A04-Test Report

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Course Name: System Programming
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Brief Introduction of the Chat-System:

- This chat system is written in ASNI C. It uses some pre-built libraries like ncurses and window. It is a server-client system. Where all the clients are connected to one server with the ip . One client sends the message and it reflects in all the windows.
- Coding: I have used functions like input and output windows to distinguish the message send and where the message is displayed.
- First start the server by writing ./chat-server.c then go the client directory and enter the commad like this ./chat-client -userRudra -server173.16.34.3(server's ip). Then it will be connected to the server. It can take up to 10 clients at the same time.
- It formats the message in the style as mentioned in the requirements. ">>"outgoing and "<<" incoming.
- I have tested all the tests which are mentioned in the test plan and attached the screenshot as well as I have described the test and the test's result.

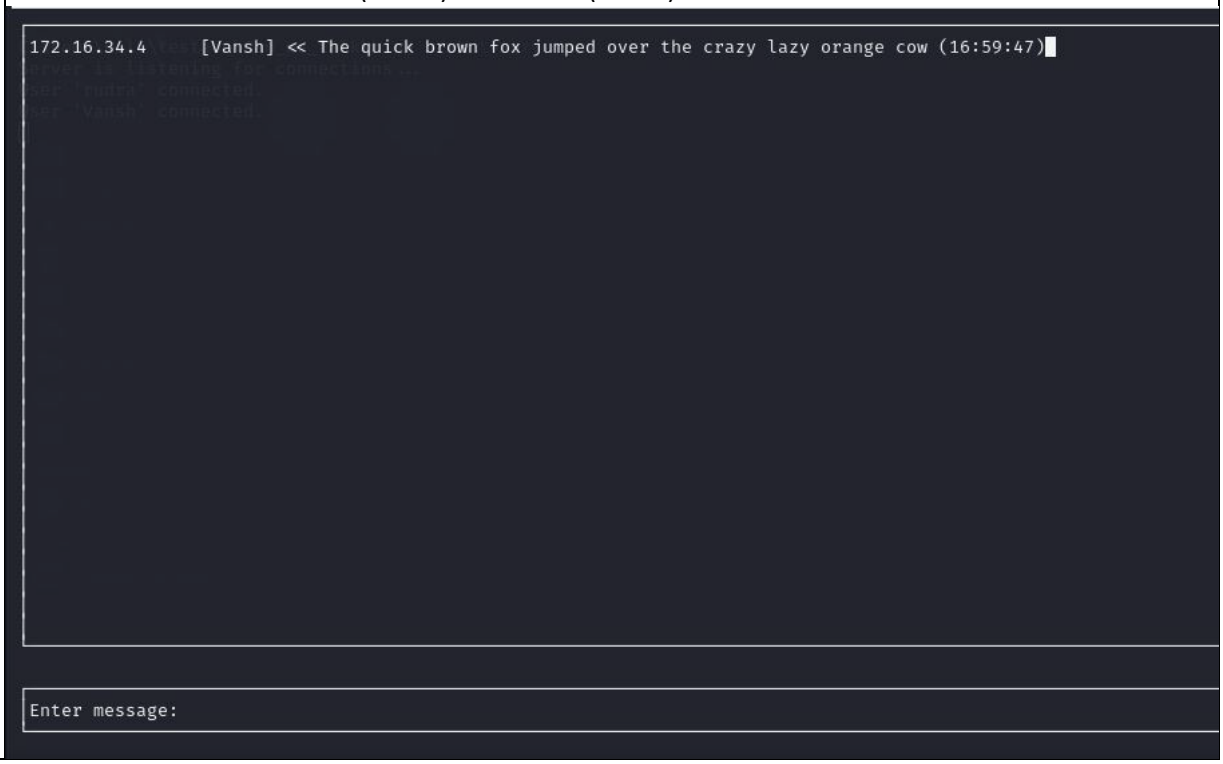
Test Cases documentation

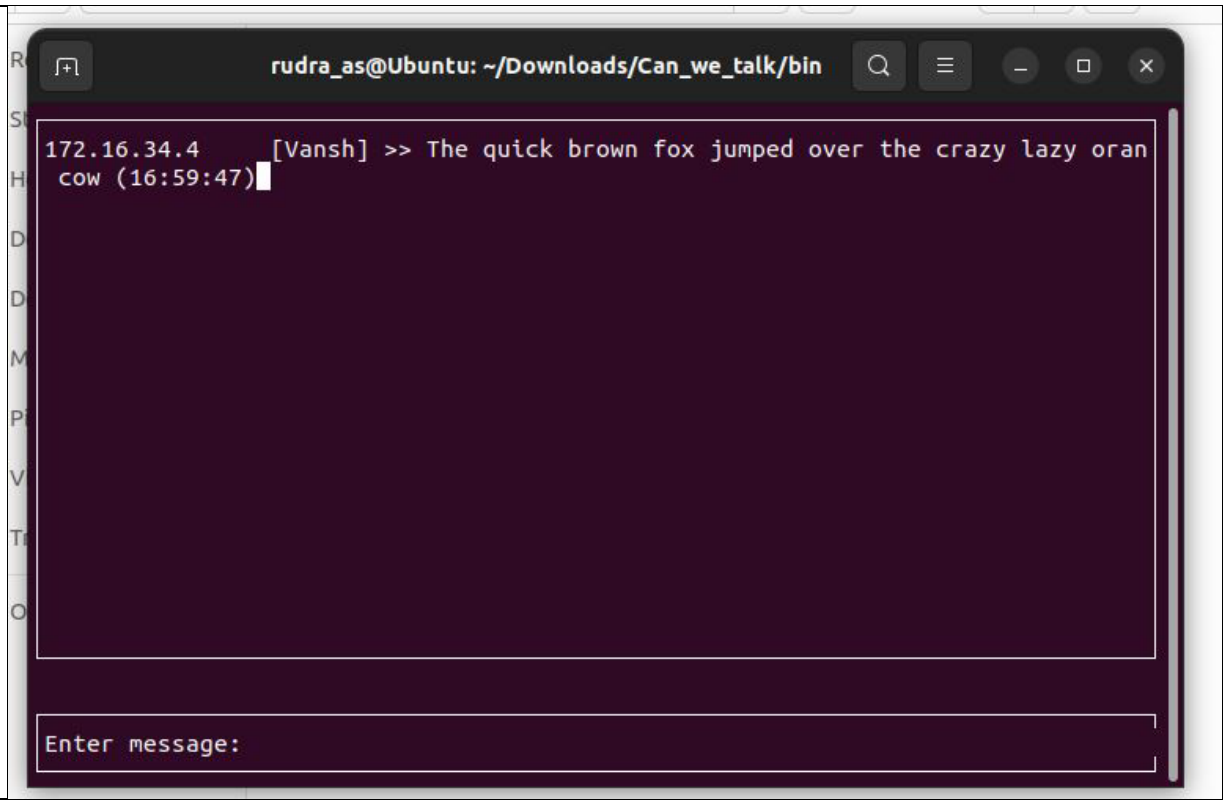
Who Is Doing the Testing?

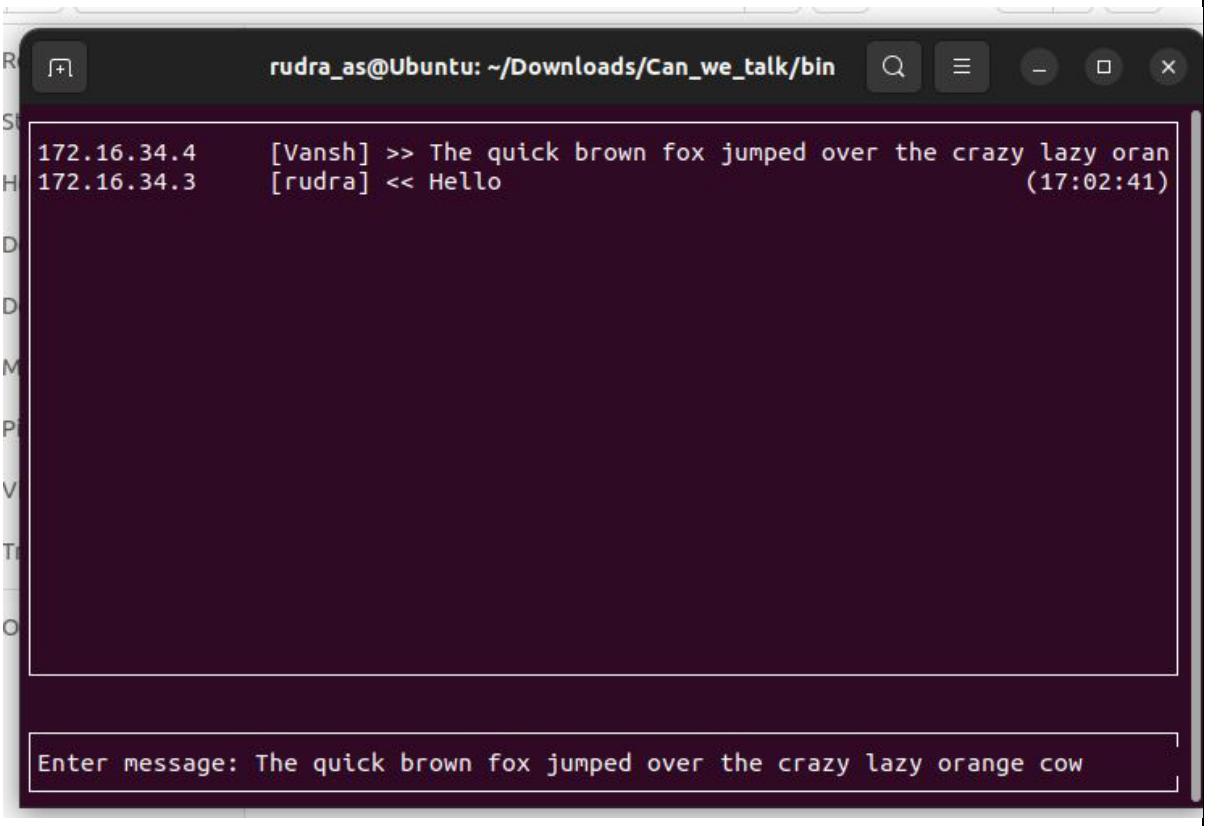
User-1 Name and Linux VM IP Address	Name: Vansh Prajapati IP Address: 173.16.34.4
User-2 Name and Linux VM IP Address	Name: Rudrakumar Patel IP Address: 173.16.34.3

