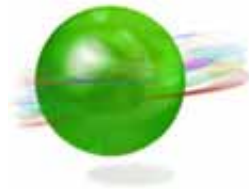


Reviewer's Guide:

Zend Studio 5 - All Editions



By Zend Technologies, Inc.

December 2006

The information in this document is subject to change without notice and does not represent a commitment on the part of Zend Technologies Ltd. No part of this Guide may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or information storage and retrieval systems, for any purpose other than the reviewer's personal use, without the written permission of Zend Technologies Ltd.

All trademarks mentioned in this document, belong to their respective owners.

© 1999-2006 Zend Technologies Ltd. All rights reserved.

Zend Studio 5 Reviewer's Guide issued December 2006.

Table of Contents

- Introduction5**
 - The Zend PHP Strategy 6
 - The Zend Studio 5 Advantage 7
 - Zend Studio 5 - Welcomed by IT Leaders 8
 - Zend Studio 5 - Welcomed by Customers 8
- Zend Studio 5 - The Most Powerful Development Environment 9**
 - Zend Studio 5 - The First Industrial-Strength PHP Enterprise Tool 9
 - Zend Studio 5 - The Most Productive and Customizable IDE 10
 - Zend Studio 5 - Product Line 10
 - Zend Studio 5 - Feature Comparison 12
- Professional Development Tool 13**
 - Components 13
 - Environment 14
 - Syntax Highlighting 15
 - Code Folding 15
 - Code Completion 16
 - Code Templates 16
 - Smart Goto Source 17
 - Code Snippets 18
 - Zend Framework Integration 18
 - PHP Code Analyzer 19
 - Zend Studio Debugger 20
 - Remote Profiler 22
 - Communication Tunnel (for Firewalls or NAT) 23
 - Code Inspector 25
 - PHPDocs Support / PHPDocumentor Integration 26
- Professional Database Applications 27**
 - SQL Control 27
 - Tree Behavior (SQL Tab) 28
 - Metadata Display 29
 - Data Display and Editing 29
 - Creating and Executing Queries 30
 - Accessing and Executing Queries from the Query History 31
 - SQL Customization 32
 - Sample Applications 32
- Enterprise Development & Deployment 34**
 - Team Development 34
 - FTP Advanced Integration 35
 - FTP Advanced Integration 35
 - Web Services Support (SOAP) 35
 - Zend Platform Integration 36
 - Using Zend Platform for Staging 37
 - Deploying with Zend Platform 38
- Extensible & Customizable IDE 40**
 - Customizing the UI 40
 - PHP Switching 41
 - Choosing Preferred Keystrokes 42
- Support & Help for Developers 43**

Summary 44

Summary 44

Zend Studio 5 System Requirements 45

Introduction

Independent Developers and corporations alike are now developing critical applications in PHP. With a growing set of needs, PHP professionals are in constant search for a superior development tool that will give them a competitive edge and a way to dramatically improve their development cycle.

Developers and corporations share the same questions: How can you gain a significant competitive advantage? Can you use the latest technology and still deliver your applications on time and on budget?

Their solution: Zend Studio™. Many corporations that adopted PHP have one thing in common: they have all selected and now trust Zend Studio as their PHP development tool of choice. These corporations selected Zend Studio for its superior and productive development environment; rich feature set, state of the art graphical debugger, and its fast support for new PHP features, as they become available. Zend Studio leverages Zend's unmatched expertise and ongoing participation to the PHP language.

Last year alone, Zend Studio had more than 200,000 copies downloaded by a wide range of PHP developers. Zend Studio continues to be the best selling PHP development tool on the market since its introduction. Zend Studio's growing infrastructure is already the most impressive of all PHP development tools, with the most active PHP developer community sharing tips and techniques in discussion forums, a growing number of certified trainers and consultants, state-of-the-art support, and more.

After its remarkable market penetration, Zend introduces Zend Studio 5. Now for the first time, there is a new generation PHP tool - Zend Studio 5 - designed to meet the needs of professional developers and Enterprise Standards.

The Zend PHP Strategy

Zend and its founders are among the creators and ongoing innovators of PHP. Used by more than 22 million Web sites, PHP has quickly become the most popular language for building dynamic Web applications. Deployed at more than 15,000 customers worldwide, the Zend Family of Products is a comprehensive platform for supporting the entire PHP application lifecycle.

Since its introduction, PHP has emerged as one of the most popular Web development languages, powering millions of Web sites and applications around the world. With each new release, Zend and the PHP community have evolved PHP to enable developers to create powerful Web applications. PHP 4 introduced the Zend Engine, dramatically enhancing the performance and extensibility of PHP. Today, PHP 5 offers the productivity, stability and extensibility that enterprises need to develop business-critical Web applications.

"I'm a long-time PHP proponent and am pleased to see that this significant update further extends the language's development productivity benefits,"

-- Adam Bosworth, Vice President of Development at Google.

New features in PHP 5 address enterprise needs for scalable development architectures. PHP 5 is powered by a new release of the core component that powers PHP - the Zend Engine. The full-featured object-oriented capabilities of the Zend Engine II will help applications run faster, make object-oriented programming in PHP much more powerful and intuitive, and make PHP the principal platform for large-scale enterprise application development projects.

"PHP 5 is a culmination of the input and improvements that hundreds of developers contributed through the thriving PHP community," said Andi Gutmans, Zend co-founder and vice president of technology. "Created by developers for developers, enhancements to PHP represent proven approaches and technology that will enable organizations to productively build robust, dynamic business-critical applications."

Since the release of the Zend Engine, PHP's maturity as a dynamic Web language has been validated by millions of organizations that have installed it," said Zeev Suraski, Zend co-founder and CTO. "PHP is fortunate to have a loyal developer community that has contributed to its ongoing evolution. Enhancements to PHP 5's release truly deliver the benefits of PHP to large enterprises and make the language robust enough to power applications of varying levels of complexity and criticality."

The Zend Studio 5 Advantage

"Zend Studio 5 is an exciting step forward both for Zend and for the PHP community. The added support for Web Services provides immediate benefits to mainstream PHP developers and further supports PHP development in the Enterprise. Beyond that, Zend Studio 5 integration with the new Zend Platform enables unmatched developer productivity by combining a highly reliable and scalable platform infrastructure with a tool enabling developers to quickly test new features, track down issues and correct errors in their running code. Zend Studio 5 is a must-have tool for anyone building serious PHP applications."

-- Doron Gerstel, President and CEO, Zend Technologies, Inc.

Zend Studio 5 houses a family of highly productive development tools for creating high-performance and robust web applications for the Enterprise. Zend Studio 5's scalable development environment is designed for all levels of development projects, ranging from small PHP applications, to professional applications that require networked database connectivity, all the way to very robust and highly reliable enterprise web solutions. The Zend Studio 5 development environment supports all major corporate database servers including: MySQL, Oracle, DB2, Cloudscape, Derby, Microsoft SQL Server, PostgreSQL, and SQLite. Zend Studio 5 delivers all the necessary tools that will make any PHP developer more productive. It includes a fully integrated QA/Testing platform to monitor, identify and resolve code and application performance issues right from within your staging environment.

Zend Studio 5 - Welcomed by IT Leaders

Database leaders are welcoming the new support and integration of their databases with Zend Studio 5, the PHP professional's IDE of choice. With this new and tighter integration, building professional database applications for the web has never been easier.



"PHP open source scripting with the DB2 and Cloudscape databases is a powerful way to build robust on demand business applications," said Cliff Leung, Senior Technical Staff Member at Information Management Division, IBM Corporation. "The integration and optimization of IBM databases with Zend Studio will boost the productivity of PHP developers, accelerating the deployment of these key applications."



"The new Zend Studio, is an outstanding way to develop PHP web applications that work with MySQL, the world's most popular open source database," said Zack Urlocker, vice president of marketing for MySQL AB. "The tight integration between Zend Studio and MySQL greatly enhances developer productivity since you can create, edit and query data right from within Zend Studio."



"Oracle and Zend are working on a tight integration between their respective products" Said Richard Rendell, Senior Director, Oracle Corporation. "The new, improved support for the Oracle Database in Zend Studio will help optimize the development experience and enable developers to shorten the time to bring to market PHP applications using the Oracle Database. "

Zend Studio 5 - Welcomed by Customers

"Zend Studio is far and above the best IDE on the market for PHP / LAMP development. The Smart GoTo Source, DB Integration, PHP5 support, CVS interface, and PHPDocs tools will allow our development team to work extremely efficiently, and will easily trim weeks off of our schedule."

