Chat Server Programming Assignment

3/26/2018

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Chat Application

Problem Statement

Chat Server Programming Assignment
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Introduction

You have to write a program based on provided requirements. You are free to use a programming language of your choice, preferably Java. Please state all assumptions when implementing a solution. It is important to deliver elegant object-oriented code, apply design patterns and consider performance of the implementation. In addition, please provide JUnit test cases and comments for the implemented classes. Your delivered program should compile (provide all required jars) and run.

Chat Server

Develop a TCP/IP based multi-party chat server and client. Application should include appropriate unit test, error logging, and design documentation.

Server Requirements:
- Server should accept 1 to 10 simultaneous client connections
- A message received from any client should be echoed to all clients by default
- The server should log all client connect and disconnect events
- The listening IP and port address should be configurable

Client Requirements:
- The server IP and port address should be configurable
- The client should attempt to connect to the server and gracefully handle connection failures and disconnect events
- At start-up, the client should ask the user to provide a unique username
- The client should allow the user to enter an alpha-numeric text message
- Entered text messages should be transmitted to the server
- The client should display received text messages
- The client should be able to filter messages by user
- (Optional) The client should be able to send a message to a selected user

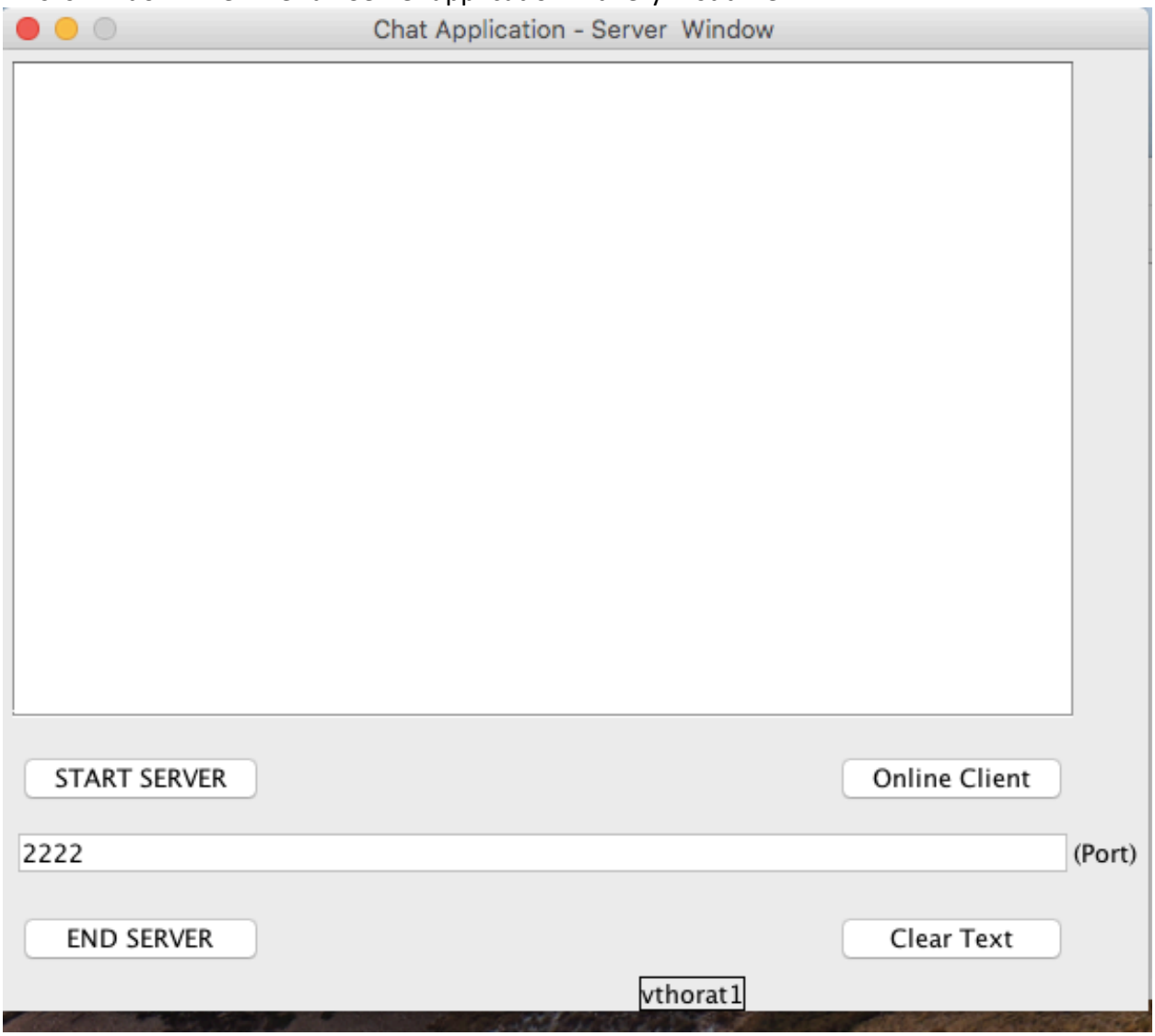
Chat Application

Solution

The solution for given assignment is in two phases.

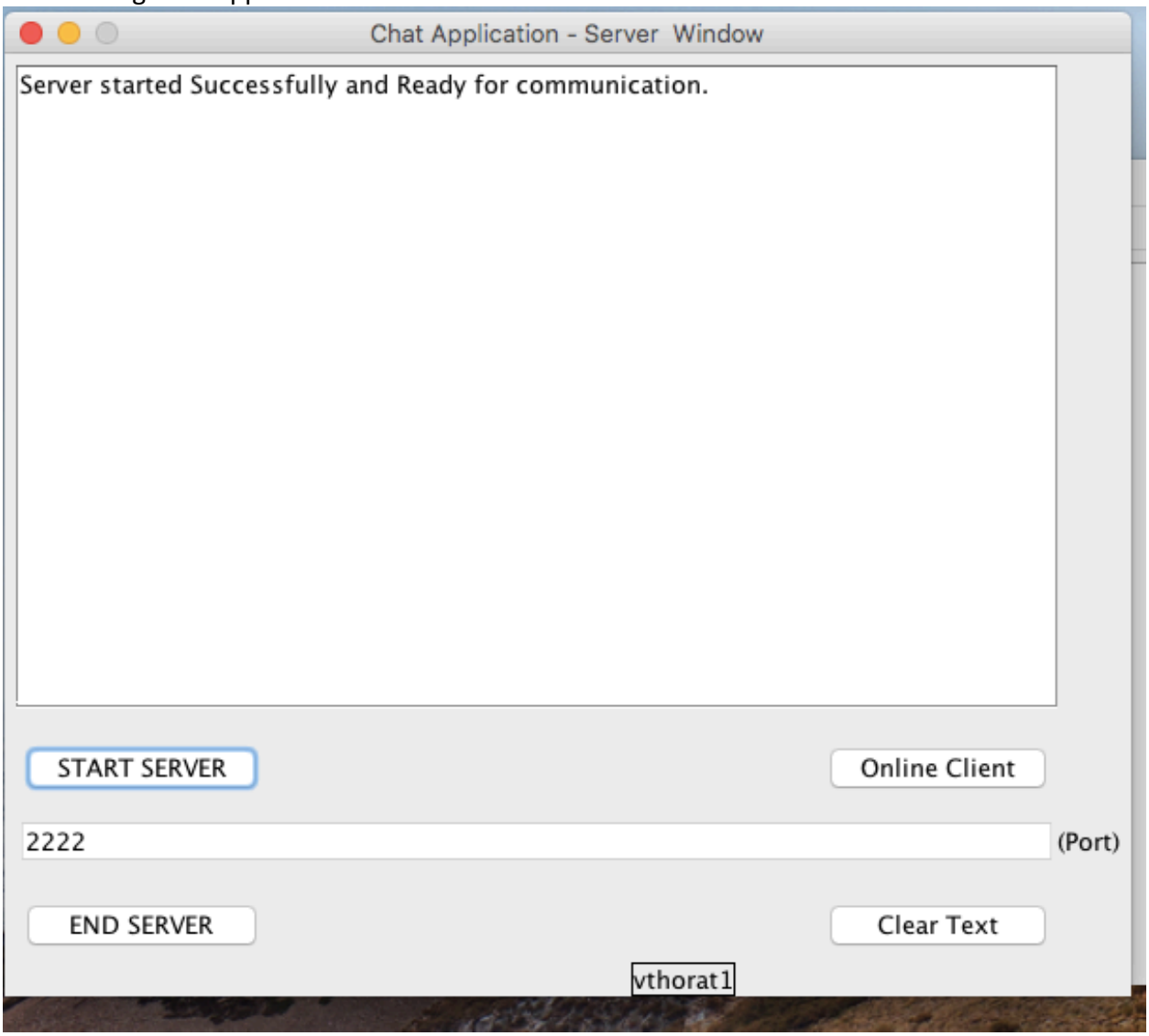
1. Screenshots of all over application.
2. Source code for given application.
3. Junit testing.
4. Logging file.
5. Two applications data.

This is window when we run Server application. At very first time.



Chat Application

This message will appear when we click on START SERVER.



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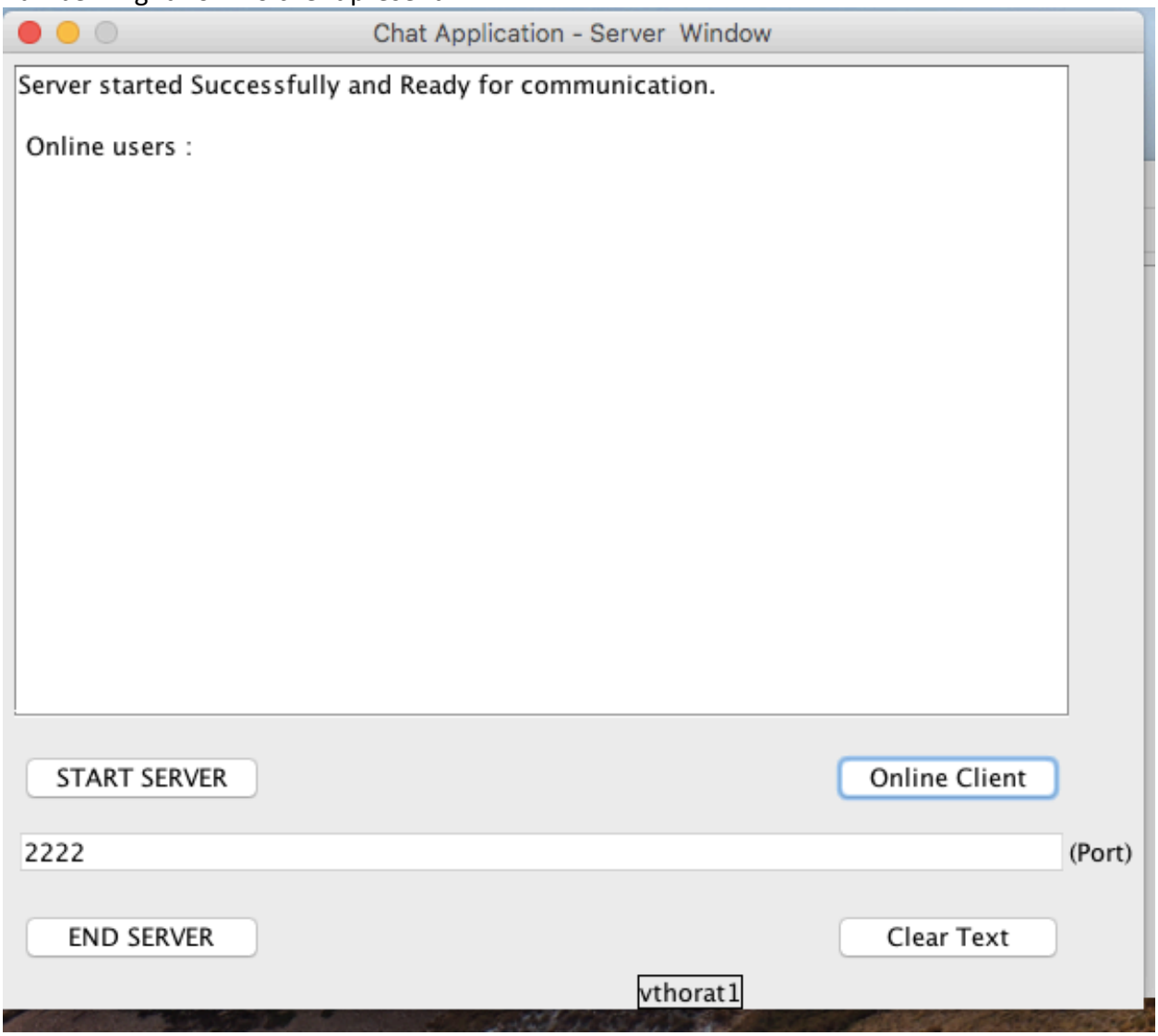
On Click of Online user it will show all connected clients for this socket with given IP and port number. Right now no client present.



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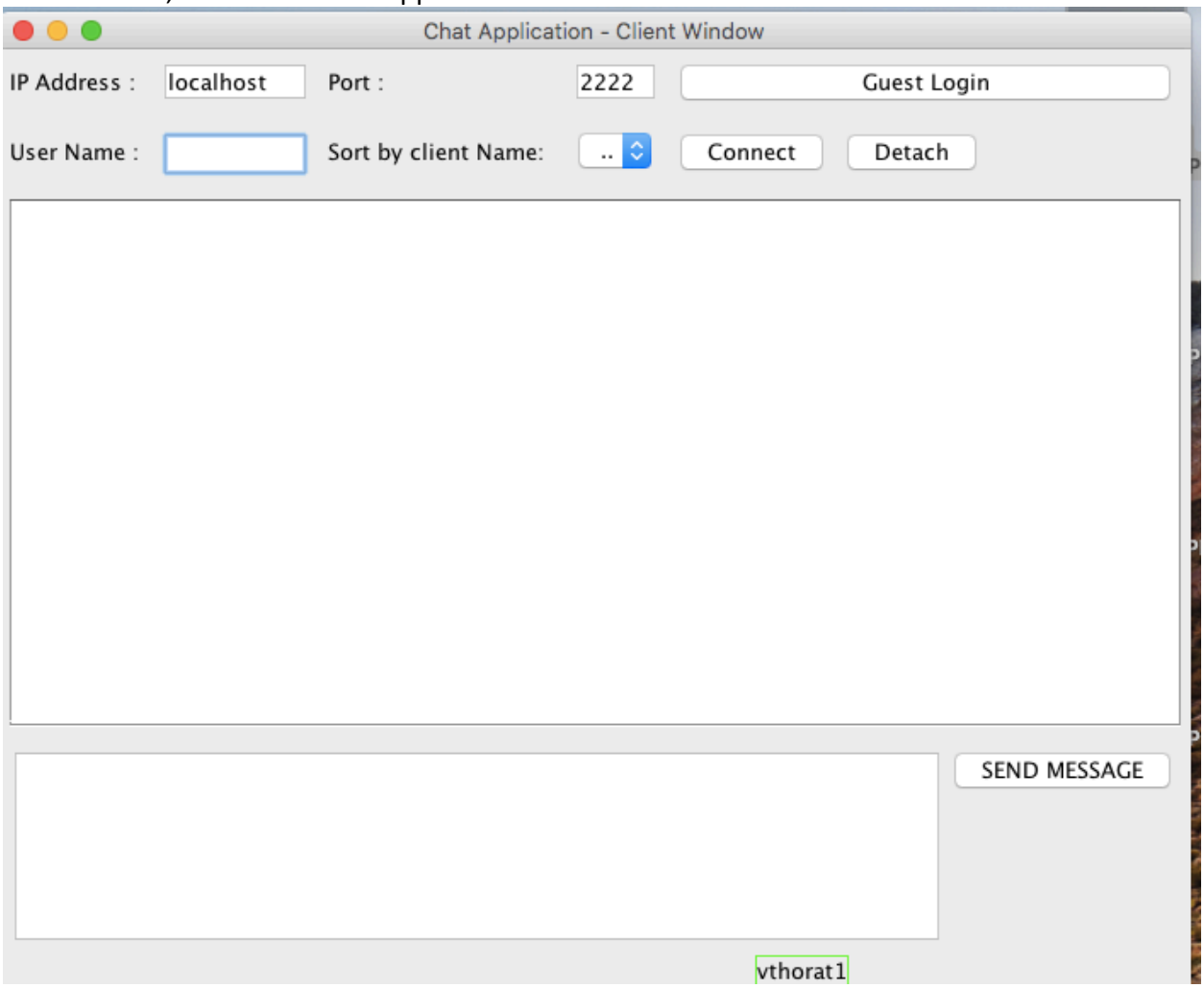
Client Screen, on first of client application.



