

CS 359

COMPUTER NETWORK LAB

# ASSIGNMENT 8

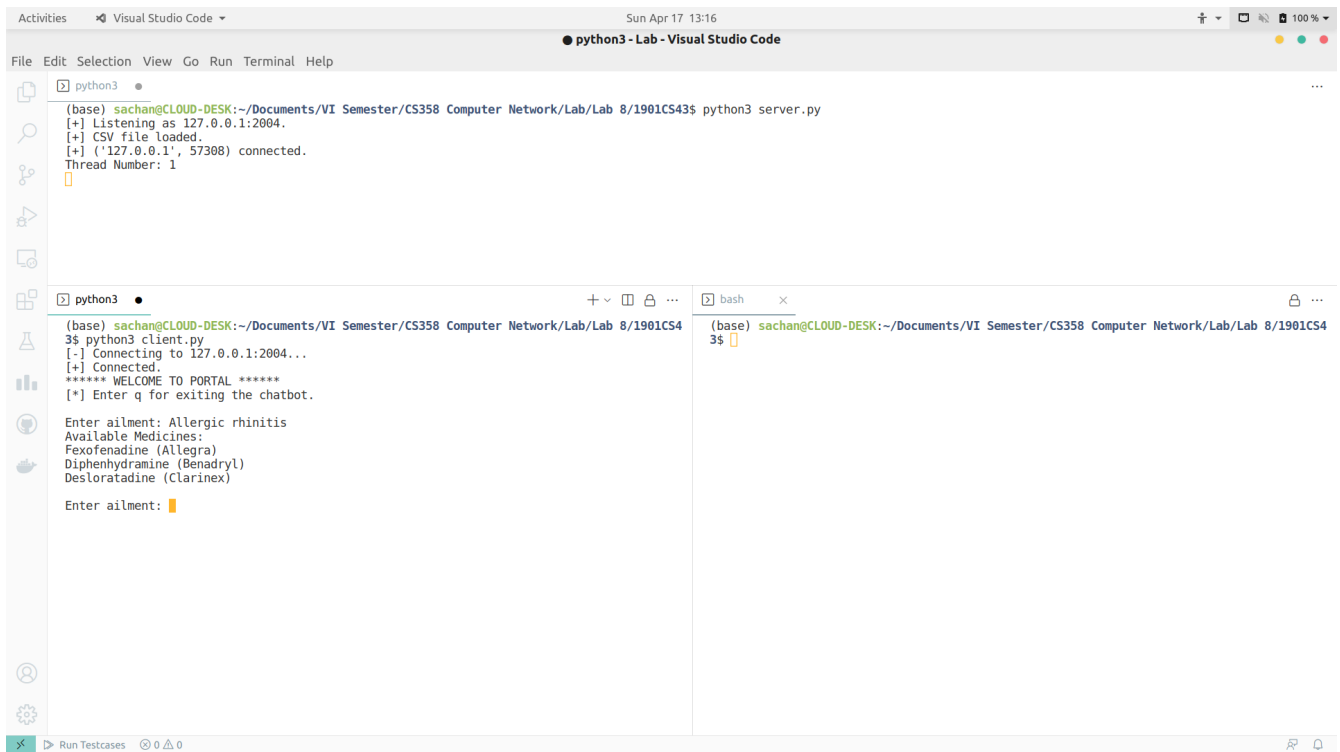
BY - PRIYANKA SACHAN (1901CS43)

## Multi Threaded Server

A multithreaded server that can open concurrent connections with more than one client.

## Demo

*Running server.py & client.py script for 1st client:*



The screenshot displays the Visual Studio Code interface with two terminal windows open. The top terminal window, titled 'python3 - Lab - Visual Studio Code', shows the execution of 'python3 server.py'. The output indicates the server is listening on 127.0.0.1:2004, a CSV file has been loaded, and a client at ('127.0.0.1', 57308) has connected, with Thread Number: 1.

The bottom terminal window, titled 'python3', shows the execution of 'python3 client.py'. The output shows the client connecting to 127.0.0.1:2004, receiving a 'WELCOME TO PORTAL' message, and a list of available medicines: Allergic rhinitis, Feexofenadine (Allegra), Diphenhydramine (Benadryl), and Desloratadine (Clarinx). The client is prompted to 'Enter ailment:'.

