Mehmet Acikgoz

2020 Spring CSEE 5110 NA-1 *Individual* Project 1
Both Canvas and Gradescope submission,
Due on midnight on 03/19 (Part 1), 04/09 (Part 2)

**Part II. Group Chatting Program (50%) (Due 04/09)**

Develop a simple chat program (similar to google hangout and skype chat), and show the screenshots of the execution of the below.

Extend the first program to chat client-server program following these steps.

a) (5%) A chat server will accept a single client connection and display everything the client types. If the client user types 'exit', both client and server will end the program.
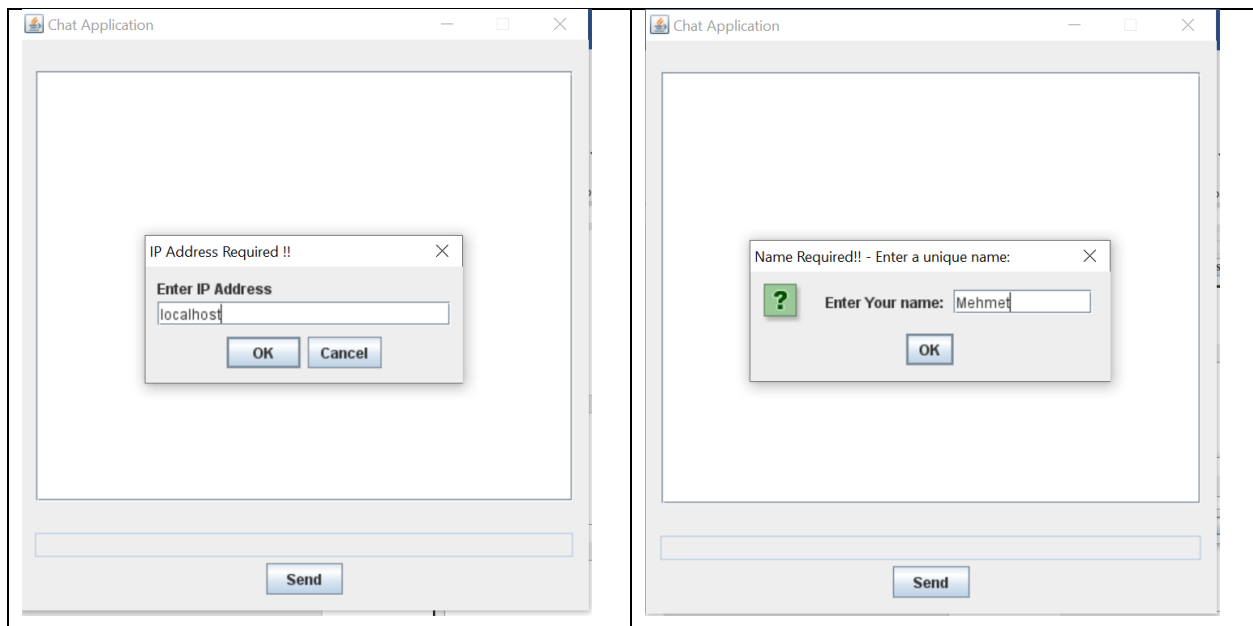
Server :
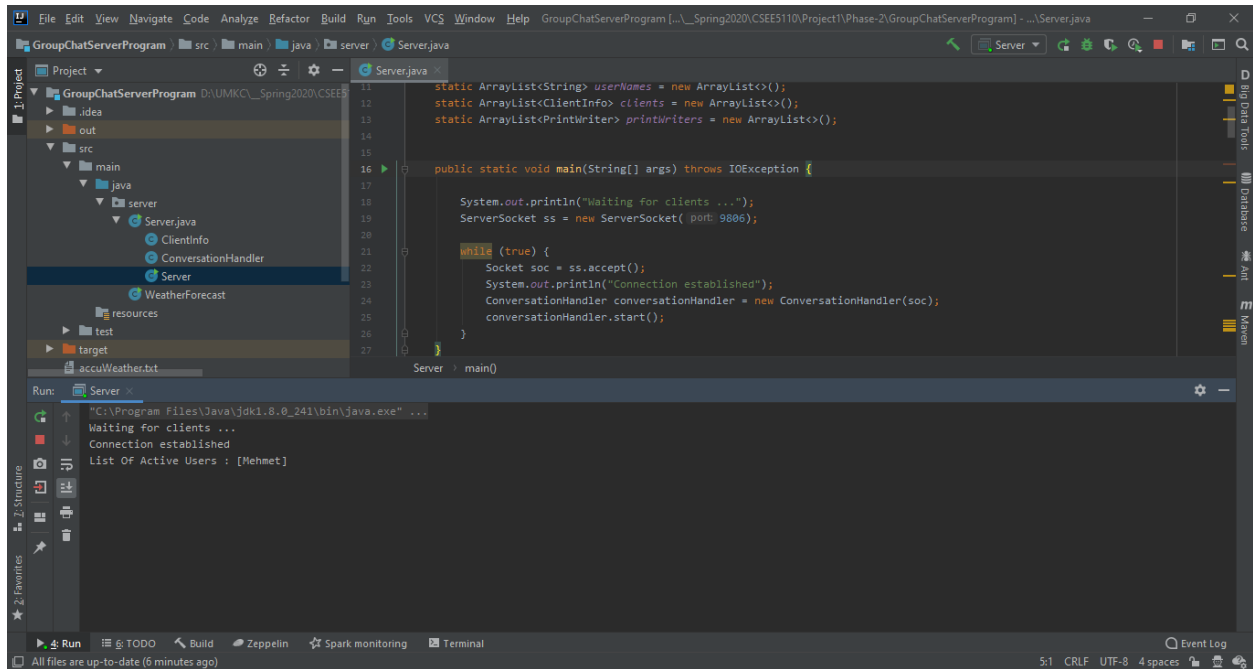
Server is waiting for connections…
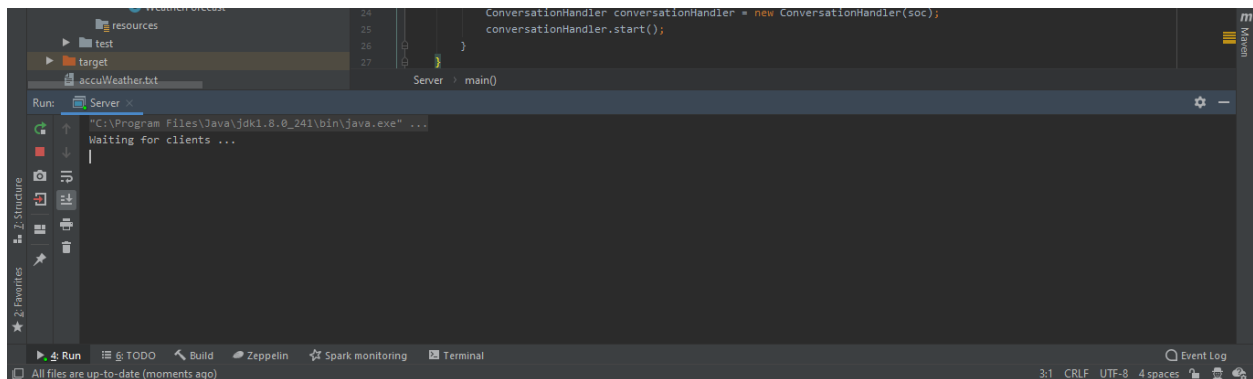
Client:

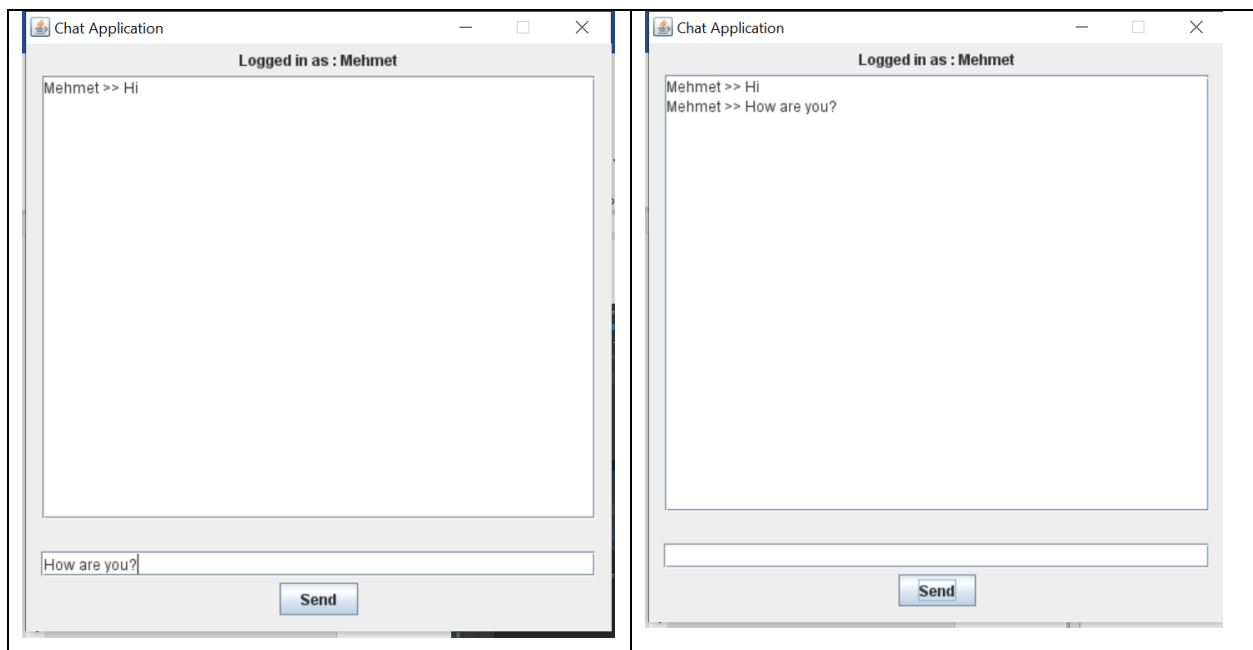After entering the IP address and user name, the connection is established with the Server.