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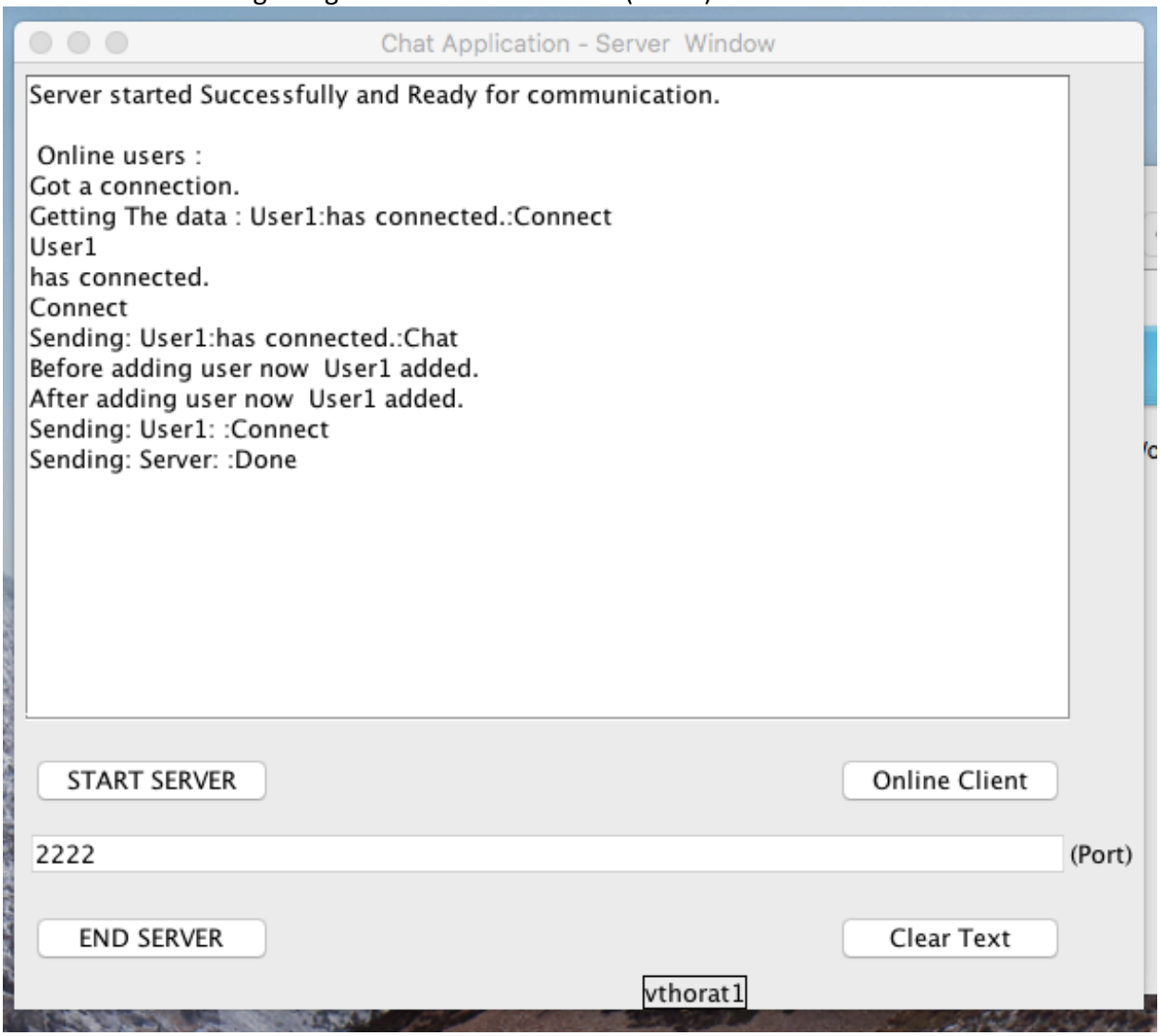
Server window after getting connection from client (User1).



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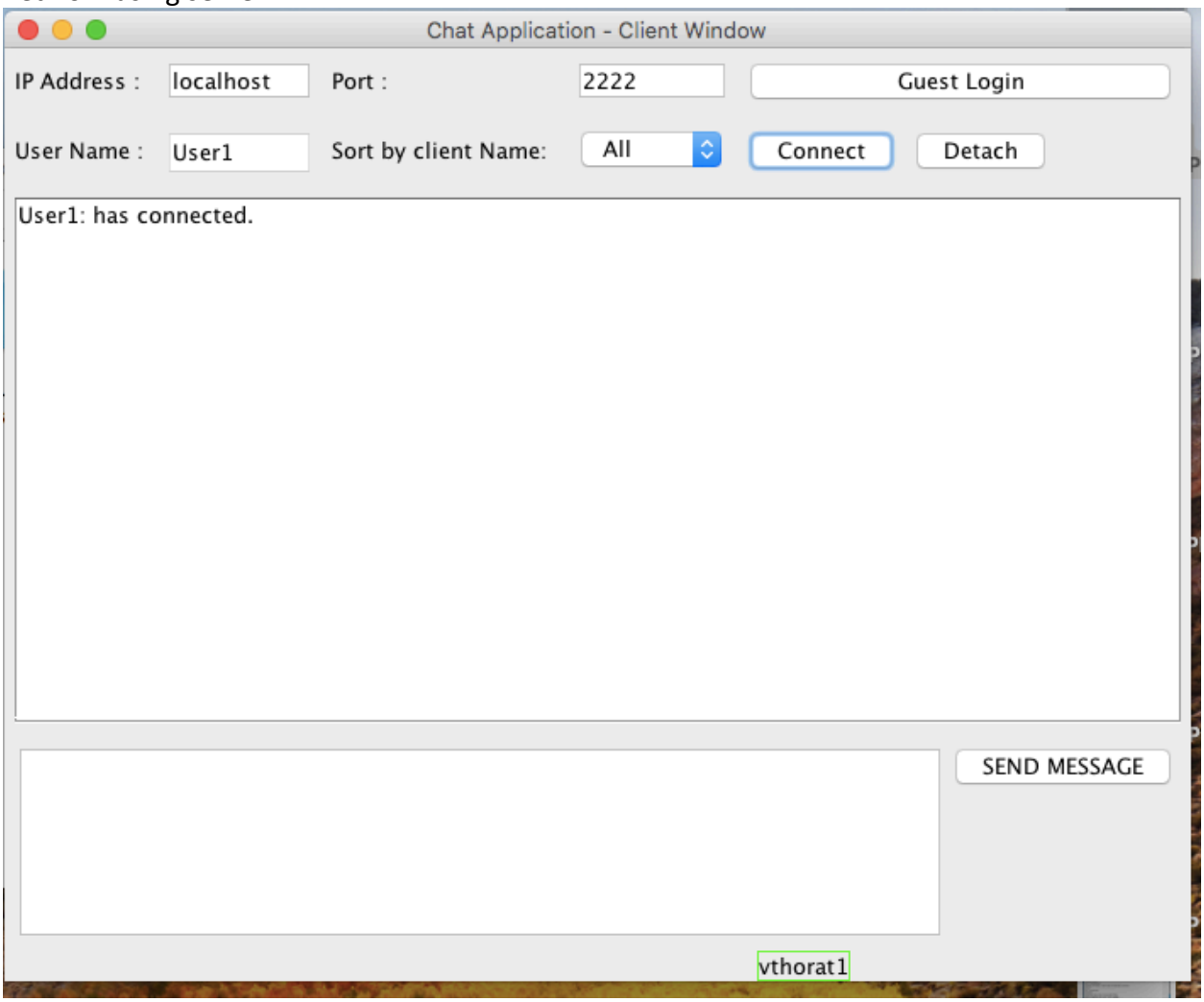
After Click on connect it will show message like given below and it will broadcast all over the network using server.



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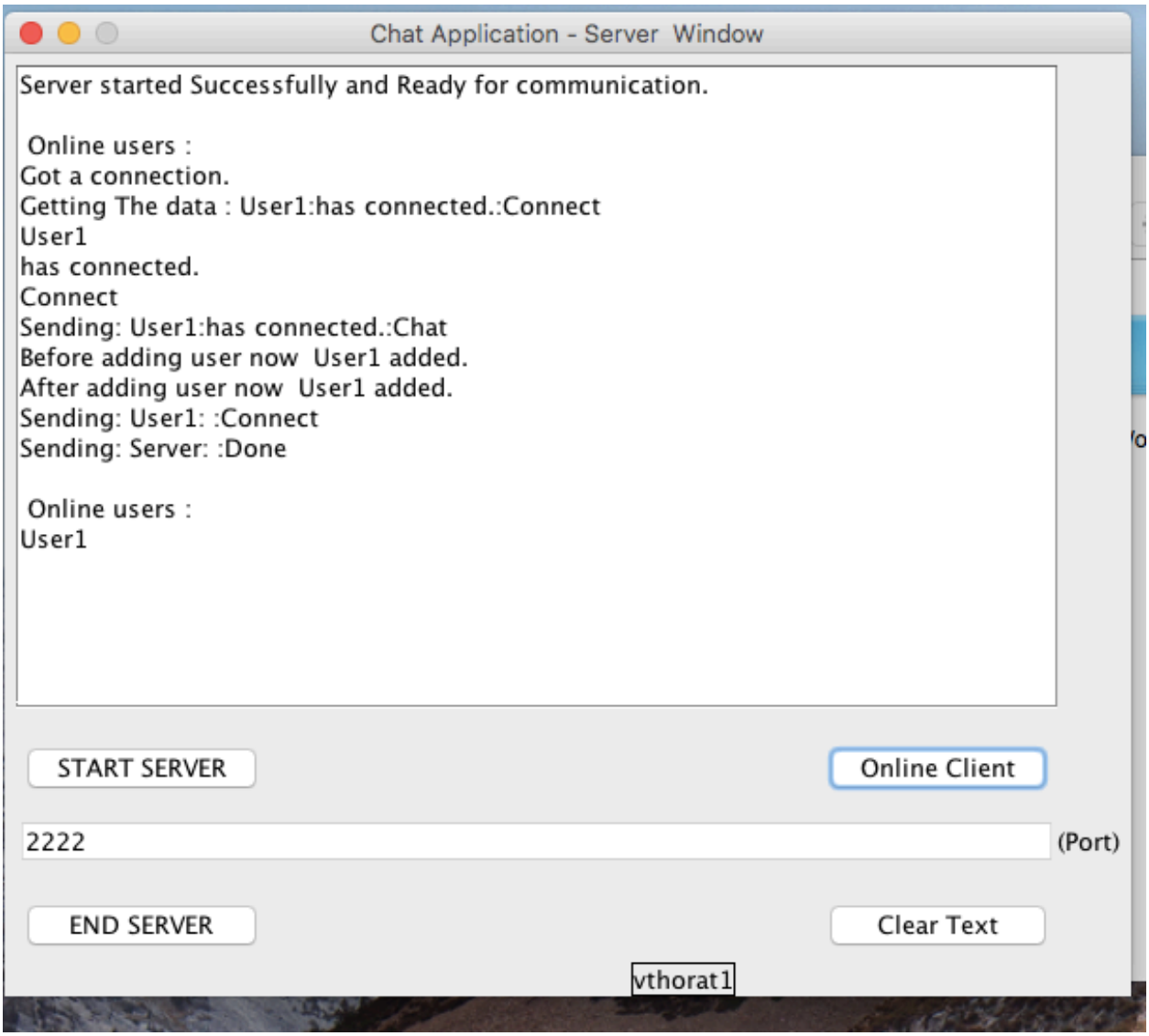

When User 3 and user 4 got connected with given server.

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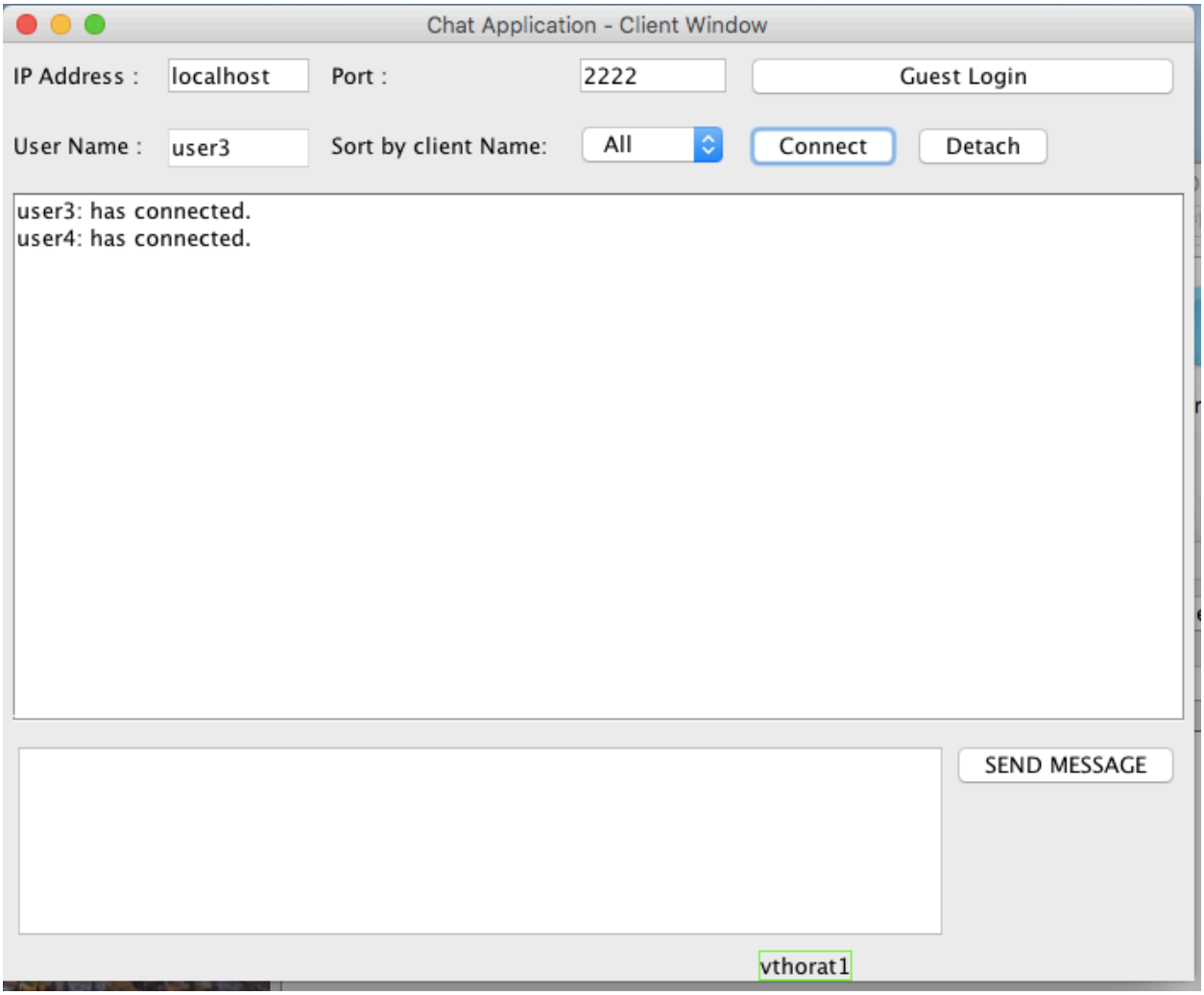

Validation checking testing with wrong IP address Initially, so getting error message.

