

Lab 6: More on Client Server Communication

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Compile and Run

Compilation

```
gcc ./server/server.c -o ./server/server.out  
gcc ./client/client.c -o ./client/client.out
```

OR

```
make build
```

Start the server first

```
cd server  
./server.out 4444
```

OR

```
make server
```

Then start the client

```
cd client  
./client.out 127.0.0.1 4444
```

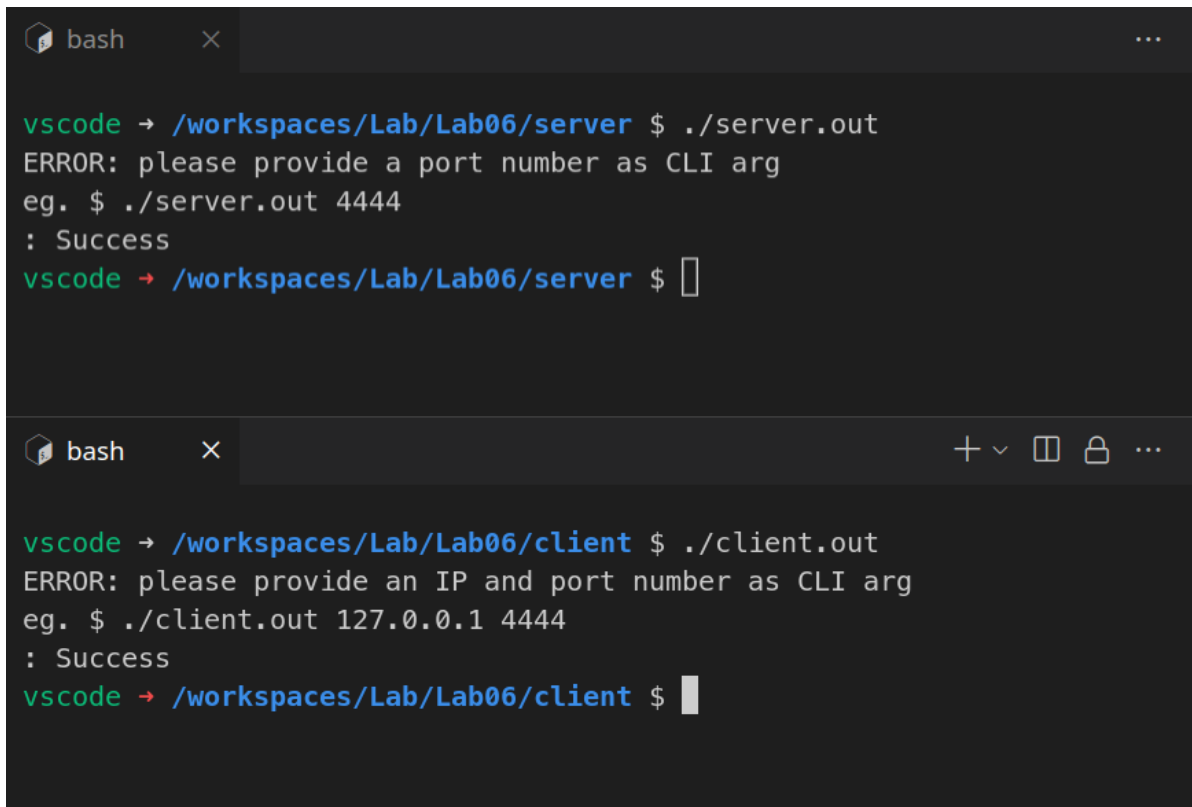
OR

```
make client
```

NOTE: Running `./client/client.out` will write to incorrect directory

Screenshots

1. Incomplete parameters



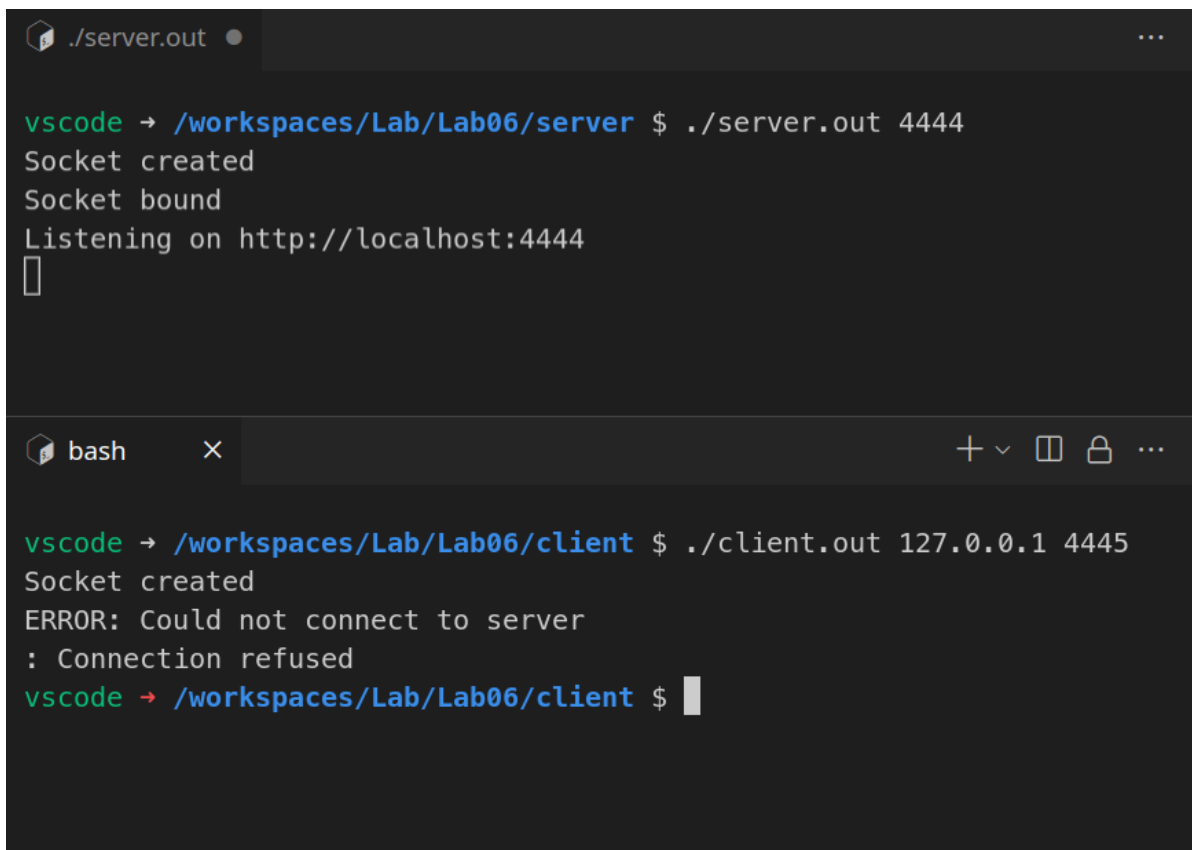
The first terminal window shows the execution of `./server.out` without any arguments. It displays an error message: "ERROR: please provide a port number as CLI arg" and a successful example: "eg. \$./server.out 4444".

```
bash
vscode → /workspaces/Lab/Lab06/server $ ./server.out
ERROR: please provide a port number as CLI arg
eg. $ ./server.out 4444
: Success
vscode → /workspaces/Lab/Lab06/server $
```

The second terminal window shows the execution of `./client.out` without any arguments. It displays an error message: "ERROR: please provide an IP and port number as CLI arg" and a successful example: "eg. \$./client.out 127.0.0.1 4444".

```
bash
vscode → /workspaces/Lab/Lab06/client $ ./client.out
ERROR: please provide an IP and port number as CLI arg
eg. $ ./client.out 127.0.0.1 4444
: Success
vscode → /workspaces/Lab/Lab06/client $
```

2. Incorrect server address



The first terminal window shows the execution of `./server.out 4444`. The server successfully creates a socket, binds it, and starts listening on `http://localhost:4444`.

```
./server.out
vscode → /workspaces/Lab/Lab06/server $ ./server.out 4444
Socket created
Socket bound
Listening on http://localhost:4444
```