Server:

After the connection, we see that there is only 1 client which is "Mehmet" in the system.
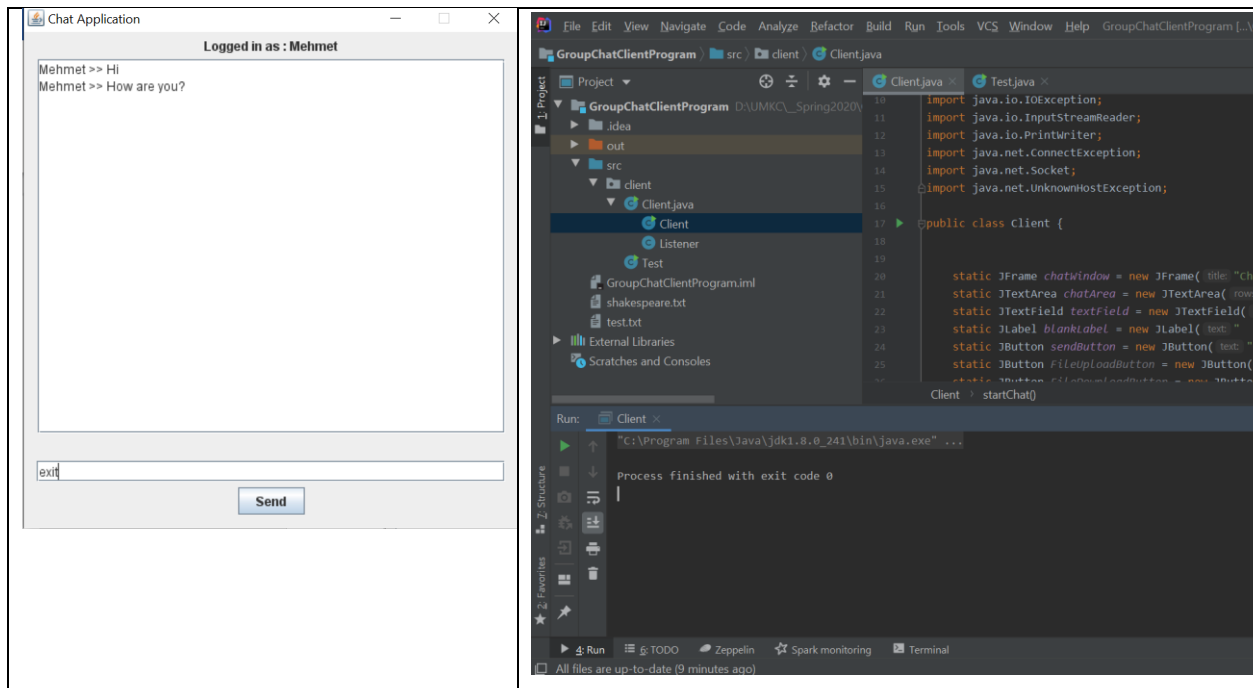

