Final Project Proposal - Fall 2021
Introduction to Java NYU CS9053
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My team wants to design a social network server platform where multiple clients can communicate with each other though this platform.
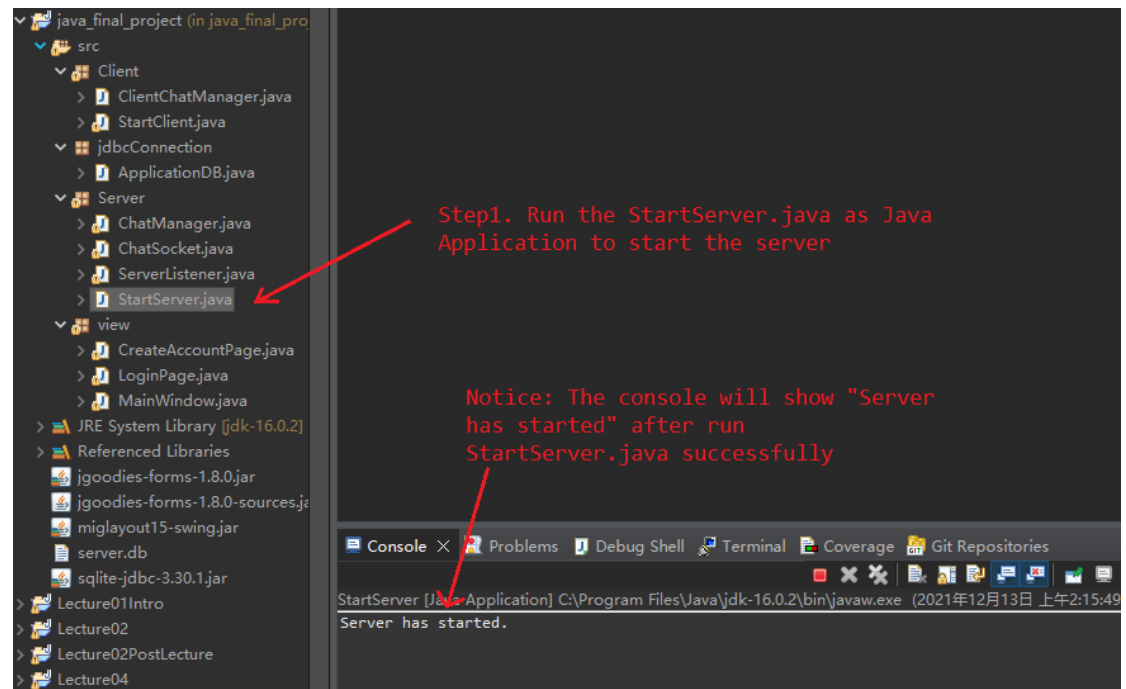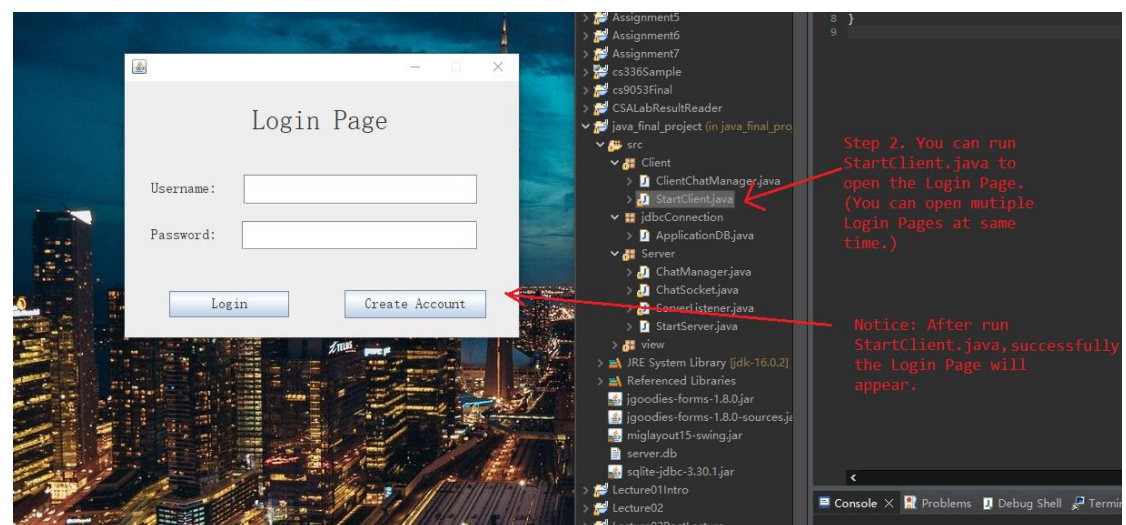Advanced techniques: GUI, Multithread, Networking, Database(JDBC-SQLite)

Main functions:

1. User
   a) Login to chatroom
      i.   Support username and password check
   b) Create a new account
      i.   Support duplicate username check
      ii.   Support no empty input of username and password check
   c) Support multiple independent users to login
   d) Logout

2. Chat
   a) Online user can communicate with other online users or public channel. (by socket)

3. View Chat history
   a) clients can view historical communications between themselves and any other client.

4. Database
   a) Record the username and password of users.
   b) Create a new Table for recording the history message of each user when a new account is created
   c) Record all communications of all clients.
   d) Insert the username and password of new users.

