



A Java based chatting App

Course Name: Advanced Networking Project Report

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Introduction:

On the Internet, chatting is talking to other people who are using the Internet at the same time you are. In some cases, a private chat can be arranged between two parties who meet initially in a group chat. So till now everyone knows about chatting, but what actually a chat application is?

What is a chat Application?

Chat Application is primarily meant based group chat to refer to direct one-on-one chat or text. DVS Technologies provide both type of chat application. DVS Technologies chat application facilitates real-time communication, with its superior feature set and unprecedented reliability. DVS Technologies chat application increases the efficiency of the communication process. Many of our clients are using DVS Technologies chat application in their websites worldwide for communicating to their prospective clients. We can embed different type's forms to login to the chat application.

What is a Socket?

Definition: A socket is one endpoint of a two-way communication link between two programs running on the network. A socket is bound to a port number so that the TCP layer can identify the application that data is destined to be sent to [4].

Normally, a server runs on a specific computer and has a socket that is bound to a specific port number. The server just waits, listening to the socket for a client to make a connection request.

Chat Server:

The "Chat Server" is a windows-based internet chatting software system. It is composed of two major subsystems: a Server and a Client, which are independent processes that can be executed on separate computers on a network. This includes allowing clients to login so they can be identified by username and forwarding messages from one client destined to another.

Examples of Chatting Applications : Gtalk, Yahoo Messenger, Hotmail.

Sockets and Java Socket Classes:

A socket is an endpoint of a two-way communication link between two programs running on the network and is bound to a port number so that the TCP layer can identify the application that data destined to be sent.

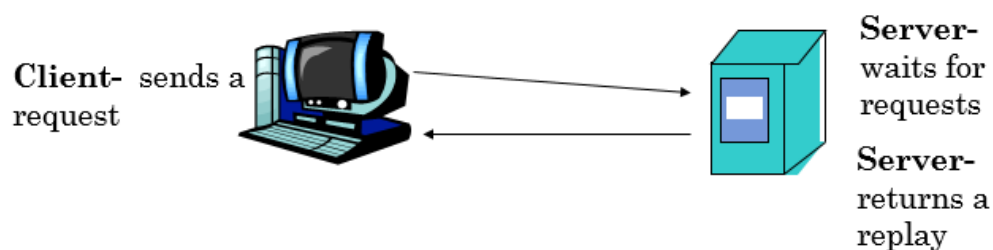
Java's .net package provides two classes that are Socket – for implementing a client and Server Socket – for implementing a server. There are four fundamental operations a socket performs. These are:

- Connect to a remote machine
- Send data
- Receive data
- Close the connection

Sockets provide an interface for programming networks at the transport layer and is a reliable connection for the transmission of data between two hosts. A server (program) runs on a specific computer and has a socket that is bound to a specific port. The server waits and listens to the socket for a client to make a connection request. Socket-based communication is programming language independent. That means, a socket program written in Java language can also communicate to a program written in Java or non-Java socket program.

Client Server programming:

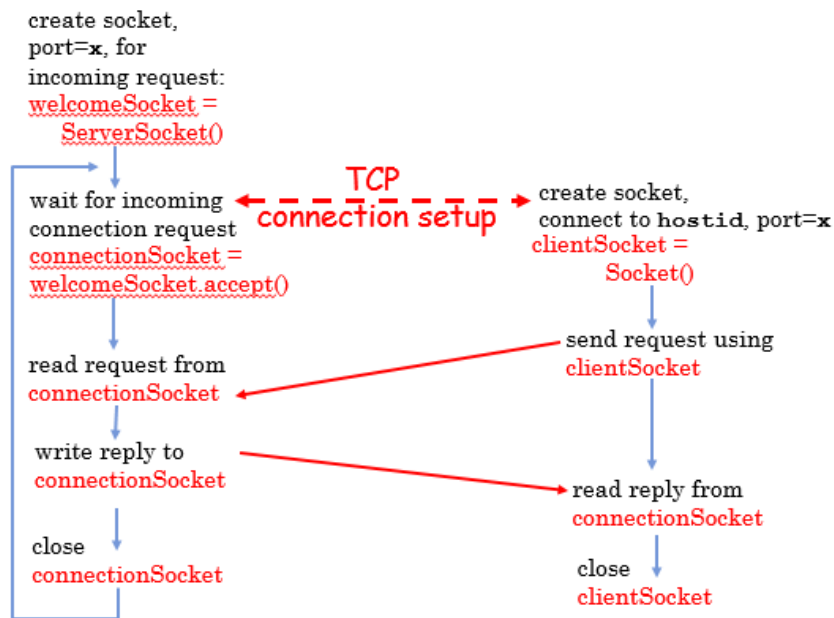
Client/server describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfils the request. Clients and servers are connected by sockets.



Client/server socket interaction: TCP:

Server (running on `hostid`)

Client



My Project:

We have created for classes:

- Client
- Client Test
- Server
- Server Test

Client Class:

This class is responsible for making connection with the server, there is a function or method for sending message to the server and finally showing the messages in the Gui, it is responsible for closing and opening the socket during establishment of connection between client and server.

ClientTest Class:

This is a mother class of child class client , responsible for setting up the client.

Server class:

This class is responsible for running the server, it wait for connection, then display connection information it also get stream to send and receive data and send message to client it than updates

chat window and allowing user to type into the box, after all that closing socket after done chatting

Servertext class:

This is mother class that will be running its program for setting up server

Interface of project:



Output:

```
Windows Command Processor (3)
C:\Chat Server\Final>java MyServer
Client is Connected
Client is Connected
Client is Connected
Exit :Raj Mahalawat
Exit :Nitish Nagar
Exit :Raman Sethi
C:\Chat Server\Final>
```

Future Scope:

- **Login session information:** We can include a feature in this application that will keep a record of the user's login session.
- **Offline messages:** User can send messages to friends even when they are offline.
- **File transferring and sharing:** User can transfer one or more files to other users. A file can also be shared between two or more users.

- **Profile Database:** The profile information of every user can be stored at the server.
- **Login Timeout:** This feature allows the user to be logged in only for a specific time. After this time span ends, the user is automatically logged out