

COMPUTER NETWORKS LAB

WEEK #8

ClayNet: IPv4 Static Addressing And Routing

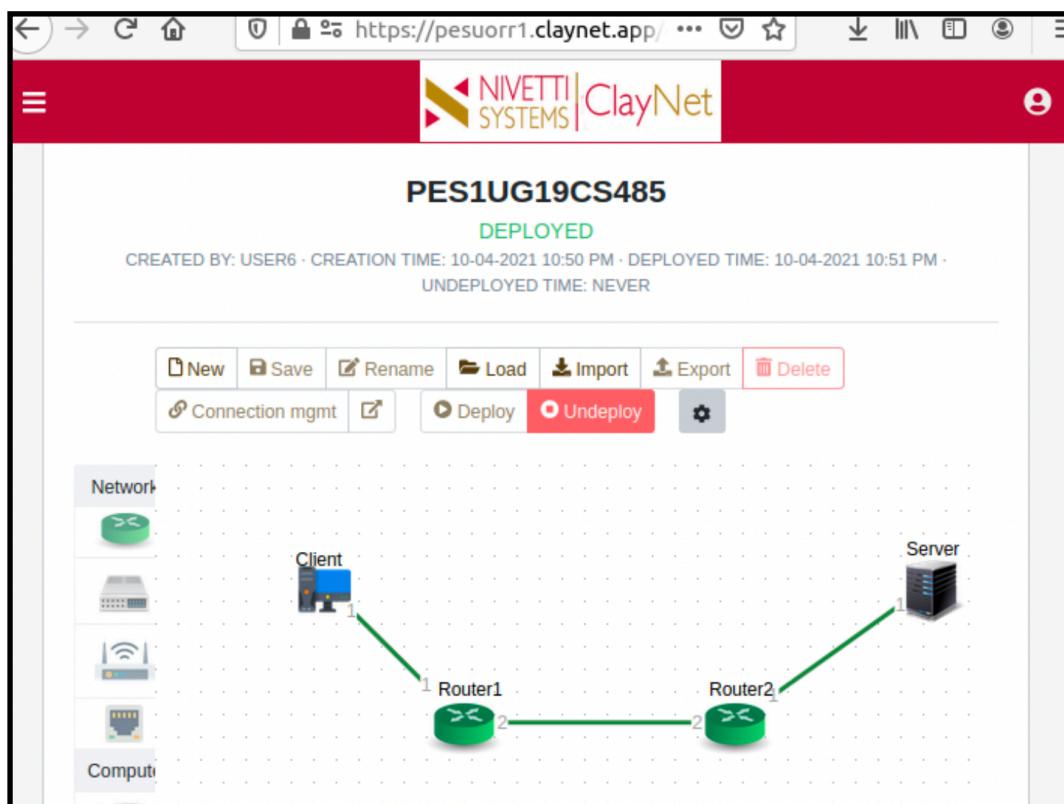
NAME : SIRI S

SEMESTER : 4

SECTION : HI

SRN : PESIUG19CS485

1. IPv4 Addressing And Topology Creation



Topology on CayNet

My Profile

Manage profile Manage password

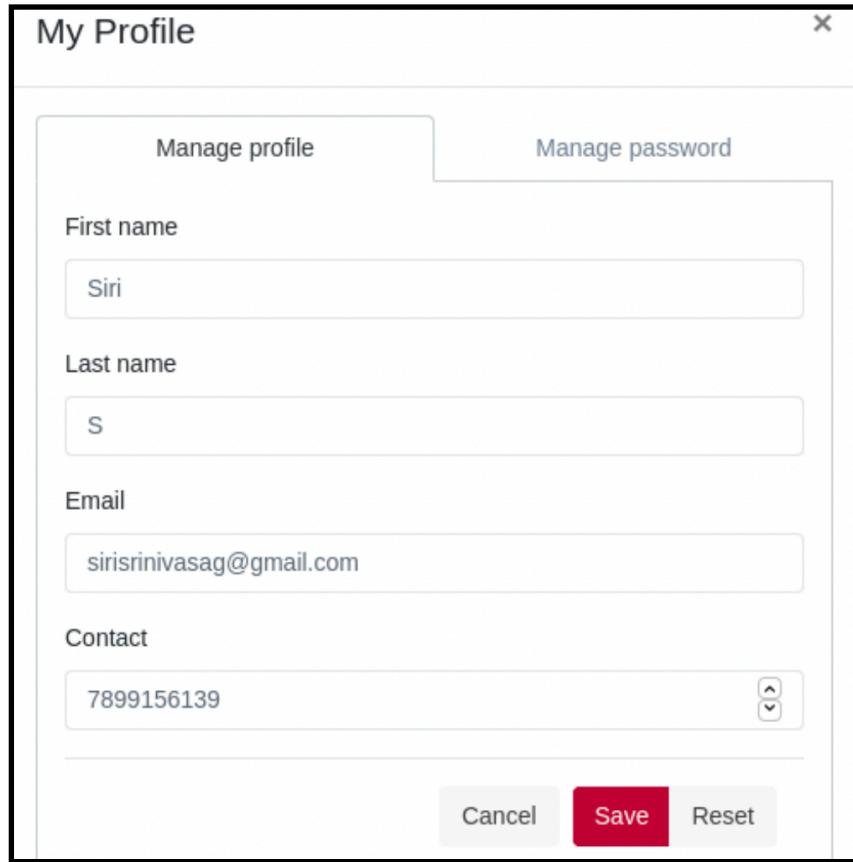
First name
Siri

Last name
S

Email
sirisrinivasag@gmail.com

Contact
7899156139

Cancel Save Reset



Account on ClayNet

2. Setting Up Connections

Connection manager				
Source	Source ports	Target	Target ports	Save
Client	2 - - Not U	Router1	3 - - Not Used	

Setting Up Connection Manager between the Client, Router1, Router2, Server

Router1

Port IP Address Netmask		
1	10.10.10.1	/ 24
2	20.20.20.1	/ 24
3	0.0.0.0	/ 0
4	0.0.0.0	/ 0
5	0.0.0.0	/ 0
6	0.0.0.0	/ 0
7	0.0.0.0	/ 0
8	0.0.0.0	/ 0

Close **Save config**

Router2

Port IP Address Netmask		
1	30.30.30.1	/ 24
2	20.20.20.2	/ 24
3	0.0.0.0	/ 0
4	0.0.0.0	/ 0
5	0.0.0.0	/ 0
6	0.0.0.0	/ 0
7	0.0.0.0	/ 0
8	0.0.0.0	/ 0

Close **Save config**

Device Configuration for Router1 and Router2

Editing Ethernet connection 1

Connection name: **Ethernet connection 1**

General Ethernet 802.1x Security DCB **IPv4 Settings** IPv6 Settings

Method: **Manual**

Addresses

Address	Netmask	Gateway	Add	Delete
10.10.10.2	24	10.10.10.1	Add	Delete

DNS servers:

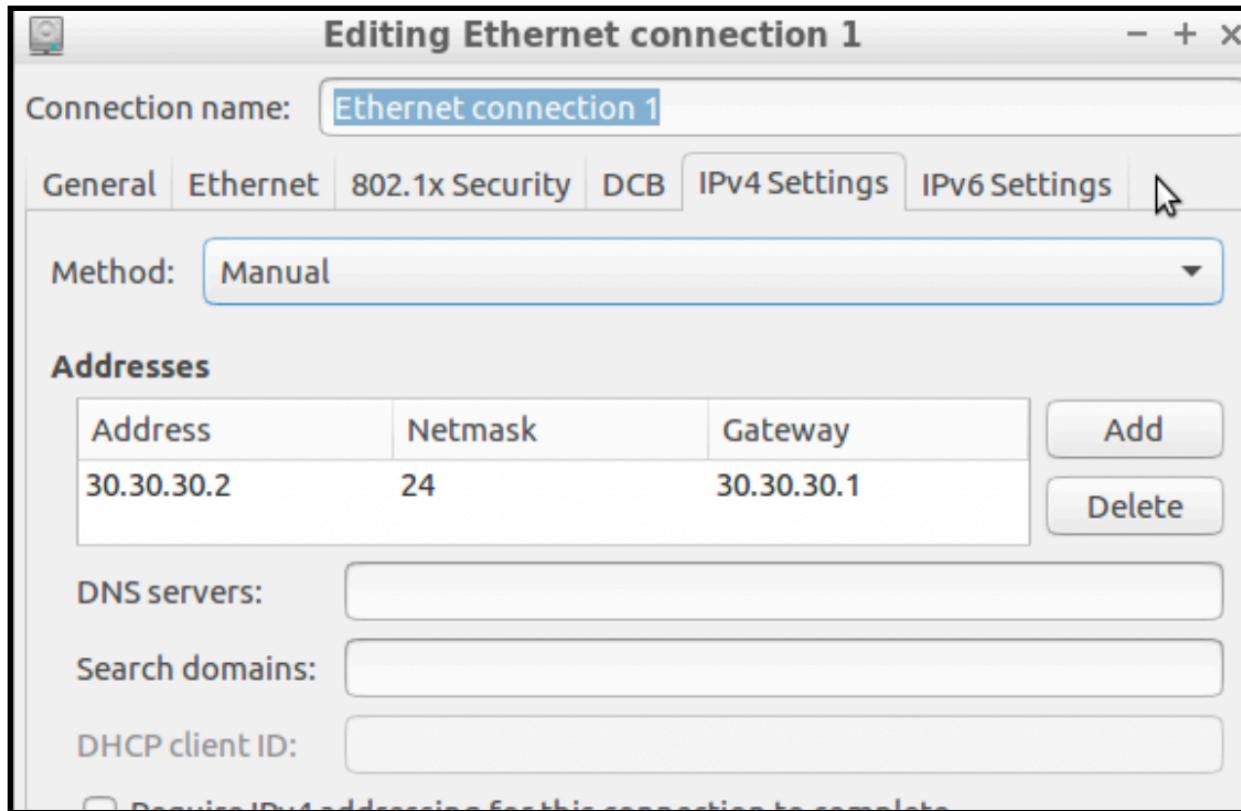
Search domains:

DHCP client ID:

Require IPv4 addressing for this connection to complete

Routes...

