Client-Server Chat Application

Features

- Clients can connect to a server.

- Clients can send and receive messages in real-time.

- Clients can connect with each other and view the status of other clients.

- Support for graceful disconnection and error handling.

Technologies Used

- C++

- POSIX Threads (pthreads)

- Sockets

- Basic I/O operations

Getting Started

Compiling the Code

To compile the server and client code, use the following commands:

```bash
g++ -o server server.cpp -lpthread

g++ -o client client.cpp -lpthread
```

Running the Server

To start the server, use the following command:

```bash
./server <port_number>
```

Replace `<port_number>` with the desired port number for the server.

Running the Client

To start a client, use the following command:

```bash

./client <server_ip> <port_number>

```

Replace `<server_ip>` with the IP address of the server and `<port_number>` with the same port number used when starting the server.

Usage

1. Start the server.

2. Connect one or more clients to the server.

3. Use the following commands within the client:

- `LIST`: View the status of other connected clients.

- `CONNECT <client_id>`: Connect to another client by their ID.

- `#CLOSE#`: Disconnect from the server.

- Any message sent will be displayed to other connected clients.