# Bansilal Ramnath Agarwal Charitable Trust’s

Vishwakarma Institute of Technology, Pune-37

*(Autonomous Institute of Savitribai Phule Pune University)*



**Department of Computer Engineering**

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| **Division** | **CS TY B** |
| **Batch** | **3** |
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**Assignment No. 7**

**Title:** Develop a client server using UDP Berkeley socket primitives for file transfer/ chat application in peer to peer and client server mode. Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer-to-peer mode.

**Server-Side Code:**

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| import java.net.DatagramPacket;  import java.net.DatagramSocket;  import java.net.InetAddress;  public class UDPServer {  public static void main(String[] args) {  try {  // Create a socket to listen on port 9876  DatagramSocket serverSocket = new DatagramSocket(9876);  byte[] receiveData = new byte[1024];  byte[] sendData;  System.out.println("Server is ready and waiting for messages...");  while (true) {  // Receive data from the client  DatagramPacket receivePacket = new DatagramPacket(receiveData, receiveData.length);  serverSocket.receive(receivePacket);  // Extract message from received packet  String message = new String(receivePacket.getData(), 0, receivePacket.getLength());  System.out.println("Received: " + message);  // Prepare the response message  InetAddress clientAddress = receivePacket.getAddress();  int clientPort = receivePacket.getPort();  String response = "Echo: " + message;  sendData = response.getBytes();  // Send response to the client  DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length, clientAddress, clientPort);  serverSocket.send(sendPacket);  System.out.println("Response sent: " + response);  }  } catch (Exception e) {  e.printStackTrace();  }  }  } |

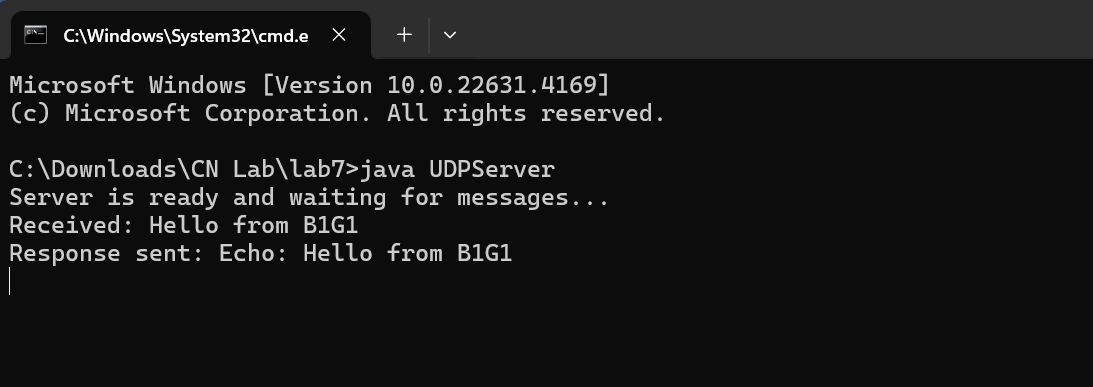
**Client-Side Code:**

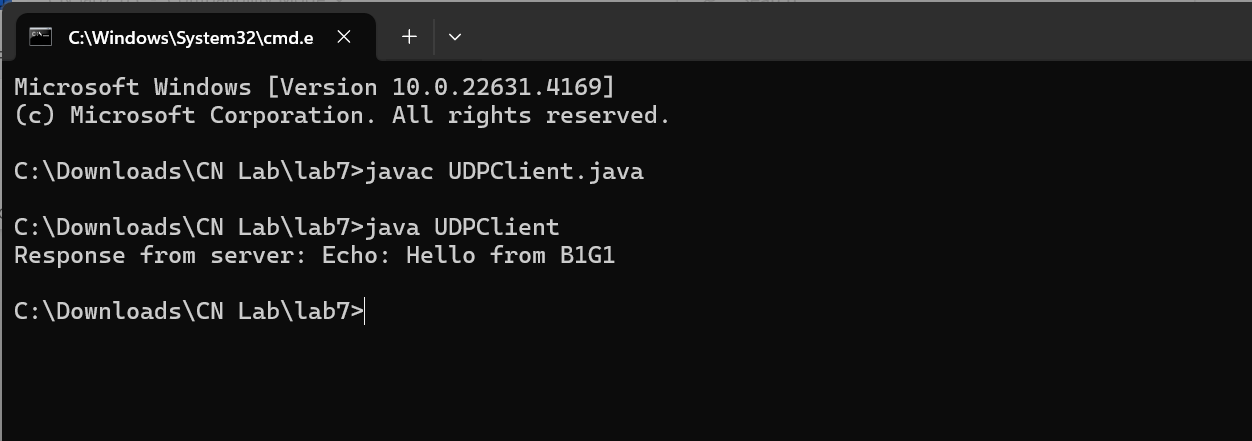
|  |
| --- |
| import java.net.DatagramPacket;  import java.net.DatagramSocket;  import java.net.InetAddress;  public class UDPClient {  public static void main(String[] args) {  try {  // Create a DatagramSocket for communication  DatagramSocket clientSocket = new DatagramSocket();  InetAddress serverAddress = InetAddress.getByName("localhost"); // Server's address  byte[] sendData;  byte[] receiveData = new byte[1024];  // Sending a message to the server  String message = "Hello from B1G1";  sendData = message.getBytes();  DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length, serverAddress, 9876);  clientSocket.send(sendPacket);  // Receiving response from the server  DatagramPacket receivePacket = new DatagramPacket(receiveData, receiveData.length);  clientSocket.receive(receivePacket);  // Extract response message  String response = new String(receivePacket.getData(), 0, receivePacket.getLength());  System.out.println("Response from server: " + response);  // Close the client socket  clientSocket.close();  } catch (Exception e) {  e.printStackTrace();  }  }  } |

