

# Université IBM i 2017

17 et 18 mai – IBM Client Center de Bois-Colombes

## S43 – Passer à PHP 7 sous IBM i

*Jeudi 18 mai – 15h15-16h45*

Gautier DUMAS - NoToS



# NoToS

- Expertise autour de l'IBM i
  - Sécurité
  - Regard moderne
  - Service
    - Formation, audit, développement...
- PHP sur IBM i avec Zend
  - Modernisation
  - Web Services...
- Développement de progiciels
  - Modernisation à valeur ajoutée des IBM i



# Introduction

- Partenariat Zend / IBM depuis 2005
- Stack PHP sur IBM i aujourd'hui en version 9
- Le Zend Server est l'environnement PHP sur IBM i adapté :
  - Pour la production
    - Support, monitoring avancé, performances
  - Pour les développements
    - Z-Ray, Z-Ray Live!, URL Insight
- Totalemment intégré à l'IBM i
  - D'un point de vue du serveur
  - D'un point de vue des développements avec un ensemble de bibliothèques PHP pour IBM i

# PHP 7

Qu'est ce qui change ?

# PHP 7 – Le maître mot : performances !

## 1. Réduction de l'utilisation des ressources (server, hardware etc.)

PHP 7 est en moyenne 2x plus rapide que PHP 5.6 et consomme significativement moins de mémoires

## 2. Une satisfaction des utilisateurs

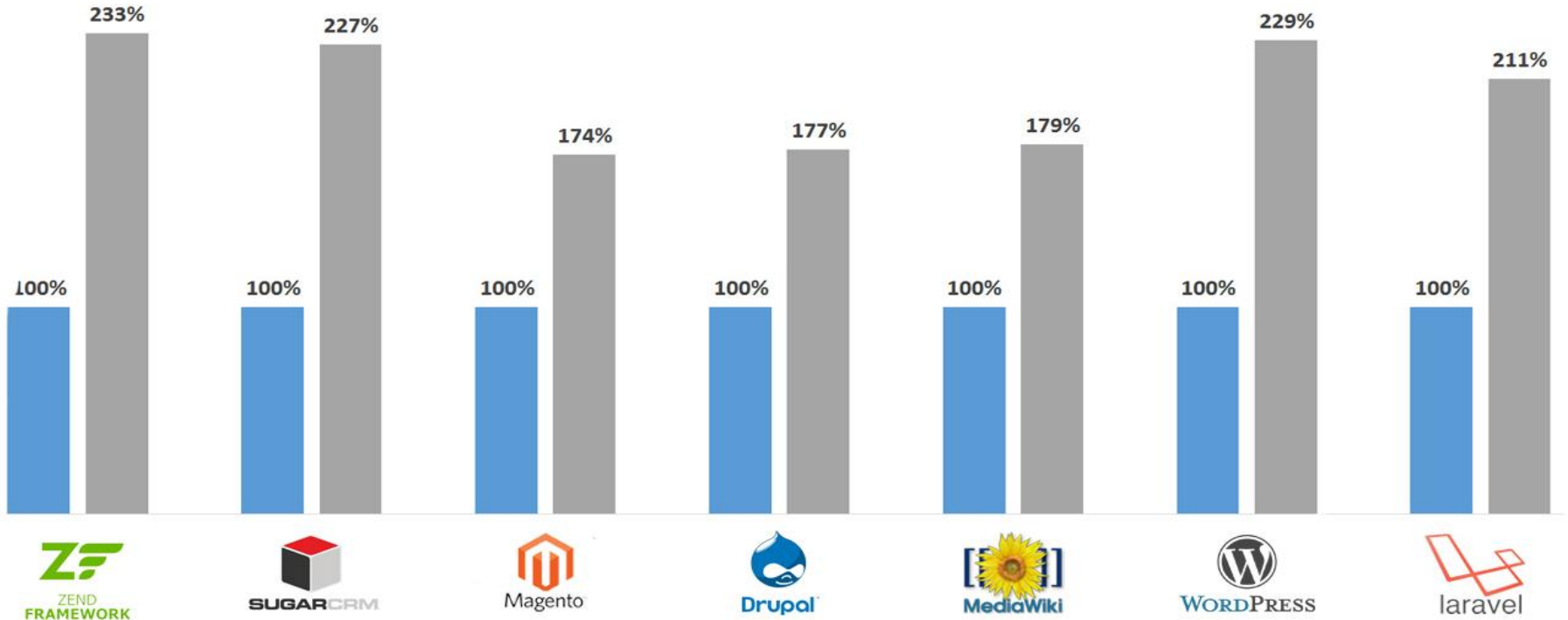
Améliore l'expérience utilisateur en réduisant les temps de réponses



# PHP 7.0 vs 5.6

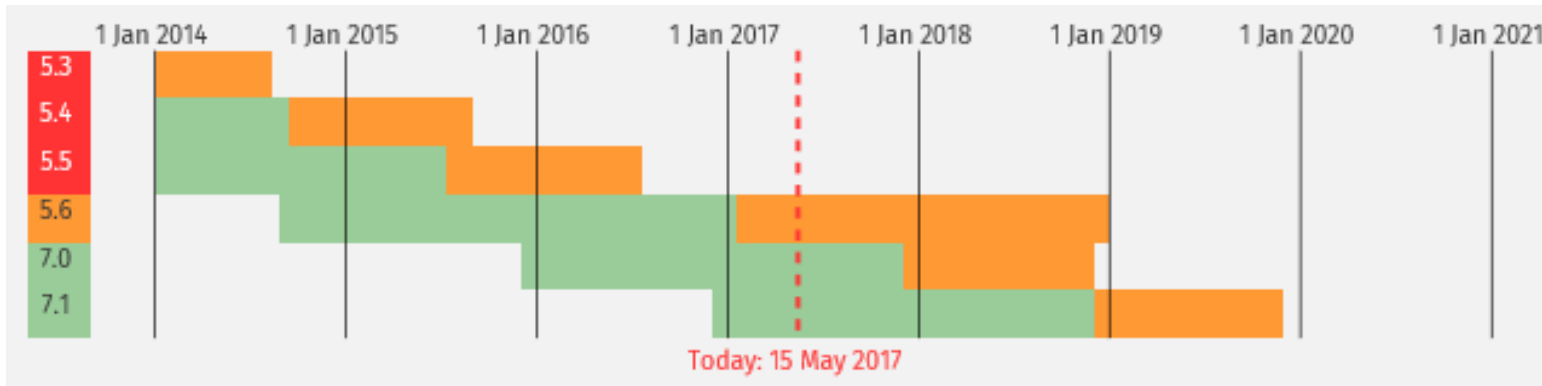
(Nombres de requêtes traités par seconde)

■ PHP 5.6 ■ PHP 7.0



[More information @ zend.com](http://zend.com)

# Roadmap PHP



Active support	A release that is being actively supported. Reported bugs and security issues are fixed and regular point releases are made.
Security fixes only	A release that is supported for critical security issues only. Releases are only made on an as-needed basis.
End of life	A release that is no longer supported. Users of this release should upgrade as soon as possible, as they may be exposed to unpatched security vulnerabilities.

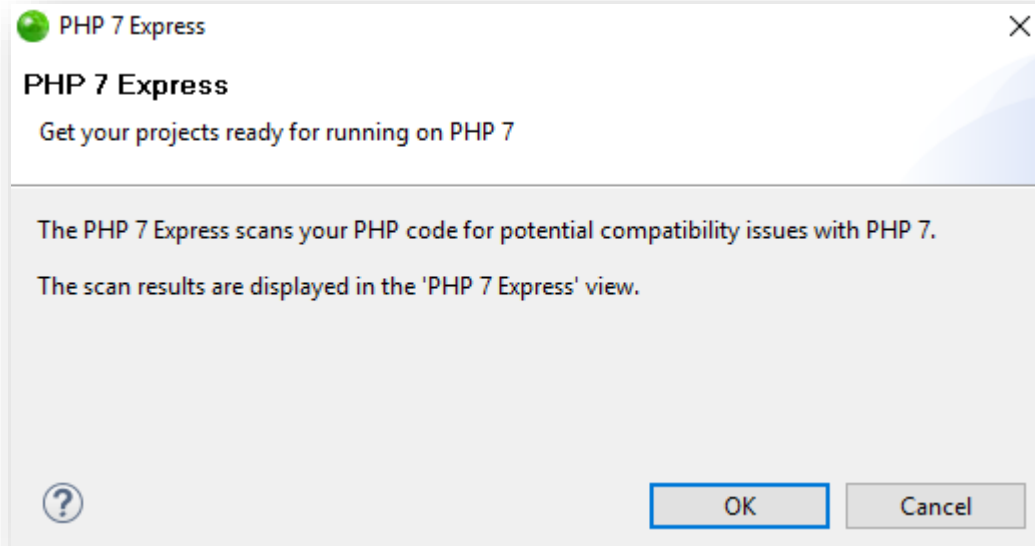
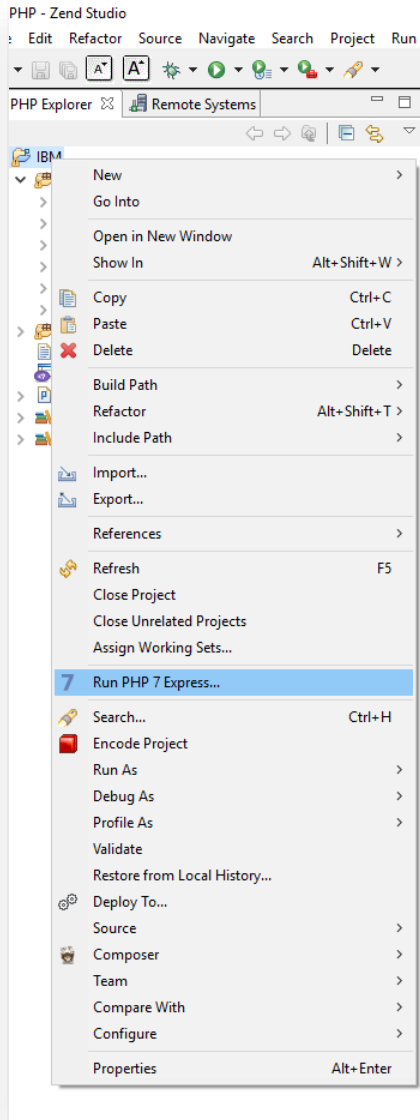
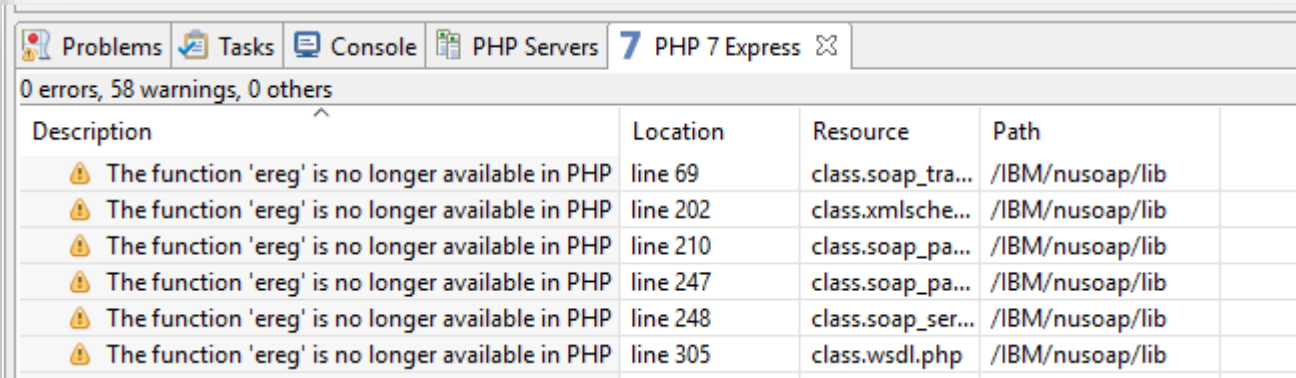
<http://php.net/supported-versions.php>

