

LAB 6 - More on Client Server Communication

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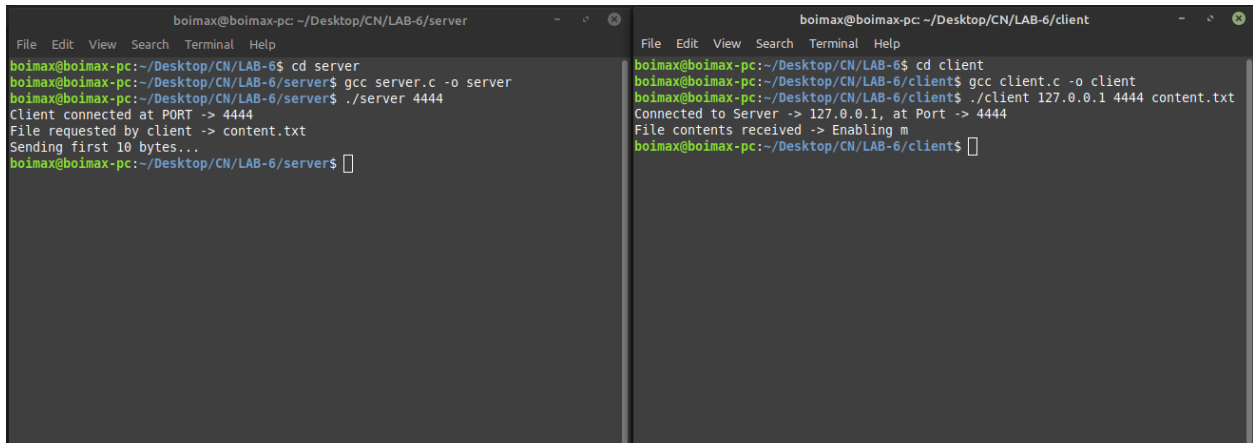
THIS DOCUMENT DISCUSSES EACH CASE IN DETAIL RELATED TO THE CLIENT SERVER COMMUNICATION

Case 1:

In the below screenshot, we run the server on **port 4444** by supplying the port number as command line argument while executing the server code.

We run the client code, supplying **server address (127.0.0.1 in this case)**, **port number**, and **filename** as command line arguments in that order.

