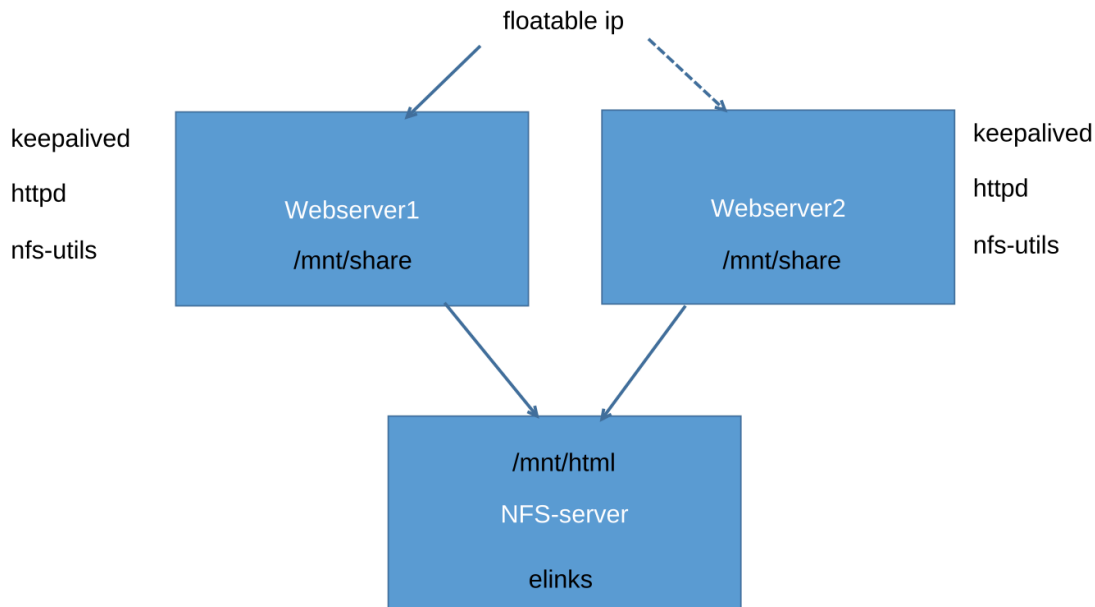


HA webserver

In this exercise you will create a highly available webserver using keepalived. In addition to that you will have your html pages on an NFS share.

Of course the nfs server is a single point of failure....



1. login to your first machine that will run the webserver and keepalived.
 - Update the machine.
 - Install **httpd**, **nfs-utils** and **keepalived**.

```
dnf update -y
dnf install httpd nfs-utils keepalived
```

2. Create a directory **/mnt/share** to be used as the DocumentRoot for httpd.

```
mkdir /mnt/share
```

3. Edit `/etc/httpd/conf/httpd.conf` and set `DocumentRoot` to `/mnt/share` also add a configuration block.

```
DocumentRoot "/mnt/share"  
  
<Directory "/mnt/share">  
Options Indexes FollowSymLinks  
AllowOverride None  
Require all granted  
</Directory>
```

4. Change `/etc/httpd/conf.d/welcome.conf` to `/etc/httpd/conf.d/welcome.conf.disabled`

```
cd /etc/httpd/conf.d  
mv welcome.conf welcome.conf.disabled
```

5. Create an `index.html` file in `/mnt/share`

```
echo Welcome! > /mnt/share/index.html
```

6. Enable and start `httpd`

```
systemctl enable httpd --now
```

7. Use `curl` to check your `index.html`

```
curl http://127.0.0.1
```

Remove `index.html`

```
rm /mnt/share/index.html
```

8. Repeat step 1 to 7 on the second machine.

9. Edit /etc/keepalived/keepalived.conf

(make it look like this on the first node.)

```
vrrp_instance VI_1 {
    state MASTER
    interface enp1s0
    virtual_router_id 51
    priority 100
    advert_int 1
    authentication {
        auth_type PASS
        auth_pass 1111
    }
    virtual_ipaddress {
        192.168.4.199
    }
}
```

10. Use systemctl to start httpd and keepalived.

```
systemctl enable httpd --now
systemctl enable keepalived --now
```

11. Repeat the exact same steps on the second node.

ONE BIG Difference:

in the keepalived.conf file change the priority from 100 to 110

12. On both machines enable and start keepalived.

address 192.168.4.199 should be up on the second node because of the higher priority.

On the third node:

13. Install **nfs-utils**

```
dnf install -y nfs-utils
```

14. Create a directory: **/mnt/html**

```
mkdir /mnt/html
```

Add the following index.html to that directory.

```
echo Welcome! > /mnt/html/index.html
```

15. Edit the **/etc/exports** file

```
/mnt/html *(ro)
```

16. Enable and start nfs, check nfs-server is up and running and /mnt/html is accessible by NFS clients.

```
systemctl enable nfs-server --now  
systemctl status nfs-server  
showmount -e 127.0.0.1
```

17. On both webservers, mount **/mnt/html** to the local **/mnt/share** directory.

```
mount <node-3-ip-address>:/mnt/html /mnt/share
```

18. Check the floatable ip address from any machine (node1/node2/node3)

```
curl http://192.168.4.199
```