PICT, PUNE

Assignment B4

Title : TCP/UDP sockets (P2P and Multiuser Chat)

Problem Statement:
Write a program using TCP/UDP sockets for wired network to implement:
a. Peer to peer chat
b. Multiuser chat.
Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool.

Theory:

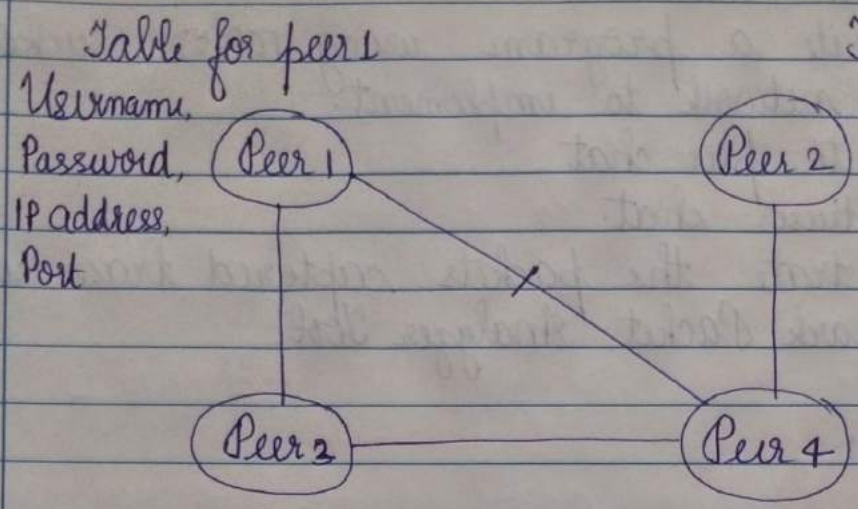
Network socket:
A network socket is an internal endpoint for sending or receiving data at a single node in a computer network.
It is a representation of this endpoint in network software (protocol stack), such as entry in a table (listing communication protocol, destination, status, etc.) and is a form of system resource.

The principle of communication can be categorized into two, client-server and peer to peer communication
In client-server environment there is a dedicatid server while the rest of the nodes are acting as nodes.

2020/11/25 22:16

PICT, PUNE

In peer to peer communication, a node can be either a client or a server depending whether it is a request or provider of the service at that specific time.



Index table of peer 3. Username, Password, IP addresses, Port, number for Peer 1 and Peer 4

Index table of Peer 4 Username, Password, IP address, Port number for Peer 1, Peer 2 and Peer 3.

With Multi-user Chat (short MUC, German multi-user chat) and group chat are at XMPP, the chat rooms designed, where multiple users can converse simultaneously.

Similar to the Internet Relay Chat (IRC), a chat room can have different statuses (visible, hidden, password protected, etc.) and the participants take the role of the participant, visitor or moderator (similar to the IRC of the

2020/11/25 22:16

Operators, voice, etc.)

The MUC has many advantages over the IRC

MUC offers various functions. This allows the server to create a log file over a room, if desired.
Regardless of this, the latest messages are also saved and sent to new visitors with correct timings, so that they can see what is going to happen.

Each user can have different privileges in a chat, he can write in a room or change the subject/ subject depending on his/her privileges.
The privileges allow users to kick or ban other users. It is also possible to set which user can see the Jabber identifiers of the others.
If the rights are sufficient, these users can change the rights of the other users, thus avoiding the right to speak.

In addition, the user can be restricted in a chat. A chat is also available without the user being present and can also be hidden or protected with a password.

And if an internal chat is to be established, it is also possible to specify which users can join and which not. A chat can be anonymous and hide the jabber identifiers of the others.

Conclusion:

We successfully implemented a program using TCP sockets for wired network to implement peer to peer chat and a multiuser chat..

2020/11/25 22:17