

Assignment: Socket1_WebServer

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Server Code:

```
#import socket module
from socket import *
serverSocket = socket(AF_INET,SOCK_STREAM)
#perpare a server socket

#Fill in start
serverPort = 9187
serverSocket.bind(("",serverPort))
serverSocket.listen(1)
#Fill in end

while True:
    #Establish the connection
    print 'Ready to serve....'
    #Fill in start
    connectionSocket,addr = serverSocket.accept()
    #Fill in end
    try:
        #Fill in start
        message = connectionSocket.recv(1024)
        #Fill in end
        filename = message.split()[1]
        f = open(filename[1:])
        #Fill in start
        outputdata = f.read()
        #Fill in end

        #Send one HTTP header line into socket
        #Fill in start
        connectionSocket.send("HTTP/1.1 200 we got this html page!!!\r\n\r\n")
        #Fill in end
        # Send the content of the requested file to the connection socket
        for i in range(0, len(outputdata)):
            connectionSocket.send(outputdata[i])
        connectionSocket.close()
    except IOError:
        # Send HTTP response message for file not found
```


```
#Fill in start
connectionSocket.send("HTTP/1.1 404 Not Found\r\n\r\n")
connectionSocket.send("<html><body><h1>Sorry, The page you are looking
for isn't exist!!!</h1></body></html>\r\n")
#Fill in end

# Close the client socket
#Fill in start
connectionSocket.close()
#Fill in end

serverSocket.close()
```

Screen Shots

1. Server is ready

A terminal window titled 'hze' showing the execution of a Python script. The script starts with 'Last login: Fri Sep 18 11:09:12 on ttys000', followed by directory changes and a command to run 'pythonw' with a script path. The output shows 'Ready to serve....' repeated three times, indicating the server is running.

```
hze — cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' &...
Last login: Fri Sep 18 11:09:12 on ttys000
cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' '/Users/hze/Desktop/WebServer/text.py' && echo Exit status: $? && exit 1
→ ~ git:(master) ✕ cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' '/Users/hze/Desktop/WebServer/text.py' && echo Exit status: $? && exit 1
Ready to serve....
Ready to serve....
Ready to serve....
█
```

2. Open an exist page



3. Open an Not Found page



4. Sniffer by the WireShark

A screenshot of the Wireshark network protocol analyzer. The 'Filter' field is set to 'http'. The packet list shows four captured packets, all of which are HTTP GET requests from 172.16.198.59 to 172.16.198.59. The third packet (No. 186) is selected, showing its details in the right pane.

No.	Time	Source	Destination	Protocol	Length	Info
15	11:26:13.438837000	172.16.198.59	172.16.198.59	HTTP	505	GET /HelloWorld.html HTTP/1.1
17	11:26:13.438957000	172.16.198.59	172.16.198.59	HTTP	97	HTTP/1.1 200 We got this html page!!!
186	11:26:32.802895000	172.16.198.59	172.16.198.59	HTTP	480	GET /HelloWorlddd.html HTTP/1.1
188	11:26:32.803027000	172.16.198.59	172.16.198.59	HTTP	82	HTTP/1.1 404 Not Found

Frame 188: 82 bytes on wire (656 bits), 82 bytes captured (656 bits) on interface 3

Null/Loopback

Internet Protocol Version 4, Src: 172.16.198.59 (172.16.198.59), Dst: 172.16.198.59 (172.16.198.59)

Transmission Control Protocol, Src Port: 9187 (9187), Dst Port: 55782 (55782), Seq: 1, Ack: 425, Len: 26

Hypertext Transfer Protocol

0000	02 00 00 00 45 00 00 4e 2f be 40 00 40 06 00 00	...E..N /.@...
0010	ac 10 c6 3b ac 10 c6 3b 23 e3 d9 e6 71 97 b8 d7	...;...; #...q...
0020	54 64 6f ac 80 18 31 ca e4 d8 00 00 01 01 08 0a	Tdo...1.
0030	22 11 52 63 22 11 52 63 48 54 54 50 2f 31 2e 31	".Rc".Rc HTTP/1.1
0040	20 34 30 34 20 4e 6f 74 20 46 6f 75 6e 64 0d 0a	404 Not Found..

