

# RUNNING SERVER AND CLIENT APPLICATIONS



```
Aborted (core dumped)  
sangam@sangam-HP-Pavilion-Laptop-15-eg2xxx:~/Desktop/CHAT_APP_COMPUTER_NETWORK/chat_server$ ./chat_server 12345  
Chat server listening on port 12345
```

```
sangam@sangam-HP-Pavilion-Laptop-15-eg2xxx:~/Desktop/CHAT_APP_COMPUTER_NETWORK/chat_client$ ./chat_client 10.42.0.169 12345
```

## CHAT APP

===== Welcome to Chat Client =====

1. Register
  2. Login
- Enter choice:

Welcome to Chat Server!

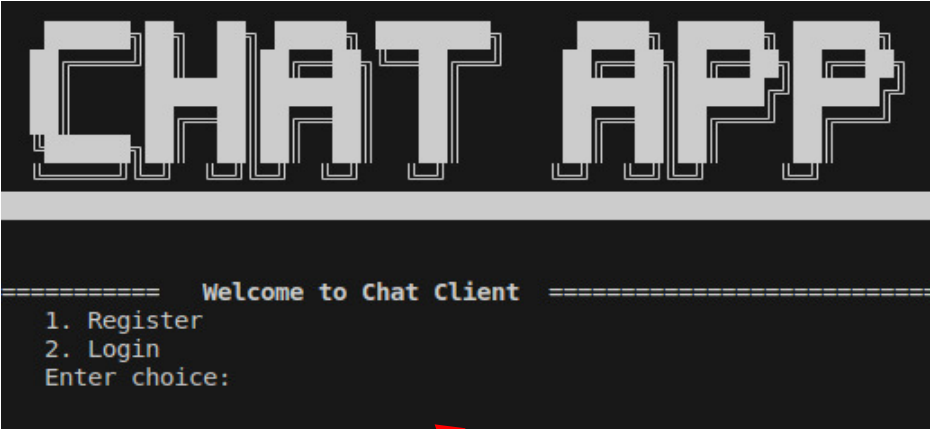
Commands:

```
REGISTER <username> <password>  
LOGIN <username> <password>  
BROADCAST <message>  
MSG <recipient_user_id> <message>  
CHAT <recipient_user_id> <message>  
GETCHAT <recipient_user_id>  
LIST  
ALLUSERS  
FILE <recipient_user_id> <filename> <filesize>  
LOGOUT
```

>>



CLIENT 1



CLIENT 2

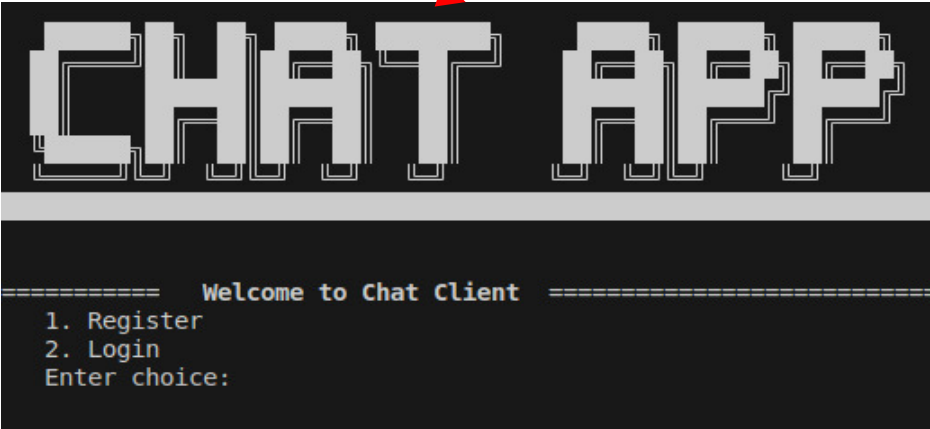
SERVER

```
Aborted (core dumped)
sangam@sangam-HP-Pavilion-Laptop-15-eg2xxx:~/Desktop/CHAT_APP_COMPUTER_NETWORK/chat_server$ ./chat_server 12345
Chat server listening on port 12345
```