Client:
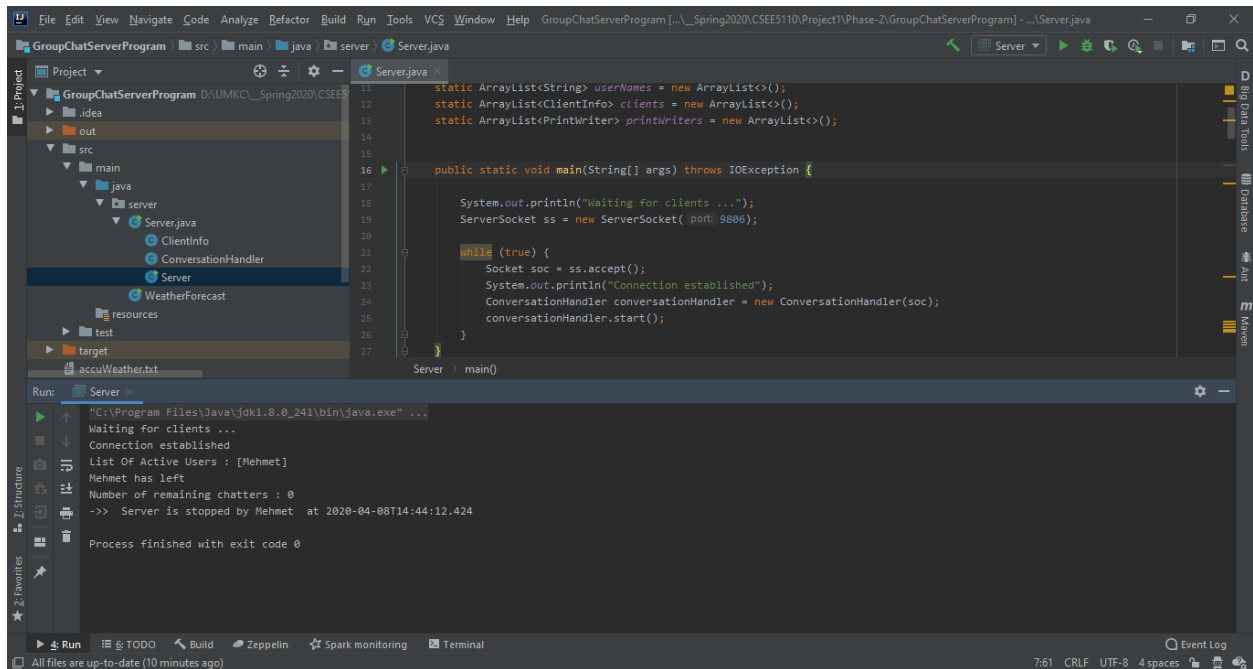
Client types messages that will be seen on the UI.

When the Client types "exit" and press send button, the client and server will end the program.
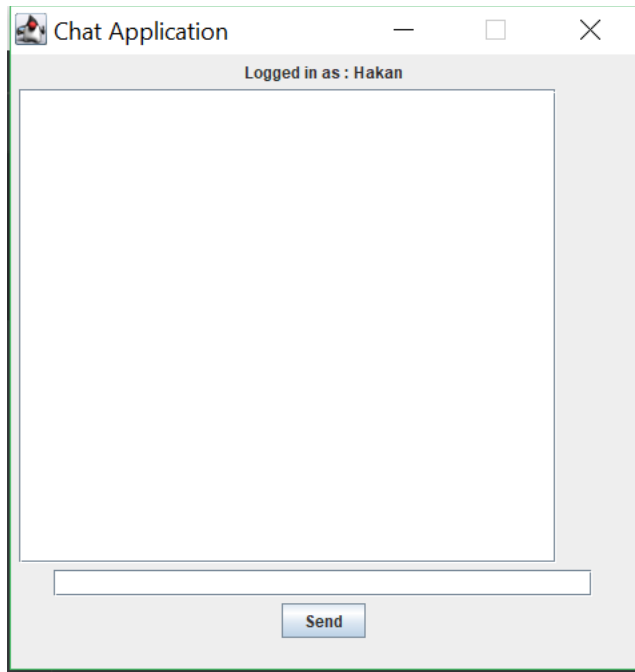