- **Test I have Documented start from the next Page.**

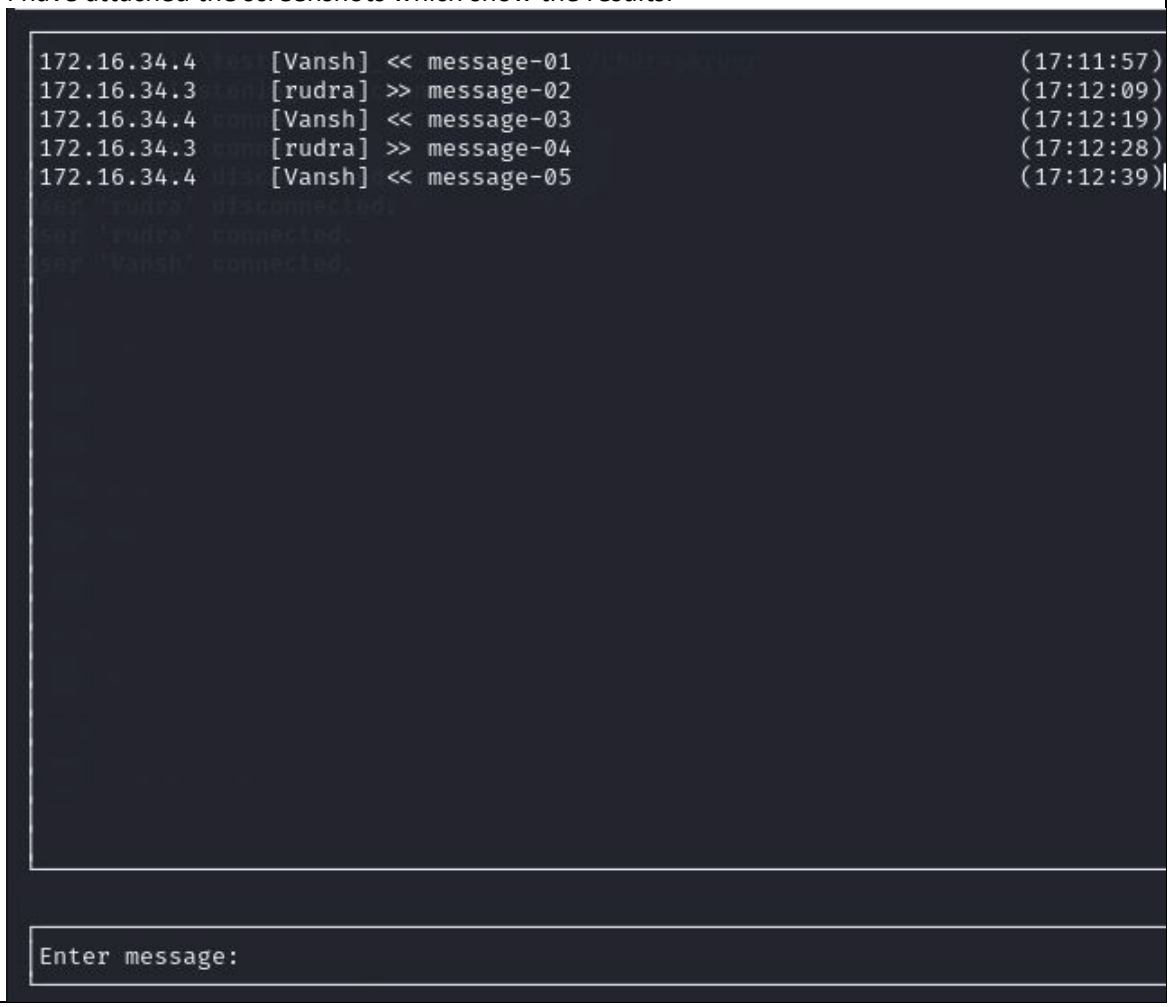
Functional Tests

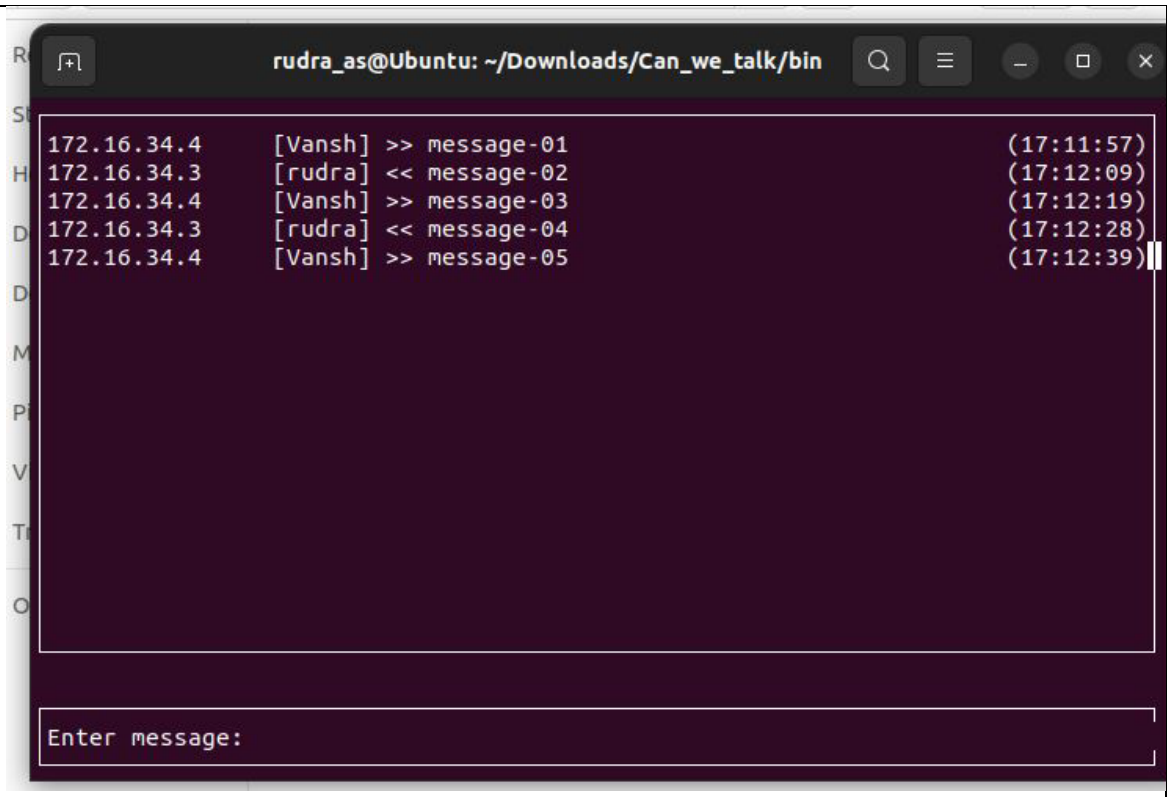
Test ID	- FT-01
Test Type	- Functional
Test Purpose	- Description: This tests the basic message-sending and message-receiving capability between two users. User-1 sends a pre-defined message; then, the users assert that both users' chat windows display the message as sent by the user-1. - what is the purpose of this test? • This demonstrates the successful connection of the multiple clients.
PASS / FAIL	- This test is PASSED successfully.
Test Results	- Screen shots of user 1(Vansh) and user 2 (Rudra) 

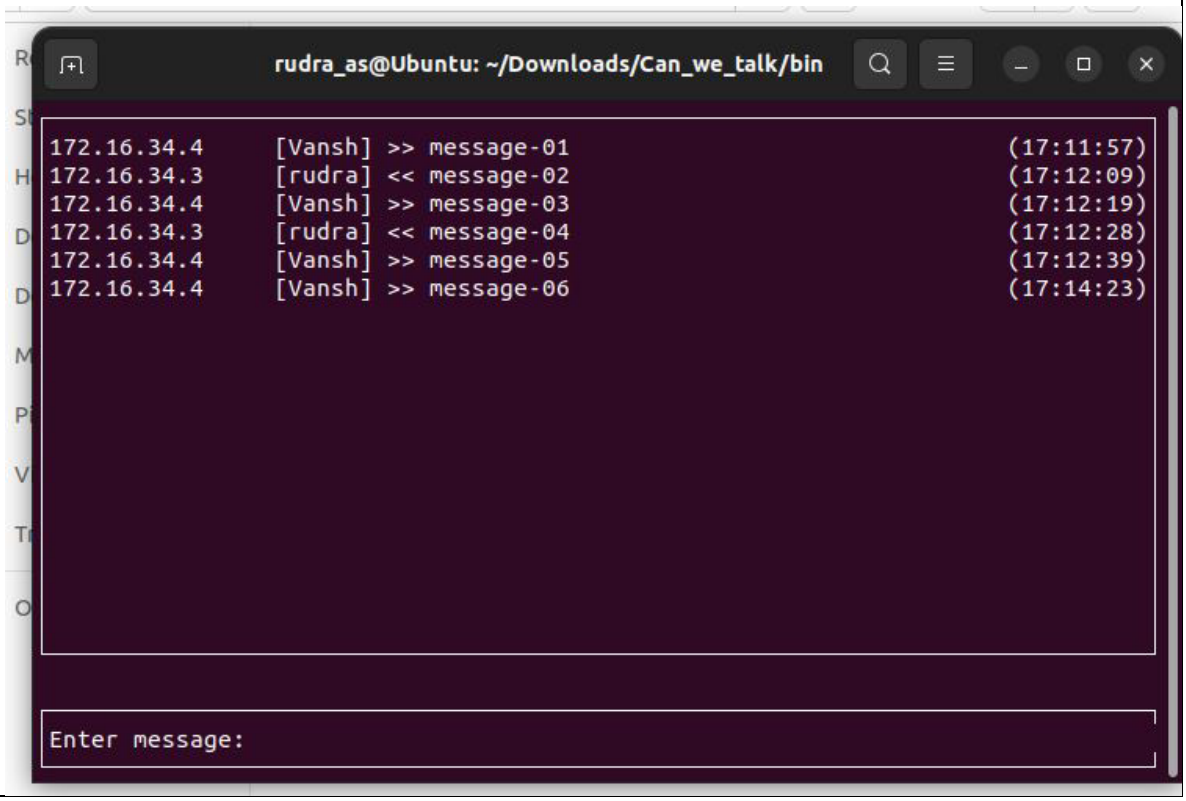

rudra_as@Ubuntu: ~/Downloads/Can_we_talk/bin
172.16.34.4 [Vansh] >> The quick brown fox jumped over the crazy lazy oran
cow (16:59:47)
Enter message:

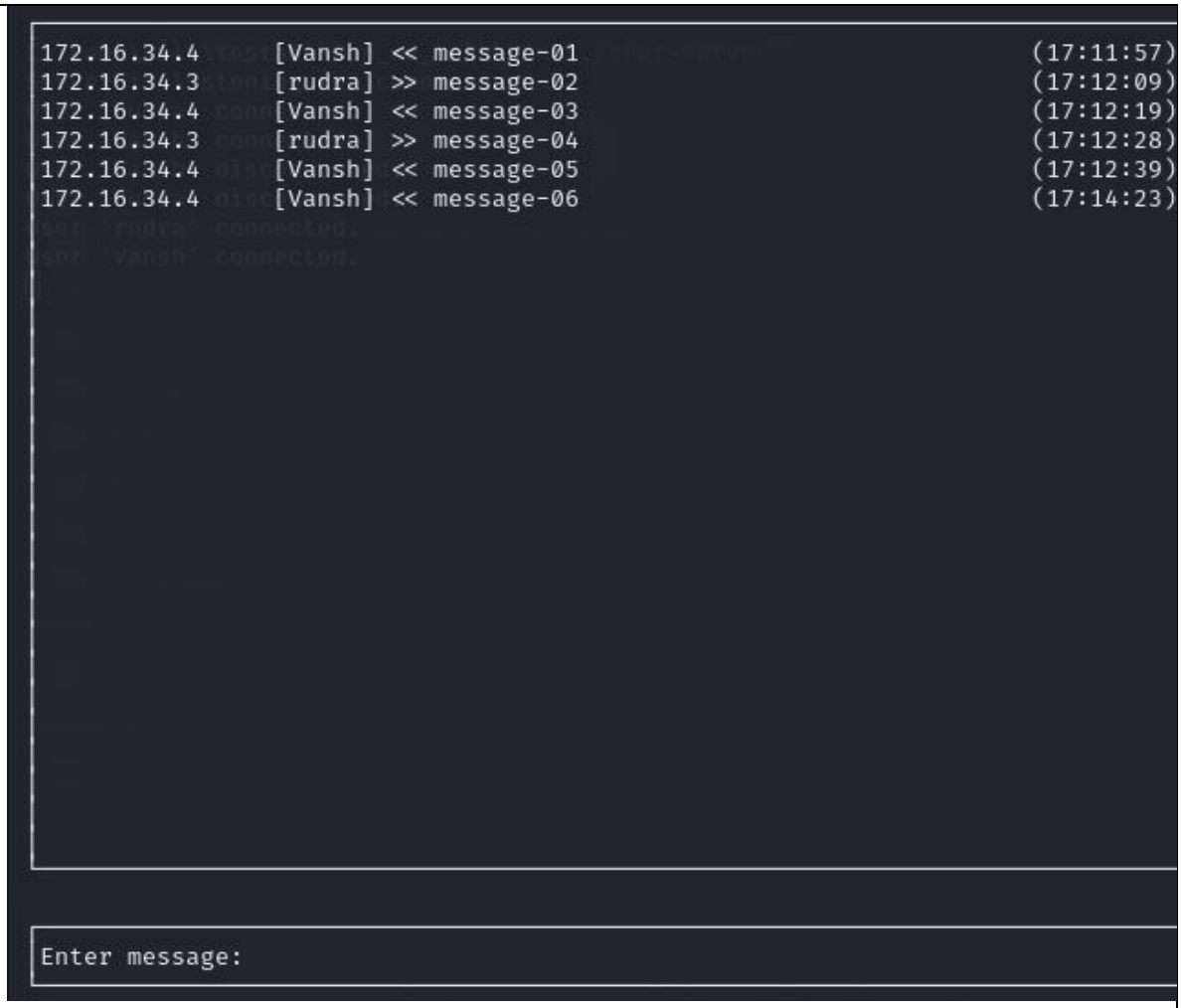
Test ID	- FT-02
Test Type	- Functional
Test Purpose	- Description: Evaluate whether the system is able to perform typing a message while receiving another one. Allow User-1 to start typing a short message and then request User-2 to try to send him a brief message. Check if it interrupts the typing process of User-1 - why is this test being executed? • This shows the compatibility of the server to handle the message of the client.
PASS / FAIL	- This test is PASSED successfully.
Test Results	- I have included the screenshot of the user -1 

Test ID	-FT-03
Test Type	- Functional
Test Purpose	- Description: This test ascertains the operation of the system with continuous messages shared between users. It checks the system's capability to maintain a constant conversation without loss of data and trouble with the user interface. - why is this test being executed? • This test needs to be executed one by one to show that it can show multiple messages.
PASS / FAIL	- This test is PASSED successfully.
Test Results	- I have attached the screenshots which show the results.



