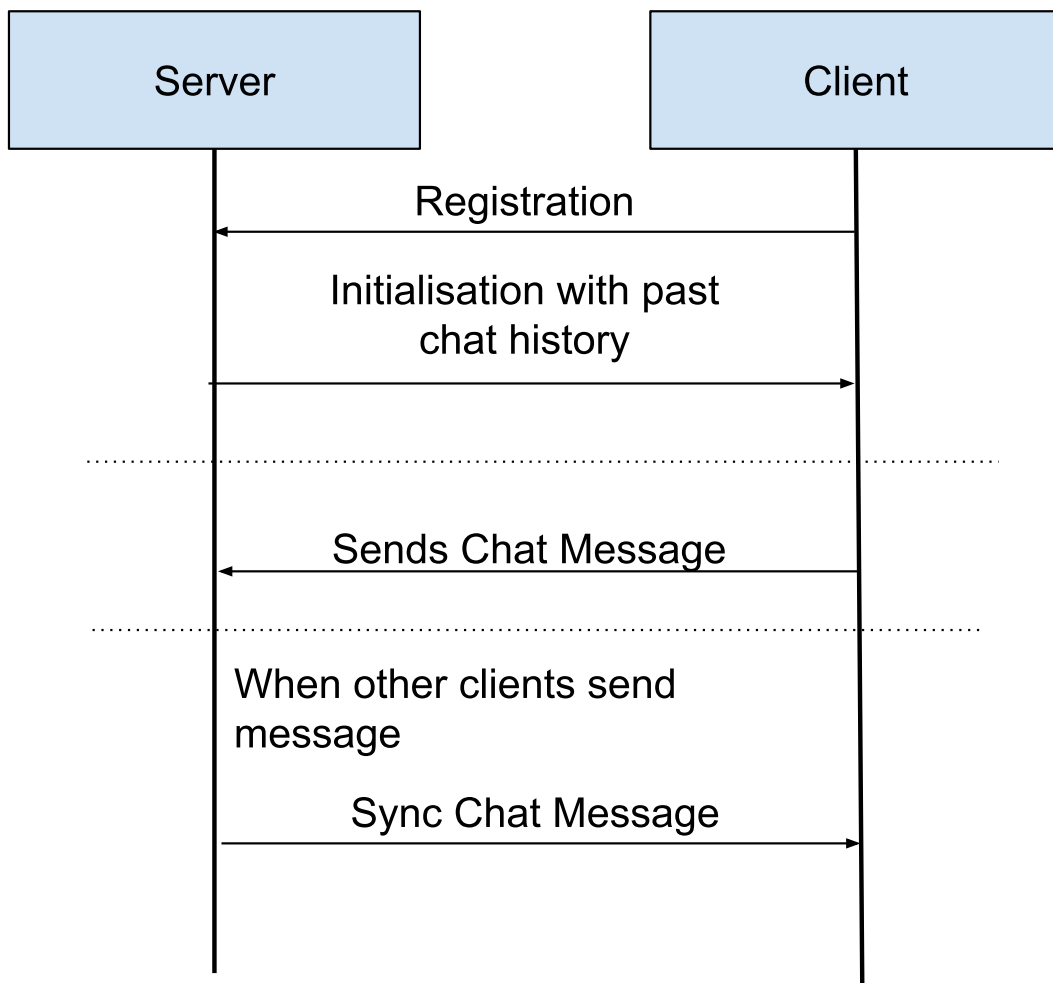


# TCP Socket-based Client/Server Application (ChatApplication)

## Group Members

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## Program Flow



## Demonstration Video

[https://youtu.be/pPLjBUxHt\\_E](https://youtu.be/pPLjBUxHt_E)

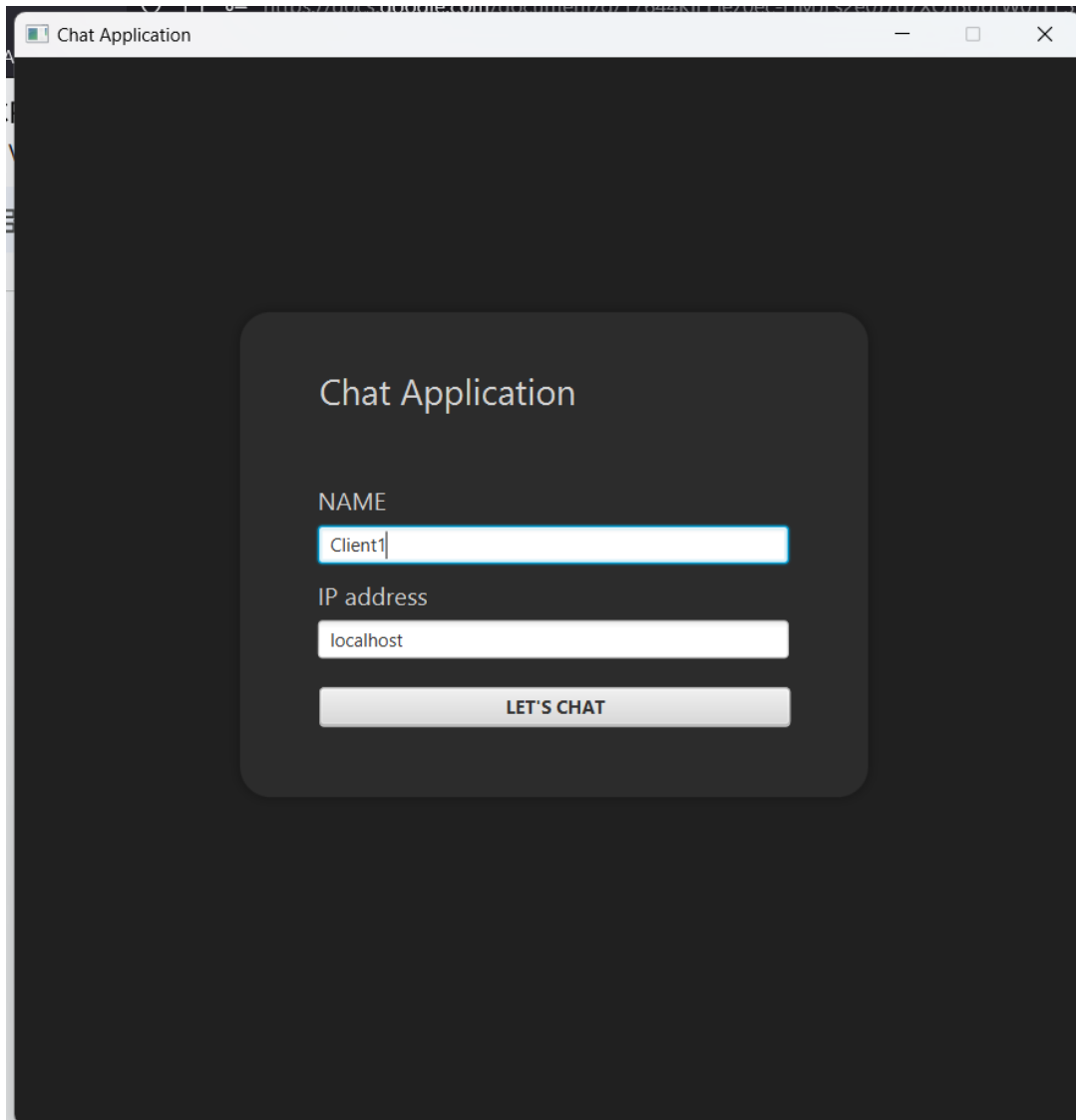
## Program Execution

Step 1: Run the Server Application using the 'mvn exec:java' command.

```
C:\ProjectTCP>mvn exec:java
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.example:ProjectTCP >-----
[INFO] Building ProjectTCP 1.0-SNAPSHOT
[INFO]    from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] >>> exec:1.2.1:java (default-cli) > validate @ ProjectTCP >>>
[INFO]
[INFO] <<< exec:1.2.1:java (default-cli) < validate @ ProjectTCP <<<
[INFO]
[INFO] --- exec:1.2.1:java (default-cli) @ ProjectTCP ---
Server is running on address 127.0.0.1 and port 3030
|
```