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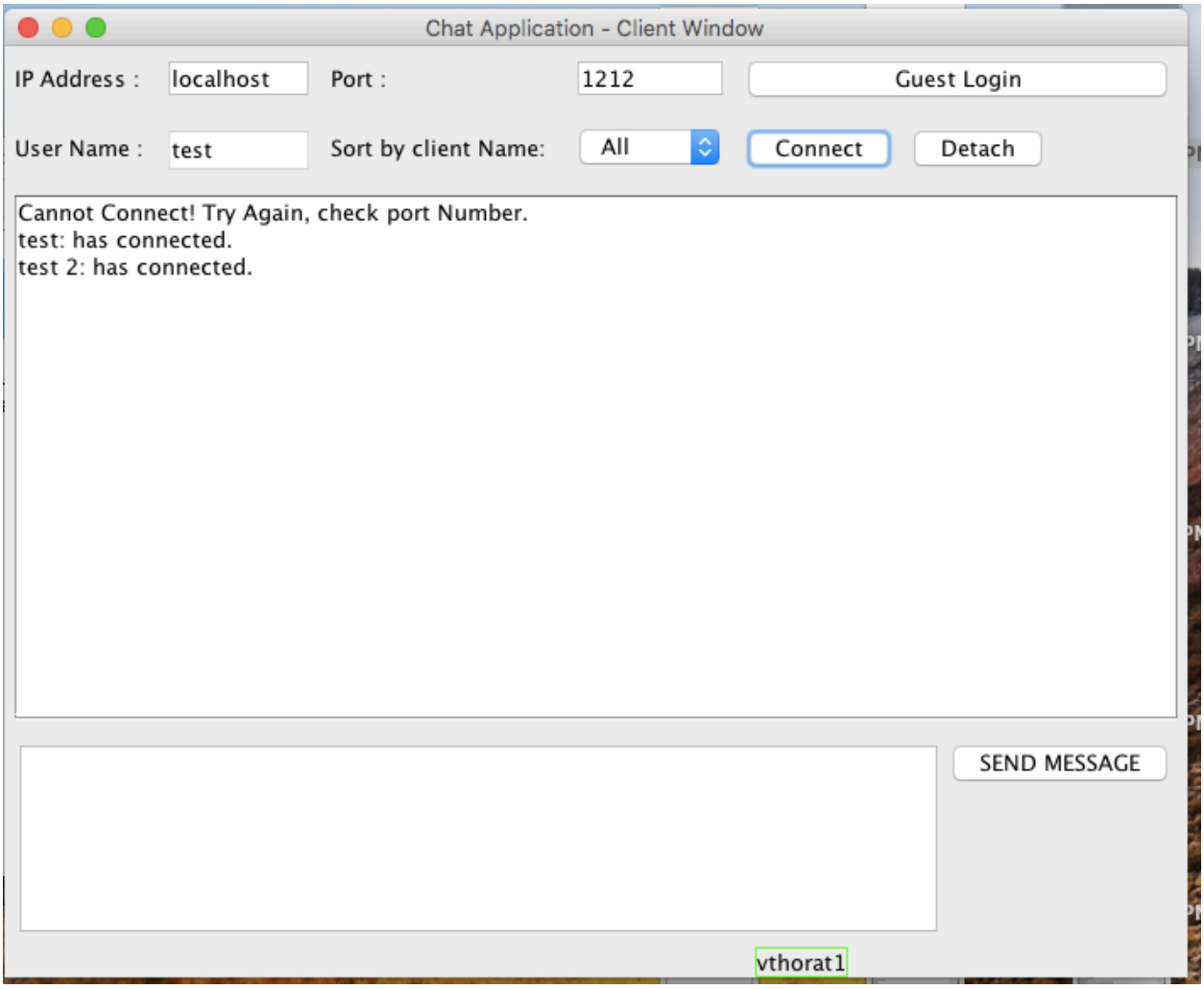

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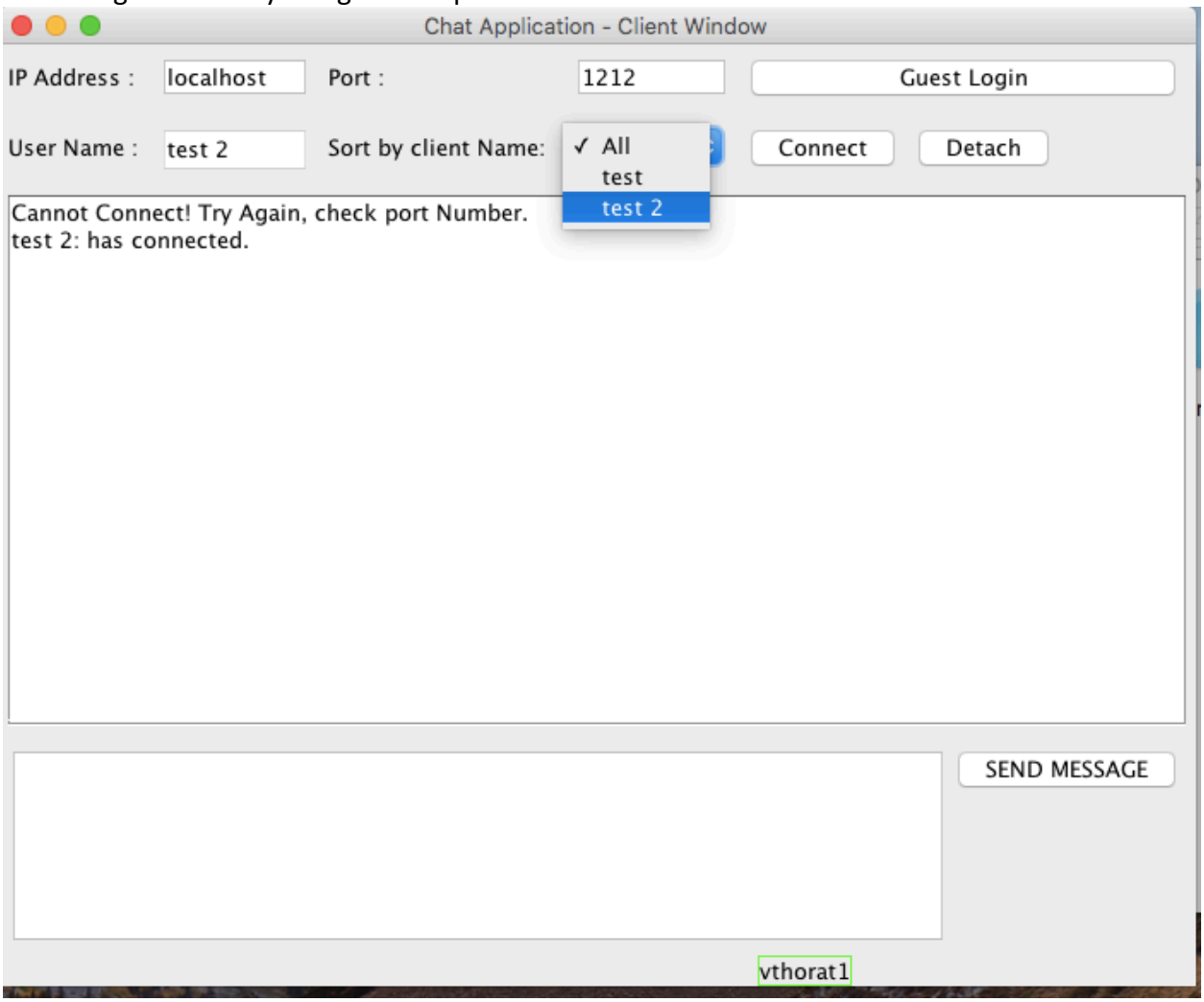
Filter on given user by using this drop down box.



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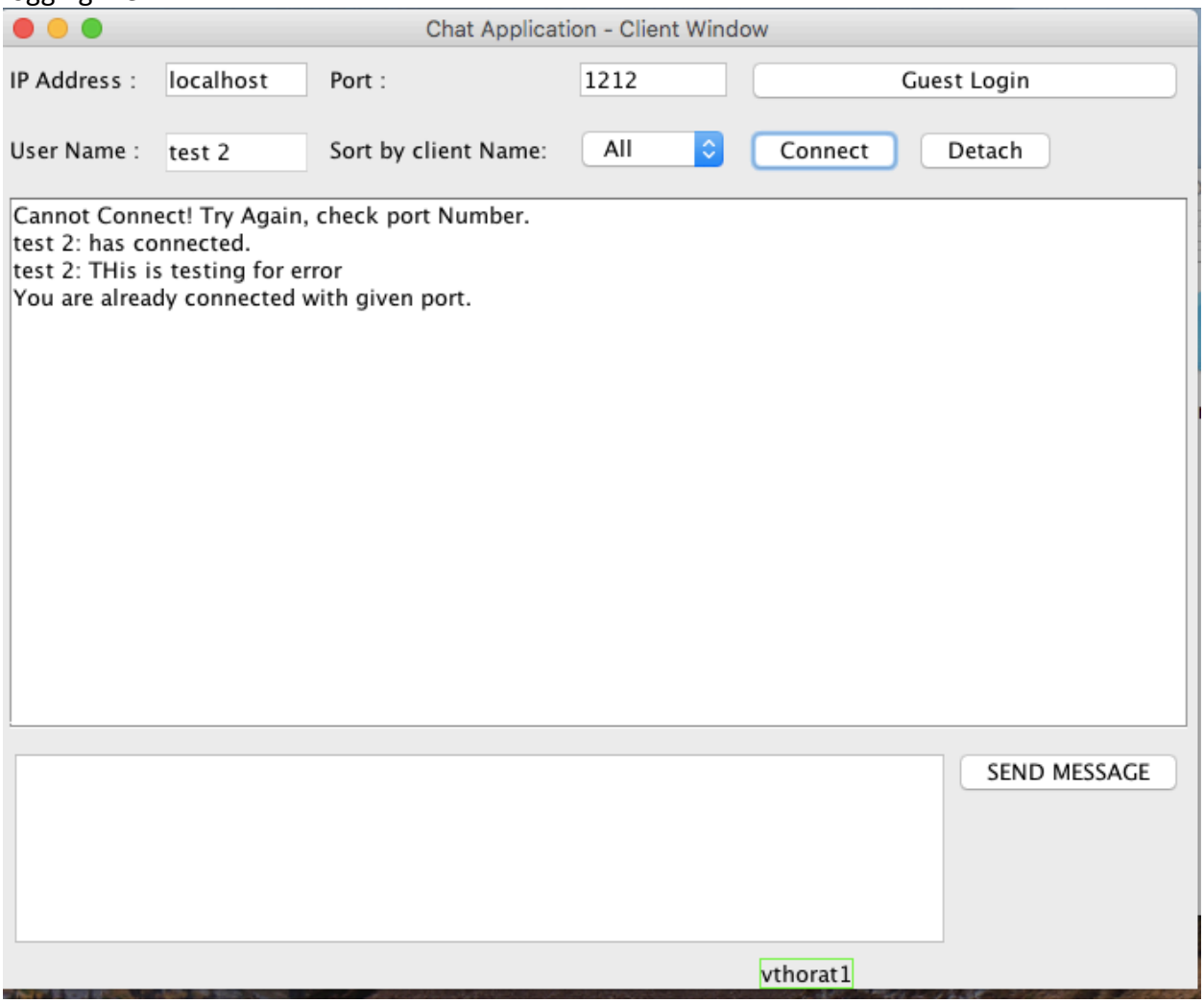
When we click again and again on connect button. It will give message and log error message in logging file.



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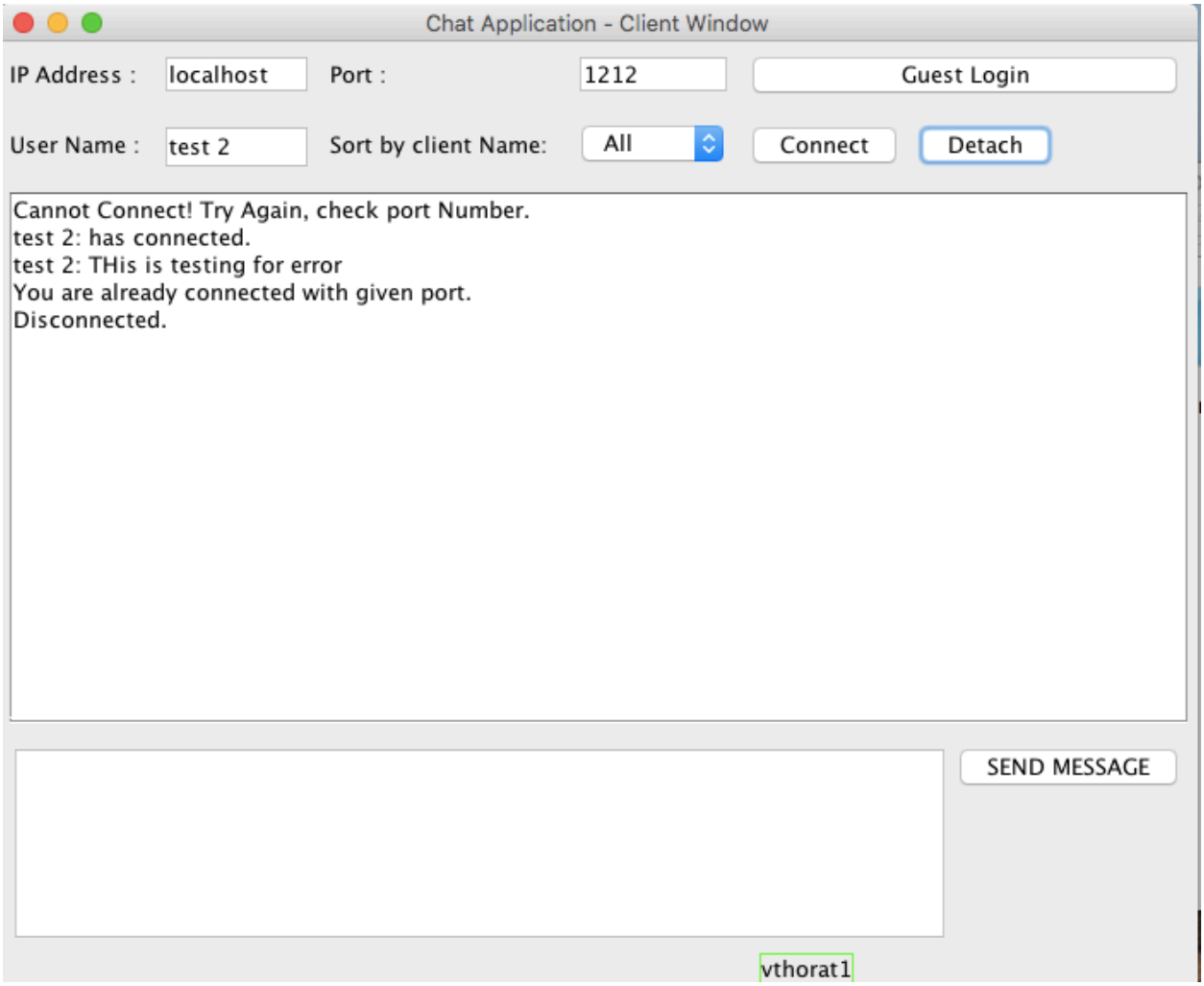
After clicking on disconnect button it is disconnecting from server and sending messages to all clients and server as well.



