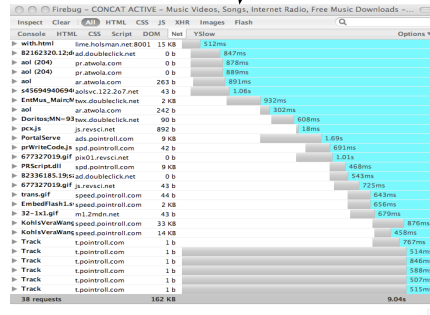
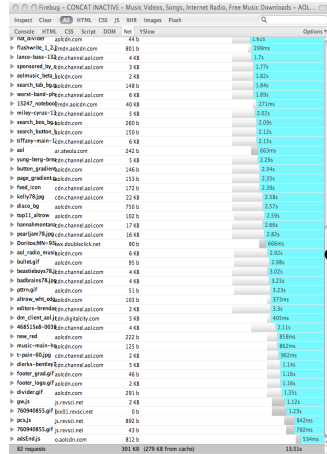


MOD CONCAT

shrinking your response time

HOW TO



BY:

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mod concat

what is it about?

One of the reasons why pages render slowly is that they are busy loading other files which contain the layout information and code to run. Due to the way browsers are designed, and how TCP works, loading lots of little small files is not as efficient as loading a single larger file.

In a perfect world, the development/publishing staff would have a single CSS and a single javascript file for each page template, and they would be optimized for that template/page. but large organizations usually have multiple teams who work in concert to get a template out the door, each with different timelines, people, and scope issues. So what many organizations have when they design a template is have 3-4 different CSS files, nearly identical across all sites, which get put in every template, and the browser then proceeds to load these.

mod_concat is an attempt to allow template designers have a method of optimizing this, by specifying a set of files to load in one HTTP call, mod concat makes a lot of small files appear as 1 large one, making it load faster (sometimes up to 20-30% faster).

for example compare:

The image shows two side-by-side screenshots of browser developer tools (Firebug) comparing network requests for two different pages. The left screenshot is for <http://lime.holsman.net:8001/concat/without.html> and shows a list of 15 individual files being loaded, with a total load time of 412ms. The right screenshot is for <http://lime.holsman.net:8001/concat/with.html> and shows a single 'with.html' file being loaded, which contains all the content of the previous page, with a total load time of 380ms. The word 'to' is placed between the two screenshots to indicate the transition from the 'without' state to the 'with' state.

File	Source	Size	Time
without.html	lime.holsman.net:8001	15 KB	412ms
music2.css	lemon.holsman.net:8001	13 KB	120ms
music2.js	lemon.holsman.net:8001	7 KB	60ms
journals_blog_this.js	tangerine.holsman.net:8001	2 KB	90ms
mp.js	lemon.holsman.net:8001	3 KB	41ms
adsWrapper.js	tangerine.holsman.net:8001	4 KB	24ms
dm_client_aol.js	orange.holsman.net:8001	5 KB	19ms
cannae.js	orange.holsman.net:8001	4 KB	13ms
dalai_llama.js	lemon.holsman.net:8001	3 KB	15ms
ratings_widget.js	lemon.holsman.net:8001	6 KB	14ms
flashtag.js	tangerine.holsman.net:8001	2 KB	13ms
widget_config.js	lemon.holsman.net:8001	2 KB	13ms
feeds_subscribe.js	tangerine.holsman.net:8001	8 KB	17ms
common.js	lemon.holsman.net:8001	6 KB	21ms
common.css	lemon.holsman.net:8001	2 KB	26ms
feeds_subscribe.css	o.aolcdn.com	821 b	18ms
omniunih.js	o.aolcdn.com	13 KB	44ms

File	Source	Size	Time
with.html	lime.holsman.net:8001	15 KB	380ms
cdn	lemon.holsman.net:8001	14 KB	115ms
cdn	lemon.holsman.net:8001	23 KB	62ms
o	tangerine.holsman.net:8001	13 KB	96ms
digital	orange.holsman.net:8001	8 KB	40ms
feeds_subscribe.css	o.aolcdn.com	821 b	23ms
omniunih.js	o.aolcdn.com	13 KB	42ms

and you'll see the difference for yourself.

credit for this idea should go to David Davis who did it while working at Vox, and perlbal where I first saw it designed.

how do I install it?

I'm going to make you work for it :-). The code is designed for Apache 2.2.x. It should work in other versions, and your welcome to submit patches to make it work in other versions that I don't regularly use.

You will need to first download the code from the SVN repository. The repository is here:

http://modconcat.googlecode.com/svn/trunk/mod_concat/

once you have the code, just compile it via

```
$ apxs -c mod_concat.c
```

configuring concat

once you have built it, you will need to configure it.

```
LoadModule concat_module modules/mod_concat.so
```

there is a option to disable concat running called 'concat_disable'

now a word of warning. if you use security/access permissions on your site, you will need to be very careful, as a clever person might be able to subvert this module to read the contents of this file.

how do I use it?

in your HREF tag, you do the following

```
..../<directory>/??file1,file2,<subdir>file3
```

which when called would concatenate the files /directory/file1, /directory/file2, /directory/subdir/file3 together and then send them to the browser.

to keep cache friendly, it uses the last-modified time of the most recently modified file when it sends the file.