Step 2: Open a new terminal and run a new Client Application using the 'mvn javafx:run' command.

```
C:\ProjectTCP>mvn javafx:run
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.example:ProjectTCP >-----
[INFO] Building ProjectTCP 1.0-SNAPSHOT
[INFO]    from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] >>> javafx:0.0.8:run (default-cli) > process-classes @ ProjectTCP >>>
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ ProjectTCP ---
[INFO] Copying 8 resources from src\main\resources to target\classes
[INFO]
[INFO] --- compiler:3.11.0:compile (default-compile) @ ProjectTCP ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] <<< javafx:0.0.8:run (default-cli) < process-classes @ ProjectTCP <<<
[INFO]
[INFO] --- javafx:0.0.8:run (default-cli) @ ProjectTCP ---
Jan 09, 2024 9:56:34 AM javafx.fxml.FXMLLoader$ValueElement processValue
WARNING: Loading FXML document with JavaFX API of version 21 by JavaFX runtime of version 17.0.6
|
```

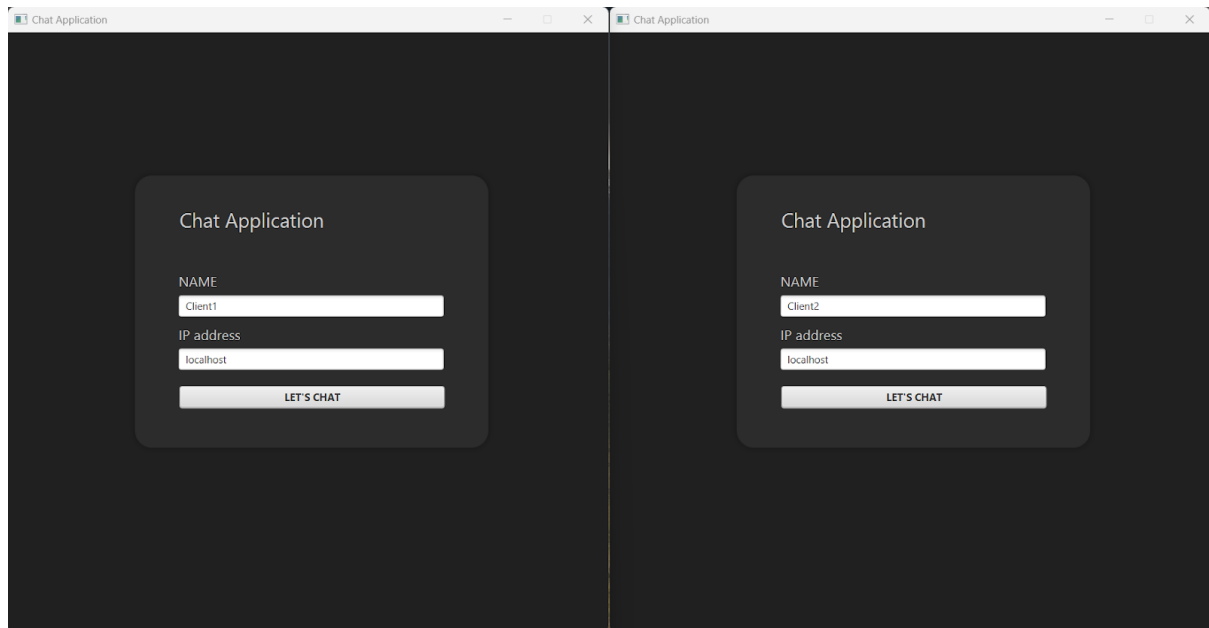


The image shows a web browser window with the title "Chat Application". The browser's address bar is empty. The main content area has a dark background. In the center, there is a light gray rounded rectangle containing the following elements:

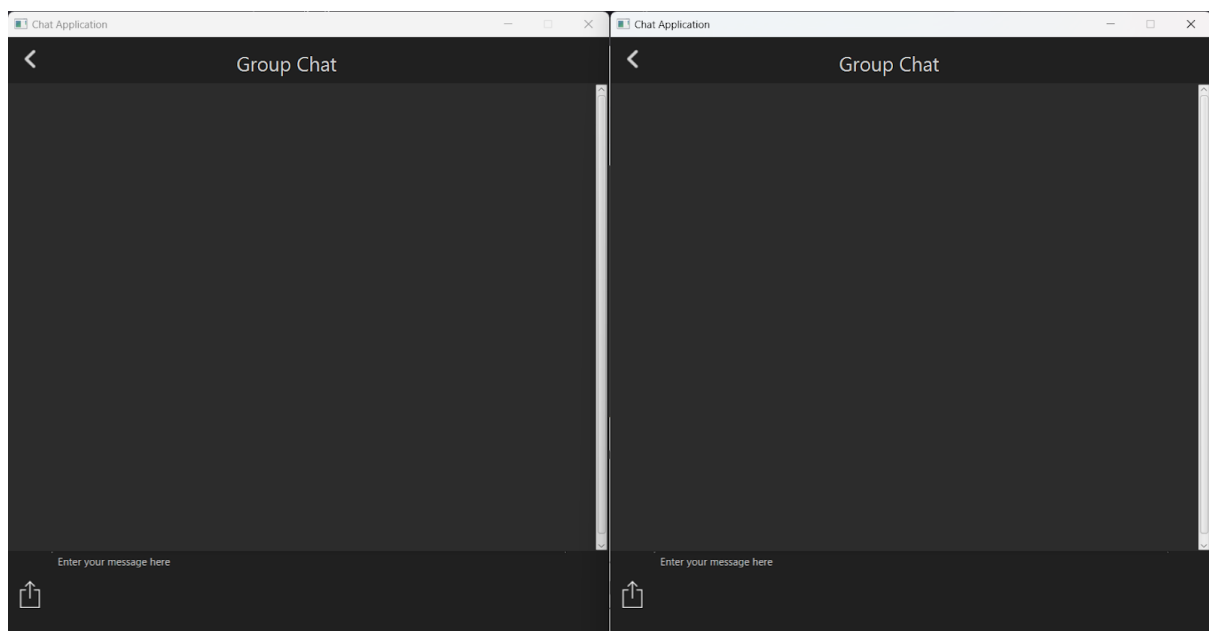
- The text "Chat Application" in a large, bold, black font.
- A label "NAME" in a smaller, bold, black font, followed by a text input field containing the text "Client1".
- A label "IP address" in a smaller, bold, black font, followed by a text input field containing the text "localhost".
- A button with the text "LET'S CHAT" in a bold, black font.

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Step 3: Repeat the same process as in Step 2. We need at least 2 Clients to demonstrate how our app works.

