

Client output :

```

1  import java.net.*;
2  import java.io.*;
3  import java.util.*;
4
5  public class client {
6
7      public static void main(String[] args) {
8          Socket client = null;
9          try {
10             client = new Socket( host: "localhost", port: 5000 );
11             System.out.println("Client is connected to Server");
12         }
13         catch (Exception ex) {
14             System.err.println(ex);
15         }
16
17         try {
18             Thread r = new clientRead(client);
19             Thread w = new clientWrite(client);
20             w.start();
21             r.start();
22         }
23     }
24 }

```

Run: server x client x

Client is connected to Server
Client output : hello conor
Client output :

Server output :

```

1  public class server {
2
3      public static void main(String[] args) {
4          w.start();
5          r.start();
6      }
7
8      catch (Exception ex) {
9          System.err.println(ex);
10     }
11 }
12
13 class serverRead extends Thread {
14     private Socket connection;
15     public serverRead(Socket con) { connection = con; }
16     public void run() {
17         try {
18             ObjectInputStream in = new ObjectInputStream( connection.getInputStream() );
19             String message;
20             while (true){
21                 message = (String) in.readObject();
22                 System.out.println ("Server reads : " + message);
23             }
24         }
25     }
26 }

```

Run: server x client x

Server is Running on port 5000
Waiting for Client to Connect
Server output : Server reads : hello conor

Server source code :

```

import java.net.*;
import java.io.*;
import java.util.*;
public class server {
    public static void main(String[] args) {

```

```

        ServerSocket server = null;
        try {
            server = new ServerSocket( 5000, 10 ); // create
ServerSocket
            System.out.println("Server is Running on port 5000");
        }
        catch (Exception ex) {
            System.err.println(ex);
        }
        try {
            System.out.println("Waiting for Client to Connect");
            Socket client = server.accept();
            Thread r = new serverRead(client);
            Thread w = new serverWrite(client);
            w.start();
            r.start();
        }
        catch (Exception ex) {
            System.err.println(ex);
        }
    }
}

class serverRead extends Thread {
    private Socket connection;
    public serverRead(Socket con){
        connection = con;
    }
    public void run() {
        try {
            ObjectInputStream in = new ObjectInputStream(
connection.getInputStream() );
            String message;
            while (true){
                message = ( String ) in.readObject();
                System.out.println ("Server reads : " + message);
            }
        }
        catch (Exception ex) {
            System.err.println(ex);
        }
    }
}

class serverWrite extends Thread {

    private Socket connection;
    public serverWrite(Socket con){
        connection = con;
    }
    public void run() {
        try {
            ObjectOutputStream out = new ObjectOutputStream(
connection.getOutputStream() );
            String message;
            Scanner s = new Scanner(System.in);
            while (true){

```

```

        System.out.print("Server output : ");
        message = s.nextLine();
        out.writeObject(message);
    }
}
catch (Exception ex) {
    System.err.println(ex);
}
}
}

```

Client source code :

```

import java.net.*;
import java.io.*;
import java.util.*;
public class client {
    public static void main(String[] args) {
        Socket client = null;
        try {
            client = new Socket( "localhost",5000 );
            System.out.println("Client is connected to Server");
        }
        catch (Exception ex) {
            System.err.println(ex);
        }

        try {
            Thread r = new clientRead(client);
            Thread w = new clientWrite(client);
            w.start();
            r.start();
        }
        catch (Exception ex) {
            System.err.println(ex);
        }
    }
}

class clientRead extends Thread {
    private Socket connection;
    public clientRead(Socket con){
        connection = con;
    }
    public void run() {
        try {
            ObjectInputStream in = new ObjectInputStream(
connection.getInputStream() );
            String message;
            while (true){
                message = ( String ) in.readObject();
                System.out.println ("Client reads : " + message);
            }
        }
    }
}

```

```
        catch (Exception ex) {
            System.err.println(ex);
        }
    }
}

class clientWrite extends Thread {
    private Socket connection;
    public clientWrite(Socket con){
        connection = con;
    }
    public void run() {
        try {
            ObjectOutputStream out = new ObjectOutputStream(
connection.getOutputStream() );
            String message;
            Scanner s = new Scanner(System.in);
            while (true){
                System.out.print("Client output : ");
                message = s.nextLine();
                out.writeObject(message);
            }
        }
        catch (Exception ex) {
            System.err.println(ex);
        }
    }
}
```