

« Cachez-moi cette page ! »

PARIS WEB 2011 13, 14 et 15 octobre

Atelier Pratique
1h30



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Qui suis-je ?

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Symfony

Au menu de cet atelier

1. Introduction
2. Avantages
3. Expiration (Expires & Cache-Control)
4. Validation (Etag & Last-Modified)
5. Reverse Proxy Cache
6. Edge Side Includes

Introduction au Cache HTTP

- Mai 1996 – RFC1945 (HTTP 1.0)
- Mars 1999 – RFC2616 (HTTP 1.1)

<http://www.ietf.org/rfc/rfc2616.txt>

<http://tools.ietf.org/wg/httpbis/>

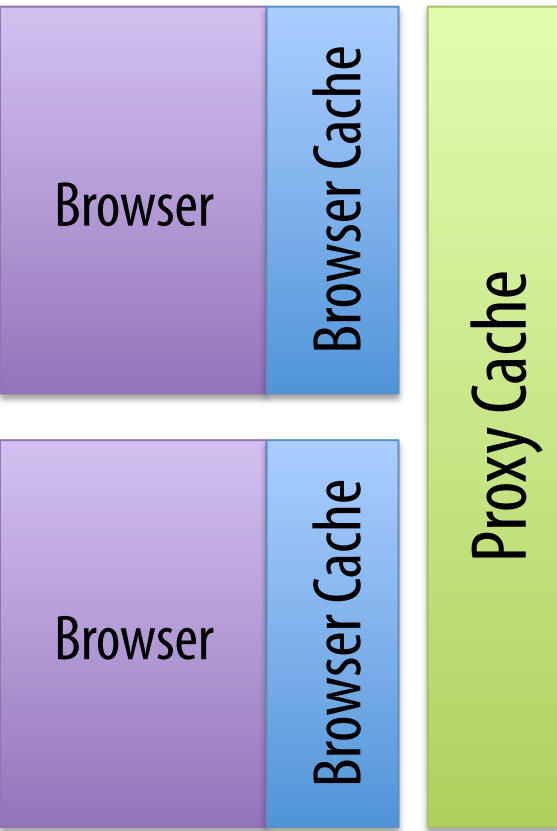
Pourquoi cacher ?

- Ne pas générer la même réponse deux fois
- Diminuer la charge sur le serveur web
- Diminuer la bande passante
- Diminuer les temps de chargement
- Servir plus de monde avec moins de serveurs
- Améliorer l'expérience utilisateur

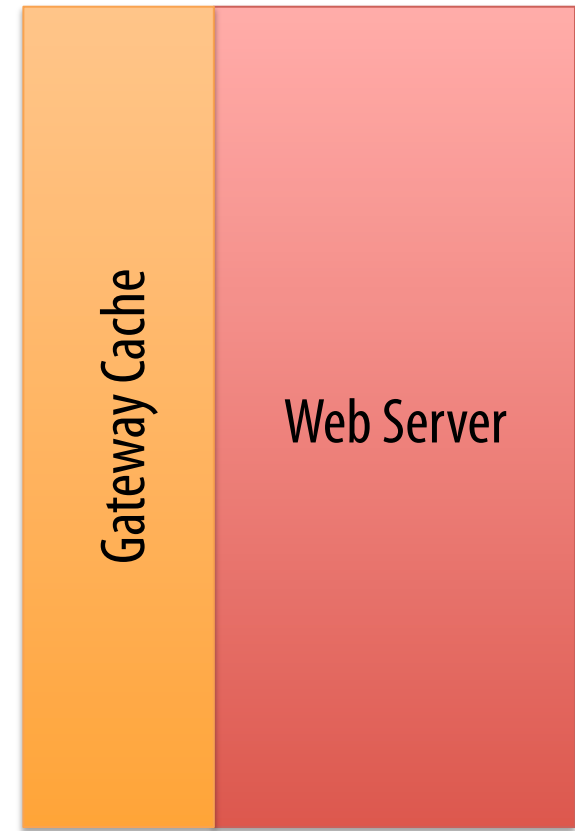
Objectifs ?

Etre le plus dynamique et le plus performant en sollicitant l'application le moins possible.

Types de caches



Client-Side Caching



Server-Side Caching

Quels sont les contenus cachables ?

Seules les réponses à des requêtes **GET** et **HEAD** peuvent être cachées car elles ne changent pas l'état de la **ressource**.

Les requêtes **POST**, **PUT** et **DELETE** ne sont pas cachables !

Expiration

Expiration

Détermine la **durée** pendant laquelle une réponse doit être **considérée** « **fraîche** » par le cache. Au delà de cette période, la ressource est considérée comme « **périmée** ».

Avantages : soulager la charge du serveur web

Expiration

Expires

Expires

```
$expires = new \DateTime('2011-10-15 11:00:00');  
$expires->setTimezone(new \DateTimeZone('UTC'));  
$date = $expires->format('D, d M Y H:i:s');  
  
header(sprintf('Expires: %s GMT', $date));
```

PHP

```
HTTP/1.1 200 OK  
Date: Thu, 18 Aug 2011 18:19:10 GMT  
Expires: Sat, 15 Oct 2011 09:00:00 GMT  
Content-Type: text/html
```

```
<html>  
  ...  
</html>
```

HTTP

Expiration

Cache-Control

Cache-Control

```
header('HTTP/1.1 200 OK');  
header('Cache-Control: private, maxage=60');
```

PHP

```
HTTP/1.1 200 OK  
Date: Thu, 18 Aug 2011 18:29:30 GMT  
Cache-Control: private, maxage=60  
Content-Type: text/html
```

```
<html>  
    ...  
</html>
```

HTTP

Validation

Validation

Détermine si une ressource **a changé depuis la dernière demande** du client en marquant cette dernière à l'aide d'un **identifiant** ou d'un **tampon**.

Avantages : diminuer le trafic sur le réseau

304 est votre ami !

Etag

If-None-Match

Entity Tag

```
// Generate the resource etag
$etag = 'abcdef';

header('HTTP/1.1 200 OK');
header('Etag: ' . $etag);
```

PHP

```
HTTP/1.1 200 OK
Date: Thu, 18 Aug 2011 19:33:12 GMT
Etag: abcdef
Content-Type: text/html

<html>
    ...
</html>
```

HTTP

If-None-Match

PHP

```
// Generate the resource etag
$etag = 'abcdef';

if (isset($_SERVER['HTTP_IF_NONE_MATCH'])
    && $etag === $_SERVER['HTTP_IF_NONE_MATCH']) {

    header('HTTP/1.1 304 Not Modified');
    exit;
}
```

If-None-Match

```
GET /etag.php HTTP/1.1  
Host: www.paris-web.local  
If-None-Match: abcdef
```

HTTP

```
HTTP/1.1 304 Not Modified
```

HTTP

Last-Modified If-Modified-Since

Last-Modified

```
// Determine the last modified date
$date = 'Sat, 12 Aug 2011 10:00:00 GMT';

header('HTTP/1.1 200 OK');
header('Last-Modified: ' . $date);
```

PHP

```
HTTP/1.1 200 OK
Date: Thu, 18 Aug 2011 20:07:55 GMT
Last-Modified: Sat, 12 Aug 2011 10:00:00 GMT
Content-Type: text/html

<html>
    ...
</html>
```

HTTP

If-Modified-Since

PHP

```
// Determine the last modified date
$date = 'Sat, 12 Aug 2011 10:00:00 GMT';

if (isset($_SERVER['HTTP_IF_MODIFIED_SINCE'])
    && $date === $_SERVER['HTTP_IF_MODIFIED_SINCE']) {

    header('HTTP/1.1 304 Not Modified');
    exit;
}
```

If-Modified-Since

```
GET /last-modified.php HTTP/1.1  
Host: www.paris-web.local  
If-Modified-Since: Sat, 12 Aug 2011 10:00:00 GMT
```

HTTP

```
HTTP/1.1 304 Not Modified
```

HTTP

Validation & Expiration

Combiner les deux stratégies reste possible en sachant que **l'expiration l'emporte d'abord sur la validation.**

Reverse Proxy Cache
Surrogate Cache
Gateway Caches

Reverse Proxy Cache

Un reverse proxy cache siège devant le serveur web, **intercepte les requêtes entrantes et retourne les réponses fraîches de son cache.**

Quelques caches intermédiaires connus...

Squid

Varnish

Mod_Cache (Apache)



Documentation

Get up to speed

[See documentation](#)

Trac

Latest changes & updates

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Community support

Need help?

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Configuration de Varnish

```
# Make Varnish listen to port 80
```

```
backend default {  
    .host = "127.0.0.1";  
    .port = "80";  
}
```

```
# Add ESI support header to all incoming requests
```

```
sub vcl_recv {  
    set req.http.Surrogate-Capability = "abc=ESI/1.0";  
}
```

```
# Remove Surrogate-Control header from response headers
```

```
# And parse the response for ESI
```

```
sub vcl_fetch {  
    if (beresp.http.Surrogate-Control ~ "ESI/1.0") {  
        unset beresp.http.Surrogate-Control;  
        set beresp.do_esi = true;  
    }  
}
```

Cacher des réponses dans Varnish

Cache-Control

Public

Shared MaxAge

Cacher des réponses dans Varnish

PHP

```
header('HTTP/1.1 200 OK');  
header('Cache-Control: public, s-maxage=60');
```

```
HTTP/1.1 200 OK  
Date: Thu, 18 Aug 2011 20:54:08 GMT  
Cache-Control: public, s-maxage=60  
Content-Type: text/html
```

```
<html>  
  ...  
</html>
```

HTTP

Cacher tout en restant dynamique

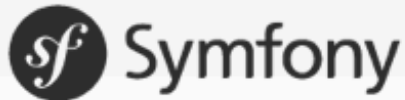
Edge Side Includes

<http://www.w3.org/TR/esi-lang>

Edge Side Includes

```
<esi:include src="/banner.html"/>
```

Edge Side Includes



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Marketplace

Under construction...

