

CSE 303L
Computer Network
Lab
Week 6
Assignment

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Dept: CSE **Section:** P

Q. Write a UDP server and UDP client programs. List out your observations between TCP and UDP based client/server socket API.

UDP Server

```
package UDP;

import java.net.*;

public class UDPServer {

    public static void main(String[] args) {

        DatagramSocket socket = null;

        try {

            // Create a UDP socket at port 12345
            socket = new DatagramSocket(1234);
            byte[] receiveData = new byte[1024];

            while (true) {

                // Receive data from the client

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

                String message = new String(receivePacket.getData(), 0, receivePacket.getLength());

                // Print received message

                System.out.println("Received from client: " + message);

                // Send a response to the client

                InetAddress clientAddress = receivePacket.getAddress();
                int clientPort = receivePacket.getPort();

                String responseMessage = "Hello, client!";

                byte[] sendData = responseMessage.getBytes();

                DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length, clientAddress,
clientPort);

                socket.send(sendPacket);
```

```

    }

    } catch (Exception e) {

        e.printStackTrace();

    } finally {

        if (socket != null && !socket.isClosed()) {

            socket.close();

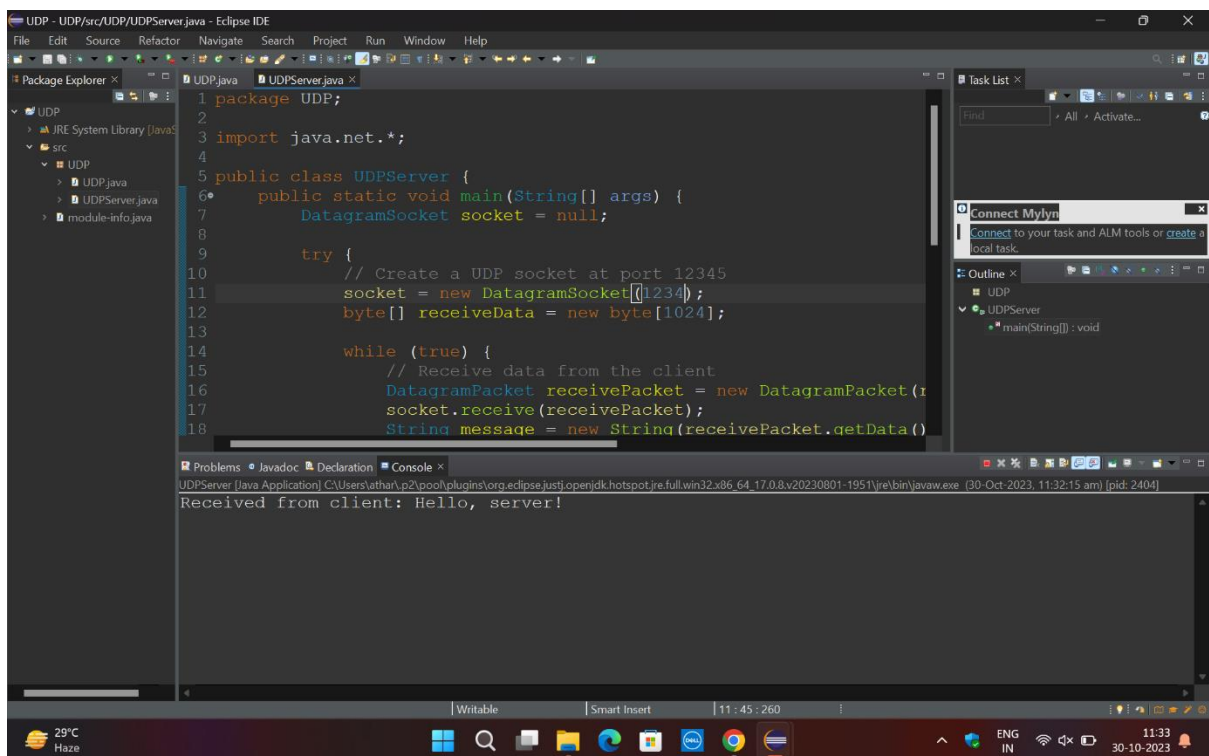
        }

    }

}

}

```



UDP Client

```
package ComputerNetwork;

import java.net.*;

public class UDPClient {

    public static void main(String[] args) {

        DatagramSocket socket = null;

        try {

            // Create a UDP socket

            socket = new DatagramSocket();

            // Server address and port to send data

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

            int serverPort = 1234;

            // Message to be sent to the server

            String message = "Hello, server!";

            byte[] sendData = message.getBytes();

            // Send the message to the server

            DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length, serverAddress,
serverPort);

            socket.send(sendPacket);

            // Receive response from the server

            byte[] receiveData = new byte[1024];

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

            socket.receive(receivePacket);

            String responseMessage = new String(receivePacket.getData(), 0, receivePacket.getLength());

            // Print the response received from the server

            System.out.println("Received from server: " + responseMessage);
```

```

    } catch (Exception e) {

        e.printStackTrace();
    } finally {

        if (socket != null && !socket.isClosed()) {

            socket.close();

        }

    }

}
}
}

```

```

eclipse-workspace - SRM/src/ComputerNetwork/UDPCient.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer:
SRM
  JRE System Lib
  src
    ComputerNetwork
      UDPCient.java
      Captcha.java
      Captcha.java
      Checksum.java
      crc.java
      hello.java
      My_Client.java
      My_Server.java
      Password.java
      Resume.java
      temp.java
      UDPCient.java
      UDPServer.java
      w3_g2.java
      module-info.java

Task List:
Find: All: A...

Outline:
ComputerNetwork
  UDPCient
    main(String[])

UDPCient.java:
1 package ComputerNetwork;
2 import java.net.*;
3
4 public class UDPCient {
5     public static void main(String[] args) {
6         DatagramSocket socket = null;
7
8         try {
9             // Create a UDP socket
10            socket = new DatagramSocket();
11
12            // Server address and port to send data
13            InetAddress serverAddress = InetAddress.getByName("localhost");
14            int serverPort = 1234;
15
16            // Message to be sent to the server
17            String message = "Hello, server!";
18            byte[] sendData = message.getBytes();
19
20            // Send the message to the server
21            DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length, serverAddress, serverPort);
22            socket.send(sendPacket);
23
24            // Receive the response from the server
25            byte[] receiveData = new byte[1024];
26            DatagramPacket receivePacket = new DatagramPacket(receiveData, receiveData.length);
27            socket.receive(receivePacket);
28            String receiveMessage = new String(receivePacket.getData());
29            System.out.println("Received from server: " + receiveMessage);
30
31            socket.close();
32        } catch (Exception e) {
33            e.printStackTrace();
34        } finally {
35            if (socket != null && !socket.isClosed()) {
36                socket.close();
37            }
38        }
39    }
40 }

```

```

Problems Javadoc Declaration Console
terminated> UDPCient [Java Application] C:\Users\athar\p2\poo\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64.17.0.8.v20230801-1951\jre\bin\javaw.exe (30-Oct-2023, 11:32:40 am - 11:32:40 am) [p
Received from server: Hello, client!

```

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