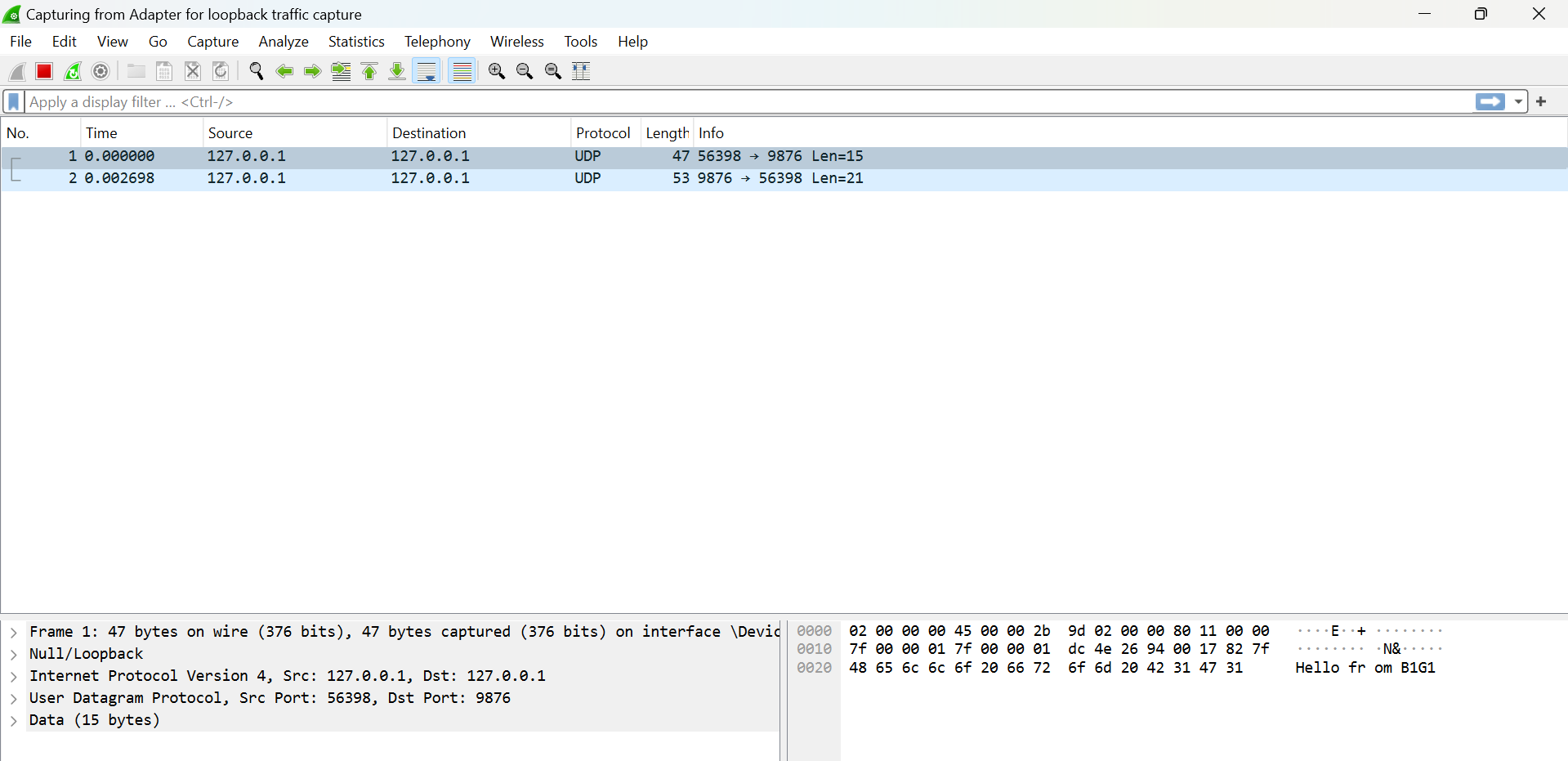
**Output:**

1. Server received the input message from the client side.

2. The wireshark too showed the required output.

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