

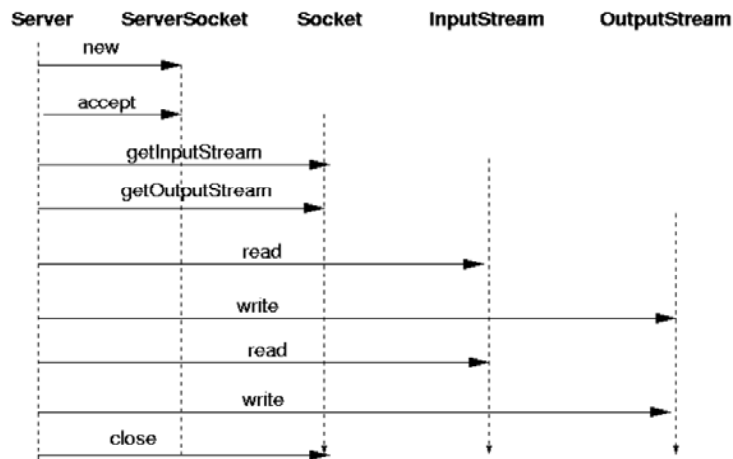
# Lecture (05) Network Programming (II)

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## TCP/IP client/server



## TCP Server



## Echoserver.java (1)

```

ServerSocket s = null;
try {s = new ServerSocket(MYECHOPORT);}

while (true)
{
    Socket incoming = null;
    try {incoming = s.accept();}
    try {incoming.setSoTimeout(10000); //10 seconds}
    try {handleSocket(incoming);}
    try {incoming.close();}
}
}
    
```

```

public static void handleSocket(Socket incoming) throws IOException
{
    BufferedReader reader = new BufferedReader(new InputStreamReader(
incoming.getInputStream()));
    PrintStream out = new PrintStream(incoming.getOutputStream());
    out.println(">>Server sent: Hello. Enter BYE to exit,..");
    System.out.println(">> Host is now connected,..");
    boolean done = false;
    while ( ! done)
        {
            String str = reader.readLine();
            out.println(str);
            System.out.println(">> Host sent: "+str);
            if (str.equals("BYE"))
                done = true;
        }
}

```

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```

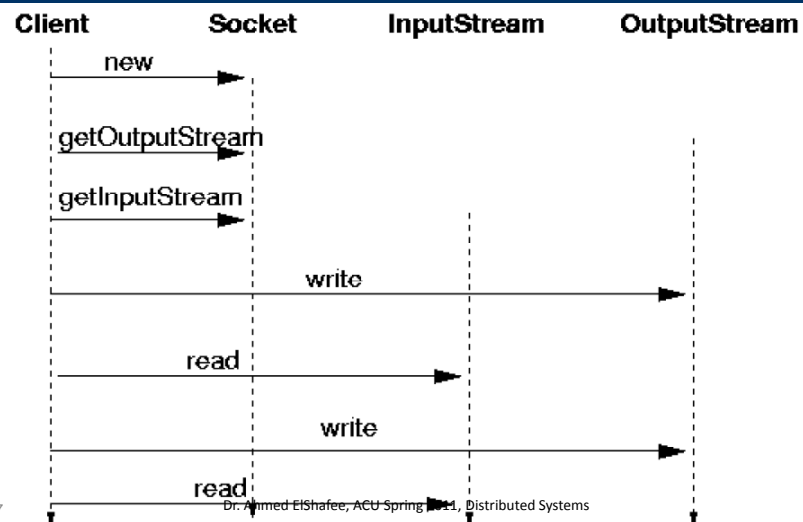
        System.out.println(">> Host is now dis-connected,..");
        incoming.close();
    }
}

```

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## TCP client



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## Echoclient.java (1)

```

Socket echoSocket = null;
PrintWriter out = null;
BufferedReader in = null;
BufferedReader stdIn = null;
try
{
    echoSocket = new Socket(args[0], 8189);
    out = new PrintWriter(echoSocket.getOutputStream(), true);
    in = new BufferedReader(new
InputStreamReader(echoSocket.getInputStream()));
    System.out.println (in.readLine());
}
}

```

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```

try
{
    stdIn = new BufferedReader(new InputStreamReader(System.in));
    String userInput;
    while (true)
    {
        System.out.print(">");
        userInput = stdIn.readLine();

        out.println(userInput);
        System.out.println(">>>Server sent: " + in.readLine());
        if (userInput.equals("BYE")) break;
    }
}

```

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## UDP/IP client/server



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## Udpserver.java (1)

```

DatagramSocket serverSocket = new DatagramSocket(9876);
byte[] receiveData = new byte[1024];
byte[] sendData = new byte[1024];
while(true)
{
    DatagramPacket receivePacket =
    new DatagramPacket(receiveData , receiveData.length);
    serverSocket.receive (receivePacket);
    String sentence = new String(receivePacket.getData());
    sentence=sentence.trim();
    InetAddress IPAddress = receivePacket.getAddress();
    int port = receivePacket.getPort();
}

```

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## Udpserver.java (2)

```

System.out.println(">>>"+IPAddress.toString()+" sent: "+sentence );
    sentence="Echo:"+sentence;
    sendData = sentence.getBytes();
    DatagramPacket sendPacket=new
    DatagramPacket(sendData,sendData.length,IPAddress,port);
    serverSocket.send (sendPacket);
}

```

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## Udpclient.java (1)

---

```
BufferedReader inFromUser =new BufferedReader(new
InputStreamReader(System.in));
DatagramSocket clientSocket = new DatagramSocket();
InetAddress IPAddress = InetAddress.getByName (args[0]);
byte[] sendData = new byte[1024];
byte[] receiveData = new byte[1024];
while(true)
{
    System.out.print(">>");
    String sentence = inFromUser.readLine();
    sendData = sentence.getBytes();
    DatagramPacket sendPacket= new DatagramPacket(sendData,
sendData.length , IPAddress, 9876);
    clientSocket.send(sendPacket);
```

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## Udpclient.java (2)

---

```
DatagramPacket receivePacket =
    new DatagramPacket(receiveData, receiveData.length);
clientSocket.receive(receivePacket);
String modifiedSentence = new String (receivePacket. getData());
modifiedSentence=modifiedSentence.trim();
System.out.println(">>Sever sent: " + modifiedSentence );
if(sentence.equals("BYE"))break;
}
clientSocket.close();
```

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Thanks,  
See you next Week, isA

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