Optional Question:

No. 2

Client Code:

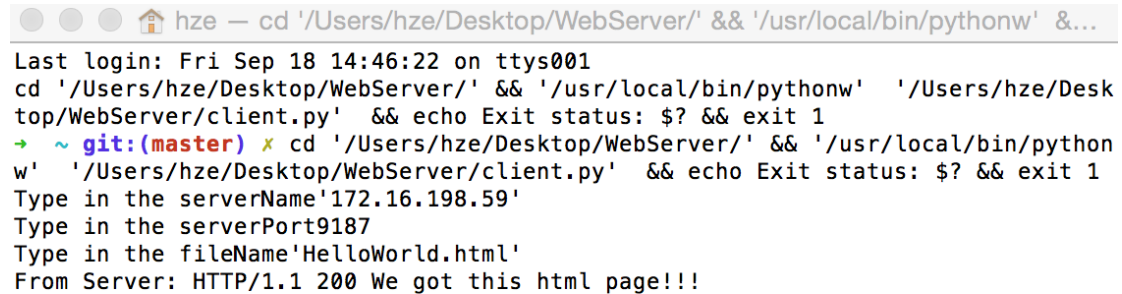
```
from socket import *
serverName = input("Type in the serverName")
serverPort = int(input("Type in the serverPort"))
fileName = input("Type in the fileName")

clientSocket = socket(AF_INET, SOCK_STREAM)
clientSocket.connect((serverName, serverPort))
clientSocket.send(fileName)
inforGet = clientSocket.recv(1024)
```

```
print 'From Server:',inforGet
clientSocket.close()
```

Screen Shots:

File exist

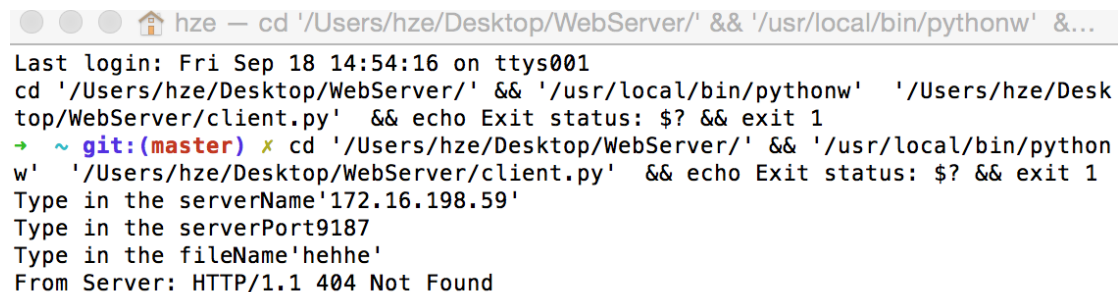


```
hze — cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' &...
Last login: Fri Sep 18 14:46:22 on ttys001
cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' '/Users/hze/Desktop/WebServer/client.py' && echo Exit status: $? && exit 1
→ ~ git:(master) * cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' '/Users/hze/Desktop/WebServer/client.py' && echo Exit status: $? && exit 1
Type in the serverName'172.16.198.59'
Type in the serverPort9187
Type in the fileName'HelloWorld.html'
From Server: HTTP/1.1 200 We got this html page!!!
```

Exit status: 0

[Process completed]

File not exist



```
hze — cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' &...
Last login: Fri Sep 18 14:54:16 on ttys001
cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' '/Users/hze/Desktop/WebServer/client.py' && echo Exit status: $? && exit 1
→ ~ git:(master) * cd '/Users/hze/Desktop/WebServer/' && '/usr/local/bin/pythonw' '/Users/hze/Desktop/WebServer/client.py' && echo Exit status: $? && exit 1
Type in the serverName'172.16.198.59'
Type in the serverPort9187
Type in the fileName'hehhe'
From Server: HTTP/1.1 404 Not Found
```

Exit status: 0

[Process completed]