

How to make Apache more secure by hiding directory folders

If you serve up your websites with Apache, you might want to prevent the server from listing subdirectories. Here are two simple tricks for securing your Apache server.

By Jack Wallen | February 16, 2017, 10:38 AM PST

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You have [Apache](https://www.apache.org/) (<https://www.apache.org/>) set up and serving your sites to perfection. Or so you thought.

A team member informs you she can navigate through the folder hierarchy of your Apache server. This could end in security issues you don't want to face.

The fix for this is quite easy and allows you to do it for individual sites or for your document root (i.e., the default location where your Apache sites are served from). There are two easy methods of achieving this; I'll show you both.

I assume you have Apache running and serving up sites. I also assume you have sites in standard and nonstandard locations. For the sake of this example, our server will have a document root of `/var/www/` and our nonstandard sites will be served from `/srv/www`. My demo will be with Apache2 on Ubuntu Server 16.04.

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Working with the Apache configuration file

Our document root is `/var/www`. Let's say (for testing purposes) we have the folders `/var/www/html/test` and `/var/www/test/test1`.

Before making these changes, if we point a browser to `http://IP_OF_SERVER/test` (IP_OF_SERVER is the IP address of the server), we'll see the test1 folder displayed (**Figure A**).

Figure A

Index of /test

Name	Last modified	Size	Description
 Parent Directory		-	
 test1/	2017-02-16 09:27	-	

Apache/2.4.18 (Ubuntu) Server at 192.168.1.87 Port 80

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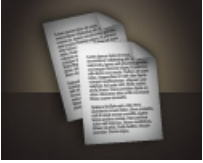
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The test1 folder on display.



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Let's prevent this from happening. Open a terminal window and change into the `/etc/apache2` directory. Open the file `apache2.conf` in your favorite text editor (you'll need admin rights to edit the file). Scroll down until you see the `<Directory />` section (**Figure B**).

Figure B

```
LogLevel warn

# Include module configuration:
IncludeOptional mods-enabled/*.load
IncludeOptional mods-enabled/*.conf

# Include list of ports to listen on
Include ports.conf

# Sets the default security model of the Apache2 HTTPD server. It does
# not allow access to the root filesystem outside of /usr/share and /var/www.
# The former is used by web applications packaged in Debian,
# the latter may be used for local directories served by the web server. If
# your system is serving content from a sub-directory in /srv you must allow
# access here, or in any related virtual host.
<Directory />
    Options FollowSymLinks
    AllowOverride None
    Require all denied
</Directory>

<Directory /usr/share>
    AllowOverride None
    Require all granted
</Directory>

<Directory /var/www/>
```

```

<Directory /var/www/>
    Options Indexes FollowSymLinks
    AllowOverride None
    Require all granted
</Directory>

^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos    ^Y Prev Page
^X Exit      ^R Read File  ^_ Replace    ^U Uncut Text ^T To Spell   ^_ Go To Line  ^V Next Page

```

The document root section of the apache2.conf configuration.

We'll edit this section:

```

<Directory /var/www/>
    Options Indexes FollowSymLinks
    AllowOverride None
    Require all granted
</Directory>

```

Switch off Indexes by removing the Indexes option. The new section will look like this:

```

<Directory /var/www/>
    Options FollowSymLinks
    AllowOverride None
    Require all granted
</Directory>

```

Save and close that file. Restart the web server with this command:

```
sudo service apache2 restart
```

Point your browser back to the same directory, and you'll be presented with a 404 Not Found error.

Using htaccess

Let's look at a different method of handling this problem. This time around we'll use htaccess, so you can easily block a directory listing on any folder, in any defined virtual host on your server.

We'll configure a site served up from `/srv/www`. You will have already configured the `.conf` file for this site in `/etc/apache2/sites-available` (and linked it to `/etc/apache2/sites-enabled`). Open that `.conf` file in your favorite editor and in the Directory section change *AllowOverride None* to *AllowOverride All*. Save and close the file.

Now we must create a new `.htaccess` file in the target folder (in our case `/srv/www`). From your terminal window, issue the command `sudo nano /srv/www/.htaccess`. In this new file, add the line:

```
Options -Indexes
```

Save and close the file. Restart Apache with this command:

```
sudo service apache2 restart
```

Your nonstandard site will show a 403 Access Forbidden error when you try to view a sub-directory.

Done and done

Congratulations! Your Apache site no longer lists directories. This is a very simple step you can take to secure your Apache web server and prevent people from seeing directories and files they shouldn't see.

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About Jack Wallen

Jack Wallen is an award-winning writer for TechRepublic and Linux.com. He’s an avid promoter of open source and the voice of The Android Expert. For more news about Jack Wallen, visit his website jackwallen.com.

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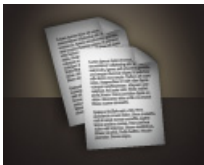
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