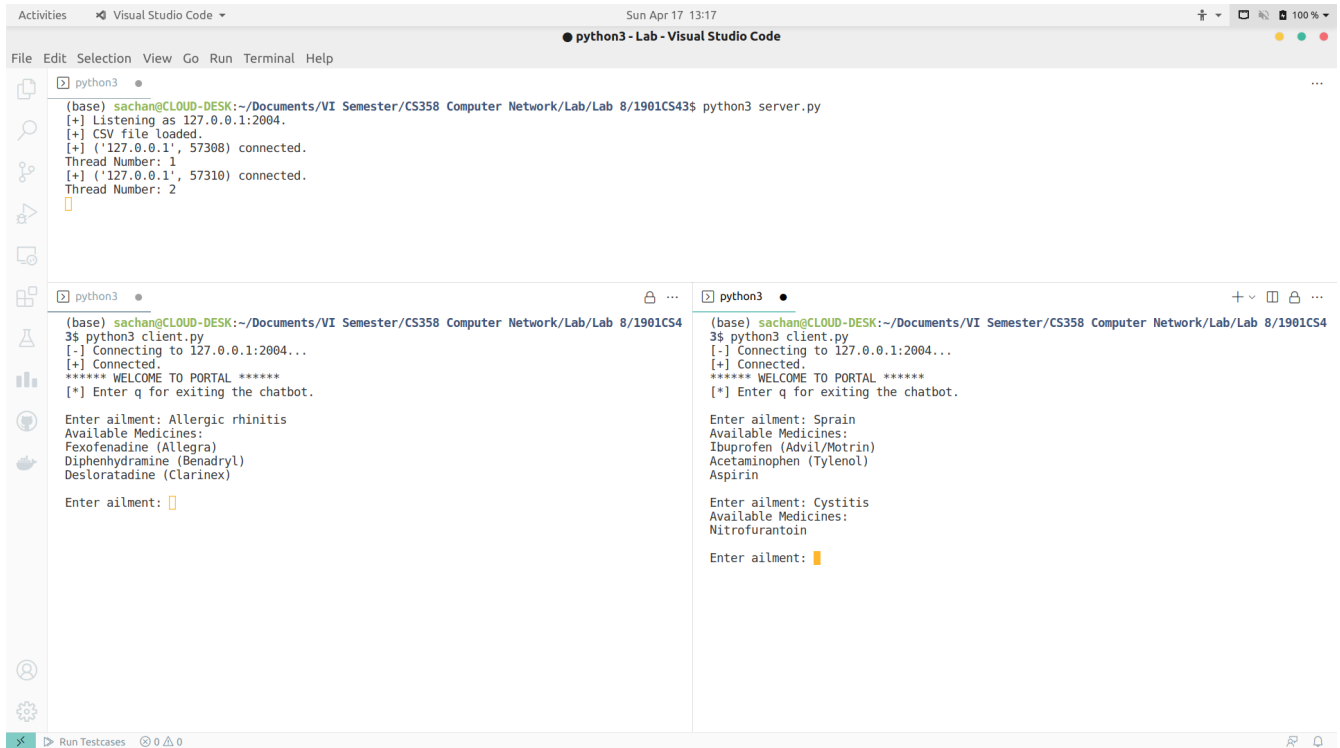
```
(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS43$ python3 server.py
[+] Listening as 127.0.0.1:2004.
[+] CSV file loaded.
[+] ('127.0.0.1', 57308) connected.
Thread Number: 1

(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS43$ python3 client.py
[-] Connecting to 127.0.0.1:2004...
[+] Connected.
***** WELCOME TO PORTAL *****
[*] Enter q for exiting the chatbot.

Enter ailment: Allergic rhinitis
Available Medicines:
Feexofenadine (Allegra)
Diphenhydramine (Benadryl)
Desloratadine (Clarinx)

Enter ailment: 
```