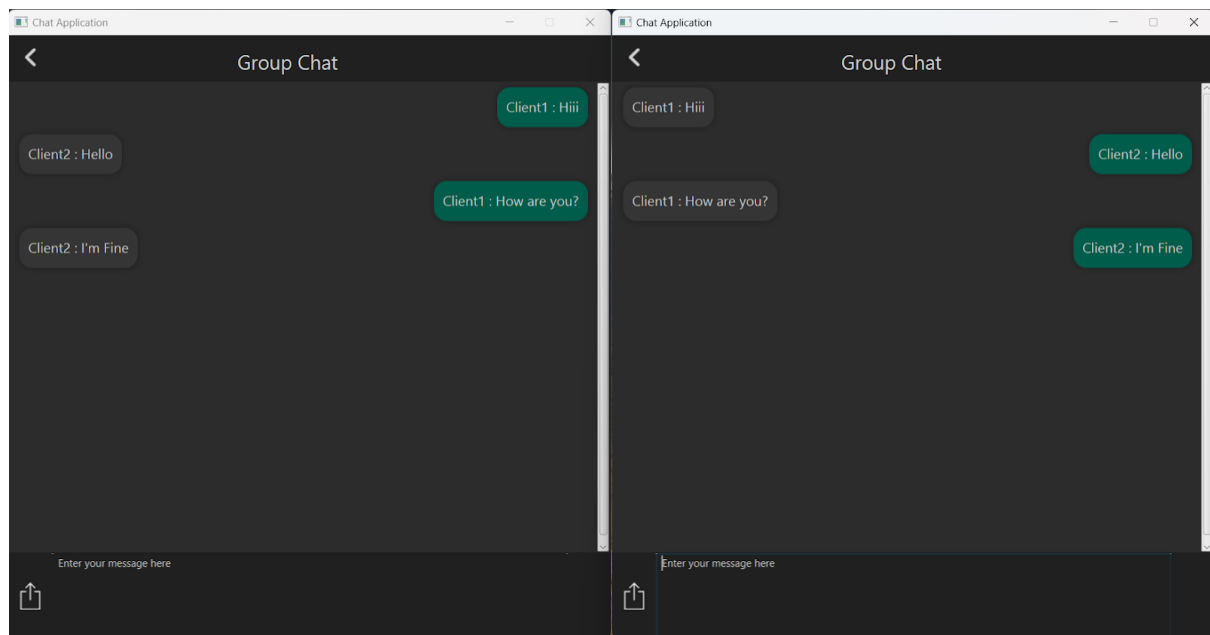


Step 4: Now, please fill in your name and enter the group chat. Do the same for both Clients.