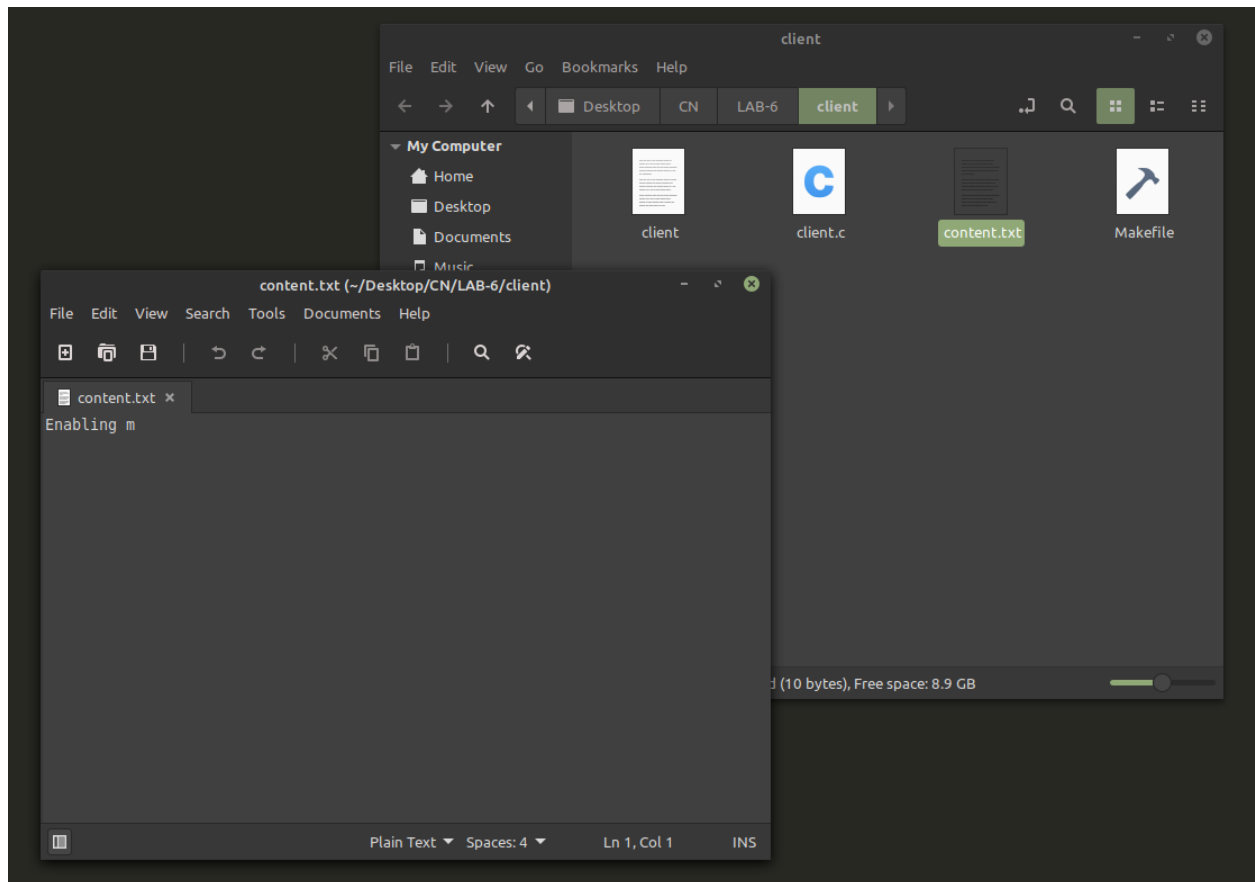
The output received is shown in the below screenshot.



```
boimax@boimax-pc: ~/Desktop/CN/LAB-6/server
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6$ cd server
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ gcc server.c -o server
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ ./server 4444
Client connected at PORT -> 4444
File requested by client -> content.txt
Sending first 10 bytes...
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$

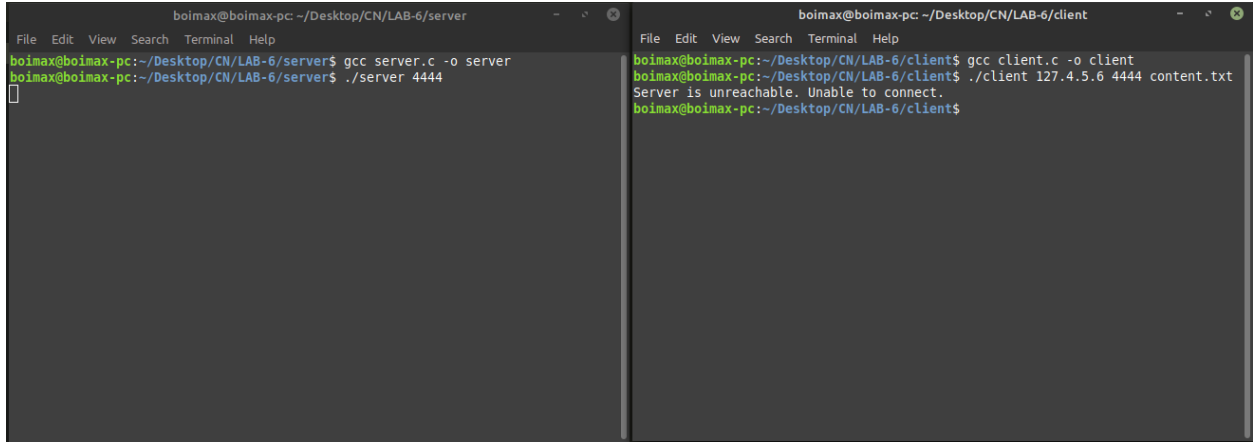
boimax@boimax-pc: ~/Desktop/CN/LAB-6/client
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6$ cd client
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ gcc client.c -o client
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ ./client 127.0.0.1 4444 content.txt
Connected to Server -> 127.0.0.1, at Port -> 4444
File contents received -> Enabling m
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$
```

After executing the above code, we can see that a file '**content.txt**' is created in the client folder, containing the first 10 bytes of the file we requested from the server.



Case 2:

In the below screenshot, we start the server on port **4444**, while we give a **wrong server address** to the client to connect to. The connection fails and an error message is displayed.