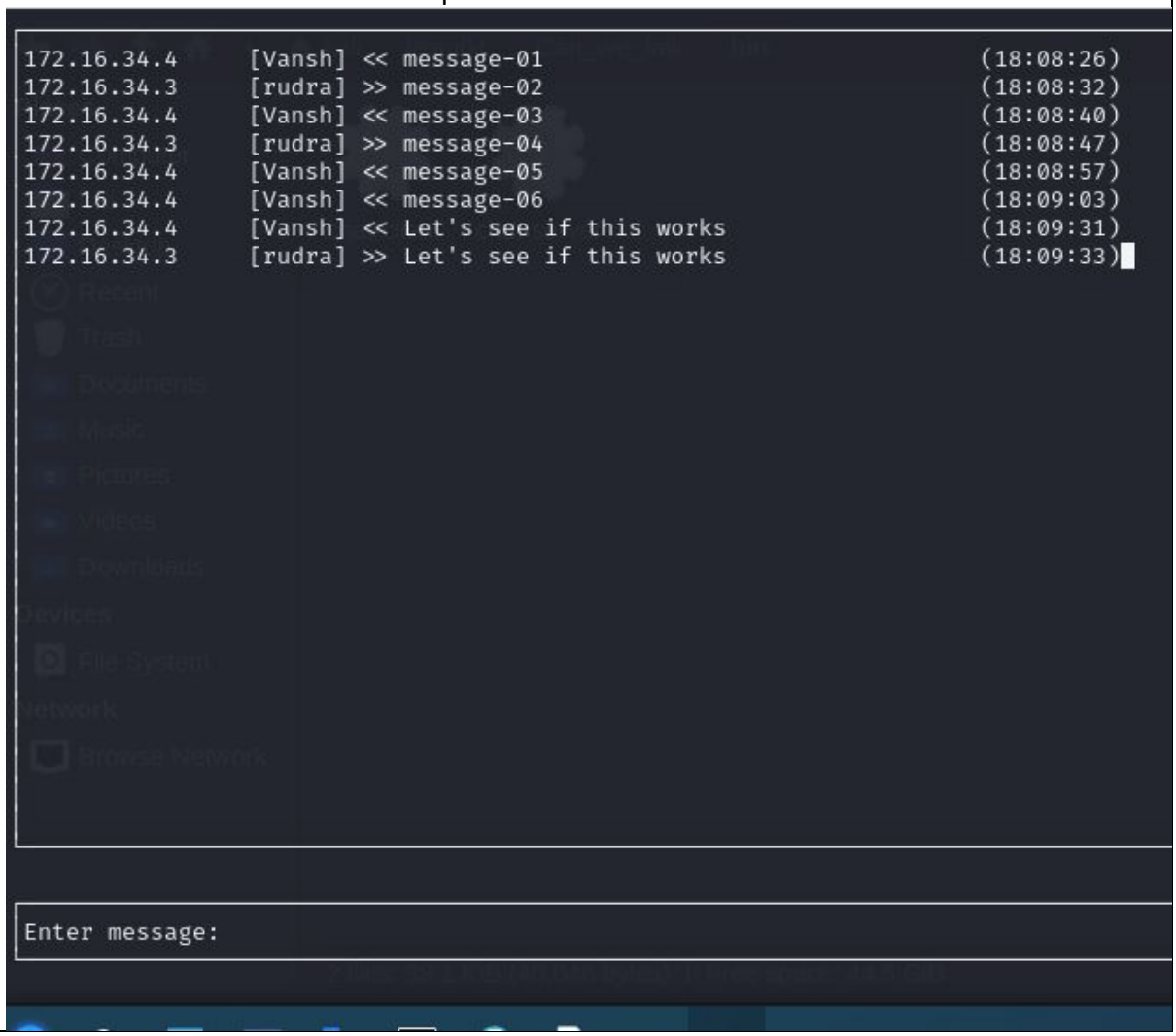

rudra_as@Ubuntu: ~/Downloads/Can_we_talk/bin
172.16.34.4 [Vansh] >> message-01 (17:11:57)
172.16.34.3 [rudra] << message-02 (17:12:09)
172.16.34.4 [Vansh] >> message-03 (17:12:19)
172.16.34.3 [rudra] << message-04 (17:12:28)
172.16.34.4 [Vansh] >> message-05 (17:12:39)
Enter message:

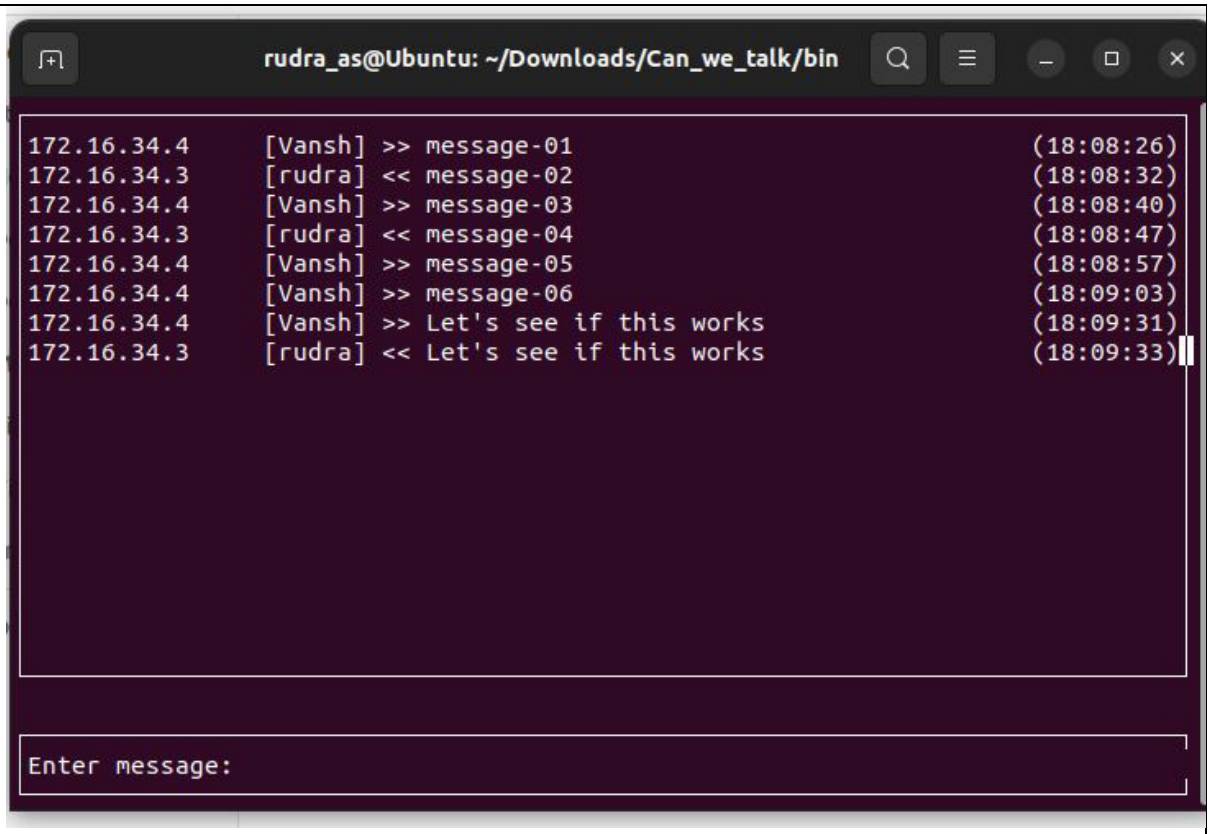
Test ID	- FT-04
Test Type	- Functional
Test Purpose	- Description: This test cases test that one user can send back-to-back messages even after multiple conversations. - why is this test being executed? • To test the reliability of the server to handle the messages.
PASS / FAIL	- using your test purpose (above) as well as your results (below) – you and your partner(s) need to determine and tell me if this test PASSED or FAILED its purpose
Test Results	- I have included the screenshots of the result. 