Rich Morrow, Senior Software Engineer, Lockheed Martin

"Zend Studio has proven to be a key element in enabling development of the OPIS application quickly and effectively. With the aggressive schedule of the NASA Exploration Vision, our team needs fast, nearly bullet-proof development tools. Having PHP development solutions like Zend Studio is a critical factor for successfully deploying our system, so that mission designers can access the data they need."

Julie Levri, OPIS Principal Investigator, NASA Ames Research Center

Zend Studio 5 - The Most Powerful Development Environment

Zend Studio 5 is the perfect Integrated Development Environment for developing robust Web applications in PHP. Engineered to deliver the ease-of-use and extensibility that professional developers need, it provides a comprehensive set of editing, debugging, analysis, optimization and database tools. This new version of Zend Studio introduces a number of new features and improvements, including enhanced performance, Subversion support, Web Services support, Code Folding, and many more.

When it comes to power, the number one feature that our existing customers mention is the debugger. You can debug locally or remotely on the native environment using the most powerful debugger for PHP. Advanced debugging features include conditional breakpoints, stack trace view, advanced watches, variables and output buffer. Debug and profile your code directly from your browser with One-Click Browser Debugging.

Code smarter with new and enhanced analytical and optimization tools. The new Zend Studio 5 PHP Code Inspector manages the inspection of databases, in addition to functions, classes, variables, function calls, variable usage, etc.

Make documenting your code, applications, and projects a breeze with PHPDocumentor, the standard documentation tool for PHP. Automatically add PHPDoc comments to files, classes, functions, constants and more, all through PHPDoc wizards.

NEW! Quickly navigate to any PHP resource in the project with filtering by classes, functions, and constants using the Go-to-PHP Resource Utility.

Facilitate team development and team collaboration by effectively managing your source code with a tight CVS integration that lets you perform CVS operations directly from within Zend Studio 5.

NEW! Get a choice of version management systems. Zend Studio 5 supports the popular Subversion source control.

NEW! Securely browse your FTP connection using SSL with Implicit and Explicit methods.

Simplify deployment with FTP and SSL support, allowing developers to securely upload and download project files transparently to and from remote servers.

Zend Studio 5 - The First Industrial-Strength PHP Enterprise Tool

Building sophisticated database applications in PHP is now made easy with direct connectivity to the most widely used professional databases such as MySQL, Oracle, IBM DB2 and Cloudscape, Microsoft SQL Server, PostgreSQL and SQLite. In addition, Zend Studio 4 simplifies Web database application development with an integrated suite of database tools. Use the Zend Studio 4 Query Editor to execute queries on connected servers. Connect in real-time to several servers simultaneously. View database schemas and manage content with Zend SQL Explorer, and more.

Zend Studio 5 includes embedded integration with Zend Platform™, the ultimate Enterprise platform for managing your development cycle. In testing or staging mode, Zend Platform provides developers with detailed forensic data on problems that occur throughout the application development cycle and in the staging environment. Developers get detailed

reports on a variety of run-time errors including performance issues, script errors and database related problems. The new Zend Studio 5 gets instant access to the code either from the report itself or by directly debugging and profiling the application. The result is the ultimate bug identification and bug-fixing platform for faster development and deployment of PHP applications.

NEW! Leverage superior Web Services support by easily generating WSDL files directly from your PHP source code and parsing existing WSDL files for Code Completion integration and Inspection View.

Zend Studio 5 - The Most Productive and Customizable IDE

Zend Studio gives you the most comprehensive set of development tools to increase developers' productivity. Everything you need to build professional applications is included!

Learn or reuse code from top-notch PHP developers. Includes over 50 fully functional database sample applications from top PHP community gurus using the most common databases including MySQL, PostgreSQL, SQLite, etc.

Increase productivity with a proven professional development environment that includes advanced PHP 5 support, Code Analyzer, Code Completion, Syntax Highlighting, Project Manager, Code Editor, Graphical Debugger and numerous wizards.

Deliver applications in record time with the productivity of 100+ reusable code snippets. Zend Studio 4's Snippets Explorer lets you organize, view, and add utility functions and code samples. You're automatically connected to Zend's online Code Gallery where you can, download additional snippets on the fly.

NEW! Be more productive with Code Folding, an easy way to fold classes, functions, PHPDoc blocks and non-PHP code.

NEW! Directly view and debug your application with Zend Studio new Internet Explorer Integration.

NEW! Develop faster with new nested Code Completion support for a variety of PHP elements (functions, variables, etc.)

Zend Studio 5 - Product Line

Zend Studio 5 for PHP has been designed to answer the needs of a wide range of developers, from the new PHP developer to the most advanced Enterprise developer. To satisfy developers' needs, Zend Studio 5 comes in two different editions: Professional and Standard.

Zend Studio 5 Professional

Zend Studio Professional is the most advanced Integrated Development Environment (IDE) available for professional PHP developers. Through a comprehensive set of editing, debugging, analysis and optimization tools, Zend Studio 5 Professional speeds development cycles and simplifies complex projects.

Designed with business application development needs in mind, it is the perfect development environment for developers creating robust database applications with PHP.

Zend Studio Professional was expressly engineered to deliver ease-of-use, scalability, reliability, and extensibility that professional developers need. You get a rich interface and a robust advanced debugger, plus: integrated database components and tools, complete connectivity to IBM DB2/Cloudscape/ Derby, MySQL, Oracle, PostgreSQL, SQLite, Microsoft SQL Server, over 50 sample database applications in PHP, PHP4 and PHP5 support, Code templates, secure remote debugging, SFTP, FTP over SSL and improved FTP for secure remote uploading and debugging, one-click browser debugging, tight CVS integration, Subversion support, Code Folding, Project wizards, Site Profiler, more than 100 snippets, PHPDoc and PHPDocumentor support, integration with Zend Platform for real time feedback on code and script performance on a live server, and more.

Zend Studio 5 Standard

Zend Studio Standard is designed with beginning PHP programmers in mind. It is the perfect development tool for PHP beginners, as well as for advanced programmers who need a powerful editor and local debugger. It includes Zend Studio's most complete editor with support for PHP4 and PHP5, HTML, Javascript, XML, CSS, plus its powerful local debugger.

Zend Studio 5 - Feature Comparison

High Level Features	Standard	Professional
Professional IDE w/ Editor, and Help	✓	✓
Multi Language Support	✓	✓
Syntax highlighting for PHP, HTML, XHTML, JavaScript, XML and CSS	✓	✓
Support PHP 4 and PHP 5	✓	✓
Code Templates	✓	✓
Advanced Code Completion	✓	✓
PHP Code (+PHPDoc) Analysis	✓	✓
Professional Internal Debugger	✓	✓
Code Snippets	✓	✓
PHP Code Analyzer	✓	✓
Embedded Internet Explorer	✓	✓
Zend Framework Integration	✓	✓
Remote Debugger	✗	✓
Remote Profiler	✗	✓
Web Services Support (SOAP)	✗	✓
Database Connectivity & Integration for: IBM DB2/Cloudscape/ Derby, MySQL, Oracle Microsoft SQL Server, SQLite, and PostgreSQL	✗	✓
PHPDocumentor Integration	✗	✓
FTP Support	✗	✓
CVS Integration	✗	✓
Subversion Integration	✗	✓
Embedded Java Code Completion	✗	✓

Professional Development Tool

Components

Zend Studio consists of two main components: Zend Studio Client and Zend Platform. These components interact with each other to cover the entire development lifecycle – to manage, develop, and deploy:

Zend Studio Client

Zend Studio Client is a powerful IDE for writing and maintaining PHP applications. It includes the Zend Browser Toolbar, the PHP manual, and an internal PHP 4 and PHP 5 debugger.

Zend Platform

Zend Platform is installed on staging machines for Debugging and Profiling. Zend Platform is an “Enterprise PHP Run-Time Environment.” This environment supports and strengthens PHP development by adding key features that speed the development process. Zend Platform streamlines development and deployment, increases application responsiveness, and provides detailed forensic data on problems that occur throughout the application lifecycle.