5. GUI
   a) A user-friendly and practical GUI interface for Login, Create the Account, View History and Chat.
   b) Pop the windows when the illegal action of users and success of creating account

6. Multithread
   a) When user login successfully, the client will start a new thread for chatting and connecting to server.
   b) When server notices the connection of client's thread, it will start a new thread for transmitting the message between clients.
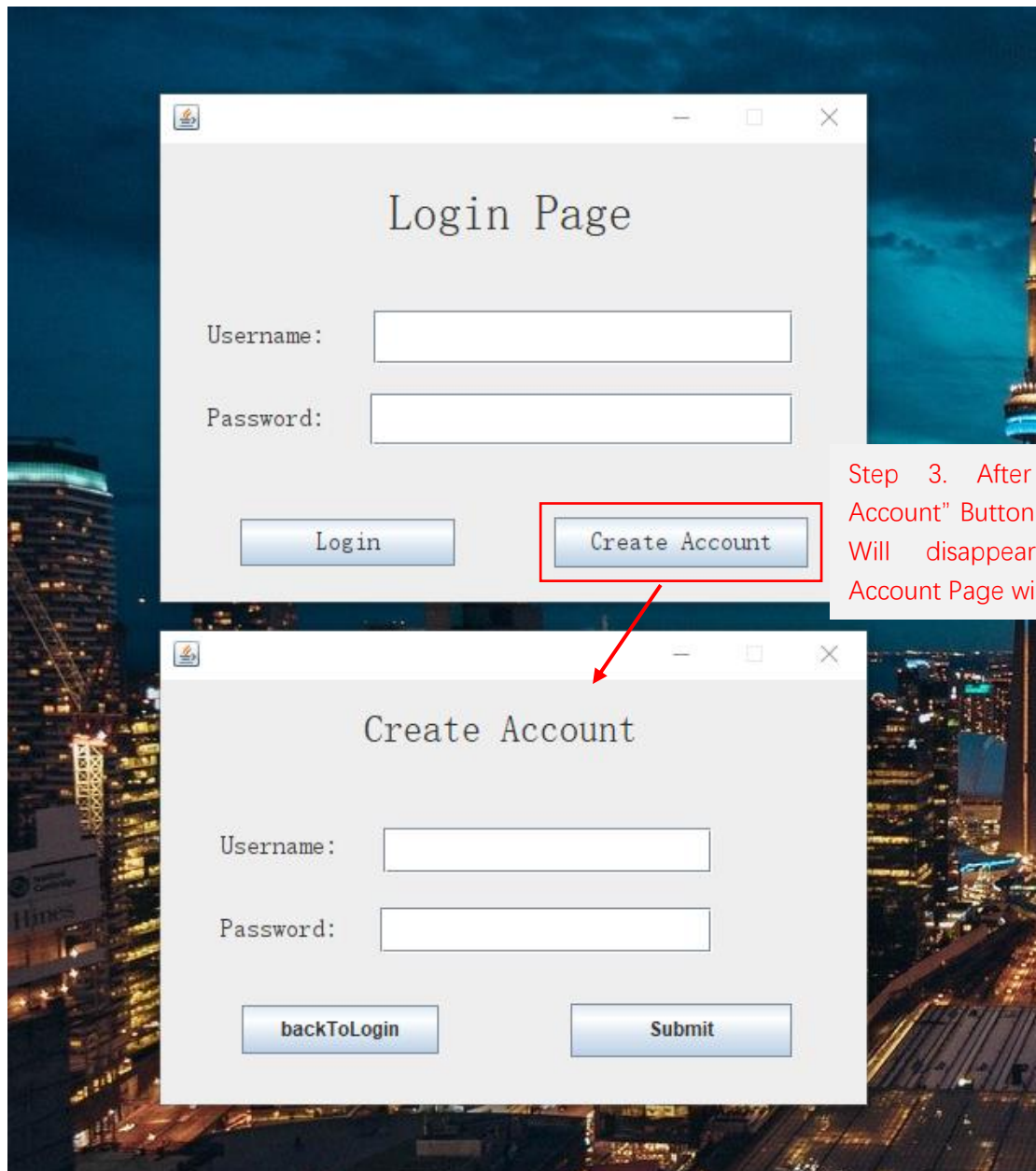Use Instruction

Step 1. Start Server

Step1. Run the StartServer.java as Java Application to start the server

Notice: The console will show "Server has started" after run StartServer.java successfully

Server has started.

Step 2. Start Login Page

Login Page

Username:

Password:

Login   Create Account

Step 2. You can run StartClient.java to open the Login Page. (You can open mutiple Login Pages at same time.)

Notice: After run StartClient.java,successfully the Login Page will appear.

Step 3. Create Page

Step 3. After Click "Create Account" Button, the Login Page Will disappear and Create Account Page will appear

Step 4. Empty Username or Password
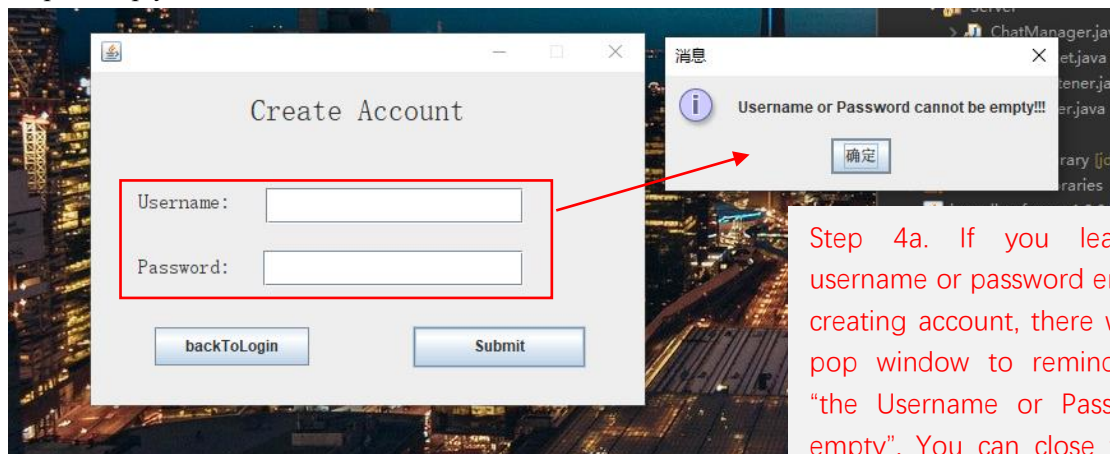
Step 4a. If you leave the username or password empty for creating account, there will be a pop window to reminder you, "the Username or Password is empty". You can close the pop window by clicking 'Yes' or "X" of right top button.

