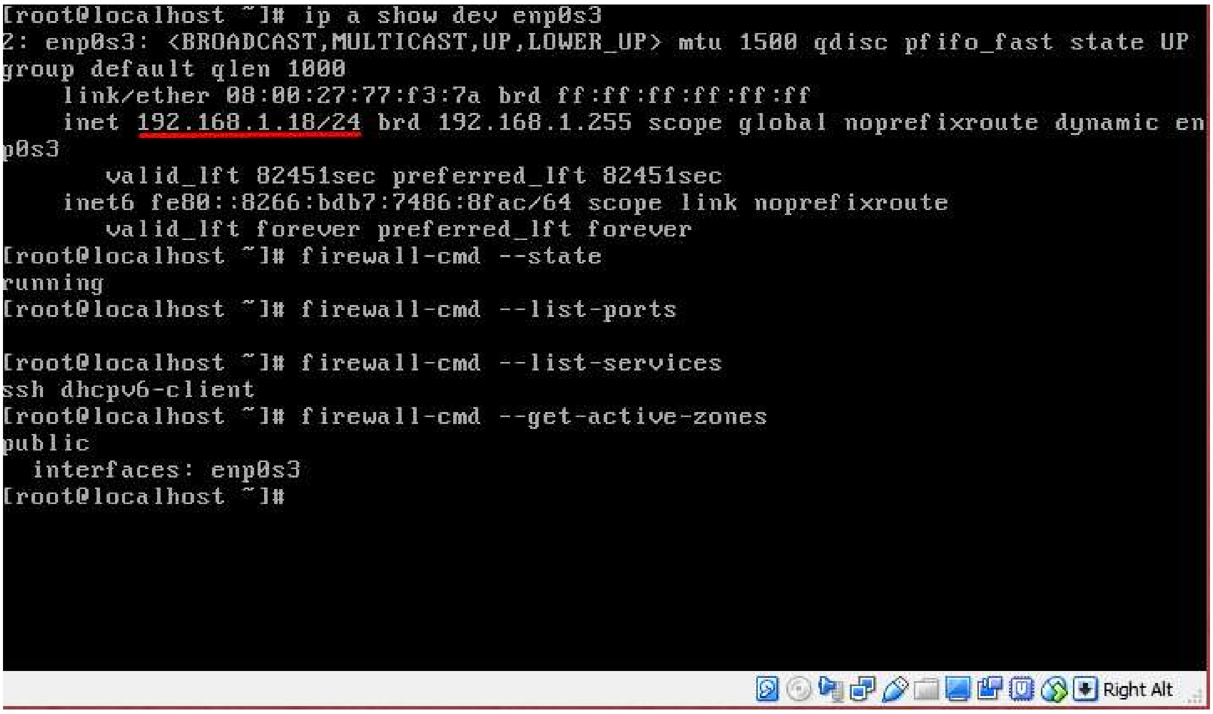
After had set up the basic, I started with the Server A configuration. But first, the output of the opened ports and firewall settings.

