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SE20AURI020

CN Assignment 2

1. Create Client code:

```java
import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.FileReader;
import java.net.Socket;
import java.util.Scanner;
//ACHINTYA BHAVARAJU
public class client {
        public static void main(String arg[]) throws Exception {
                //list the attempt to connect to server
                System.out.println("Attempting to connect...");

                Socket socket=new Socket("localhost",5000);
                DataInputStream  readInput   = new DataInputStream(socket.getInputStream());
            DataOutputStream writeOutput     = new DataOutputStream(socket.getOutputStream());
            Scanner ip=new Scanner(System.in);
            //print when the files are being transferred through socket
            System.out.println("Start transfering");

            String transfer="";

            //read the file occurence
            BufferedReader reader;
                try {
                        reader = new BufferedReader(new FileReader("/home/achintya/Desktop/
achi.txt"));
                        String line = reader.readLine();
                        while (line != null) {
                                transfer=transfer+line+"\n";
                                line = reader.readLine();
                        }
                        reader.close();
                } catch (Exception e) {
                        e.printStackTrace();
                }

                //write to stream output
            writeOutput.writeUTF(transfer);

            System.out.println("Transfer done!\nClosing connection");

             // close connection
             socket.close();
             readInput.close();
             writeOutput.close();
             ip.close();

        }
```

2. Create server code:

```java
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.FileWriter;
import java.net.ServerSocket;
import java.net.Socket;
import java.util.Scanner;
//ACHINTYA BHAVARAJU
public class server {
        public static void main(String[] args) throws Exception{
                //create server TCP socket
                 ServerSocket server=new ServerSocket(5000);

                 //list client wait time
                 System.out.println("Server started");
         System.out.println("Waiting for a client ...");
         //wait for accept
                 Socket socket = server.accept();
        //declare when client joins server
                 System.out.println("Client has joined sharing ");

         DataInputStream  readInput   = new DataInputStream(socket.getInputStream());
             DataOutputStream writeOutput     = new DataOutputStream(socket.getOutputStream());

             Scanner ip = new Scanner(System.in);

//wait to get the stream socket
             String lines=readInput.readUTF();

//file writen
             FileWriter myWriter = new FileWriter("/home/achintya/Desktop/achi.txt");
             myWriter.write(lines);
             myWriter.close();

             //close server
             server.close();
             //close socket
             socket.close();
             writeOutput.close();
             readInput.close();
             ip.close();
                //list that it is closed
        }
}
```

3. Run the code to initiate connection between both:

```
achintya@achintya-VirtualBox:~/Desktop$ javac server.java
achintya@achintya-VirtualBox:~/Desktop$ javac server.java
achintya@achintya-VirtualBox:~/Desktop$ java server
Server started
Waiting for a client ...
Client has joined sharing
```

```
achintya@achintya-VirtualBox:~/Desktop$ javac client.java
achintya@achintya-VirtualBox:~/Desktop$ java client
Attempting to connect...
Start transfering
Transfer done!
Closing connection
```

THUS, during the TCP protocol, a connection between a client and a server will be formed. Once this connection is formed, there can be a transfer of data between the both of them. This is done using the IP address and port information of them both.