P.S you have to press "submit" to create an account.

Step 4b. username is already used. (in Database)
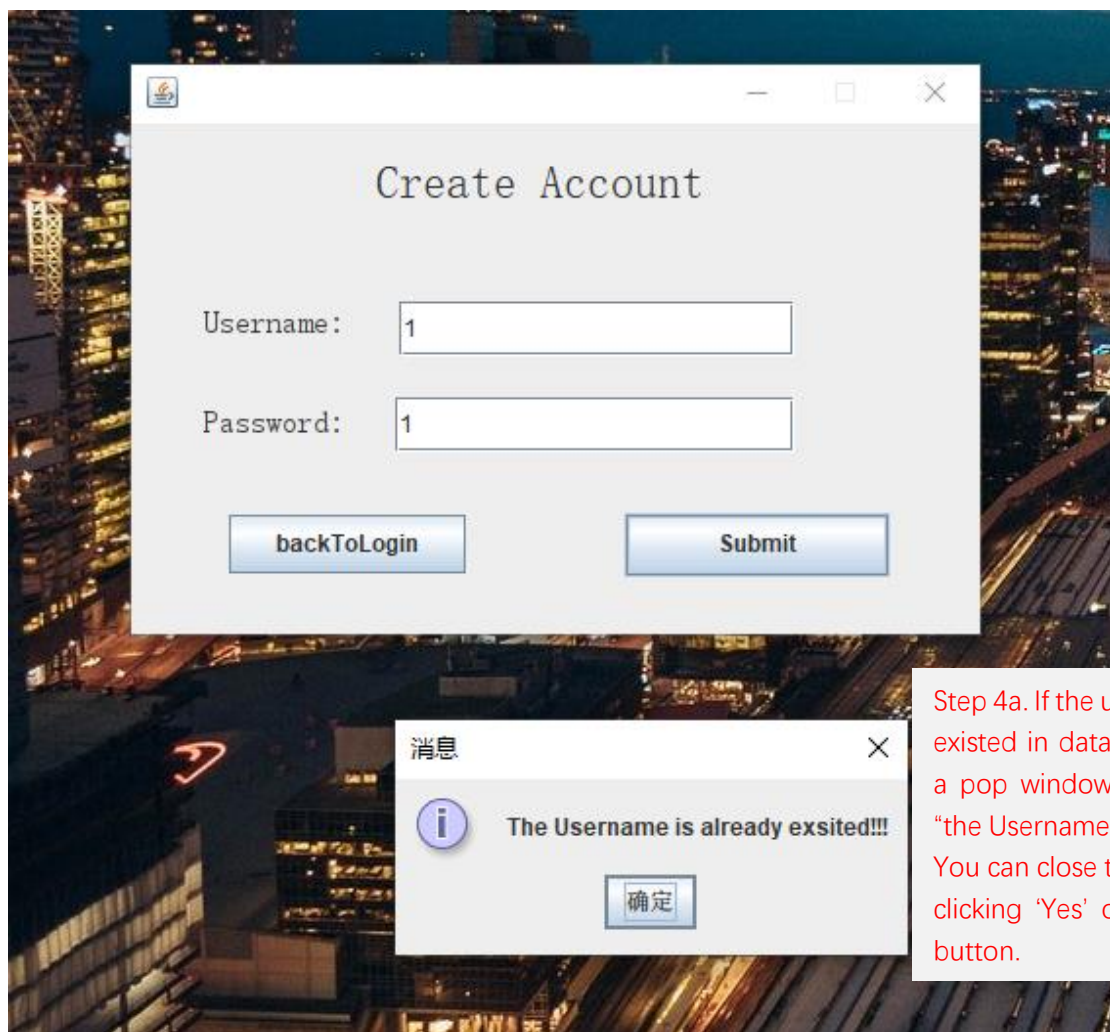
Step 4a. If the username is already existed in database, there will be a pop window to reminder you, "the Username is already existed". You can close the pop window by clicking 'Yes' or "X" of right top button.
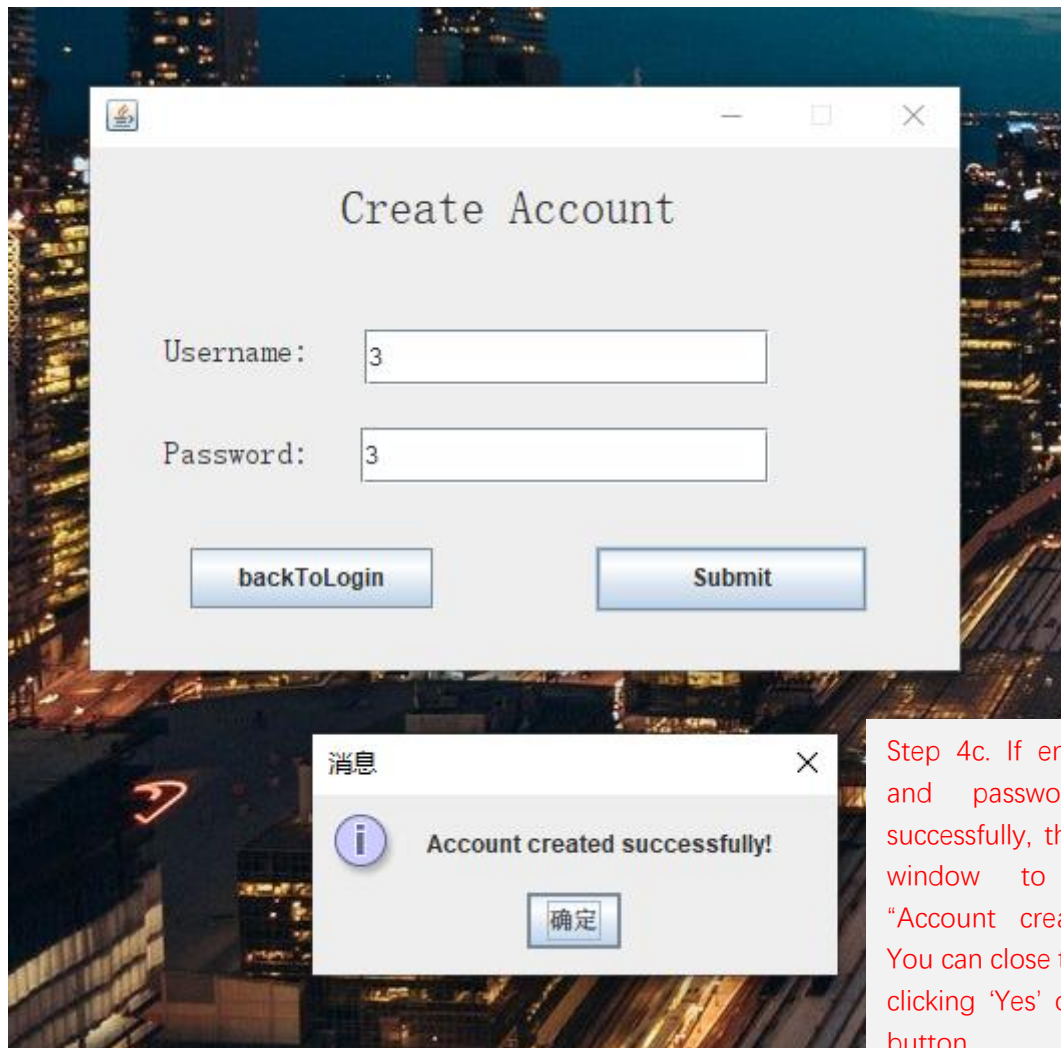
Step 4c. If enter the username and password legally and successfully, there