

TIMESERVER

Aim: To write a program to implement time server

Theory: A time server is a server computer that reads the actual time from a reference clock and distributes this information to its clients using a computer network.

Hint: use function `date()` to get the current date and time

SERVER

```
import java.net.*;

import java.io.*;

import java.util.*;

class timeserv

{

    DatagramSocket ds;

    DatagramPacket dp;

    byte[] recevPackt;

    byte[] sendPackt;

    BufferedReader in;

    InetAddress ip;

    int port;

    String str;

    public timeserv()

    {

        try

        {

            ds=new DatagramSocket(1456);

            in=new BufferedReader(new InputStreamReader(System.in));

            ip=InetAddress.getByName("localhost");

            Date d=new Date();
```

```

while(true)
{
    recevPackt=new byte[100];

    dp=new DatagramPacket(recevPackt,recevPackt.length);

    ds.receive(dp);

    String data=new String(dp.getData(),0,dp.getLength());

    System.out.println("Client Message:"+data);

    data=data.toLowerCase();

    if(data.equals("time"))

        str=d+"";

    else if(data.equals("exit"))

        str="Client Exited";

    else

        str="Invalid Request";

    port=dp.getPort();

    ip=dp.getAddress();

    sendPackt=new byte[100];

    System.out.println("Server:"+str);

    sendPackt=str.getBytes();

    dp=new DatagramPacket(sendPackt,sendPackt.length,ip,port);

    ds.send(dp);

}

}

catch(Exception e){}

}

public static void main(String args[])

{

```

```
timeserv s=new timeserv();  
  
}  
  
}
```

CLIENT

```
import java.net.*;  
  
import java.io.*;  
  
import java.util.*;  
  
class timecli  
{  
  
    DatagramSocket ds;  
  
    DatagramPacket dp;  
  
    byte[] sendPackt;  
  
    byte[] recevPackt;  
  
    BufferedReader in;  
  
    InetAddress ip;  
  
    int port;  
  
    String str;  
  
    public timecli()  
    {  
  
        try  
  
        {  
  
            port=1456;  
  
            in=new BufferedReader(new InputStreamReader(System.in));  
  
            ip=InetAddress.getByName("localhost");  
  
            ds=new DatagramSocket();  
  
            while(true)
```

```

{
    sendPackt=new byte[100];

    System.out.print("Client:");

    str=in.readLine();

    sendPackt=str.getBytes();

    dp=new DatagramPacket(sendPackt,sendPackt.length,ip,port);

    ds.send(dp);

    if(str.equals("exit"))

        System.exit(0);

    recevPackt=new byte[100];

    dp=new DatagramPacket(recevPackt,recevPackt.length);

    ds.receive(dp);

    String data=new String(dp.getData(),0,dp.getLength());

    System.out.println("Server Message:"+data);

    if(data.equals("exit"))

        System.exit(0);

    port=dp.getPort();

    ip=dp.getAddress();

}

}

catch(Exception e)

{

    System.out.println(e);

}

}

public static void main(String args[])

{

```

```
timecli s=new timecli();  
}  
}
```

OUTPUT

Client SIDE

Z:\RAJA SEM6>java timecli

Client:time

Server Message:Fri Mar 22 14:18:18 IST 2019

Client:TIME

Server Message:Fri Mar 22 14:18:18 IST 2019

Client:Time

Server Message:Fri Mar 22 14:18:18 IST 2019

Client:Hello

Server Message:Invalid Request

Client:exit

SERVER SIDE

Z:\RAJA SEM6>java timeserv

Client Message:time

Server:Fri Mar 22 14:18:18 IST 2019

Client Message:TIME

Server:Fri Mar 22 14:18:18 IST 2019

Client Message:Time

Server:Fri Mar 22 14:18:18 IST 2019

Client Message:Hello

Server:Invalid Request

Client Message:exit

Server:Client Exited