Environment

The Zend Studio environment is easily accessible through Zend Studio Client's main window. The main window provides users with an intuitive interface that consists of a multi-pane display to show or hide a wide array of provided features (file view, debug output, messages, etc.). These features have been carefully designed to accommodate varying developer preferences and requirements.

The interface includes control features such as development, debugging, and deployment capabilities, along with management features such as file, project, and debug settings, all from a single view.

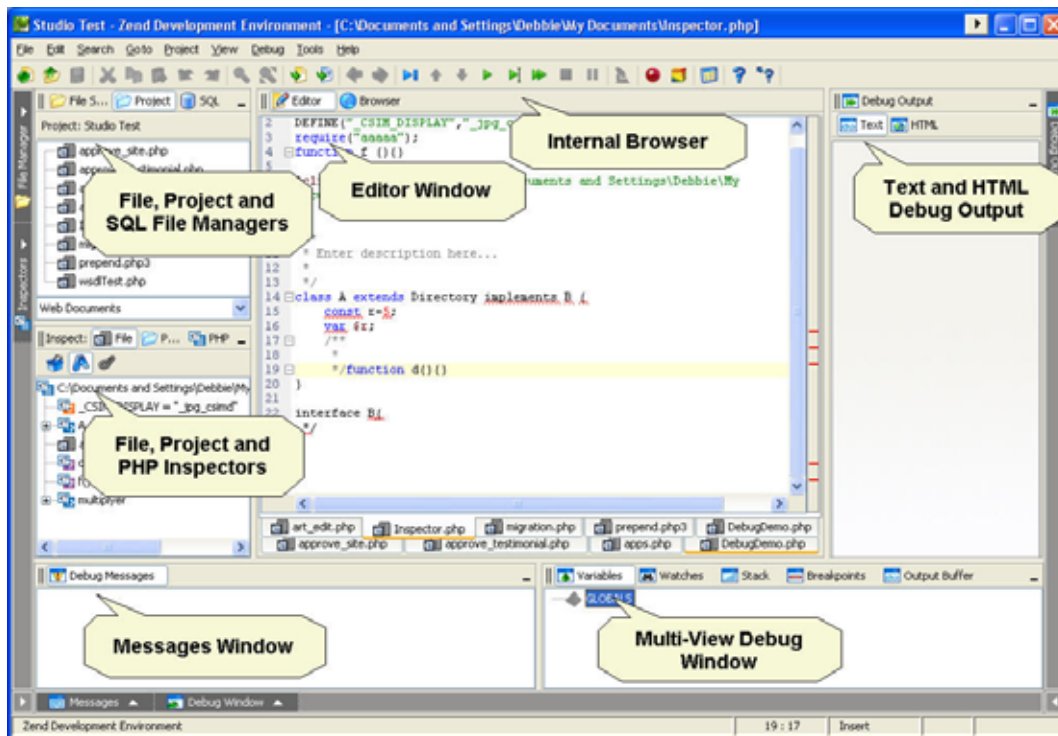


Figure: 1 - The Zend Studio 5 main window delivers an intuitive user interface

Syntax Highlighting

Zend Studio's Syntax Highlighting feature makes editing script files more intuitive, and provides among other advantages, a visualization of code syntax and hierarchy. This feature supports: PHP, HTML, XML, CSS, and JavaScript. The appearance of the syntax can be customized from the property menu.

```

27
28 <?php
29
30 class AAA{
31
32     function foo(){
33         $ewer;
34         ob_start();
35         for ($i = 0; $i < 100; $i++) {
36             print "Hello World\n";
37         }
38         ob_flush();
39     }
40

```

Figure: 2 - Syntax highlighting increases developers productivity by Differentiating functions, variables etc. with different colors

Zend Studio's editor is currently the only editor on the market that supports the different constructs of PHP, and the only one around to fully support PHP 5 syntax.

Code Folding

Provides the ability to expand and collapse code in order to ease the management of large amounts of code.

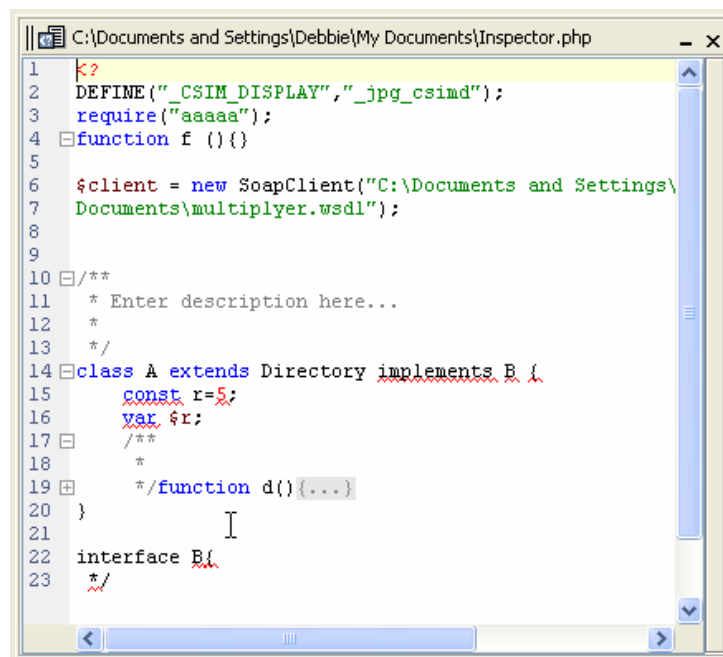


Figure: 3 - Code folding to easily navigate through long portions of code – as seen in the Editor's Clone View window.

Code Completion

Zend Studio 5's state of the art Code Completion surpasses all other code completion mechanisms currently available in the market. This feature enables you to write code faster by providing instant access to a predefined library of PHP Classes, Functions, Variables, Constants, Keywords, HTML tags, attributes, attribute values and more.

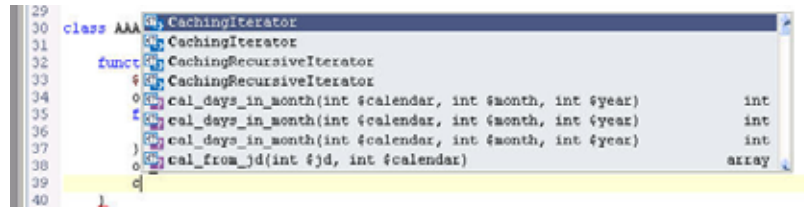


Figure: 4 - Code completion increases developer productivity with easy access to code libraries

The Zend Studio 5 Code Completion feature, includes a learning mechanism that constantly reviews new code and adds PHP Classes, Functions, Variables, Constants, Keywords, etc. to the existing library.

PHP Code Completion includes all the PHP Classes, Interfaces, Functions, Constants and Keywords, as well as user defined Classes, Functions, and Constants. User declarations can be declared in the project files as well as in the open files.

HTML Code Completion includes HTML tags, attributes and attribute's values.

JAVA Code Completion includes Java classes, functions and constants.

Code Templates

The Code Templates feature helps you write code quickly and accurately. Templates are shortcuts used to insert a framework for the segment of code you are about to write. Once you have inserted a template, you can then compose the code using a combination of manual and automated code entry methods.

To Insert a Template:

1. Place your cursor at the desired insertion point.
2. Type the combination of keys (if in a PHP or HTML section the completion list will show all available templates and completion options that begin with that combination of keys);
3. Press Tab, or select a template from the list.

You can now navigate from variable to variable within the template framework and complete the code, using the Tab and Shift-Tab keys.

Smart Goto Source

Smart Goto Source enables developers to easily identify element declarations and navigate to them from inside the editor window. This feature supports various elements in the code such as: navigation to classes, class elements (Const, Regular variables, and Static variables), functions, constants, included files and more.

To use “Smart Goto Source”, to navigate to the element’s declaration by pressing CTRL (Meta in MAC) and hover over a selected element converting it into a link. Clicking with the mouse will lead to the element’s declaration.

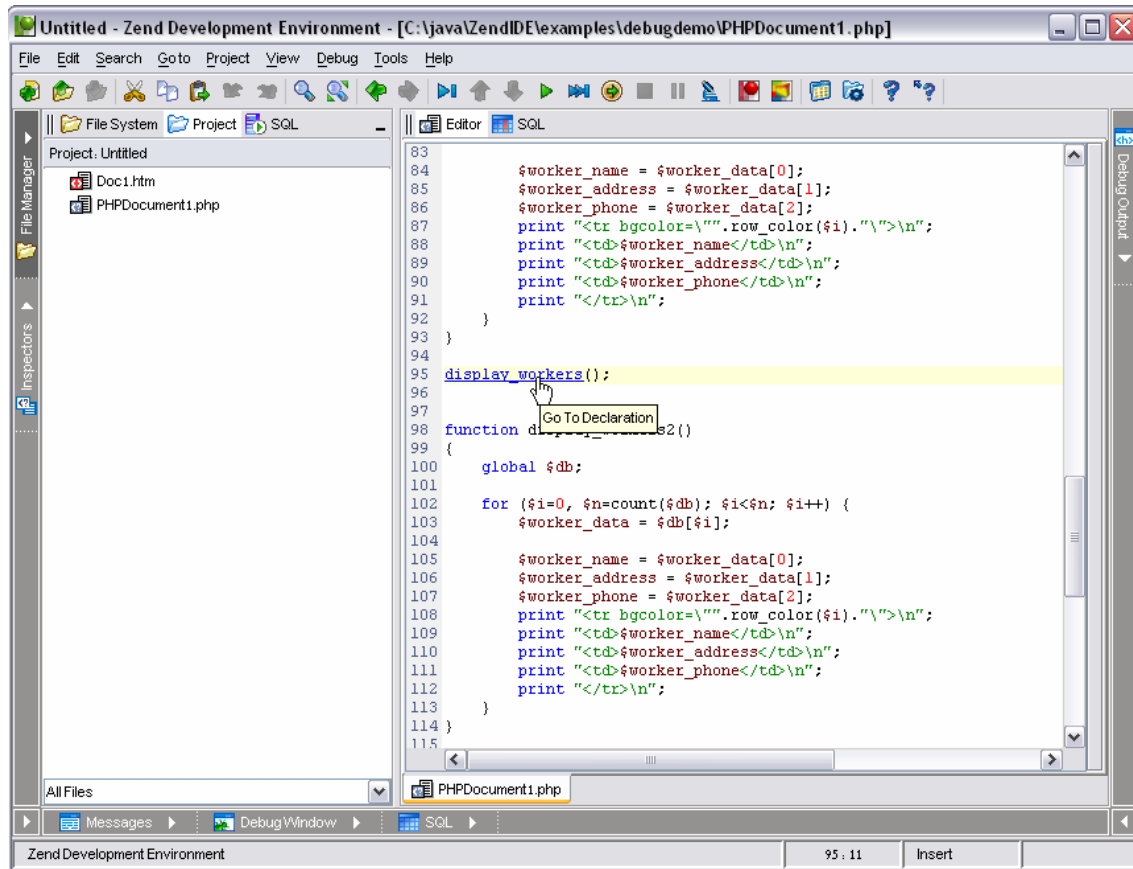


Figure: 5 - Zend Smart Goto Source let's you navigate to the element's declaration

Code Snippets

One of the best ways to ensure that an application can be delivered in record time is to learn from other people's experience. Zend Studio 4's "Code Snippets" feature automatically incorporates utility functions and code samples from the hosted code Gallery at zend.com, increasing productivity with the addition of 100+ reusable code snippets.

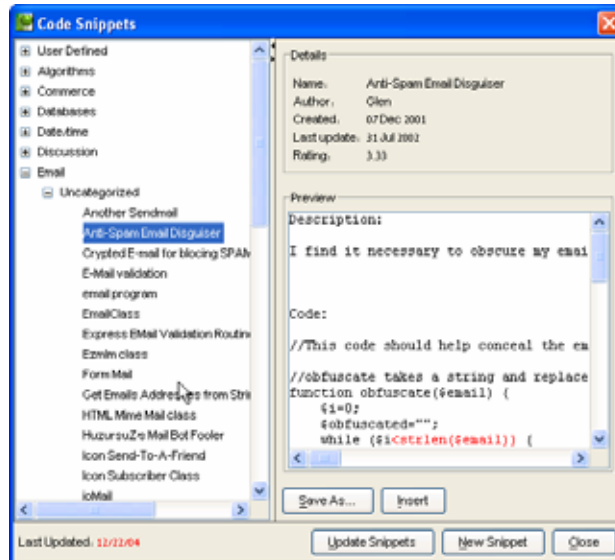


Figure: 6 - Easily access and manage code snippets with Code Snippets Explorer

Note:

To view existing code snippets: Open the "Edit" menu and select "Show Snippets" To add code snippets: Open the "Edit" menu and select "Create New Snippet":

Zend Framework Integration

Zend Framework (<http://framework.zend.com/>) is a high quality, open source framework for developing Web Applications and Web Services with PHP.

Framework Integration integrates Zend Framework's APIs into Studio's Code Completion features. Framework is based on the MVC (Model-View-Controller) pattern and enables you to create Web Services and Web sites easily.

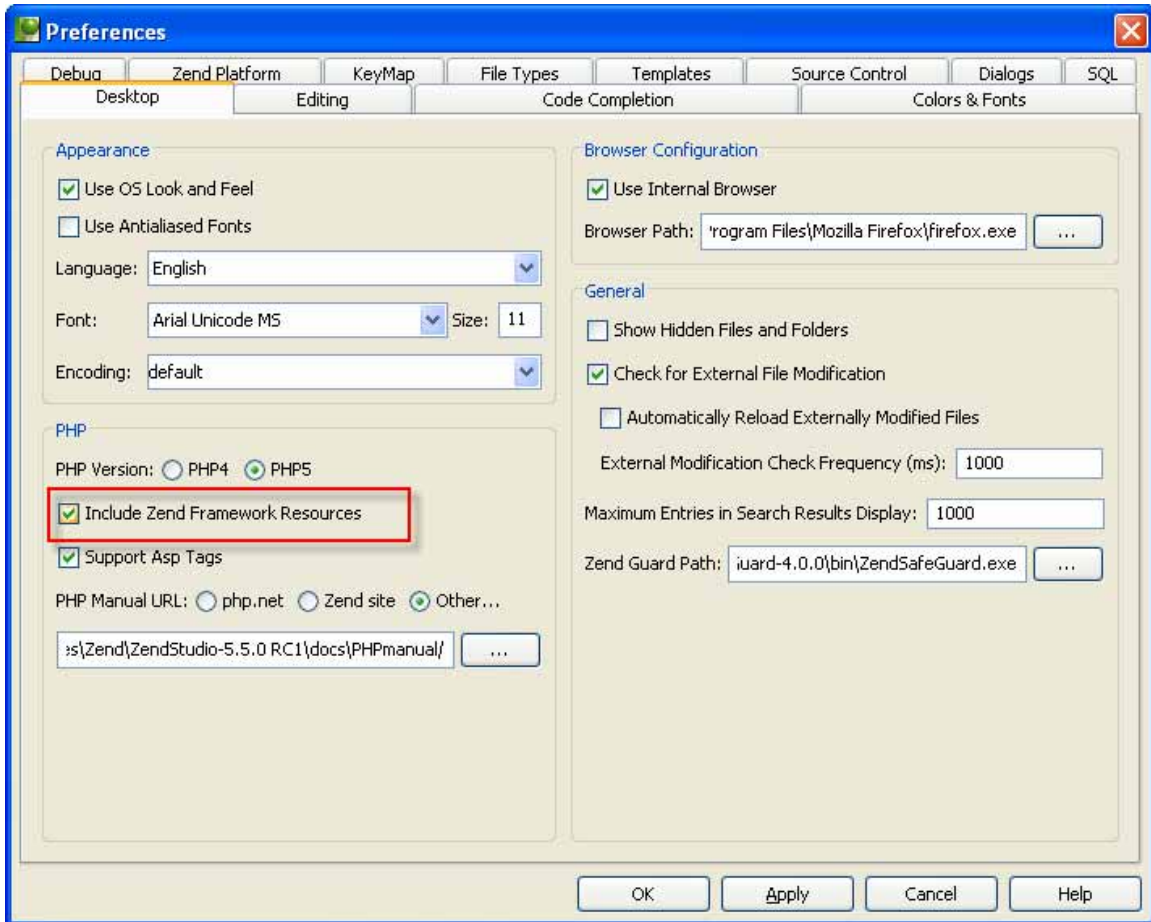


Figure: 7 - Enabled/disabled Zend Framework integration from the preferences

PHP Code Analyzer

Zend Studio provides static source code analysis by problematic code reconciliation. It locates unreachable code, i.e. code that has been defined but not used or empty variables. The Code Analyzer produces a detailed error log while focusing on the error's location in the file that is open (in the Editing Window). In addition, it provides practical suggestions for improving the code.

