**3. Simple TCP/IP Client Server Communication**

**Server (Filename: chatserver.java)**

import java.io.\*;

import java.net.\*;

public class chatserver

{

public static void main(String args[])throws Exception

{

ServerSocket sersock=new ServerSocket(3000); System.out.println("Server ready for chatting"); Socket sock=sersock.accept();

BufferedReader KeyRead= new BufferedReader(new InputStreamReader(System.in));

OutputStream ofstream=sock.getOutputStream(); PrintWriter pwrite=new PrintWriter(ofstream,true); InputStream istream=sock.getInputStream();

BufferedReader receivedread=new BufferedReader(new InputStreamReader(istream)); String receivemessage,sendmessage;

while(true)

{

if((receivemessage= receivedread.readLine())!=null)

{

System.out.println(receivemessage);

} sendmessage=KeyRead.readLine();

pwrite.println(sendmessage);

System.out.flush();

}

}

}

**Client (Filename: chatclient)**

import java.io.\*;

import java.net.\*;

public class chatclient

{

public static void main(String args[])throws Exception

{

Socket sock=new Socket("localhost",3000);

BufferedReader KeyRead=new BufferedReader(new InputStreamReader(System.in));

OutputStream ofstream=sock.getOutputStream();

PrintWriter pwrite=new PrintWriter(ofstream,true);

InputStream istream=sock.getInputStream();

BufferedReader receivedread=new BufferedReader(new InputStreamReader(istream)); System.out.println("client ready for chatting");

String receivemessage,sendmessage;

while(true)

{

sendmessage=KeyRead.readLine();

pwrite.println(sendmessage);

System.out.flush();

if((receivemessage=receivedread.readLine())!=null)

{ System.out.println(receivemessage);

}

}

}

}

**4. UDP Echo Client Server Communication**

**Server: (Filename: UDPServer)**

import java.io.\*;

import java.net.\*;

class UDPServer

{

public static void main(String arg[])throws Exception

{

byte[] receiveData= new byte[1024];

byte[] sendData= new byte[1024];

DatagramSocket serversocket=new DatagramSocket(8000);

DatagramPacket receivePacket=new DatagramPacket(receiveData,receiveData.length);

serversocket.receive(receivePacket);

BufferedReader b=new BufferedReader( new InputStreamReader(System.in));

String s=b.readLine();

/\*String sentence=new String(receivePacket.getData());

System.out.println("Received messege is: "+sentence.trim());

sentence=sentence.toUpperCase();

System.out.println("Converted messege is: "+sentence.trim());\*/

InetAddress ip=receivePacket.getAddress();

int port=receivePacket.getPort();

//sendData=sentence.getBytes();

sendData=s.getBytes();

DatagramPacket sendPacket=new DatagramPacket(sendData,sendData.length,ip,port);

serversocket.send(sendPacket);

}

}

**Client: (Filename: UDPClient.java)**

import java.io.\*;

import java.net.\*;

import java.util.\*;

class UDPClient

{

public static void main(String arg[])throws Exception

{

byte[] receiveData=new byte[1024];

byte[] sendData=new byte[1024];

DatagramSocket clientSocket=new DatagramSocket();

DatagramPacket receivePacket=new DatagramPacket(receiveData,receiveData.length);

BufferedReader in=new BufferedReader(new InputStreamReader(System.in));

String sentence=in.readLine();

sendData=sentence.getBytes();

InetAddress ip=InetAddress.getByName("localhost");

DatagramPacket sendPacket=new DatagramPacket(sendData,sendData.length,ip,8000);

clientSocket.send(sendPacket);

clientSocket.receive(receivePacket);

sentence=new String(receivePacket.getData());

System.out.println("New Sentence is: "+sentence.trim());

}

}

**5. Concurrent TCP/IP Day-Time Server**

**Server: (Filename: tcpdateserver)**

import java.net.\*;

import java.io.\*;

import java.util.\*;

class tcpdateserver

{

public static void main(String args[])

{

ServerSocket ss=null;

Socket cs;

PrintStream ps;

BufferedReader dis;

String inet;

try

{

ss=new ServerSocket(4444);

System.out.println("press ctrl+c to quit");

while(true)

{

cs=ss.accept();

ps=new PrintStream(cs.getOutputStream());

Date d=new Date();

ps.println(d);

dis=new BufferedReader(new InputStreamReader(cs.getInputStream()));

inet=dis.readLine();

System.out.println("client system IPaddress is:"+inet);

ps.close();

dis.close();

}}

catch(IOException e)

{

System.out.println("the ecxeption is"+e);

}}}

**Client: (Filename: tcpdateclient)**

import java.net.\*;

import java.io.\*;

class tcpdateclient

{

public static void main(String args[])

{

Socket soc;

BufferedReader dis;

String sdate;

PrintStream ps;

try

{

InetAddress ia=InetAddress.getLocalHost();

if(args.length==0)

soc=new Socket(InetAddress.getLocalHost(),4444);

else

soc=new Socket(InetAddress.getByName(args[0]),4444);

dis=new BufferedReader(new InputStreamReader(soc.getInputStream()));

sdate=dis.readLine();

System.out.println("the date and time on server is :"+sdate);

ps=new PrintStream(soc.getOutputStream());

ps.println(ia);

ps.close();

}

catch(IOException e)

{

System.out.println("the exception is"+e);

}

}

}