will be a pop window to reminder you, "Account created successfully." You can close the pop window by clicking 'Yes' or "X" of right top button.
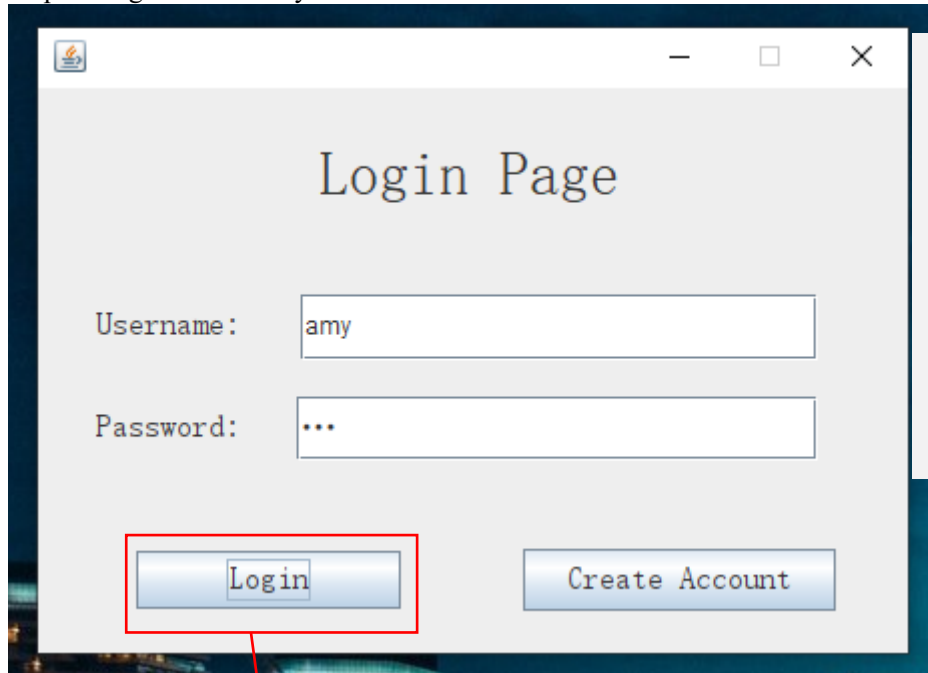
Step 5a. Login with wrong username or password
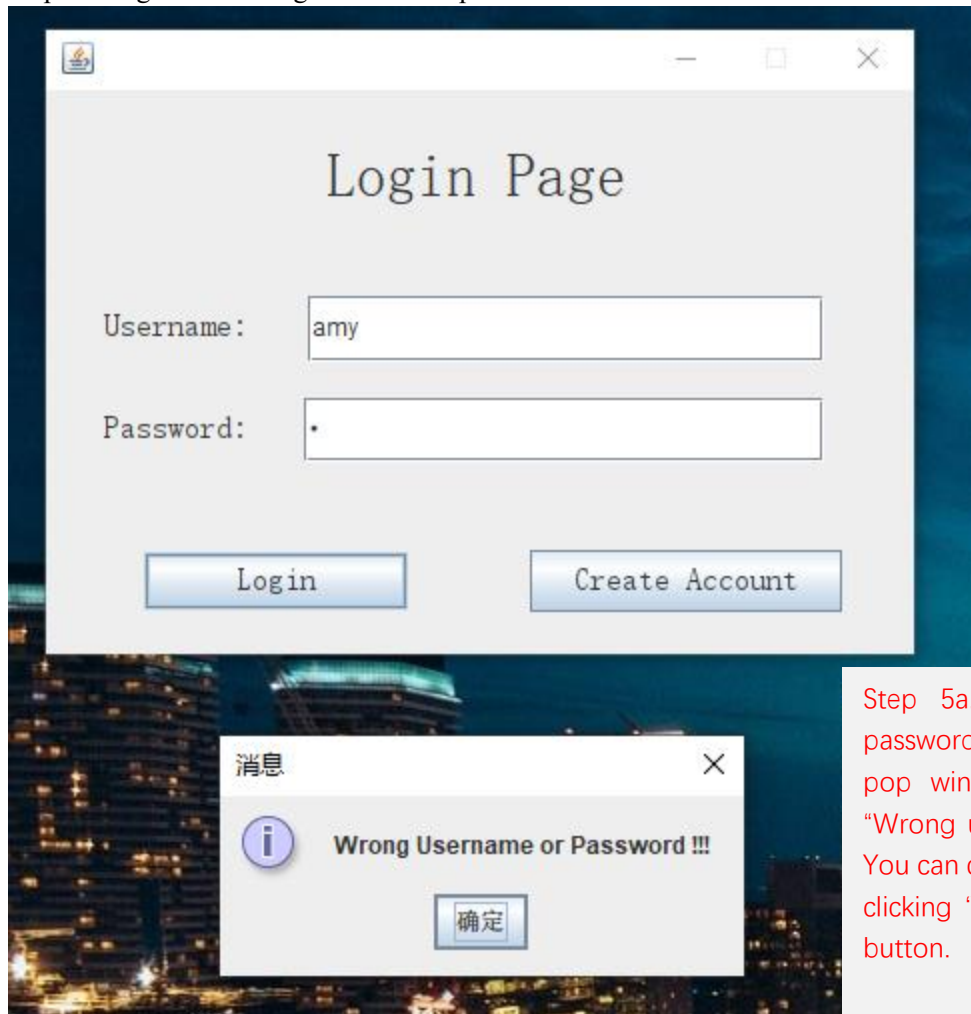
Step 5a. If the username or password is wrong, there will be a pop window to reminder you, "Wrong username or password". You can close the pop window by clicking 'Yes' or "X" of right top button.