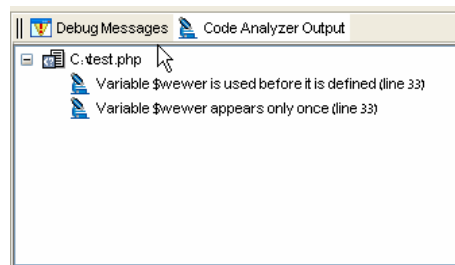


Figure: 8 - Code Analyzer provides practical suggestions to improve your code

To run the Code Analyzer:

1. Select a file/directory from the Project tab
2. Right click to display the mouse menu
3. Select Analyze Code (or, right-click on the active file and select Analyze Code).
4. Double-click the code error in the Code Analyzer Output tab in the Messages window to move the cursor to the exact location in the file.

Zend Studio Debugger

Zend Studio supports two debugging capabilities:







- **Internal Debugger** — allows the developer to debug stand alone PHP applications (requires only the Client installation)
- **Remote Debugger** — allows the developer to debug files where they exist—on the content server.

The difference between Internal and Remote Debugging is primarily in the initialization of the two procedures. Once the Remote Debugging session is running, the procedure is the same.

Internal Debugger

The following example demonstrates the debugging process using the Internal Debugger.

Use the “Tip of the Day” dialog box to access sample code and a short explanation on debugging.

1. Start Zend Studio and select Help | Tip of the Day.
2. From the “Tip of the Day” dialog box, select the Debug Demo button. The file DebugDemo.php will open in the Editing window.
3. In the Zend Studio Client Toolbar, click  to start the Debugger. The debugger icon  will appear while the Internal Debugger runs, and will remain onscreen until the Debugger detects a breakpoint (at line 46).
4. Click  (Step Over) multiple times until the cursor arrives at line 51.
5. Place and hold the cursor over worker_name, worker_address, and worker_phone. Each time, a Tool tip appears displaying the variable values.
6. Click  (Step Into) - The Debugger advances to line 26.
7. In the Debug Window click the Stack tab and click the node to the right of row_color. The call stack tree expands displaying variable i.
8. Click  (Step Out) - The cursor arrives at line 51.
9. Click . Output appears in the Output Window; a Notice appears in the Debug Messages Window.
10. In the Debug Messages Window, double-click on the Notice. The cursor jumps to line 61 in the Editing Window.
11. Place the cursor in the Debug Output Window, right-click and select Show in Browser from the menu. A browser window appears with the Output window contents.

Remote Debugger

The Remote Debugger is very similar in its features to the Internal Debugger, except the code is executed on a remote Web server. If you wish to debug a typical browser-based Web application, please refer to the next section.

In order to use the Remote debugger Zend Studio Client must first be configured.

To Configure the Zend Studio 4 Client:

1. From the main menu, select Tools - Preferences
2. From the Preferences window, select the Debug tab.
3. From the Debug Server Configuration area of the Debug tab, select a Debug Mode (Server/Internal) and define the URL to the correct address.
4. Click OK.

You can now debug the current file using the Remote Debugger

Note:

You can also enable/disable Remote Debugging from the Project Properties window. Typically, this is done at the time the project is created.

Debug URL

Debug URL allows you to run the debug procedure on pages currently mounted on a Web server. This process simulates real-life Web activity when debugging. You can initialize the debug session from Zend Studio by pressing the Debug URL menu or from Zend Studio's embedded Browser Toolbar.

Zend Studio has a unique debugging process. Because of this process, you can often avoid uploading your latest revisions. For example, if you browse on your Website and find that one of the pages is corrupted, you can initialize a Debug Session on that page directly from the Browser with the Zend Studio Browser Toolbar. After finding and fixing the problems, you can initialize a new Debug Session on the same URL and use your browser to view the new result without first uploading the files that were changed.

To run the debugger on a URL go to: Tools | Debug and enter the settings in the configuration screen¹.

¹ Make sure that the Zend Platform settings are configured to allow accessing remote servers.

Remote Profiler

Use Zend Studio 5's integrated Performance Profiler to optimize overall performance of your applications.

Zend Studio 4's Profiler detects bottlenecks in scripts by locating problematic sections of code. These are scripts identified as excessive loading-time consumers. The Profiler provides you with detailed reports that are essential for optimizing the overall performance of your application.

The Zend Studio Profiler performs the following:

- Monitors the calls to functions
- Monitors the number of times that a section of code is executed
- Calculates the total time spent on execution
- Generates reports that reflect the time spent on execution
- Graphically displays information of time division
- Enables comparison statistics between functions
- Enables viewing the file from the server just by clicking on any function
- Shows the hierarchical structure of the functions involved in the script execution

Note:

Be sure to install the Zend Debugger on the Server of the URL.

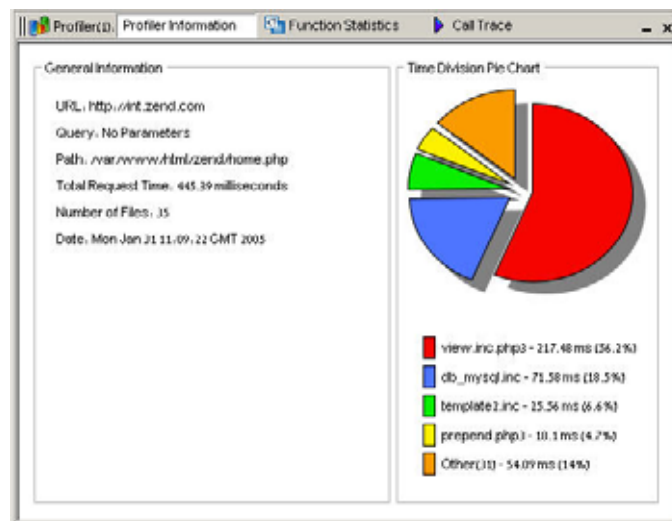


Figure: 9 - Optimize overall performance of your applications.

To run the Profiler

1. From the Tools menu, select *Profile URL*.
The Profiler automatically detects the application's URL yet enables you to type another URL for profiling, if needed.
2. Accept the default URL or change and click **OK**. The browser presents the requested page and after a few seconds, while the Profiler accumulates information, the *Profiler Information* window appears.

Communication Tunnel (for Firewalls or NAT)

The Communication Tunnel enables Zend Studio Enterprise users to view, connect, and debug code on remote servers that are protected by Firewalls or NAT. Moreover, this enables Platform users to connect to Zend Studio Enterprise in order to edit Event source code using the IDE features.

Configuring the Communication Tunnel

To configure Tunneling Settings for Studio Client:

12. Open the Tunneling dialog: Tools | Tunneling Settings.
13. Define values for the settings.
14. Click Connect. Studio Client connects to the Tunnel Target Host over the specified port.

Broadcasting Port

Studio Client's communication tunnel is implemented via a persistent broadcasting port that broadcasts information about tunneling to Zend Platform and to the Toolbar. The broadcasting port is configured from the Debug tab of Preferences: Tools | Preferences | Debug.

HTTP Authentication

Zend Studio Tunneling supports HTTP authentication. This enables users to send HTTP authentication information, such as a username and password, together with the header sent to the server. Therefore, you can improve security by specifying that tunneling to a server require authentication.

Troubleshooting the Communication Tunnel

If Studio Client is unable to connect to the target server, you will receive an error message. The table below describes the most likely causes and recommended actions for successfully establishing a connection with the target server.

Possible Cause	Recommended Action
The server address or the port you entered is incorrect.	Enter the correct server information in the Tunneling Settings dialog.
HTTP authentication is required.	Enter authentication information in the Tunneling Settings dialog box. Then select the 'Send authentication information' checkbox.
The dummy file content or location on the server is incorrect.	The dummy file on the server side was changed or does not exist. You will need to ensure that the correct dummy file with the correct content is placed in the correct directory on the target server. Note: The correct dummy file is created and located properly as part of the Installation procedure. The problem here is post-installation.
You are not allowed to connect with the server via the communication tunnel.	You must have tunneling permissions in the php.ini file. Make sure that the zend_debugger.allow_tunnel variable is properly configured.