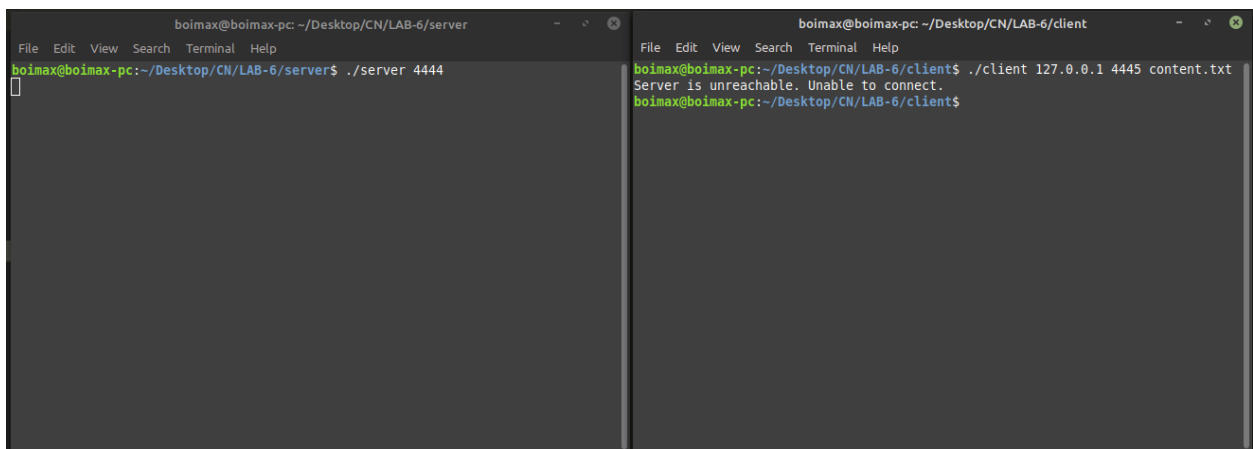


```
boimax@boimax-pc: ~/Desktop/CN/LAB-6/server
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ gcc server.c -o server
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ ./server 4444
[]

boimax@boimax-pc: ~/Desktop/CN/LAB-6/client
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ gcc client.c -o client
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ ./client 127.4.5.6 4444 content.txt
Server is unreachable. Unable to connect.
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$
```

Case 3:

In the below screenshot, we start the server on port **4444**, while we give port number **4445** to the client to connect to. The connection fails and an error message is displayed.

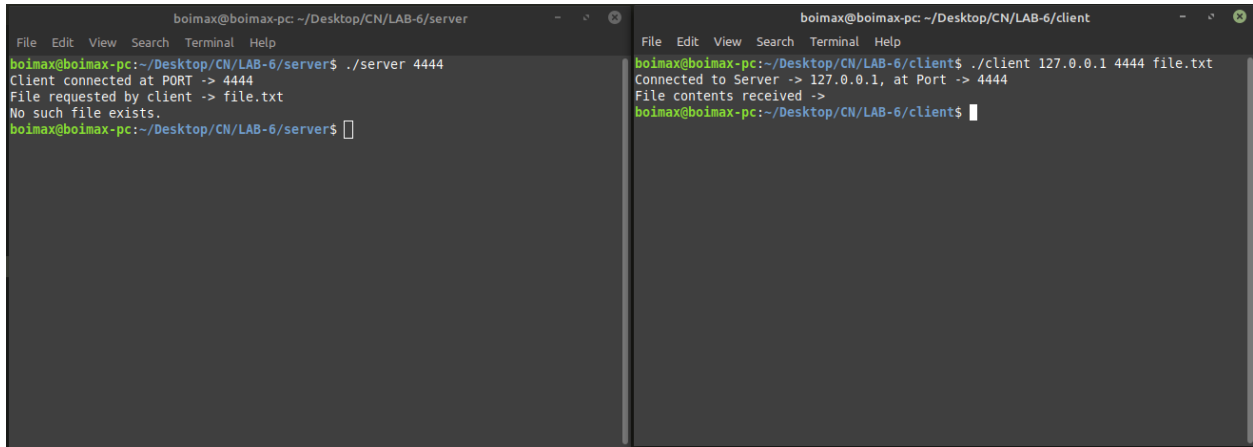


```
boimax@boimax-pc: ~/Desktop/CN/LAB-6/server
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ ./server 4444
[]

boimax@boimax-pc: ~/Desktop/CN/LAB-6/client
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ ./client 127.0.0.1 4445 content.txt
Server is unreachable. Unable to connect.
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$
```

Case 4:

In the below screenshot, we start the server on port **4444**. This time, we give the **name of a file which does not exist in the server folder**. The client connects successfully, but receives an empty file as output.