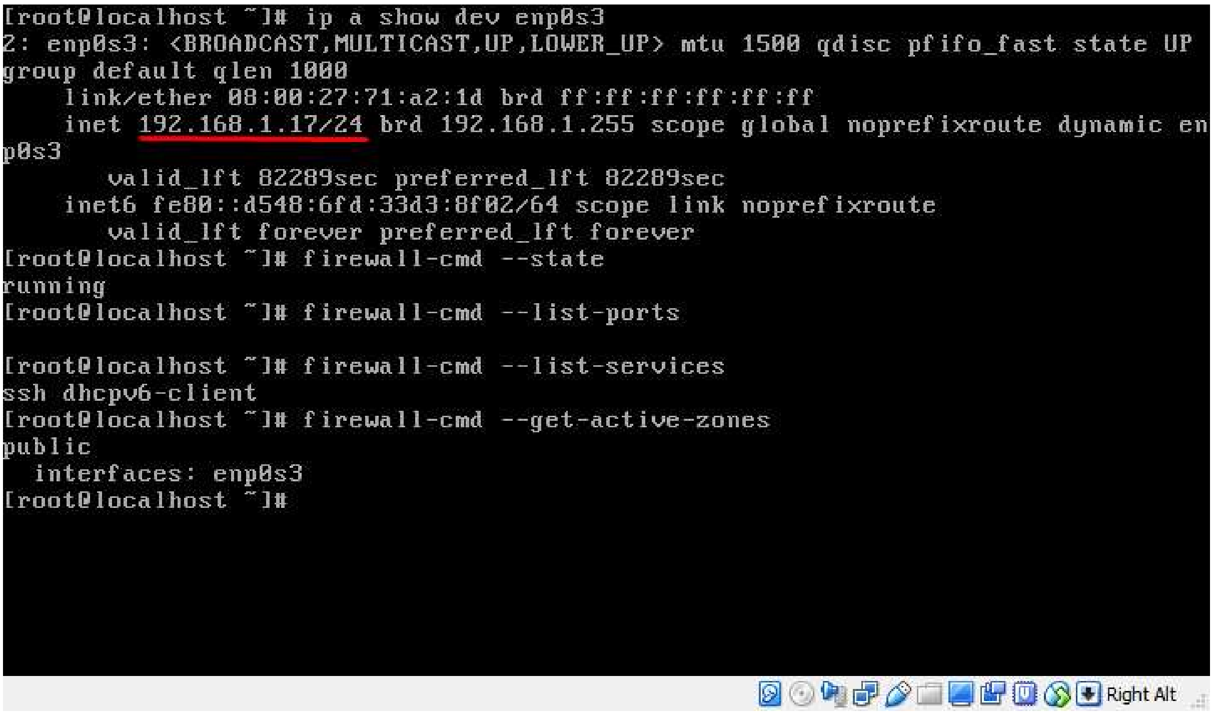
Server A



```
[root@localhost ~]# ip a show dev enp0s3
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP
group default qlen 1000
    link/ether 08:00:27:77:f3:7a brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.18/24 brd 192.168.1.255 scope global noprefixroute dynamic en
p0s3
       valid_lft 82451sec preferred_lft 82451sec
    inet6 fe80::8266:bdb7:7486:8fac/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
[root@localhost ~]# firewall-cmd --state
running
[root@localhost ~]# firewall-cmd --list-ports

[root@localhost ~]# firewall-cmd --list-services
ssh dhcpv6-client
[root@localhost ~]# firewall-cmd --get-active-zones
public
  interfaces: enp0s3
[root@localhost ~]#
```

Server B



```
[root@localhost ~]# ip a show dev enp0s3
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP
group default qlen 1000
    link/ether 08:00:27:71:a2:1d brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.17/24 brd 192.168.1.255 scope global noprefixroute dynamic en
p0s3
       valid_lft 82289sec preferred_lft 82289sec
    inet6 fe80::d548:6fd:33d3:8f02/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
[root@localhost ~]# firewall-cmd --state
running
[root@localhost ~]# firewall-cmd --list-ports

[root@localhost ~]# firewall-cmd --list-services
ssh dhcpv6-client
[root@localhost ~]# firewall-cmd --get-active-zones
public
  interfaces: enp0s3
[root@localhost ~]#
```

***I decided choosing the Apache HTTPd service in servers to run the configuration.***

*There’s no need to install any extra service in Server A at port 8000, because that port is already protected by the system and is not initially used by any service.*

At server B, I installed Apache HTTPd.

```
[root@serverB ~]# yum -y install httpd
```

On the HTTPd.conf file of the server B I changed the listen port to 8000

```
#Listen 12.34.56.78:80
Listen 8000
-- INSERT --
```

and after tried to restart the service I got an error output:

```
[root@serverB ~]# /usr/sbin/apachectl restart
Job for httpd.service failed because the control process exited with error
code. See "systemctl status httpd.service" and "journalctl -xe" for
details.
```

This happened because the httpd user hadn’t a permission to use the port 8000. I changed this using ***semanage***:

```
[root@serverB ~]# sudo semanage port -m -t http_port_t -p tcp 8000
```

And then

```
[root@serverB ~]# /usr/sbin/apachectl start
[root@serverB ~]# /usr/sbin/apachectl status
* httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor
preset: disabled)
   Active: active (running) since Thu 2019-01-17 23:43:09 EST; 38s ago
```