Non caché

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A week of symfony #241 (8->14 August 2011)

August 15, 2011

A week of symfony #240 (1->7 August 2011)

August 09, 2011

symfony 1.4.13 released

August 05, 2011

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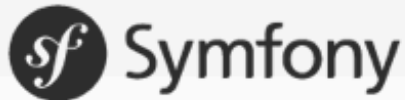
Getting Started with Symfony2
Köln - 2011-08-25

Getting Started with Symfony2
New York City - 2011-09-12

Mastering Symfony2
New York City - 2011-09-14

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3600 seconds

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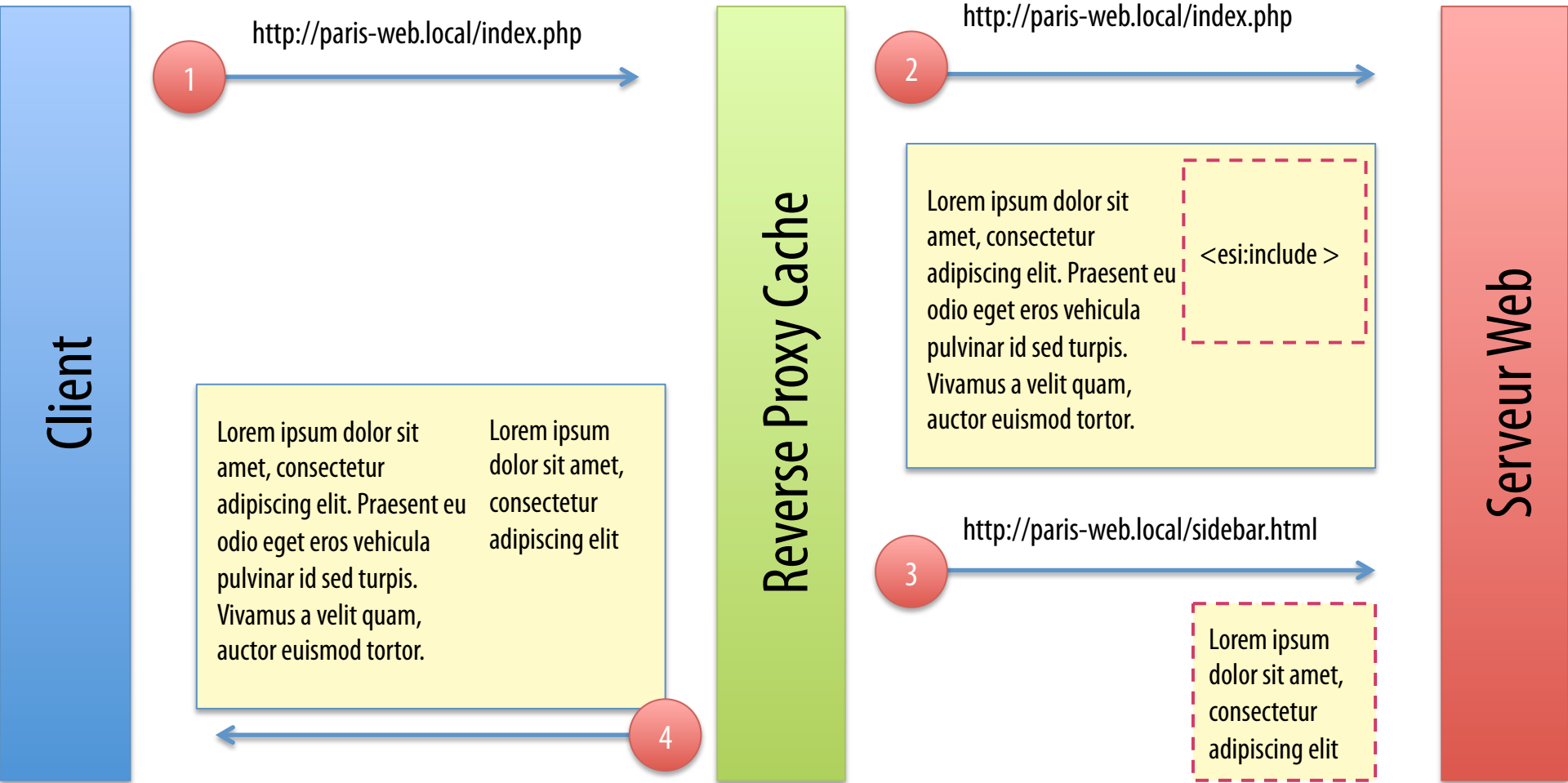
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```
<esi:include ... />
```



Edge Side Includes



« Happy Caching! »

PARIS WEB 2011 13, 14 et 15 octobre

Questions ?



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