P.S. you have to press" Login" to login.
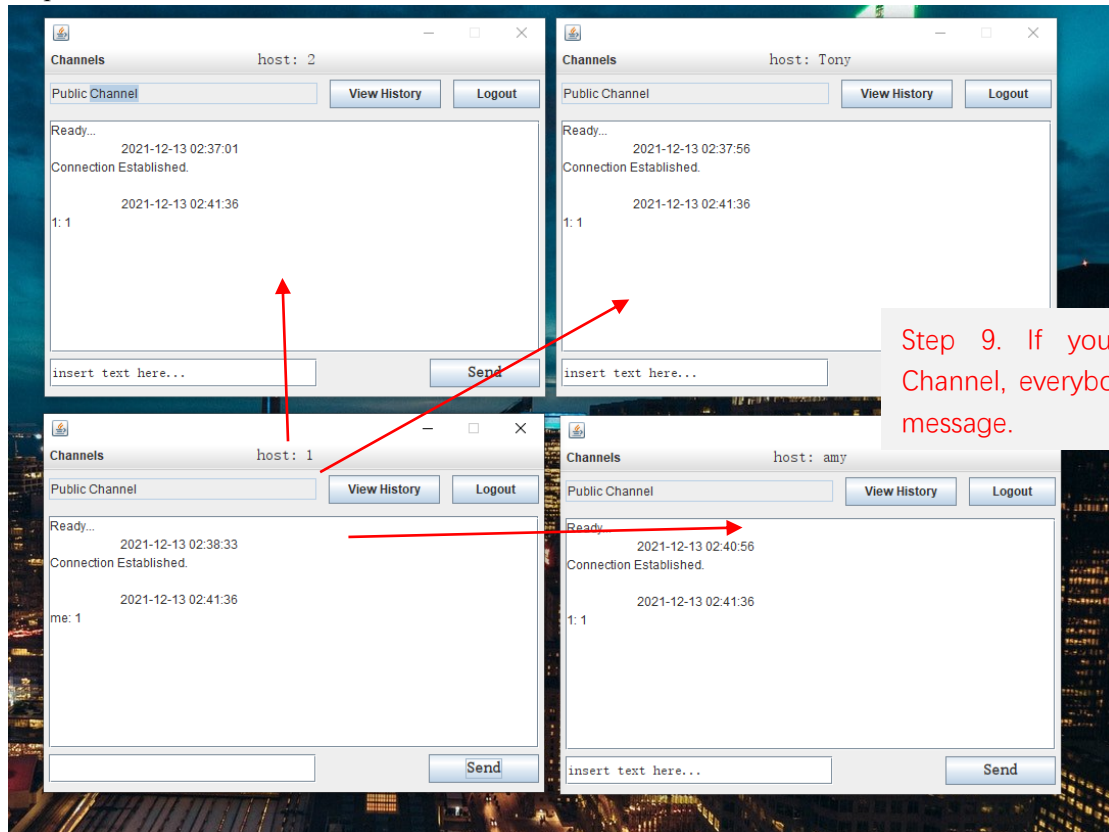
Step 5b. login successfully