172.16.34.4 [Vansh] << message-01 (17:11:57)
172.16.34.3 [rudra] >> message-02 (17:12:09)
172.16.34.4 [Vansh] << message-03 (17:12:19)
172.16.34.3 [rudra] >> message-04 (17:12:28)
172.16.34.4 [Vansh] << message-05 (17:12:39)
172.16.34.4 [Vansh] << message-06 (17:14:23)
Enter message:

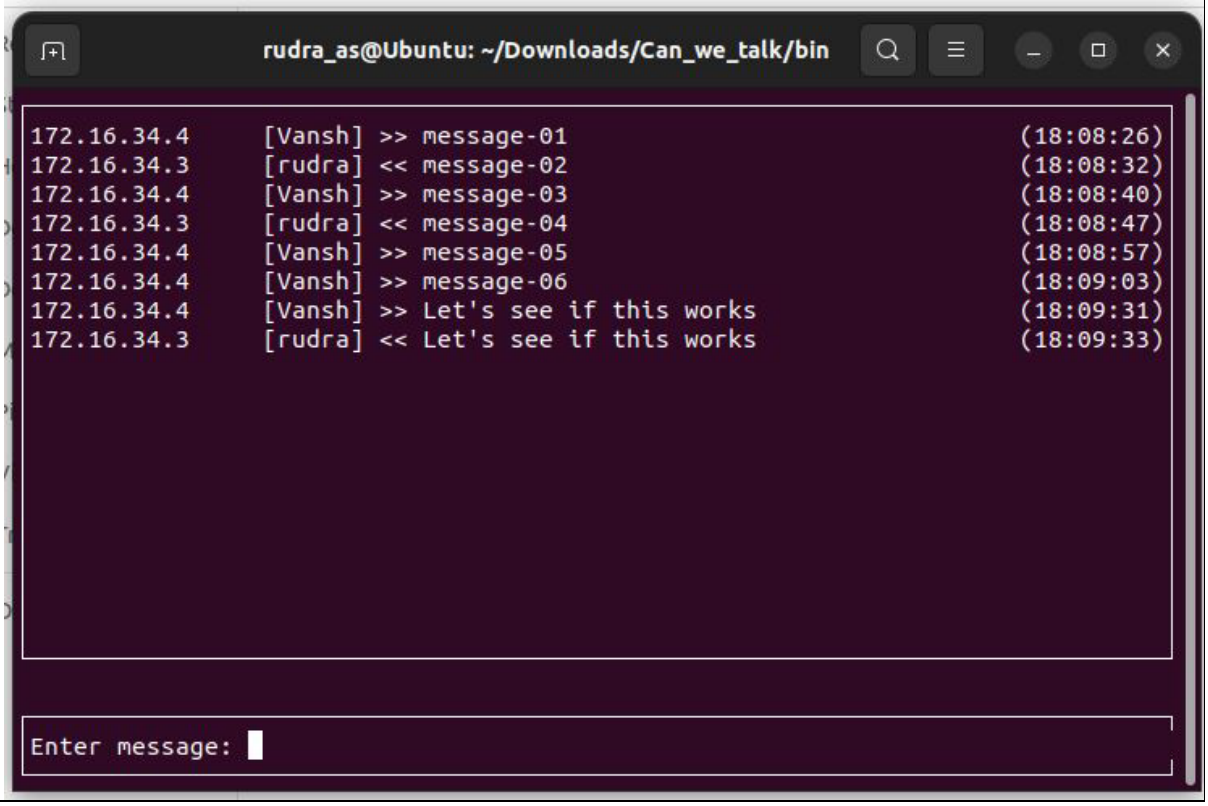
Boundary Tests

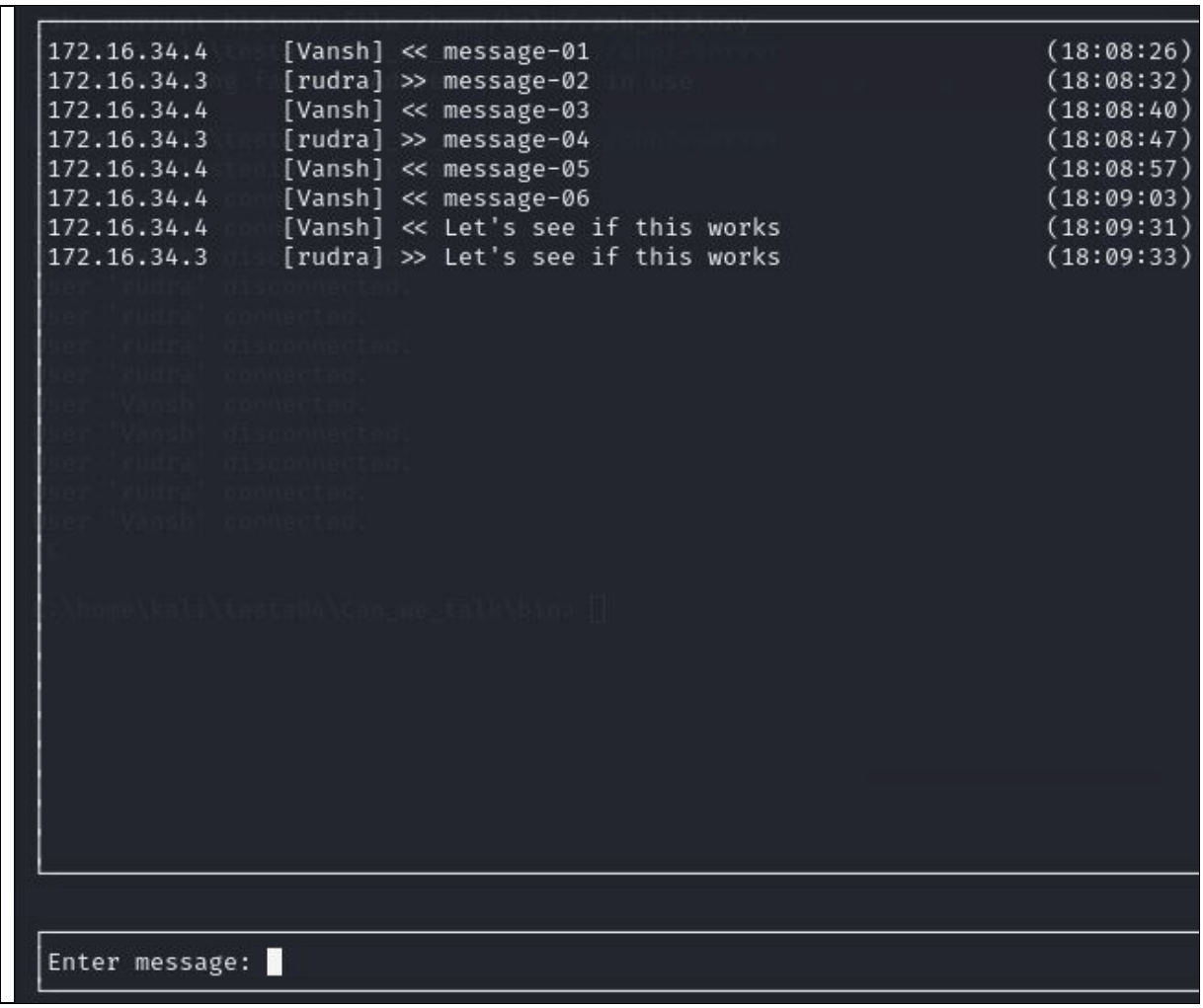
Test ID	- BT-01
Test Type	- Boundary
Test Purpose	- Description: This test case tests the compatibility of the server and client to send, receive, and display those messages in the correct order. That means it tests the synchronization activity done by both client and how server handles it. - why is this test being executed? • In this test two users send the message at the same time to each to test if there is any kind of error or fault in the server to handle the multiple messages.
PASS / FAIL	- This test is PASSED successfully.
Test Results	- User 1 and User 2 sent the message at the same time with minor differences to the server and the message is received by both users and displayed ton their message window. I have attached the screenshots of that process for both client.




rudra_as@Ubuntu: ~/Downloads/Can_we_talk/bin
172.16.34.4 [Vansh] >> message-01 (18:08:26)
172.16.34.3 [rudra] << message-02 (18:08:32)
172.16.34.4 [Vansh] >> message-03 (18:08:40)
172.16.34.3 [rudra] << message-04 (18:08:47)
172.16.34.4 [Vansh] >> message-05 (18:08:57)
172.16.34.4 [Vansh] >> message-06 (18:09:03)
172.16.34.4 [Vansh] >> Let's see if this works (18:09:31)
172.16.34.3 [rudra] << Let's see if this works (18:09:33)
Enter message:

Exception Tests

Test ID	-ET-01
Test Type	- Exception
Test Purpose	- Description: This test case tests the server's PID for the client. In order to connect with the client-server start the thread and connect with the server's ongoing connection. The server issues PID for each client. In this test case kill -9 <PID> this command kill all the PID of the client means it disconnects all the client. - why is this test being executed? • To see if the client can still send or receive the message from other user/clients.
