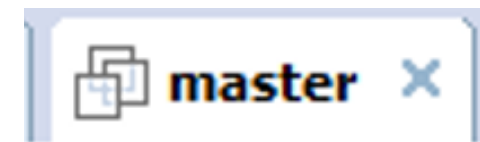


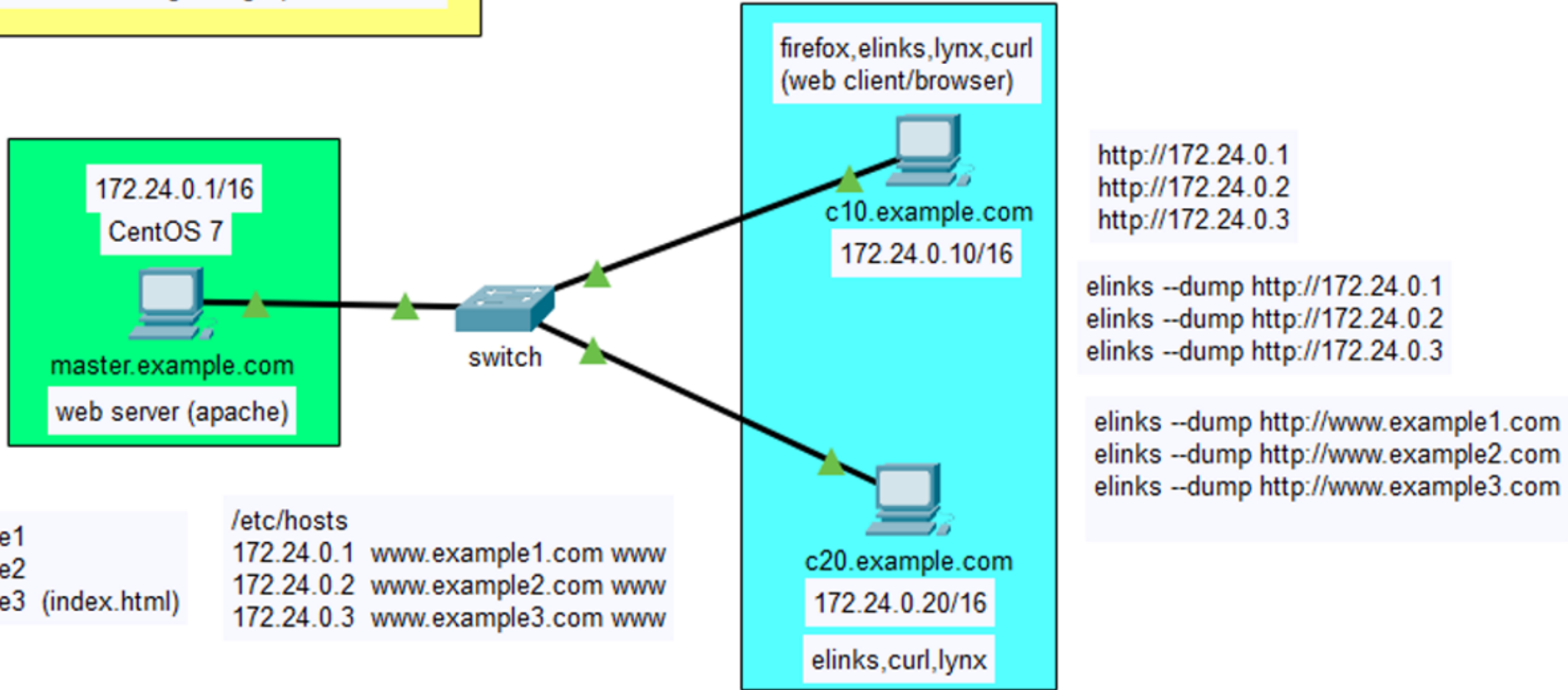
IP Based Virtual Hosting Using Apache

(Launch Multiple Websites on Multiple IPs)



