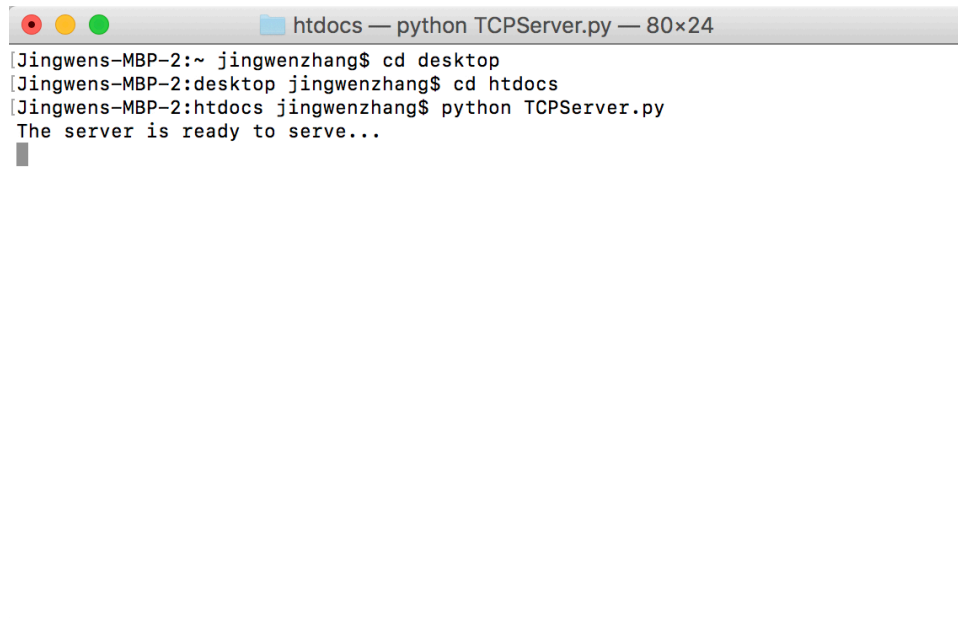


Screen Shots:

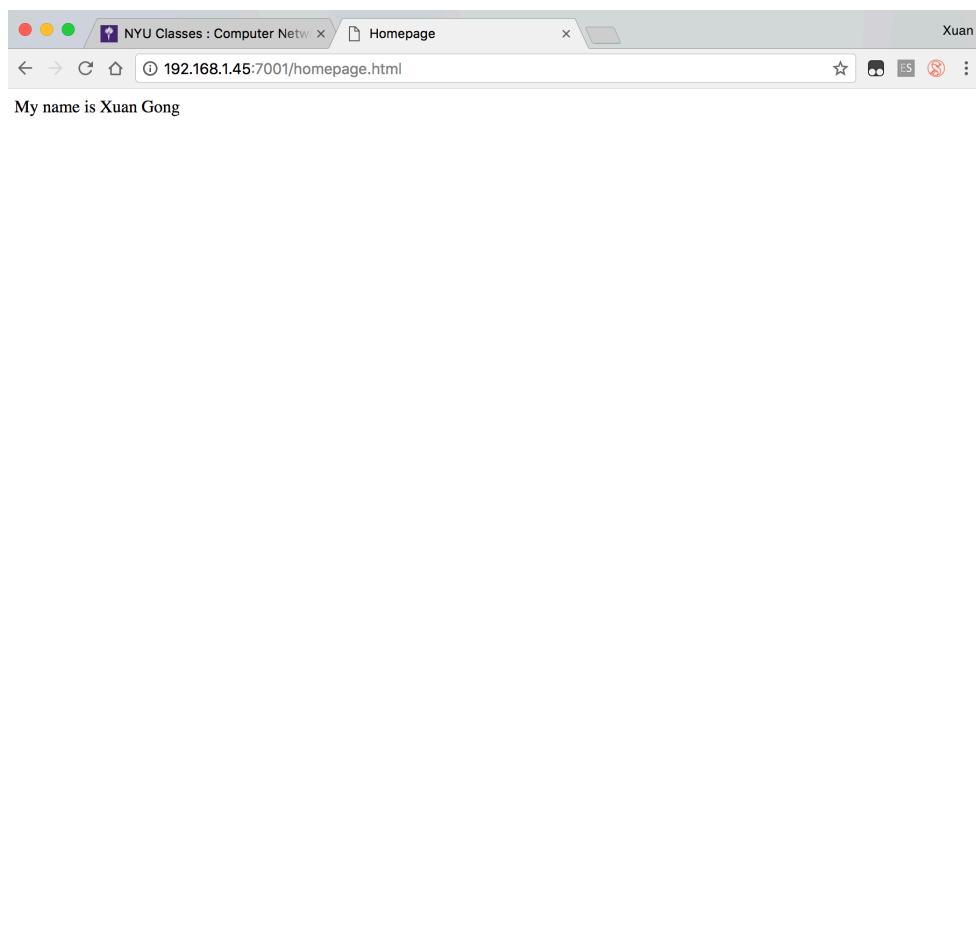
I use two computers which are connected to the same router to do this assignment. One is client, one is server.