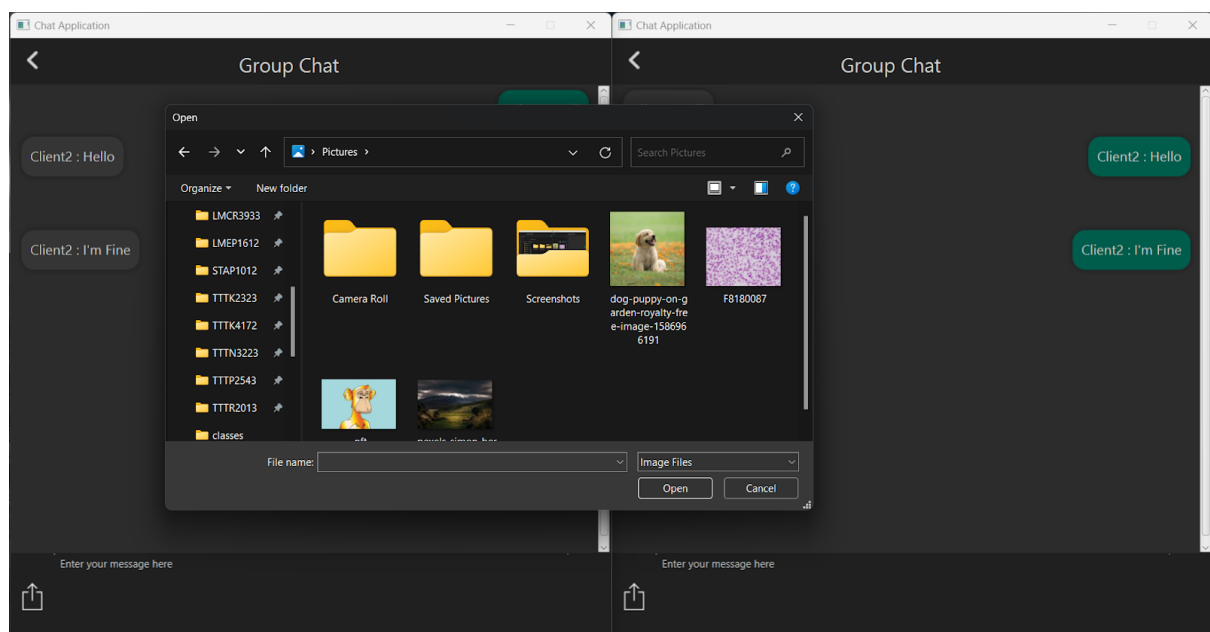


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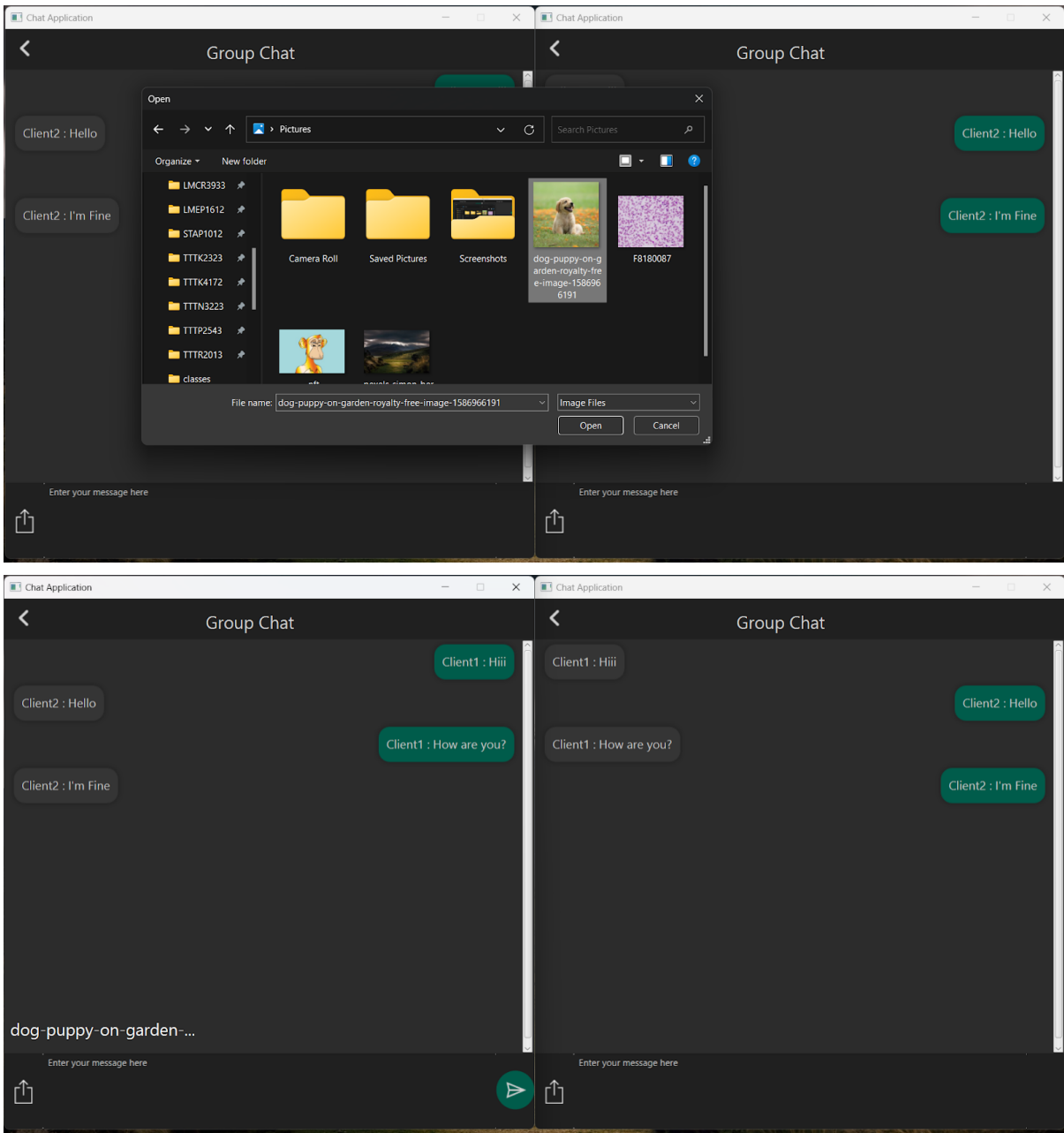
Step 5: Now, Client 1 can start sending some messages to the server, and it will be displayed to all the clients that are connected to the server. On the sender's side, the message will be on the right side with a green bubble, and on the receiver's side, the message will be on the left-hand side with a gray bubble.



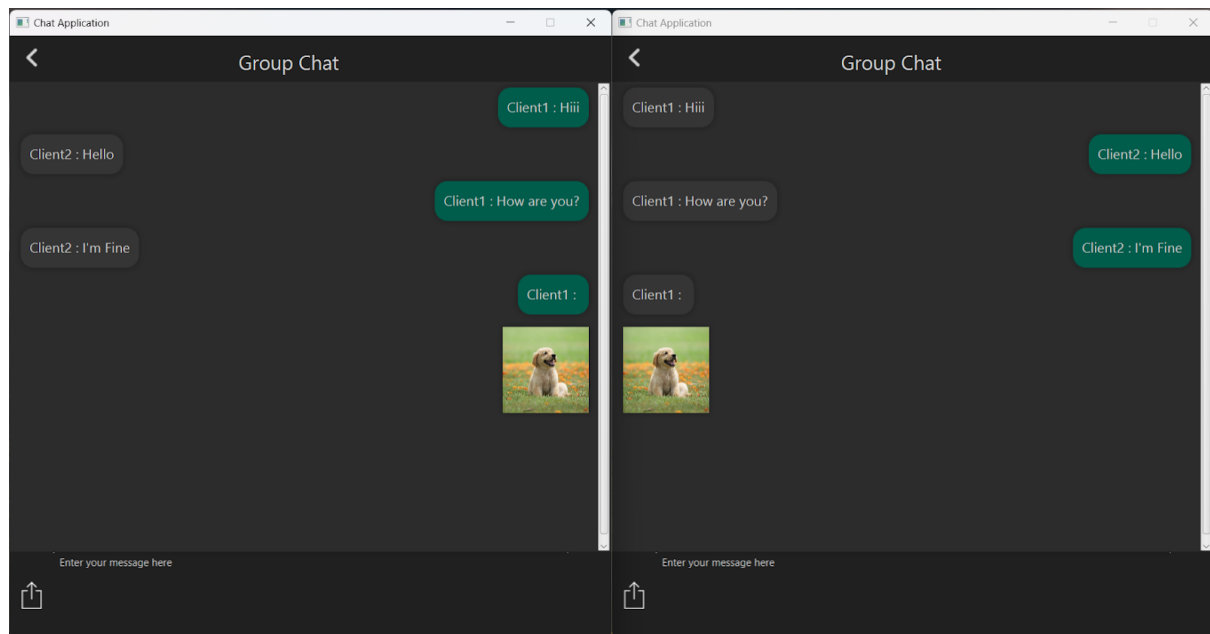
Step 6: Now, let's try sending an image.