# Se préparer à passer à PHP 7







- Une rétrocompatibilité presque totale
  - Permet de migrer nos applications PHP 5.6 à PHP7 sans trop d'efforts
  - Des outils sont à dispositions dans le Zend Studio pour aider à repérer les incompatibilités
- ➔ Des performances au rendez vous sans développement supplémentaire



# Se préparer à PHP 7 grâce au Zend Studio

The screenshot shows the 'PHP 7 Express' view in the IDE. The title bar indicates '0 errors, 58 warnings, 0 others'. Below this is a table listing the warnings:

Description	Location	Resource	Path
 The function 'ereg' is no longer available in PHP	line 69	class.soap_tra...	/IBM/nusoap/lib
 The function 'ereg' is no longer available in PHP	line 202	class.xmlsche...	/IBM/nusoap/lib
 The function 'ereg' is no longer available in PHP	line 210	class.soap_pa...	/IBM/nusoap/lib
 The function 'ereg' is no longer available in PHP	line 247	class.soap_pa...	/IBM/nusoap/lib
 The function 'ereg' is no longer available in PHP	line 248	class.soap_ser...	/IBM/nusoap/lib
 The function 'ereg' is no longer available in PHP	line 305	class.wsdl.php	/IBM/nusoap/lib

# Principales incompatibilités

- suppression des fonctionnalités dépréciées
- <http://php.net/manual/en/migration70.incompatible.php>
- Exemples
  - L'extension MySQL (dépréciée depuis PHP5.5) qui est l'ancien connecteur et jeu de fonctions pour interagir avec le sgbdr MySQL

## → Préférez l'utilisation de MySQLi ou PDO\_MySQL

- L'extension ereg (dépréciée depuis PHP 5.3) qui permet de rechercher une expression régulière

## → Préférez l'utilisation du jeu de fonctions preg\_\*\* (PCRE)

# Passage en deprecated

- Utilisation des constructeurs de classes PHP4

```
<?php
class foo {
    function foo() {
        echo 'I am the constructor';
    }
}
?>
```

Deprecated: Methods with the same name as their class will not be constructors in a future version of PHP; foo has a deprecated constructor in example.php on line 3

# Passage en deprecated

- Gestion des méthodes statiques

```
<?php
class foo {
    function bar() {
        echo 'I am not static!';
    }
}

foo::bar();
?>
```

```
Deprecated: Non-static method foo::bar() should not be called
statically in - on line 8
I am not static!
```

# Rétro incompatibilités

- Suppression des ASP et script tags

Removed ASP and script tags	
Opening tag	Closing tag
<%	%>
<%=	%>
<script language="php">	</script>

- La redéfinition d'un argument d'une fonction n'est plus possible

```
<?php
function foo($a, $b, $unused, $unused) {
    //
}
?>
```

// Retourne une erreur fatale : Fatal error: Redefinition of

// parameter \$valid...

# Rétro incompatibilités

- Retrait de la variable `$HTTP_RAW_POST_DATA`
  - Remplacer par le flux PHP `php://input`
  
- Listes complètes sur `php.net` :
  - Rétro incompatibilités :  
<http://php.net/manual/en/migration70.incompatible.php>
  - Dépréciés :  
<http://php.net/manual/en/migration70.deprecated.php>

# Nouveautés PHP 7

- PHP7 offre la possibilité de spécifier un type scalaire (string, integer, float, boolean) pour les paramètres des fonctions

```
function sum(int $a, int $b) {  
    return $a + $b;  
}
```

```
var_dump(sum(1, 2));  
var_dump(sum(1.5, 2.5));
```

Affiche

Int(3)  
Int(3)

- Possibilité d'activer la validation stricte des types : utilisation de l'instruction **declare(strict\_types=1);** en première instruction du fichier

```
<?php  
declare(strict_types=1);
```

```
function sum(int $a, int $b) {  
    return $a + $b;  
}
```

```
var_dump(sum(1, 2));  
var_dump(sum(1.5, 2.5));
```

Affiche

Int(3)  
Error: Argument 1  
passed to sum()  
must be of the  
type integer, float  
given, called in -  
on line 10

# Nouveautés PHP 7

- Fonctionne aussi avec les listes d'éléments d'un type donné

```
<?php
// Coercive mode
function sumOfInts(int ...$ints)
{
    return array_sum($ints);
}

var_dump(sumOfInts(2, '3', 4.1));
```

Affiche

Int(9)

- Déclaration des types retours

```
function arraysSum(array ...$arrays): array
{
    return array_map(function(array $array): int {
        return array_sum($array);
    }, $arrays);
}

print_r(arraysSum([1,2,3], [4,5,6], [7,8,9]));
```





# Nouvel opérateur de comparaisons PHP SPACE SHIPS

- Opérateur de comparaison (Combined Comparison Operator) `<=>`
  - identique aux fonctions `strcmp()` et `version_compare()` mais peut comparer tous les types du moment qu'ils sont identiques de part et d'autre de l'opérateur : chaînes, array, objets, ....
- ● Retourne 0 si égal
- ● Retourne -1 si la valeur de gauche est inférieure
- ● Retourne 1 si la valeur de droite est inférieure

```
<?php
// Integers
echo 1 <=> 1; // 0
echo 1 <=> 2; // -1
echo 2 <=> 1; // 1
```

```
// Floats
echo 1.5 <=> 1.5; // 0
echo 1.5 <=> 2.5; // -1
echo 2.5 <=> 1.5; // 1
```

```
// Strings
echo "a" <=> "a"; // 0
echo "a" <=> "b"; // -1
echo "b" <=> "a"; // 1
```

# Null Coalesce Operator ??

- L'opérateur ?? retourne le résultat de l'opération de gauche si celui-ci n'est pas NULL sinon le résultat de l'opération de droite

PHP 5	PHP 7
<pre>&lt;?php \$name = (\$_GET['name']) ? \$_GET['name'] : 'default';</pre>	<pre>&lt;?php \$name = \$_GET['name'] ?? 'default';</pre>

- Ces opérateurs peuvent être enchaînés pour retourner le premier résultat non null d'un ensemble.

```
<?php
```

```
$name = $_GET['name'] ?? $aBdd['name'] ?? 'default';
```

# Nouveautés PHP 7

- Nouvelle version du connecteur `ibm_db2` 1.9.9-zs6
  - Ajout du support de PHP 7
  - Apport de correctifs

ibm\_db2 Loaded 1.9.9-zs6 IBM DB2 DB Access

Directives

These functions enable you to access the IBM DB2 Universal Database, IBM Cloudscape, and Apache Derby databases using the DB2 Call Level Interface (DB2 CLI).

<p><b>ibm_db2.binmode</b> This option controls the mode used for converting to and from binary data in the PHP application.</p> <p><b>ibm_db2.i5_allow_commit</b> This option controls the commit mode used for i5 schema collections in the PHP application.</p> <p><b>ibm_db2.i5_check_pconnect</b> Advanced db2_pconnect monitor</p> <p><b>ibm_db2.i5_guard_profile</b> Guard profile</p> <p><b>ibm_db2.i5_job_sort</b> This option turns DB2 UDB CLI job sort mode on/off</p> <p><b>ibm_db2.i5_max_pconnect</b> Max use count db2_pconnect to recycle</p> <p><b>ibm_db2.i5_servermode_subsystem</b> start server mode jobs to subsystem</p> <p><b>ibm_db2.instance_name</b> On Linux and UNIX operating systems, this option defines the name of the instance to use for cataloged database connections.</p>	<p>DB2_BINARY <input type="text" value=""/></p> <p>0 - DB2_I5_TXN_NO_COMMIT - Commitment control is no <input type="text" value=""/></p> <p>0 - normal no-check db2 persistent connection <input type="text" value=""/></p> <p>0 - normal no monitor use db2 connection <input type="text" value=""/></p> <p>0 - normal sort order <input type="text" value=""/></p> <p>999 <input type="text" value=""/></p> <p><input type="text" value=""/></p> <p><input type="text" value=""/></p>	<p><b>ibm_db2.i5_all_pconnect</b> This option overrides i5 db2_connect full open and close in the PHP application, all db2 connections become persistent.</p> <p><b>ibm_db2.i5_blank_userid</b> Allow blank userid/password</p> <p><b>ibm_db2.i5_dbs_alloc</b> This option controls the internal ibm_db2 allocation scheme for large DBCS column buffers.</p> <p><b>ibm_db2.i5_ignore_userid</b> This option overrides i5 db2_(p)connect userid and password in the PHP application</p> <p><b>ibm_db2.i5_log_verbose</b> DB2 error log verbose</p> <p><b>ibm_db2.i5_override_ccsid</b> force PASE CCSID (utf-8 1208)</p> <p><b>ibm_db2.i5_sys_naming</b> System naming mode</p>	<p>0 - default script db2_connect <input type="text" value=""/></p> <p>1 - allow blank user/pwd db2 connect <input type="text" value=""/></p> <p>0 - default allocations <input type="text" value=""/></p> <p>0 - normal user/pwd using QSQSRVR job <input type="text" value=""/></p> <p>0 - normal php.log message <input type="text" value=""/></p> <p>0 <input type="text" value=""/></p> <p>0 - sql naming, schema.table <input type="text" value=""/></p>
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# Zend Server 9.1

