Computer Networks Lab 6

More on Client-Server Communication

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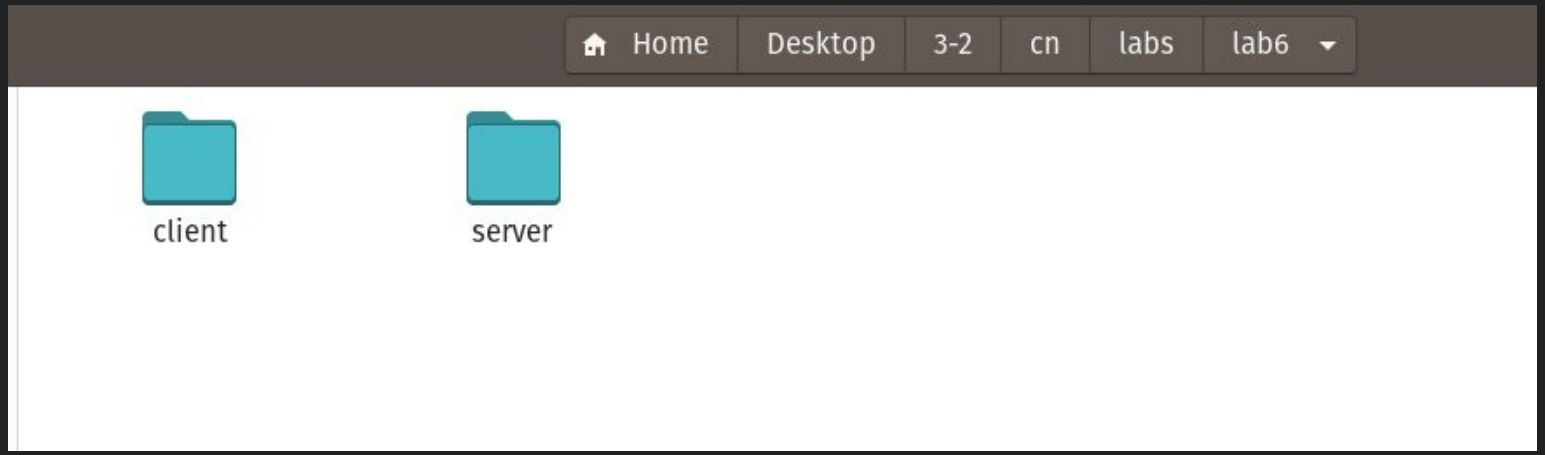
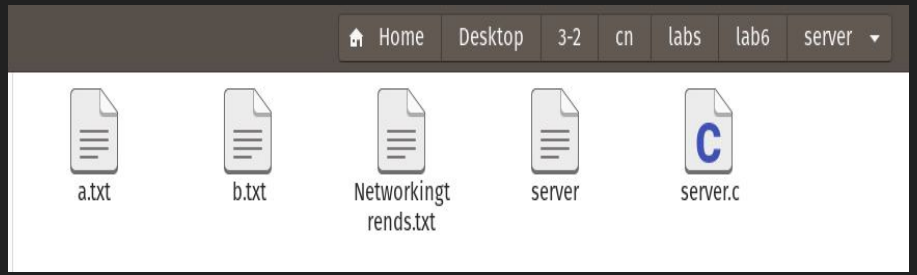
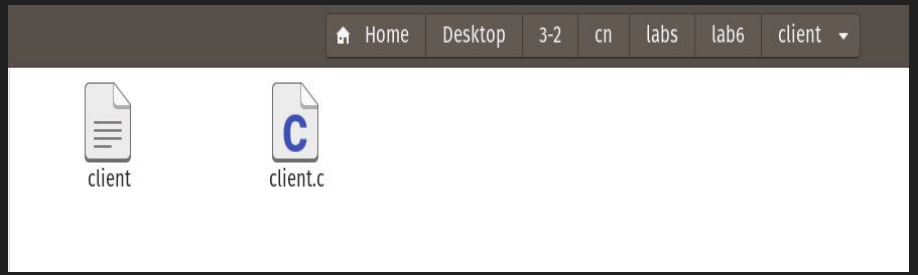
NOTE: While testing the code, if after running the server once, and you get “Cannot bind -1” error while running again, then wait for some time.

If you run `netstat --tcp --numeric | grep 4444` you will see that the socket on the port 4444 is in TIME_WAIT state. Meaning that connection is closed, so it will be terminated in the timeout specified by the OS. After the timeout expires, the program executes without the error.