## Running client.py script for 2nd client :



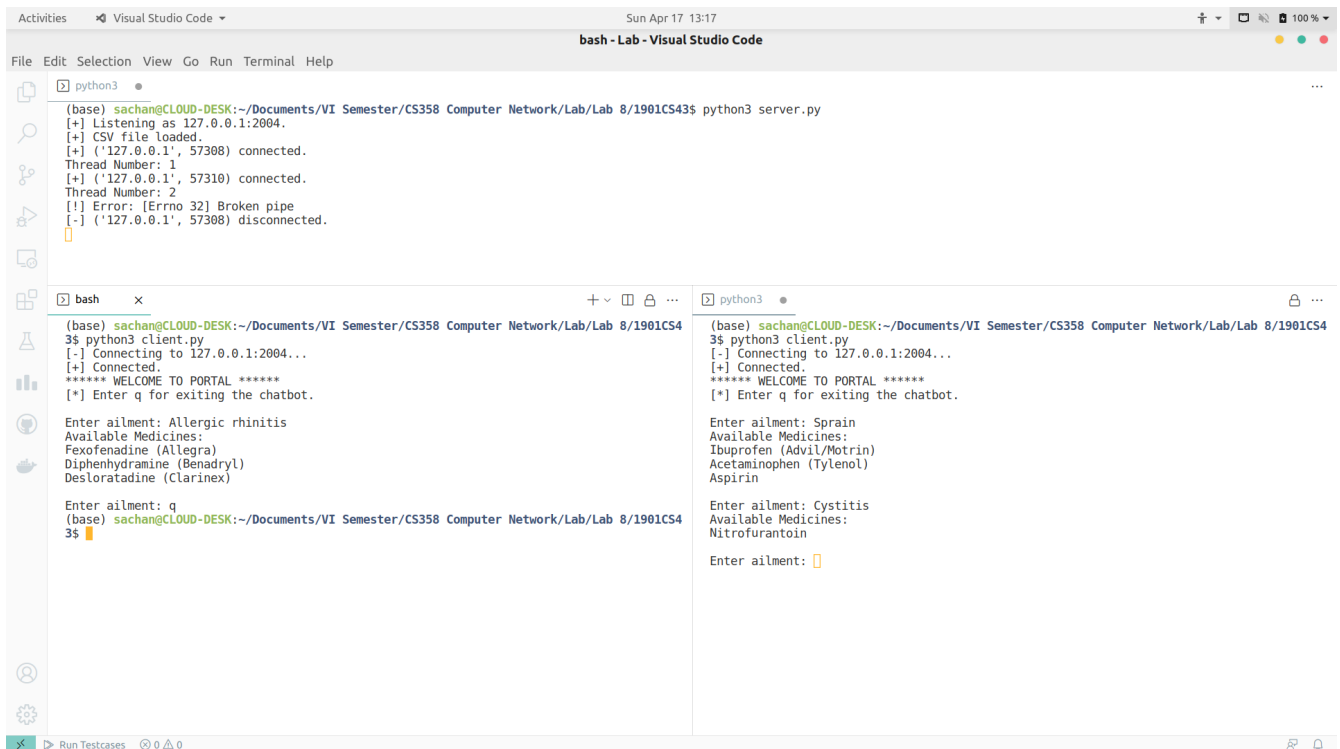
```
(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS43$ python3 server.py
[+] Listening as 127.0.0.1:2004.
[+] CSV file loaded.
[+] ('127.0.0.1', 57308) connected.
Thread Number: 1
[+] ('127.0.0.1', 57310) connected.
Thread Number: 2
[+]

(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS4
3$ python3 client.py
[-] Connecting to 127.0.0.1:2004...
[+] Connected.
***** WELCOME TO PORTAL *****
[*] Enter q for exiting the chatbot.

Enter ailment: Allergic rhinitis
Available Medicines:
Fexofenadine (Allegra)
Diphenhydramine (Benadryl)
Desloratadine (Claritinex)

Enter ailment: [ ]
```

