

Socket Programming Assignment 2

Source Code:

```
#Web Server Project for CS138
#Code sampled from "Computer Networking: A Top-Down Approach"
#Code updated and added to by Craig Hulsebus

from socket import *

def webServer():

    serverPort = 80
    serverSocket = socket(AF_INET,SOCK_STREAM)
    serverSocket.bind(('',serverPort))

    serverSocket.listen(1)

    print("web server on port",serverPort)

    while True:

        print("Webserver Initialized. Now Ready to Serve")

        connectionSocket,addr = serverSocket.accept()

        try:

            message = connectionSocket.recv(1024)
            print(message)

            filename = message.split()[1]
            print(filename[1])
            print(filename,'| |',filename[1])

            f = open(filename[1:])
            outputdata = f.read()

            print(outputdata)

            connectionSocket.send("""HTTP/1.0 200 OK Content-Type: text/html
                                   <html>
                                   <head>
```

```
        <title>Success</title>
        </head>
        <body>
        You Successfully found your file!
        </body>
        </html>
        """.encode());

    connectionSocket.close()

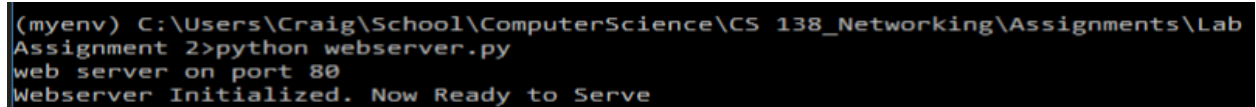
except IOError:

    print ("404 Not Found")
    connectionSocket.send("""HTTP/1.0 404 Not Found\r\n""".encode());
    pass

    break
pass

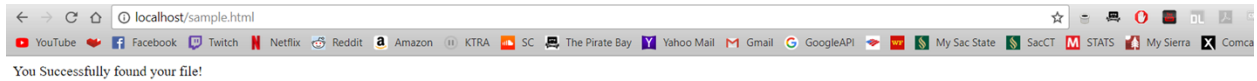
if __name__ == "__main__":
    webServer()
```

Screen Shots:

A screenshot of a terminal window with a black background and green text. The text shows the command to run a Python script and the output indicating the web server is ready.

```
(myenv) C:\Users\Craig\School\ComputerScience\CS 138_Networking\Assignments\Lab
Assignment 2>python webserver.py
web server on port 80
Webserver Initialized. Now Ready to Serve
```

The webserver is now started within the terminal.



Confirmation on the client side that they have accessed the web page from server.

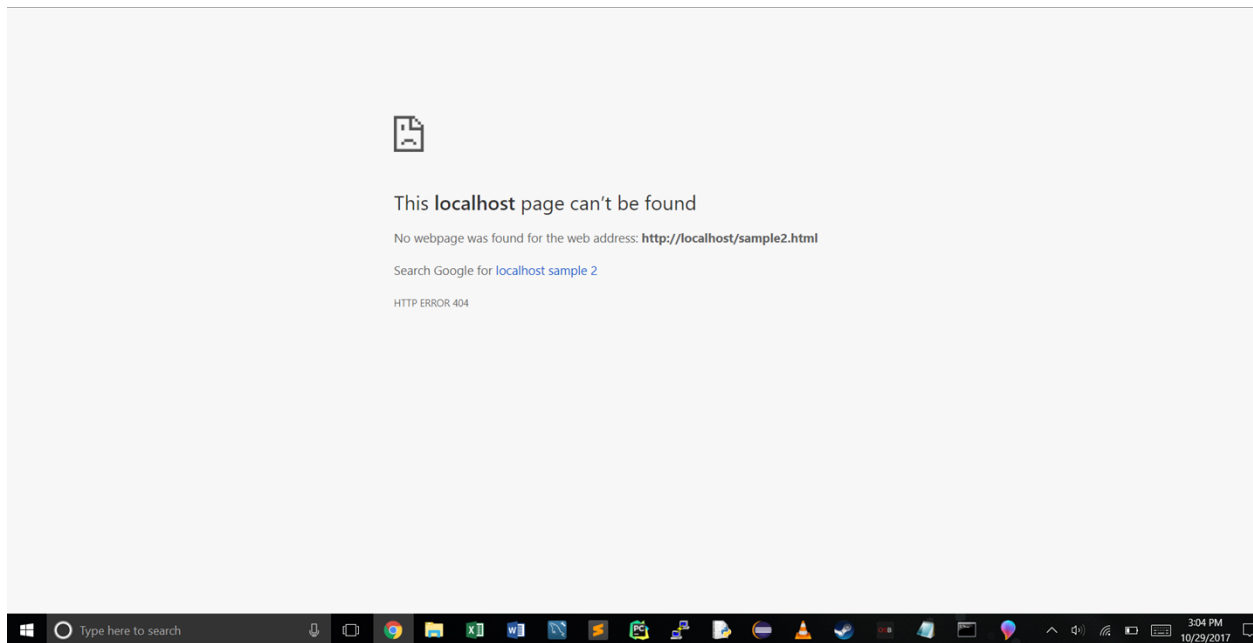
```
(myenv) C:\Users\Craig\School\ComputerScience\CS 138_Networking\Assignments\Lab Assignment 2>python webserver.py
web server on port 80
Webserver Initialized. Now Ready to Serve
b'GET /sample.html HTTP/1.1\r\nHost: localhost\r\nConnection: keep-alive\r\nCache-Control: max-age=0\r\nUser-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/61.0.3163.100 Safari/537.36\r\nUpgrade-Insecure-Requests: 1\r\nAccept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8\r\nAccept-Encoding: gzip, deflate, br\r\nAccept-Language: en-US,en;q=0.8\r\n\r\n'
115
b'/sample.html' || 115
<html>

Hello, this is Craig!

</html>

(myenv) C:\Users\Craig\School\ComputerScience\CS 138_Networking\Assignments\Lab Assignment 2>
```

Confirmation on the terminal side that the client has successfully connected.



Client browser 404 error message. File does not exist.

```
(myenv) C:\Users\Craig\School\ComputerScience\CS 138_Networking\Assignments\Lab
Assignment 2>python webserver.py
web server on port 80
Webserver Initialized. Now Ready to Serve
b'GET /sample2.html HTTP/1.1\r\nHost: localhost\r\nConnection: keep-alive\r\nUser-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/61.0.3163.100 Safari/537.36\r\nUpgrade-Insecure-Requests: 1\r\nAccept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/png,*/*;q=0.8\r\nAccept-Encoding: gzip, deflate, br\r\nAccept-Language: en-US,en;q=0.8\r\n\r\n'
115
b'/sample2.html' || 115
404 Not Found

(myenv) C:\Users\Craig\School\ComputerScience\CS 138_Networking\Assignments\Lab
Assignment 2>
```

Message in the terminal of the client receiving 404 error message.