The second terminal window shows the execution of `./client.out 127.0.0.1 4445`. The client creates a socket but fails to connect to the server because it is using port 4445 instead of 4444.

```
bash
vscode → /workspaces/Lab/Lab06/client $ ./client.out 127.0.0.1 4445
Socket created
ERROR: Could not connect to server
: Connection refused
vscode → /workspaces/Lab/Lab06/client $
```

3. More than 10 bytes

```
bash x

vscode → /workspaces/Lab/Lab06/server $ ./server.out 4444
Socket created
Socket bound
Listening on http://localhost:4444
Connection accepted
S: filename?
C: 16bytes.txt
File Sent!
vscode → /workspaces/Lab/Lab06/server $ █

bash x

vscode → /workspaces/Lab/Lab06/client $ ./client.out 127.0.0.1 4444
Socket created
Connected to server
S: filename?
16bytes.txt
C: 16bytes.txt
File received!
#####
1234567890
#####
Created 16bytes.txt
vscode → /workspaces/Lab/Lab06/client $ █
```

4. Less than 10 bytes

```
bash x

vscode → /workspaces/Lab/Lab06/server $ ./server.out 4444
Socket created
Socket bound
Listening on http://localhost:4444
Connection accepted
S: filename?
C: 4bytes.txt
File Sent!
vscode → /workspaces/Lab/Lab06/server $ █

bash x

vscode → /workspaces/Lab/Lab06/client $ ./client.out 127.0.0.1 4444
Socket created
Connected to server
S: filename?
4bytes.txt
C: 4bytes.txt
File received!
#####
1234
#####
Created 4bytes.txt
vscode → /workspaces/Lab/Lab06/client $ █
```

5. File does not exist

```
bash ×  
  
vscode → /workspaces/Lab/Lab06/server $ ./server.out 4444  
Socket created  
Socket bound  
Listening on http://localhost:4444  
Connection accepted  
S: filename?  
C: noFile.txt  
File Sent!  
vscode → /workspaces/Lab/Lab06/server $  
  
bash ×  
  
vscode → /workspaces/Lab/Lab06/client $ ./client.out 127.0.0.1 4444  
Socket created  
Connected to server  
S: filename?  
noFile.txt  
C: noFile.txt  
File received!  
#####  
  
#####  
Created noFile.txt  
vscode → /workspaces/Lab/Lab06/client $
```