- Installation en parallèle d'une installation existante
  - Les deux versions peuvent tourner en même temps
  - Permet une migration des applications de la version 8 vers la version 9
  - Menu GO ZENDPHP7/ZSMENU
  - Sous-système ZENDPHP7
  - Document root IFS : /www/zendphp7/htdocs/
  - Binaires : /usr/local/zendphp7/
  - Ports par défaut nouvelle installation :
    - 10080 & 10081
  - Ports par défaut installation en parallèle :
    - 10090 & 10091

# Gestion 5250 : GO ZENDPHP7/ZSMENU

```
ZSMENU          Zend Server 9 for IBM i Management Menu (PHP 7)
                                                         System: EPEIRE

Select one of the following:

Operation
  1. Start Zend Server Subsystem
  2. End Zend Server Subsystem
  3. Work with Zend Server Jobs
  4. Work with Zend Server Logs

Apache
  10. Start Apache Server Instance
  11. Stop Apache Server Instance
  12. Restart Apache Server Instance
  13. Work with Apache Logs
  14. Work with QTMHHTTP Spooled Files
  15. Work with Apache Conf File
  16. Display Apache Version
  17. Display OpenSSL Version

Daemon Management
  20. Zend Server Daemon
  21. Deployment Daemon
  22. Monitor Daemon
  23. Job Queue Daemon
  24. Java Bridge Daemon
  25. PRNGD Daemon

Additional Products
  30. ZendDBI Management Menu
  31. 5250 Bridge Management Menu

Maintenance
  80. Configurations
  81. Maintenance Menu
```



# Gestion 5250 : Configurations

```
ZSCONFIG                               Zend Server 9 Configuration Menu
```

```
Select one of the following:
```

1. Change password for Web Administration Console
2. Set Zend Server Language/CCSID environment
3. Autostart Job Settings
4. Copy Zend Server commands to a user library
5. ZendDBI Menu option configuration
6. Zend Server ports management

```
Date: 17/05/17                               Zend Server Ports Management                               System: EPEIRE  
Time: 23:30:56                               Display Mode
```

```
Apache Configuration File
```

```
Zend Server Admin port....: 10081  
PHP Application port.....: 10080  
Zend Engine webserver port: 10083
```

```
GUI Configuration File
```

```
Zend Server Admin port....: 10081  
Zend Server secure port...: 10082  
Zend Engine webserver port: 10083
```

```
Global Directives Configuration File
```

```
Zend Server deployment port..: 10064  
Zend Engine webserver port...: 10083
```

# Fonctionnalités du Zend Server 9.1

- Consolidation des fonctionnalités existantes
  - Z-Ray, Z-Ray Live!, Z-Ray History
  - Job Queues
  - Page Cache
  - Code Tracing
  - URL Insight
  - Monitoring
  
- Nouveautés du Zend Server 9.1
  - ZendDbi 10 (instance Maria DB) : MySQL pour IBM i
    - DB2 Engine
  - Job Queue Pulse
  - Anonymisations (Personally Identifiable Information : PII)



# Z-Ray

- Z-Ray est un module du Zend Server arrivé depuis la version 7
- Très apprécié et utilisé de la communauté des développeurs, cette fonctionnalité ne cesse d'évoluer
- Z-Ray permet de donner un maximum d'informations aux développeurs sur l'exécution d'un script PHP
  - ➔ Gain de temps pour le développeur
  - ➔ Augmente la qualité du code
- Simple à configurer et à utiliser



# Configuration du Z-Ray

- Se configure depuis l'interface d'administration du Zend Server

- Disabled :

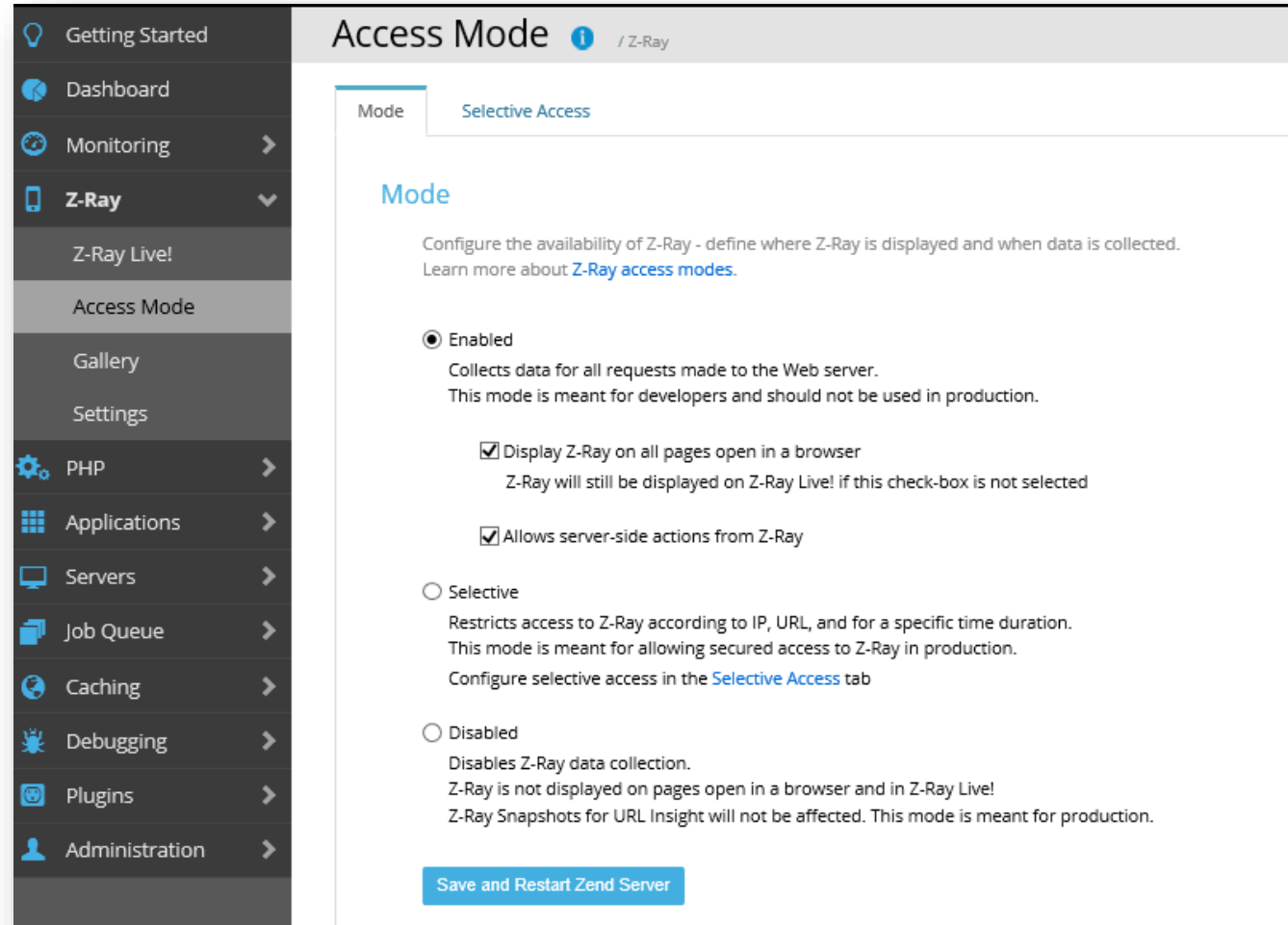
Par défaut sur les applications de production

- Enabled :

Idéal pour les environnements de développement

- Selective :

Pour les environnements mixtes



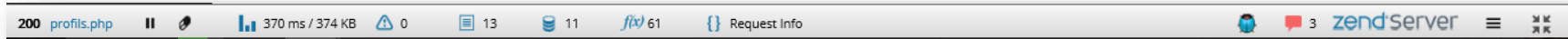
The screenshot shows the Zend Server Administration interface. On the left is a navigation sidebar with the following items: Getting Started, Dashboard, Monitoring, Z-Ray (selected), Z-Ray Live!, Access Mode, Gallery, Settings, PHP, Applications, Servers, Job Queue, Caching, Debugging, Plugins, and Administration. The main content area is titled 'Access Mode' and shows the 'Selective Access' mode selected. The 'Mode' section contains the following options:

- Enabled**  
Collects data for all requests made to the Web server.  
This mode is meant for developers and should not be used in production.
  - Display Z-Ray on all pages open in a browser  
Z-Ray will still be displayed on Z-Ray Live! if this check-box is not selected
  - Allows server-side actions from Z-Ray
- Selective**  
Restricts access to Z-Ray according to IP, URL, and for a specific time duration.  
This mode is meant for allowing secured access to Z-Ray in production.  
Configure selective access in the [Selective Access](#) tab
- Disabled**  
Disables Z-Ray data collection.  
Z-Ray is not displayed on pages open in a browser and in Z-Ray Live!  
Z-Ray Snapshots for URL Insight will not be affected. This mode is meant for production.

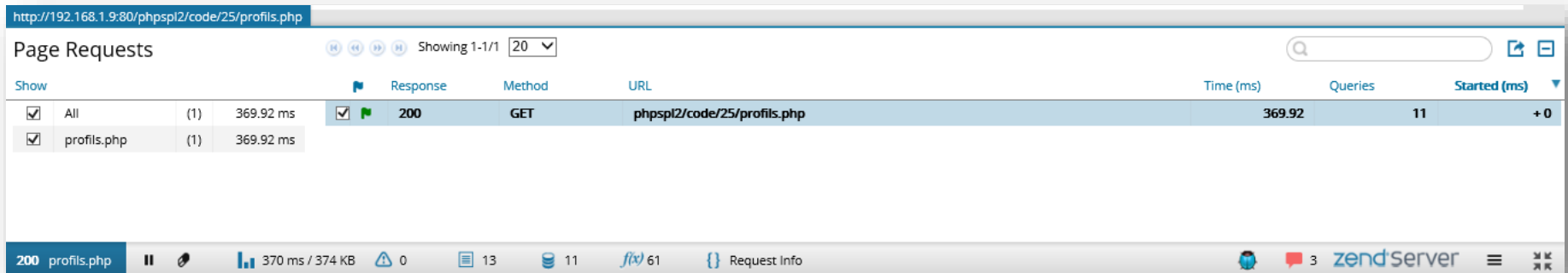
At the bottom of the configuration page is a blue button labeled 'Save and Restart Zend Server'.