An output of the ports being used.

```
[root@serverB ~]#  netstat -plnt | grep '8000'
tcp6      0     0:::8000        :::*        LISTEN    3403/httpd
```

At Server A, I made a SSH connection to the Server B. But to access a service through the tunnel, I needed connect to Server B using the forward ports.

```
[root@serverA ~]# ssh -L 4321:localhost:8000 root@192.168.1.17
```

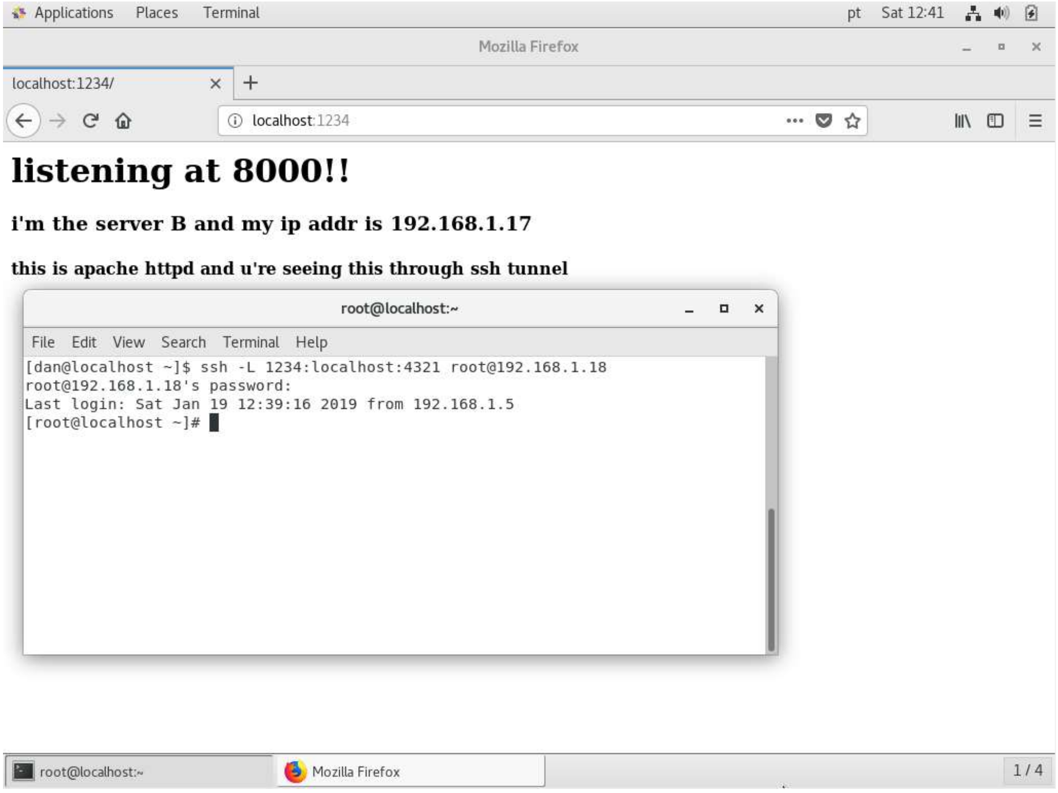
Now i’m able to access the Apache HTTPd service in *localhost:4321* using the *-L* parameter.

Now in the client I made the same thing, but changing the server that I ”ssh to”. And I were able to access the service running in Server B using *localhost:1234*

```
[dan@client ~]# ssh -L 1234:localhost:4321 root@192.168.1.18
```

As we had closed the tunnel, it’s just open the browser and access *localhost:1234* to get there. And we can see from the client, the response sent from Server B coming through Server A under the SSH tunnel.