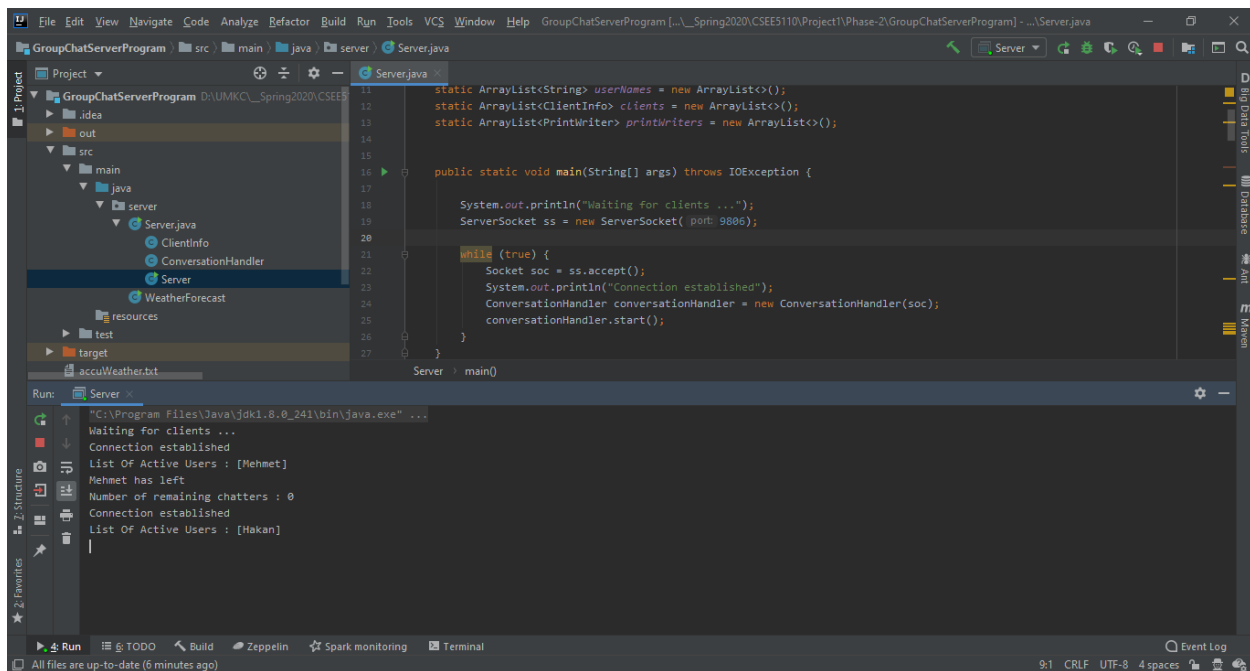**Server:** Server also ends the program

b) (5%) A server now remains 'open' for additional connection once a client quits. The server can handle at most one connection at a time.

Client 1- Hakan connects to the Server after Mehmet drops off. Server is still active…

Server:

c) (10%) A server now can handle multiple clients at the same time. The output from all the connected clients will appear on the server's screen.

Client-1 Hakan has been connected to the Server, then Client 2 Mehmet creates a connection to the Server. We see the message "Mehmet has just joined" on Hakan's UI page.

Clients:

Client 1: Hakan	Client 2: Mehmet
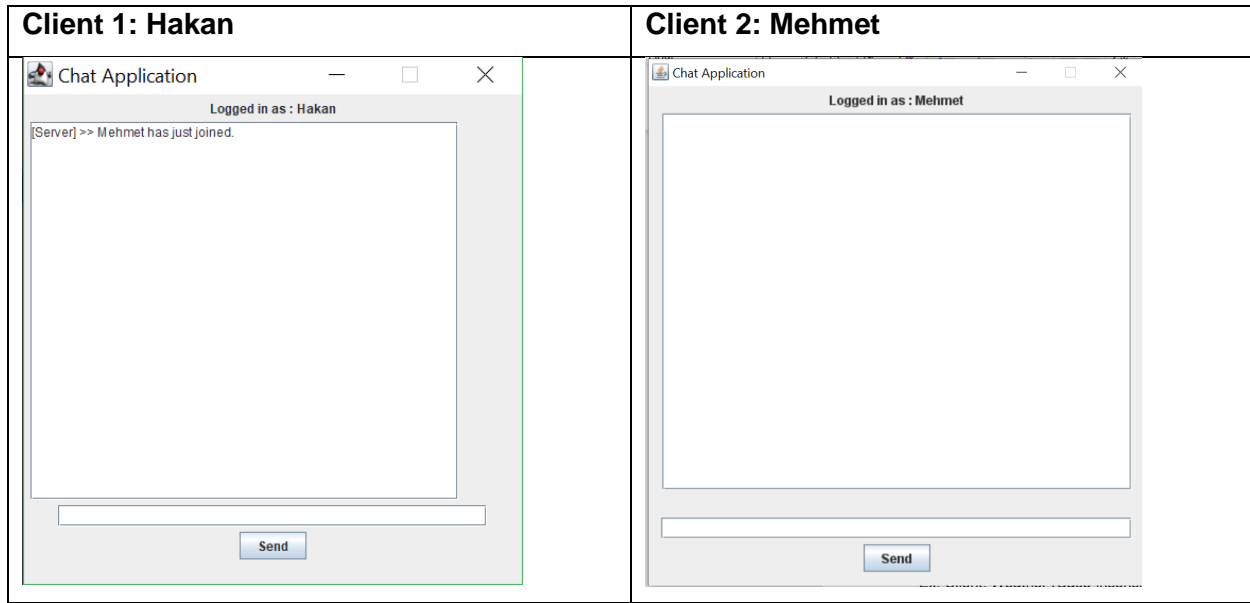
Server:

Server lists out the active clients. There are 2 active clients namely Hakan and Mehmet