CLIENT 3



CLIENT 4



# CLIENT SIDE INITIAL INTERFACE

## CHAT APP

```
===== Welcome to Chat Client =====
1. Register
2. Login
Enter choice:

Welcome to Chat Server!
Commands:
REGISTER <username> <password>
LOGIN <username> <password>
BROADCAST <message>
MSG <recipient_user_id> <message>
CHAT <recipient_user_id> <message>
GETCHAT <recipient_user_id>
LIST
ALLUSERS
FILE <recipient_user_id> <filename> <filesize>
LOGOUT

>> 1

-----
Enter desired username : Rustam
Enter desired password : 1234

***** ===== Chat Menu ===== *****

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

-----

Registration successful. Your User ID is: Rustam_@208

>> 
```

# CLIENT REGISTRATION

```
~~~~~  
Enter desired username : Devanshu  
Enter desired password : password  
  
Registration successful. Your User ID is: Devanshu_@636
```

```
>> 1  
  
~~~~~  
~~~~~  
Enter desired username : sangam  
Enter desired password : sangam  
  
Registration successful. Your User ID is: sangam_@784
```

```
>> 1  
  
~~~~~  
~~~~~  
Enter desired username : Parth  
Enter desired password : 1310  
  
Registration successful. Your User ID is: Parth_@132
```

# CLIENT LOGIN

```

1. Register
2. Login
Enter choice:

Welcome to Chat Server!
Commands:
REGISTER <username> <password>
LOGIN <username> <password>
BROADCAST <message>
MSG <recipient_user_id> <message>
CHAT <recipient_user_id> <message>
GETCHAT <recipient_user_id>
LIST
ALLUSERS
FILE <recipient_user_id> <filename> <filesize>
LOGOUT

>> 2

~~~~~
~~~~~
Enter user_id: Parth_@132
Enter password: 1310

Login successful. Your User ID is: Parth_@132

>>

***** ===== Chat Menu ===== *****

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

~~~~~
~~~~~
Enter your choice: █
```

## CLIENT SIDE FUNCTIONALITIES MENU

```
***** ===== Chat Menu ===== *****
1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout
~~~~~
Enter your choice:
```

# BROADCAST MESSAGE

```
>> 1
  Enter message to broadcast: Hello Every One!

Broadcast sent.
```

```
Enter your choice:
[Broadcast from Rustam]: Hello Every One!

>> 1
  Enter message to broadcast: verification message

Broadcast sent.
```

```
~~~~~
[Broadcast from Rustam]: Hello Every One!

>>
[Broadcast from Parth]: verification message
```

```
[Broadcast from Rustam]: Hello Every One!

>>
[Broadcast from Parth]: verification message

>> █
```



# PRIVATE CHAT SESSIONS

```
***** ===== Chat Menu ===== *****
```

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

Enter your choice: 2

Enter recipient user ID to chat with: Parth\_@132

```
***** ===== Chat Menu ===== *****
```

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

Enter your choice:

[Private from sangam]: hi parth

>> 2

Enter recipient user ID to chat with: sangam\_@784

```
!!!!!!!!!!!!!!!!!!!! ~~~~~ Chat session with Parth_@132 ~~~~~ !
```

Type your messages below. Type **"/exit"** on a new line to leave the chat.

[sangam\_@784] >> hi parth

[sangam\_@784] >>

Message sent.

>>

[Private from Parth]: Hi Sangam

>> Have u CN Notes? Send it using file transfer

[sangam\_@784] >>

Message sent.

>>

[Private from Parth]: ok

>>

Received file from Parth, saved as received\_CN\_Notes.pdf

>> Thanks

[sangam\_@784] >>

Message sent.

>> █

```
~~~~~ Previous chat history ~~~~~
```

[2025-02-16 10:38:21] sangam\_@784: hi parth (Delivered: 2025-02-16 10:38:21, Seen: -)

>>

```
!!!!!!!!!!!!!!!!!!!! ~~~~~ Chat session with sangam_@784 ~~~~~
```

Type your messages below. Type **"/exit"** on a new line to leave the chat.