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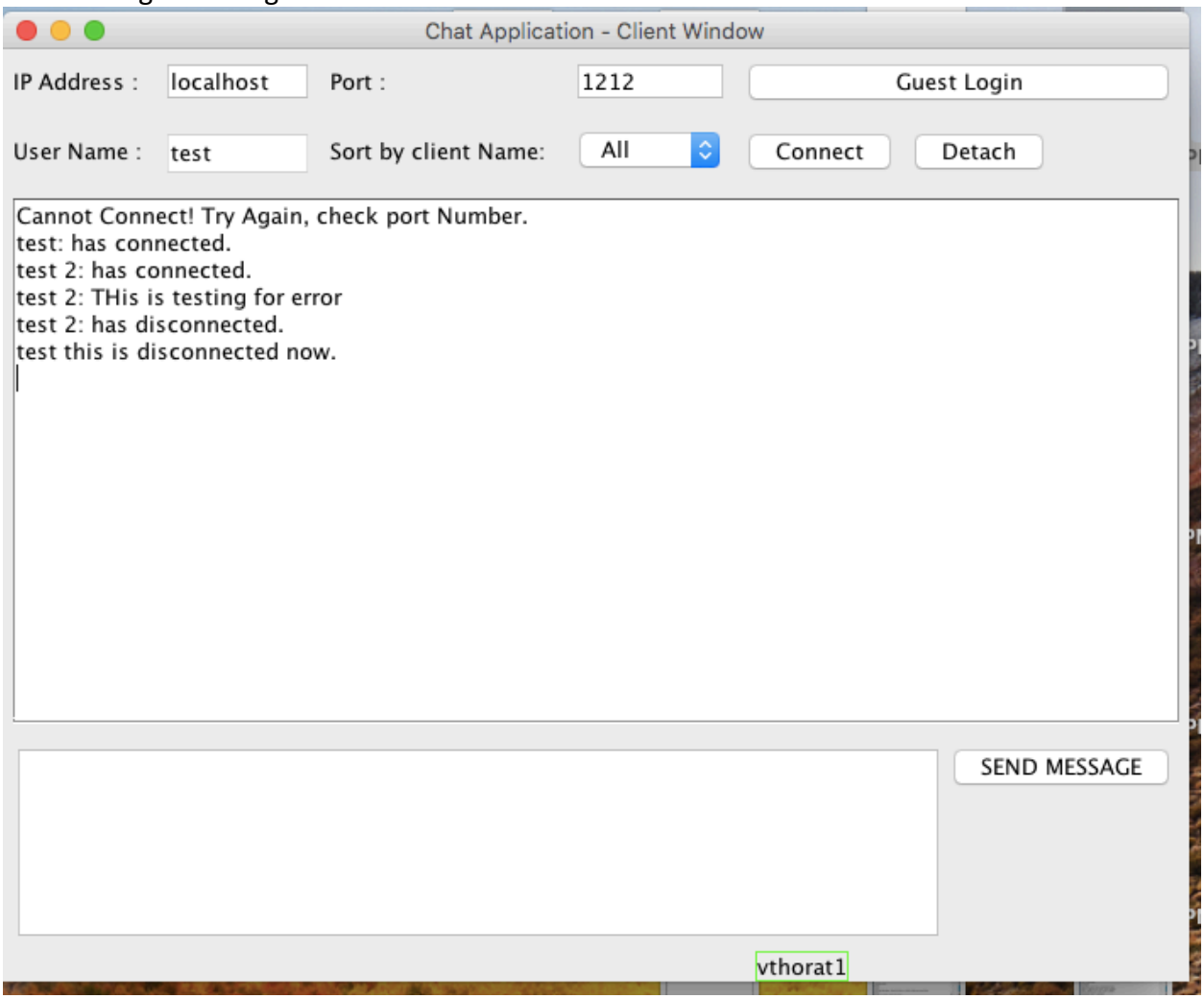
Test client got message that test is disconnected.



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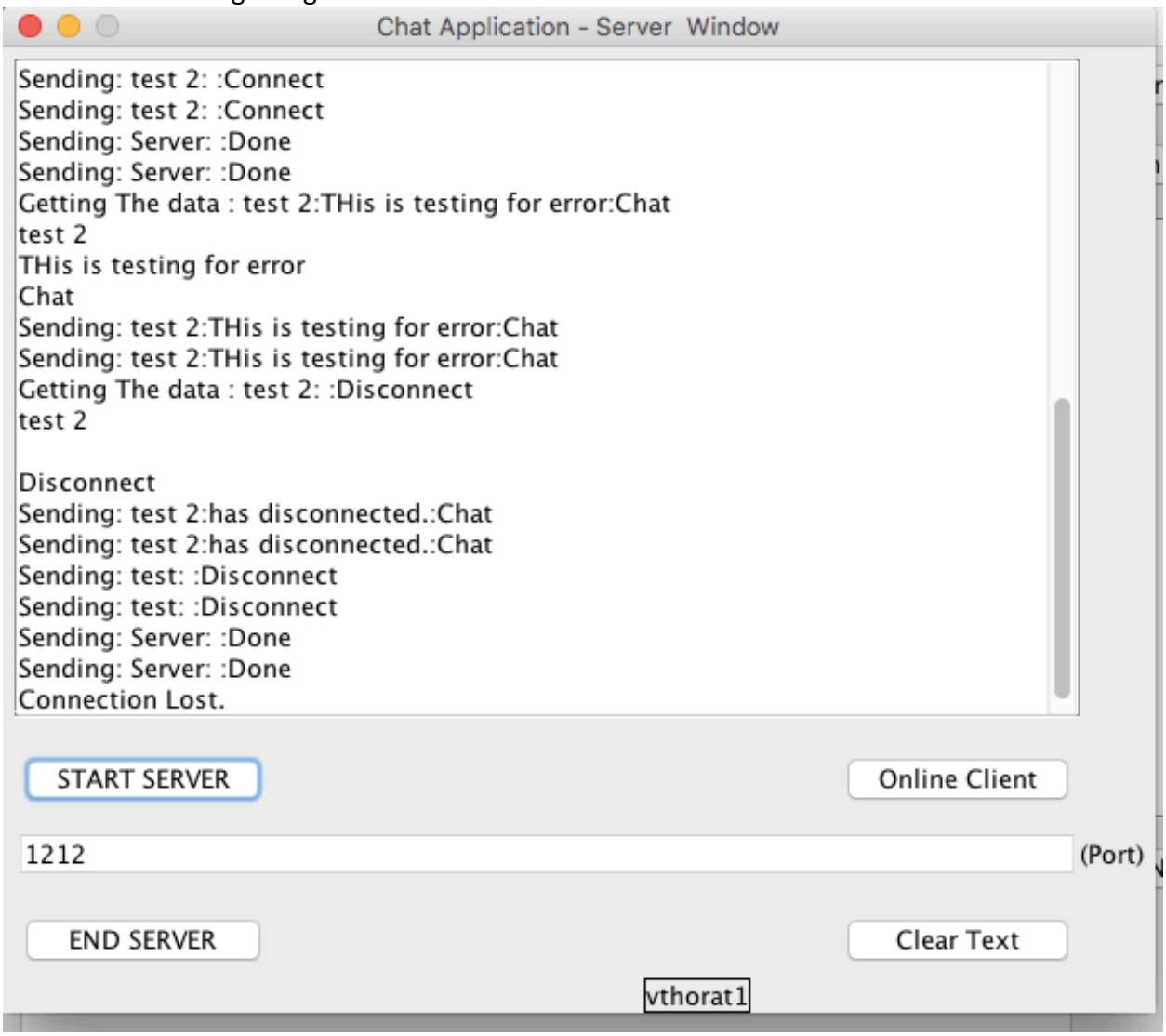
Server window for getting details about disconnect event.



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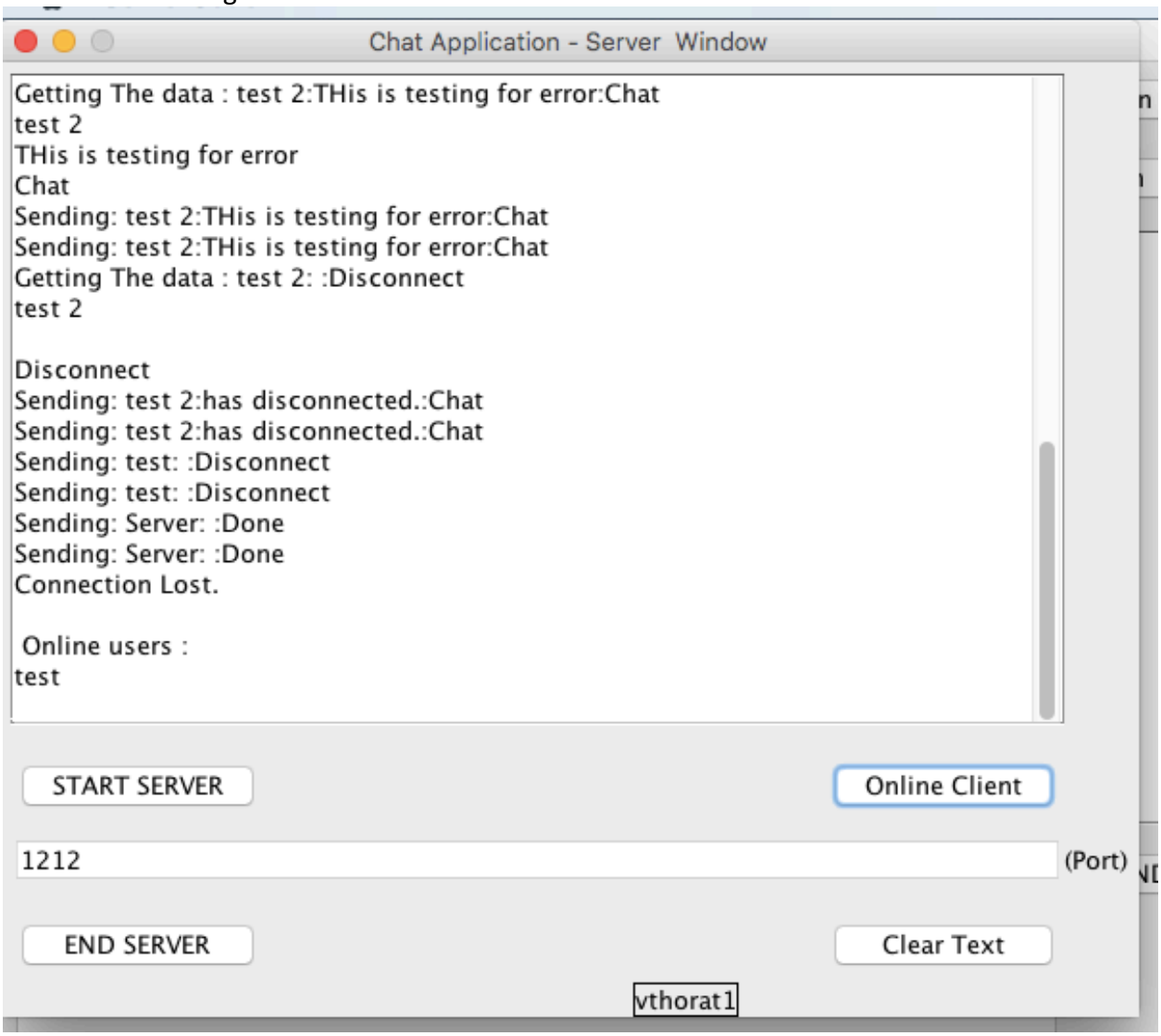
After disconnecting checked all online users.



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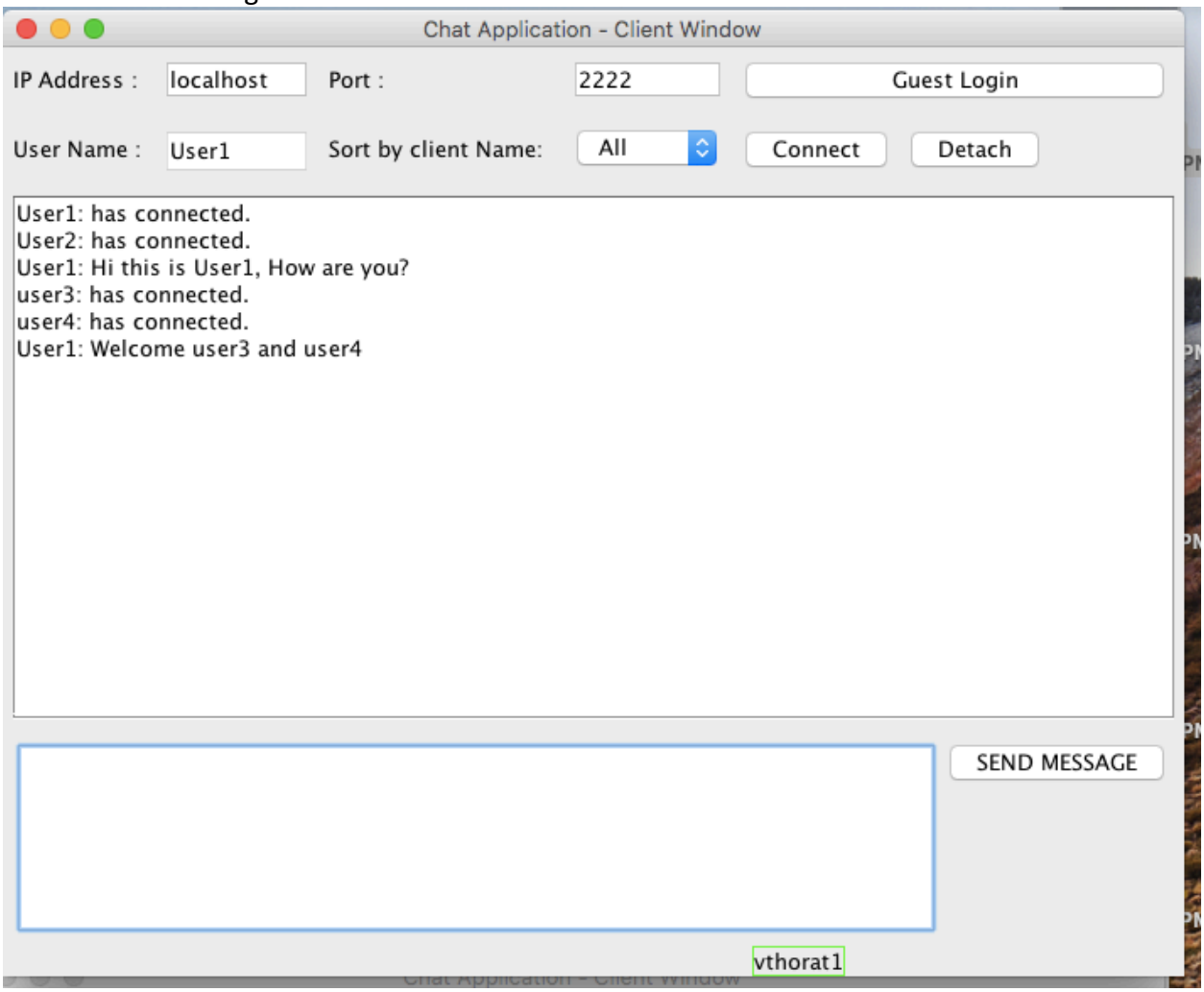
User1 sent a message to all clients that welcome user3 and user4.



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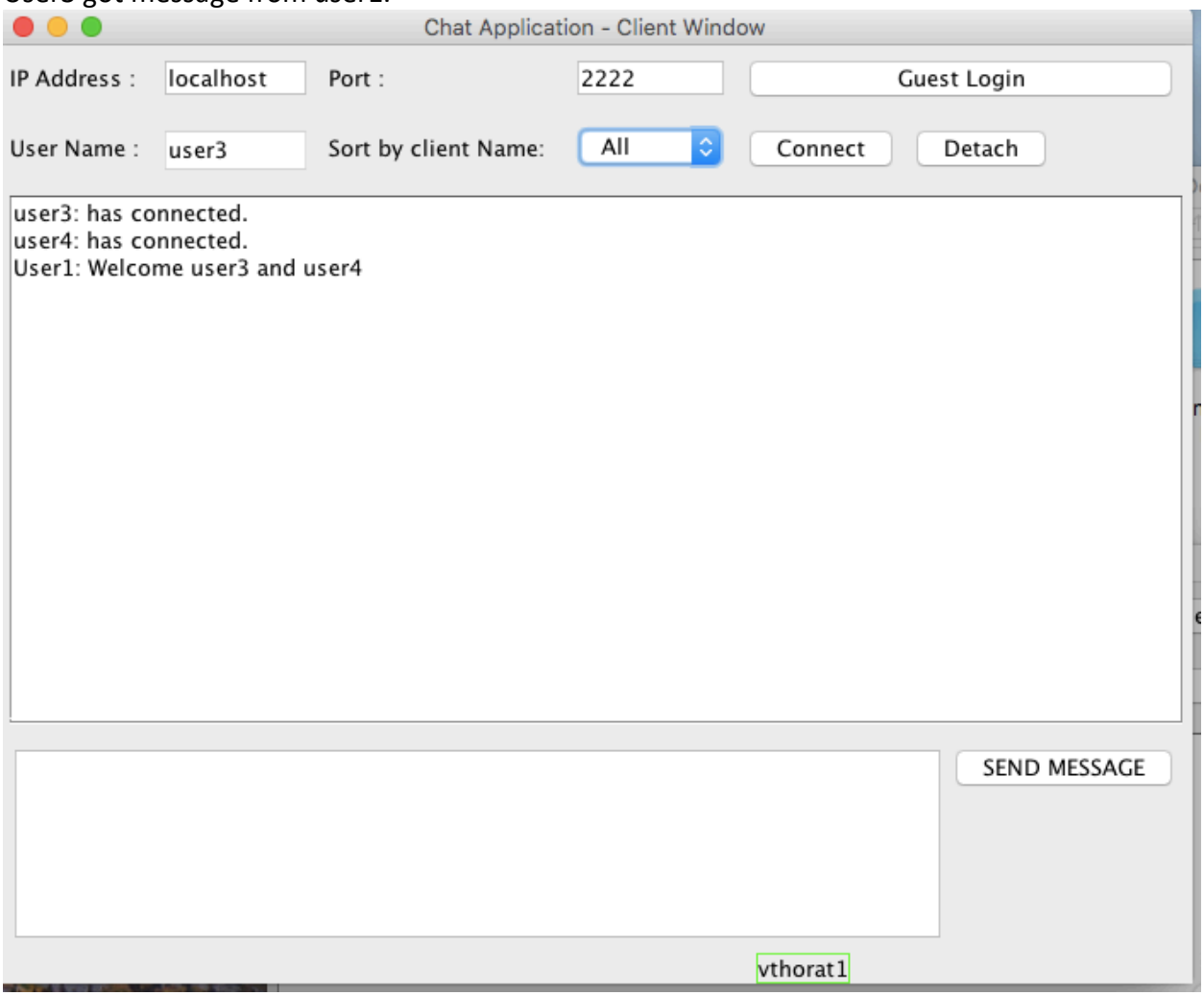
User3 got message from user1.



