

Zend Optimizer™

User Guide

Scope

The Zend Optimizer boosts PHP performance by going over the intermediate code generated by the standard Zend run-time compiler and optimizing it for faster execution. In addition, it enables PHP installations to read Zend Intermediate Code files that were encoded by the Zend Encoder™ (zendenc).

The Zend Optimizer is available **for free** at the [Zend Store](http://www.zend.com/store/), at <http://www.zend.com/store/>.

The Zend Optimizer supports the following platforms:

- Solaris®/sparc 2.6 or later
- Linux® (i386/glibc 2.1 and libc5)
- FreeBSD 3.4 or later
- Microsoft® Windows® NT 4.0, Windows 2000 and Windows XP

In addition, the Zend also provides unsupported builds of the Zend Optimizer for the following platforms:

- Mac OSX
- OpenBSD
- Solaris/x86 2.6 or later

This guide consists of the following main sections:

- “System Requirements,” page 1
- “Installation,” page 2
- “Avoiding Incompatibilities,” **Error! AutoText entry not defined.**4
- “Support,” page 4

System Requirements

The Zend Optimizer has no special system requirements, except that a compatible version of PHP 4.x must be installed. For additional information, see “Avoiding Incompatibilities,” **Error! AutoText entry not defined.**4 or review our [Product Compatibility Table](http://www.zend.com/store/products/product_compatibility.php) (http://www.zend.com/store/products/product_compatibility.php).

Installation

It is recommended that after installing the Zend Optimizer you check that the installation was successful (see “Checking for Successful Installation,” page 4).

After installation, the Zend Optimizer runs within the framework of PHP. It optimizes your PHP scripts automatically, and transparently detects and loads encoded files.

UNIX (Linux, Solaris, FreeBSD)

To install the Zend Optimizer under UNIX

1. Execute the following command (and follow the instructions):

```
./install.sh
```

Note: Be sure to download the Zend Optimizer version that corresponds with the PHP version that you choose to compile. For example, the Zend Optimizer for PHP 4.0.4 will only function with PHP 4.0.4. Otherwise, the Zend Optimizer will not load and an error message will be displayed.

2. If you are running under Apache, restart your Apache Web server. For recent Apache 1.3 versions, use the commands:

```
apachectl stop; apachectl start
```

Mac OSX, OpenBSD, Solaris/x86

To install the Zend Optimizer under these platforms

1. Unpack the package file by running the command

```
gunzip -c <package name> | tar xvf -
```

The unzipped files will be placed in a directory with the same name as the package but without the `.tar.gz` suffix.

Copy the `ZendOptimizer.so` file to your system; a good place to put it is in the directory `/usr/local/Zend/lib`.

2. **Mac OSX only:**

Copy the `php` binary to your system. A good place to put it is in the directory `/usr/local/bin`.

Copy the `libphp4.so` file to your system. A good place to put it is in the directory `/usr/local/Zend/lib`

3. Add the following lines to your `php.ini` file (usually at `/usr/local/lib`); do not add any extra spaces or tabs:

```
zend_optimizer.optimization_level=15
zend_extension="/usr/local/Zend/lib/ZendOptimizer.so"
```

Note: If you do not plan on executing encoded files, disable the Optimizer's loading feature by adding `zend_optimizer.enable_loader = 0` to your `php.ini`. This will hasten file execution even further.

4. Replace your system's own `php` and `libphp.so` with the ones provided in the package by executing the following commands:

```
mv /usr/libexec/httpd/libphp4.so /usr/libexec/httpd/libphp4.so.org
ln -s /usr/local/Zend/lib/libphp4.so /usr/libexec/httpd/libphp4.so
mv /usr/bin/php /usr/bin/php.org
ln -s /usr/local/Zend/bin/php /usr/bin/php
```

5. If you are running under Apache, restart your Apache Web server. For recent Apache 1.3 versions, use the commands *apachectl stop*; *apachectl start*.

Windows

To install the Zend Optimizer under Windows

1. To ensure that your PHP installation is compatible with the Zend Optimizer, it is recommended to use the Windows packages posted at the [Zend Store](http://www.zend.com/store/), at <http://www.zend.com/store/>. These are always compiled in non-debug mode, and the Zend Optimizer will work only with non-debug PHP binaries.
2. The Zend Optimizer for Windows package is a self-extracting installer. Simply run the package file, and follow the installation instructions.

Note: Be sure to download the Zend Optimizer version that corresponds with the PHP version that you choose to compile. For example, the Zend Optimizer module for PHP 4.0.4 will only function with PHP 4.0.4. Otherwise, the Zend Optimizer will not load and an error message will be displayed.

3. If you are running a server module (e.g. ISAPI), restart your server. For Microsoft IIS, run *net stop iisadmin*, and then *net start w3svc*, from a command line console.

Checking for Successful Installation

Use the PHP function `phpinfo()` to check for successful installation, as shown in the following script:

```
<?php
    phpinfo();
?>
```

The part of the output where the Zend Optimizer is listed will look similar to the following:

```
This program makes use of the Zend scripting language engine:
Zend Engine vX.Y.Z, copyright (c) 1998-2001, Zend Technologies Ltd.,
with the Zend Optimizer vX.Y.Z, copyright (c) 1998-2001 Zend Technologies Ltd.
```

Avoiding Incompatibilities

This section discusses two possible incompatibilities that have to be avoided when using the Zend Optimizer.

Incompatibility with PHP Version

The Zend Optimizer must be compatible with the version of PHP 4 that is installed. An incompatibility will cause the Zend Optimizer to fail with an error message (located in the web server's log file).

Incompatibility with Zend Intermediate Code File

The Zend Intermediate Code file must have been compiled by a version of the Zend Encoder (`zendenc`) that is compatible with the version of the Zend Optimizer that is running the file. Otherwise, the Optimizer will fail with an error message (located in the log file) such as: Incompatible file format. To check whether the Optimizer and the Encoder are compatible, refer to the [Zend Products Compatibility table](http://www.zend.com/store/products/product_compatibility.php), at http://www.zend.com/store/products/product_compatibility.php.

Support

If you have problems or questions about the Zend Optimizer, you can use the online Optimizer forum on Zend.com at <http://www.zend.com/zend/optimizer-forum.php>.

Zend SOS subscribers can also submit questions about setup and installation support through Zend [Support-Online Services \(SOS\)](#). To access [Zend SOS](#), go to the Pickup Depot, fill in our convenient form, and click on the "Submit" button. Our worldwide team of experts will get to work to resolve your problem. Track the status of your incident anytime through [Zend SOS](#).

For issues other than technical support, please email us at info@zend.com.