Step 7. Chat Page – Functions
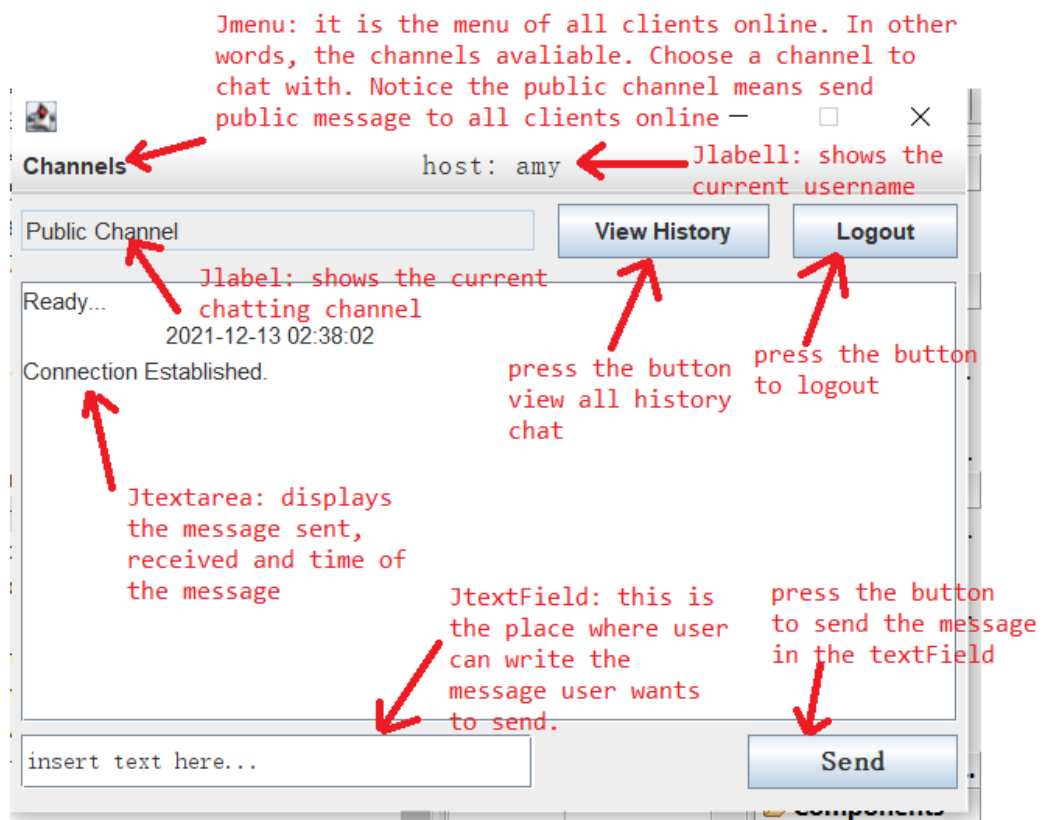
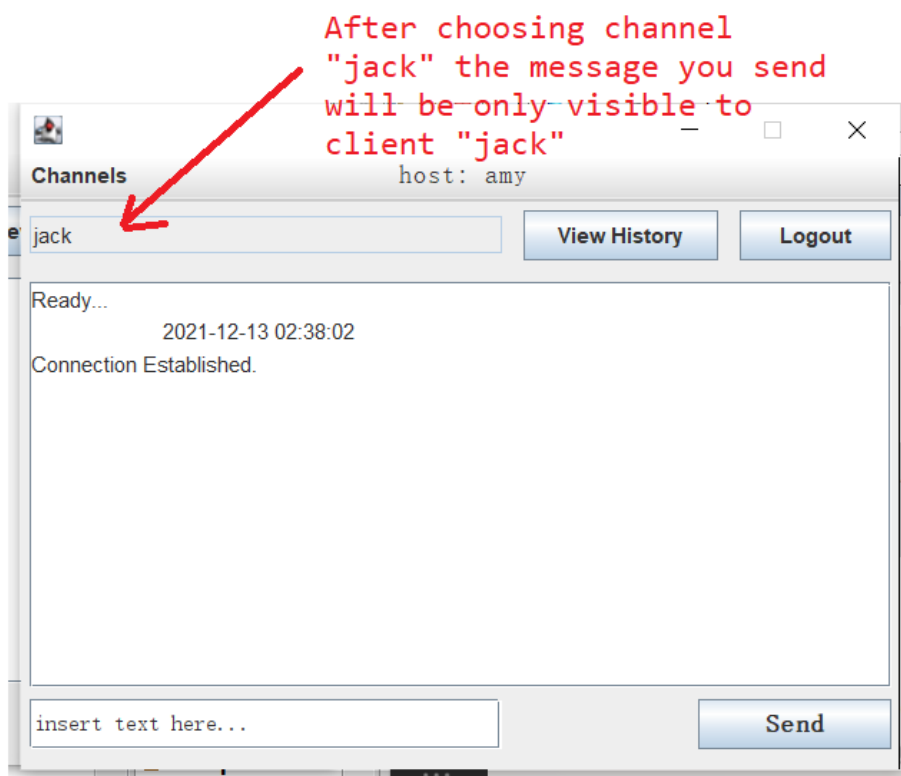Step 8. Choose a Channel (Public Channel is default)
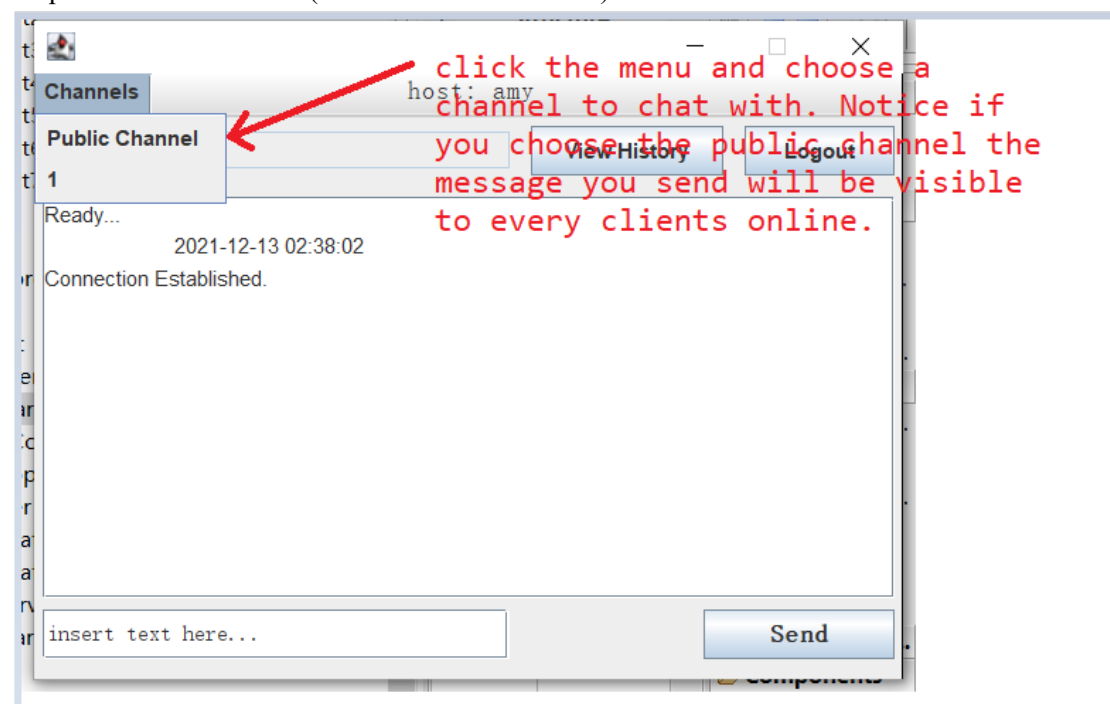
Step 9. Chat in Public Channel