# Utilisation de la barre Z-Ray

- Z-Ray se matérialise, côté navigateur, par la barre d'état suivante :



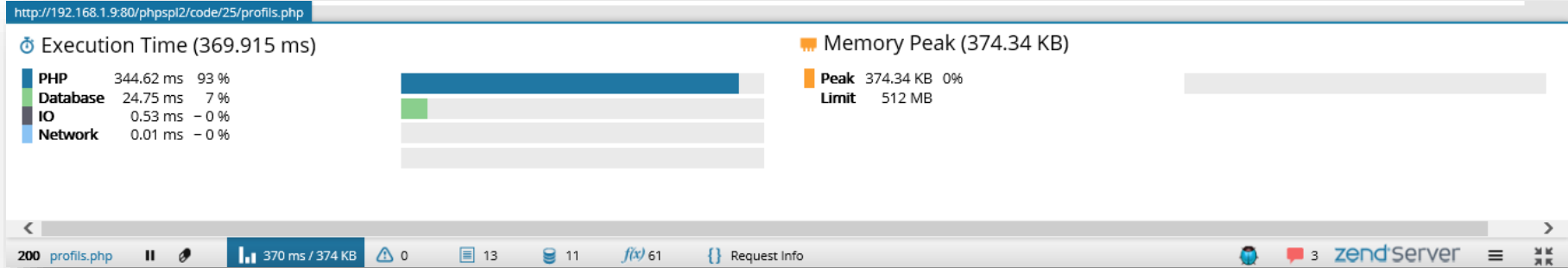
- Page Requests : état global de la page (code retour http)  
Très utile dans les applications avec des traitements ajax



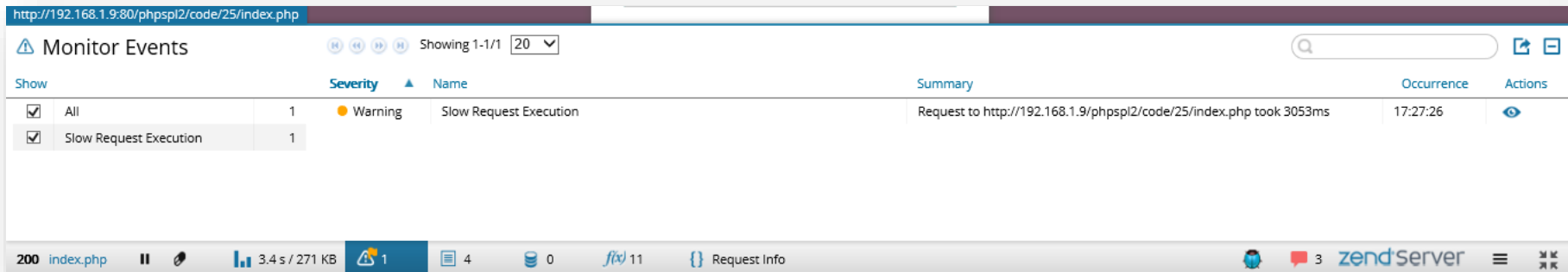
Show	Response	Method	URL	Time (ms)	Queries	Started (ms)
<input checked="" type="checkbox"/>	200	GET	phpsp12/code/25/profils.php	369.92	11	+0
<input checked="" type="checkbox"/>	profils.php					

# Utilisation de la barre Z-Ray

- Temps d'exécution et utilisation mémoire



- Visualisation du monitoring Zend Server



# Utilisation de la barre Z-Ray

- Visualisation de la log php (php.log)

http://192.168.1.9:80/phpspl2/code/25/profils.php

Errors & Warnings Showing 1-10/10 20

Show	@Silenced	#	Type	Message	Filename	Created	Action
<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	1	Notice	Undefined index: noConflictScript	%%DF^DF0^DF044CBE%%...	17:33:38
<input checked="" type="checkbox"/>	<input type="checkbox"/>	10	2	Notice	Undefined index: sidebar	%%DF^DF0^DF044CBE%%...	17:33:38
			3	Notice	Undefined index: searchconnexion	%%DF^DF0^DF044CBE%%...	17:33:38
			4	Notice	Undefined index: sidebar	%%DF^DF0^DF044CBE%%...	17:33:38
			5	Notice	Undefined index: searchForm	%%DF^DF0^DF044CBE%%...	17:33:38
			6	Notice	Undefined index: zoom	%%DF^DF0^DF044CBE%%...	17:33:38
			7	Notice	Undefined index: filAriane	%%DF^DF0^DF044CBE%%...	17:33:38
			8	Notice	Undefined index: fil_ariane	%%DF^DF0^DF044CBE%%...	17:33:38
			9	Notice	Undefined index: ssmenu_droite_bis	%%DF^DF0^DF044CBE%%...	17:33:38
			10	Notice	Undefined index: jqueryTABLES	%%DF^DF0^DF044CBE%%...	17:33:38

- Avec plus d'informations si nécessaire grâce au backtracing

http://192.168.1.9:80/phpspl2/code/25/profils.php

Errors & Warnings » Backtracing (%%DF^DF0^DF044CBE%%bootstrap.tpl.php:112)

#	Name	File	Show in IDE
4	include()	/www/zendsvr6/htdocs/phpspl2/code/25/templates_c/%%DF^DF0^DF044CBE%%bootstrap.tpl.php:112	<>
3	Smarty::fetch([...])	/phpincludes262/Smarty/libs/Smarty.class.php:1256	<>
2	Smarty::display([...])	/phpincludes262/Smarty/libs/Smarty.class.php:1106	<>
1	{main}	/www/zendsvr6/htdocs/phpspl2/code/25/profils.php:393	<>

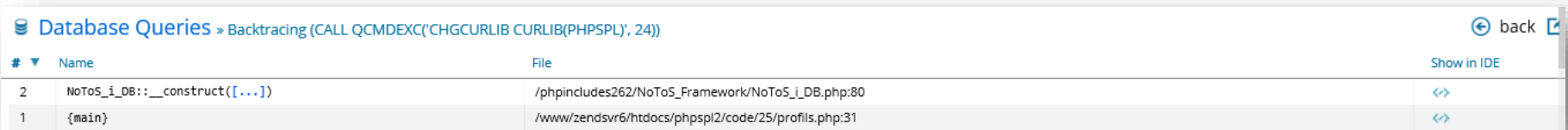
# Utilisation de la barre Z-Ray

- Les problèmes de performance se situant souvent au niveau de la base de données, les développeurs apprécieront l'analyse des requêtes base de données



Show	#	Query	Time (ms)	Rows	Result	Message	Actions			
<input checked="" type="checkbox"/>	All	(14)	21.16 ms	1	CALL QCMDExC('CHGCURLIB CURLIB(PHPSPPL)', 24)	5.37	N/A	● OK		
<input checked="" type="checkbox"/>	Call	(1)	5.37 ms	2	SELECT * FROM PHPSPPL.busconfig	2.82	N/A	● OK		
<input checked="" type="checkbox"/>	Select	(13)	15.79 ms	3	SELECT BIB FROM PHPSPPL.bibexclue	0.79	N/A	● OK		
				4	SELECT SPLF FROM PHPSPPL.splfexclus	0.74	N/A	● OK		

- Et le backtracing



#	Name	File	Show in IDE
2	NoToS_i_DB::__construct([...])	/phpincludes262/NoToS_Framework/NoToS_i_DB.php:80	<a href="#">↔</a>
1	{main}	/www/zendsvr6/htdocs/phpspl2/code/25/profils.php:31	<a href="#">↔</a>

# Utilisation de la barre Z-Ray

- Décomposition des temps d'exécutions par fonctions PHP
  - Natives
  - Développées

*f(x)* Functions Showing 1-20/29

Show (Manage Function Groups)

Function		Count	Duration Inclusive (ms)	Duration Exclusive (ms)	Average (ms)	Defined At
<input type="checkbox"/>	All (60) 371.59 ms	31 rows are not displayed				
<input checked="" type="checkbox"/>	(Custom) (29) 370.00 ms	{main}	1	371.586	334.208	371.59
<input type="checkbox"/>	(PHP Native) (31) 1.58 ms	NoToS_i_DB::__construct()	1	10.435	0.257	10.44 NoToS_i_DB.ph... <> ⓘ
	NoToS_Menu::console()	1	7.803	0.069	7.80	NoToS_Menu.p... <> ⓘ
	db2_connect()	1	4.810	4.810	4.81	
	Smarty::display()	1	2.598	0.015	2.60	Smarty.class.p... <> ⓘ
	Smarty::fetch()	1	2.583	2.147	2.58	Smarty.class.p... <> ⓘ
	NoToS_i_DB::simple()	4	8.208	1.516	2.05	NoToS_i_DB.ph... <> ⓘ
	NoToS_i_DB::objet()	6	9.965	2.302	1.66	NoToS_i_DB.ph... <> ⓘ
	NoToS_Menu::__construct()	1	1.635	0.010	1.64	NoToS_Menu.p... <> ⓘ

- Visualisation des informations de la requête

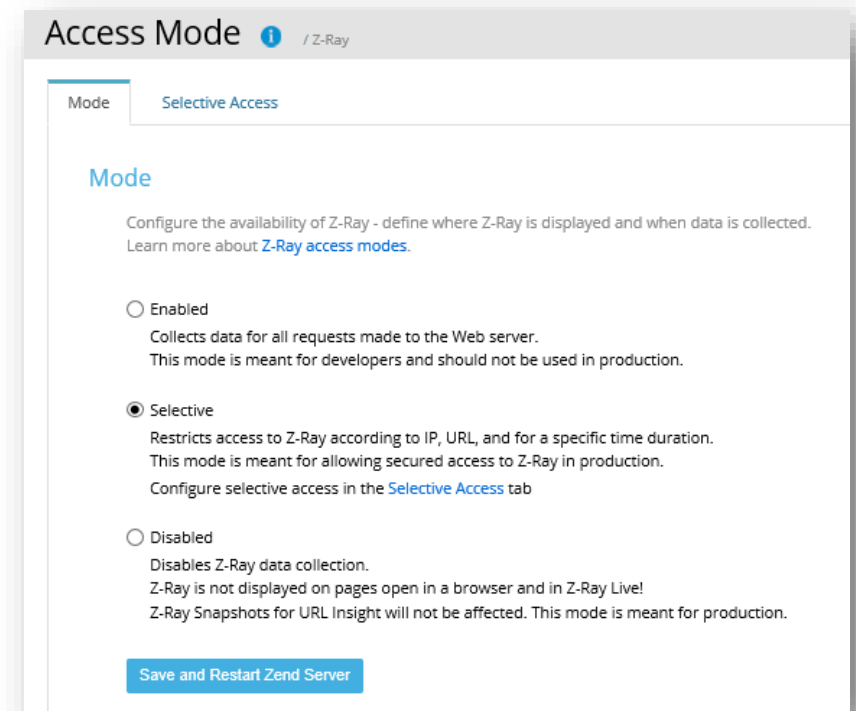
**Request Info**

Superglobals | Request Headers | Raw Post Data | Response Headers | Response Body