## Disconnecting 1st client:



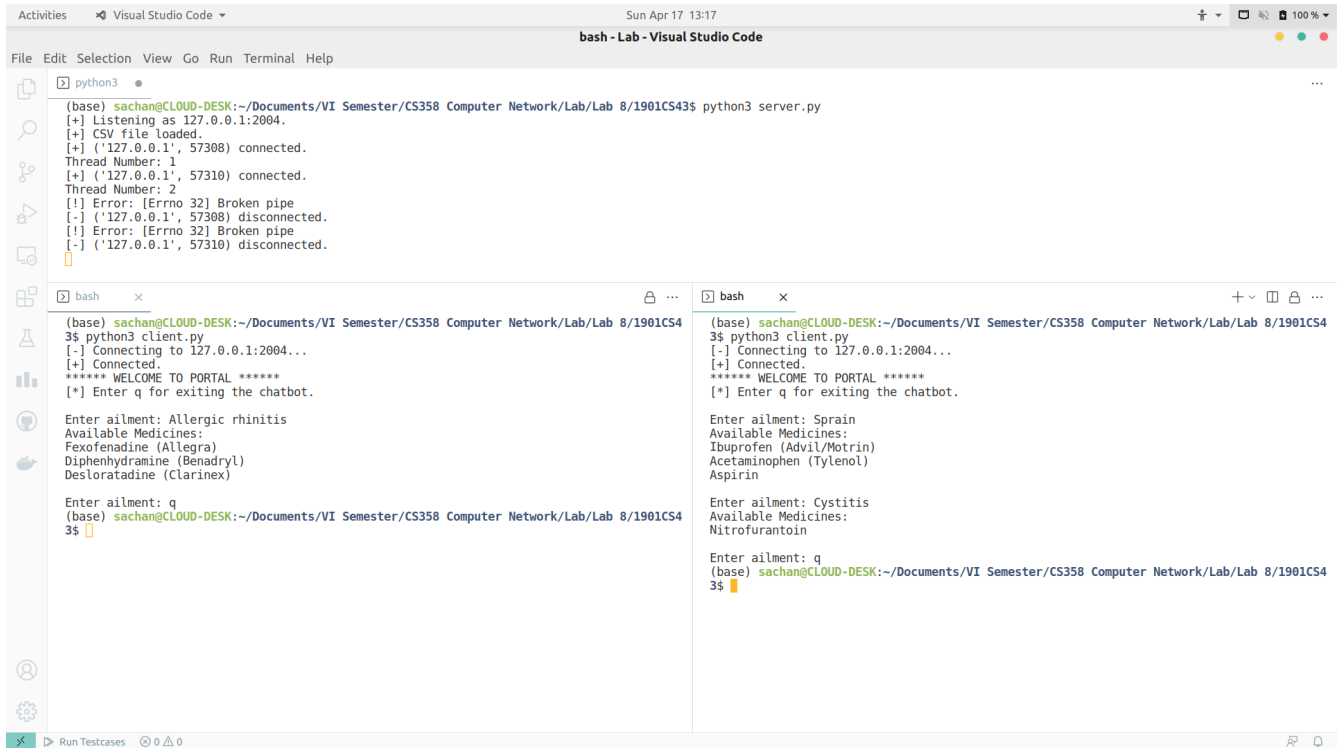
```
(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS43$ python3 server.py
[+] Listening as 127.0.0.1:2004.
[+] CSV file loaded.
[+] ('127.0.0.1', 57308) connected.
Thread Number: 1
[+] ('127.0.0.1', 57310) connected.
Thread Number: 2
[!] Error: [Errno 32] Broken pipe
[-] ('127.0.0.1', 57308) disconnected.
[+]

(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS4
3$ python3 client.py
[-] Connecting to 127.0.0.1:2004...
[+] Connected.
***** WELCOME TO PORTAL *****
[*] Enter q for exiting the chatbot.

Enter ailment: Allergic rhinitis
Available Medicines:
Fexofenadine (Allegra)
Diphenhydramine (Benadryl)
Desloratadine (Claritinex)

Enter ailment: q
(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS4
3$
```

## Disconnecting 2nd client:



The screenshot shows the Visual Studio Code interface with a file explorer on the left and two terminal windows. The top terminal, titled 'python3', shows the output of a server script. It starts by listening on 127.0.0.1:2004, loads a CSV file, and then connects to two clients. The first client connects successfully. The second client connects, but then a 'Broken pipe' error occurs, followed by a 'disconnected' message. The bottom terminal is split into two panes, both titled 'bash'. The left pane shows a client script that connects to the server, receives a 'WELCOME TO PORTAL' message, and then enters 'q' to exit. The right pane shows the same client script, but it enters 'Sprain' as an ailment, receives a list of available medicines (Ibuprofen, Acetaminophen, Aspirin), and then enters 'q' to exit. The status bar at the bottom indicates 'Run Testcases' and '0/0/0'.

```
(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS43$ python3 server.py
[+] Listening as 127.0.0.1:2004.
[+] CSV file loaded.
[+] ('127.0.0.1', 57308) connected.
Thread Number: 1
[+] ('127.0.0.1', 57310) connected.
Thread Number: 2
[!] Error: [Errno 32] Broken pipe
[-] ('127.0.0.1', 57308) disconnected.
[!] Error: [Errno 32] Broken pipe
[-] ('127.0.0.1', 57310) disconnected.

(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS4
3$ python3 client.py
[-] Connecting to 127.0.0.1:2004...
[+] Connected.
***** WELCOME TO PORTAL *****
[*] Enter q for exiting the chatbot.

Enter ailment: Allergic rhinitis
Available Medicines:
Fexofenadine (Allegra)
Diphenhydramine (Benadryl)
Desloratadine (Claritinex)

Enter ailment: q
(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS4
3$

(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS4
3$ python3 client.py
[-] Connecting to 127.0.0.1:2004...
[+] Connected.
***** WELCOME TO PORTAL *****
[*] Enter q for exiting the chatbot.

Enter ailment: Sprain
Available Medicines:
Ibuprofen (Advil/Motrin)
Acetaminophen (Tylenol)
Aspirin

Enter ailment: Cystitis
Available Medicines:
Nitrofurantoin

Enter ailment: q
(base) sachan@CLOUD-DESK:~/Documents/VI Semester/CS358 Computer Network/Lab/Lab 8/1901CS4
3$
```