Code Inspector

The Inspector is used to graphically map code elements. Code elements include: class names, members, functions, class constants, class functions, constants, include-files and soap clients.

There are three inspector tabs for viewing different levels of code mapping:

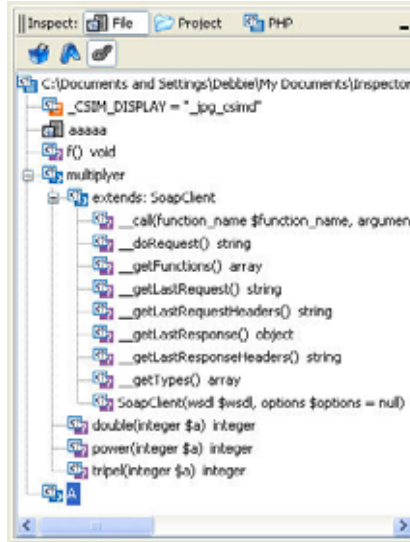


Figure: 10 - Code Inspector

- **File Tab** - lists components in a hierarchical tree. This tree can be expanded and collapsed to help view information. Inspector icons appear next to each item to indicate if it is a constant, class member, variable, member function or an included file.
- **Project Tab** - displays information pertaining to active files and projects (currently open in the editor). Toggling to another project automatically updates the Project Inspector display to reflect the information in the new active project. This tab displays: Constants, Class; constants, variables and functions, Functions included in the file, Soap Clients
- **PHP Tab** - The Inspectors PHP tab lists all existing PHP functions constants and classes in alphabetical order. Each one of these functions can be easily investigated directly from inside the IDE to obtain function class and constant descriptions and usability options.

PHPDocs Support / PHPDocumentor Integration

PHPDocs support and PHPDocumentor integration pertain to two different but related features that enable developers to generate professional documentation directly from the PHP project source code.

PHPDocs Zend Studio delivers a preset means for adding PHPDoc comments to files by providing an input line when including statements, classes, class variables, and constants to the code. Developers are prompted to immediately add a description ensuring that the added elements are documented in their context and in real-time. This feature also includes, code completion in comments for PHPDoc tags and variables and new syntax highlighting for PHPDoc.

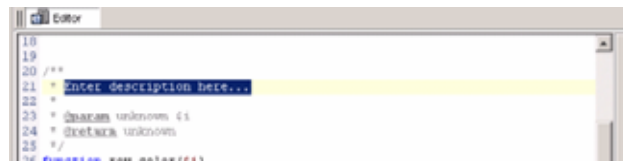


Figure: 11 - Use PHPDocs to add documentation to your code in real-time

PHPDocumentor² has been integrated into Zend Studio 4 to provide easy and efficient generation of PHPDocs directly from the Zend Studio interface, eliminating the need to seek alternatives outside Zend Studio 4 to generate PHPDocs.

The PHPDocumentor comes with an easy to use built-in PHPDocumentor wizard.



Figure: 12 - PHPDocumentor comes with an easy to use built-in PHPDocumentor wizard

To generate a PHPDocument go to Tools and Select PHPDocumentor.

² PHPDocumentor is courtesy of www.phpdoc.org. PHPDocumentor is the world standard auto-documentation tool for PHP, written in PHP.

Professional Database Applications

Building sophisticated database applications in PHP is now made easy with direct connectivity to the most widely used professional databases such as: IBM DB2/Cloudscape/Derby, MySQL, Oracle, Microsoft SQL Server, PostgreSQL and SQLite.

In addition, Zend Studio 4 simplifies Web database application development with an integrated suite of database tools.

Use DB support to:

- Execute queries on connected servers
- Connect live to several servers simultaneously
- View database schemas
- Manage content with Zend SQL Explorer
- More...

SQL Control

Zend Studio 4's direct connectivity features begin with selecting a server. It is important to make sure that the settings are properly configured in order to insure connectivity to the correct database. It is also important for maintaining connection while working with the connectivity features.

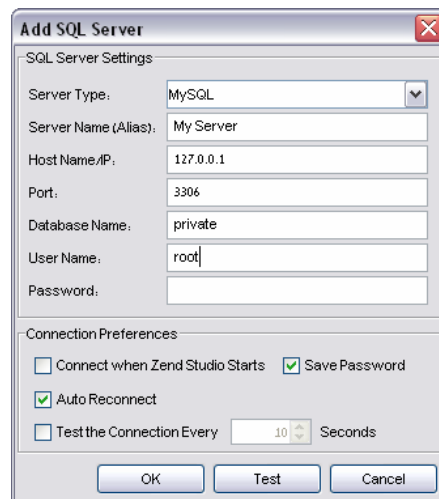


Figure: 13 - SQL Server Dialog

The following describes the key fields required for adding a server:

- **Server Name Alias** – is the unique name to be displayed in Zend Studio per connection.
- **Host Name / IP** – select the server's host name or IP
- **Port** – select a server and change to default port

- **Database Name** (or SID in Oracle or DB file in SQLite) – Define the default database connection
- **Auto Reconnect** – if for some reason the connection is severed the system will try to reconnect 3 times with 10-second intervals
- **Test the Connection Every...** - will perform a connection check query as defined (avoid doing so on slow servers)

Tree Behavior (SQL Tab)

Right-click anywhere, to view a changing menu that will include the Global Settings for each node.

The SQL Explorer tree structure displays database schemas, tables, fields, stored procedures and indexes.

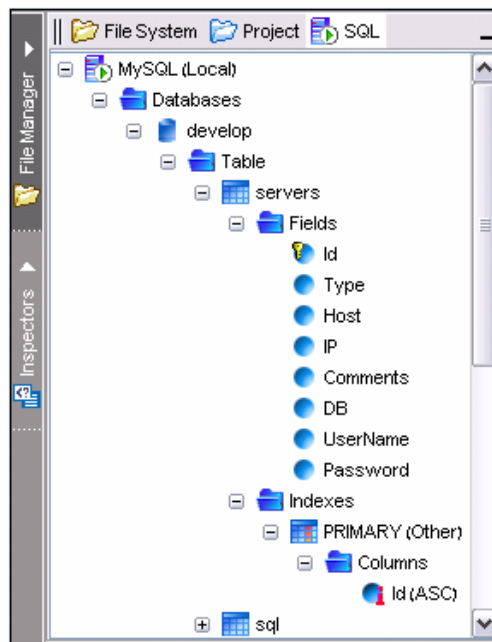


Figure: 14 - SQL Explorer Tree

Double-click on one of the tree nodes to view and edit tables and queries. Editing is only permitted if the data is opened from the SQL Tree (and not from the Query Editor) and if the table has at least one Primary Key.

Metadata Display

Viewing Metadata display is done directly from the SQL tree. The Metadata display behaves differently depending on which type of server you are connected.

Metadata displayed on a server node will show the server's status, its variables and process list. Depending on the security settings and the type of server, a process can be terminated by right-clicking and selecting the 'Kill Process' command. Metadata displayed on the rest of the nodes will display specific information according to the type of node and the type of server.

For servers that support multiple result-sets (like Microsoft SQL Server) all the results will be displayed in a single result window.

Data Display and Editing

Data Display

Data can be displayed from the tree and from executing the Query Editor.

Tree – to select table, right-click (to open the menu) and select, View Table Data.

Query Editor – for writing and executing queries. The Query editor can be expanded from the right click menu (SQL Query). To save time, the query target (server, DB and Schema) is automatically adjusted when navigating the tree. If a query needs to be run on a different target, make sure to check the query target (server, DB and Schema) before running a query.

Query results are displayed in a tabbed view containing tables. The quantity of displayable results for a single page's display is configurable (through the preferences menu). After defining your display preferences returning to the results screen and, refreshing the results will apply the settings. When query results exceed the determined display amount for a page navigation buttons will be activated on the top of the tabbed display.

Table Behavior:

- Table Columns defined as, Primary Keys will be marked with [PRI] along with the indication on the tree.
- All tables can be sorted bi-directionally by clicking on table headers.
- Columns can be further sorted, by level, by pressing CTRL and the next header to sort.

Once a table has been displayed and it includes columns that are defined as Blobs or Clobs. Double-click on these columns to open them in the Hex, viewer and right-click to provide three additional options: Show as Hex, Show as Plain Text and Show as Image.