[Parth\_@132] >> Hi Sangam

[Parth\_@132] >>

Message sent.

>>

[Private from sangam]: Have u CN Notes? Send it using file transfer

>> ok

[Parth\_@132] >>

Message sent.

>> /exit

Exited chat session with sangam\_@784.



# FILE TRANSFER

```
6. Send File
7. Logout

Enter your choice: 6

DEBUG: Files in current directory:
DEBUG: .
DEBUG: ..
DEBUG: received_test.txt
DEBUG: Makefile
DEBUG: include
DEBUG: received_received_test.txt
DEBUG: test.txt
DEBUG: chat_client
DEBUG: CN_Notes.pdf
DEBUG: src
Enter recipient user ID: sangam_@784
Enter path to file: CN_Notes.pdf
Sending file... 100.00% complete

***** ===== Chat Menu ===== *****

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

Enter your choice:

File sent successfully.
```

```
!!!!!!!!!!!!!! ~~~~~ Chat session with Parth_@132

Type your messages below. Type "/exit" on a new line to leave t

[sangam_@784] >> hi parth
[sangam_@784] >>
Message sent.

>>
[Private from Parth]: Hi Sangam

>> Have u CN Notes? Send it using file transfer
[sangam_@784] >>
Message sent.

>>
[Private from Parth]: ok

>>
Received file from Parth, saved as received_CN_Notes.pdf
>> Thanks
[sangam_@784] >>
Message sent.

>> |
```

```
> .vscode
v chat_client
  > include
  > src
  ≡ chat_client
  M Makefile
  P received_CN_Notes.pdf
  ≡ received_received_test.txt
  ≡ received_test.txt
  ≡ test.txt
v chat_server
  > include
  > src
```

# CHAT HISTORY RETREIVAL

\*\*\*\*\* ===== Chat Menu ===== \*\*\*\*\*

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

~~~~~  
~~~~~  
Enter your choice: 3

Enter recipient user ID to retrieve chat history: sangam\_@784

~~~~~ Previous chat history ~~~~~  
~~~~~

[2025-02-16 10:38:21] sangam\_@784: hi parth (Delivered: 2025-02-16 10:38:21, Seen: -)  
[2025-02-16 10:39:30] Parth\_@132: Hi Sangam (Delivered: 2025-02-16 10:39:30, Seen: -)  
[2025-02-16 10:40:41] sangam\_@784: Have u CN Notes? Send it using file transfer (Delivered: 2025-02-16 10:40:41, Seen: -)  
[2025-02-16 10:40:53] Parth\_@132: ok (Delivered: 2025-02-16 10:40:53, Seen: -)  
[2025-02-16 10:45:54] sangam\_@784: Thanks (Delivered: 2025-02-16 10:45:54, Seen: -)

# ONLINE USERS LISTING

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

~~~~~  
~~~~~

Enter your choice:

File sent successfully.

>>

[Private from sangam]: Thanks

>> 4

\*\*\*\*\* Online Users \*\*\*\*\*

Online users (username : user\_id):

sangam : sangam\_@784

Parth : Parth\_@132

Devanshu : Devanshu\_@636

Rustam : Rustam\_@208

# REGISTERED USERS LISTING

>>

\*\*\*\*\* ===== Chat Menu ===== \*\*\*\*\*

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

~~~~~  
~~~~~

Enter your choice: 5

` \*\*\*\*\* All Registered Users \*\*\*\*\*

All registered users (username : user\_id):

Rustam : Rustam\_@208

Devanshu : Devanshu\_@636

Parth : Parth\_@132

sangam : sangam\_@784

Utkarsh : Utkarsh\_@342

Soham : Soham\_@308



## MESSAGE SENT TO OFFLINE USER

```
----- Previous chat history -----
[2025-02-16 10:38:21] sangam_@784: hi parth (Delivered: 2025-02-16 10:38:21, Seen: -)
[2025-02-16 10:39:30] Parth_@132: Hi Sangam (Delivered: 2025-02-16 10:39:30, Seen: -)
[2025-02-16 10:40:41] sangam_@784: Have u CN Notes? Send it using file transfer (Delivered: 2025-02-16 10:40:41, Seen: -)
[2025-02-16 10:40:53] Parth_@132: ok (Delivered: 2025-02-16 10:40:53, Seen: -)
[2025-02-16 10:45:54] sangam_@784: Thanks (Delivered: 2025-02-16 10:45:54, Seen: -)

>>

!!!!!!!!!!!!!!!!!!!! ~~~~~ Chat session with Parth_@132 ~~~~~ !!!!!!!!!!!!!!!!!!!!!

Type your messages below. Type "/exit" on a new line to leave the chat.
[sangam_@784] >> This is a message to parth while he is offline
[sangam_@784] >>
Message sent.

>> This is another message to parth while he is offline
[sangam_@784] >>
Message sent.

>> /exit
Exited chat session with Parth_@132.
```

## OFFLINE PERIOD MESSAGE RETREIVAL ON LOGGING IN

```
Enter user_id: Parth_@132
Enter password: 1310

Login successful. Your User ID is: Parth_@132

>>
[2025-02-16 10:52:09] sangam_@784: This is a message to parth while he is offline (Delivered: -, Seen: -)

>>
[2025-02-16 10:52:28] sangam_@784: This is another message to parth while he is offline (Delivered: -, Seen: -)

>>
[2025-02-16 10:54:50] Rustam_@208: parth this message from me , i need your help . (Delivered: -, Seen: -)

>>
[2025-02-16 10:55:00] Rustam_@208: please complete pdf. (Delivered: -, Seen: -)

>>
[2025-02-16 10:55:43] Rustam_@208: deadline aa rahi hai. (Delivered: -, Seen: -)

>>
[2025-02-16 10:56:41] Rustam_@208: chaliye byee.😂 (Delivered: -, Seen: -)
```



# TIMEOUT

```
***** ===== Chat Menu ===== *****
```

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

```
~~~~~  
~~~~~  
Idle timeout reached. Disconnecting...
```

```
Enter your choice:
```

```
>> Disconnected from server.
```

# MONGO DATABASE

## chat.users

STORAGE SIZE: 36KB LOGICAL DATA SIZE: 985B TOTAL DOCUMENTS: 8

Find

Indexes

Schema Anti-Patterns 0

Generate queries from natural language in Compass

Filter

Type a query: { field: 'value' }

QUERY RESULTS: 1-8 OF 8

```
_id: ObjectId('67b16e6765ef6dec89032272')
username: "Rustam"
password: "1234"
user_id: "Rustam_@208"
online: false
ip_address: "10.42.0.37"
```

```
_id: ObjectId('67b16e6e65ef6dec89032273')
username: "Devanshu"
```

## chat.chats

STORAGE SIZE: 36KB LOGICAL DATA SIZE: 4.98KB TOTAL DOCUMENTS: 1

Find

Indexes

Schema Anti-Patterns 0

Generate queries from natural language in Compass

Filter

Type a query: { field: 'value' }

QUERY RESULTS: 1-20 OF MANY

```
_id: ObjectId('67b1729487a06d93f80f8bc2')
sender_id: "Devanshu_@636"
recipient_id: "Rustam_@208"
timestamp: 2025-02-16T05:07:32.000+00:00
message: "hello Rustam!"
delivered: true
delivery_time: 1739682452000
seen_time: 0
```



PREVIOUS

# LOGOUT

\*\*\*\*\* ===== Chat Menu ===== \*\*\*\*\*

1. Send Broadcast Message
2. Private Chat Session (Continuous)
3. Retrieve Chat History
4. List Online Users
5. List All Registered Users
6. Send File
7. Logout

~~~~~  
~~~~~  
Enter your choice: 7

Logging out...

[ THE END ]