Edit Connections For Client



Edit Connections For Server

3. Routing Table Entries

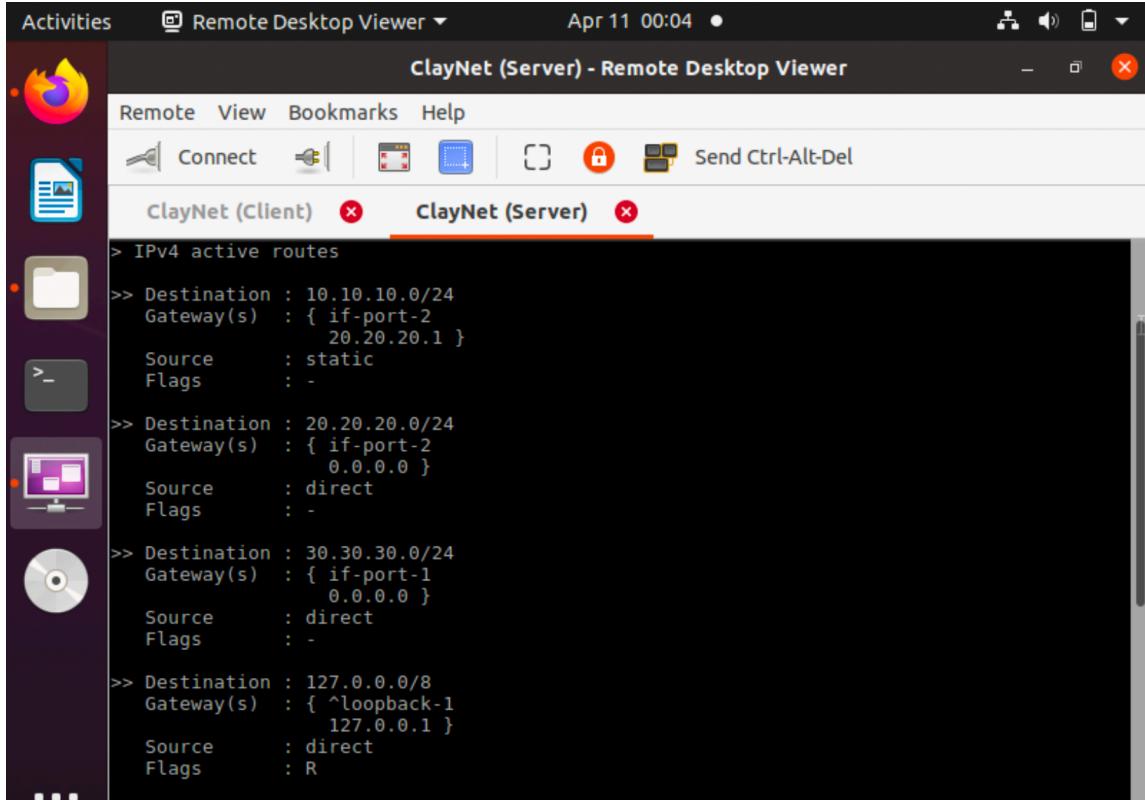
Router1:

After adding 30.30.30.0/24 to the routing table

```
ClayNet (Client) - Remote Desktop Viewer
Remote View Bookmarks Help
Connect Send Ctrl-Alt-Del
ClayNet (Client)  ClayNet (Server)
Source      : direct
Flags       : -
>> Destination : 30.30.30.0/24
Gateway(s)  : { if-port-2
                 20.20.20.2 }
Source      : static
Flags       : -
>> Destination : 127.0.0.0/8
Gateway(s)  : { ^loopback-1
                 127.0.0.1 }
Source      : direct
Flags       : R
>> Destination : 127.0.0.1/32
Gateway(s)  : { ^loopback-1
                 127.0.0.1 }
Source      : direct
Flags       : -
Total number of IPv4 active routes displayed : 5
No IPv6 active routes are available
No MPLS active routes are available
operational>
```

Router2:

After adding 10.10.10.0/24 to the routing table



OBSERVATIONS:

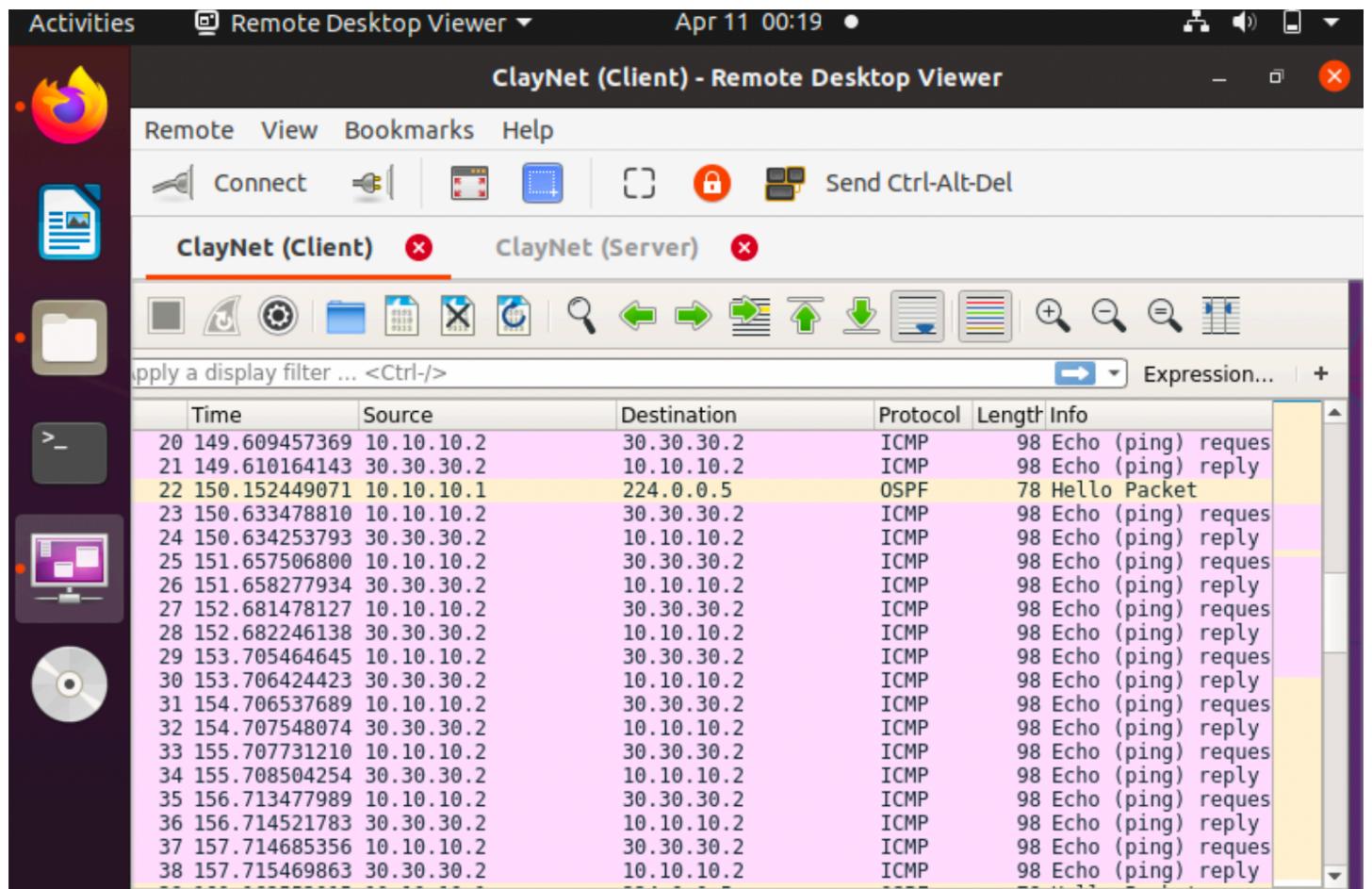
The Server is reachable from the Client.

Because of the presence of 2 routers between the Client and Server, the value of 'ttl' becomes 62 from the usual 6

