

# Dicas e Truques de Otimização de Websites Python

# Dicas e Truques de Otimização de Websites Python

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*Porto Alegre - RS*

# O que iremos ver?

- Na PyCon Brasil II (2006) foram apresentados testes de performance com o Plone versão 2.1
- Dessa vez, iremos testar o Plone versão 3.0.6
  - Dicas de CacheFu 1.1.1
- Algumas dicas para Django também...

# Zope Padrão

- `xiru:~ root# ab -c 50 -n 1000 http://127.0.0.1:8080/`
- `Concurrency Level: 50`
- `Time taken for tests: 5.101460 seconds`
- `Complete requests: 1000`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 2937000 bytes`
- `HTML transferred: 2714000 bytes`
- `Requests per second: 196.02 [#/sec] (mean)`
- `Time per request: 255.073 [ms] (mean)`
- `Time per request: 5.101 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 562.19 [Kbytes/sec] received`

# Plone Padrão

- `xiru:~ root# ab -c 5 -n 100 http://127.0.0.1:8080/Plone/`
- `Concurrency Level: 5`
- `Time taken for tests: 13.514732 seconds`
- `Complete requests: 100`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 2059600 bytes`
- `HTML transferred: 2031800 bytes`
- `Requests per second: 7.40 [# /sec] (mean)`
- `Time per request: 675.737 [ms] (mean)`
- `Time per request: 135.147 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 148.80 [Kbytes/sec] received`



You are here: Home

Log in

Login Name

Password

Log in

Forgot your password?

## Welcome to Plone

**Congratulations! You have successfully installed Plone.**

[Also available in presentation mode...](#)

If you're seeing this instead of the web site you were expecting, the owner of this web site has just installed Plone. Do not contact the Plone Team or the Plone mailing lists about this.

## Get started

Before you start exploring your newly created Plone site, please do the following:

1. **Make sure you are logged in as an admin/manager user.** (You should see a Site Setup link in the top right corner)
2. **Set up your mail server.** (Plone needs a valid SMTP server to verify users and send out password reminders)

« April

Mo	Tu	We
	1	2
7	8	9
14	15	16
21	22	23
28	29	30

Request	Resource	Size	Time
xiru	xiru	20 KB	4ms
event-registration-cachekey09	xiru	52 KB	89ms
base-cachekey3617.css	xiru	44 KB	89ms
logo.jpg	xiru	6 KB	72ms
info_icon.gif	xiru	997 b	71ms
spinner.gif	xiru	3 KB	88ms
bullet.gif	xiru	51 b	84ms
input_background.gif	xiru	460 b	124ms
search_icon.gif	xiru	433 b	
linkTransparent.gif	xiru	103 b	
link_icon.gif	xiru	943 b	
<b>11 requests</b>		<b>126 KB</b>	



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Empty Cache	Primed Cache
19.6K 1 HTML/Text	
51.9K 1 JavaScript File	
43.3K 1 Stylesheet File	19.6K 1 HTML/Text
1.9K 5 CSS Images	1.9K 5 CSS Images
8.1K 3 Images	7.1K 3 Images
<b>125.1K Total size</b>	<b>28.8K Total size</b>
<b>11 HTTP requests</b>	<b>9 HTTP requests</b>



Search Site Search only in current section

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Log in Login Name Password

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« April 2008 »

Mo	Tu	We	Th	Fr	Sa	Su
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27

Performance Grade: D (69)

Expand All Collapse All

- A 1. Make fewer HTTP requests
- F 2. Use a CDN
- F 3. Add an Expires header
- D 4. Gzip components
- A 5. Put CSS at the top
- A 6. Put JS at the bottom
- A 7. Avoid CSS expressions
- n/a 8. Make JS and CSS external
- A 9. Reduce DNS lookups
- A 10. Minify JS
- A 11. Avoid redirects
- A 12. Remove duplicate scripts
- A 13. Configure ETags



# Instalando Squid

- `xiru:~ xiru$ ab -c 5 -n 100 http://xiru/`
- `Concurrency Level: 5`
- `Time taken for tests: 5.676328 seconds`
- `Complete requests: 100`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 2002400 bytes`
- `HTML transferred: 1966400 bytes`
- `Requests per second: 17.62 [# /sec] (mean)`
- `Time per request: 283.816 [ms] (mean)`
- `Time per request: 56.763 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 344.41 [Kbytes/sec] received`

# Instalando CacheFu

- `xiru:~ xiru$ ab -c 5 -n 100 http://xiru/`
- `Concurrency Level: 5`
- `Time taken for tests: 6.83538 seconds`
- `Complete requests: 100`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 2022929 bytes`
- `HTML transferred: 1986569 bytes`
- `Requests per second: 16.44 [# /sec] (mean)`
- `Time per request: 304.177 [ms] (mean)`
- `Time per request: 60.835 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 324.65 [Kbytes/sec] received`

