

Internet

Web
Sécurité
Optimisation



Internet : Web & Optimisation

Objectif

Survol Web / Optimisation / Sécurité

Sommaire

1. Fondamentaux
 2. Hotes virtuels
 3. Règles de réécriture
 4. Optimisations
- 

1. Fondamentaux - DNS

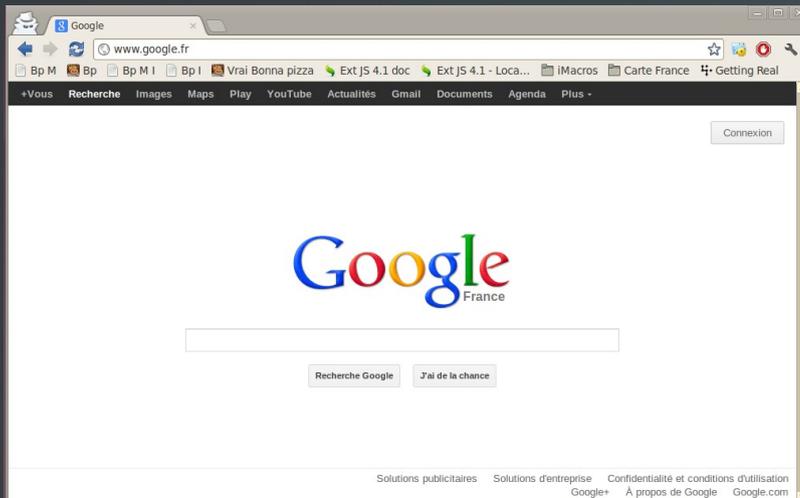
fsf.com => 208.73.210.29

gnu.org => 140.186.70.148

...

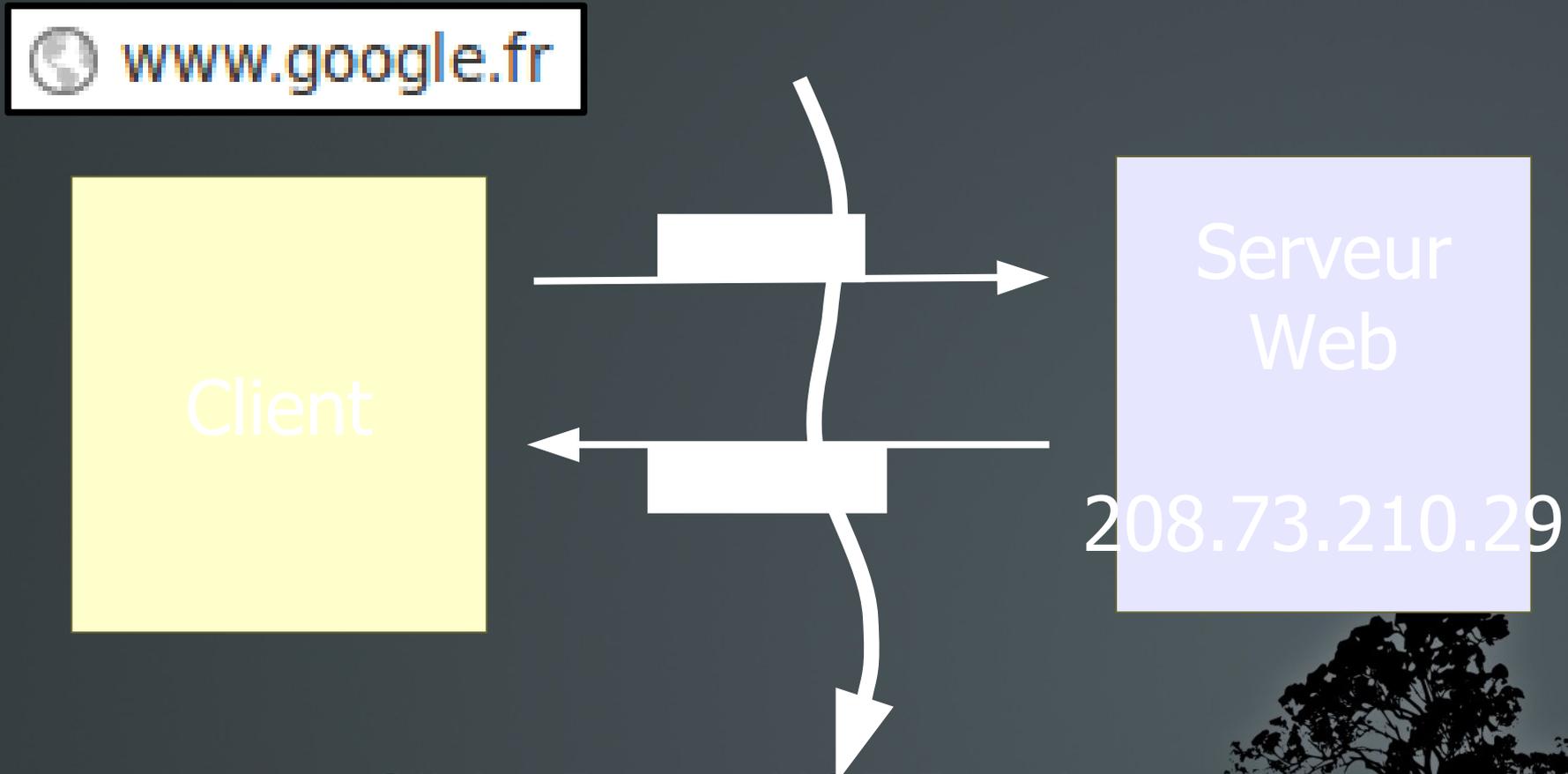
Internet : Web & Optimisation

1. Fondamentaux - DNS



=> 208.73.210.29

1. Fondamentaux – Client Serveur



1. Fondamentaux - Protocole

- HTTP: HyperText Transfer Protocol
- HTTP: les principales méthodes
 - GET URL : demander le contenu de la ressource
 - POST URL : envoi de données vers une application
- HTTP: le transport
 - Architecture Client-Serveur, mode « Pull »
 - Connections courtes, « Sans état » (stateless)

1. Fondamentaux – Client Serveur

 www.google.fr

Client

```
GET / HTTP/1.1
Host: localhost:8080
User-Agent: Mozilla/5.0 (Windows; U; Windows NT ...
Accept: text/xml,application/xml, ... ,image/png, ...
Accept-Language: fr,fr-fr;q=0.8,en-us;q=0.5,en;q=0.3
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
```

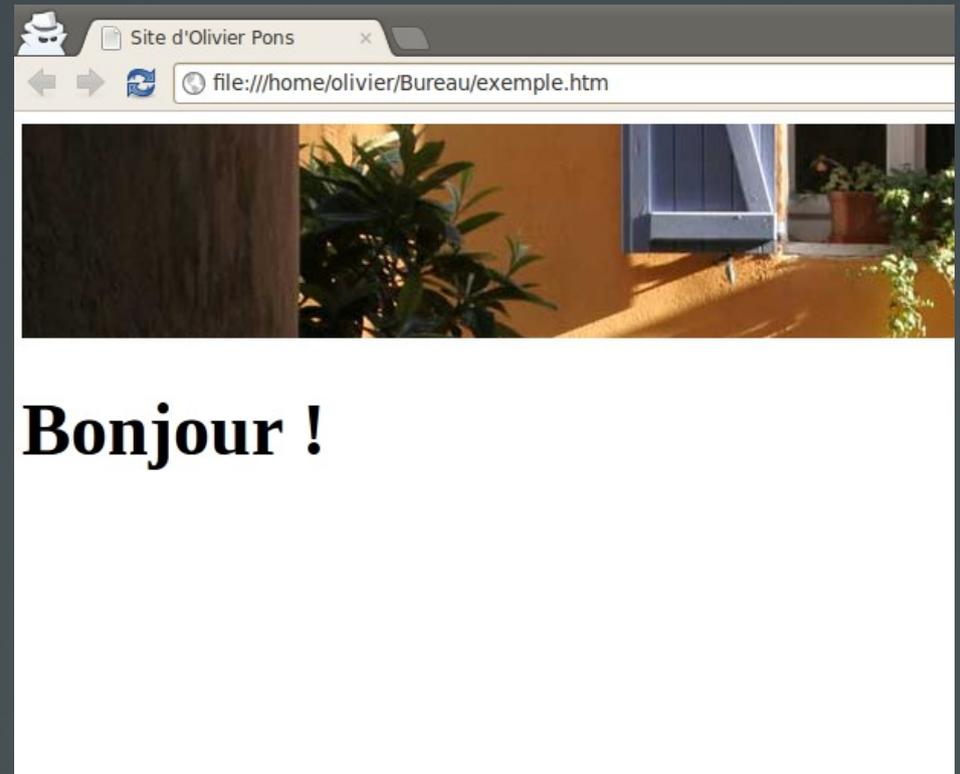
Serveur
Web

1. Fondamentaux – Client Serveur



1. Fondamentaux – HTML

```
<html>
  <head>
    ...
    <title>Site d'Olivier Pons</title>
    ...
  </head>
<body>
  <div>
    
  </div>
  <h1>Bonjour !</h1>
</div>
</body>
</html>
```



1. Fondamentaux – Echanges

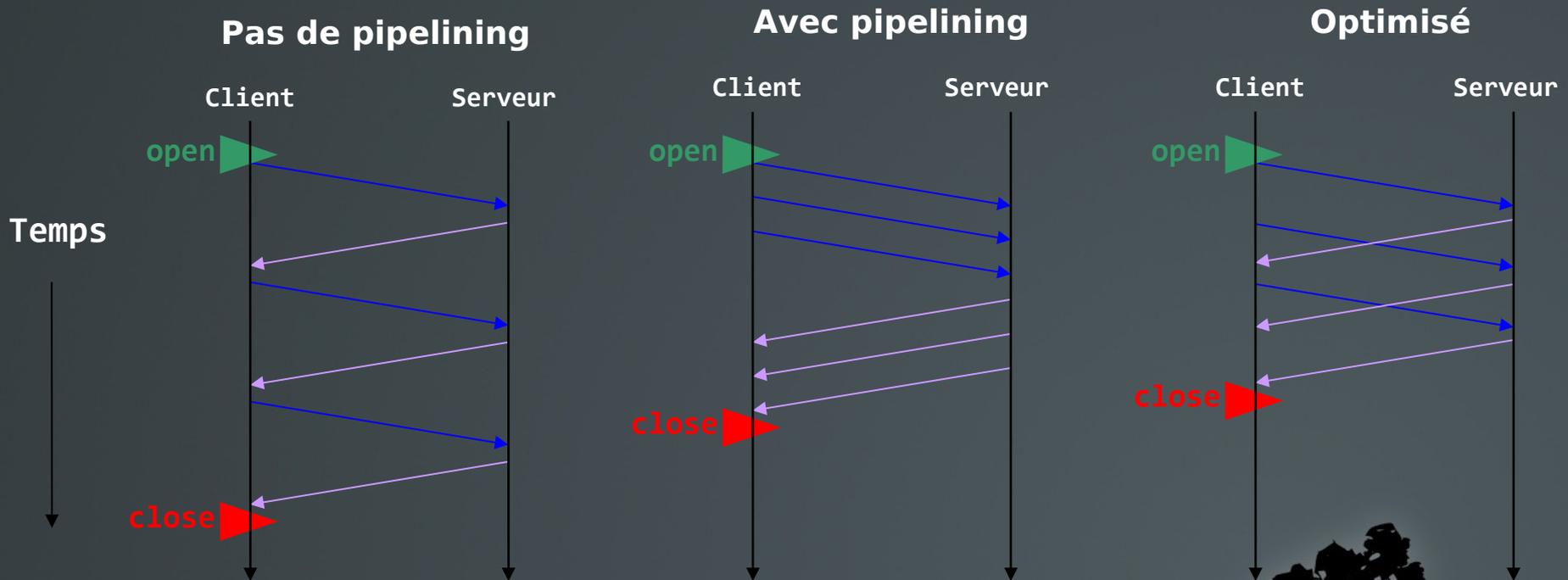
- (1) Client demande une page**
- (2) Serveur renvoie la page**

(Boucle)

**Client demande ressource
nécessaire à la page
Serveur renvoie la ressource**

(Fin boucle)

1. Fondamentaux – Echanges



2. VirtualHosts

```
>ping olivierpons.fr
```

```
PING olivierpons.fr (83.145.112.92)  
56(84) bytes of data.
```

```
>ping keemy.com
```

```
PING keemy.com (83.145.112.92) 56(84)  
bytes of data.
```

2. VirtualHosts

Le premier virtualhost est le virtualhost par défaut.

```
<VirtualHost *:80>  
    ServerName keemy.fr  
    ServerAlias www.keemy.fr  
    DocumentRoot /var/www/keemy/  
</VirtualHost>
```

3. Règles de ré-écriture

Expressions régulières : en général

| | | |
|----|------------------------|---|
| + | Au moins une fois | chu+t : “chut”, “chuut”, “chuuut”, etc. |
| * | Zéro ou plusieurs fois | chu*t : “cht”, “chut”, “chuut”, etc. |
| | ”ou” | (oli pons) : oli <=> pons |
| ^ | Au début | ^(a o)live : “alive”, “olive” |
| \$ | A la fin | (passe)*moilese1\$ |
| . | N'importe quel car. | |
| | a(.*)ur : | “arthur” |
| | | “ah, oui ! Marlène Sasoeur” |

3. Règles de ré-écriture

Expressions régulières : exemple concret

```
http://(.*)test(.*)\.(fr|com)/
```

```
http://un_site_test_qui_est.fr/
```

```
$1 = un_site_
```

```
$2 = _qui_est
```

```
$3 = fr
```

3. Règles de ré-écriture

Exemple simple

<http://oom.papdevis.fr/>

<http://papdevis.fr/index.php?p=oom>

<http://ima.papdevis.fr/>

=

<http://papdevis.fr/index.php?p=ima>

3. Règles de ré-écriture

Principe : en pratique

RewriteCond

TestString

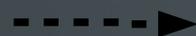
CondPattern

RewriteRule

Pattern

Substitution

▶ RewriteRule



3. Règles de ré-écriture

Exemple

```
RewriteCond    %{HTTP_HOST}    http://monsite.uk
```

```
RewriteRule    (.*)    http://us.monsite.com$1 [R=301,L]
```

```
    http://monsite.uk/client/
```

```
    http://us.monsite.com/client/
```

2. Règles de ré-écriture

Variables Apache internes au serveur

| | |
|-----------------|-----------------|
| DOCUMENT_ROOT | SERVER_ADMIN |
| SERVER_NAME | SERVER_ADDR |
| SERVER_PORT | SERVER_PROTOCOL |
| SERVER_SOFTWARE | |

| | |
|---------------------------------------|-------------|
| TIME_(YEAR MON DAY HOUR MIN SEC WDAY) | |
| TIME | API_VERSION |

| | |
|------------------|-------------|
| THE_REQUEST | REQUEST_URI |
| REQUEST_FILENAME | IS_SUBREQ |
| HTTPS | |

3. Règles de ré-écriture

Variables Apache : en-têtes HTTP

HTTP_USER_AGENT
HTTP_COOKIE
HTTP_HOST
HTTP_ACCEPT

HTTP_REFERER
HTTP_FORWARDED
HTTP_PROXY_CONNECTION
REMOTE_ADDR

REMOTE_HOST
REMOTE_USER
REQUEST_METHOD
PATH_INFO
AUTH_TYPE

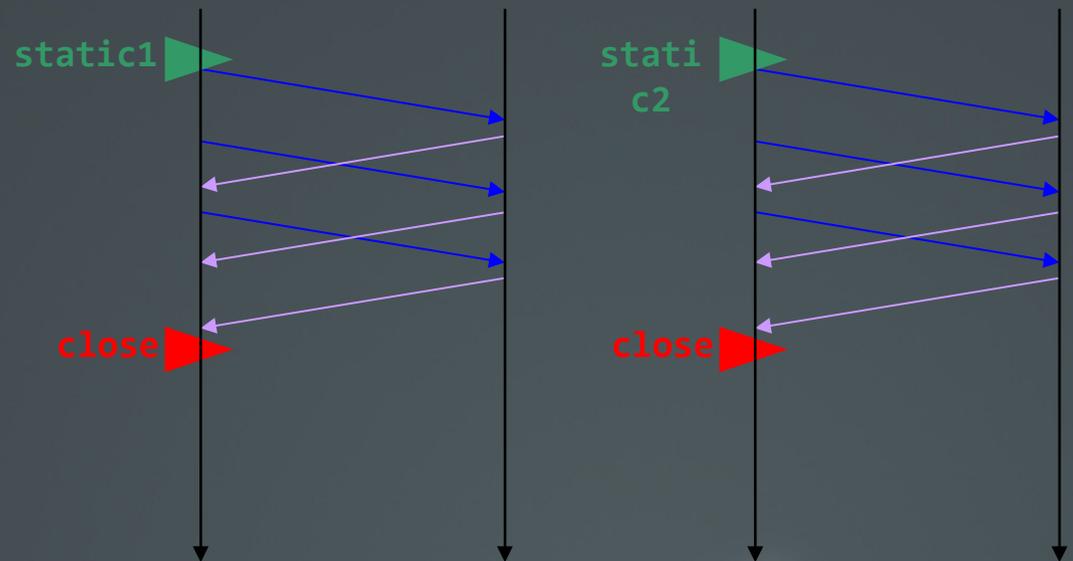
REMOTE_PORT
REMOTE_IDENT
SCRIPT_FILENAME
QUERY_STRING

4. Optimisation – Problèmes

1. Nombre limite de requêtes par nom de domaine en parallèle
2. Duplication des cookies
3. Code HTML renvoyé trop long

4. Optimisation – Solution limite requêtes

static1.papdevis.fr
static2.papdevis.fr
static3.papdevis.fr
www.papdevis.fr



4. Optimisation – Solution limite requêtes

```
<VirtualHost *:80>  
    ServerName keemy.fr  
    ServerAlias *.keemy.fr  
    ...  
</VirtualHost>
```

4. Optimisation – Solution limite requêtes

 <https://www.gandi.net/admin/domain/zone/401010/edit/>

| Nom | Type | Valeur | Prio | TTL | | |
|-----|-------|------------------------|------|----------|---|---|
| @ | A | 83.145.112.92 | | 3 heures |  |  |
| * | CNAME | le-club-des-clubs.com. | | 3 heures |  |  |
| www | CNAME | le-club-des-clubs.com. | | 3 heures |  |  |

[Retour](#) [Ajouter un enregistrement](#)

4. Optimisation – Solution Cookies

```
<VirtualHost *:80>  
  
    ServerName keemy.fr  
    ServerAlias www.keemy.fr  
    DocumentRoot /var/www/keemy/  
  
    RewriteEngine On  
    RewriteCond %{HTTP_HOST} ^keemy\.fr$ [NC]  
    RewriteRule (.*?) http://www.keemy.fr$1  
                                     [QSA,R=301,L]  
  
</VirtualHost>
```

4. Optimisation – Solution Cookies

Même configuration que pour les requêtes en parallèle

<https://www.gandi.net/admin/domain/zone/401010/edit/>

| Nom | Type | Valeur | Prio | TTL | | |
|-----|-------|------------------------|------|----------|---|---|
| @ | A | 83.145.112.92 | | 3 heures |  |  |
| * | CNAME | le-club-des-clubs.com. | | 3 heures |  |  |
| www | CNAME | le-club-des-clubs.com. | | 3 heures |  |  |

[Retour](#) [Ajouter un enregistrement](#)

4. Optimisation – Solution HTML lourde

Google mod_pagespeed

mod_pagespeed - Make x

https://developers.google.com/speed/pagespeed/mod?hl=fr

Google Developers Make the Web Faster X Search Sign in

Accueil Produits Événements Vitrine En direct Groupes

Make the Web Faster

Overview

- PageSpeed
 - Analysis
 - Optimization
 - Service
 - mod_pages...
 - Get Started
 - Filter Document...
 - Optimization SDK
- Public DNS
- Hosted Libraries
- Protocols
- Standards
- Performance Best Practices
- Articles

mod_pagespeed

mod_pagespeed speeds up your site and reduces page load time. This open-source Apache HTTP server module automatically applies [web performance best practices](#) to pages, and associated assets (CSS, JavaScript, images) without requiring that you modify your existing content or workflow.

Features

- Automatic website and asset optimization
- Latest web optimization techniques
- 40+ configurable optimization filters
- Free, open-source, and frequently updated
- Deployed by individual sites, hosting providers, CDN's

| Resource | Type | Initiator | Size | Time | | | | | |
|----------|------------------------|------------------|------|-------|--|--|--|--|--|
| js | text/javascript | jsapi_21 | 0B | 61ms | | | | | |
| js | application/javascript | jsapi_21 | 0B | 213ms | | | | | |
| css | text/css | format+en_def... | 0B | 90ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 59ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 112ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 164ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 25ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 244ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 199ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 131ms | | | | | |
| js | text/javascript | jsapi_21 | 0B | 331ms | | | | | |

Apache

4. Optimisation – Solution HTML lourd

Sans mod_pagespeed

```
43 <script type="text/javascript">
44 <!--
45 var OAS_url = "http://deliv.leboncoin.fr/"
46
47     var OAS_extra = '';
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63     var categorie_name = "toutes_categorie
64     <!-- cat :0 / cat_minus_minus : 37
65     var rubrique_name = "divers/";
66     var reg_dep = "R/";
67
68     var OAS_sitepage = rubrique_name + cat
```

4. Optimisation – Solution HTML lourd

Avec mod_pagespeed

```
152     Recherchez parmi les <strong>offres</strong> et <strong>demandes</strong> de
153     devis.
154     </div>   </div> <div id="carte-france"><div
157     id="carte-france-over"></div><map name="map-regions" id="map-regions"><area shape="poly"
160     title="Alsace" alt="Alsace"
161     coords="366,91,372,93,375,95,377,94,380,96,385,89,389,90,392,89,400,92,397,100,394,101,389,
162     108,386,126,383,132,380,128,376,127,371,124,368,123,368,116,373,109,372,106,374,103,369,100
163     ,366,102,362,97" onmouseover="change_image(1);" onmouseout="hide_image(1)" onclick="gt(1)"
164     /><area shape="poly" title="Aquitaine" alt="Aquitaine"
165     coords="109,256,119,266,122,278,122,266,130,269,139,278,146,272,150,272,154,268,154,262,161
166     ,257,166,250,170,251,172,256,178,254,180,258,184,259,182,261,186,262,188,265,185,273,190,27
167     7,192,282,191,288,187,292,185,297,182,297,180,301,177,304,179,312,175,312,173,311,172,323,1
168     68,324,165,327,159,325,156,328,145,329,144,333,141,330,135,332,133,345,139,348,142,359,135,
169     370,130,378,130,382,121,383,116,379,116,376,107,374,98,370,97,367,94,371,92,369,95,362,89,3
170     59,86,360,86,357,81,355,86,354,92,346,103,297,110,297,105,291,102,294"
171     onmouseover="change_image(2);" onmouseout="hide_image(2)" onclick="gt(2)" /><area
172     shape="poly" title="Auvergne" alt="Auvergne"
173     coords="219,217,222,213,229,212,229,206,233,202,235,204,241,200,244,200,248,205,258,206,261
174     ,202,266,208,267,212,274,215,274,221,271,224,267,226,269,233,267,237,265,239,267,241,265,24
175     5,274,257,275,260,272,265,276,267,281,264,287,267,291,271,291,274,287,278,288,281,286,283,2
176     81,288,278,288,272,294,267,290,265,291,263,289,259,292,255,285,250,289,247,287,242,299,238,
177     289,235,289,234,286,230,289,227,297,226,299,221,299,219,298,216,301,213,289,213,284,217,277
178     ,217,272,222,264,227,266,226,255,227,250,223,245,230,238,228,231,223,222,221,222"
179     onmouseover="change_image(3);" onmouseout="hide_image(3)" onclick="gt(3)" /><area
180     shape="poly" title="Basse-Normandie" alt="Basse-Normandie"
181     coords="101,113,106,111,100,104,102,99,101,93,99,83,94,75,93,70,94,64,91,61,102,64,111,62,1
182     12,67,110,70,114,74,116,79,121,77,139,81,143,84,158,77,162,99,164,103,168,104,173,109,174,1
183     13,178,119,176,127,172,129,173,135,162,129,160,122,155,121,151,125,147,125,142,117,134,119,
184     125,122,122,118,116,119,111,117,106,120" onmouseover="change_image(4);"
185     onmouseout="hide_image(4)" onclick="gt(4)" /><area shape="poly" title="Bourgogne"
186     alt="Bourgogne"
187     coords="246,126,254,126,261,131,263,137,270,146,279,145,281,147,283,145,295,142,304,151,302
188     ,153,313,161,317,159,320,161,317,167,321,175,314,189,320,195,317,197,320,205,317,209,320,21
189     2,316,215,311,211,309,213,306,211,299,227,296,221,292,223,287,222,284,228,277,227,272,272,2
190     71,224,274,221,274,215,267,212,266,208,261,202,258,206,248,205,244,200,246,197,243,188,241,
191     178,238,174,238,167,240,163,237,155,243,153,242,149,246,145,240,135,243,131,242,129"
192     onmouseover="change_image(5);" onmouseout="hide_image(5)" onclick="gt(5)" /><area
193     shape="poly" title="Bretagne" alt="Bretagne"
194     coords="91,111,101,113,106,120,111,117,116,119,115,132,117,142,112,143,109,151,104,149,98,1
195     51,95,154,85,155,82,157,81,162,72,165,69,163,59,163,58,160,62,160,60,156,57,158,52,157,50,1
196     58,51,162,49,163,47,161,48,155,33,147,26,146,25,140,21,143,17,141,16,145,11,145,13,141,11,1
197     37,1,133,2,131,15,130,15,126,11,124,8,127,6,122,7,120,18,123,15,120,12,119,14,115,2,119,2,1
198     09,8,107,15,105,18,106,20,104,26,105,30,108,32,105,37,106,41,103,40,100,54,99,66,116,75,109
199     ,82,113,87,110,89,108,93,108" onmouseover="change_image(6);" onmouseout="hide_image(6)"
```

4. Optimisation – Backlinks

Un backlink n'est rien d'autre qu'un lien entrant vers votre site sur le web. Ce lien doit être fait « en dur » avec la balise de lien HTML `<a>`. L'adresse du site web visé doit être entrée dans l'attribut href et commence bien sûr par `http://`.

```
<a href="http://www.olivierpons.fr/"  
  title="Olivier Pons">  
  Olivier Pons  
</a>
```

4. Optimisation – Triche !

Question: What Is the IP Address of Google?

Web site administrators like to know the IP addresses used by Google when it is spidering. You can also sometimes use Google's IP address to reach the site www.google.com if the domain cannot be contacted by its name.

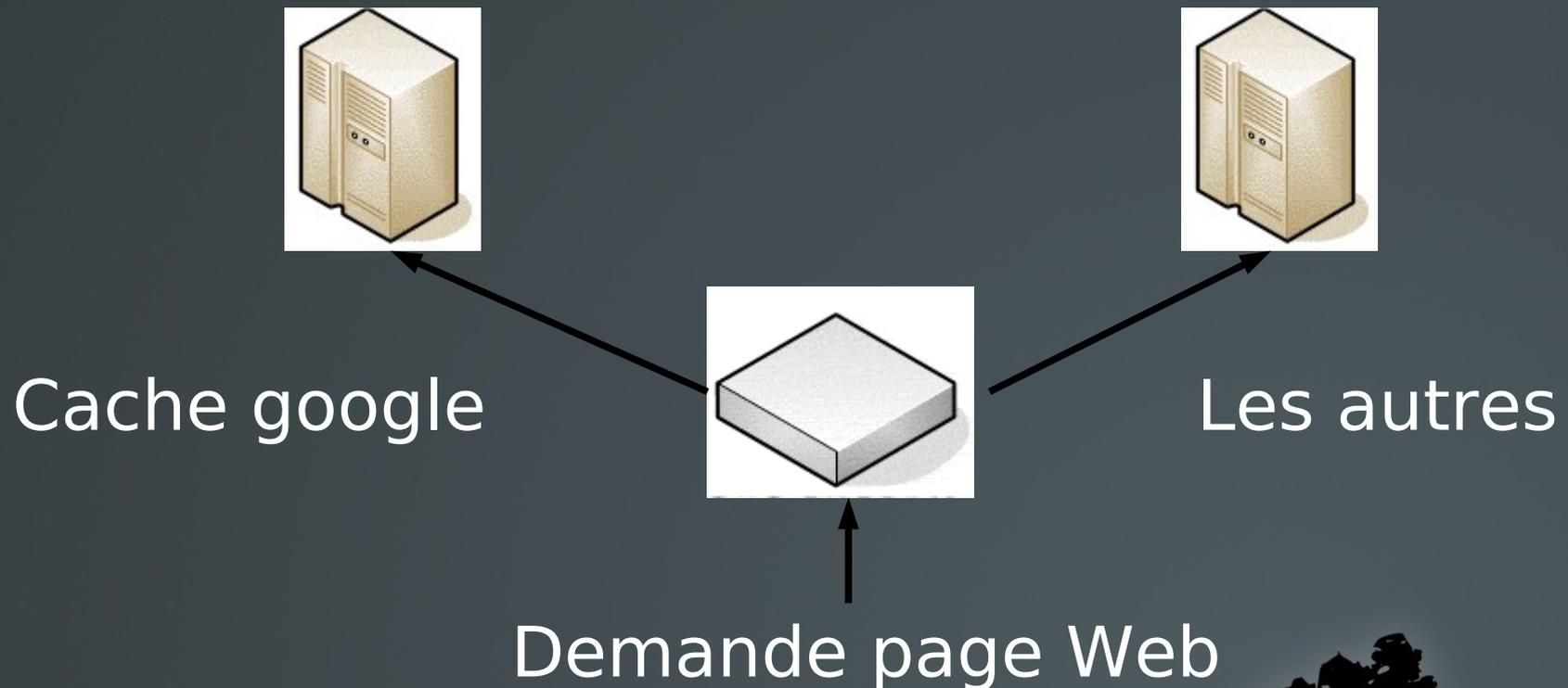


*Scott Barbour/Getty Images
News/Getty Images*

Answer: The following IP address ranges belong to Google:

- 64.233.160.0 - 64.233.191.255
- 66.102.0.0 - 66.102.15.255
- 66.249.64.0 - 66.249.95.255
- 72.14.192.0 - 72.14.255.255
- 74.125.0.0 - 74.125.255.255
- 209.85.128.0 - 209.85.255.255
- 216.239.32.0 - 216.239.63.255

4. Optimisation – Triche !



4. Optimisation – Syntaxe HTML

Le PageRank ou PR est l'algorithme d'analyse des liens concourant au système de classement des pages Web utilisé par le moteur de recherche Google. Il mesure quantitativement la popularité d'une page web. Le PageRank n'est qu'un indicateur parmi d'autres dans l'algorithme qui permet de classer les pages du Web dans les résultats de recherche de Google. Ce système a été inventé par Larry Page, cofondateur de Google. Ce mot est une marque déposée.

<http://fr.wikipedia.org/wiki/PageRank>

4. Optimisation – Syntaxe HTML

<http://www.pagerank.fr/>

| Aperçu | Informations |
|--|--|
|  | <p>Adresse : http://www.olivierpons.fr/ Titre : Site d'Olivier Pons Description : L'auteur propose des articles concernant les nouveautés en anglais et traduites, ainsi que ses expériences professionnelles et autres nouvelles personnelles.</p> |
| Informations diverses Aucune information complémentaire disponible. | |
| Référencement dans Google Pages indexées : 0 Backlinks : 0 | |
| Principaux domaines liants cette adresse <ul style="list-style-type: none">www.mathieurobin.comwww.smarty.netpacktlib.packtpub.com | |
| Page Rank PageRank actuel :  | |

PageRank actuel : 

4. Optimisation – Syntaxe HTML

Echelle : 1-9 (<http://techxt.com/>)

| Alexa Top 10 | Website | Pagerank |
|-----------------|--|----------|
| 1 | www.google.com | 9 |
| 2 | www.facebook.com | 9 |
| 3 | www.youtube.com | 9 |
| 4 | www.yahoo.com | 9 |
| 5 | www.wikipedia.org | 9 |
| 6 | www.baidu.com | 9 |
| 7 | www.blogspot.com | 9 |
| 8 | www.live.com | 9 |
| 9 | www.twitter.com | 9 |
| 10 | www.qq.com | 8 |

Pagerank as on 20 Nov, 2011

1-8
Aujourd'hui