

CS425 -Assignment-1 - report

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1 Code Implementation

1.1 Server

- Created socket, binded to INADDR_ANY and started listening.
- A while loop started to stay awake till closed explicitly.
- Started accepting connections and receive username:password, tokenized it into variables user and pass.
- Checks in the file users.txt if the specified user exists if not then send "No such username found!!" if it does then check if password matches, if no send "Authentication Failure!!!". In both these cases before sending these strings we send a string "0", so that client may know that it should not request for a file.
- Now if both username and password matches then the server sends a string "1" and expects a filename to be sent by the client, it checks if the filename sent by client exists and if no such file exists it sends "0" followed by "File Not Found" but if the file exists then the server sends "1" followed by the buffer (char array) containing the file.
- Then it closes the connection to this socket and waits for new sockets.

1.2 client

- Receives username:password@serverip from user. tokenizes it into username:password (sent to the server) and serverip (assigned to serv_addr.sin_addr.s_addr).
- Waits for response of server, if it comes "0" then closes the connection after receiving and displaying another message ("No such username found!!" or "Authentication Failure!!!"), but if it comes "1" then requests the user "Enter the name of file to fetch from server" and sends the filename to server. Again receives a string from server if string is "1" then write the contents of the next message (contents of requested file) to file, but if it comes "0" then just displays the new message (File Not Found).

2 Assumptions and Limitations

- We have assumed that file size and Username Password size is less than 1Kilo Bytes, but this can be easily increased or decreased, but kept 1KB for simplicity.
- We have also assumed that file is ascii readable and hence no other type of files like pdf, mp3, mp4 etc. can be sent via this connection.
- We are also assuming that the socket does implement the TCP layer, IP Layer, DLL and Physical Layers efficiently without data loss.
- We haven't ensured the security of our server thoroughly.
- We have assumed that the number of clients at a particular time is less than equal to 10.