# Habilitando CacheFu

- `xiru:~ xiru$ ab -c 5 -n 100 http://xiru/`
- `Concurrency Level: 5`
- `Time taken for tests: 2.57365 seconds`
- `Complete requests: 100`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 2024900 bytes`
- `HTML transferred: 1966900 bytes`
- `Requests per second: 48.61 [# /sec] (mean)`
- `Time per request: 102.868 [ms] (mean)`
- `Time per request: 20.574 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 960.94 [Kbytes/sec] received`



- Site Setup
- Plone Configuration
  - Add-on Products
  - Calendar
  - Collection
  - Content Rules
  - Errors
  - HTML Filtering
  - Language
  - Mail
  - Maintenance
  - Markup
  - Navigation
  - Search
  - Security
  - Site
  - Themes
  - Types

# Cache Configuration Tool

▲ Up to Site Setup

## Enable CacheFu

Uncheck to turn off CacheFu's caching behavior. Note: Disabling CacheFu does not purge proxy or browser caches so stale content may still continue to be served out of those caches.

## Active Cache Policy

Please indicate which cache policy to use.

Default Cache Policy (v1.1.1)

No Proxy Cache (v1.1.1)

## Proxy Cache Purge Configuration ■

If you are using a caching proxy such as Squid or Varnish in front of Zope, CacheFu needs to be able to tell this proxy to purge its cache of certain pages. If Apache is in front of Squid, you need to configure the proxy to use the "Simple Purge" option under the Proxy Cache Purge Configuration option above. If you are using Apache's "virtual hosting" configuration. The most common Apache configuration generates VirtualHostMonster-style URLs with RewriteRules/ProxyPass. If you have a legacy configuration or other custom Apache configuration, you may want to choose the "custom URLs" option and customize the rewritePurgeUrls.py script.

Simple Purge (squid/varnish in front) ▼

## Site Domains

Enter a list of domains for your site. This is not needed if you chose "No Purge" under the Proxy Cache Purge Configuration option above. If your site handles both http://www.mysite.com and http://mysite.com:80, be sure to include both. Also include https versions of your domains if you use them. Be sure to include a port for each site.

http://xiru/

## Proxy Cache Domains

Enter a list of domains for any purgeable proxy caches. This is not needed if you chose "No Purge" or "Simple Purge" under "Proxy Cache Purge Configuration" above. For example, if you are using Apache in front, there will commonly be a single squid instance at http://127.0.0.1:3128



Home Users News Events

You are here: Home

Log in

Login Name  
xiru

Password  
\*\*\*\*

Log in

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xiru xiru 6 KB 3ms

Headers Response

### Response Headers

```

Server Zope/(Zope 2.10.5-final, python 2.4.4, darwin) ZServer/1.1 Plone/3.0.6
Date Fri, 18 Apr 2008 15:11:44 GMT
Content-Length 5587
Content-Language en
Content-Encoding gzip
Expires Tue, 21 Apr 1998 15:11:44 GMT
Vary Accept-Encoding
Etag l|Plone Default|pt-br;pt;q=0.8;en-us;q=0.5;en;q=0.3|11155111335703
X-Caching-Rule-Id plone-content-types
Cache-Control max-age=0, s-maxage=0, private, must-revalidate
Content-Type text/html;charset=utf-8
X-Header-Set-Id cache-in-memory
X-Cache MISS from xiru.fisl.net
Via 1.0 xiru.fisl.net:80 (squid/2.6.STABLE19)
imagemetoolbar no

```

### Request Headers

# Regra ContentTypes

- `xiru:~ xiru$ ab -c 5 -n 100 http://xiru/`
- `Concurrency Level: 5`
- `Time taken for tests: 0.158232 seconds`
- `Complete requests: 100`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 2026700 bytes`
- `HTML transferred: 1966900 bytes`
- `Requests per second: 631.98 [#/sec] (mean)`
- `Time per request: 7.912 [ms] (mean)`
- `Time per request: 1.582 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 12506.95 [Kbytes/sec] received`



You are here: Home

Log in

Login Name  
xiru

Password  
\*\*\*\*

Log in

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xiru	xiru	6 KB	4ms
------	------	------	-----

### Response Headers

Server	Zope/(Zope 2.10.5-final, python 2.4.4, darwin) ZServer/1.1 Plone/3.0.6
Date	Fri, 18 Apr 2008 15:31:22 GMT
X-Pagecache	NO-ETAG
Content-Length	5587
Content-Language	en
Content-Encoding	gzip
Expires	Tue, 21 Apr 1998 15:31:22 GMT
Vary	Accept-Encoding, Accept-Encoding
Last-Modified	Fri, 18 Apr 2008 13:51:14 GMT
X-Caching-Rule-Id	plone-content-types
Cache-Control	max-age=0, s-maxage=3600, must-revalidate
Content-Type	text/html; charset=utf-8
X-Header-Set-Id	cache-in-proxy-1-hour
X-Cache	MISS from xiru.fisl.net
Via	1.0 xiru.fisl.net:80 (squid/2.6.STABLE19)
Connection	keep-alive

### Request Headers



You are here: Home

Log in

Login Name  
xiru

Password  
\*\*\*\*

Log in

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Empty Cache	Primed Cache
5.5K 1 HTML/Text	
51.9K 1 JavaScript File	
43.3K 1 Stylesheet File	5.5K 1 HTML/Text
1.9K 5 CSS Images	0.0K 5 CSS Images
8.1K 3 Images	0.0K 3 Images
<b>111.0K Total size</b>	<b>5.5K Total size</b>
<b>11 HTTP requests</b>	<b>9 HTTP requests</b>

Cookies: 53 bytes

(53 bytes) tree-s="ejzT0MgpMOQKVneEAtdEE1t1rgljrsSSAmMuPQB5hgeO";





You are here: Home

Log in

Login Name  
xiru

Password  
\*\*\*\*

Log in

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### Performance Grade: C (71)

- A 1. Make fewer HTTP requests
- F 2. Use a CDN ▾
- F 3. Add an Expires header ▾
- C 4. Gzip components ▾
- A 5. Put CSS at the top
- A 6. Put JS at the bottom
- A 7. Avoid CSS expressions
- n/a 8. Make JS and CSS external ▾
- A 9. Reduce DNS lookups
- A 10. Minify JS ▾
- A 11. Avoid redirects
- A 12. Remove duplicate scripts
- A 13. Configure ETags

# ulimit

- xiru:squid-2.6.STABLE19 root# ulimit -a
- core file size (blocks, -c) 0
- data seg size (kbytes, -d) 6144
- file size (blocks, -f) unlimited
- max locked memory (kbytes, -l) unlimited
- max memory size (kbytes, -m) unlimited
- open files (-n) 4096
- pipe size (512 bytes, -p) 1
- stack size (kbytes, -s) 8192
- cpu time (seconds, -t) unlimited
- max user processes (-u) 266
- virtual memory (kbytes, -v) unlimited

# ulimit

- `xiru:logs root# grep descri cache.log`
- `2008/04/18 11:43:22| With 256 file descriptors available`
- `2008/04/18 11:59:35| With 256 file descriptors available`
- `2008/04/18 12:15:47| WARNING! Your cache is running out of filedescriptors`
- `2008/04/18 12:21:22| WARNING! Your cache is running out of filedescriptors`
- `2008/04/18 12:24:53| With 4096 file descriptors available`

# 250 Conexões

- `xiru:logs root# ab -c 250 -n 10000 http://xiru/`
- `Concurrency Level: 250`
- `Time taken for tests: 16.539946 seconds`
- `Complete requests: 10000`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 202782643 bytes`
- `HTML transferred: 196789049 bytes`
- `Requests per second: 604.60 [# /sec] (mean)`
- `Time per request: 413.499 [ms] (mean)`
- `Time per request: 1.654 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 11972.77 [Kbytes/sec] received`

# 500 Conexões

- `xiru:logs root# ab -c 500 -n 10000 http://xiru/`
- `Concurrency Level: 500`
- `Time taken for tests: 17.624794 seconds`
- `Complete requests: 10000`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 202889958 bytes`
- `HTML transferred: 196890973 bytes`
- `Requests per second: 567.38 [# /sec] (mean)`
- `Time per request: 881.240 [ms] (mean)`
- `Time per request: 1.762 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 11241.78 [Kbytes/sec] received`

# 750 Conexões

- `xiru:logs root# ab -c 750 -n 10000 http://xiru/`
- `Concurrency Level: 750`
- `Time taken for tests: 17.903481 seconds`
- `Complete requests: 10000`
- `Failed requests: 0`
- `Write errors: 0`
- `Total transferred: 203484669 bytes`
- `HTML transferred: 197466516 bytes`
- `Requests per second: 558.55 [#/sec] (mean)`
- `Time per request: 1342.761 [ms] (mean)`
- `Time per request: 1.790 [ms] (mean, across all concurrent requests)`
- `Transfer rate: 11099.24 [Kbytes/sec] received`



You are here: Home

Log in

Hello World!

**Login Name**

**Password**

[Forgot your](#)

Hello World!

teste xiru 4 KB 3ms

Headers Response

Response Headers

```

Server Zope/(Zope 2.10.5-final, python 2.4.4, darwin) ZServer/1.1 Plone/3.0.6
Date Fri, 18 Apr 2008 15:41:32 GMT
Content-Length 3563
Content-Language en
Content-Encoding gzip
Expires Fri, 18 Apr 2008 15:51:32 GMT
Vary Accept-Encoding
Cache-Control max-age=0, s-maxage=600
Content-Type text/html;charset=utf-8
X-Cache HIT from xiru.fisl.net
Via 1.0 xiru.fisl.net:80 (squid/2.6.STABLE19)
Connection keep-alive
imagemetoolbar no

```

Request Headers

# Dicas e Truques

- Invista seu tempo em “debug” de headers HTTP
- Nenhuma aplicação dinâmica terá performance sem cache
- Cache compartilhado sempre será mais rápido do que cache no browser (mas isso nem sempre é possível)
- Use extensões do firefox para auxiliar no seu trabalho
  - Web Developer, Firebug
  - YSlow ([developer.yahoo.com/yslow](http://developer.yahoo.com/yslow))