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How To Create Temporary and Permanent Redirects with Apache and Nginx

Aug 12, 2013 Apache, Nginx

What is an HTTP Redirect?

HTTP redirection, or URL redirection, is a technique of pointing one domain or address to another. There are many uses for redirection, and a few different kinds of redirection to consider.

As you create content and administrate servers, you will often find the need to redirect traffic from one place to another. This guide will discuss the different use-cases for these techniques, and how to accomplish them in Apache and Nginx.

Why Do Servers Use Redirects?

Redirects are used whenever a site needs people requesting one address to be directed to another address. There are many situations where you may find yourself in this position.

Moving to a Different Domain

If you have established a web presence and would like to change your domain, it is best not to just abandon your old domain.

Bookmarks to your site and links to your site located on other pages throughout the internet will break if your content disappears without any instructions to the browser about how to find its new location.

Changing domains without redirecting will cause your site to lose traffic from previous visitors and lose all of the credibility you have worked to establish.

Expanding to Capture Similar Domains

Often, it is helpful to register multiple variations of a name in order to benefit from users typing in addresses similar to your main domain.

For example, if you have a domain called "mymessyspiders.com", you might also buy the domain names for "mymessyspiders.net" and "mymessyspiders.org" and redirect them both to your "mymessyspiders.com" site.

This allows you to catch users who might be trying to get to your site with the wrong address. It can also help prevent another site from using a similar domain and profiting off of your web presence.

Creating a Persistent Experience In Spite of Page Name Changes

Sometimes, it is necessary to change the names of pages that have already been published and received traffic on your site.

Normally, this would lead to a 404 Not Found error or possibly another error depending on your security settings. These can be avoided by leading your visitors to another page that contains the correct content they were trying to access.

Forcing SSL

A simple but common use for redirects is directing all site traffic to use SSL instead of standard HTTP.

Using redirects, it is possible to make all requests for "http://www.mysite.com" be redirected to "https://www.mysite.com".

Note the HTTPS instead of HTTP.

Redirect Methods

There are a few different kinds of URL redirects, each of which mean something different to the client browser.

The two most common types are 302 temporary redirects, and 301 permanent redirects.

Temporary Redirects

Temporary redirects are useful if your web content for a certain URL temporarily needs to be served out of a different location.

For example, if you are performing site maintenance, you may wish to use a temporary redirect of all of the pages for your domain to an explanation page to inform your visitors that you will be back shortly.

Temporary redirects inform that browser that the content is temporarily located at a different location, but that they should continue to attempt to access the original URL.

Permanent Redirects

Permanent redirects are useful when your content has been moved to a new location forever.

This is useful for when you need to change domains or when the URL needs to change for other reasons and the old location will no longer be used.

This redirect informs the browser that it should no longer request the old URL and should update its information to point to the new URL.

How to Redirect in Apache

Apache can redirect using a few different tools. The simplest ways are accomplished with tools from the "mod_alias" module, but more extensive redirects can be created

with "mod_rewrite".

Using the Redirect Directive

In Apache, you can accomplish simple, single-page redirects using the "Redirect" directive, which is included in the "mod_alias" module. This directive takes at least two arguments: the old URL and the new URL.

In its simplest form, you can accomplish a redirect with the following lines in your server configuration:

This redirect instructs the browser to direct all requests for "www.domain1.com" to "www.domain2.com". This is only for a single page, not for the entire site

By default, the "Redirect" directive establishes a 302, or temporary, redirect.

If you would like to create a permanent redirect, you can do so in either of the following two ways:

```
Redirect 301 /oldlocation http://www.domain2.com/newlocation Redirect permanent /oldlocation http://www.domain2.com/newlocation
```

Using the RedirectMatch Directive

To redirect more than a single page, you can use the "RedirectMatch" directive, which

allows you to specify directory matching patterns using regular expressions.

This will allow you to redirect entire directories instead of just single files.