IP Based Virtual Hosting Using Apache

IP Based Multiple Site Web Hosting Using Apache Server



Lab Setup

Here we want to launch "www.example1.com" on "172.24.0.1", "www.example2.com" on "172.24.0.2" and "www.example3.com" on "172.24.0.3". We are using 3 IP address for 3 sites. This is called IP based virtual hosting. Configure "ifcfg-ens33" for 3 IP addresses. Restart the "network" service.

```
[root@master html]# cat /etc/sysconfig/network-scripts/ifcfg-ens33
TYPE="Ethernet"
PROXY_METHOD="none"
BROWSER_ONLY="no"
BOOTPROTO="static"
DEFROUTE="yes"
IPV4_FAILURE_FATAL="no"
IPV6INIT="yes"
IPV6_AUTOCONF="yes"
IPV6_DEFROUTE="yes"
IPV6_FAILURE_FATAL="no"
IPV6_ADDR_GEN_MODE="stable-privacy"
NAME="ens33"
DEVICE="ens33"
ONBOOT="yes"
#IPADDR=172.24.0.1
#NETMASK=255.255.0.0
IPADDR1=172.24.0.1
IPADDR2=172.24.0.2
IPADDR3=172.24.0.3
PREFIX0=16
[root@master html]# systemctl restart network
[root@master html]#
```

Lab Setup

Check IP addresses by using “ip a s ens33”.

```
[root@master html]# ip a s ens33
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast :
    link/ether 00:0c:29:ac:38:ef brd ff:ff:ff:ff:ff:ff
    inet 172.24.0.1/16 brd 172.24.255.255 scope global ens33
        valid_lft forever preferred_lft forever
    inet 172.24.0.2/16 brd 172.24.255.255 scope global secondary ens33
        valid_lft forever preferred_lft forever
    inet 172.24.0.3/16 brd 172.24.255.255 scope global secondary ens33
        valid_lft forever preferred_lft forever
```

Lab Setup

For accessing websites by using names instead of IPs, we need properly configured DNS server which will resolve “www.example1.com”, “www.example2.com” and “www.example3.com” to IP addresses “172.24.0.1”, “172.24.0.2” and “172.24.0.3” respectively. Since we did not implement DNS server at this point of time, we will implement the same logic by editing “/etc/hosts” files on all systems.

```
-----  
[root@master ~]# cat /etc/hosts  
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.localdomain4  
:::1        localhost localhost.localdomain localhost6 localhost6.localdomain6  
172.24.0.1  master.example.com master  
172.24.0.1  www.example1.com www  
172.24.0.2  www.example2.com www  
172.24.0.3  www.example3.com www
```

Lab Setup

Now go to “`/var/www/html`” directory. Make 3 directories “`example1`”, “`example2`”, “`example3`” and put some material into these directories by creating simple “`index.html`” files. With “`tree`” command, you can confirm the directory structure. We will be using directory structure created in previous lab.

```
[root@master ~]# cd /var/www/html
[root@master html]#
[root@master html]# tree
```

```
├─ example1
│   └─ index.html
├─ example2
│   └─ index.html
└─ example3
    └─ index.html
```

3 directories, 3 files

```
[root@master html]#
[root@master html]# cat example1/index.html
wel to example1 site
[root@master html]#
[root@master html]# cat example2/index.html
wel to example2 site
[root@master html]#
[root@master html]# cat example3/index.html
wel to example3 site
[root@master html]#
```

Edit “/etc/httpd/conf/httpd.conf”

