

EXPERIMENT 4

NAME: VAIBHAV BANKA
















REG NO: 21BCE1955

SERVER

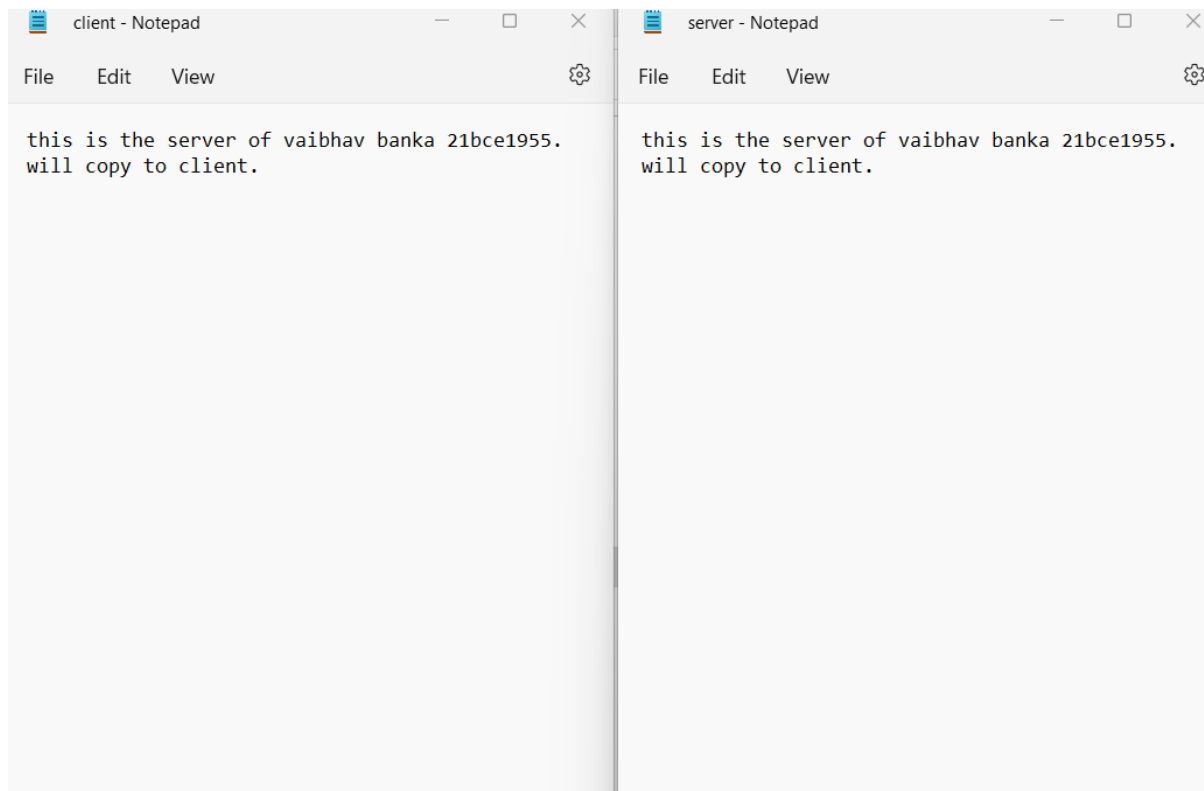
```
import java.net.*;
import java.io.*;
class file_server1 {
    public static void main(String args[]) throws Exception {
        ServerSocket s_server = new ServerSocket(6777);
        Socket ss = s_server.accept();
        FileInputStream ff = new
FileInputStream("C:\\Users\\vaibh\\OneDrive\\Desktop\\assignments\\server.txt"
);
        byte b[] = new byte[2000];
        ff.read(b, 0, b.length);
        OutputStream os= ss.getOutputStream();
        os.write(b, 0, b.length);
    }
}
```

CLIENT

```
import java.net.*;
import java.io.*;
class fh_client {
    public static void main(String args[]) throws IOException {
        Socket s_client = new Socket("localhost", 6777);
        byte b[] = new byte[20010];
        InputStream is = s_client.getInputStream();
        FileOutputStream fos = new
FileOutputStream("C:\\Users\\vaibh\\OneDrive\\Desktop\\assignments\\client.txt
");
        is.read(b, 0, b.length);
        fos.write(b, 0, b.length);
    }
}
```

NAME	STATUS	DATE MODIFIED	TYPE	SIZE
 client		05-02-2023 21:22	Text Document	20 KB
 CN Lab1		16-01-2023 20:32	Microsoft Word D...	494 KB
 CN Lab1		16-01-2023 20:34	Microsoft Edge PD...	480 KB
 CN LAB2		17-01-2023 15:18	Microsoft Word D...	476 KB
 CN LAB2		17-01-2023 15:18	Microsoft Edge PD...	524 KB
 CN LAB3		17-01-2023 15:22	Microsoft Word D...	208 KB
 CN LAB3		17-01-2023 15:22	Microsoft Edge PD...	274 KB
 DBMS LAB EXP1_21BCE1955_VAIBHAV B...		15-01-2023 10:49	Microsoft Edge PD...	403 KB
 server		05-02-2023 21:05	Text Document	1 KB

Client created successfully at the top.



