

# Apache Web Server Configuration – Part II

## I. Virtual Hosting

- Virtual Hosting is used whenever there is a need to host multiple websites on a single web server.
- In practice, only one server is dedicated to a website. However, due to the increasing amount of power a server can handle, it seems impractical to host only a single website.
- Apache web server supports Virtual Hosting through the use of Domain Names. Each virtual host is assigned a unique domain name (i.e [www.group5.org](http://www.group5.org)) that is matched to the server's IP address (This means that each virtual host in the server share the same IP address).
- Apache Web Server also supports enabling/disabling virtual hosts without deleting said host.
- Setting up a virtual host in Apache is done through these steps
  1. On the server, set your working directory to `/var/www/` by using the command

```
cd /var/www/
```

2. Create a folder (It's recommended to name the folder in such a way that it best describes the website (i.e `domainname.com`)).

```
sudo mkdir domainname.com
```

3. Change the ownership of the folder you created to the Group (thingy) by using the command

```
sudo chown -R $GROUP:$GROUP domainname.com
```

4. Change the permission to the folder you created by using the command

```
sudo chmod -R 755 domainname.com
```

5. Using the `'cd'` command, get in the folder you just created. This is where you will place your website (`.html`, `.css`, images, etc...). You can remotely create your website here by using your favorite text editors, but to add your website remotely using a flash drive, please refer to the instructions regarding "Accessing Your Flash Drives on a Virtual Machine".
6. Set your working directory to the Apache's site configuration directory by using the command

```
cd /etc/apache2/sites-available
```

7. Copy the default configuration file `"000-default.conf"` to the same directory

```
sudo cp 000-default.conf www.domainname.com.conf
```

8. Using your favorite text editor, edit the file you just copied. This will be the configuration file for your website. Refer to the image below

```
<VirtualHost *:80>
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
ServerName www.domainname.com
ServerAlias www.domainname.com
ServerAdmin webmaster@localhost
DocumentRoot /var/www/www.domainname.com/

# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
# It is also possible to configure the loglevel for particular
# modules, e.g.
#LogLevel info ssl:warn

ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined

# For most configuration files from conf-available/, which are
# enabled or disabled at a global level, it is possible to
# include a line for only one particular virtual host. For example the
# following line enables the CGI configuration for this host only
# after it has been globally disabled with "a2disconf".
#Include conf-available/serve-cgi-bin.conf
</VirtualHost>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet

-- INSERT --
```

9. Enable the virtual host by using the command

**sudo a2ensite www.domainname.com.conf**

10. You will be prompted to restart the Web Server. To do this, use the command

**sudo service apache2 restart**

#### Additional References

- <https://www.youtube.com/watch?v=Vd2aLTZDLQg>
- <https://httpd.apache.org/docs/2.4/vhosts/examples.html>
- <https://httpd.apache.org/docs/2.4/vhosts/>