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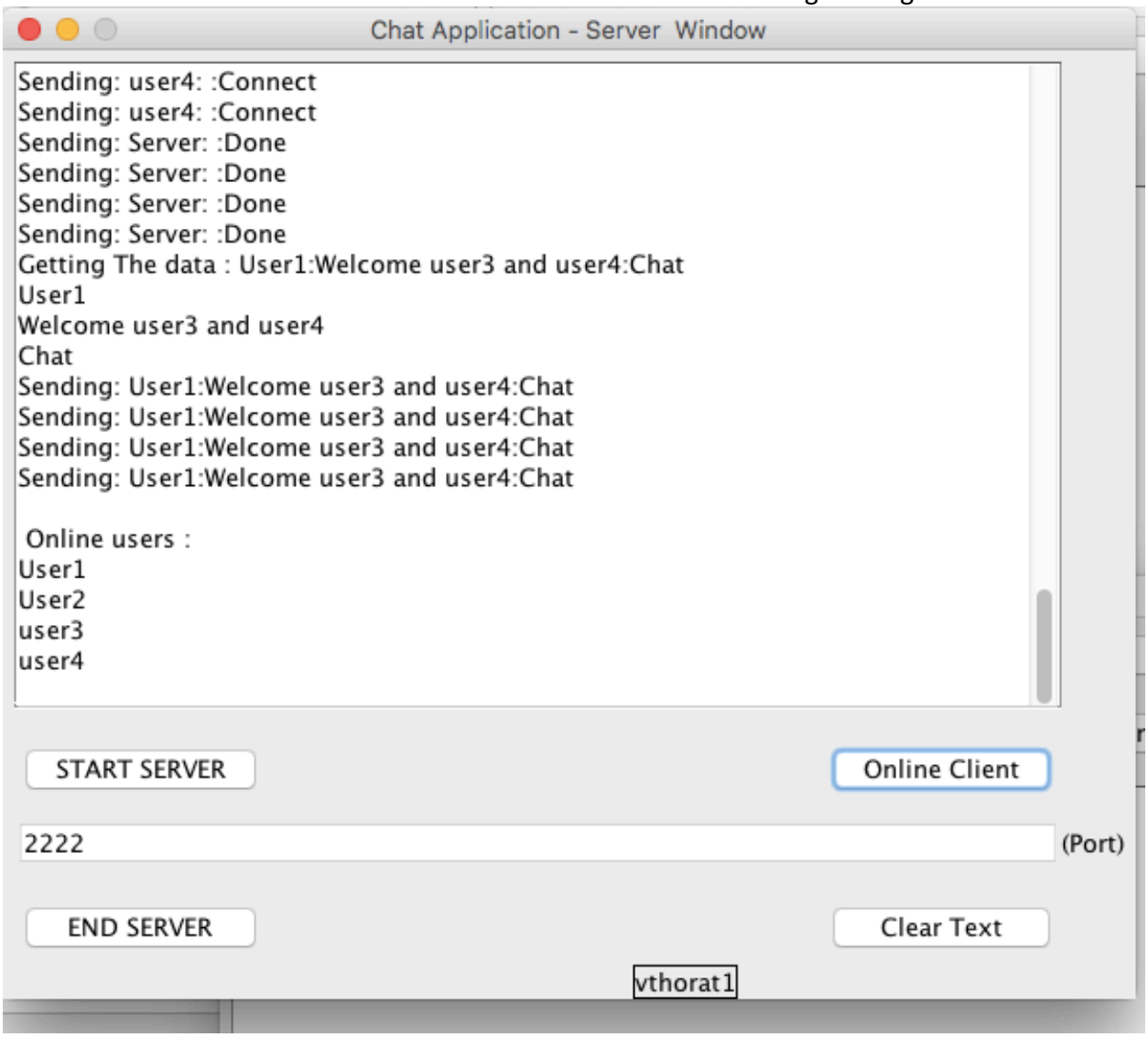
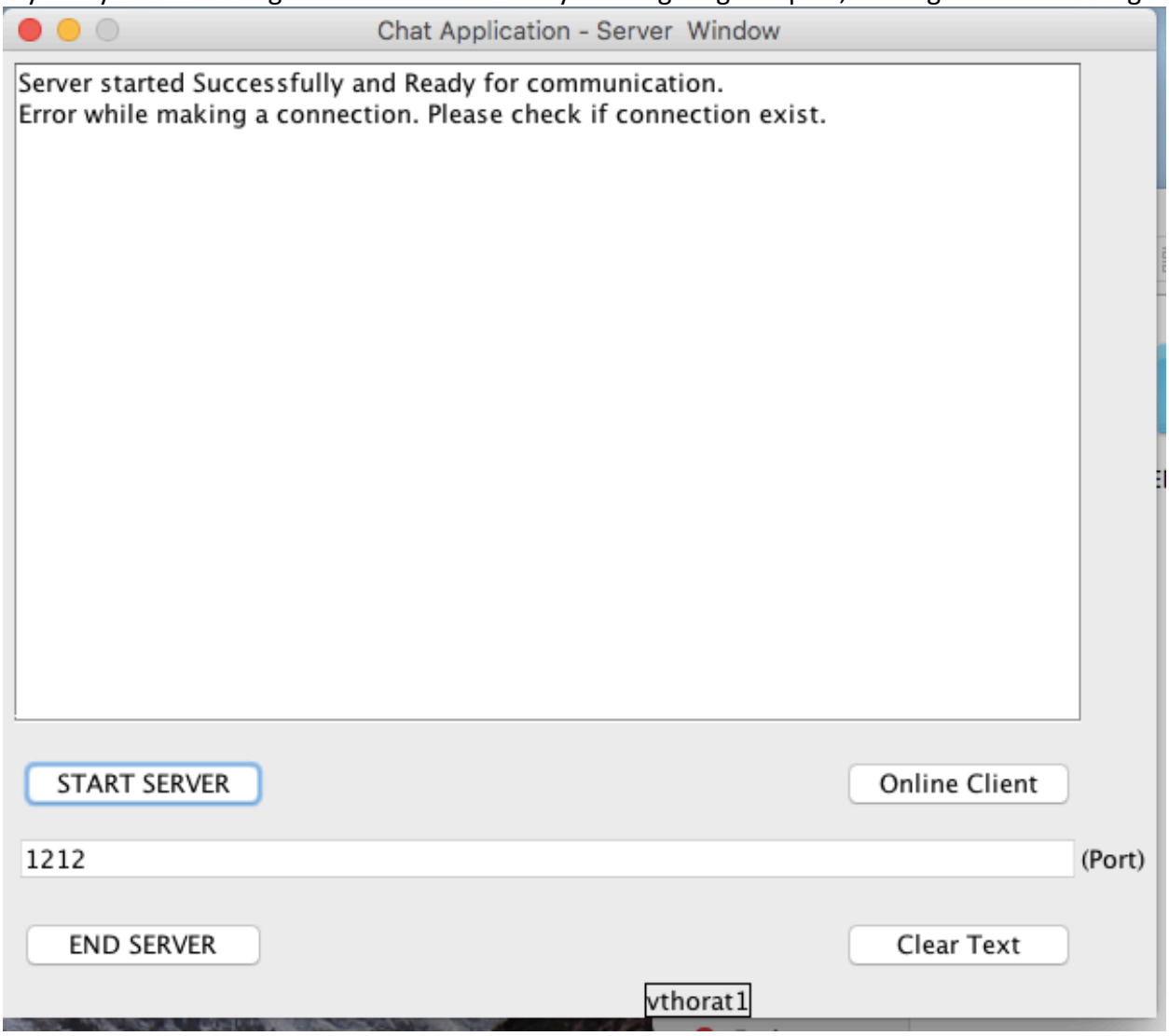
Server box with all connection and online users with all broadcasting messages.



If you try to connect again while server already running on given port, it will give error message.



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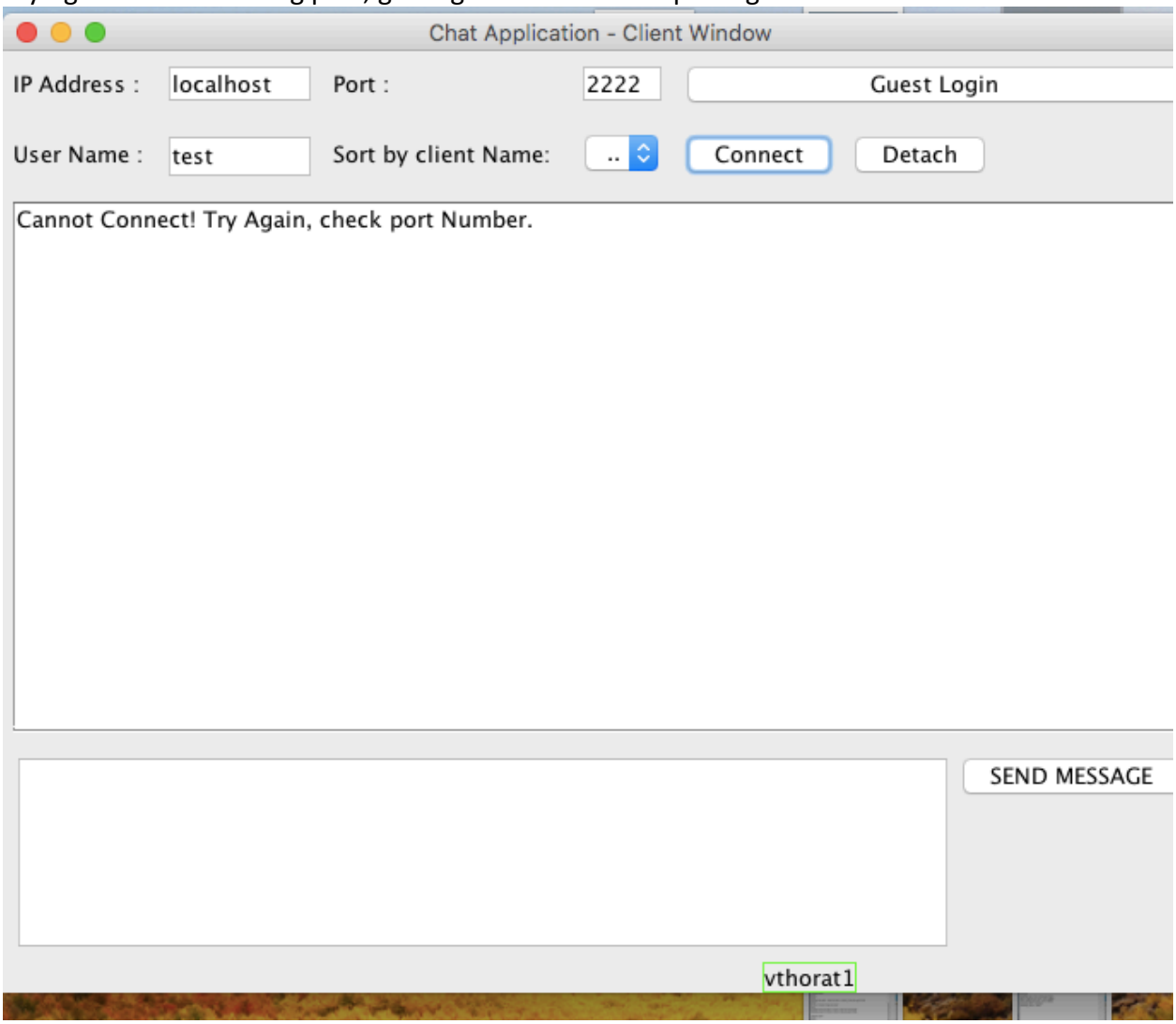
Trying to run with wrong port, getting error that check port again.



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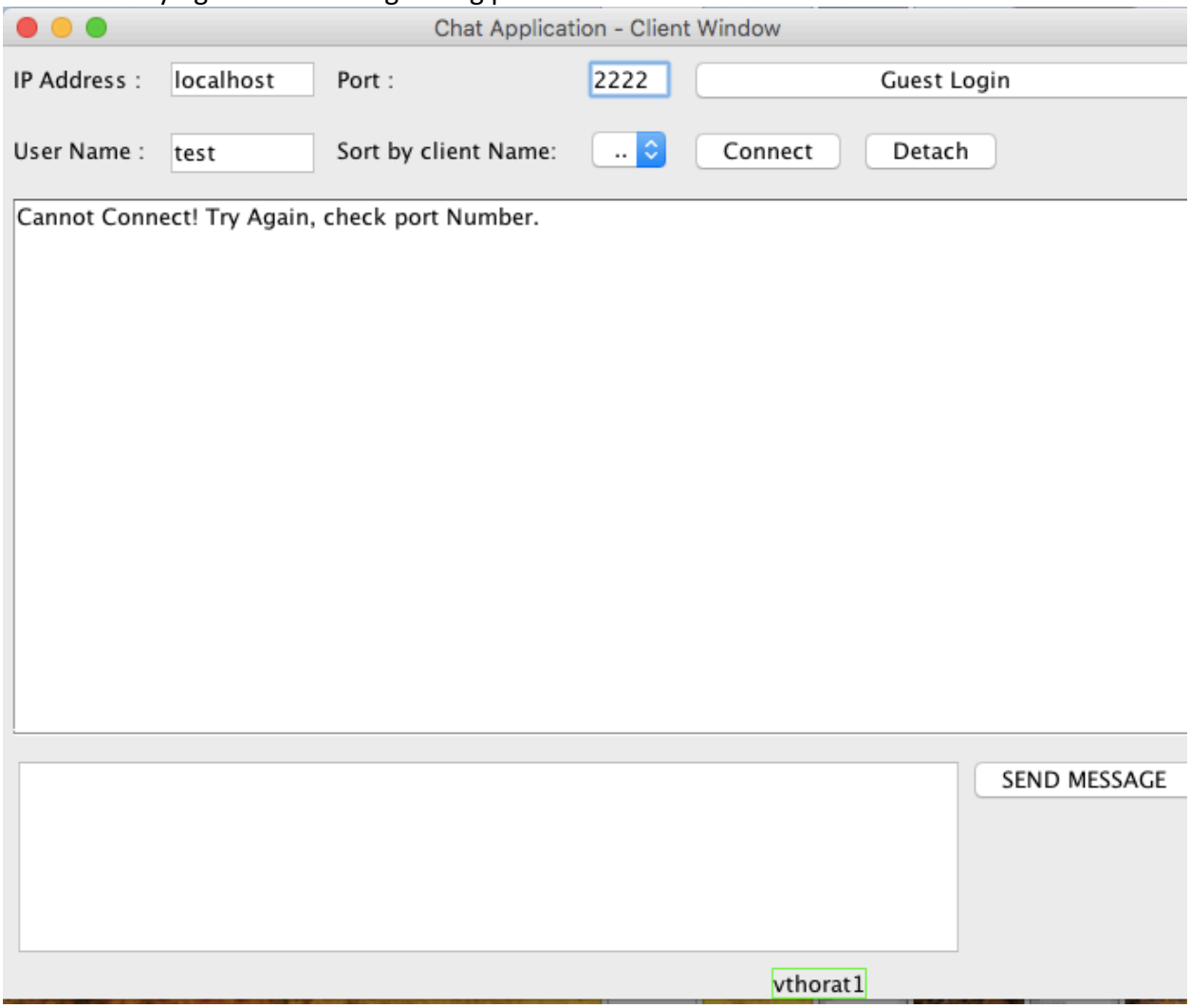
Test client trying to access using wrong port.



On connection of user 2, chat screen of user 2.

