Bharatiya Vidya Bhavan's
Sardar Patel Institute of Technology
Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous College Affiliated to University of Mumbai)

Information Technology Department

Academic Year: 2021-2022

Class: S.Y.B.Tech   **Sem.:** IV   **Course:** IT207 Computer Communications and Networks

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Class: IT (Batch-D)

Experiment No.: 8

Aim: Communications between Clients through Socket Programming.

Code:

Client

```java
import java.net.*;
import java.io.*;
import java.util.*;

public class Client {
    private Socket socket = null;
    private InputStreamReader in = null;
    private OutputStreamWriter out = null;
    private BufferedReader buffread = null;
    private BufferedWriter buffwrite = null;

    Client() throws Exception {
        socket = new Socket("127.0.0.1", 8080);
        System.out.println("Connected to server");
        in = new InputStreamReader(socket.getInputStream());
        out = new OutputStreamWriter(socket.getOutputStream());
        buffread = new BufferedReader(in);
        buffwrite = new BufferedWriter(out);
        Scanner fs = new Scanner(System.in);
        String line = "";
        while (true) {
            line = fs.nextLine();
            buffwrite.write(line);
            buffwrite.newLine();
```

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```java
            buffwrite.flush();
            System.out.println("Server:" + buffread.readLine());
            if (line.equals("Bye")) {
                break;
            }
        }
        fs.close();
        socket.close();
        in.close();
        out.close();
    }

    public static void main(String args[]) throws Exception {
        Client client = new Client();
    }
}
```

Server

```java
import java.net.*;
import java.io.*;

public class Server {
    Socket socket1 = null;
    Socket socket2 = null;
    InputStreamReader in1 = null;
    InputStreamReader in2 = null;
    OutputStreamWriter out1 = null;
    OutputStreamWriter out2 = null;
    BufferedReader buffread1 = null;
    BufferedWriter buffwrite2 = null;
    BufferedReader buffread2 = null;
    BufferedWriter buffwrite1 = null;
    ServerSocket server = null;
```

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```
Server(int port) throws Exception {
    server = new ServerSocket(port);
    System.out.println("Waiting for clients");
    socket1 = server.accept();
    System.out.println("Client1 Connected");
    socket2 = server.accept();
    System.out.println("Client2 Connected");
    in1 = new InputStreamReader(socket1.getInputStream());
    in2 = new InputStreamReader(socket2.getInputStream());
    out1 = new OutputStreamWriter(socket1.getOutputStream());
    out2 = new OutputStreamWriter(socket2.getOutputStream());
    buffread1 = new BufferedReader(in1);
    buffread2 = new BufferedReader(in2);
    buffwrite1 = new BufferedWriter(out1);
    buffwrite2 = new BufferedWriter(out2);
    while (true) {
        String line1 = buffread1.readLine();
        System.out.println("Client1" + line1);
        buffwrite2.write(line1);
        buffwrite2.newLine();
        buffwrite2.flush();
        if (line1.equals("Bye")) {
            break;
        }
        String line2 = buffread2.readLine();
        System.out.println("Client2" + line2);
        buffwrite1.write(line2);
        buffwrite1.newLine();
        buffwrite1.flush();
        if (line2.equals("Bye")) {
            break;
        }
    }
    server.close();
```

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```
        socket1.close();
        socket2.close();
        in1.close();
        in2.close();
        out1.close();
        out2.close();
    }

    public static void main(String args[]) throws Exception {
        Server server = new Server(8080);
    }
}
```

Output: