

## Notes

Installed apache and configured Virtual Hosts which is in /etc/apache2/sites-available/

```
<VirtualHost *:80>
```

```
ServerName www.schrutefarms.com
```

```
ServerAlias schrute-farms.com
```

```
DocumentRoot /var/www/html/schrutefarms
```

```
<Directory /var/www/html/schrutefarms>
```

```
Options Indexes FollowSymLinks
```

```
AllowOverride All
```

```
Require all granted
```

```
</Directory>
```

```
ErrorLog ${APACHE_LOG_DIR}/schrutefarms_error.log
```

```
CustomLog ${APACHE_LOG_DIR}/schrutefarms_access.log combined
```

```
</VirtualHost>
```

Virtual host configuration in /etc/apache2/sites-available/schrutefarms.conf

```
<VirtualHost *:80>
```

```
ServerName www.schrutefarms.com
```

```
ServerAlias schrute-farms.com
```

```
DocumentRoot /var/www/html/schrutefarms
```

```
<Directory /var/www/html/schrutefarms>
```

```
Options Indexes FollowSymLinks
```

```
AllowOverride All
```

```
Require all granted
```

```
</Directory>
```

```
ErrorLog ${APACHE_LOG_DIR}/schrutefarms_error.log
```

```
CustomLog ${APACHE_LOG_DIR}/schrutefarms_access.log combined
```

```
</VirtualHost>
```

Virtual Host configuration inside /etc/apache2/sites-available/michaelscottpapercompany.conf

```
<VirtualHost *:80>
```

```

ServerName www.michaelscottpapercompany.com
DocumentRoot /var/www/html/michaelscottpapercompany
<Directory /var/www/html/michaelscottpapercompany>
    Options Indexes FollowSymLinks
    AllowOverride All
    Require all granted
</Directory>
ErrorLog ${APACHE_LOG_DIR}/michaelscott_error.log
CustomLog ${APACHE_LOG_DIR}/michaelscott_access.log combined
</VirtualHost>

```

Created user groups such as dundermifflin-group and schrute farms-group and add users to those group assigned pbeesly, k Kapoor, abernard in dundermifflin group and dschrute in schrute farms group and by adjusting directory permission with chown and chmod. I restricted write access to designated directories ensuring that users have the necessary permission.

To create a cron job for syncing files between Machine C and Machine D every 5 minutes using rsync and using sudo crontab -e it will open the crontab editor and add this sommand

```
* * * * * rsync -avz --delete root@100.64.7.3:/var/www/html/dundermifflin/ /var/www/html/dundermifflin/
```

I used curl commands to request the main pages of each website to ensure they are serving content correctly curl --resolv www.dundermifflin.com:80:100.64.7.3 was particularly useful to verify that DNS resolution and Apache configurations were correct. Inorder to view the webpage we must map the ip address to the url.

```

#!/bin/bash
# Output HTTP headers
echo "Content-type: text/html"
echo ""
echo "<html><head><title>Disk Usage</title></head><body>"
echo "<h1>Disk Usage</h1>"
echo "<table border='1'><tr><th>Site</th><th>Files</th><th>Size</th></tr>"
SITES=(
"/var/www/html/dundermifflin"
"/var/www/html/michaelscottpapercompany"

```

```

"/var/www/html/schrutefarms"
)
SITE_NAMES=("dundermifflin.com" "michaelscottpapercompany.com"
"schrutefarms.com")
for i in "${!SITES[@]}"; do
    FILE_COUNT=$(find "${SITES[$i]}" -type f | wc -l)
    SIZE=$(du -sh "${SITES[$i]}" | cut -f1)
    echo
"<tr><td>${SITE_NAMES[$i]}</td><td>${FILE_COUNT}</td><td>${SIZE}</td></tr>"
done
echo "</table></body></html>"

```

Created a CGI script that will report the number of files and disk space used by each of the three web sites. And restricted access to this CGI script to only dundermifflin.com domain and set username and password as webmaster and dm23. And configured the virtual host

```
ScriptAlias /cgi-bin/ /var/www/cgi-bin/
```

```
<Directory "/var/www/cgi-bin">
```

```
Options +ExecCGI
```

```
AddHandler cgi-script .cgi .pl .sh
```

```
Require all granted
```

```
</Directory>
```

To sync files from machine C to machine D every 5 min using rsync

```
*/5 * * * * rsync -avz --delete root@100.64.7.3:/var/www/cgi-bin/diskusage/ /var/www/cgi-bin/
```

I checked access restriction by attempting to access the CGI script from outside the dundermifflin.com domain which should be denied.

To check if the backup server is working, I did mirroring from Machine C to Machine D and map the domain to the ip address of machine D to the domain names and checked the webpage whether its showing.

It took approximately took 19 hours to do the initial objective and 6 hours to the diskusage script and setup.