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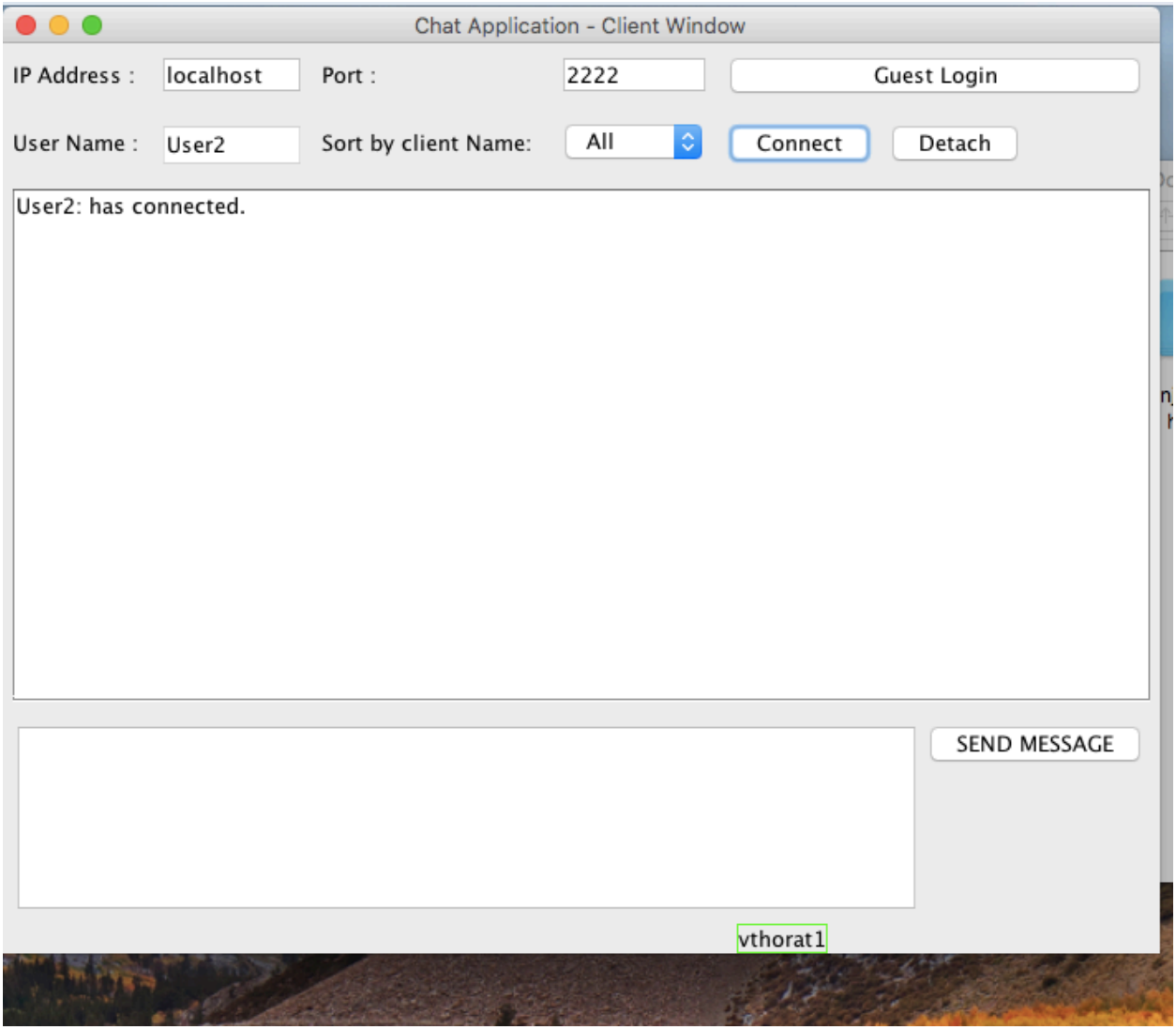

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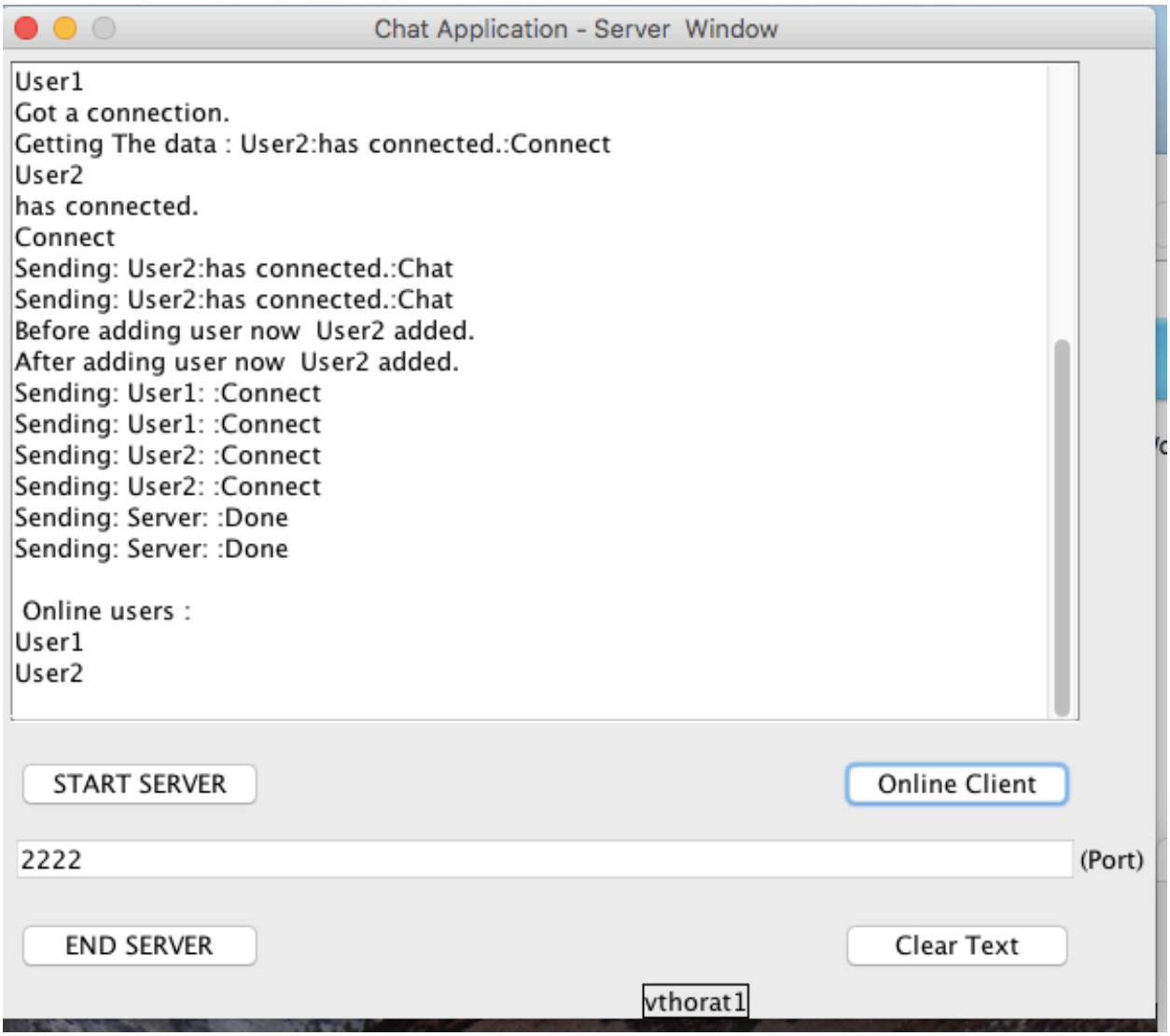

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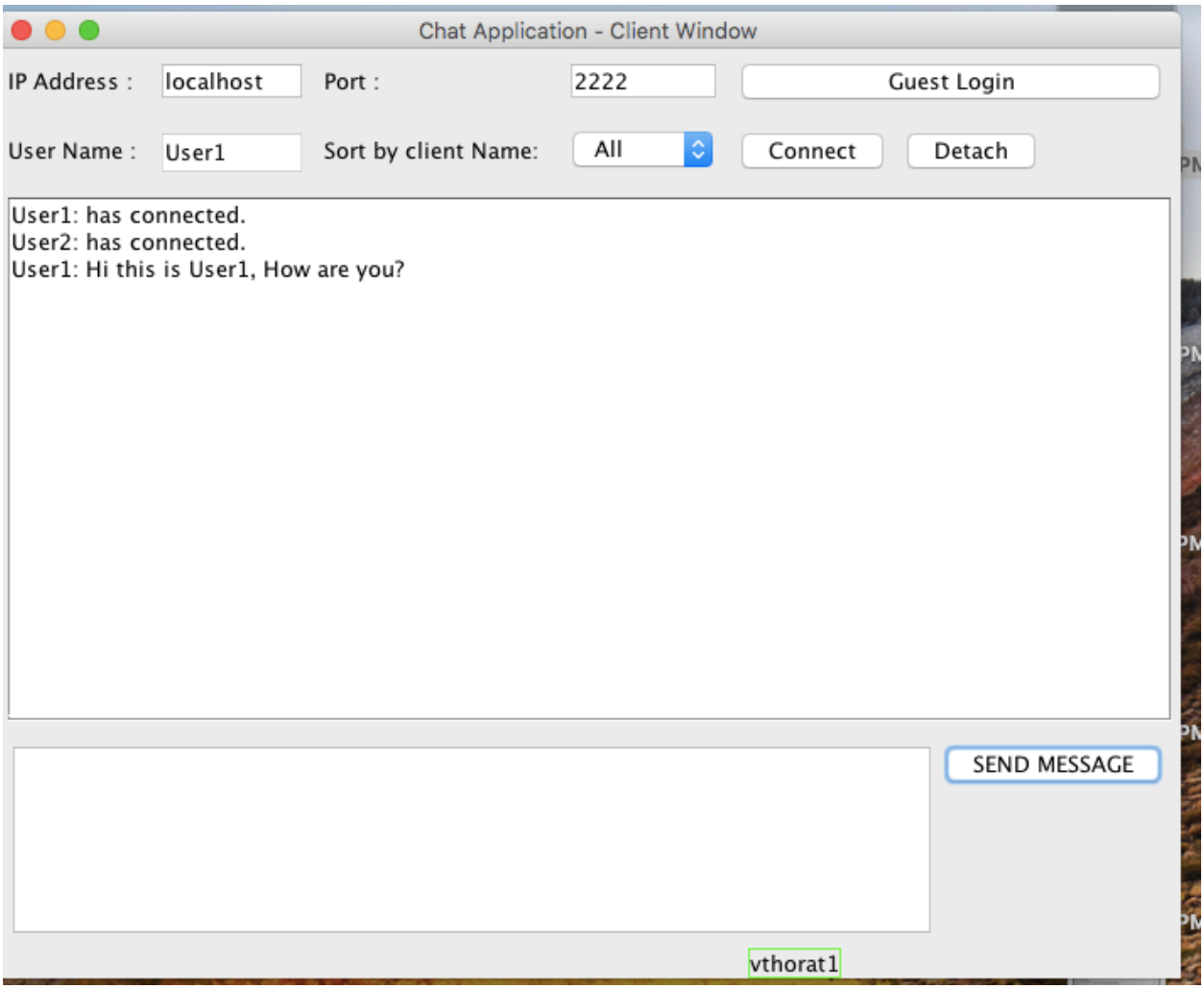

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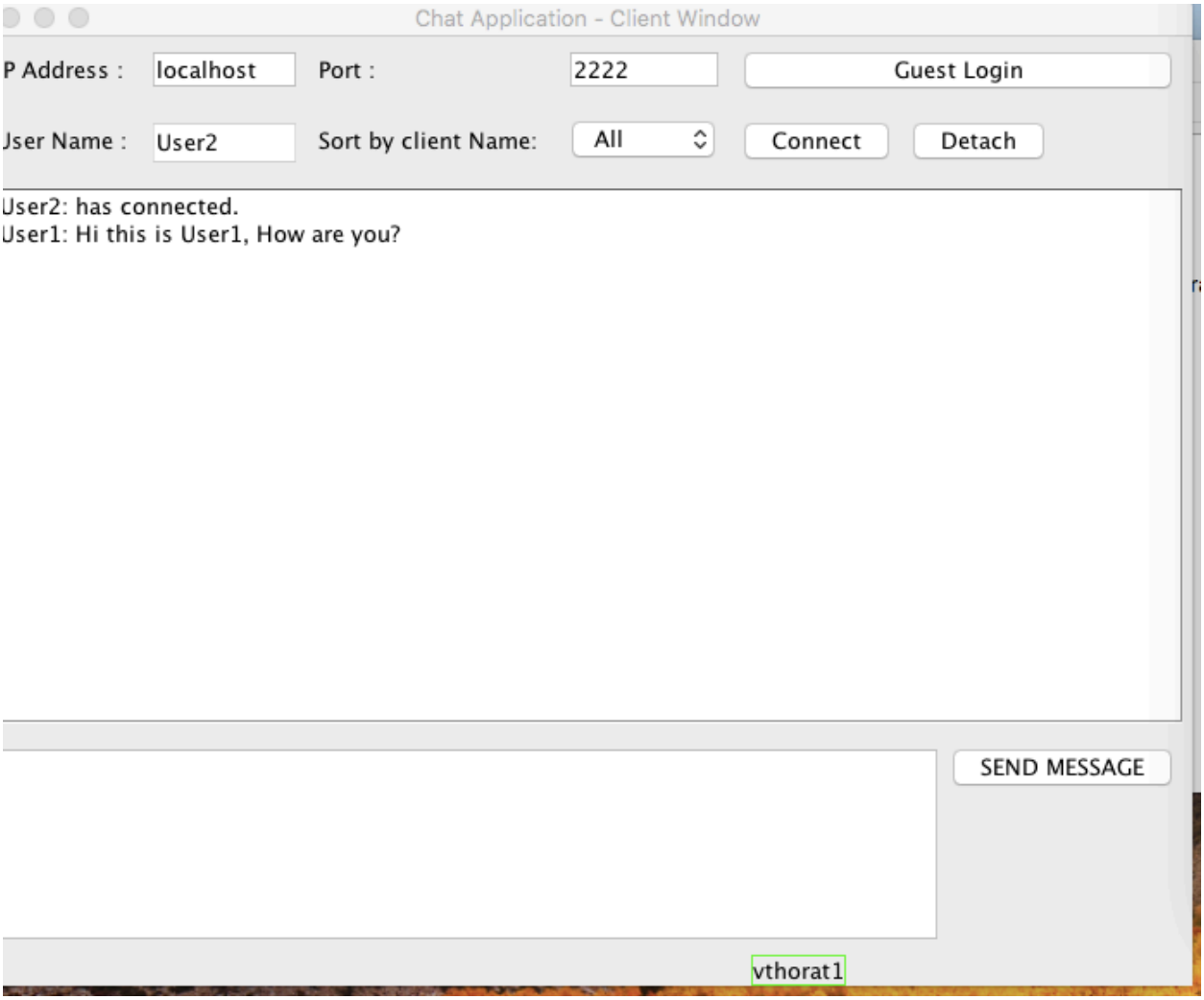