RedirectMatch matches patterns in parenthesis and then references the matched text in the redirect using "\$1", where 1 is the first group of text. Subsequent groups are given numbers sequentially.

For example, if we wanted to match every request for something within the "/images" directory to a subdomain named "images.example.com", we could use the following:

```
RedirectMatch ^/images/(.*)$ http://images.example.com/$1
```

As with the "Redirect" directive, you can specify the type of redirect by adding the redirect code before the URL location rules.

Using mod_rewrite to Redirect

The most flexible, but complicated way to create redirect rules is with the module called "mod_rewrite".

This is outside of the scope of this article, but you can <u>learn how to use mod_rewrite</u> in this article.

How to Redirect in Nginx

Redirects in Nginx are in many ways much simpler to accomplish. Most of the times, you can redirect by creating a server block for the content you would like to redirect.

For example, if you would like to redirect requests for "domain1.com" to "domain2.com", you could create a server block that looks like this:

```
server {
    listen 80;
```

```
server_name domain1.com;
return 301 $scheme://domain2.com$request_uri;
}
```

The "return" directive executes a URL substitution and then returns the status code given to it and the redirection URL.

In this case, it uses the "\$scheme" variable to use whatever scheme was used in the original request (http or https). It then returns the 301 permanent redirect code and the newly formed URL.

In order to process a folder redirect to a separate subdomain, we can perform an operation similar to the Apache folder redirection using the "rewrite" directive:

```
rewrite ^/images/(.*)$ http://images.example.com/$1 redirect;
```

This directive, when placed in a server block, will issue a temporary redirect for requests inside the "images" directory to the subdomain "images.example.com".

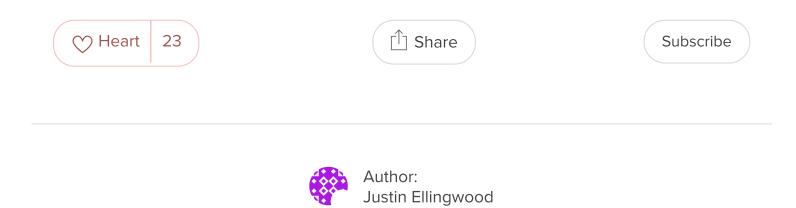
For a permanent redirect, you could change "redirect" to "permanent" at the end of the statement.

Conclusion

You now have the knowledge to redirect your request to new locations. Be sure to use the correct redirection type, as an improper use of temporary redirects can hurt your search ranking.

Using redirects correctly will allow you to leverage your current web presence while allowing you to modify your site structure as necessary. If you would like to learn more about the ways that you can redirect your vistors, both Apache and Nginx have great documentation on the subject.

By Justin Ellingwood



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15 Comments

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kaermorchen October 21, 2013
return 301 \$scheme://domain2.com/\$request_uri;
or
return 301 \$scheme://domain2.com\$request_uri;
?

kamaln7 October 21, 2013

@kaermorchen: It should be latter. I've updated the article. Thanks!

 \bigcirc

 \bigcirc

trotsak January 15, 2014

if we want to serve website with subdomain www, we need to configure CNAME record, which is alias of A record, pointing a subdomain to an A record in our DNS. So CNAME should look like this:

```
www @
\heartsuit 1
dillon January 21, 2014
Hi, my website was maliciously attacked, and has had several pages indexed in google as?
PID= extensions.
Is there a term that I could use to redirect every page that has a '?/PID=' at the end of it?
\bigcirc
kamaln7 January 22, 2014
@dillon: Can you post an example URL? You can configure nginx to return a 404 error on
every URL that contains ?/PID.
asterixzzz May 17, 2014
i used below script to strip off www and redirect www.domain.com to domain.com for SEO
purposes. It works but is it bad practice (http://wiki.nginx.org/Pitfalls)?
I use nginx as proxy to my Node.js server where the site is.
server {
server_name www.domain.com;
rewrite ^(.*) http://domain.com$1 permanent;
}
server {
server_name domain.com;
location / {
proxy_pass http://localhost:3000;
proxy_http_version 1.1;
proxy_set_header Upgrade $http_upgrade;
proxy_set_header Connection 'upgrade';
proxy_set_header Host $host;
proxy_cache_bypass $http_upgrade;
}
}
 \bigcirc 
anupamapanchal September 3, 2014
```

Hey i am using the nginx settings as mentioned above for 301 redirect from domain.in to domain.com.

