**Messages exchanged between the Client and the Server**

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| --- | --- | --- | --- |
| Direction | Message Sent | Purpose of Message | Data in the message |
| Client to Server | User name | Users are addressed with unique id, username | Name of the user |
| Server to Client | Known user limit | Limits the known users to 100 | You can continue / Known users limit reached |
| Server to Client | currentUserSearch | Check whether the user has already been logged in | Continue / Already logged in |
| Client to Server | query | Menu choice | Choice number of the menu |
| Case 1: (To display all known users) | | | |
| Server to Client | b | Number of times to receive the known users | Size of known users list |
| Server to Client | Known users | To print the known users | Known users’ usernames |
| Case 2:(To display all connected users) | | | |
| Server to Client | b | Number of times to receive the connected users | Size of connected users list |
| Server to Client | Connected users | To print the connected users | Connected users’ usernames |
| Case 3:(To send a message to a particular user) | | | |
| Client to Server | dest | Recipient’s name | User name of the recipient |
| Client to Server | msg | Content of the message | Content of the message |
| Server to Client | reply | Acknowledgement to check whether the message is posted or not | Message posted |
| Case 4:(To send a message to all connected users) | | | |
| Client to Server | msg1 | Message to post to all connected users | Content of the message |
| Server to Client | reply1 | Acknowledgement to check whether the message is posted or not | Message posted to all connected users |
| Case 5:(To send message to all known users) | | | |
| Client to Server | msg1 | Message to post to all known users | Content of the message |
| Server to Client | reply1 | Acknowledgement to check whether the message is posted or not | Message posted to all known users |
| Case 6:(To get messages of a particular user) | | | |
| Server to Client | times | Number of times to receive recipient’s messages | Size of the particular recipient’s message database |
| Server to Client | answer | Content of the message | Content of the message |
| Case 7:(Exit) | | | |
|  |  | Break the while(true) loop | Disconnect |
| Default: | | | |
| Server to Client | reply2 | To indicate invalid choice of menu | Invalid menu choice |