

## Assignment 1

### Aim:

To develop any distributed application through implementing client-server communication programs based on Java Sockets and RMI techniques.

### tcp\_server.java

```
import java.net.*;
import java.io.*;
public class server
{
    public static void main (String args[])
    {
        try
        {
            int serverPort = 7896;
            ServerSocket listenSocket = new ServerSocket(serverPort);
            while(true)
            {
                Socket clientSocket = listenSocket.accept();
                Connection c = new Connection(clientSocket);
            }
        }
        catch(IOException e) {System.out.println("Listen :"+e.getMessage());}
    }
}
class Connection extends Thread
{
    DataInputStream in;
    DataOutputStream out;
    Socket clientSocket;
    public Connection (Socket aClientSocket)
    {
        try
        {
            clientSocket = aClientSocket;
            in = new DataInputStream( clientSocket.getInputStream());
            out =new DataOutputStream( clientSocket.getOutputStream());
            this.start();
        }
        catch(IOException e) {System.out.println("Connection:"+e.getMessage());}
    }
    public void run()
    {
        try
        {
            // an echo server
            String data = in.readUTF();
            out.writeUTF(data);
        }
        catch(EOFException e)
        {
            System.out.println("EOF:"+e.getMessage());
        }
        catch(IOException e)
```

```

        {
            System.out.println("IO:"+e.getMessage());
        }
    finally
    {
        try
        {
            clientSocket.close();
        }
        catch (IOException e)
        { /*close failed*/ }
    }
}
}

tcp_client.java
import java.net.*;
import java.io.*;
public class client
{
    public static void main (String args[])
    {
        // arguments supply message and hostname of destination
        Socket s = null;
        try{
            int serverPort = 7896;
            s = new Socket(args[1], serverPort);
            DataInputStream in = new DataInputStream( s.getInputStream());
            DataOutputStream out = new DataOutputStream(s.getOutputStream());
            out.writeUTF(args[0]);
            // UTF is a string encoding; see Sec 4.3
            String data = in.readUTF();
            System.out.println("Received: "+ data) ;
        }
        catch (UnknownHostException e)
        {
            System.out.println("Sock:"+e.getMessage());
        }
        catch (EOFException e)
        {
            System.out.println("EOF:"+e.getMessage());
        }
        catch (IOException e)
        {
            System.out.println("IO:"+e.getMessage());
        }
    finally
    {
        if(s!=null)
            try {s.close();}
        catch (IOException e)
        { /*close failed*/ }
    }
}
}

```

output:

```
Terminal
info46@info46: ~/Desktop

ode
1      /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/java  1081  manual
node
2      /usr/lib/jvm/java-8-oracle/jre/bin/java        1081  manual

Press <enter> to keep the current choice[*], or type selection number:
info46@info46:~/Desktop$
info46@info46:~/Desktop$
info46@info46:~/Desktop$ javac client.java
info46@info46:~/Desktop$ javac server.java
info46@info46:~/Desktop$ java server.java
Error: Could not find or load main class server.java
info46@info46:~/Desktop$ java server
ACinfo46@info46:~/Desktop$ javac server.java
Error: Could not find or load main class server.java
info46@info46:~/Desktop$ javac server.java
info46@info46:~/Desktop$ java server
ACinfo46@info46:~/Desktop$ javac server.java
info46@info46:~/Desktop$ java server
ACinfo46@info46:~/Desktop$ javac server.java
info46@info46:~/Desktop$ java server
info46@info46:~/Desktop$

mat.c
mat.cpp
client.class

info46@info46:~/Desktop$ cd Desktop
info46@info46:~/Desktop$ javac client.java
info46@info46:~/Desktop$ java client
Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: 1
    at client.main(client.java:11)
info46@info46:~/Desktop$ javac client.java
info46@info46:~/Desktop$ java client abc 114.143.248.34
ACinfo46@info46:~/Desktop$ javac client.java
info46@info46:~/Desktop$ java client abc 114.143.248.34
ACinfo46@info46:~/Desktop$ javac client.java
info46@info46:~/Desktop$ java client abc 10.11.0.80
Received: abc
info46@info46:~/Desktop$
```