

# Linux Chat User Manual

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# Set Up

To get full use out of this program, one needs three computers (if one wants to run the server and its clients on separate machines) or two computers (if the server computer also hosts a client).

## Compilation and Running the Program

From the program folder, open a terminal and compile: *make*

```
16:13:20(-)root@datacomm-21:ClientServerChatRoom$ make
g++ -Wall -g -g3 -pthread -c Server.cpp
g++ -Wall -g -g3 -pthread -c Client.cpp
g++ -Wall -g -g3 -pthread -c SharedUtils.cpp
g++ -Wall -g -g3 -pthread -c main.cpp
g++ -Wall -g -g3 -pthread -o chatroom main.o Server.o Client.o SharedUtils.o
```

Now to open and run the program enter: *./chatroom*

```
16:15:08(-)root@datacomm-21:ClientServerChatRoom$ ./chatroom
* Server or client mode [S/C], or E to exit: █
```

## Mode Set Up

Follow the prompts to choose your intended functionality. The following image shows a server set up:

```
16:13:24(-)root@datacomm-21:ClientServerChatRoom$ ./chatroom
* Server or client mode [S/C], or E to exit: s
(Enter a new port):8000
(Do you want to save a chatlog? [y/n]):n
*****
* Welcome to chat room console.
* Current status:
*   connected as SERVER, user ip: 192.168.0.21
*   Room hosted at:192.168.0.21 on port:8000
*   Chat log is not being saved.
* Enter /help to display this message again.
* Enter /disconnect to return to start and choose a different mode
* Note, entering messages as server does nothing.
*****
```

A client set up only differs in needing to enter the server's IP address:

```
* Server or client mode [S/C], or E to exit: c
(Enter a server ip): 192.168.0.21
(Enter a server port): 8000
(Do you want to save a chatlog? [y/n]):n
*****
* Welcome to chat room console.
* Current status:
*   connected as CLIENT, user ip: 192.168.0.22
*   Room hosted at:192.168.0.21 on port:8000
*   Chat log is not being saved.
* Enter /help to display this message again.
* Enter /disconnect to return to start and choose a different mode
* Enter anything else to send it to other clients.
*****
```

Note that both the server and the client can save the same instance of a chat locally.

## How to Use

Once set up, users can send and receive messages to each other through a client set up. The server will keep track of the clients in the chat room session, and log the chat in a file, if the user chose to do so when setting up the program.

Server showing connected clients:

```
* New client connected:192.168.0.22
<192.168.0.22><16:23:31>: Hello world!
* New client connected:192.168.0.20
<192.168.0.20><16:28:26>: Client2 msg
<192.168.0.22><16:29:05>: welcome to the chatroom
* New client connected:192.168.0.21
```

Optionally, enter /clients to show the connected clients as a list:

```
/clients
No clients connected
(Enter cmd at any time):
* New client connected:192.168.0.22
/cclients
- 192.168.0.22
(Enter cmd at any time):
* New client connected:192.168.0.20
/cclients
- 192.168.0.22
- 192.168.0.20
```

A chat log file:

```
ChatLog.txt — ~/Desktop/chatroom/ClientServerChatRoom — Atom
Help
ChatLog.txt
1 * New client connected:192.168.0.22
2 <192.168.0.22><16:23:31>: Hello world!
3 * New client connected:192.168.0.20
4 <192.168.0.20><16:28:26>: Client2 msg
5 <192.168.0.22><16:29:05>: welcome to the chatroom
6 * New client connected:192.168.0.21
7 <192.168.0.21><16:32:17>: Is anyone there?
8 <192.168.0.22><16:32:20>: Yes!
9
```

## Help

To display a brief explanation of commands, type “/h” or “/help” at any time to display a message of useful commands.

```
(Me): /h
* Enter /help to display this message again.
* Enter /disconnect to return to start and choose a different mode
* Enter anything else to send it to other clients.
* Note, help msgs and cmds are not printed to chat log.
```

## Disconnecting

A client can choose to disconnect from the chatroom by typing “/d” or “/disconnect” This will return the user to the mode selection prompt; the image below exits the program as well.

```
(Me): /d
* Server or client mode [S/C], or E to exit: e
16:49:55 (-) root@datacomm-22:Documents$
```

The server will also log that a client disconnected. If the server shuts down, then the clients will show that they have lost connection with the server and quit.