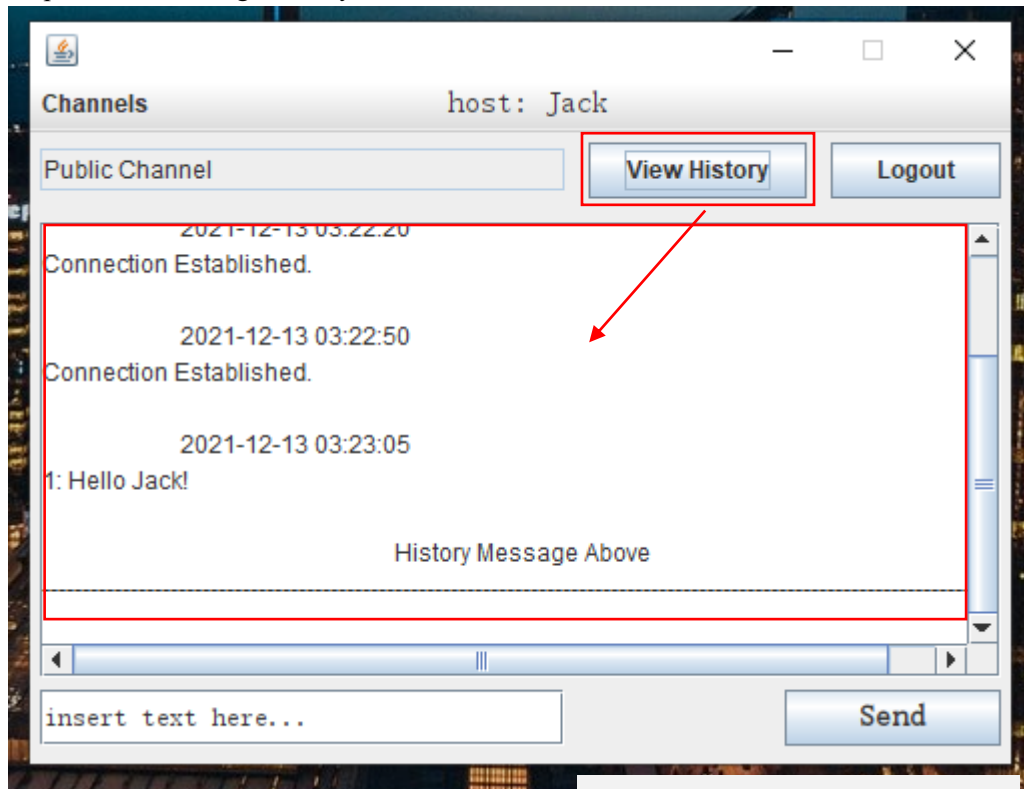Step 9. If you select Public Channel, everybody can see the message.

Step 10. Chat in Private Channel

After choosing channel "jack" the message you send will be only visible to client "jack"

