Department of Information Technology
SCS4304 NETWORKING LAB
MANUAL

Expt. No. 01

Expt. Name. Creation of Date and Time Sever

Aim: Program to print date and time in client by server.

Algorithm:

SERVER

STEP1: Create instances for socket and ServerSocket class.

STEP2: Use the port 8020 for TCP.

STEP3: Make the PrintStream object connect to the OuputStream using Socket.

STEP4: Create an instance of the Date class and write it into the Socket.

STEP5: Get the IP address of the client using the socket and getInetAddress().

CLIENT

STEP1: Create instances for socket class with the port number 8020.

STEP2: Create an object of DataInputStream and make it to get data from server through the socket.

STEP3: Read the Date object. STEP4:

Print the obtained date.

Program

Output:

Result: The above program is executed and output was verified.

Expt. No. 02

Expt. Name. Print the client's Address on the server

Aim: Program to print client address at server side.

Algorithm:

SERVER

STEP1: Create instances for socket and ServerSocket class.

STEP2: Use the port 9000 for TCP.

STEP3: Make the PrintStream object connect to the OuputStream using Socket.

STEP4: Create an instance of the Date class and write it into the Socket.

STEP5: Get the IP address of the client using the socket and getInetAddress ().

STEP6: Print the client's IPAddress.

CLIENT

STEP1: Create instances for socket class with the port number 9000.

STEP2: Create an object of DataInputStream and make it to get data from server through the socket.

STEP3: Read the Date object. STEP4:

Print the obtained date.

Program:

Output:

Result: The above program is executed and output was verified

Expt. No. 03

Expt. Name. Creation of UDP server

Aim: To perform a java program for UDP client and server.

Algorithm:

SERVER:

1.Create a new Datagram Socket.

2.Create a new Datagram packet.

3.Create a message to be sent.

4.Convert into bytes

5.create a packet

6.send packet

7.wait for acknowledgement from client

8.print data from client

9.stop the program

CLIENT:

1. Create new Datagram Socket.

2.Create new Datagram packet.

3.Get the packet.

4.Print the content.

5.Create a new packet.

6.send to server 7.Stop

the program.

Program:

Output:

Result: The above program is executed and output was verified.

Expt. No. 04

Expt. Name. Creation of chat program

Aim: Program to create simple chat application.

Algorithm:

SERVER

STEP1: Instances of vector class is used to keep track of number of clientsthat can be connected and currently logged.
STEP2: The method that is responsible for sending the message to the clients is made synchronized.
STEP3: Server is capable of keeping into account the number of users. Itadds and removes the client from the vector list as and when the connections are established and terminated.

CLIENT

STEP1: The client receives the name of the user and message of that user and sends it to client. Server then passes it on to all clients connected.

Program:

Output:

Result: The above program is executed and output was verified.

Expt. No. 05

Expt. Name. Calculation of checksum for packet data and file

Aim: Program to perform checksum for Packet Data and file

Algorithm:

Server Side

1. Create objects of ServerSocket and Socket class
2. Create input and output buffers
3. Listen for client to connect
4. Get the data from client
5. Calculate the CRC
6. Get the CRC from client
7. If calculated CRC is same as that of received CRC, then send success message to client
8. Else send failure message
9. Close sockets
10. Stop

Client Side

1. Create object of Socket class and connect to the server
2. Send the data along with the CRC
3. Get the response from server and print
4. Close socket
5. Stop

Program:

Output:

Result: The above program is executed and output was verified.

Expt. No. 06

Expt. Name. Program to implement HTTP protocol

Aim: Program to implement HTTP protocol and to print URL for the Client.

Algorithm:

STEP 1: Create the URL with Http URL Connections STEP
2: Define the Http Protocol for Client Connections.STEP3:
Get the Http Connection.
STEP4: Print the URL for the Client.

Program:

Output:

Result: The above program is executed and output was verified.

Expt. No. 07

Expt. Name. Creation of Telnet Protocol

Aim: Program to perform telnet protocol using java.

Algorithm:

SERVER:

STEP1. Declare the header file and create class name.

STEP2. Create an object in the server which checks where its connection is established or not.

STEP3. Now send the message as input to client.

STEP4. Print the message

CLIENT:

STEP1. Declare the header file. STEP2.

Create a class name for class.

STEP3. By using buffer condition are read and print the input.

STEP4. Display the connection message which is given in server.

Program:

Output:

Result: The above program is executed and output was verified.

Expt. No. 08

Expt. Name. Implement FTP using TCP

Aim: Program to implement FTP using TCP

Algorithm:

CLIENT

STEP 1: Create instance for the Socket class and establish connectivity with theserver

STEP 2: Use the port number 4000 STEP
3: Receive the file from the server
STEP 4: Reset the connection with the server

SERVER

STEP 1: Create instances for the serversocket class and accept the server port
STEP 2: Read the filename to be opened
STEP 3: Send the file to the client

Program:

Output:

Result: The above program is executed and output was verified.

Expt. No. 09

Expt. Name. Implement FTP using TCP

Aim: Program to implement FTP using UDP

Algorithm:

CLIENT

STEP 1: Create instance for the Socket class and establish connectivity with theserver

STEP 2: Use the port number 8000. STEP
3: Receive the file from the server
STEP 4: Reset the connection with the server

SERVER

STEP 1: Create instances for the serversocket class and accept the server port
STEP 2: Read the filename to be opened
STEP 3: Send the file to the client

Program:

Output:

Result: The above program is executed and output was verified.

Expt. No. 10

Expt. Name. Router Configuration

Aim: Study of Router Configuration Commands.

Procedure:

1) To enter privileged EXEC, enter the enable EXEC command.

   Router> **enable**

   Password:

   Router#

2) To exit privileged EXEC mode, enter the disable EXEC command.

   Router# **disable**

   Router>

3) To enter Global Configuration mode, enter the Configure Terminal command.

   Router# **configure terminal**

   Router(config)#

4) To end the current configuration session and return to privileged EXEC mode, use the end global configuration command.

   Router(config)# **end**

   Router>

5) The show interfaces command will show the information about all the interfaces

   Router# **show interfaces**

6) A show command is used in privileged EXEC mode to verify the configuration.

Router# **show interface serial 0/1/0**

7) The exit (global) command is used to move from global configuration mode to privileged EXEC mode, the disable command is used to move from privileged EXEC mode to user EXEC mode, and the logout command is used to log off

Router(config)# **exit**

Router# **disable**

Router> **logout**

8) The command hostname is used to specify the name for the router.

Router(config)# **hostname Router**

Router(config)#

9) The command enable secret password is used to specify an encrypted password to prevent unauthorized access to the router.

Router(config)# **enable secret cr1ny5ho**

Router(config)#

10) The Interface command is used to enter into the configuration mode for a Fast Ethernet WAN interface on the router.

Router(config)#**interface fastethernet 0**
Router(config-int)#

11) The command ip address is used to set the IP address and subnet mask for the specifiedFast Ethernet interface.

Router(config-int)# **ip address 192.1.12.2 255.255.255.0**
Router(config-int)#

12) The no shutdown command enables the Ethernet interface, changing its state from administratively down to administratively up.

Router(config-int)# **no shutdown**

Router(config-int)#

Result: Study of Router Configuration Commands was completed.