Clients talk to each other :

d) (30%) A server replies next 3 days temperature of Kansas city (eg 30 C/45 F), when client sends "Weather" otherwise server echoes same message.
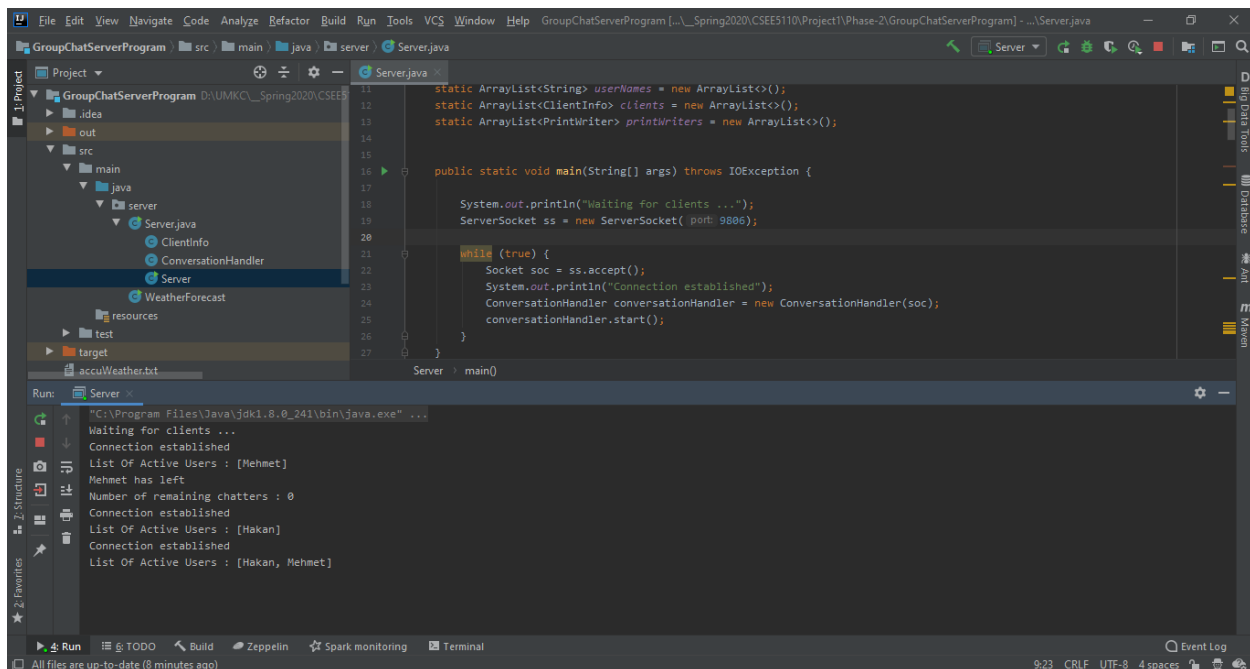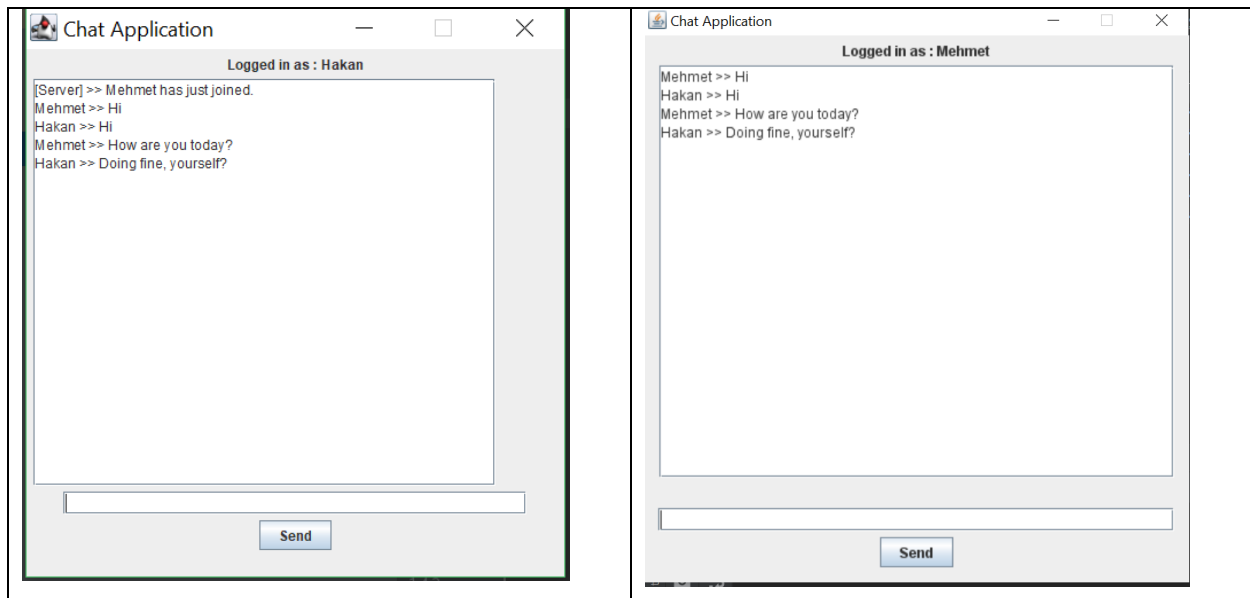
Ex: Client: Weather (Case-insensitive)