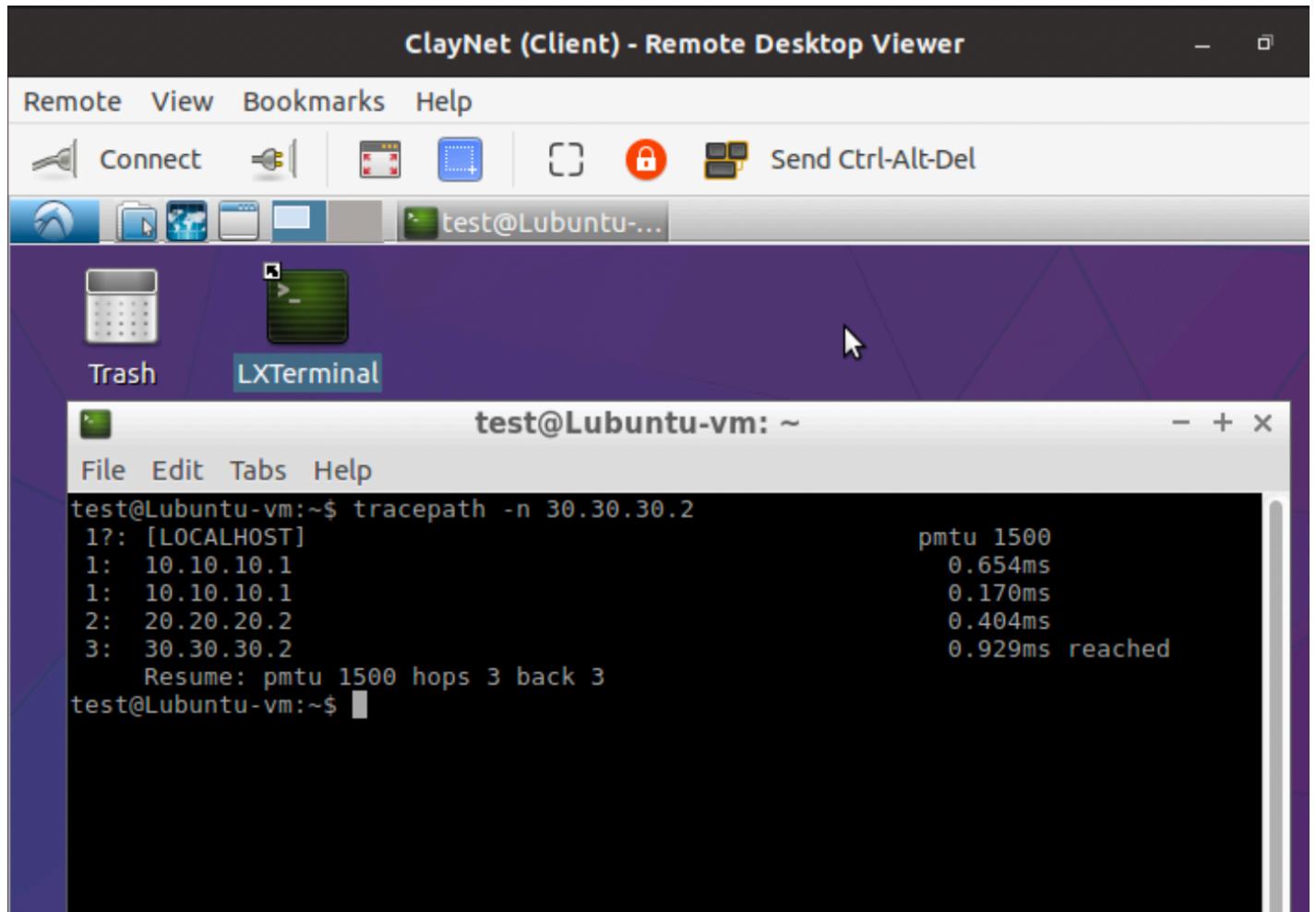
```
test@Lubuntu-vm:~$ ping 30.30.30.2
PING 30.30.30.2 (30.30.30.2) 56(84) bytes of data.
64 bytes from 30.30.30.2: icmp_seq=1 ttl=62 time=0.832 ms
64 bytes from 30.30.30.2: icmp_seq=2 ttl=62 time=0.791 ms
64 bytes from 30.30.30.2: icmp_seq=3 ttl=62 time=0.727 ms
64 bytes from 30.30.30.2: icmp_seq=4 ttl=62 time=0.804 ms
64 bytes from 30.30.30.2: icmp_seq=5 ttl=62 time=0.805 ms
64 bytes from 30.30.30.2: icmp_seq=6 ttl=62 time=0.794 ms
64 bytes from 30.30.30.2: icmp_seq=7 ttl=62 time=0.982 ms
64 bytes from 30.30.30.2: icmp_seq=8 ttl=62 time=1.03 ms
64 bytes from 30.30.30.2: icmp_seq=9 ttl=62 time=0.795 ms
64 bytes from 30.30.30.2: icmp_seq=10 ttl=62 time=1.06 ms
64 bytes from 30.30.30.2: icmp_seq=11 ttl=62 time=0.813 ms
^C
--- 30.30.30.2 ping statistics ---
11 packets transmitted, 11 received, 0% packet loss, time 10145ms
rtt min/avg/max/mdev = 0.727/0.857/1.064/0.113 ms
test@Lubuntu-vm:~$
```

Pinging from client to server

While Pinging:



Wireshark packet capture:



Traceroute Command from Client to Server: