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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;
```

```java
        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

```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.