

EX.NO 10 Simulation of DNS

Aim: Write java program Simulation of DNS using UDP Sockets

Algorithm

- 1.Start the program.
- 2.Get the frame size from the user
- 3.To create the frame based on the user request.
4. To send frames to server from the client side.
- 5.If your frames reach the server it will send ACK signal to client otherwise it will send NACK signal to client.
- 6.Stop the program

Program

UDP DNS Server

```
import java.io.*;
import java.net.*;

public class dnsserver
{
    private static int indexOf(String[] array, String str)
    {
        str = str.trim();
        for (int i=0; i < array.length; i++)
        {
            if (array[i].equals(str)) return i;
        }
        return -1;
    }

    public static void main(String arg[])throws IOException
    {

        String[] hosts = {"zoho.com", "gmail.com","google.com", "facebook.com"};
```

```

        String[] ip = {"172.28.251.59", "172.217.11.5", "172.217.11.14",
"31.13.71.36"}; System.out.println("Press Ctrl + C to Quit");

        while (true)
        {
            DatagramSocket serversocket=new DatagramSocket(1362);
            byte[] senddata = new byte[1021];
            byte[] receivedata = new byte[1021];
            DatagramPacket recvpack = new DatagramPacket(receivedata,
receivedata.length);
            serversocket.receive(recvpack);
            String sen = new String(recvpack.getData());
            InetAddress ipaddress = recvpack.getAddress();
            int port = recvpack.getPort();
            String capsent;
            System.out.println("Request for host " + sen);
            if(indexOf (hosts, sen) != -1)
                capsent = ip[indexOf (hosts, sen)];
            else
                capsent = "Host Not Found"; senddata = capsent.getBytes();
            DatagramPacket pack = new DatagramPacket (senddata,
senddata.length,ipaddress,port);
            serversocket.send(pack);
            serversocket.close();
        }
    }
}

```

//UDP DNS Client –

```

import java.io.*;
import java.net.*;
public class dnsclient
{

```

```

public static void main(String args[])throws IOException
{
    BufferedReader br = new BufferedReader(new
InputStreamReader(System.in));
    DatagramSocket clientsocket = new DatagramSocket();
    InetAddress ipaddress;
    if (args.length == 0)
        ipaddress = InetAddress.getLocalHost();
    else
        ipaddress = InetAddress.getByName(args[0]);
    byte[] senddata = new byte[1024];
    byte[] receivedata = new byte[1024];
    int portaddr = 1362;
    System.out.print("Enter the hostname : ");
    String sentence = br.readLine();
    senddata = sentence.getBytes();
    DatagramPacket pack = new DatagramPacket(senddata,senddata.length,
ipaddress,portaddr);
    clientsocket.send(pack);
    DatagramPacket recvpack =new
DatagramPacket(receivedata,receivedata.length);
    clientsocket.receive(recvpack);
    String modified = new String(recvpack.getData());
    System.out.println("IP Address: " + modified);
    clientsocket.close();
}
}

```

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T Server

E:\nwlab>java dnsserver

Press Ctrl + C to Quit

Request for host google.com

Request for host flipkart.com

Client

E:\nwlab>java dnsclient

Enter the hostname : google.com

IP Address: 172.217.11.14

E:\nwlab>java dnsclient

Enter the hostname : flipkart.com

IP Address: Host Not Found

E:\nwlab>

Result:

Thus the DNS application program was executed.