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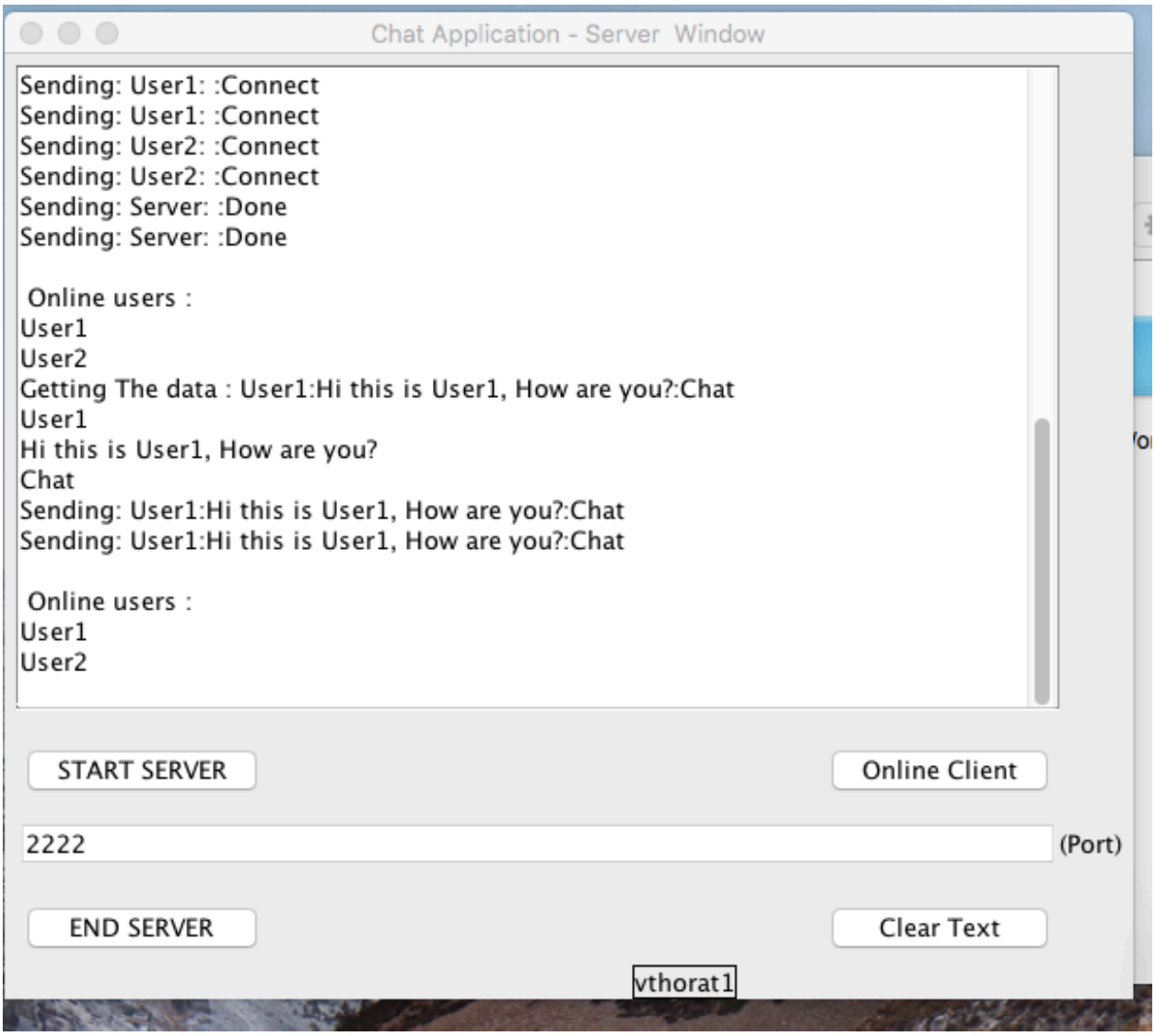

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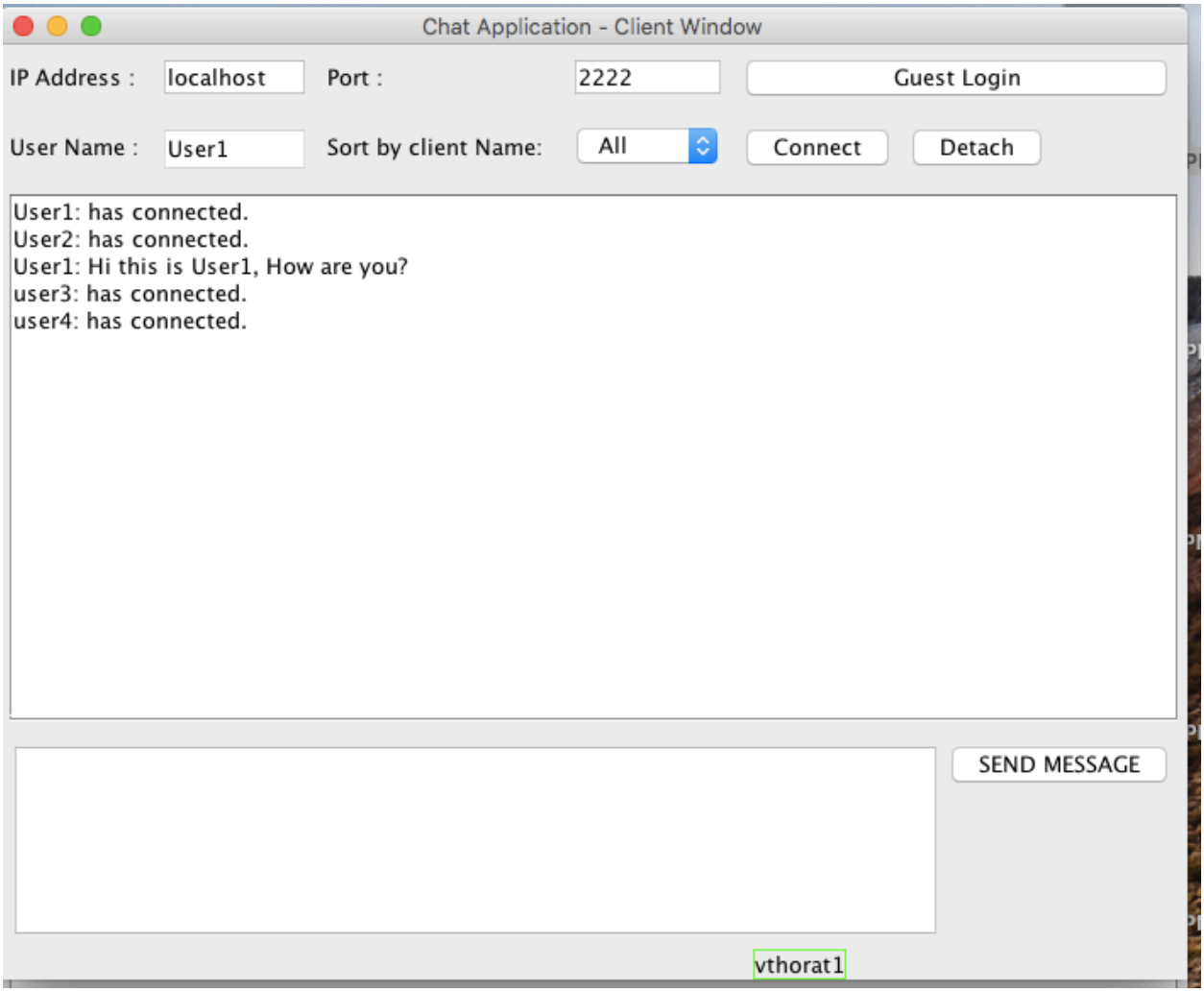

Testing with different port for server.

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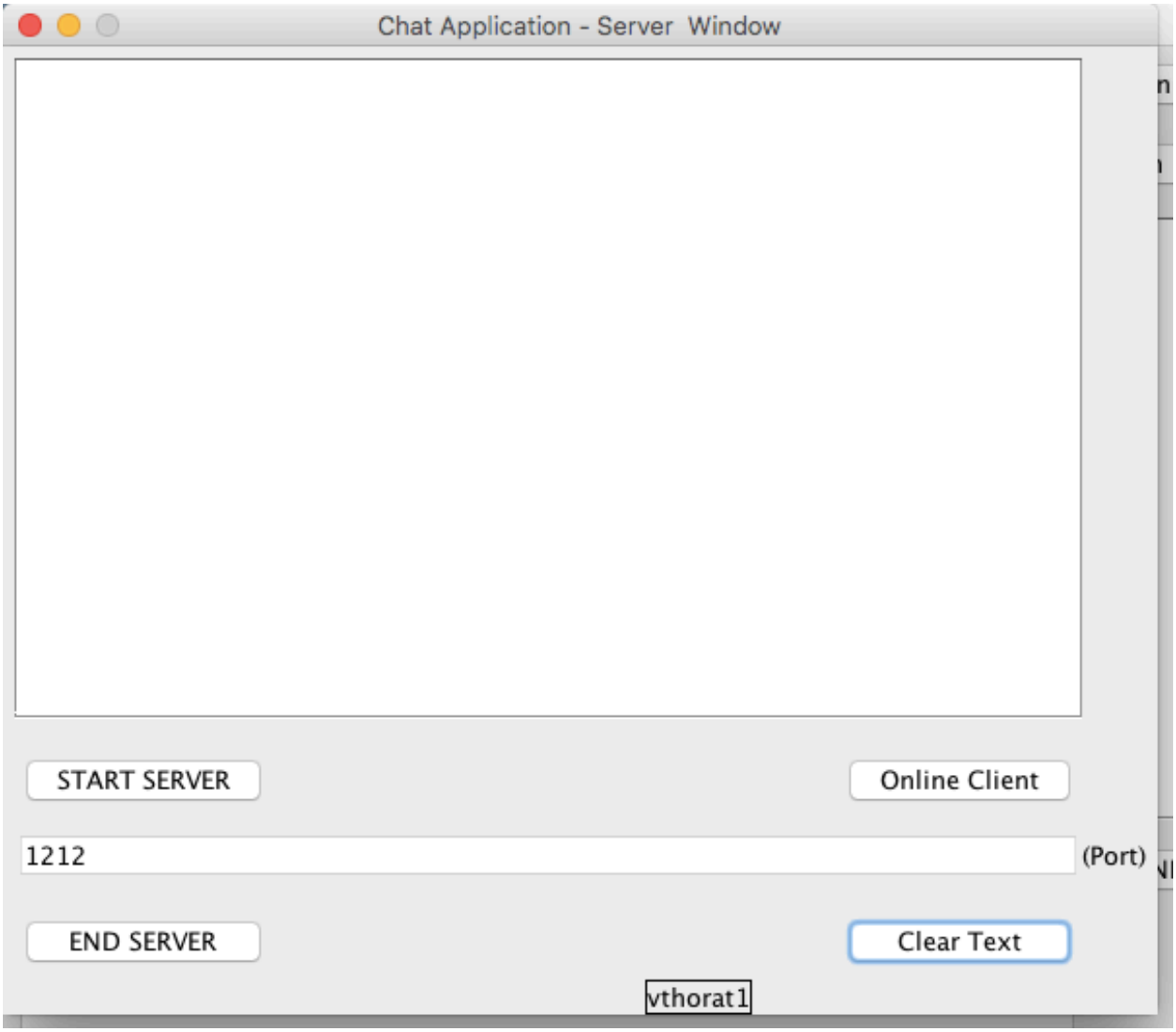

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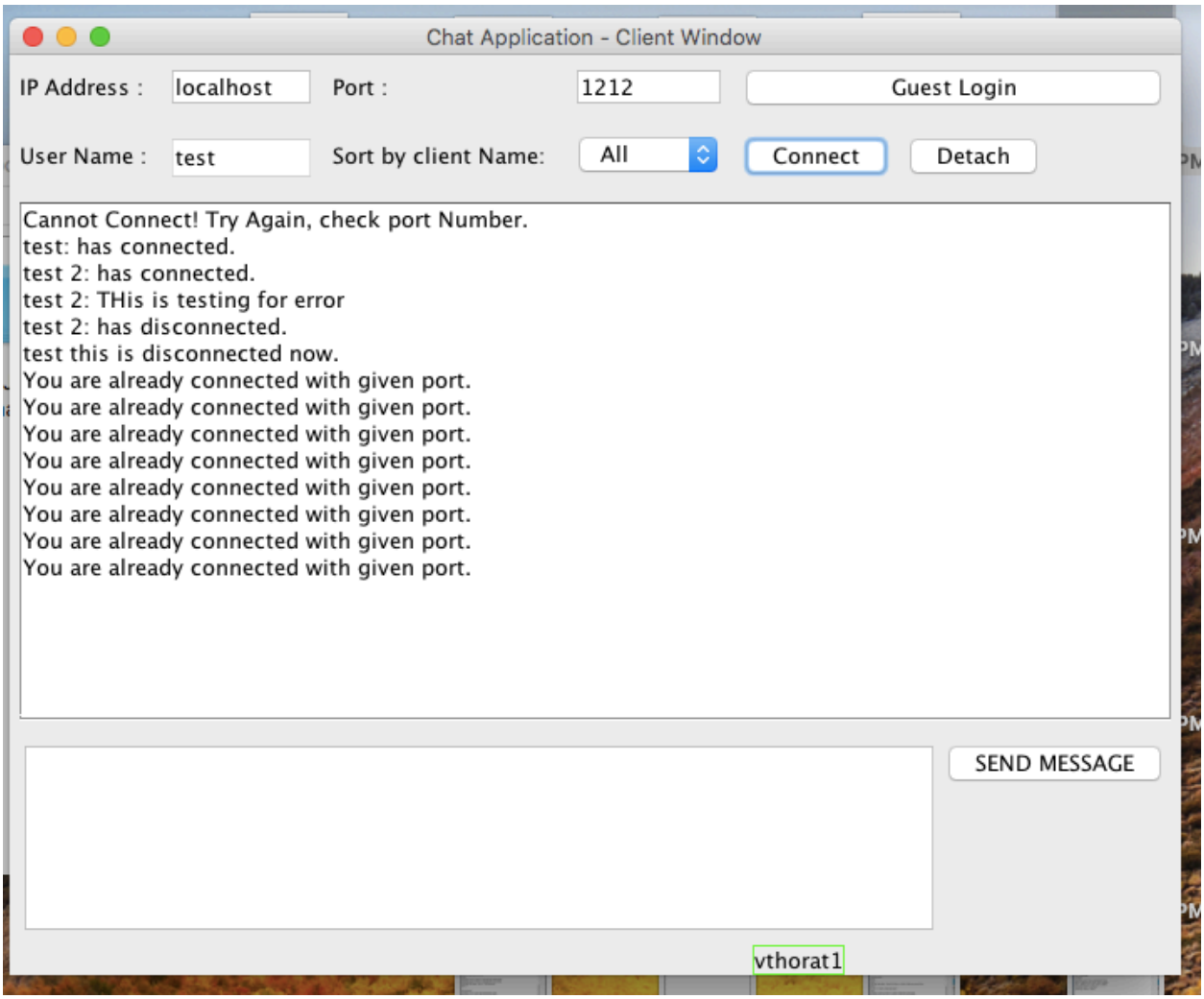

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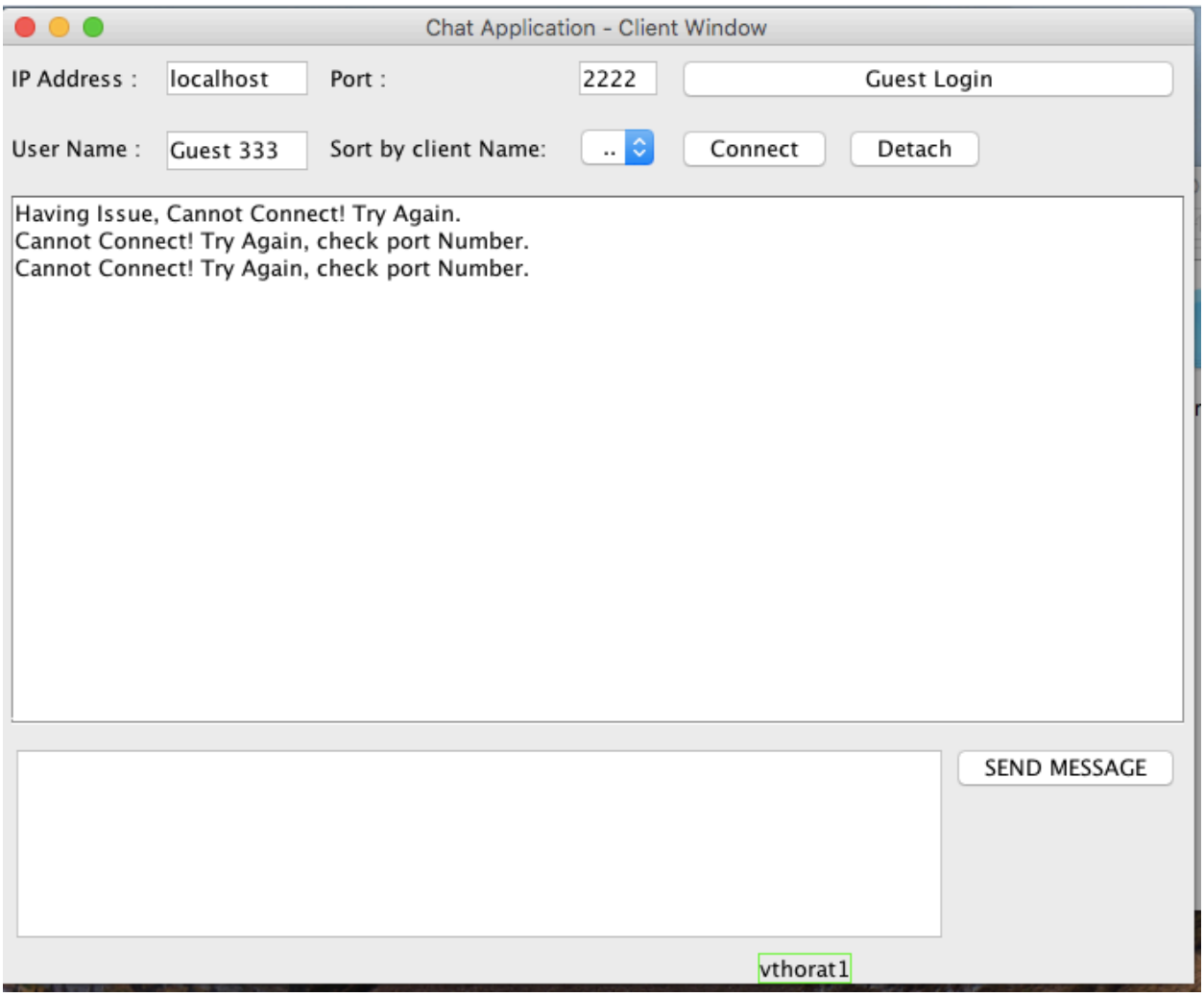