For servers that support multiple result-sets (like Microsoft SQL Server) all the results will be displayed in a single result window.

Data Editing

Editing is only permitted if the data is opened from the tree (and not from the query editor) and that the table has at least one Primary Key, only then will the editing button be usable.

Double-click on a field to open an editor. Text fields will allow opening a larger text editor.

Null values can be set with a right-click on a selected cell and selecting 'Set to Null'.

Creating and Executing Queries

This option provides free execution of queries directly from the studio such as advanced select queries and store procedure calls.

The SQL query editor also uses the Studio "Syntax Highlighting" feature, which supports SQL92 and has been enriched with many other extensions.

Setting the DB and Schema to Execute Queries

This will automatically signal to the server, which DB and Schema should be in use when executing a query.

These fields are automatically set when navigating the SQL tree and they can be manually defined before executing.

Executing a query that returns tabular results will display the results in the "SQL Results Area". Executing queries that update records in the server, will display the number of rows affected by the query in the messages area.

Accessing and Executing Queries from the Query History

Every query that is done is inserted into a history list, providing an easy means of re-executing or viewing previously executed queries. The history is stored upon exiting Zend Studio 4 and reloaded upon startup. The history is limited to 100 queries by default (can be customized in the general settings) after reaching the limit the history will save F.I.F.O.

Options:

- Right-click on a historical item will provide the developer with the option to: execute the query, delete or delete all (deletes all the history).
- Double-click a historical item will insert the item in the query editor to run or modify the query.

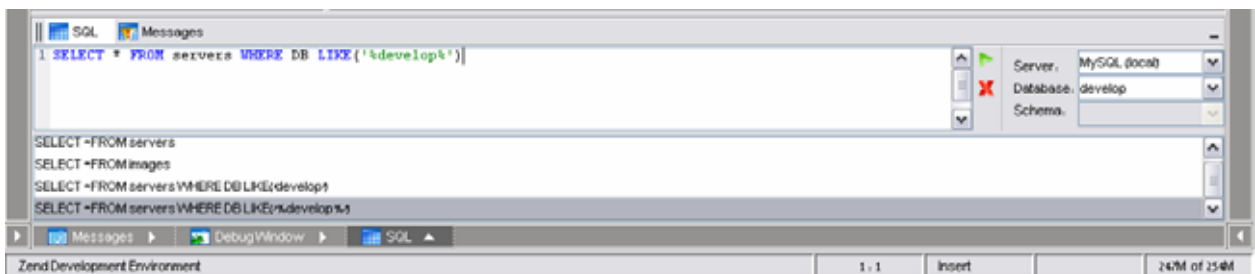


Figure: 15 - Use Zend Studio Query Editor to easily modify or execute your queries

Messages Tab

The Message Tab is automatically opened for update, insert and create; queries. The affected rows will be displayed in the Messages Tab. The second option for the Messages Tab to be automatically opened is to display error messages that occurred in a query or when connecting other servers to the system.

Each message displayed in the messages tab will indicate the origin of the message in the form of the server “Alias”.

SQL Customization

The SQL Tool's behavior and settings can be customized to suit specific preferences.

The following describes the SQL preference options:

- Open Every Result in a New Window - This feature is by default disabled, when activated it opens each query result in new tab added to the “SQL Results” area.
- Paging Size – Determine the maximum number of rows to be displayed in a query result page.
- Use SQL “LIMIT” when possible - This feature is enabled by default, for use with large tables to bring just the required data for display. This feature is supported in MySQL, PostgreSQL and SQLite.
- Table Node Preferences - Double-clicking on Table Nodes, opens a Drop-Down menu with three options: Show Data, Show Metadata and Do Nothing.
- Other Nodes Preferences – Double-clicking on Other Nodes, opens a Drop-Down menu with two options: Show Data and Do Nothing.
- Date Format - Define the format of the date to be displayed in tables that have date and time columns.
- History Limit – Define the History Limit setting.

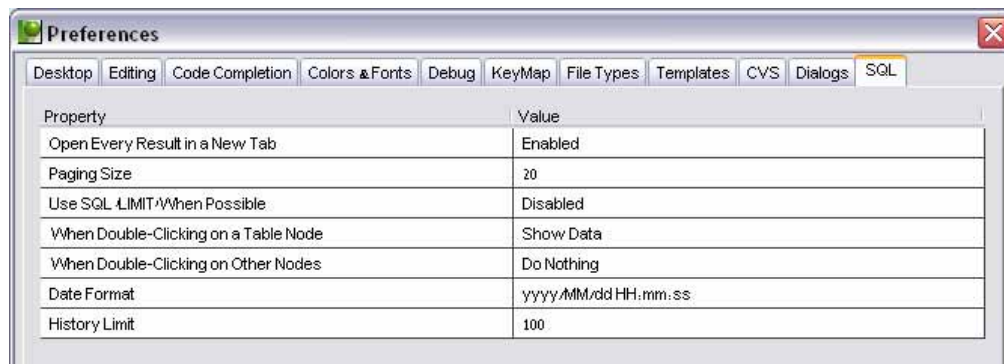


Figure: 16 - Easily customize your SQL preferences

SQLite Special Considerations

When dealing with an SQLite database, take into consideration that this is not a relational database but a “Flat File” database. When creating the connection to an SQLite DB file, if the file does not exist, Zend Studio will prompt to create one.

Sample Applications

Learn or reuse code from the industry's leading PHP developers. Zend Studio 4 includes

over 50 fully functional database sample applications from top PHP community gurus using the most common databases.

Enterprise Development & Deployment

Team Development

Source control application integration allows teams to synchronize PHP code development with source control capabilities. It also enables teams to work concurrently on the same source files, directly from Zend Studio, without having to launch an additional version control application.

Settings for both version control tools can be configured from the Preferences Menu, Tools | Preferences | Source Control.

Source Control DIFF functionality allows to compare recently saved versions of PHP files with the version of the file held in the repository.

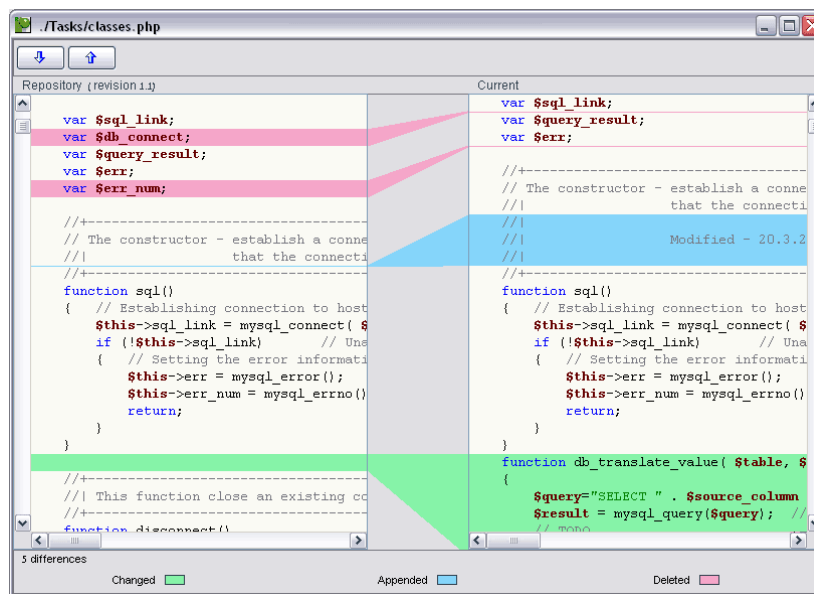


Figure: 17 - Compare code in a customizable environment

To perform a DIFF comparison and show it in the Zend Studio DIFF display:

1. Edit the PHP file you are working on and save the changes.
2. Right-click to open the available menus.
3. From the right-click menu, select DIFF. The DIFF display opens showing the repository version of the file on the left, and the current version of the file on the right.

The Source Control File Status feature provides visual representation of a file's status in both CVS and in Subversion. The status of each file is represented by a different color in Studio's Project Explorer.

FTP Advanced Integration

FTP, SFTP & FTP over SSL integration in Zend Studio's 'File System' & 'Project' views allows multi-developer access to source files on the FTP server. Advanced Integration provides team members with direct and seamless access to and from multiple locations, allowing secure connections to the production server for secure and safe remote uploading and debugging.

