Program

server.java

```
import java.io.*;
import java.util.*;
import java.net.*;
public class Server {
    static Vector<ClientHandler> ar = new Vector<>();
    static int i = 0;
    public static void main(String[] args) throws IOException {
        ServerSocket ss = new ServerSocket(8002);
        Socket s;
        while (true) {
            s = ss.accept();
            System.out.println("New client request received : " + s);
            DataInputStream dis = new DataInputStream(s.getInputStream());
            DataOutputStream dos = new
DataOutputStream(s.getOutputStream());
            System.out.println("Creating a new handler for this
client...");
            ClientHandler mtch = new ClientHandler(s, "client " + i, dis,
dos);
            Thread t = new Thread(mtch);
            System.out.println("Adding this client to active client list");
            ar.add(mtch);
            t.start();
            i++;
        }
    }
}
class ClientHandler implements Runnable {
    Scanner scn = new Scanner(System.in);
    private String name;
    final DataInputStream dis;
    final DataOutputStream dos;
    Socket s;
    boolean isloggedin;
    public ClientHandler(Socket s, String name, DataInputStream dis,
DataOutputStream dos) {
        this.dis = dis;
```

```
this.dos = dos;
        this.name = name;
        this.s = s;
        this.isloggedin = true;
    }
    @Override
    public void run() {
        String received;
        while (true) {
            try {
                received = dis.readUTF();
                System.out.println(received);
                if (received.equals("logout")) {
                    this.isloggedin = false;
                    this.s.close();
                    break;
                }
                StringTokenizer st = new StringTokenizer(received, "#");
                String MsgToSend = st.nextToken();
                String recipient = st.nextToken();
                for (ClientHandler mc : Server.ar) {
                    if (mc.name.equals(recipient) && mc.isloggedin == true)
{
                        mc.dos.writeUTF(this.name + " : " + MsgToSend);
                        break;
                    }
                }
            } catch (IOException e) {}
        try {
            this.dis.close();
            this.dos.close();
        } catch (IOException e) {}
   }
}
```

client.java

```
import java.io.*;
import java.net.*;
import java.util.Scanner;

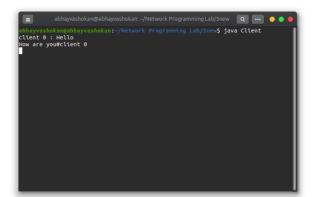
public class Client {
   final static int ServerPort = 8002;
```

```
public static void main(String args[]) throws UnknownHostException,
IOException {
        Scanner scn = new Scanner(System.in);
        InetAddress ip = InetAddress.getByName("localhost");
        Socket s = new Socket(ip, ServerPort);
        DataInputStream dis = new DataInputStream(s.getInputStream());
        DataOutputStream dos = new DataOutputStream(s.getOutputStream());
        Thread sendMessage = new Thread(new Runnable() {
            @Override
            public void run() {
                while (true) {
                    String msg = scn.nextLine();
                    try {
                        dos.writeUTF(msq);
                    } catch (IOException e) {}
                }
            }
        });
        Thread readMessage = new Thread(new Runnable() {
            @Override
            public void run() {
                while (true) {
                    try {
                        String msg = dis.readUTF();
                        System.out.println(msg);
                    } catch (IOException e) {}
                }
            }
        });
        sendMessage.start();
        readMessage.start();
   }
}
```

Output

Screenshots

```
abhayvashokan@abhayvashokan:-/Network Programming Lab/Snew Q ... obhayvashokan@abhayvashokan:-/Network Programming Lab/SnewS java Server New client request received: Socket[addr=/127.0.0.1,port=45110,localport=1234] Creating a new handler for this client... Adding this client to active client list New client request received: Socket[addr=/127.0.0.1,port=45112,localport=1234] Creating a new handler for this client... Adding this client to active client list Hello#client 1
How are you? # client 0
```



Output

Server

```
New client request received:
Socket[addr=/127.0.0.1,port=45114,localport=1234]
Creating a new handler for this client...
Adding this client to active client list
New client request received:
Socket[addr=/127.0.0.1,port=45116,localport=1234]
Creating a new handler for this client...
Adding this client to active client list
Hello#client 1
How are you#client 0
```

Client 0

```
Hello#client 1
client 1 : How are you
```

Client 1

```
Hello#client 1
client 1 : How are you
```

ReadMe

- 1. Open first terminal
 - 1. javac Server.java
 - 2. java Server
- 2. Open second terminal to run client 0
 - 1. javac Client.java
 - 2. java Client
- 3. Open third terminal to run client 1
 - 1. javac Client.java
 - 2. java Client
- 4. Communicate between Clients and Server using the terminal.
- 5. The message format is <Message>#<Client number>