First, we start the server on the server side:

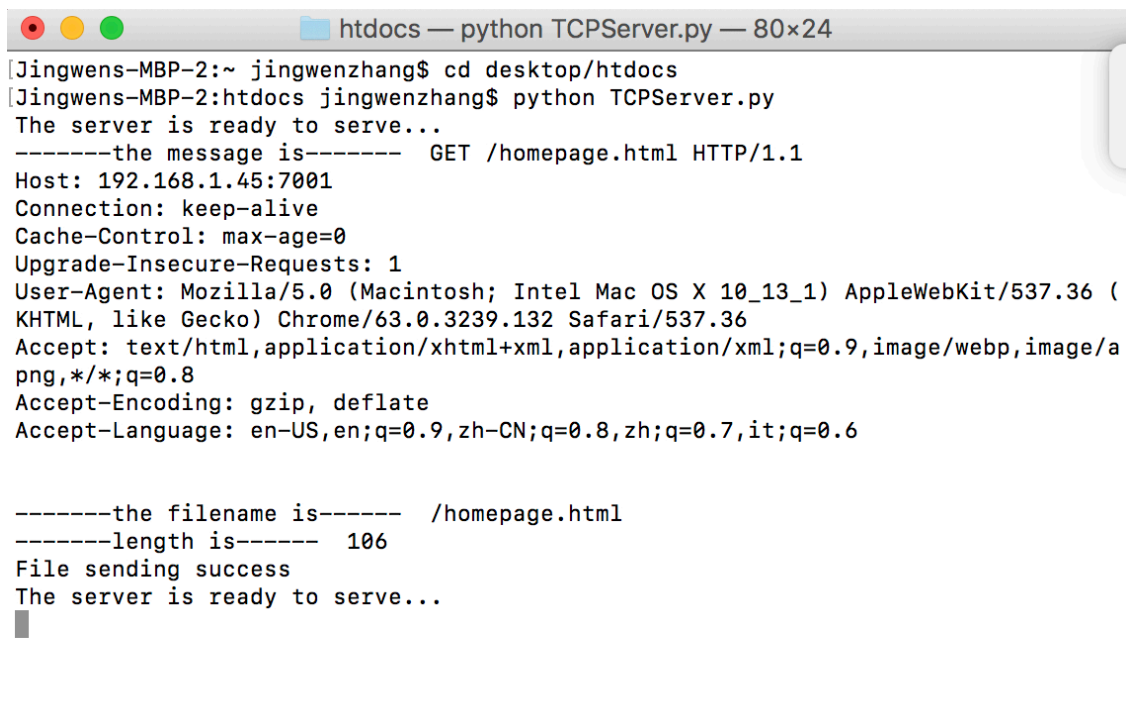


```
htdocs — python TCPServer.py — 80x24
[Jingwens-MBP-2:~ jingwenzhang$ cd desktop
[Jingwens-MBP-2:desktop jingwenzhang$ cd htdocs
[Jingwens-MBP-2:htdocs jingwenzhang$ python TCPServer.py
The server is ready to serve...
```

Then, we open a browser on the client side and provide a valid URL. The client can get the file that is present at the server:



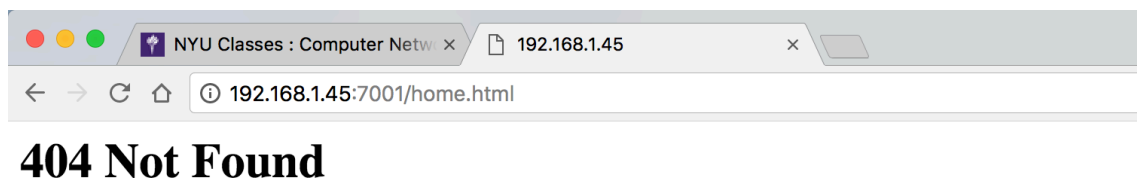
Now the server shows the message:



```
htdocs — python TCPServer.py — 80x24
Jingwens-MBP-2:~ jingwenzhang$ cd desktop/htdocs
Jingwens-MBP-2:htdocs jingwenzhang$ python TCPServer.py
The server is ready to serve...
-----the message is----- GET /homepage.html HTTP/1.1
Host: 192.168.1.45:7001
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_13_1) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/63.0.3239.132 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/png,*/*;q=0.8
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9,zh-CN;q=0.8,zh;q=0.7,it;q=0.6

-----the filename is----- /homepage.html
-----length is----- 106
File sending success
The server is ready to serve...
█
```

Then, we try to get a file that is not present at the server, the client can get a message:



Now, the server shows the message:

```
The server is ready to serve...
-----the message is----- GET /home.html HTTP/1.1
Host: 192.168.1.45:7001
Connection: keep-alive
Cache-Control: max-age=0
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_13_1) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/63.0.3239.132 Safari/537.36
Upgrade-Insecure-Requests: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9,zh-CN;q=0.8,zh;q=0.7,it;q=0.6

-----the filename is----- /home.html
The server is ready to serve...
█
```

During the process, I use wireshark to capture the packets:

No.	Time	Source	Destination	Protocol	Length	Info
42	16:07:04.430875	192.168.1.37	192.168.1.45	HTTP	527	GET /homepage.html HTTP/1.1
44	16:07:04.435268	192.168.1.45	192.168.1.37	HTTP	85	HTTP/1.1 200 OK
46	16:07:04.435796	192.168.1.45	192.168.1.37	HTTP	174	Continuation
413	16:08:05.266916	192.168.1.37	192.168.1.45	HTTP	523	GET /home.html HTTP/1.1
415	16:08:05.304826	192.168.1.45	192.168.1.37	HTTP	92	HTTP/1.1 404 Not Found
416	16:08:05.304832	192.168.1.45	192.168.1.37	HTTP	129	Continuation

▶ Frame 42: 527 bytes on wire (4216 bits), 527 bytes captured (4216 bits) on interface 0

▶ Ethernet II, Src: Apple_d6:37:29 (ac:bc:32:d6:37:29), Dst: Apple_67:b8:61 (8c:85:90:67:b8:61)

▶ Internet Protocol Version 4, Src: 192.168.1.37, Dst: 192.168.1.45

▶ Transmission Control Protocol, Src Port: 61950, Dst Port: 7001, Seq: 1, Ack: 1, Len: 461

▼ Hypertext Transfer Protocol

▶ GET /homepage.html HTTP/1.1\r\n

Host: 192.168.1.45:7001\r\n

Connection: keep-alive\r\n

Cache-Control: max-age=0\r\n

Upgrade-Insecure-Requests: 1\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_13_1) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/63.0.3239.132 Safari/537.36\r\n

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8\r\n

Accept-Encoding: gzip, deflate\r\n

Accept-Language: en-US,en;q=0.9,zh-CN;q=0.8,zh;q=0.7,it;q=0.6\r\n

\r\n

[\[Full request URI: http://192.168.1.45:7001/homepage.html\]](http://192.168.1.45:7001/homepage.html)

[HTTP request 1/1]

[\[Response in frame: 44\]](#)

The client IP is 192.168.1.37 and the server IP is 192.168.1.45. In the picture above, I tried to get homepage.html, we can see the HTTP 200 OK success status response code, the request from the client has succeeded. And then I tried to get home.html, "404 Not Found" message returned since there were no such file on the server.