

Internet

Web
Sécurité
Optimisation




Internet : Web & Optimisation

Objectif

Survol Web / Optimisation / Sécurité

Sommaire

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

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1. Fondamentaux - DNS

fsf.com => 208.73.210.29

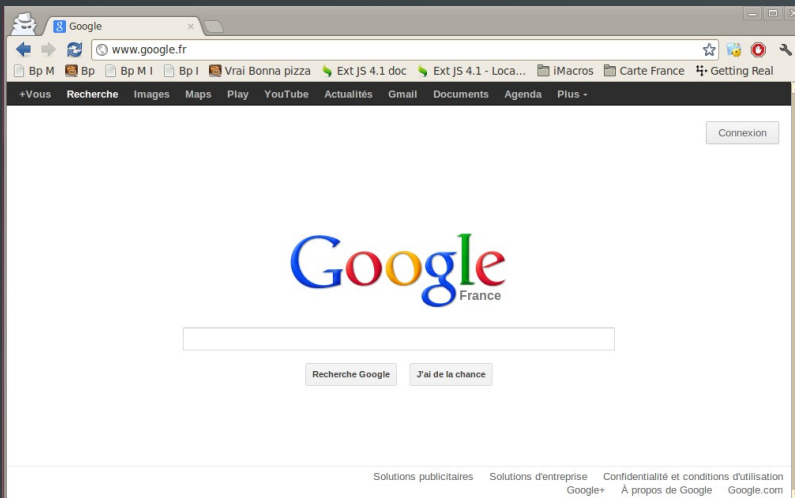
gnu.org => 140.186.70.148

...



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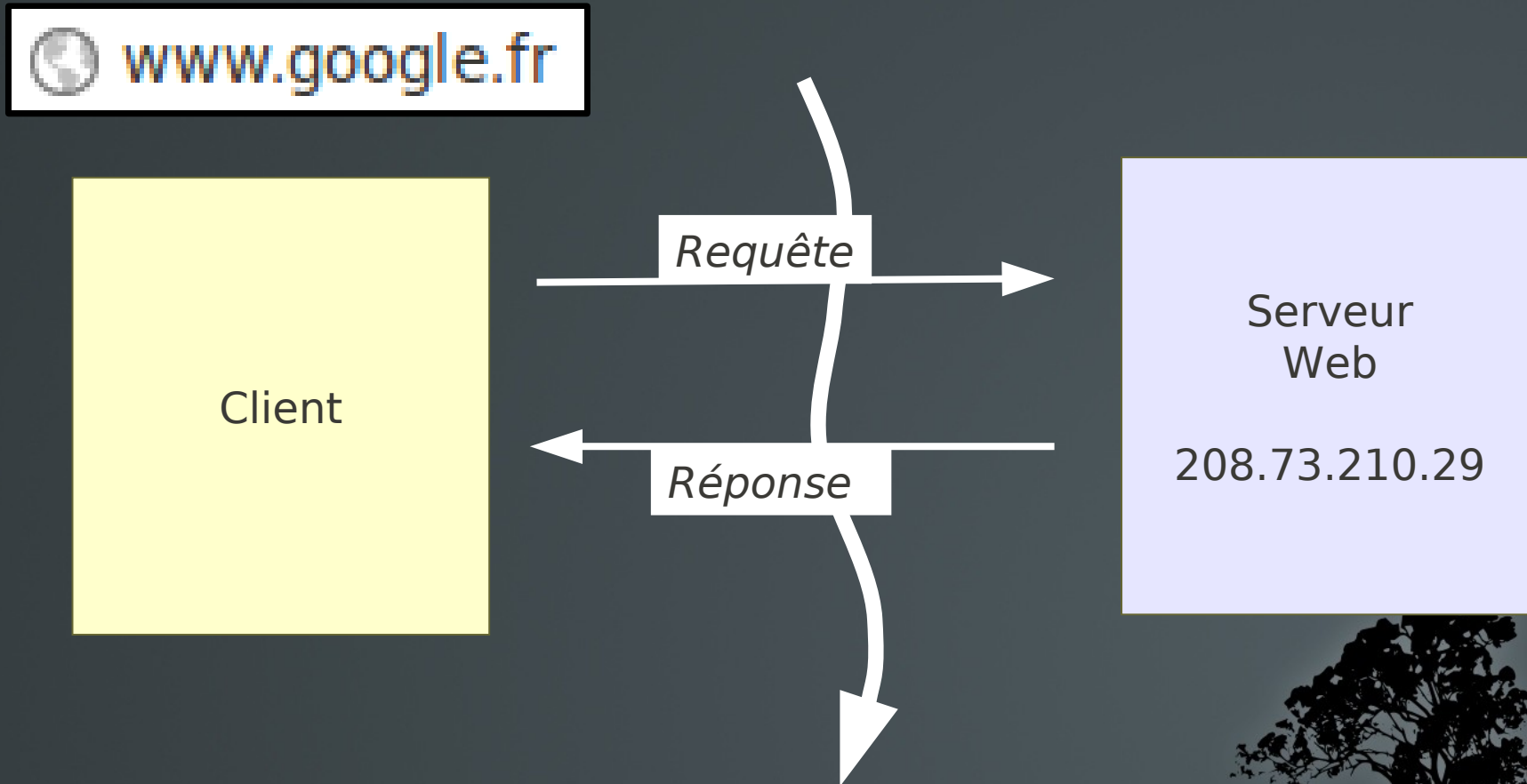
1. Fondamentaux - DNS



=> 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 »
 - Connexions courtes, « Sans état » (stateless)



1. Fondamentaux – Client Serveur

 www.google.fr

Requête

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



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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)

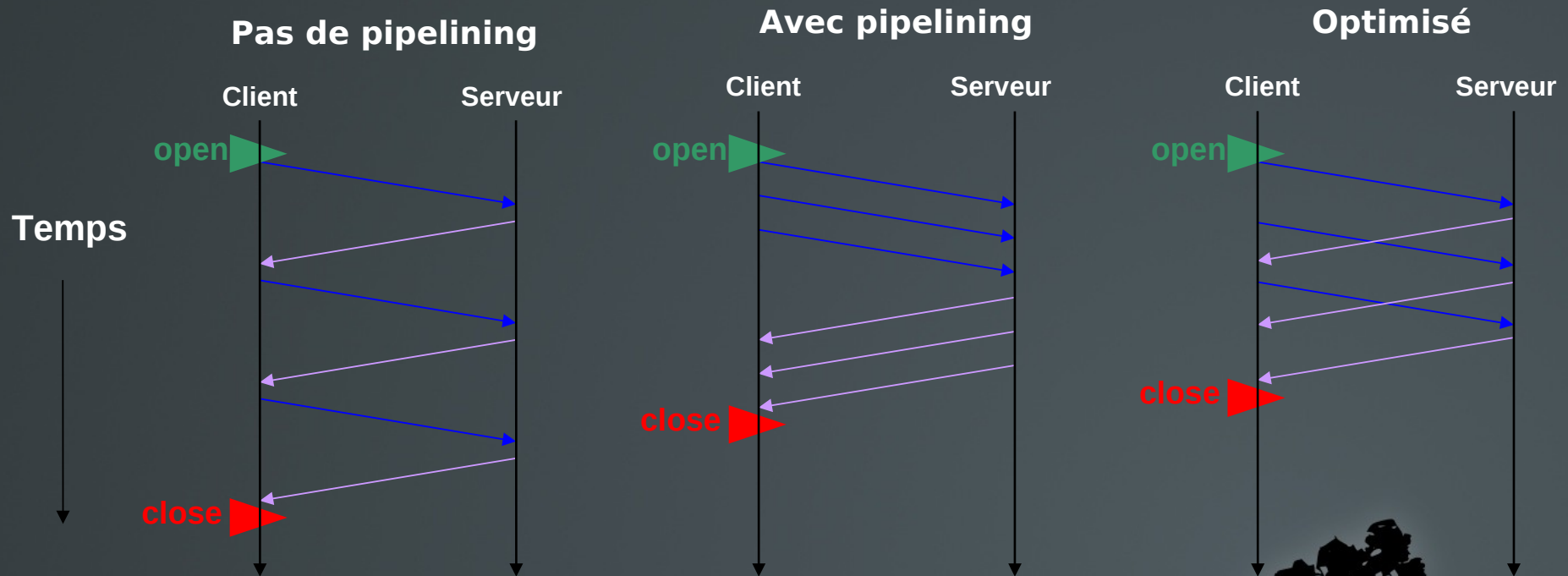
**Client demande ressource
nécessaire à la page
Serveur renvoie la ressource**

(Fin boucle)



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1. Fondamentaux – Echanges



2. VirtualHosts

```
>ping olivierpons.fr
```

```
PING olivierpons.fr (88.191.136.228)  
56(84) bytes of data.
```

```
>ping keemy.com
```


```
PING keemy.com (88.191.136.228)  
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

- + Une fois ou plus chu+t : “chut”, “chuut”, “chuuut”, etc.
- * Zéro ou plus chu*t : “cht”, “chut”, “chuut”, etc.
- | “ou” (oli|pons) : oli \Leftrightarrow pons
- ^ Au début ^(a|o)live : “alive”, “olive”
- \$ A la fin (passe)*moilesel\$
- . 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/`

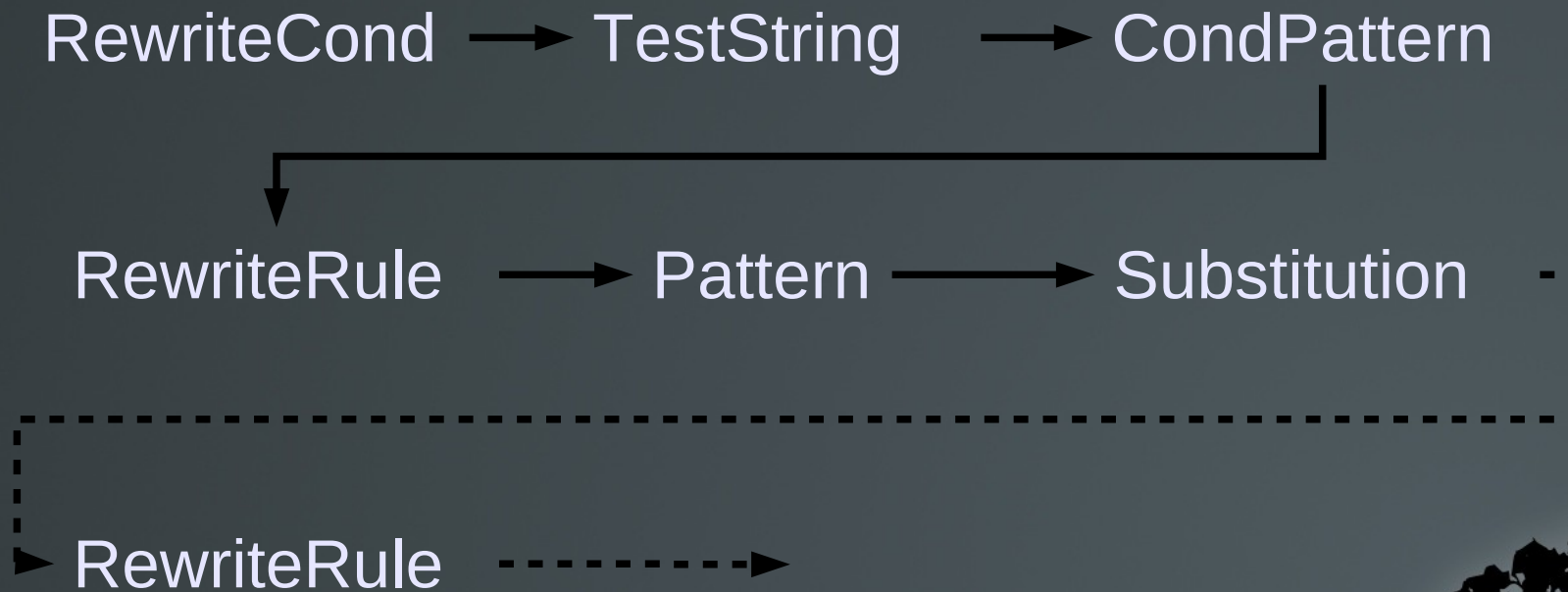


`http://papdevis.fr/index.php?p=ima`



3. Règles de ré-écriture

Principe : en pratique



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



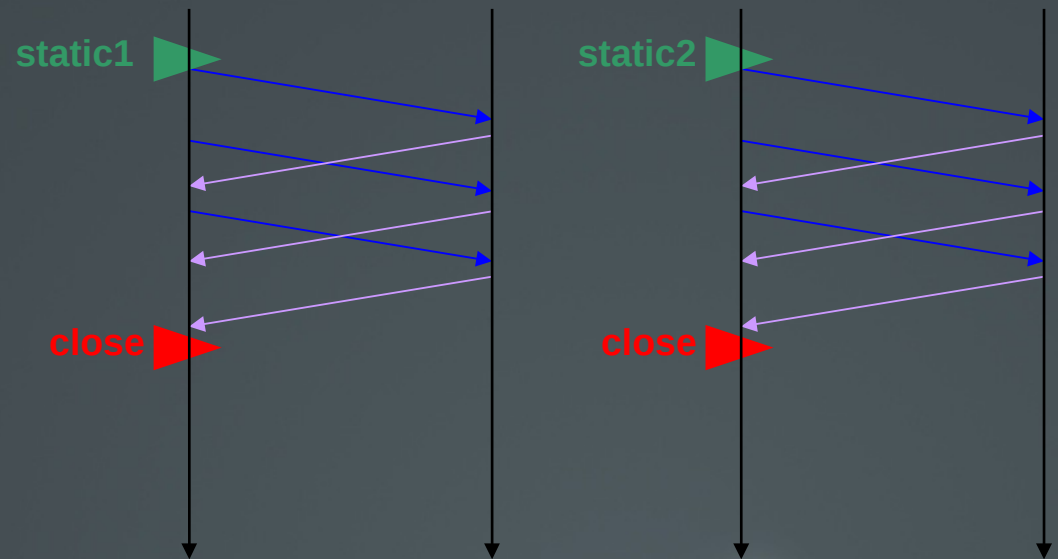
4. Optimisation – Problèmes

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

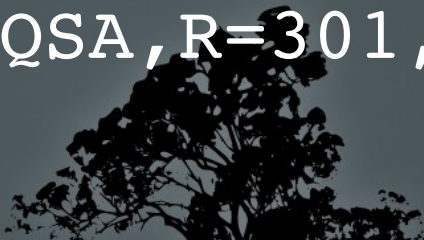
 <https://www.gandi.net/admin/domain/zone/401010/edit/>

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](#)

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4. Optimisation – Solution HTML lourde

Google mod_pagespeed

Make the Web Faster

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

Name	Status	Type	Initiator	Size	Time
jsapi/2.1	OK	text/javascript	jsapi/2.1	0B	61ms
jsapi/2.1	OK	application/x-javascript	jsapi/2.1	0B	213ms
format+en.def...	OK	text/css	format+en.def...	0B	90ms
jsapi/2.1	OK	text/javascript	jsapi/2.1	0B	59ms
jsapi/2.1	OK	text/javascript	jsapi/2.1	0B	112ms
jsapi/2.1	OK	text/javascript	jsapi/2.1	0B	164ms
/speed/49	OK	text/javascript	/speed/49	0B	25ms
/speed/53	OK	text/javascript	/speed/53	0B	244ms
/speed/319	OK	text/javascript	/speed/319	0B	199ms
in.js.1.8	OK	text/javascript	in.js.1.8	0B	131ms
query.min.js.1.8	OK	text/javascript	query.min.js.1.8	0B	331ms

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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
```

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4. Optimisation – Solution HTML lourd

Avec mod_pagespeed

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