**Lab 3 - [Client Server Messaging in java]**

**Objective**

● To create a client-server network for message sharing in Java

# Theory

* A client-server network is a computer network type based on the client-server architecture.
* It consists of a Server computer that controls and manages all the resources in the system and Client computers that are connected with each other via a Server computer.
* **Steps to create a client-server network in java**
  1. Create a class to act as a server
  2. Create another class to act as a client
  3. In server-class initiate a Socket by accepting a ServerSocket instance
  4. Create object for DataInputStream, DataOutputStream and

BufferedReader then use the readUTF() method of DataInputStream to read message sent by client, use readLine() method of

BufferedReader to read input of user and sent to server using

writeUTF() method of DataOutputStream

* 1. Finally, close all the streams using the close() method on some conditions. (\*in our case when server says bye\*)
  2. In the client class initiate a Socket
  3. Same as step 4 for the client class
  4. Same as step 5 for the client class

|  |
| --- |
| import java.net.\*; |
| import java.io.\*; |
|  |
| public class ClientSide |

* 1. Run the server code first then the client code
  2. Start messaging from client then server and continue alternatively till bye in our case

# Source code

|  |
| --- |
| { |
| public static void main(String args[])throws |
| Exception |
| { |
| Socket s=new Socket("localhost",3333); |
|  |
| DataInputStream din=new |
| DataInputStream(s.getInputStream()); |
| DataOutputStream dout=new |
| DataOutputStream(s.getOutputStream()); |
| BufferedReader br=new BufferedReader(new |
| InputStreamReader(System.in)); |
|  |
| String str="",str2=""; |
|  |
| while(!str.equals("bye")) |
| { |
| str=br.readLine(); |
| dout.writeUTF(str); |
| dout.flush(); |
| str2=din.readUTF(); |
| System.out.println("Server says: "+str2); |
| } |
|  |
| dout.close(); |
| s.close(); |
| } |
| } |
|  |
| /\*Server side\*/ |
| import java.net.\*; |

|  |
| --- |
| import java.io.\*; |
|  |
| public class ServerSide |
| { |
| public static void main(String args[])throws |
| Exception |
| { |
|  |
| ServerSocket ss=new ServerSocket(3333); |
| Socket s = ss.accept(); |
|  |
| DataInputStream din = new |
| DataInputStream(s.getInputStream()); |
| DataOutputStream dout = new |
| DataOutputStream(s.getOutputStream()); |
| BufferedReader br = new BufferedReader(new |
| InputStreamReader(System.in)); |
|  |
| String str="",str2=""; |
|  |
| while(!str.equals("bye")) |
| { |
| str = din.readUTF(); |
|  |
| System.out.println("client says: "+str); |
|  |
| str2 = br.readLine(); |
|  |
| dout.writeUTF(str2); |
| dout.flush(); |
| } |
|  |
| din.close(); |
| s.close(); |
| ss.close(); |
| } |
| } |

# Output

