

MSCS-631- Python Lab 1 - Webserver

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MSCS-631: Advanced Computer Networks

Experience with the Server Assignment

Working on this server assignment was a valuable hands-on experience in understanding socket programming and the HTTP protocol. Setting up the server with Python's socket module provided insight into how web servers operate, from establishing TCP connections to processing HTTP requests and sending responses. Implementing features like handling client requests, retrieving files, and sending appropriate HTTP headers was both challenging and rewarding. Testing the server with different scenarios, such as valid file requests and missing files, helped reinforce the importance of error handling and robust programming. This project not only improved my understanding of web server mechanics but also gave me a deeper appreciation for the complexities involved in backend development.

Challenges Faced During the Assignment

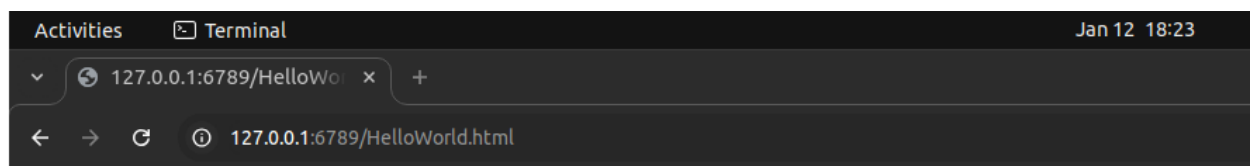
One of the primary challenges was parsing and processing the HTTP request correctly. Understanding the structure of the HTTP request and extracting the requested file required careful attention to detail. Another challenge was handling missing files gracefully by returning the appropriate "404 Not Found" response. Debugging and testing were time-consuming, especially when ensuring the server behaved correctly for edge cases, such as invalid requests or unsupported file types. Additionally, setting up and testing the server locally while ensuring the directory structure and file permissions were correct required some trial and error. Overall, these challenges provided valuable learning opportunities, allowing me to develop problem-solving skills and improve my debugging techniques.

Below are the screenshots of the client browser that verifies, I actually received contents of HTML from the server.

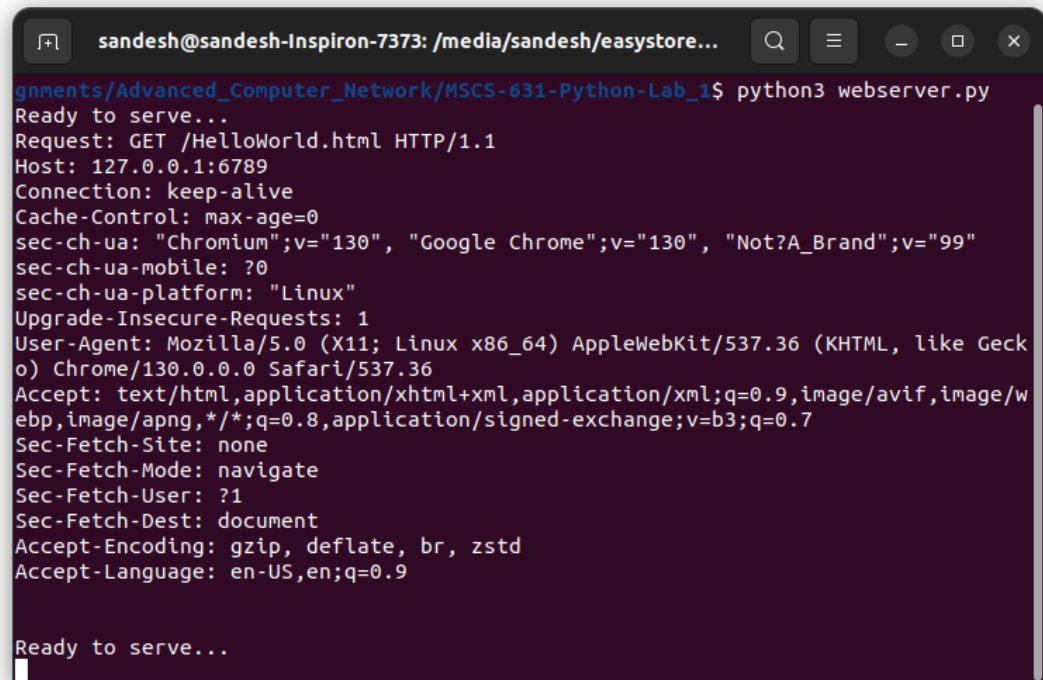
Entered URL: `http://127.0.0.1:6789/HelloWorld.html`



Below is the terminal logs that was populated after entering url in browser:



Hello, World!



Below is the screenshot if I try to look for the page that does not exist, that is if the content is not found:

Entered url: <http://127.0.0.1:6789/HelloSandesh.html>