Server: Next consecutive three days temperature : 45c/47/34

I created a custom java class to use accuweather API service (https://developer.accuweather.com/) for the 5-day weather forecast in this part. The values are derived from accuweather API service.

* If any of the clients types "weather" (case-insensitive), the server will get the 5 day weather forecast for the "Kansas City" and broadcast the 5-day prediction to the other clients. [Kansas City is the default value for city]
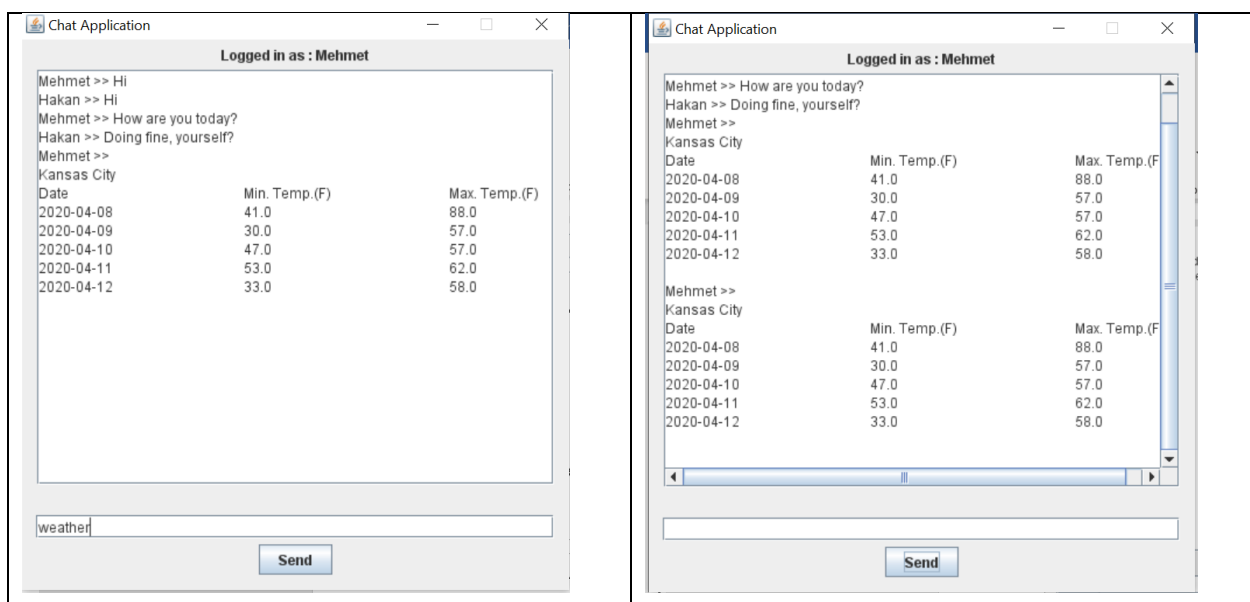
* If any of the clients types "weather <anycityname>" (case-insensitive), the server will get the 5 day weather forecast for the that specific city and broadcast the 5-day prediction to the other clients.

