

## Project 4 - HTTP Server

### 1.Source code

```
import socket

PORT = 8000
HOST = ""
count = 0
print('HTTP server begins')

server = socket.socket(socket.AF_INET, socket.SOCK_STREAM)

print("Launching HTTP server on " + str(HOST) + ":" + str(PORT))
print("Press Ctrl+C to exit.")

server.bind((HOST, PORT))
server.listen(5)

while True:
    clientSocket, address = server.accept()

    requestLine = clientSocket.recv(1024)

    requestLine = requestLine.split()
    requestDocument = requestLine[1].split('/')

    if (requestLine[0] == 'GET'):
        if (requestLine[1] == '/STATUS' | (requestLine[1] == '/status')):
            clientSocket.send("Server is running \n")
            clientSocket.send(str(count) + " documents has been succesfully served so far")
            print("Sent STATUS")
        elif requestLine[1][0] == '/':
            filename = requestDocument[1]
            try:
                openFile = open(filename, 'rb')
                count = count + 1
                content = openFile.read()
                clientSocket.send(content)
                openFile.close()
                print("Sent " + filename)
            except:
                clientSocket.send("404 Not Found \n")
                print("Could not find " + filename)
```

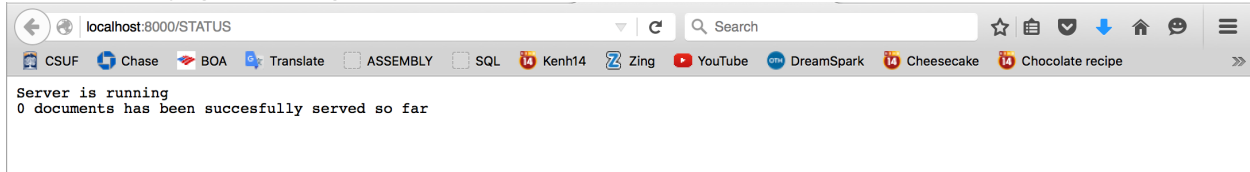
```

else:
    clientSocket.send("400 Bad request \n")
    print("Bad request")
else:
    clientSocket.send("400 Bad request \n")
    print("Bad request")
clientSocket.close()

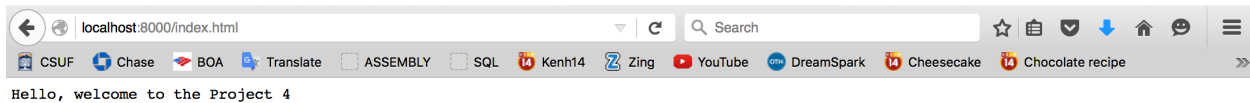
```

## 2.Screenshot of Firefox displaying the following pages

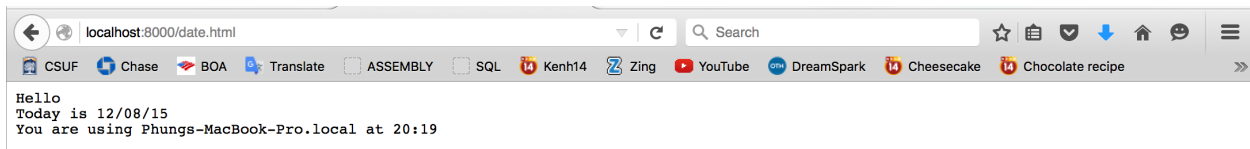
### a. The status page, showing 0 files served so far



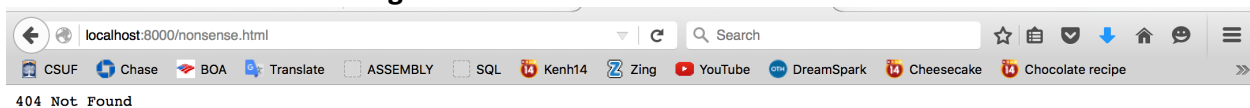
### b.A valid HTML file



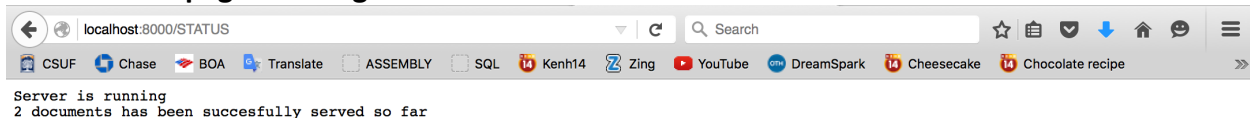
### c. A second valid HTML file



### d. The “404 not found message for a file that does not exist



### e. The Status page showing 2 files served so far



### 3. A transcript of connecting to the server with telnet, issuing a bad request, and getting the “400 Bad Request” message

```
Project 4 — python example.py — 80x24
Last login: Wed Dec 9 04:49:52 on ttys000
[Phungs-MacBook-Pro:~ phungtran$ cd Desktop
[Phungs-MacBook-Pro:Desktop phungtran$ cd 'Fall 2015'
[Phungs-MacBook-Pro:Fall 2015 phungtran$ cd 254
[Phungs-MacBook-Pro:254 phungtran$ cd 'Project 4'
[Phungs-MacBook-Pro:Project 4 phungtran$ python example.py
HTTP server begins
Launching HTTP server on :8000
Press Ctrl+C to exit.
Bad request
█

phungtran — -bash — 80x24
Last login: Wed Dec 9 04:59:01 on ttys000
[Phungs-MacBook-Pro:~ phungtran$ telnet localhost 8000
Trying ::1...
telnet: connect to address ::1: Connection refused
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
"GET" /index.html
400 Bad request
Connection closed by foreign host.
Phungs-MacBook-Pro:~ phungtran$ █
```

### 4. Standard output for all the above steps

```
Project 4 — python example.py — 80x24
Last login: Wed Dec 9 04:31:24 on ttys002
[Phungs-MacBook-Pro:~ phungtran$ cd Desktop
[Phungs-MacBook-Pro:Desktop phungtran$ cd 'Fall 2015'
[Phungs-MacBook-Pro:Fall 2015 phungtran$ cd 254
[Phungs-MacBook-Pro:254 phungtran$ cd 'Project 4'
[Phungs-MacBook-Pro:Project 4 phungtran$ python example.py
HTTP server begins
Launching HTTP server on :8000
Press Ctrl+C to exit.
Sent STATUS
Sent index.html
Sent date.html
Sent STATUS
Could not find nonsense.html
Bad request
█

phungtran — -bash — 80x24
Last login: Wed Dec 9 04:38:11 on ttys000
[Phungs-MacBook-Pro:~ phungtran$ telnet localhost 8000
Trying ::1...
telnet: connect to address ::1: Connection refused
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
"GET" /index.html
400 Bad request
Connection closed by foreign host.
Phungs-MacBook-Pro:~ phungtran$ █
```