

I installed apache2 using `apt-get install apache2`. I created directories for each of the sites under `/var/www/html`. Then, I used `scp` to copy the zip files to machine c, unzipped them and moved them to the directories I created for them. After that, I created `.conf` files for each of the sites under `/etc/apache2/sites-available`, and used the codes below to configure the virtual hosts. I used the alias to be the site without the `www` to make it accessible without `www`. Furthermore I edited `/etc/hosts` file and included the sites with and without `www` along with the ip of machine c.

To give permissions for andy, Kelly, and pam, I used `setfacl` to recursively give them permission in the `dundermifflin` directory under `/var/www/html`. I also did that for `dschrute` using `setfacl -R -m u:dschrute:rwX /var/www/html/schrute farms`.

However, this did not cover future files, and therefore, I run the default `setfacl` as follows for each of the users:

- `Setfacl -d -m u:pbeesly:rwX /var/www/html/dundermifflin`
- `Setfacl -d -m u:k Kapoor:rwX /var/www/html/dundermifflin`
- `Setfacl -d -m u:abernard:rwX /var/www/html/dundermifflin`
- `Setfacl -d -m u:dschrute:rwX /var/www/html/schrute farms`

I tested the permissions portion by editing the index html file and retrieving the html output to confirm the change, and then got it back to what it was. Then, I also created html files using the above users to test the permissions.

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permitted by applicable law.
Last login: Mon Feb 20 22:54:01 2023 from 100.64.22.1
root@machinec:~# cat /etc/apache2/sites-available/dundermifflin.conf
<VirtualHost *:80>
    ServerName www.dundermifflin.com
    ServerAlias dundermifflin.com
    DocumentRoot /var/www/html/dundermifflin
    ErrorLog ${APACHE_LOG_DIR}/error-dundermifflin.log
    CustomLog ${APACHE_LOG_DIR}/access-dundermifflin.log combined
</VirtualHost>
root@machinec:~# cat /etc/apache2/sites-available/michaelscottpapercompany.conf
<VirtualHost *:80>
    ServerName www.michaelscottpapercompany.com
    ServerAlias michaelscottpapercompany.com
    DocumentRoot /var/www/html/michaelscottpapercompany
</VirtualHost>
root@machinec:~# cat /etc/apache2/sites-available/schrute farms.conf
<VirtualHost *:80>
    ServerName www.schrute farms.com
    ServerAlias schrute farms.com
    DocumentRoot /var/www/html/schrute farms
</VirtualHost>
```

I tested my web servers using curl as follows:

Curl -resolv www.dundermifflin.com:80:100.64.22.3 <http://www.dundermifflin.com/index.html>

Curl -resolv dundermifflin.com:80:100.64.22.3 <http://www.dundermifflin.com/index.html>

Curl -resolv www.michaelscottpapercompany.com:80:100.64.22.3 <http://www.michaelscottpapercompany.com/index.html>

Curl -resolv michaelscottpapercompany.com:80:100.64.22.3 <http://www.michaelscottpapercompany.com/index.html>

Curl -resolv www.schrutefarms.com:80:100.64.22.3 <http://www.schrutefarms.com/index.html> Curl

-resolv schrutefarms.com:80:100.64.22.3 <http://www.schrutefarms.com/index.html>