When Clien-1 Hakan types "weather Miami", all the clients will get the 5-day real weather forecast for Miami from accuweather API service.
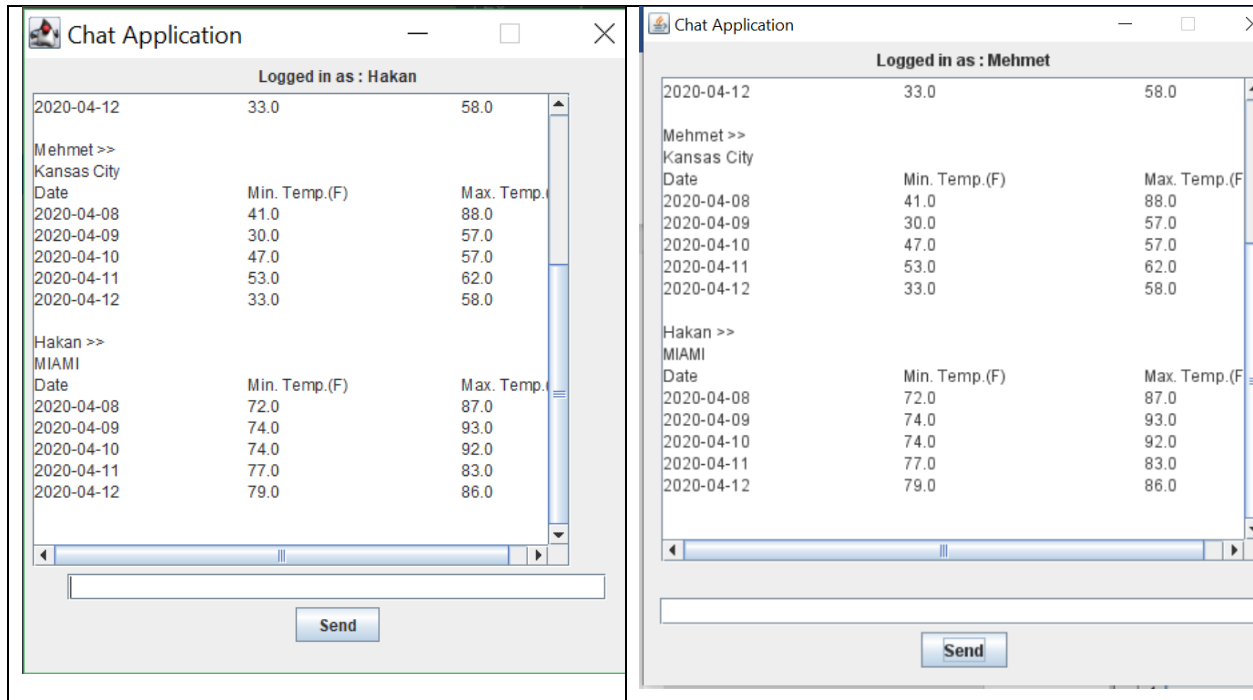
All the traffic is stored in the logfile in the Server under the filename "server-Logs.txt".
Please find below a view from the logfile.

```
-> NEW USER ADDED: /127.0.0.1:54159: Mehmet
Mehmet-/127.0.0.1:54159 : Hi
Mehmet-/127.0.0.1:54159 : How are you?
->>     USER LEFT :Mehmet   at 2020-04-08T14:44:12.301
->>  Server is stopped by Mehmet   at 2020-04-08T14:44:12.424
-> NEW USER ADDED: /127.0.0.1:54223: Mehmet
->>     USER LEFT :Mehmet   at 2020-04-08T14:51:09.347
-> NEW USER ADDED: /192.168.1.130:55574: Hakan
-> NEW USER ADDED: /127.0.0.1:54269: Mehmet
Mehmet-/127.0.0.1:54269 : Hi
Hakan-/192.168.1.130:55574 : Hi
Mehmet-/127.0.0.1:54269 : How are you today?
Hakan-/192.168.1.130:55574 : Doing fine, yourself?

Kansas City
Date      Min. Temp.(F)     Max. Temp.(F)
2020-04-08    41.0        88.0
2020-04-09    30.0        57.0
2020-04-10    47.0        57.0
2020-04-11    53.0        62.0
```

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2020-04-12     33.0        58.0

Mehmet-/127.0.0.1:54269 :
Kansas City
Date      Min. Temp.(F)      Max. Temp.(F)
2020-04-08    41.0        88.0
2020-04-09    30.0        57.0
2020-04-10    47.0        57.0
2020-04-11    53.0        62.0
2020-04-12    33.0        58.0


Kansas City
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2020-04-08    41.0        88.0
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2020-04-11    53.0        62.0
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Mehmet-/127.0.0.1:54269 :
Kansas City
Date      Min. Temp.(F)      Max. Temp.(F)
2020-04-08    41.0        88.0
2020-04-09    30.0        57.0
2020-04-10    47.0        57.0
2020-04-11    53.0        62.0
2020-04-12    33.0        58.0


MIAMI
Date      Min. Temp.(F)      Max. Temp.(F)
2020-04-08    72.0        87.0
2020-04-09    74.0        93.0
2020-04-10    74.0        92.0
2020-04-11    77.0        83.0
2020-04-12    79.0        86.0

Hakan-/192.168.1.130:55574 :
MIAMI
Date      Min. Temp.(F)      Max. Temp.(F)
2020-04-08    72.0        87.0
2020-04-09    74.0        93.0
2020-04-10    74.0        92.0
2020-04-11    77.0        83.0
2020-04-12    79.0        86.0

->>     USER LEFT :Mehmet  at 2020-04-08T15:38:33.162
->>     USER LEFT :Hakan   at 2020-04-08T15:39:05.236
```