- Client response



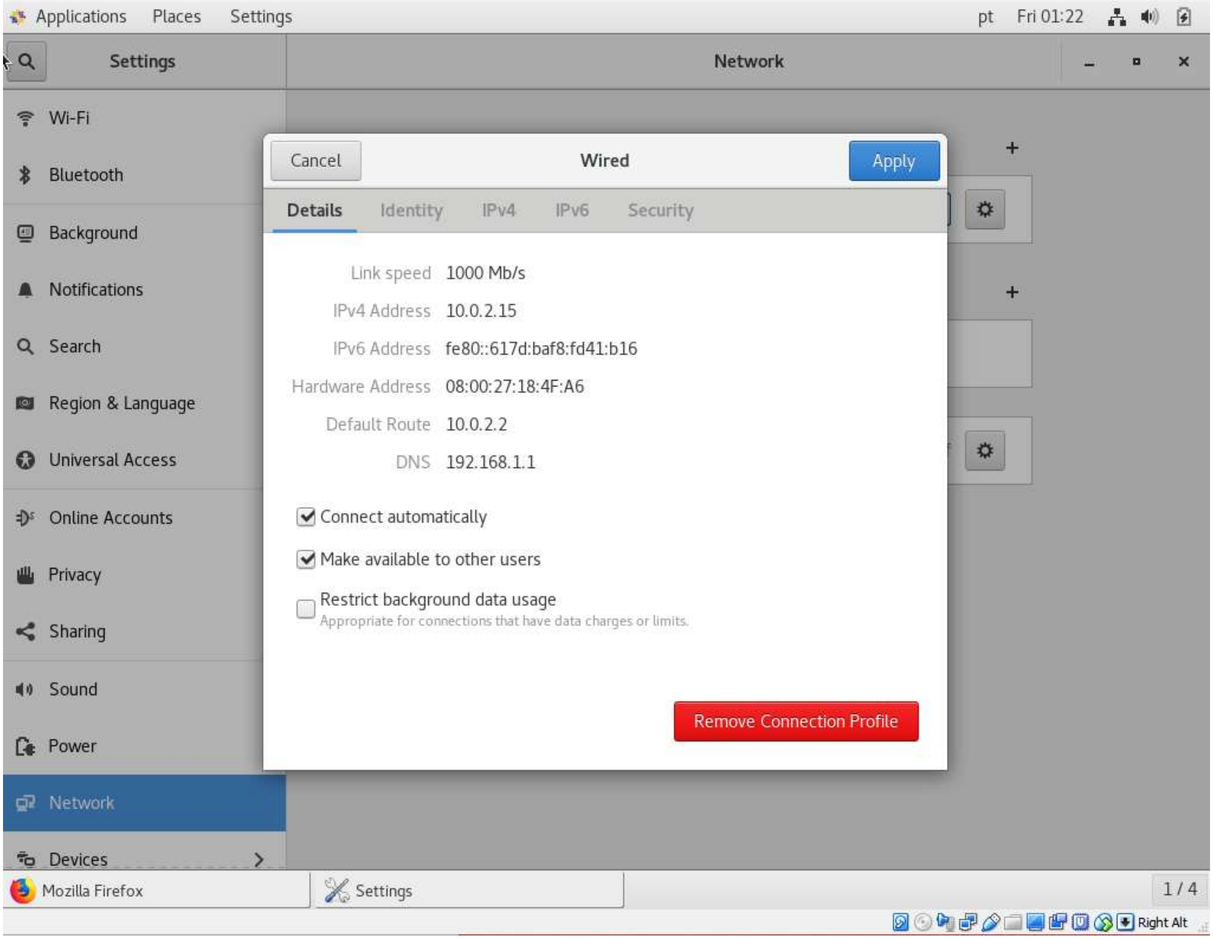
**listening at 8000!!**

**i'm the server B and my ip addr is 192.168.1.17**

**this is apache httpd and u're seeing this through ssh tunnel**

```
[dan@localhost ~]$ ssh -L 1234:localhost:4321 root@192.168.1.18
root@192.168.1.18's password:
Last login: Sat Jan 19 12:39:16 2019 from 192.168.1.5
[root@localhost ~]# 
```

- Client configuration



Link speed 1000 Mb/s
IPv4 Address 10.0.2.15
IPv6 Address fe80::617d:baf8:fd41:b16
Hardware Address 08:00:27:18:4F:A6
Default Route 10.0.2.2
DNS 192.168.1.1

☑ Connect automatically

☑ Make available to other users

□ Restrict background data usage
Appropriate for connections that have data charges or limits.