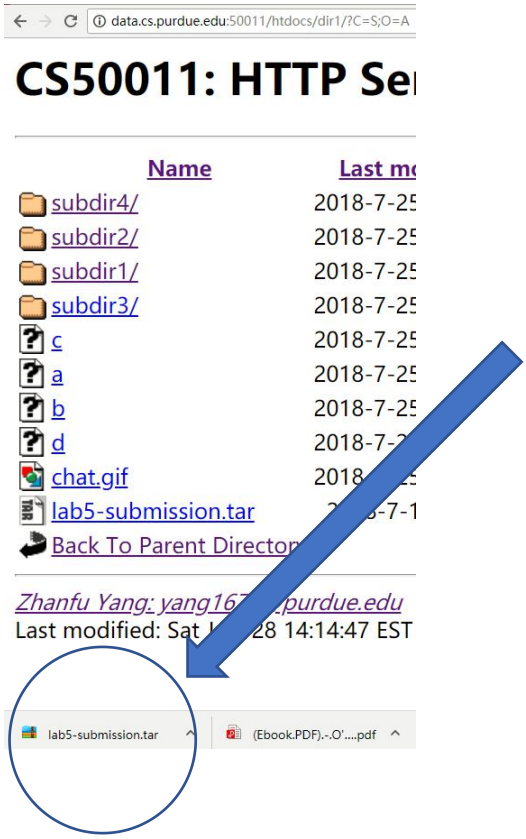
TxT:



Gif:



Tar:



5. Browsing Directory

/dir1/

data.cs.purdue.edu:50011/dir1/

CS50011: HTTP Server

Name	Last modified	Size
subdir4/	2018-7-25 13:32:41	-
subdir2/	2018-7-25 13:32:42	-
c	2018-7-25 13:32:38	0
subdir1/	2018-7-25 13:32:45	-
chat.gif	2018-7-25 13:32:40	8K
a	2018-7-25 13:32:41	0
subdir3/	2018-7-25 13:32:40	-
b	2018-7-25 13:32:43	0
d	2018-7-25 13:32:46	0
lab5-submission.tar	2018-7-16 20:6:11	276K

Back To Parent Directory

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/dir

data.cs.purdue.edu:50011/dir1

CS50011: HTTP Server

Name	Last modified	Size
subdir4/	2018-7-25 13:32:41	-
subdir2/	2018-7-25 13:32:42	-
c	2018-7-25 13:32:38	0
subdir1/	2018-7-25 13:32:45	-
chat.gif	2018-7-25 13:32:40	8K
a	2018-7-25 13:32:41	0
subdir3/	2018-7-25 13:32:40	-
b	2018-7-25 13:32:43	0
d	2018-7-25 13:32:46	0
lab5-submission.tar	2018-7-16 20:6:11	276K

Back To Parent Directory

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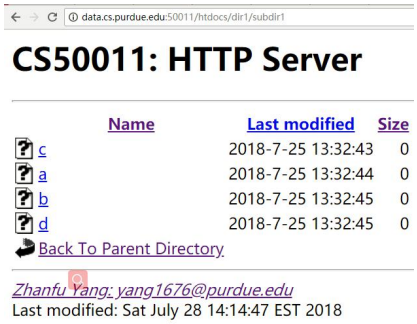
Go to child dir: subdir1/:



data.cs.purdue.edu:50011/htdocs/dir1/subdir1

CS50011: HTTP Server

Name	Last modified	Size
c	2018-7-25 13:32:43	0
a	2018-7-25 13:32:44	0
b	2018-7-25 13:32:45	0
d	2018-7-25 13:32:45	0

Back To Parent Directory

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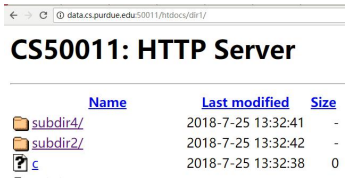
Use: ”../” to go to parent dir:



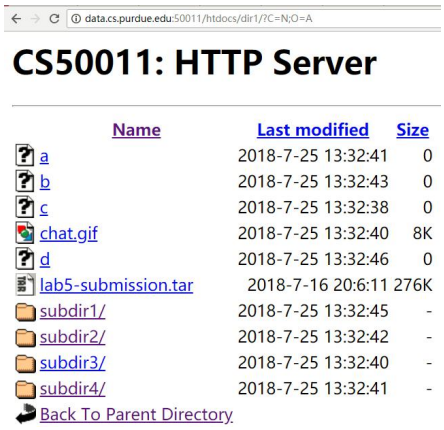
data.cs.purdue.edu:50011/htdocs/dir1/

CS50011: HTTP Server

Name	Last modified	Size
subdir4/	2018-7-25 13:32:41	-
subdir2/	2018-7-25 13:32:42	-
c	2018-7-25 13:32:38	0

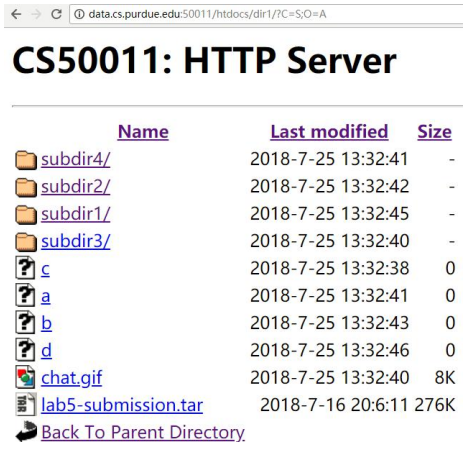
6.Sort

Sort By Name:



Sort By Last Modified:

Sort By Size



7.Extra Credit(Running the executable file)

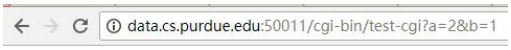
Cgi-bin:test-env

```
MAIL=/var/mail/yang1676
SSH_CLIENT=112.96.67.197 56178 22
USER=yang1676
J2SDKDIR=/usr/lib/jvm/java-8-oracle
SHLVL=2
J2REDIR=/usr/lib/jvm/java-8-oracle/jre
HOME=/homes/yang1676
SSH_TTY=/dev/pts/7
PAGER=less
LOGNAME=yang1676
_=./myhttpd
XDG_SESSION_ID=353555
TERM=xterm
PATH=/homes/yang1676/bin/.x86_64-linux:/homes/yang1676/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:.
DERBY_HOME=/usr/lib/jvm/java-8-oracle/db
XDG_RUNTIME_DIR=/run/user/701412
LANG=en_US.UTF-8
SHELL=/usr/local/bin/bash
PWD=/homes/yang1676/cs50011/lab7-src
JAVA_HOME=/usr/lib/jvm/java-8-oracle
SSH_CONNECTION=112.96.67.197 56178 128.10.2.13 22
XDG_DATA_DIRS=/usr/local/share:/usr/share:/var/lib/snapd/desktop
TEXMFSYSVAR=/p/tex/texmf-var
EDITOR=vi
```

Cgi-bin:test-cgi

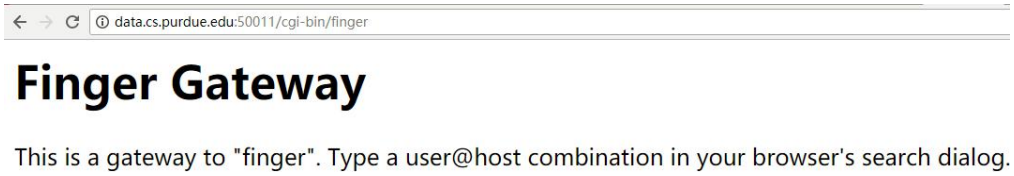
```
CGI/1.0 test script report:

argc is 0. argv is .

SERVER_SOFTWARE =
SERVER_NAME =
GATEWAY_INTERFACE =
SERVER_PROTOCOL =
SERVER_PORT =
REQUEST_METHOD =
HTTP_ACCEPT =
PATH_INFO =
PATH_TRANSLATED =
SCRIPT_NAME =
QUERY_STRING =
REMOTE_HOST =
REMOTE_ADDR =
REMOTE_USER =
AUTH_TYPE =
CONTENT_TYPE =
CONTENT_LENGTH =
```

With ?a=2&b=1:

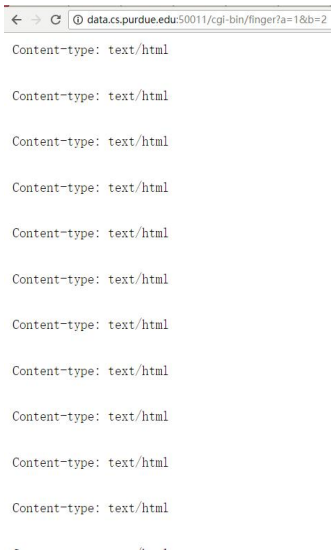



```
CGI/1.0 test script report:

argc is 2. argv is 2 1.

SERVER_SOFTWARE =
SERVER_NAME =
GATEWAY_INTERFACE =
SERVER_PROTOCOL =
SERVER_PORT =
REQUEST_METHOD =
HTTP_ACCEPT =
PATH_INFO =
PATH_TRANSLATED =
SCRIPT_NAME =
QUERY_STRING =
REMOTE_HOST =
REMOTE_ADDR =
REMOTE_USER =
AUTH_TYPE =
CONTENT_TYPE =
CONTENT_LENGTH =
```

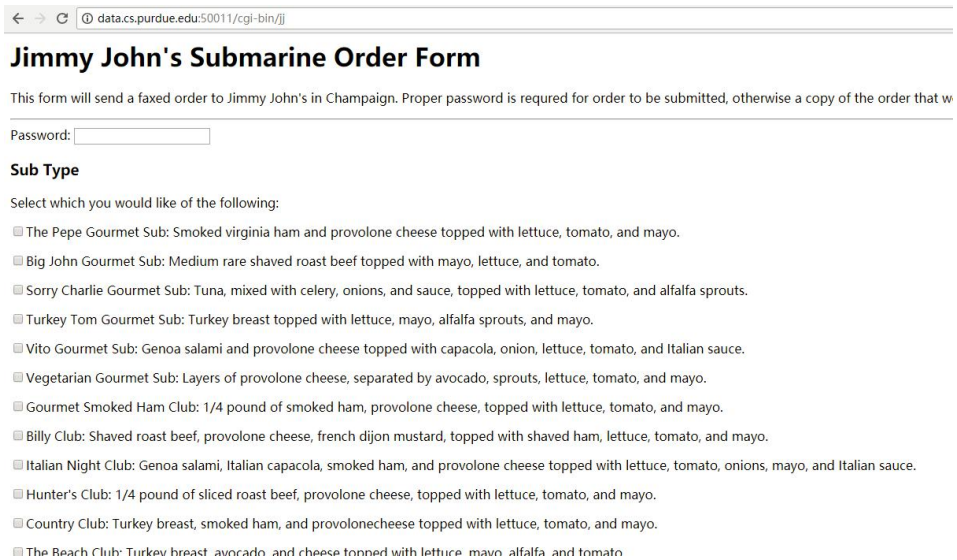
Cgi-bin:finger:



Use ?a=1&b=2:



Cgi-bin:pizza:



8.Conclusion

In this lab, I have learned much practical skill in the web server and applied system, which is really helpful for my further study in the System and Web Security.

In the future, I hope I will try my best to learn much well and try to know some of the latest research area in the Security and applied System.