

TCP Group Chat using Socket Programming

PLAGIARISM STATEMENT

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Description: TCP group chat server where there is a single server and multiple clients and that server accepts the connections from multiple clients and enables them to chat with each other. A Client sends the message to the server and the server forwards the message to other connected clients. Everything is happening in a non-blocking way that is the client need not wait for the server to send a reply to the earlier message before sending another message.

Instructions on running the program:

Platform Used: Linux with G++

Compiling the Codes: g++ file_name.cpp -pthread

For Server: g++ server.cpp -pthread

For Client: g++ client.cpp -pthread

Running the Server: ./a.out Port_Num

Running the Client: ./a.out User_Name Port_Num

- Ctrl+C to be used for stopping the Client and Server
- Port_Num provided to the client should be same as that provided to the Server
- User_Name is just a unique identity for the Client

Screenshot of the output for the Group Chat:

```
ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ g++ server.cpp -pthread
server.cpp: In function 'void* recvmg(void*)':
server.cpp:155:1: warning: control reaches end of non-void function [-Wreturn-type]
  155 | }
      | ^
ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ ./a.out 5400
Enter the Maximum number of Clients allowed: 3
-----Server Started-----
2.0.225.179 Connected
2.0.225.180 Connected
2.0.225.181 Connected

ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ g++ client.cpp -pthread
client.cpp: In function 'void* thread(void*)':
client.cpp:112:1: warning: control reaches end of non-void function [-Wreturn-type]
  112 | }
      | ^
ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ ./a.out Ayan 5400
Connected to 2.0.21.24 ,Chat initiated...
Hey guys!! this is Ayan
Rahul: Hello All, this is Rahul
Shubham: Hey! Shubham this side
So, what are you guys up to this weekend?
Rahul: Nothing much, busy studying
Shubham: Yeah same, have a lot of pending assignments to complete
Shubham: ok bye
bye all
Rahul: bye

ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ g++ client.cpp -pthread
client.cpp: In function 'void* thread(void*)':
client.cpp:112:1: warning: control reaches end of non-void function [-Wreturn-type]
  112 | }
      | ^
ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ ./a.out Rahul 5400
Connected to 2.0.21.24 ,Chat initiated...
Ayan: Hey guys!! this is Ayan
Hello All, this is Rahul
Shubham: Hey! Shubham this side
Ayan: So, what are you guys up to this weekend?
Nothing much, busy studying
Shubham: Yeah same, have a lot of pending assignments to complete
Shubham: ok bye
Ayan: bye all
bye

ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ g++ client.cpp -pthread
client.cpp: In function 'void* thread(void*)':
client.cpp:112:1: warning: control reaches end of non-void function [-Wreturn-type]
  112 | }
      | ^
ayanpahari@DESKTOP-OEAAL6U: /mnt/c/Users/user/Desktop/tester$ ./a.out Shubham 5400
Connected to 2.0.21.24 ,Chat initiated...
Ayan: Hey guys!! this is Ayan
Rahul: Hello All, this is Rahul
Hey! Shubham this side
Ayan: So, what are you guys up to this weekend?
Rahul: Nothing much, busy studying
Yeah same, have a lot of pending assignments to complete
ok bye
Ayan: bye all
Rahul: bye
```

Activate Windows
Go to Settings to activate Windows.