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**EXPERIMENT: 21**

**AIM:** To implement date and time display from client to server using TCP Sockets

**ALGORITHM:**

**Server** 1. Create a server socket and bind it to port. 2. Listen for new connection and when a connection arrives, accept it. 3. Send server‟s date and time to the client. 4. Read client‟s IP address sent by the client. 5. Display the client details. 6. Repeat steps 2-5 until the server is terminated. 7. Close all streams. 8. Close the server socket. 9. Stop.

**Client** 1. Create a client socket and connect it to the server‟s port number. 2. Retrieve its own IP address using built-in function. 3. Send its address to the server. 4. Display the date & time sent by the server. 5. Close the input and output streams. 6. Close the client socket. 7. Stop.

**PROGRAM: //TCP Date Server--tcpdateserver.java**

import java.net.\*;

import java.io.\*;

import java.util.\*;

class tcpdateserver

{

public static void main(String arg[])

{

ServerSocket ss = null;

Socket cs;

PrintStream ps;

BufferedReader dis;

String inet;

try

{

ss = new ServerSocket(4444);

System.out.println("Press Ctrl+C to quit");

while(true)

{ cs = ss.accept();

ps = new PrintStream(cs.getOutputStream());

Date d = new Date();

ps.println(d);

dis = new BufferedReader(new InputStreamReader(cs.getInputStream()));

inet = dis.readLine();

System.out.println("Client System/IP address is :"+ inet);

ps.close();

dis.close();

} }

catch(IOException e)

{ System.out.println("The exception is :" + e);

} } }

**// TCP Date Client--tcpdateclient.java**

import java.net.\*;

import java.io.\*;

class tcpdateclient

{ public static void main (String args[])

{ Socket soc;

BufferedReader dis;

String sdate;

PrintStream ps;

try { InetAddress ia = InetAddress.getLocalHost();

if (args.length == 0)

soc = new Socket(InetAddress.getLocalHost(),4444);

else soc = new Socket(InetAddress.getByName(args[0]),4444);

dis = new BufferedReader(new InputStreamReader(soc.getInputStream()));

sdate=dis.readLine();

System.out.println("The date/time on server is : " +sdate);

ps = new PrintStream(soc.getOutputStream());

ps.println(ia); ps.close();

catch(IOException e)

{

System.out.println("THE EXCEPTION is :" + e);

}

}

}

**OUTPUT:**

**Server:**

$ javac tcpdateserver.java

$ java tcpdateserver Press Ctrl+C to quit

Client System/IP address is : localhost.localdomain/127.0.0.1

Client System/IP address is : localhost.localdomain/127.0.0.1

**Client:**

$ javac tcpdateclient.java

$ java tcpdateclient

The date/time on server is: Wed Jul 06 07:12:03 GMT 2011

Every time when a client connects to the server, server‟s date/time will be returned to the client for synchronization.