Show	Key	Size	Value
<input checked="" type="checkbox"/> All (79)	▶ \$_COOKIE		Array[9]
<input checked="" type="checkbox"/> Unchanged (79)	▶ \$_ENV		Array[0]
	▶ \$_FILES		Array[0]
	▶ \$_GET		Array[0]
	▶ \$_REQUEST		Array[0]
	▶ \$_SERVER	1.7KB	Array[48]
	▶ \$_SESSION	9.3KB	Array[10]

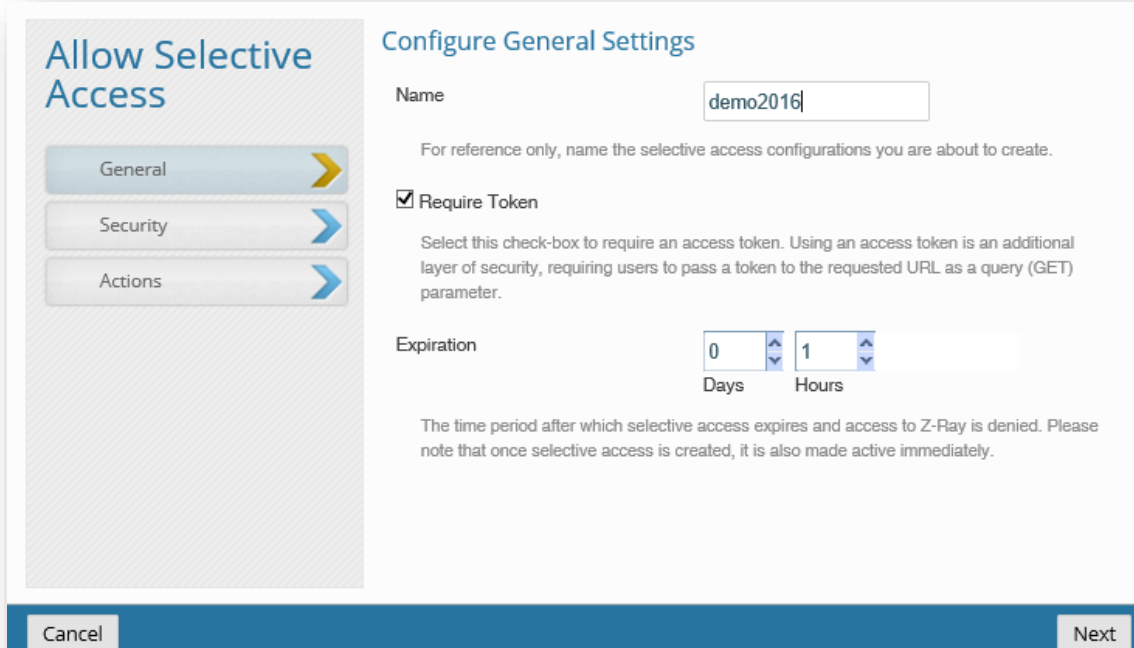
# Configuration du Selective mode

- Pour un Zend Server faisant tourner des applications de production et des applications en développements
- Pour un usage sécurisé et ponctuel du Z-Ray sur l'application de production
- Permet de définir :
  - Le développeur qui aura accès au Z-Ray
  - L'application à observer
  - La durée de l'accès



# Configuration du Selective mode

- Définition du nom de l'accès
- Utilisation par token (sécurisé !)
- Définition de la durée de la validité de la règle



**Allow Selective Access**

General Security Actions

### Configure General Settings

Name

For reference only, name the selective access configurations you are about to create.

Require Token

Select this check-box to require an access token. Using an access token is an additional layer of security, requiring users to pass a token to the requested URL as a query (GET) parameter.

Expiration  Days  Hours

The time period after which selective access expires and access to Z-Ray is denied. Please note that once selective access is created, it is also made active immediately.

Cancel Next



# Configuration du Selective mode

- Restriction sur les IP des développeurs autorisés
- Restriction sur les URL (applications)



**Allow Selective Access**

General >

**Security >**

Actions >

### Configure Security Settings

IP Restriction

Use my browser's IP address

Enter a comma-separated list of IP addresses and ranges allowed access to Z-Ray. Requests from other addresses will be denied. e.g. 127.0.0.1 will limit access to just the local machine, 10.0.0.0/8 will open up access to any address that starts with 10.

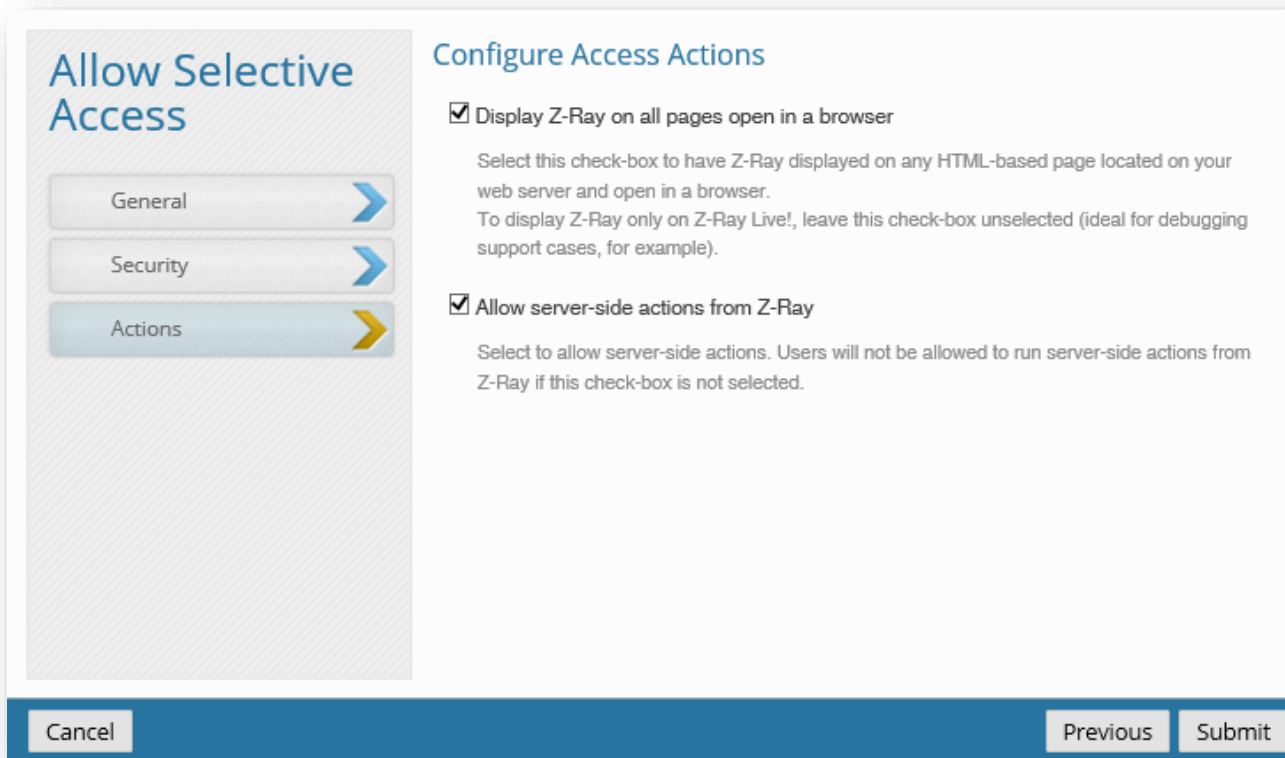
URL Restriction

Enter a base URL with allowed access to Z-Ray. Z-Ray will be activated only for this URL and all paths below it.  
Note: If no URL is specified, Z-Ray will be activated for all requests.

Cancel Previous Next

# Configuration du Selective mode

- Configuration générale du Z-Ray



## Allow Selective Access

General

Security

Actions

### Configure Access Actions

Display Z-Ray on all pages open in a browser

Select this check-box to have Z-Ray displayed on any HTML-based page located on your web server and open in a browser. To display Z-Ray only on Z-Ray Live!, leave this check-box unselected (ideal for debugging support cases, for example).

Allow server-side actions from Z-Ray

Select to allow server-side actions. Users will not be allowed to run server-side actions from Z-Ray if this check-box is not selected.


Cancel Previous Submit

# Création et utilisation du token

- Dans le Zend Server

ID	Status	Name	Restrictions
1	Active	demo2016	Accept from: 192.168.1.112

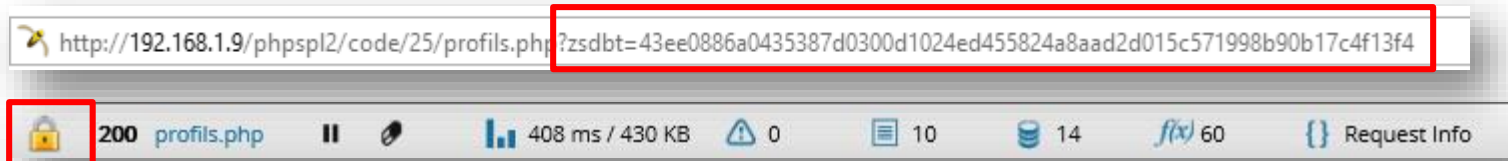
**To use Z-Ray, add this token to the page URL.**

?zsdbt=33cc723558e129811288de0c72188bf585016bfb15db815fb044cdd7fea16b43 

**Token Restrictions**

URL: This token can be used to access Z-Ray on any URL on this server  
IP: This token can only be accessed from these IP ranges: **192.168.1.112**  
Time Duration: This token expires on: **Today, 18:34:49**

- Dans le navigateur du développeur



http://192.168.1.9/phpspl2/code/25/profils.php?zsdbt=43ee0886a0435387d0300d1024ed455824a8aad2d015c571998b90b17c4f13f4