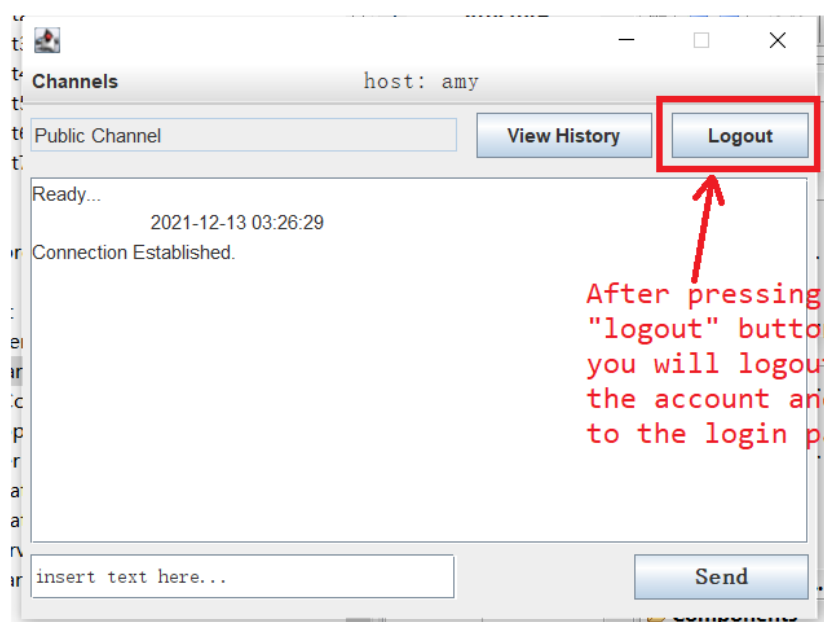Step 10. If host 1 select Private Channel of Jack and send message, only host Jack can see the message.
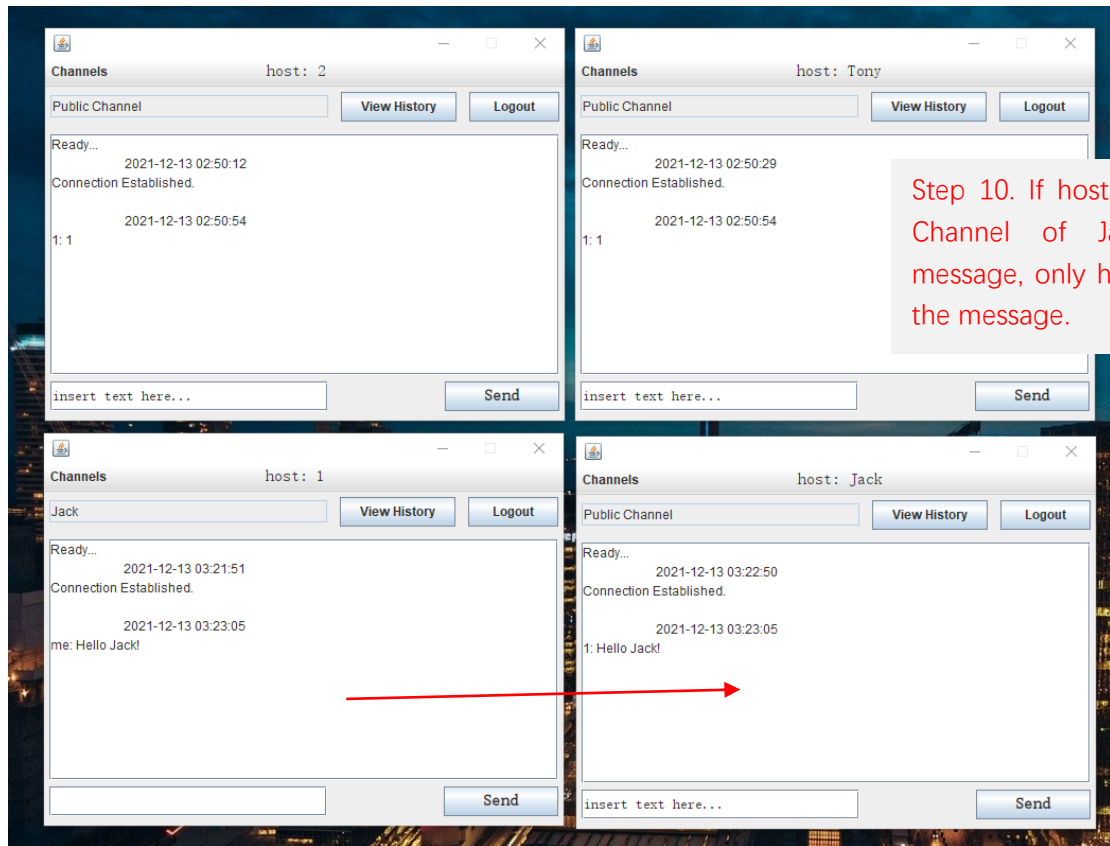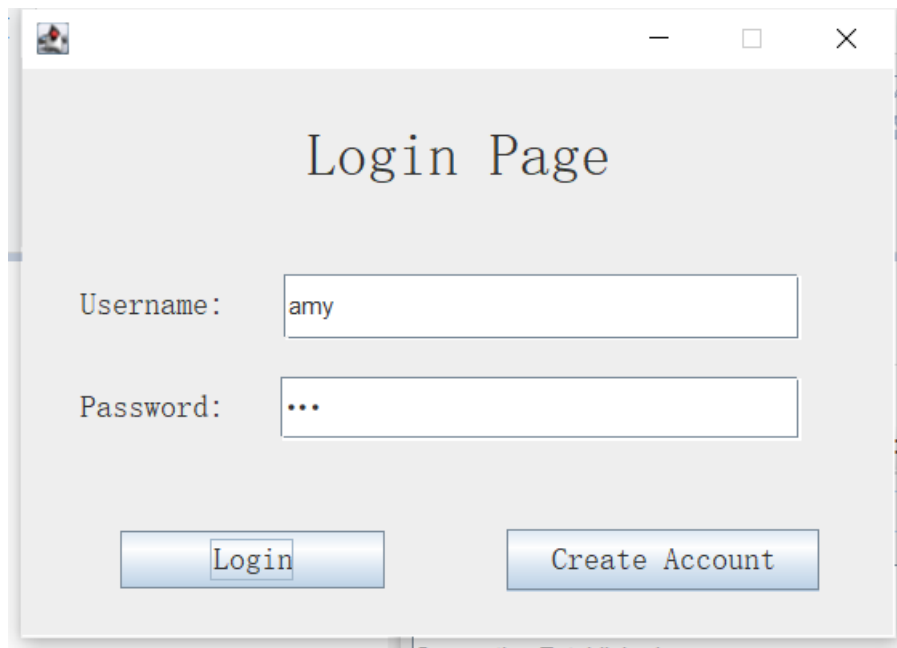
Step11. View Message History

Step 11. If use click "view history" button, the message history will print in chat window. And you can continually chat in Chat Page.

Step 12. Logout

After pressing "logout" button, and you will logout of the account and jump to the login page

And it will go back to login page.

Structure