This is causing a redirect loop when i open domain.in.

 \bigcirc

bosslee September 9, 2014

Hi there

I've gone through this tutorial but when I try to restart nginx, it return fails.

My problem:

Currently, my site is having the following url for a post

http://bosslee.co/2014/09/03/singapore-the-land-for-ecommerce-startup/

The permalink setting in wordpress is

http://bosslee.co/%year%/%monthnum%/%day%/%postname%/

But I'm looking to change it to the following.

http://bosslee.co/posts/singapore-the-land-for-ecommerce-startup/

where posts is a category

The permalink setting in wordpress is http://bosslee.co/%category%/%postname%/

*This is what I tried to do

Adding the following *

rewrite $^{(0-9)(4)}([0-9](2))([0-9](2))(.*)$ http://bosslee.co/posts/\$4 redirect to the server block

What am I doing wrong here?

I need to do the redirect because the links the google index are all pointing to the old permalink. Looking forward to learn more on this.

New to server but learning lots from this forum.

Bryan

Some of the resources I tried using:

- 1. https://yoast.com/wp-content/permalink-helper.php
- 2. http://winginx.com/en/htaccess
- 3. http://codex.wordpress.org/Using_Permalinks

 \bigcirc

arnsdorf November 21, 2014

I'm running Nginx and gave it a try but the way I implemented your example, it is redirecting all traffic from my domain to the new URL I've specified. What I'm trying to accomplish is only

redirecting a subdomain, not the entire domain. Specially, I am trying to redirect www.domain.com to my Facebook page until I get the Wordpress site up and running. However, I don't want wp.domain.com redirecting also. My plan was, once I've finished building my site at wp.domain.com I would just rename it to www and turn off the redirect. I hope I'm being clear.

Maybe a similar question: I'd also like to redirect my WP admin page too to make it shorter. Instead of www.domain.com/wp-admin I'd like to just be able to go to admin.domain.com and have it redirect.

Thanks in advance.

 \bigcirc

jimehrlich March 13, 2015

now since I've never touched nginx I need to find the configuration file. Would have been a handy extra bit of data, where to put the server block.

 \bigcirc

chssweb April 26, 2015

How would oyu put in multiple nainx redirects?

Would you do:

```
server {
listen 80:
servername domain1.com;
return 301 $scheme://domain2.com$requesturi;
}
server {
listen 80;
servername domain3.com;
return 301 $scheme://domain4.com$requesturi;
}
or:
server {
listen 80:
servername domain1.com;
return 301 $scheme://domain2.com$requesturi;
servername domain3.com;
return 301 $scheme://domain4.com$requesturi;
```

, (C)

jellingwood April 27, 2015

@chssweb: Your first example is what you are looking for.



anhducbkhn May 2, 2015

It is not working on my server.

I want to prevent access website on browser via IP.

Please help me

<VirtualHost xx.xx.xx.xx8080>

ServerName xx.xx.xx.xx

DocumentRoot /var/www/html

Redirect 301 / https://domain.com

</VirtualHost>

server ubuntu 14.04 apache 2.4.7

 \otimes

sunIn *November 6, 2015*

thanks a lot ,u really help me .



sgsdgfs January 11, 2016

Best way is to use a script: https://evofrog.com/blog/2016/01/11/how-to-redirect-a-webpage-website-to-another-url/





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