

CS348 Computer Networks
Lab Exercises 4
Indian Institute of Technology, Patna
February 07, 2017

Instructions: This is a demo based assignment that will require you to write codes for client as well as server end. You have to show the demo to the TA and submit the codes in a tgz file with name labAssign4.tgz. The submission date is 13.02.2017.

1. Create a chat client and server that can be used for communication between 2 users in different hosts. A sentence, typed by the user, will be transmitted to the server in the remote machine (only after ENTER is pressed) and the server will display the same to the screen. The server must use a welcome socket that has a dedicated port number. You can use java swing so as to create a separate display area and text area in the screen. In the text area, the client types his message and the same gets reflected in the display area (after ENTER is pressed), preceded by his username. The messages sent by the other user is also displayed in the display area.
2. Create an authorization server running on any remote server. In the chat client introduce a login screen that has a button named "Create Account". When you create a new account, you have to provide a username and password that will be stored in a file in the authorization server. While logging in, the username and password that you provide will be verified with that in the file at the authorization server and then the chat screen will appear. On logging in, the authorization server will store your current IP address. You can add friends whose usernames will also be stored, with respect to your account, by the authorization server. On successful log in, the server will send the list of usernames of all your friends for displaying in the chat window. If you select any one of them and the user is logged in, the current IP address of the user will be sent by the authorization server. Your client then uses the previous program to connect to the user using this IP address and standard port number and communicate. If the other user is not logged in, the authorization server sends a specific code and your client should display the message "Not Logged In".

[OPTIONAL] Try to extend the previous chat client for video and voice communication through webcam and mic. You might need to use the Xuggler libraries for the same. Special credits will be given if you can include this.