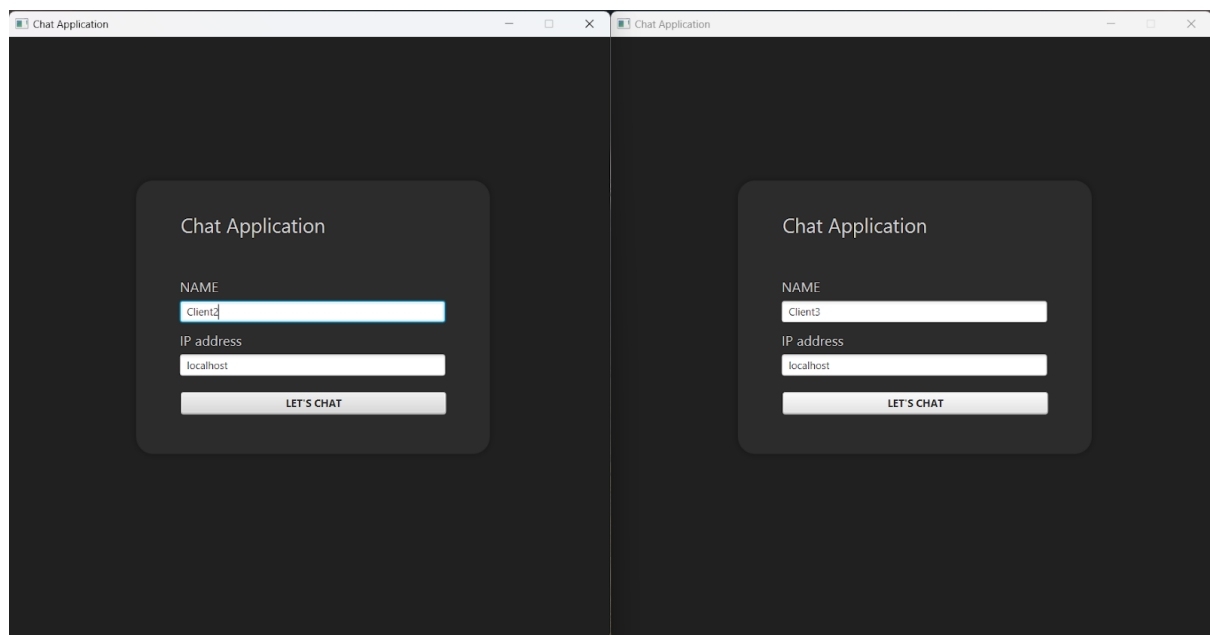
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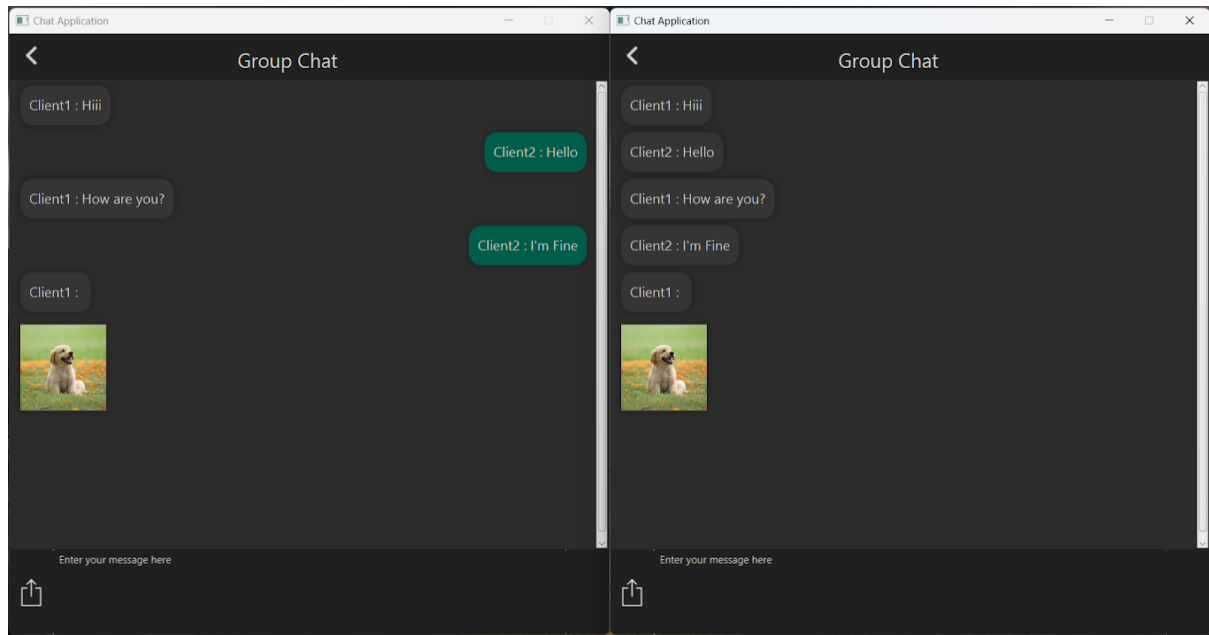
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Step 7: Click the Logout button, and it will redirect you to the login page. You can either log in with your previous name or use some other new names. If you use your exact previous name, all your previous messages will be presented to you on your right side. Otherwise, you will be considered a new user, and all the messages will be on the left-hand side.



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Note: We have also included a beep sound for every notification that the client receives. The notification sound will ring for all clients except the sender.