Directory structure

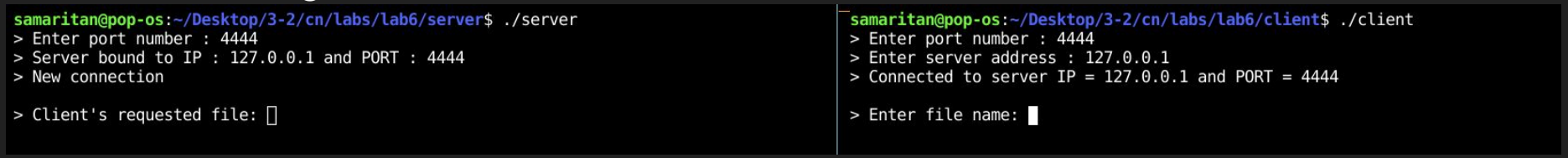






The server and client are asking for input

The client is asking for file name.



The server sent 10 bytes of data from the file requested and the client created the file.

More examples

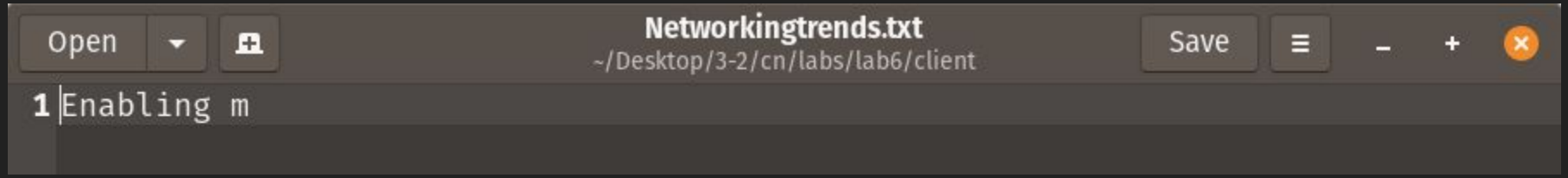
```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/server$ ./server
> Enter port number : 4444
> Server bound to IP : 127.0.0.1 and PORT : 4444
> New connection

> Client's requested file: Networkingtrends.txt
> Data sent to the client : Enabling m

> Closing connection...

> Closing server...
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/server$ ./server
> Enter port number : 4444
> Server bound to IP : 127.0.0.1 and PORT : 4444
> New connection

> Client's requested file: b.txt
> Data sent to the client : hello

> Closing connection...

> Closing server...
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/server$ ./server
```

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/client$ ./client
> Enter port number : 4444
> Enter server address : 127.0.0.1
> Connected to server IP = 127.0.0.1 and PORT = 4444

> Enter file name: Networkingtrends.txt
> Server response: Enabling m

> Creating file : Networkingtrends.txt

> Closing client...
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/client$ ./client
> Enter port number : 4444
> Enter server address : 127.0.0.1
> Connected to server IP = 127.0.0.1 and PORT = 4444

> Enter file name: b.txt
> Server response: hello

> Creating file : b.txt

> Closing client...
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/client$ ./client
```

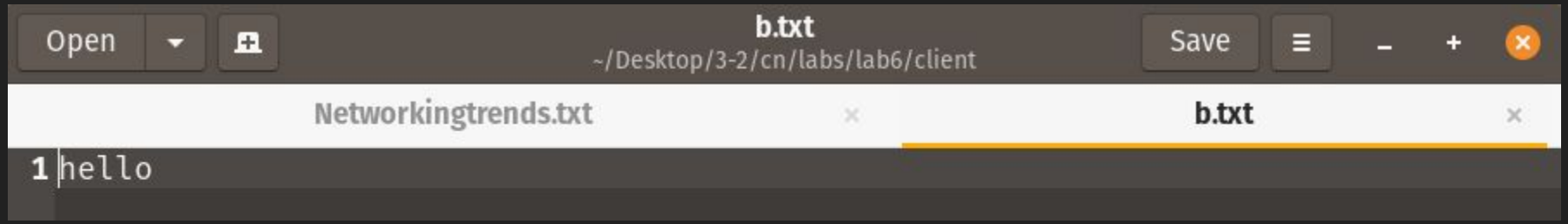
```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/server$ ./server
> Enter port number : 4444
> Server bound to IP : 127.0.0.1 and PORT : 4444
> New connection

> Client's requested file: random.txt
> Data sent to the client :

> Closing connection...

> Closing server...
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/server$
```

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/client$ ./client
> Enter port number : 4444
> Enter server address : 127.0.0.1
> Connected to server IP = 127.0.0.1 and PORT = 4444

> Enter file name: random.txt
> Server response:

> Creating file : random.txt

> Closing client...
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab6/client$
```

Results : Networkingtrends.txt in client directory (10 bytes)



Results : b.txt in client directory (5 bytes)



Results : random.txt in client directory (empty file / 0 bytes)