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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.