200 profils.php 408 ms / 430 KB 0 10 14 f(x) 60 Request Info

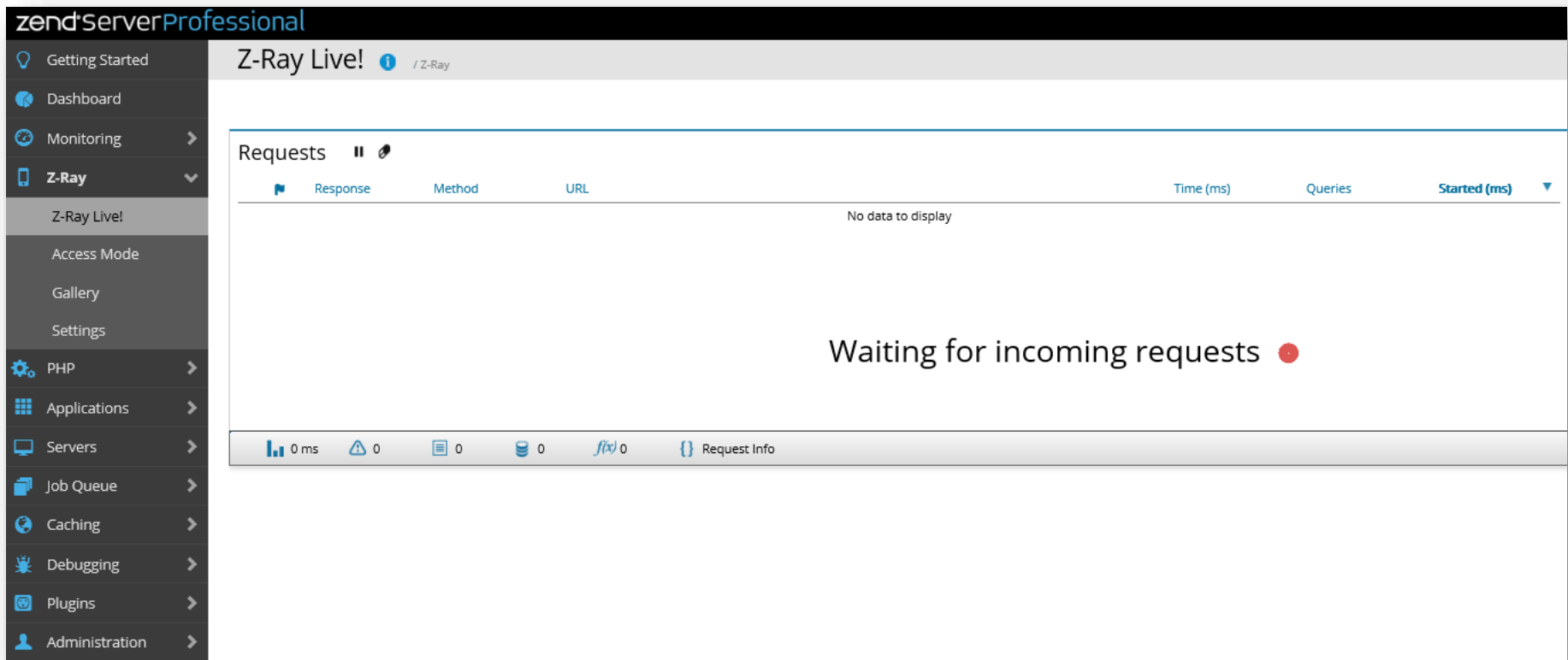
- Une fois le token renseigné, Z-Ray est actif sur la session de navigation

# Z-Ray pour des audits

- L'utilisation première de Z-Ray est l'aide aux développements
- Il peut être utilisé pour réaliser des audits des applications existantes :
  - Plus besoin de chercher dans les fichiers de logs
  - Permet d'identifier des problèmes souvent laissés de côté car « la page fonctionne »
  - Permet d'identifier les problèmes de performances et de les résoudre plus rapidement
  - Les tests sont réalisés en fonction de scénarios de navigations réels

# Z-Ray Live !

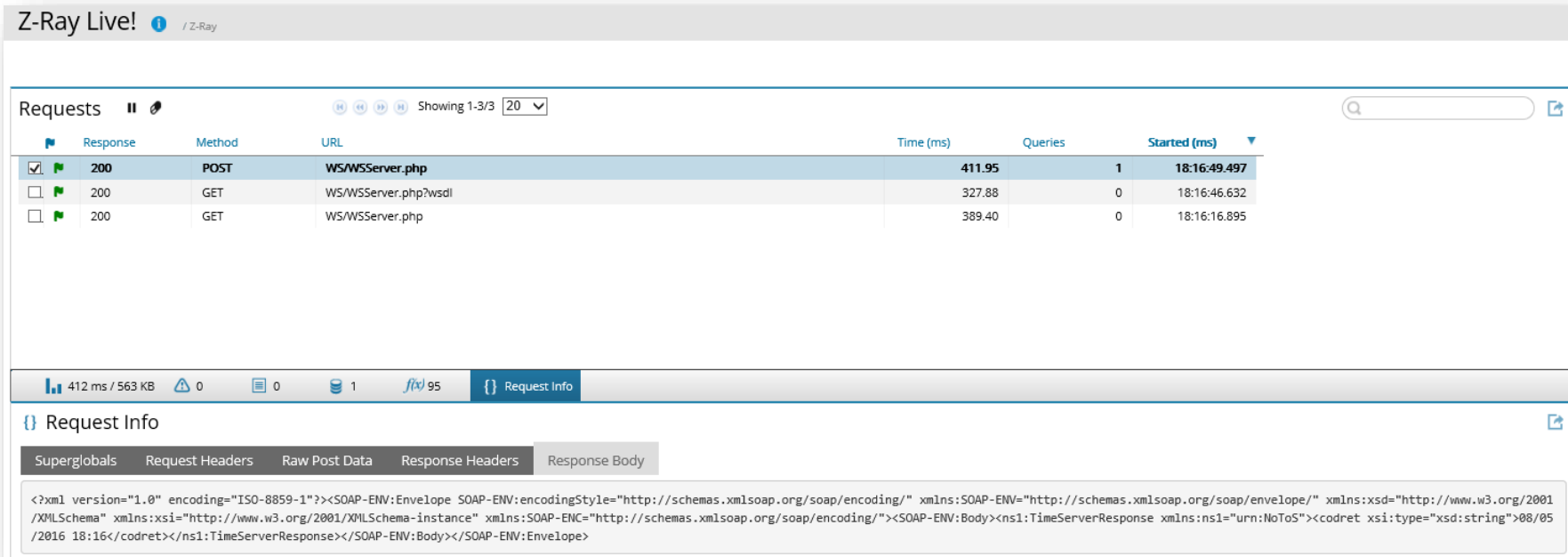
- Analyse en temps réels de tous les traitements PHP






The screenshot shows the Zend Server Professional interface for Z-Ray Live!. The left sidebar contains navigation options: Getting Started, Dashboard, Monitoring, Z-Ray (expanded), Z-Ray Live!, Access Mode, Gallery, Settings, PHP, Applications, Servers, Job Queue, Caching, Debugging, Plugins, and Administration. The main content area is titled "Z-Ray Live! / Z-Ray" and displays a "Requests" table. The table has columns for Response, Method, URL, Time (ms), Queries, and Started (ms). The table is currently empty, showing "No data to display". Below the table, the text "Waiting for incoming requests" is displayed with a red dot. At the bottom of the interface, there is a status bar with various metrics: 0 ms, 0, 0, 0, f/v 0, and Request Info.

# Z-Ray Live !






- Utilise les fonctions du Z-Ray
- Permet d'être au plus proche des utilisateurs et de la réalité
- Permet d'analyser les traitements des web services !





Z-Ray Live!  / Z-Ray

Requests   Showing 1-3/3

<input type="checkbox"/>	Response	Method	URL	Time (ms)	Queries	Started (ms)
<input checked="" type="checkbox"/>	200	POST	WS/WSServer.php	411.95	1	18:16:49.497
<input type="checkbox"/>	200	GET	WS/WSServer.php?wsdl	327.88	0	18:16:46.632
<input type="checkbox"/>	200	GET	WS/WSServer.php	389.40	0	18:16:16.895

412 ms / 563 KB  0  0  1  f(t) 95  Request Info

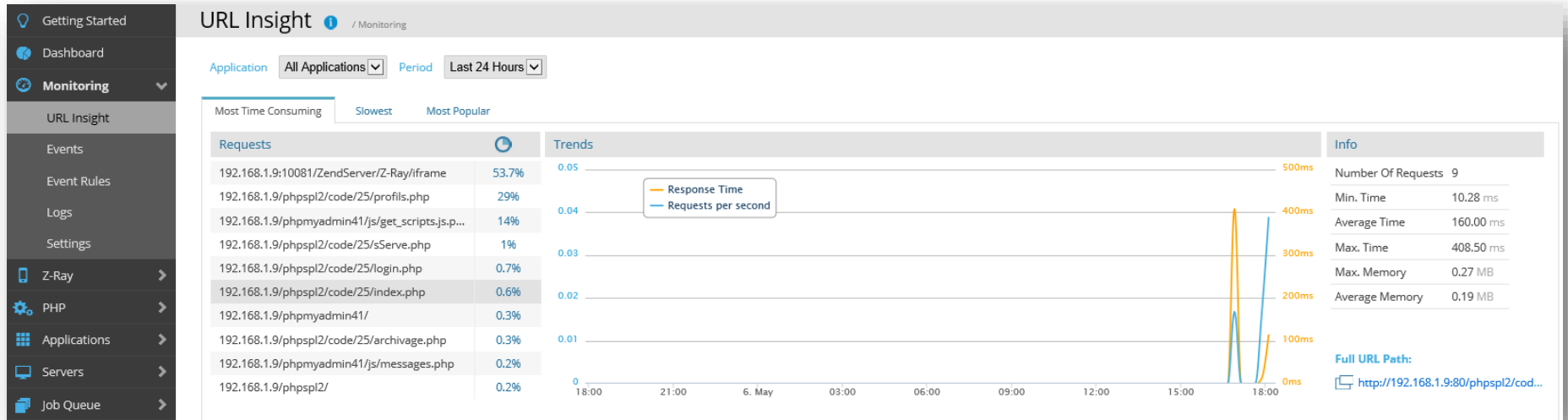
 Request Info 

Superglobals Request Headers Raw Post Data Response Headers Response Body

```
<?xml version="1.0" encoding="ISO-8859-1"?><SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"><SOAP-ENV:Body><ns1:TimeServerResponse xmlns:ns1="urn:NoToS"><codret xsi:type="xsd:string">08/05/2016 18:16</codret></ns1:TimeServerResponse></SOAP-ENV:Body></SOAP-ENV:Envelope>
```

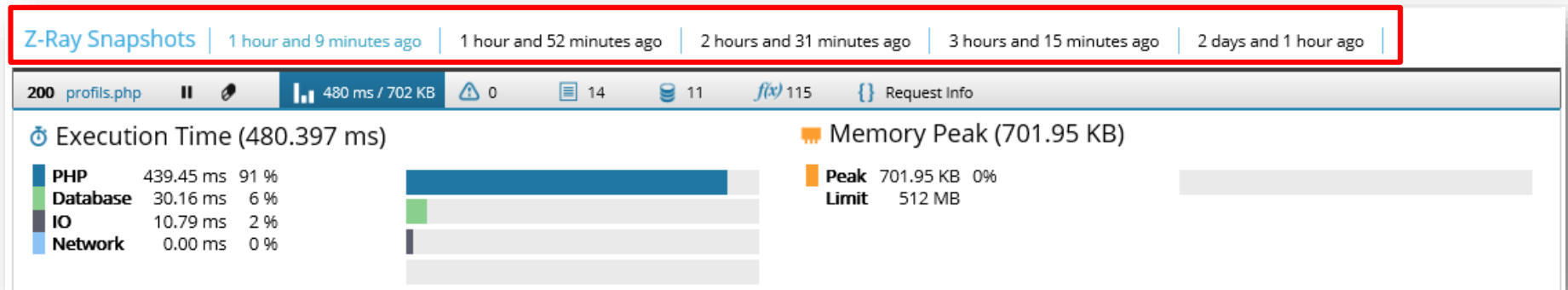
# URL insight

- Accessible depuis Monitoring -> URL Insight
- Statistiques sur les exécutions des scripts PHP du serveur
  - Temps de réponse
  - Nombre de requêtes



