Two clients have joined server

They are communicating with each other.

The third client has joined the server.

The third client has joined channel1 and left default.

The third client is sending messages.

The fourth client has joined server and after joined channel1 and communicated with clients from that channel.

The third client has joined default channel again.

oleg@makaroni-virtualbox:~/Documents$ ./ip
k24chat-client -t tcp -s 127.0.0.1
/auth 1 2 4
Success: AUTH SUCCESS
Server: 4 has joined default
hello
Server: wow has joined default
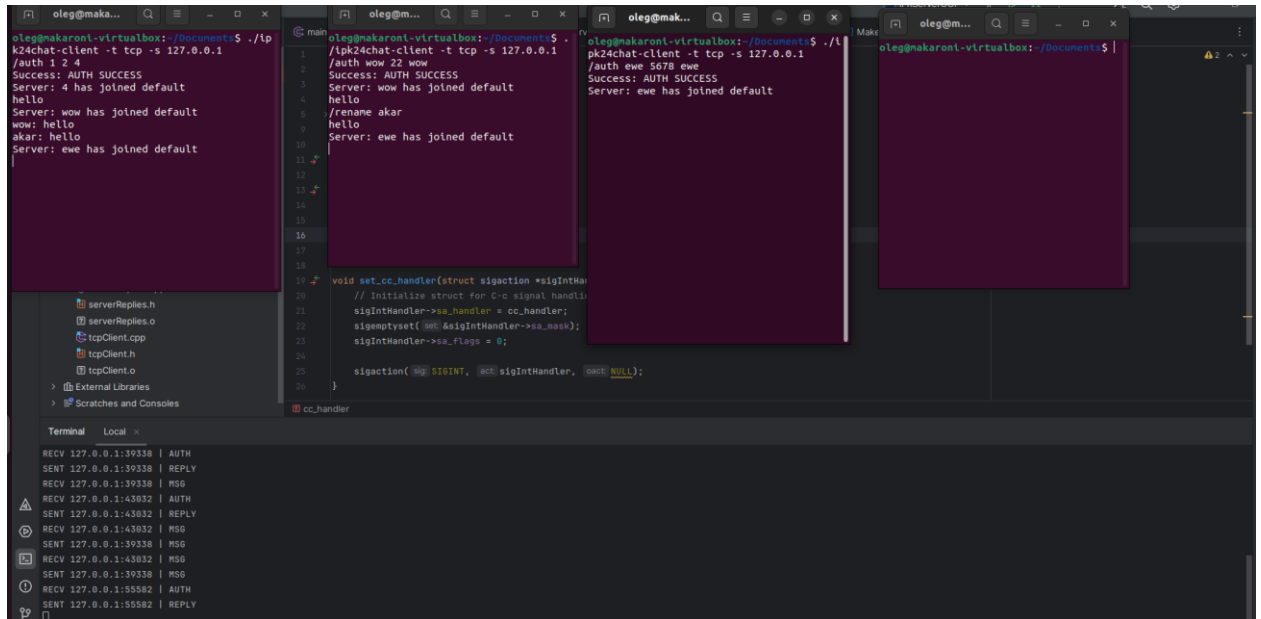wow: hello
akar: hello
Server: ewe has joined default
Server: ewe has left default
Server: palop has joined default
palop: hello everyone
Server: palop has left default
Server: ewe has joined default

/ipk24chat-client -t tcp -s 127.0.0.1
/auth wow 22 wow
Success: AUTH SUCCESS
Server: wow has joined default
hello
/rename akar
hello
Server: ewe has joined default
Server: ewe has left default
Server: palop has joined default
palop: hello everyone
Server: palop has left default
Server: ewe has joined default

oleg@makaroni-virtualbox:~/Documents$ ./
pk24chat-client -t tcp -s 127.0.0.1
/auth ewe 5678 ewe
Success: AUTH SUCCESS
Server: ewe has joined default
/join channel1
Success: JOIN SUCCESS
Server: ewe has joined channel1
hello in new channel
Server: palop has joined channel1
palop: hello who is in this server
/join default
Success: JOIN SUCCESS
Server: ewe has joined default

oleg@makaroni-virtualbox:~/Documents$.
/ipk24chat-client -t tcp -s 127.0.0.1
/auth palop qwerty palop
Success: AUTH SUCCESS
Server: palop has joined default
hello everyone
/join channel1
Success: JOIN SUCCESS
Server: palop has joined channel1
hello who is in this server
Server: ewe has left channel1

```
void set_cc_handler(struct sigaction *sigIntHa
    // Initialize struct for C-c signal handli
    sigIntHandler->sa_handler = cc_handler;
    sigemptyset( set &sigIntHandler->sa_mask);
    sigIntHandler->sa_flags = 0;

    sigaction( sig SIGINT, act sigIntHandler, oact NULL);
}
```

serverReplies.h
serverReplies.o
tcpClient.cpp
tcpClient.h
tcpClient.o
External Libraries
Scratches and Consoles