PASS / FAIL	-This test is PASSED successfully.
Test Results	- After entering the command kill-9 <PID> in the server directory it disconnects all the clients and even if the client presses enter nothing will happen. I have attached the screenshots after entering the kill command and then pressing send to the user's message. 



Test ID	-ET-02
Test Type	- Exception
Test Purpose	- Description: This test case tests the connection of the client to the server. This shows that the client can disconnect from the server by writing >>bye<< in the message window. - why is this test being executed? • Successful disconnection from the server without any window disruption.
PASS / FAIL	-This test is PASSED successfully.
Test Results	- The result I got was the successful disconnection from the server. You can test it to confirm it by writing >>bye<<. I also attached the screenshots. Moreover, it does not show the any external message to other clients that any user has been disconnected. I have also attached the screenshots of the command "`ps -eaf | grep chat`".


rudra_as@Ubuntu: ~/Downloads/Can_we_talk/bin
rudra_as@Ubuntu:~/Downloads/Can_we_talk/bin$ ./chat-client -userVansh -server172
.16.34.3
rudra_as@Ubuntu:~/Downloads/Can_we_talk/bin$
Enter message:

```
File  Actions  Edit  View  Help
zsh: corrupt history file /home/kali/.zsh_history
C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

zsh: suspended  ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin> ./chat-client -userrudra -server172.16.34.3

C:\home\kali\testa04\Can_we_talk\bin>
```

- Result of `ps -eaf | grep chat`

```
C:\home\kali\testa04\Can_we_talk\bin> ps -eaf | grep chat
kali       16852    9896  0 17:10 pts/0    00:00:00 ./chat-client -userrudra -server172.16.34.3
kali       17934   17891  0 17:53 pts/1    00:00:00 ./chat-server
kali       18044    9896  0 18:02 pts/0    00:00:00 grep --color=auto chat
```

- **I have submitted the Can_we _talk.tar and the A04-Test Report.**