REPORT

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Step 1

Extension: UNREGISTER MESSAGE

The problem is solved in code as follows

a. Client to Server “UNREGISTER {sender username}\n\n”
b. Server to Client “UNREGISTERED {unregistered username}\n\n”

After receiving “UNREGISTER {username}\n\n” the Server checks if the requested username for deregistration is same as the username of the sender of the message. Then Server sends back “UNREGISTERED {username}\n\n” to the client and closes the socket. The Client will close the socket upon receiving this message.

Extension: If Client presses “ctrl – C” for unregistration

When the socket connection is closed from Client side, the server throws error. Hence by catching the error we can unregister the username of sender.

Extension: Dealing with Offline senders and users:

a.) Offline Sender Client Side:- If the client sends a message when it is offline, it can store it in a database in its system. When it turns online and registration if complete, it can issue multiple “SEND ....” requests till all unsent messages in database are sent

b.)Offline Receiver Client Side:- When the server finds that the destination username is offline, it can store the message in a database. Whenever it receives a “REGISTER” message it can check if there are any messages

corresponding to that username in its database and send all the undelivered messages post-registration.

Step 2

Base64 Encoding: It used because some media are used for streaming text. Some protocols may interpret our binary data as control characters or some special character combination.

Step 3

Digital Certificate is trusted third part issued certificate. It is used to verify the certificate holder. The Certificate Authority gives encrypted digital certificate containing user’s identification information.