CONCURRENT

CLIENT

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

public class Concurrent_Client {
    // initialize socket and input output streams
    private Socket socket = null;
    private DataInputStream input = null;
    private DataOutputStream out = null;
    private DataInputStream in = null;

    // constructor to put ip address and port
    public Concurrent_Client(String address, int port) {
        // establish a connection
        try {
            socket = new Socket("localhost", 6203);
            System.out.println("Connected");
            String line = "";
            while (!line.equals("Over")) {
                try {
                    // takes input from terminal
                    System.out.print("Message: ");
                    input = new DataInputStream(System.in);
                    // sends output to the socket
                    out = new DataOutputStream(socket.getOutputStream());
                    line = input.readLine();
                    out.writeUTF(line);
                    System.out.print("From Server: ");
                    in = new DataInputStream(
                        new BufferedInputStream(socket.getInputStream()));
                    String sen = "";
                    sen = in.readUTF();
                    System.out.println(sen);
                } catch (IOException i) {
                    System.out.println(i);
                }
            }
        } catch (Exception e) {
            System.out.println(e);
        }
        // close the connection
        try
        {
            in.close();
            out.close();
        }
    }
}
```

```
        socket.close();
    } catch (IOException i) {
        System.out.println(i);
    }
}

public static void main(String args[]) {
    Concurrent_Client client = new Concurrent_Client("127.0.0.1", 6203);
}
}
```

SERVER

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

class CThread implements Runnable {
    Socket socket;

    CThread(Socket s) {
        socket = s;
    }

    public void run() {
        try {
            DataInputStream in = null;
            DataOutputStream out = null;

            DataInputStream input = null;
            in = new DataInputStream(
                new BufferedInputStream(socket.getInputStream()));
            out = new DataOutputStream(socket.getOutputStream());
            while (true) {
                String line = "";
                // takes input from the client socket
                while (!line.equals("Over")) {
                    try {
                        System.out.print("From Client " +
Thread.currentThread().getId() + ": ");
                        line = in.readUTF();
                        System.out.println(line);
                        // sends output to the socket
                        System.out.print("To Client: " +
Thread.currentThread().getId() + ": ");
                        input = new DataInputStream(System.in);
                        String sen = "";
                        sen = input.readLine();
                        out.writeUTF(sen);
                    } catch (IOException i) {
                        System.out.println(i);
                    }
                }
                System.out.println("Closing connection");
                try {
                    socket.close();
                    in.close();
                    out.close();
                } catch (IOException i) {
                    System.out.println(i);
                }
            }
        }
    }
}
```

```

        }
    }
    } catch (IOException i) {
        System.out.println(i);
    }
}

class Concurrent_Server {
    public static void main(String args[]) {
        try {
            ServerSocket ss = new ServerSocket(6203);
            System.out.println("Server started");
            System.out.println("Waiting for a client ...");
            while (true) {
                Socket s = ss.accept();
                System.out.println("");
                System.out.println("New Client accepted");
                CThread ct = new CThread(s);
                Thread t1 = new Thread(ct);
                t1.start();
            }

        } catch (IOException i) {
            System.out.println(i);
        }
    }
}

```

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\vaibh\Downloads> javac Concurrent_Server.java
Note: Concurrent_Server.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
PS C:\Users\vaibh\Downloads> java Concurrent_Server
Server started
Waiting for a client ...

New Client accepted
From Client 22:
New Client accepted
From Client 23: hi
To Client: 23: hello
From Client 23: this is 21bce1955
To Client: 23: cool
From Client 23: hello this is vaibhav banka
To Client: 22: hello vaibhav
From Client 22: I am doing my exp4 part 2
To Client: 22: oh cool
From Client 22: we need to show concurrent chats
To Client: 22: wow thats sounds nice
From Client 22: yeah thanks
To Client: 22: welcome
From Client 22:
```

```
Windows PowerShell
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PS C:\Users\vaibh\Downloads> java Concurrent_Client.java
Concurrent_Client.java:25: warning: [deprecation] readLine() in DataInputStr
eam has been deprecated
        line = input.readLine();
                        ^
1 warning
Connected
Message: hi
From Server: hello
Message: this is 21bce1955
From Server: cool
Message:
```

```
Windows PowerShell

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Note: Concurrent_Client.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
PS C:\Users\vaibh\Downloads> java Concurrent_Client
Connected
Message: hello this is vaibhav banka
From Server: hello vaibhav
Message: I am doing my exp4 part 2
From Server: oh cool
Message: we need to show concurrent chats
From Server: wow thats sounds nice
Message: yeah thanks
From Server: welcome
Message: |
```


Windows PowerShell

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Server started
Waiting for a client ...

New Client accepted
From Client 22:
New Client accepted
From Client 23: hi
To Client: 23: hello
From Client 23: this is 21bce1955
To Client: 23: cool
From Client 23: hello this is vaibhav banka
To Client: 22: hello vaibhav
From Client 22: I am doing my exp4 part 2
To Client: 22: oh cool
From Client 22: we need to show concurrent chats
To Client: 22: wow thats sounds nice
From Client 22: yeah thanks
To Client: 22: welcome
From Client 22:

Windows PowerShell

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PS C:\Users\vaibh\Downloads> java Concurrent_Client.java
Concurrent_Client.java:25: warning: [deprecation] readLine() in DataInputStream has been deprecated
 line = input.readLine();
 ^
1 warning
Connected
Message: hi
From Server: hello
Message: this is 21bce1955
From Server: cool
Message:

Windows PowerShell

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Note: Concurrent_Client.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
PS C:\Users\vaibh\Downloads> java Concurrent_Client
Connected
Message: hello this is vaibhav banka
From Server: hello vaibhav
Message: I am doing my exp4 part 2
From Server: oh cool
Message: we need to show concurrent chats
From Server: wow thats sounds nice
Message: yeah thanks
From Server: welcome
Message: |

80°F
Mostly clear

Search

73
ENG
US

20:55
05-02-2023