Terminal   Local

RECV 127.0.0.1:36446 | AUTH
SENT 127.0.0.1:36446 | REPLY
RECV 127.0.0.1:36446 | MSG
SENT 127.0.0.1:39338 | MSG
SENT 127.0.0.1:43032 | MSG
RECV 127.0.0.1:36446 | JOIN
SENT 127.0.0.1:36446 | REPLY
RECV 127.0.0.1:36446 | MSG
SENT 127.0.0.1:55582 | MSG
RECV 127.0.0.1:55582 | JOIN
SENT 127.0.0.1:55582 | REPLY

The fouth client has also joined default channel again.

oleg@makaroni-virtualbox:~/Documents$ ./ip
k24chat-client -t tcp -s 127.0.0.1
/auth 1 2 4
Success: AUTH SUCCESS
Server: 4 has joined default
hello
Server: wow has joined default
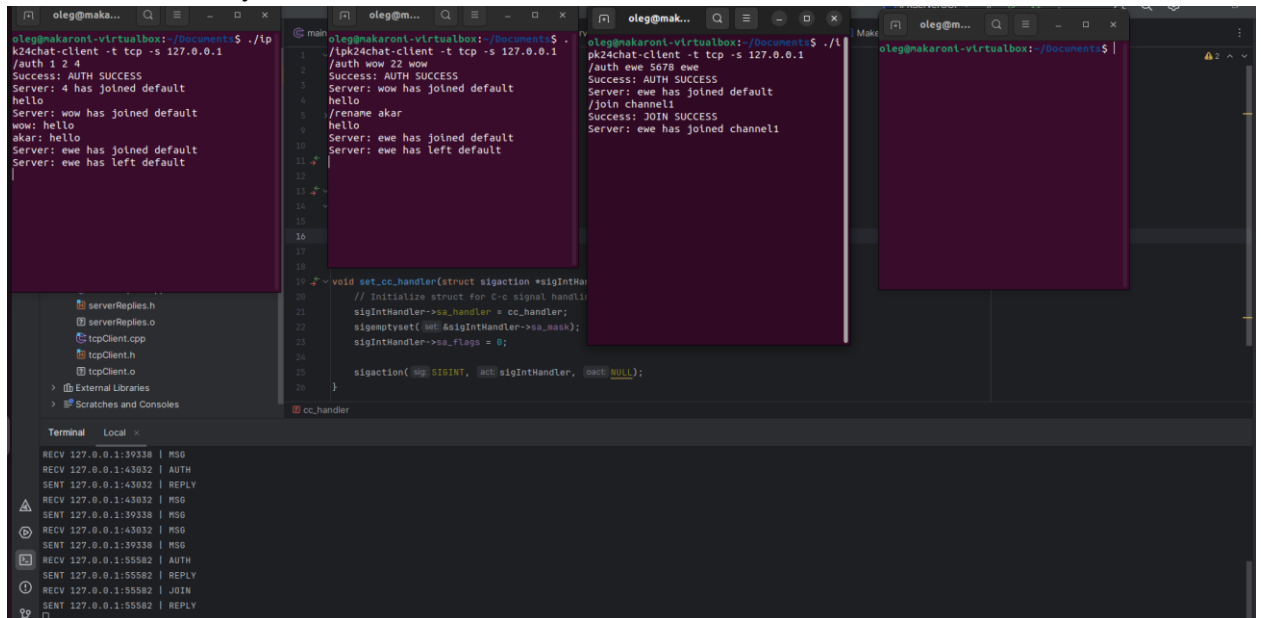wow: hello
akar: hello
Server: ewe has joined default
Server: ewe has left default
Server: palop has joined default
palop: hello everyone
Server: palop has left default
Server: ewe has joined default
Server: palop has joined default

/ipk24chat-client -t tcp -s 127.0.0.1
/auth wow 22 wow
Success: AUTH SUCCESS
Server: wow has joined default
hello
/rename akar
hello
Server: ewe has joined default
Server: ewe has left default
Server: palop has joined default
palop: hello everyone
Server: palop has left default
Server: ewe has joined default
Server: palop has joined default

oleg@makaroni-virtualbox:~/Documents$ ./
pk24chat-client -t tcp -s 127.0.0.1
/auth ewe 5678 ewe
Success: AUTH SUCCESS
Server: ewe has joined default
/join channel1
Success: JOIN SUCCESS
Server: ewe has joined channel1
hello in new channel
Server: palop has joined channel1
palop: hello who is in this server
/join default
Success: JOIN SUCCESS
Server: ewe has joined default
Server: palop has joined default

oleg@makaroni-virtualbox:~/Documents$.
/ipk24chat-client -t tcp -s 127.0.0.1
/auth palop qwerty palop
Success: AUTH SUCCESS
Server: palop has joined default
hello everyone
/join channel1
Success: JOIN SUCCESS
Server: palop has joined channel1
hello who is in this server
Server: ewe has left channel1
/join default
Success: JOIN SUCCESS
Server: palop has joined default

```
void set_cc_handler(struct sigaction *sigIntHa
    // Initialize struct for C-c signal handli
    sigIntHandler->sa_handler = cc_handler;
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    sigIntHandler->sa_flags = 0;

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}
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serverReplies.h
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Terminal   Local

RECV 127.0.0.1:36446 | MSG
SENT 127.0.0.1:39338 | MSG
SENT 127.0.0.1:43032 | MSG
RECV 127.0.0.1:36446 | JOIN
SENT 127.0.0.1:36446 | REPLY
RECV 127.0.0.1:36446 | MSG
SENT 127.0.0.1:55582 | MSG
RECV 127.0.0.1:55582 | JOIN
SENT 127.0.0.1:55582 | REPLY
RECV 127.0.0.1:36446 | JOIN
SENT 127.0.0.1:36446 | REPLY

The first client leaves the server by pressing ctrl + c. Server is stll running.

Server ended communication when ctrl+c was pressed and sended all clients BYE.

This is how previous communication is looking in WireShark.

No.	Time	Source	Destination	Protocol	Length	Info
4	5.908225107	127.0.0.1	127.0.0.1	IPK24-…	87	C → Server | aUtH 1 aS 4 uSinG 2
6	5.908406776	127.0.0.1	127.0.0.1	IPK24-…	92	Server → C | REPLY OK IS AUTH SUCCESS
8	5.908429224	127.0.0.1	127.0.0.1	IPK24-…	107	Server → C | MSG FROM Server IS 4 has joined default
11	132.572584451	127.0.0.1	127.0.0.1	IPK24-…	87	C → Server | msG FRoM 4 iS hello
16	166.044489871	127.0.0.1	127.0.0.1	IPK24-…	92	C → Server | aUtH wow aS wow uSinG 22
18	166.044658342	127.0.0.1	127.0.0.1	IPK24-…	92	Server → C | REPLY OK IS AUTH SUCCESS
20	166.044685463	127.0.0.1	127.0.0.1	IPK24-…	109	Server → C | MSG FROM Server IS wow has joined default
22	166.044706906	127.0.0.1	127.0.0.1	IPK24-…	109	Server → C | MSG FROM Server IS wow has joined default
28	198.587819025	127.0.0.1	127.0.0.1	IPK24-…	89	C → Server | msG FRoM wow iS hello
29	198.587932530	127.0.0.1	127.0.0.1	IPK24-…	89	Server → C | msG FRoM wow iS hello
32	221.272389932	127.0.0.1	127.0.0.1	IPK24-…	90	C → Server | msG FRoM akar iS hello
34	221.272582339	127.0.0.1	127.0.0.1	IPK24-…	90	Server → C | msG FRoM akar iS hello
39	246.268112346	127.0.0.1	127.0.0.1	IPK24-…	94	C → Server | aUtH ewe aS ewe uSinG 5678
41	246.268194736	127.0.0.1	127.0.0.1	IPK24-…	92	Server → C | REPLY OK IS AUTH SUCCESS
43	246.268213688	127.0.0.1	127.0.0.1	IPK24-…	109	Server → C | MSG FROM Server IS ewe has joined default
45	246.268227439	127.0.0.1	127.0.0.1	IPK24-…	109	Server → C | MSG FROM Server IS ewe has joined default
47	246.268238901	127.0.0.1	127.0.0.1	IPK24-…	109	Server → C | MSG FROM Server IS ewe has joined default
49	262.620212970	127.0.0.1	127.0.0.1	IPK24-…	88	C → Server | jOIn channel1 aS ewe
50	262.620271912	127.0.0.1	127.0.0.1	IPK24-…	92	Server → C | REPLY OK IS JOIN SUCCESS
52	262.620287163	127.0.0.1	127.0.0.1	IPK24-…	107	Server → C | MSG FROM Server IS ewe has left default
54	262.620296798	127.0.0.1	127.0.0.1	IPK24-…	107	Server → C | MSG FROM Server IS ewe has left default
56	262.620310529	127.0.0.1	127.0.0.1	IPK24-…	110	Server → C | MSG FROM Server IS ewe has joined channel1
58	286.431931533	127.0.0.1	127.0.0.1	IPK24-…	104	C → Server | msG FRoM ewe iS hello in new channel
63	317.143848866	127.0.0.1	127.0.0.1	IPK24-…	100	C → Server | aUtH palop aS palop uSinG qwerty
65	317.144001729	127.0.0.1	127.0.0.1	IPK24-…	92	Server → C | REPLY OK IS AUTH SUCCESS
67	317.144036255	127.0.0.1	127.0.0.1	IPK24-…	111	Server → C | MSG FROM Server IS palop has joined default
69	317.144065965	127.0.0.1	127.0.0.1	IPK24-…	111	Server → C | MSG FROM Server IS palop has joined default
71	317.144086179	127.0.0.1	127.0.0.1	IPK24-…	111	Server → C | MSG FROM Server IS palop has joined default
73	327.381049954	127.0.0.1	127.0.0.1	IPK24-…	100	C → Server | msG FRoM palop iS hello everyone
74	327.381143909	127.0.0.1	127.0.0.1	IPK24-…	100	Server → C | msG FRoM palop iS hello everyone
76	327.381179727	127.0.0.1	127.0.0.1	IPK24-…	100	Server → C | msG FRoM palop iS hello everyone
79	348.791005843	127.0.0.1	127.0.0.1	IPK24-…	90	C → Server | jOIn channel1 aS palop
81	348.791069724	127.0.0.1	127.0.0.1	IPK24-…	92	Server → C | REPLY OK IS JOIN SUCCESS
83	348.791083708	127.0.0.1	127.0.0.1	IPK24-…	109	Server → C | MSG FROM Server IS palop has left default
85	348.791096488	127.0.0.1	127.0.0.1	IPK24-…	109	Server → C | MSG FROM Server IS palop has left default
87	348.791139769	127.0.0.1	127.0.0.1	IPK24-…	112	Server → C | MSG FROM Server IS palop has joined channel1
89	348.791150457	127.0.0.1	127.0.0.1	IPK24-…	112	Server → C | MSG FROM Server IS palop has joined channel1
91	365.224353049	127.0.0.1	127.0.0.1	IPK24-…	113	C → Server | msG FRoM palop iS hello who is in this server
92	365.224453594	127.0.0.1	127.0.0.1	IPK24-…	113	Server → C | msG FRoM palop iS hello who is in this server
95	388.221067258	127.0.0.1	127.0.0.1	IPK24-…	87	C → Server | jOIn default aS ewe
97	388.221162667	127.0.0.1	127.0.0.1	IPK24-…	92	Server → C | REPLY OK IS JOIN SUCCESS
111	408.300775632	127.0.0.1	127.0.0.1	IPK24-…	111	Server → C | MSG FROM Server IS palop has joined default
113	408.300790201	127.0.0.1	127.0.0.1	IPK24-…	111	Server → C | MSG FROM Server IS palop has joined default
115	408.300802099	127.0.0.1	127.0.0.1	IPK24-…	111	Server → C | MSG FROM Server IS palop has joined default
117	408.300812566	127.0.0.1	127.0.0.1	IPK24-…	111	Server → C | MSG FROM Server IS palop has joined default
119	417.521192228	127.0.0.1	127.0.0.1	IPK24-…	71	C → Server | bYe
122	417.521346917	127.0.0.1	127.0.0.1	IPK24-…	105	Server → C | MSG FROM Server IS 4 has left default
124	417.521366431	127.0.0.1	127.0.0.1	IPK24-…	105	Server → C | MSG FROM Server IS 4 has left default
126	417.521374491	127.0.0.1	127.0.0.1	IPK24-…	105	Server → C | MSG FROM Server IS 4 has left default
130	429.894504641	127.0.0.1	127.0.0.1	IPK24-…	71	Server → C | BYE
132	429.894558813	127.0.0.1	127.0.0.1	IPK24-…	71	Server → C | BYE
134	429.894579982	127.0.0.1	127.0.0.1	IPK24-…	71	Server → C | BYE