Edit the “/etc/httpd/conf/httpd.conf” . Test the syntax of “httpd.conf” file and “reload” the “httpd” service.

```
[root@master html]# tail -15 /etc/httpd/conf/httpd.conf
```

```
<VirtualHost 172.24.0.1>  
    ServerName 172.24.0.1  
    DocumentRoot /var/www/html/example1  
</VirtualHost>
```

```
<VirtualHost 172.24.0.2>  
    ServerName 172.24.0.2  
    DocumentRoot /var/www/html/example2  
</VirtualHost>
```

```
<VirtualHost 172.24.0.3>  
    ServerName 172.24.0.3  
    DocumentRoot /var/www/html/example3  
</VirtualHost>
```

```
[root@master html]#
```

```
[root@master html]# service httpd configtest
```

```
Syntax OK
```

```
[root@master html]#
```

```
[root@master html]# systemctl reload httpd
```

```
[root@master html]#
```

IP Based VirtualHost Settings

The syntax of Virtual Host Section is

```
<VirtualHost 172.24.0.1>  
    ServerName 172.24.0.1  
    DocumentRoot /var/www/html/example1  
</VirtualHost>
```

----- Start of virtual host section for "172.24.0.1"
----- Server IP
----- Where the content will be placed
----- End of virtual host section for "172.24.0.1"

Test From Master

Try to access all 3 sites by using “elinks”. Test using both IP addresses and names. We are able to access all the web sites.

```
[root@master ~]# elinks --dump http://172.24.0.1
  wel to example1 site
[root@master ~]#
[root@master ~]# elinks --dump http://172.24.0.2
  wel to example2 site
[root@master ~]#
[root@master ~]# elinks --dump http://172.24.0.3
  wel to example3 site
[root@master ~]#
[root@master ~]# elinks --dump http://www.example1.com
  wel to example1 site
[root@master ~]#
[root@master ~]# elinks --dump http://www.example2.com
  wel to example2 site
[root@master ~]#
[root@master ~]# elinks --dump http://www.example3.com
  wel to example3 site
_
```

Test From C10

Try to access all 3 sites by using “elinks”. Test using IP addresses. We are able to access all the web sites.

```
[root@c10 ~]# elinks --dump http://172.24.0.1
  wel to example1 site
[root@c10 ~]#
[root@c10 ~]# elinks --dump http://172.24.0.2
  wel to example2 site
[root@c10 ~]#
[root@c10 ~]# elinks --dump http://172.24.0.3
  wel to example3 site
```

Test From C10

Try to access all 3 sites by using “elinks”. Test using names. We are able to access all the web sites.

```
[root@c10 ~]# cat /etc/hosts
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.localdomain4
::1        localhost localhost.localdomain localhost6 localhost6.localdomain6
172.24.0.10 c10.example.com c10
172.24.0.1   www.example1.com www
172.24.0.2   www.example2.com www
172.24.0.3   www.example3.com www
[root@c10 ~]#
[root@c10 ~]# elinks --dump http://www.example1.com
wel to example1 site
[root@c10 ~]#
[root@c10 ~]# elinks --dump http://www.example2.com
wel to example2 site
[root@c10 ~]#
[root@c10 ~]# elinks --dump http://www.example3.com
wel to example3 site
```

Test From C20

Try to access all 3 sites by using “elinks”. Test using both IP addresses and names. We are able to access all the web sites.

```
[root@c20 ~]# cat /etc/hosts
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.localdomain4
::1        localhost localhost.localdomain localhost6 localhost6.localdomain6
172.24.0.20 c20.example.com c20
172.24.0.1  www.example1.com www
172.24.0.2  www.example2.com www
172.24.0.3  www.example3.com www
[root@c20 ~]#
[root@c20 ~]# elinks --dump http://www.example1.com
wel to example1 site
[root@c20 ~]# elinks --dump http://www.example2.com
wel to example2 site
[root@c20 ~]# elinks --dump http://www.example3.com
wel to example3 site
[root@c20 ~]#
[root@c20 ~]# elinks --dump http://172.24.0.1
wel to example1 site
[root@c20 ~]# elinks --dump http://172.24.0.2
wel to example2 site
[root@c20 ~]# elinks --dump http://172.24.0.3
wel to example3 site
```