**Interactive Chat on Client server**

**Overview**

Single multi-threaded server to handle multiple clients. A client can talk to another client during a session if the requested client is free. All messages are sent through a TCP socket. One mutex mapped to each client to avoid race conditions while connecting two clients.

**Commands**

**Server side commands**

**get clients -** show status(FREE / BUSY with whom) of active clients.

**get free\_clients -** show list of free clients

**Client side commands**

**get clients -** get status(FREE / BUSY) of active clients.

**connect X -** connect with client X

**goodbye -** disconnect with the currently connected client.

**close -** close the connection with the server.

**Problem faced**

* Wanted to show all the sent messages and received messages on a different terminal but can’t be able to implement it. Getting errors while transferring messages to different terminals.
* Getting difficulty for multiple client architecture but implemented it finally using mutex and multithreading.
* Stuck for a while in binding the socket but after reading documentation got to know about bind function and then used this function to get rid of the problem.