**CNSL Lab Assignment 9**

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**Write a program using UDP Sockets to enable file transfer (Script, Text, Audio and Video one  
file each) between two machines.**

1. **Server Program:**

**import** java**.**io**.\*;**

**import** java**.**net**.\*;**

public class UDPServer **{**

private static final int PORT **=** 5005**;**

private static final int BUFFER\_SIZE **=** 65507**;**

public static void main**(**String**[]** args**)** **{**

DatagramSocket serverSocket **=** **null;**

byte**[]** buffer **=** **new** byte**[**BUFFER\_SIZE**];**

**try** **{**

// Create UDP socket

serverSocket **=** **new** DatagramSocket**(**PORT**);**

System**.**out**.**println**(**"Server listening on port " **+** PORT**);**

// Receive filename

DatagramPacket receivePacket **=** **new** DatagramPacket**(**buffer**,** buffer**.**length**);**

serverSocket**.**receive**(**receivePacket**);**

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

System**.**out**.**println**(**"Receiving file: " **+** filename**);**

// Open the output file

FileOutputStream outFile **=** **new** FileOutputStream**(**filename**);**

// Receive file data

**while** **(true)** **{**

receivePacket **=** **new** DatagramPacket**(**buffer**,** buffer**.**length**);**

serverSocket**.**receive**(**receivePacket**);**

int receivedBytes **=** receivePacket**.**getLength**();**

**if** **(**receivedBytes **==** 0**)** **{**

**break;** // End of file

**}**

outFile**.**write**(**buffer**,** 0**,** receivedBytes**);**

**}**

outFile**.**close**();**

System**.**out**.**println**(**"File " **+** filename **+** " received successfully."**);**

**}** **catch** **(**IOException e**)** **{**

System**.**err**.**println**(**"Error: " **+** e**.**getMessage**());**

**}** **finally** **{**

**if** **(**serverSocket **!=** **null** **&&** **!**serverSocket**.**isClosed**())** **{**

serverSocket**.**close**();**

**}**

**}**

**}**

**}**

1. **Client Program:**

**import** java**.**io**.\*;**

**import** java**.**net**.\*;**

public class UDPClient **{**

private static final String SERVER\_IP **=** "127.0.0.1"**;** // Change to server's IP if needed

private static final int PORT **=** 5005**;**

private static final int BUFFER\_SIZE **=** 65507**;**

public static void main**(**String**[]** args**)** **{**

DatagramSocket clientSocket **=** **null;**

**try** **{**

// Create UDP socket

clientSocket **=** **new** DatagramSocket**();**

// Send filename to server

String filename **=** "data.txt"**;** // Change to the actual filename you want to send

byte**[]** filenameBytes **=** filename**.**getBytes**();**

DatagramPacket sendPacket **=** **new** DatagramPacket**(**

filenameBytes**,** filenameBytes**.**length**,** InetAddress**.**getByName**(**SERVER\_IP**),** PORT

**);**

clientSocket**.**send**(**sendPacket**);**

// Open the file to send

FileInputStream inFile **=** **new** FileInputStream**(**filename**);**

byte**[]** buffer **=** **new** byte**[**BUFFER\_SIZE**];**

int bytesRead**;**

// Send file data

**while** **((**bytesRead **=** inFile**.**read**(**buffer**))** **!=** **-**1**)** **{**

sendPacket **=** **new** DatagramPacket**(**

buffer**,** bytesRead**,** InetAddress**.**getByName**(**SERVER\_IP**),** PORT

**);**

clientSocket**.**send**(**sendPacket**);**

**}**

// Indicate end of file transfer

sendPacket **=** **new** DatagramPacket**(new** byte**[**0**],** 0**,** InetAddress**.**getByName**(**SERVER\_IP**),** PORT**);**

clientSocket**.**send**(**sendPacket**);**

inFile**.**close**();**

System**.**out**.**println**(**"File " **+** filename **+** " sent successfully."**);**

**}** **catch** **(**IOException e**)** **{**

System**.**err**.**println**(**"Error: " **+** e**.**getMessage**());**

**}** **finally** **{**

**if** **(**clientSocket **!=** **null** **&&** **!**clientSocket**.**isClosed**())** **{**

clientSocket**.**close**();**

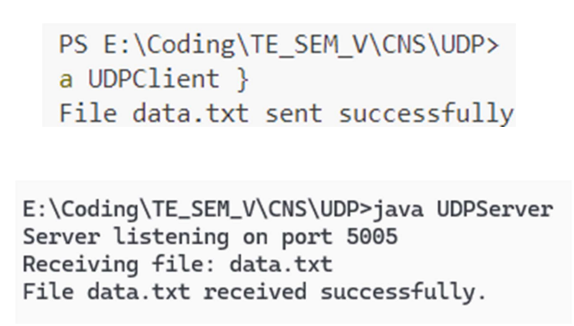
**}**

**}**

**}**

**}**

1. **Output:**

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