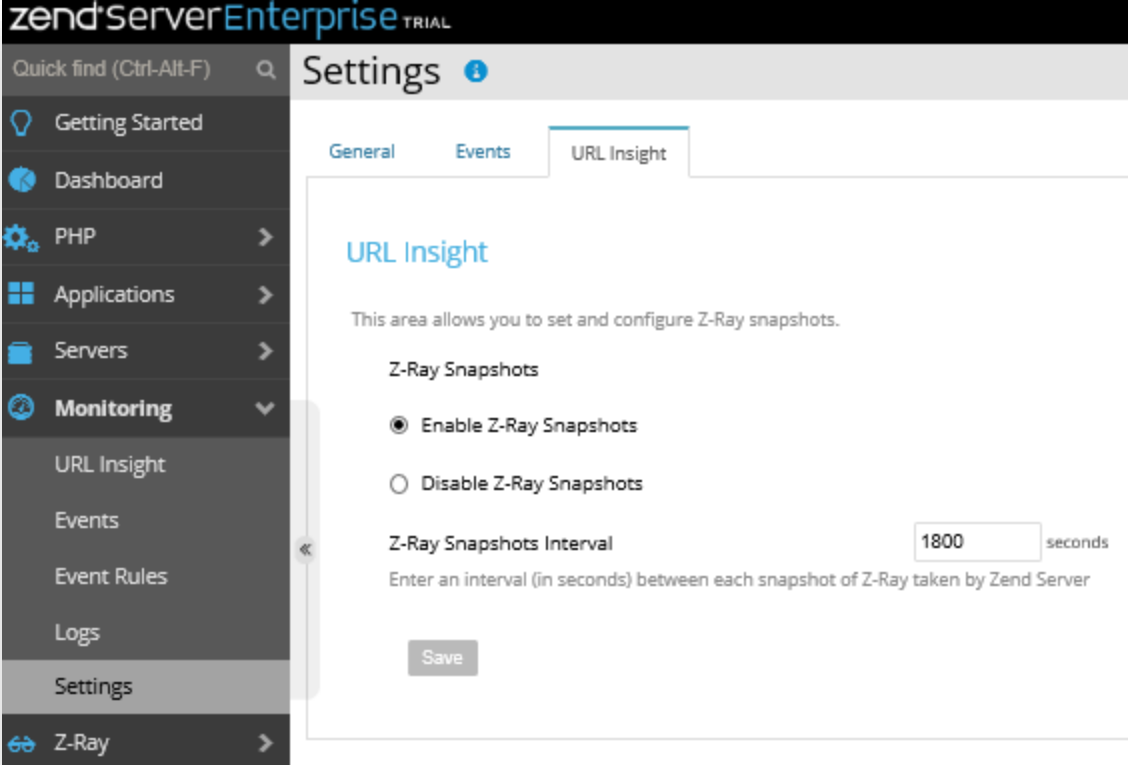
# URL Insight

- Accès à un historique de snapshots Z-Ray organisés par script PHP
- Suivi dans le temps des comportements d'un script
- Identification plus rapide des problèmes ou des régressions





# Configuration URL Insight

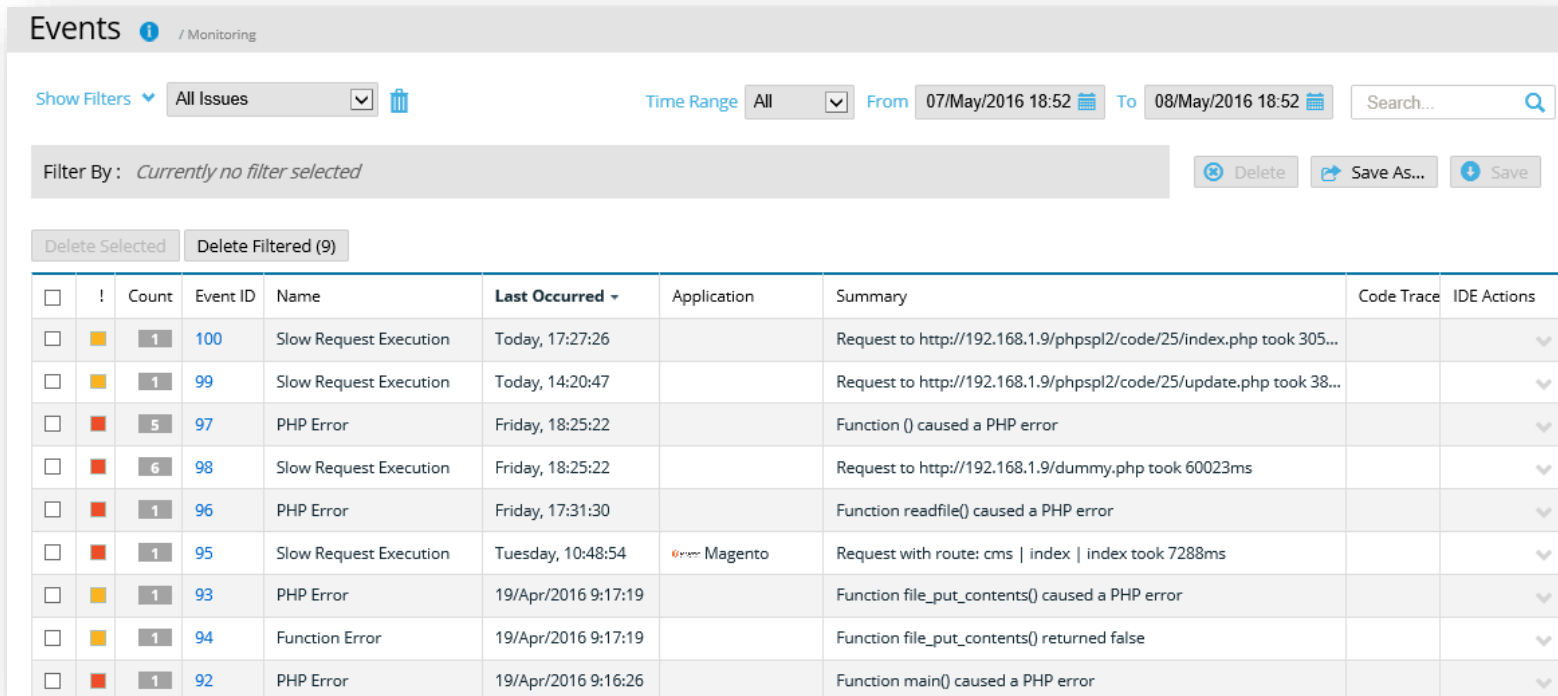


The screenshot shows the Zend Server Enterprise configuration interface. The left sidebar contains a navigation menu with the following items: Getting Started, Dashboard, PHP, Applications, Servers, Monitoring (expanded), URL Insight, Events, Event Rules, Logs, Settings (highlighted), and Z-Ray. The main content area is titled 'Settings' and has three tabs: General, Events, and URL Insight. The 'URL Insight' tab is active, displaying the following configuration options:

- URL Insight**  
This area allows you to set and configure Z-Ray snapshots.
- Z-Ray Snapshots**
  - Enable Z-Ray Snapshots
  - Disable Z-Ray Snapshots
- Z-Ray Snapshots Interval**  seconds  
Enter an interval (in seconds) between each snapshot of Z-Ray taken by Zend Server
-

# Monitoring avec le Zend Server

- Visualisation agrégée des événements monitorés par le Zend Server
- Plus complet que la log PHP : statistiques, contexte
- Valeur ajoutée sur l'évènement : débogage, profile



Events 1 / Monitoring

Show Filters ▼ All Issues ▼ 🗑️ Time Range All ▼ From 07/May/2016 18:52 📅 To 08/May/2016 18:52 📅 Search... 🔍

Filter By: *Currently no filter selected* 🗑️ Delete 📄 Save As... 💾 Save

Delete Selected 🗑️ Delete Filtered (9)

<input type="checkbox"/>	!	Count	Event ID	Name	Last Occurred <span>▼</span>	Application	Summary	Code Trace	IDE Actions
<input type="checkbox"/>	🟡	1	100	Slow Request Execution	Today, 17:27:26		Request to http://192.168.1.9/phpspl2/code/25/index.php took 305...		▼
<input type="checkbox"/>	🟡	1	99	Slow Request Execution	Today, 14:20:47		Request to http://192.168.1.9/phpspl2/code/25/update.php took 38...		▼
<input type="checkbox"/>	🔴	5	97	PHP Error	Friday, 18:25:22		Function () caused a PHP error		▼
<input type="checkbox"/>	🔴	6	98	Slow Request Execution	Friday, 18:25:22		Request to http://192.168.1.9/dummy.php took 60023ms		▼
<input type="checkbox"/>	🔴	1	96	PHP Error	Friday, 17:31:30		Function readfile() caused a PHP error		▼
<input type="checkbox"/>	🔴	1	95	Slow Request Execution	Tuesday, 10:48:54	🔴 Magento	Request with route: cms   index   index took 7288ms		▼
<input type="checkbox"/>	🟡	1	93	PHP Error	19/Apr/2016 9:17:19		Function file_put_contents() caused a PHP error		▼
<input type="checkbox"/>	🟡	1	94	Function Error	19/Apr/2016 9:17:19		Function file_put_contents() returned false		▼
<input type="checkbox"/>	🔴	1	92	PHP Error	19/Apr/2016 9:16:26		Function main() caused a PHP error		▼

# Configuration des règles de monitoring

- Ensemble de règles par application

zendServerProfessional

Event Rules / Monitoring

Enable Disable

	Name	Type	Status	Thresholds
<b>Global Rules (12 globals)</b>				
<input type="checkbox"/>	Custom Event	Custom Event ?	Enabled	
<input type="checkbox"/>	Database Error	Function Error ?	Enabled	
<input type="checkbox"/>	Failed Writing Code Tracing Data	Failed Writing Code Tracing Data ?	Enabled	
<input type="checkbox"/>	Function Error	Function Error ?	Enabled	
<input type="checkbox"/>	High Memory Usage	High Memory Usage ?	Enabled	49152 KB +2
<input type="checkbox"/>	Inconsistent Output Size	Inconsistent Output Size ?	Enabled	200 % +1
<input type="checkbox"/>	PHP Error	PHP Error ?	Enabled	85 +1
<input type="checkbox"/>	Slow Function Execution	Slow Function Execution ?	Enabled	2000 ms +1
<input type="checkbox"/>	Slow Query Execution	Slow Function Execution ?	Enabled	2000 ms +1
<input type="checkbox"/>	Slow Request Execution	Slow Request Execution ?	Enabled	5000 ms +2
<input type="checkbox"/>	Uncaught Java Exception	Uncaught Java Exception ?	Enabled	
<input type="checkbox"/>	Zend Framework Exception	Custom Event ?	Enabled	
<b>Magento (12 globals)</b>				

# Règle de monitoring

zend server Professional

Database Error
/ Monitoring / Monitoring Rules

Email

Rule Name Database Error
 Application Global

Callback URL

Type Function Error

*Select the severity level for this event:*

Critical
❑

Send email  
 Call URL

Trace code
 

- Activate Code Tracing for  seconds after triggered events
- Always activate Code Tracing for triggered events

Warning
❑

Send email  
 Call URL

Trace code
 

- Activate Code Tracing for  seconds after triggered events
- Always activate Code Tracing for triggered events

Notice
❑

Send email  
 Call URL

Trace code
 

- Activate Code Tracing for  seconds after triggered events
- Always activate Code Tracing for triggered events

*Create an event when detected in the following functions:*

Add Function

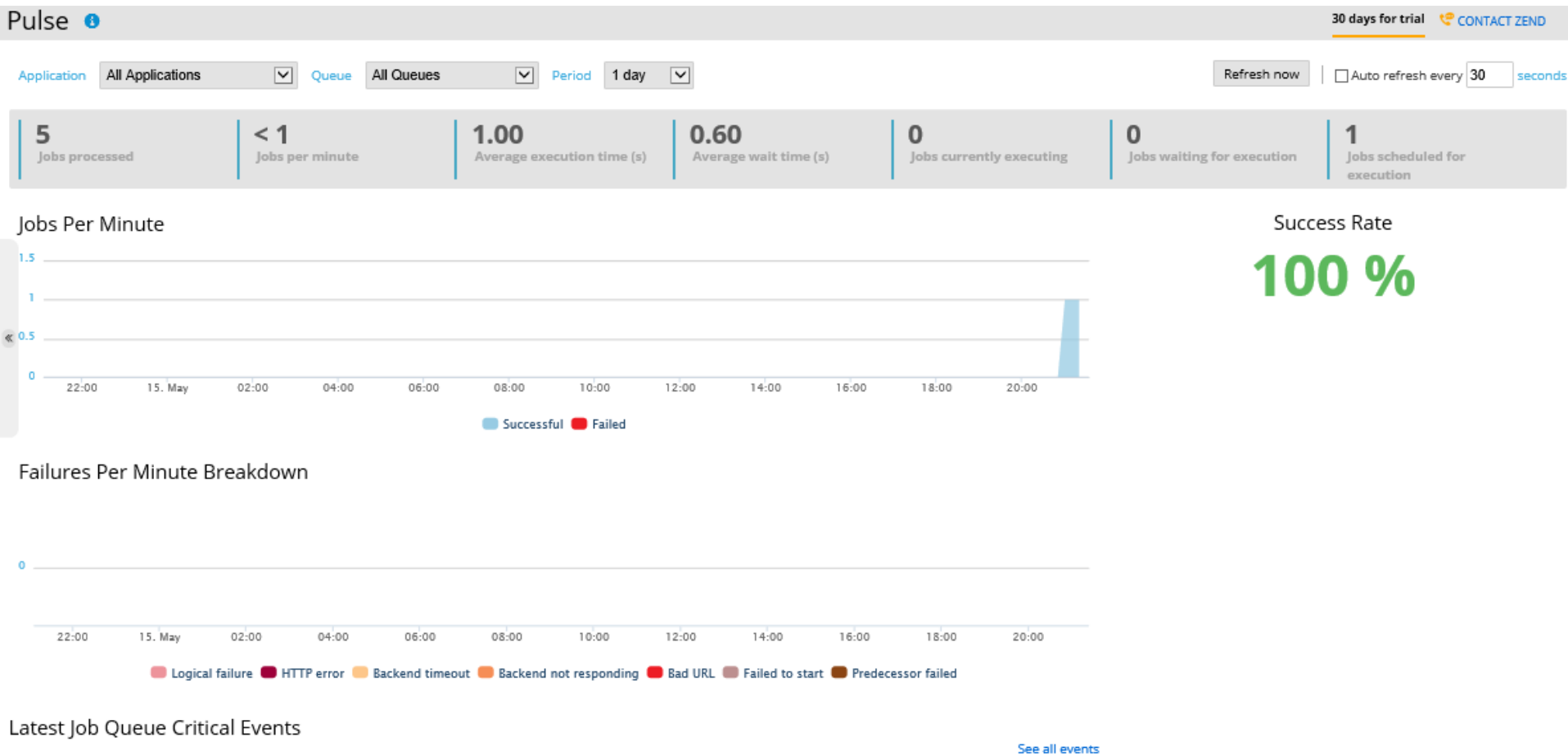
- x mssql\_connect
- x mssql\_execute
- x mssql\_query
- x mssql\_unbuffered\_query
- x mysql\_connect
- x mysql\_db\_query
- x mysql\_query
- x mysql\_unbuffered\_query
- x mysqli\_connect
- x mysqli\_execute
- x mysqli\_master\_query
- x mysqli\_multi\_query
- x mysqli\_query
- x mysqli\_real\_connect
- x mysqli\_real\_query

# Nouveautés

Job Queue Pulse, Anonymisations (PII)

# Job Queue Pulse

- Un tableau de bord pour gérer au mieux tous les travaux planifiés

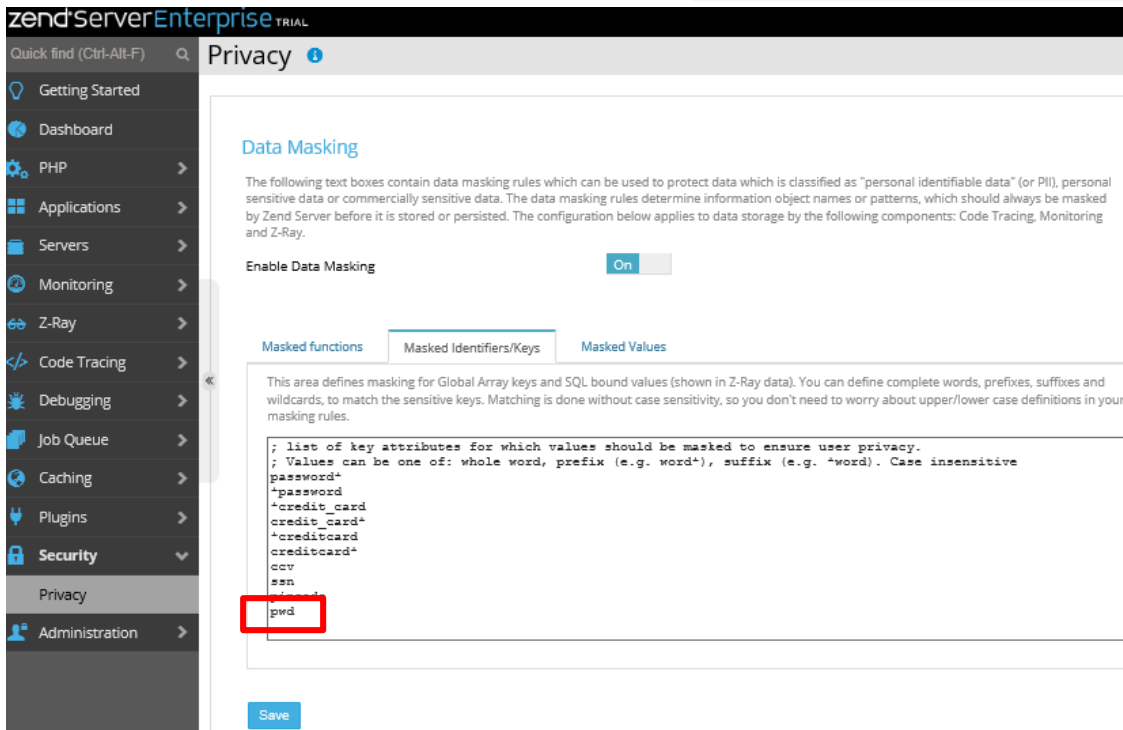


# Anonymisations (PII)

- Système d'anonymisation dans les outils Z-Ray afin d'avoir une utilisation sur la production

 Request Info

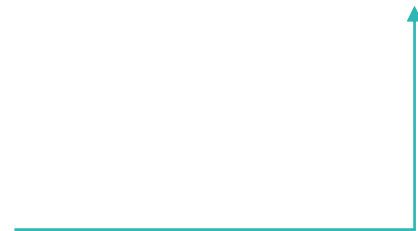
Superglobals		Request Headers	Raw Post Data	Response Headers	Response Body
Show	Key	Size	Value		
<input checked="" type="checkbox"/> All	(62)		▶ \$_COOKIE		Array[6]
<input checked="" type="checkbox"/> Unchanged	(62)		▶ \$_ENV		Array[0]
			▶ \$_FILES		Array[0]
			▶ \$_GET		Array[0]
			▼ \$_REQUEST		Array[0]
			▶ \$_SERVER	1.6KB	Array[53]
			▼ \$_SESSION		Array[3]
			auth		OK
			pwd		****
			user		GDUMAS



The screenshot shows the 'Privacy' configuration page in Zend Server Enterprise. The 'Data Masking' section is active, with 'Enable Data Masking' set to 'On'. Under 'Masked Identifiers/Keys', a list of keys is defined for masking. The key 'pwd' is highlighted with a red box. The configuration text is as follows:

```

; list of key attributes for which values should be masked to ensure user privacy.
; Values can be one of: whole word, prefix (e.g. word*), suffix (e.g. *word). Case insensitive
password+
*password
*credit_card
credit_card+
*creditcard
creditcard+
ccv
ssn
;
pwd
    
```



# Conclusion

- L'atout principal du Zend Server 9 sur IBM i est le gain de performances apporté par le support de PHP 7
- La migration vers PHP 7 se fait simplement avec un coût de développement au plus faible
- Les fonctionnalités du Zend Server orientées production sont toujours disponibles et continuent d'évoluer



**Merci pour votre écoute !**

**Des questions ?**

**S43 – Passer à PHP 7 sous IBM i**



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