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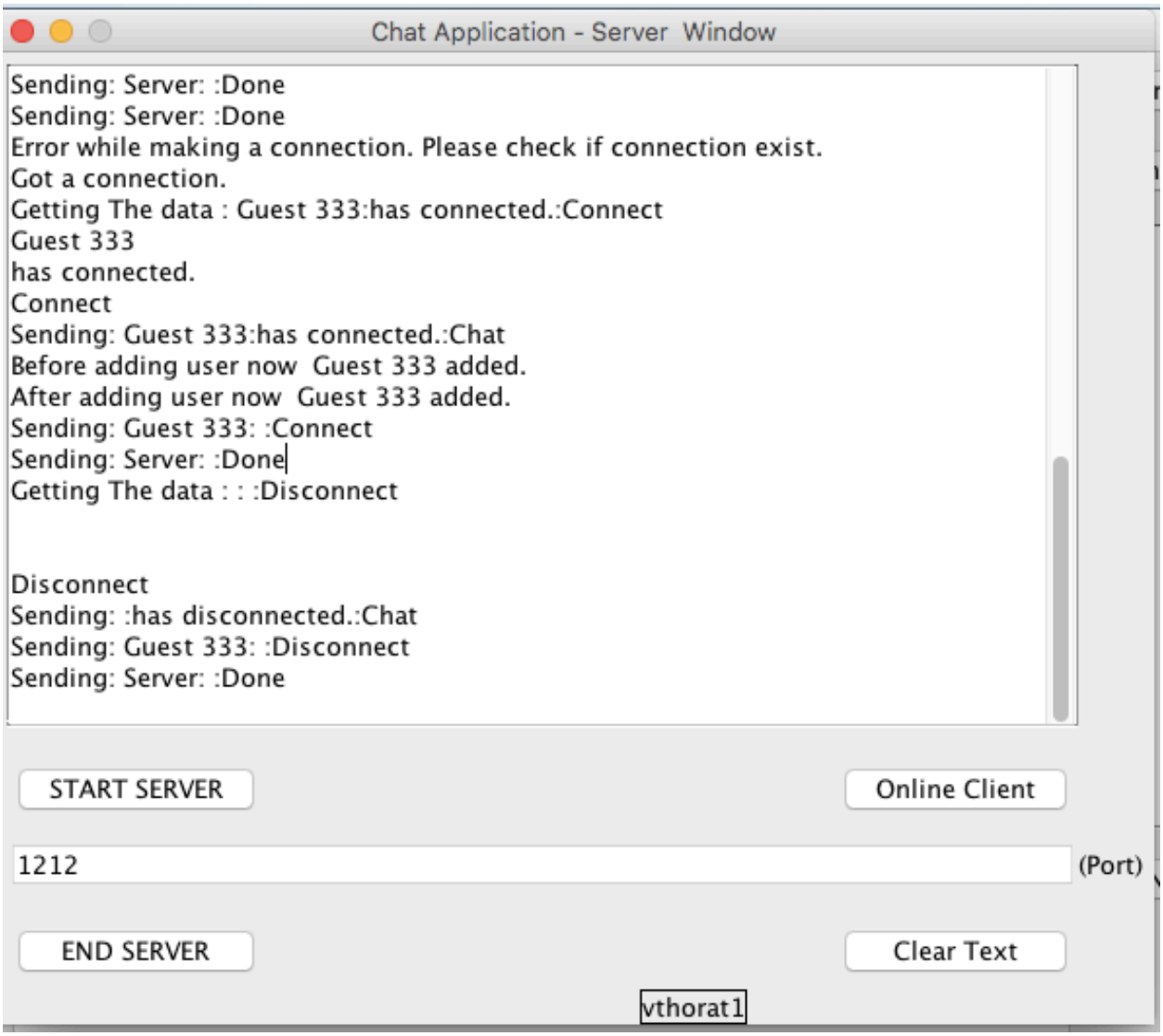

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Guest user also there, if some want to use login with Guest, it is also possible using this guest login button.

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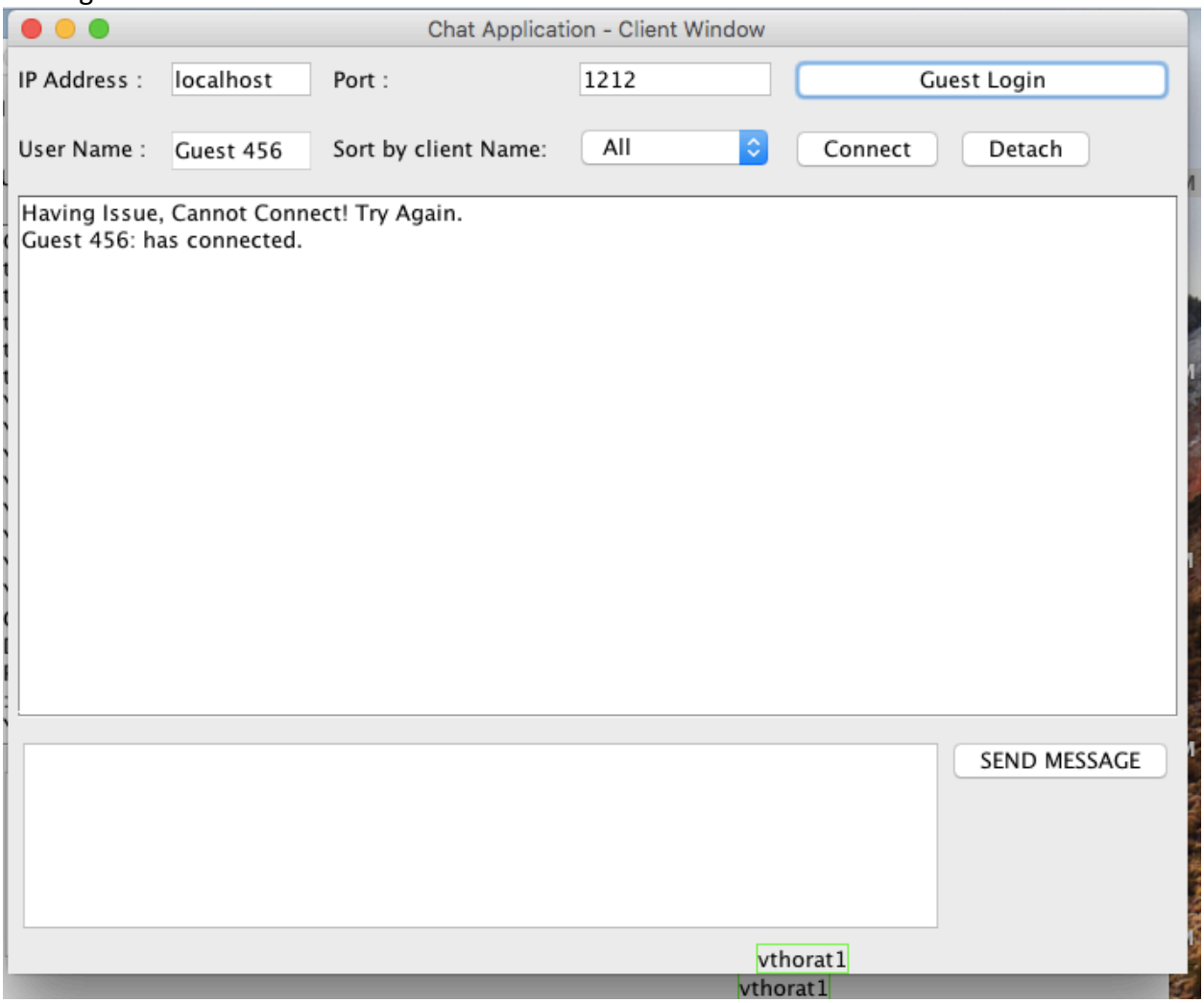
Testing.



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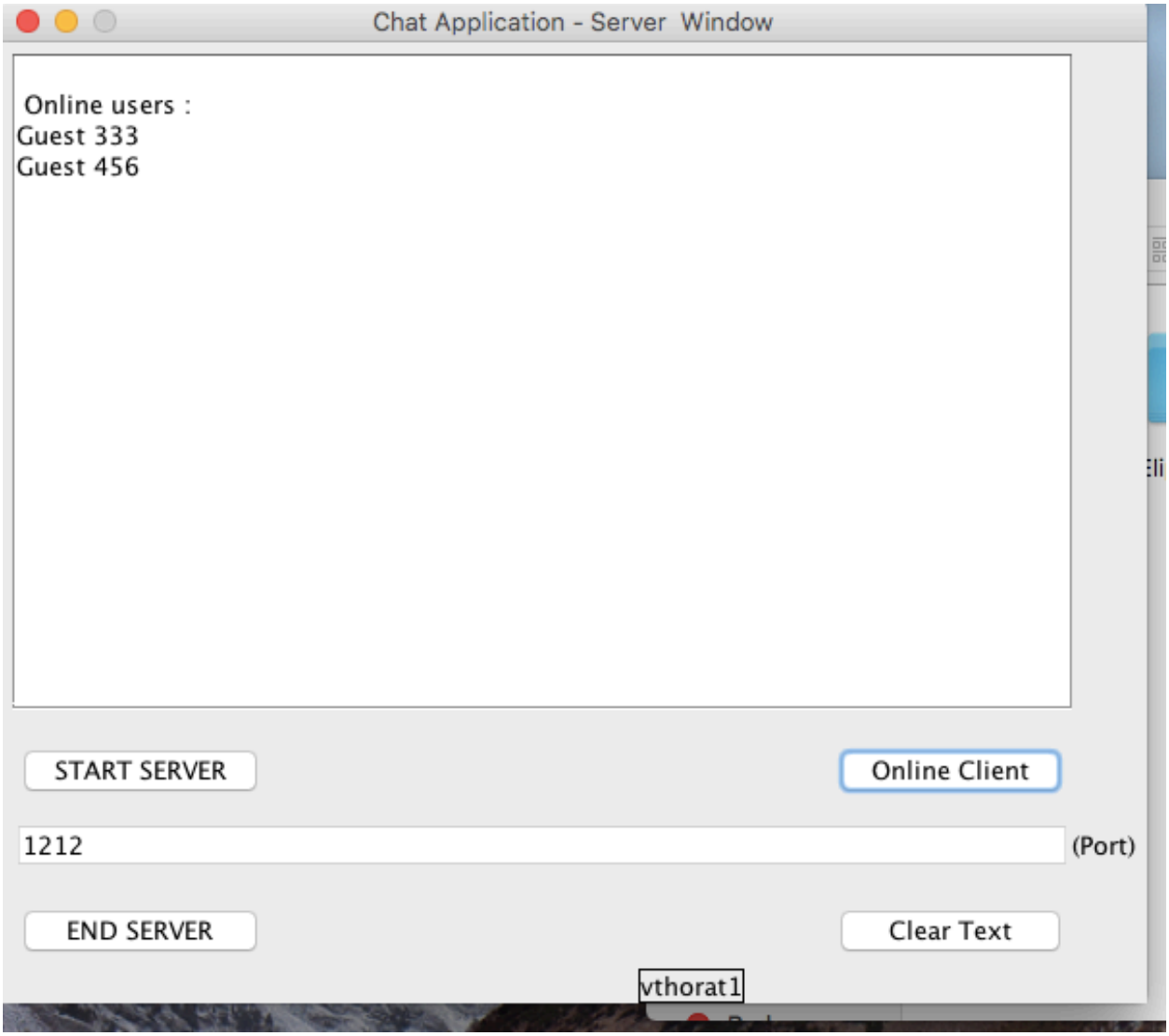

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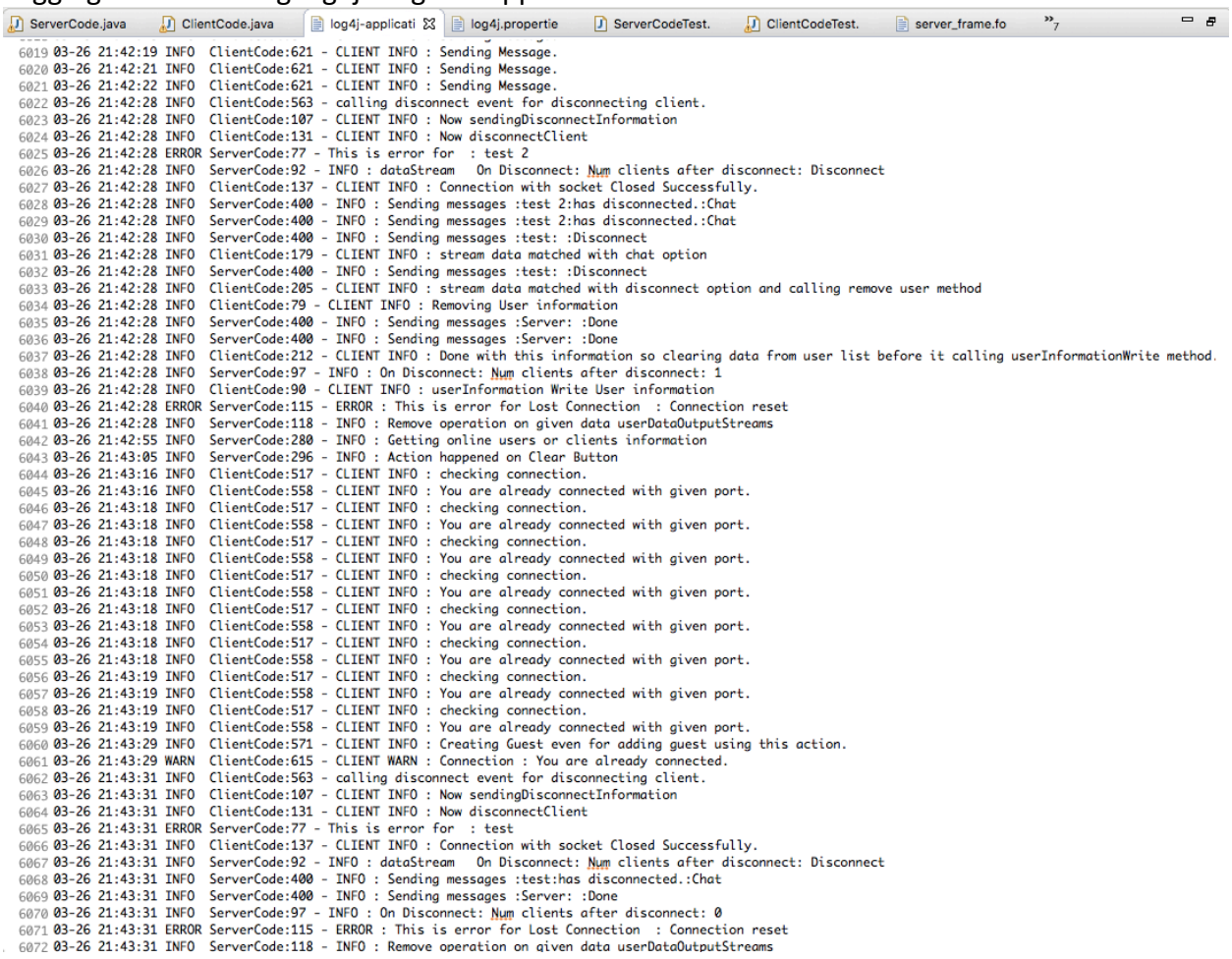
Logging file after using log4j for given application….!!!!!!!



Chat Application

Source code

Please find attached folder of application.