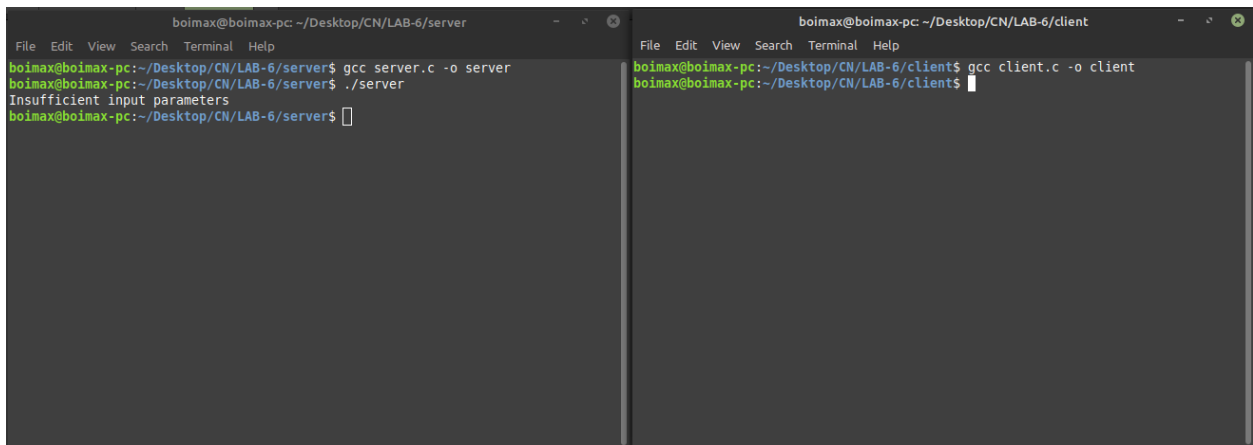


```
boimax@boimax-pc: ~/Desktop/CN/LAB-6/server
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ ./server 4444
Client connected at PORT -> 4444
File requested by client -> file.txt
No such file exists.
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$

boimax@boimax-pc: ~/Desktop/CN/LAB-6/client
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ ./client 127.0.0.1 4444 file.txt
Connected to Server -> 127.0.0.1, at Port -> 4444
File contents received ->
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$
```

Case 5:

In the below screenshot, we **do not supply a port number** to the server as input parameter. The server immediately exits with an error message.

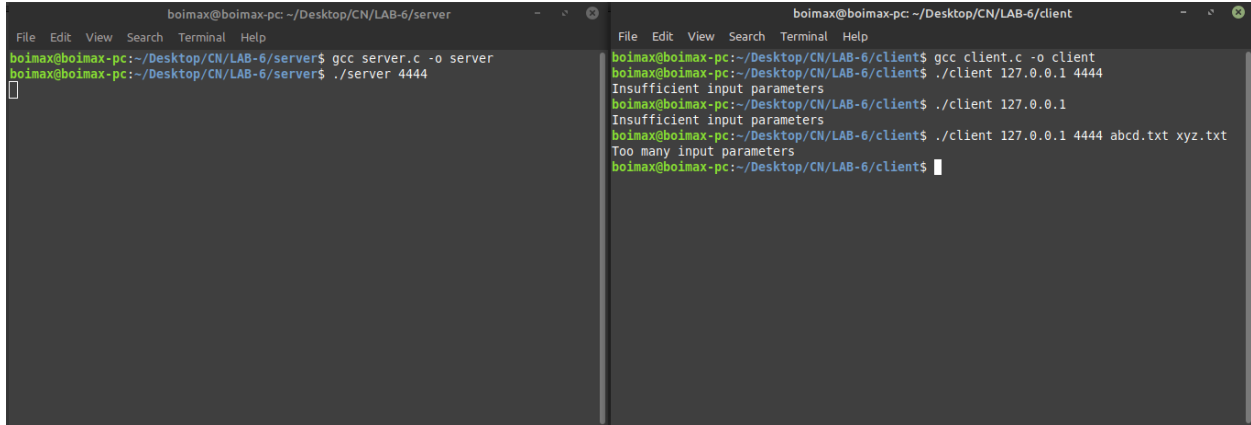


```
boimax@boimax-pc: ~/Desktop/CN/LAB-6/server
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ gcc server.c -o server
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ ./server
Insufficient input parameters
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$

boimax@boimax-pc: ~/Desktop/CN/LAB-6/client
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ gcc client.c -o client
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$
```

Case 6:

In the below screenshot, we **supply an incorrect number of arguments** to the client as input parameters. The client immediately exits with an appropriate error message.



```
boimax@boimax-pc: ~/Desktop/CN/LAB-6/server
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ gcc server.c -o server
boimax@boimax-pc:~/Desktop/CN/LAB-6/server$ ./server 4444
█

boimax@boimax-pc: ~/Desktop/CN/LAB-6/client
File Edit View Search Terminal Help
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ gcc client.c -o client
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ ./client 127.0.0.1 4444
Insufficient input parameters
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ ./client 127.0.0.1
Insufficient input parameters
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ ./client 127.0.0.1 4444 abcd.txt xyz.txt
Too many input parameters
boimax@boimax-pc:~/Desktop/CN/LAB-6/client$ █
```