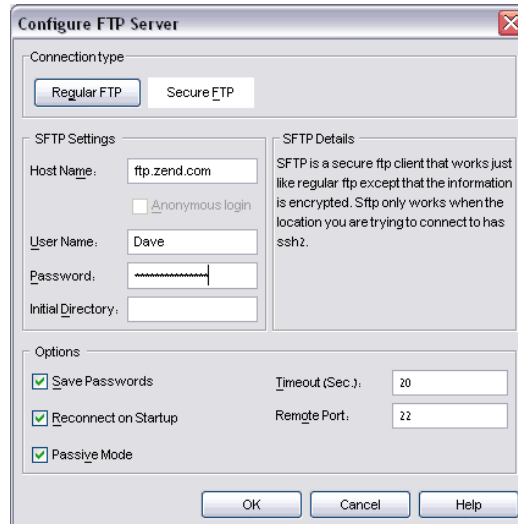


Figure: 18 - Easily create connection to an FTP server

Web Services Support (SOAP)

Web services are a standardized way of allowing applications to interface and share data across the network. Web service messages are written in XML, thus allowing for different applications in different programming languages to interface with each other. Web services allow businesses to communicate data with each other and clients.

With the Zend Studio Web Services Support developers can:

- Generate WSDL files with the WSDL file generator. To generate WSDL files and configuration sets, open the Wizard by selecting: Tools | WSDL Generator.
- Automatically view new SOAP clients that were inserted into the code. View new SOAP clients through the Inspectors and Code Completion windows.

Zend Platform Integration

Enterprise companies and developers creating mission critical applications will want to utilize Zend Platform to complete their development environment. Used in a development or staging environment, Zend Platform gives real-time feedback on code and script performance. With Zend Studio's seamless integration, errors will trigger the Zend Studio Profiler to pop up so developers can address errors in real-time rather than in deployment.

The screenshot shows the Zend Platform console interface. At the top, there's a navigation bar with 'Zend Platform' and various menu items like 'Zend Central', 'PHP Intelligence', 'Performance', 'Studio Server', 'Session Clustering', 'Java Bridge', and 'Logout'. Below this is a 'Console' section with a 'Refresh' button and 'Help' link. The main area is titled 'Events at a Glance' and includes a 'Load Filter' set to 'Recent Events' and a 'Find Event by Id' search box. A table lists recent events with columns for Id, Event Type, Count, Last Occurrence, Location, URL, and Severity. To the right, a pie chart titled 'Top Events by Event Type' shows the distribution of event counts: Load Average (50 events, 42%), PHP Error (84 events, 45%), Slow Script Execution (Absolute) (26 events, 13%), Database error (1 event), and Custom Event (1 event).

Id	Event Type	Count	Last Occurrence	Location	URL	Severity
190	Slow Script Execution (Absolute)	3	02 Nov 2005 09:42:52	agg_cluster_1	.../which_game.php	Moderate
209	Load Average	1	02 Nov 2005 08:58:07	agg_cluster_1		Moderate
208	Load Average	1	02 Nov 2005 06:48:07	agg_cluster_1		Moderate
207	Load Average	1	02 Nov 2005 05:23:07	agg_cluster_1		Moderate
206	Load Average	1	02 Nov 2005 04:23:07	agg_cluster_1		Moderate

Top Events by Event Type

- Load Average (50 events) - 42%
- PHP Error (84 events) - 45%
- Slow Script Execution (Absolute) (26 events) - 13%
- Database error (1 event)
- Custom Event (1 event)

Configuration and Management Tools

- Clone Wizard [Clone a server configuration to additional server(s)]
- Configure Event Triggers [Change Event Triggers on a server]
- Configure PHP Settings [Change PHP Settings on a server]
- Event Actions [Add/Change event actions]
- Manage Cluster [Add/Change servers/groups/vhosts]
- Support Tool [Gather comprehensive system information and open a Support Ticket]

Useful Links

- Zend Technical Support
- Zend Store
- Zend Platform

Figure: 19 - Zend Platform lists and rates code and scripting issues in event reports.

Studio enables events collected by Platform to be displayed in a separate Studio pane. This enables:

1. Presentation of all of the Events listed on the Zend Platform server.
2. Display specific event details in the browser window.

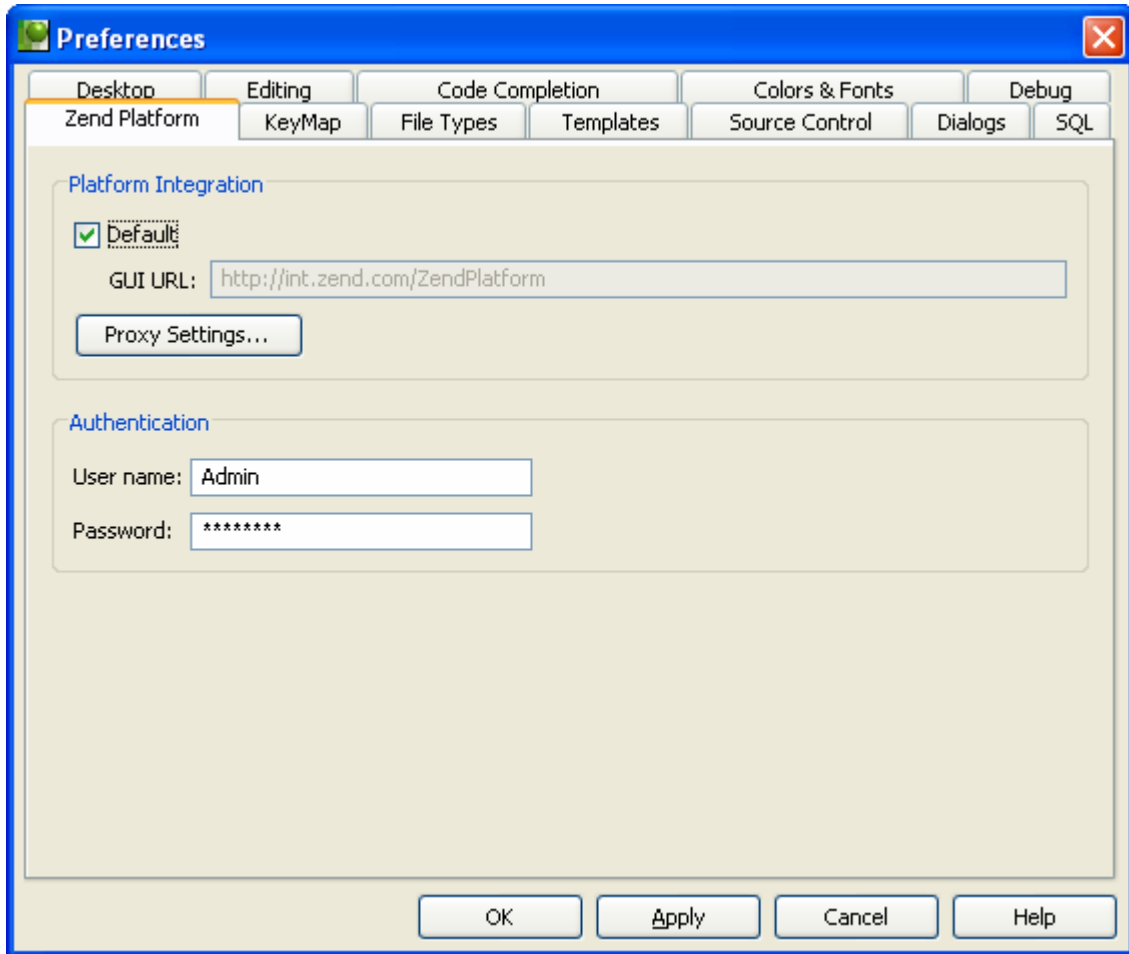


Figure: 20 - Configure Zend Platform GUI URL and authentication information

Using Zend Platform for Staging

Staging is that phase between development and deployment where applications are tested mainly to reproduce real-life deployment behavior. Real-life scenarios are reproduced for developers to easily identify issues that might not appear in development, but would show up after deployment. Typical issues discovered in staging are around performance and scalability.

Zend Platform for developers works the same way as a Runtime Environment. Used in a staging environment it helps identify all potential errors that would occur if the application were to be deployed on a server.

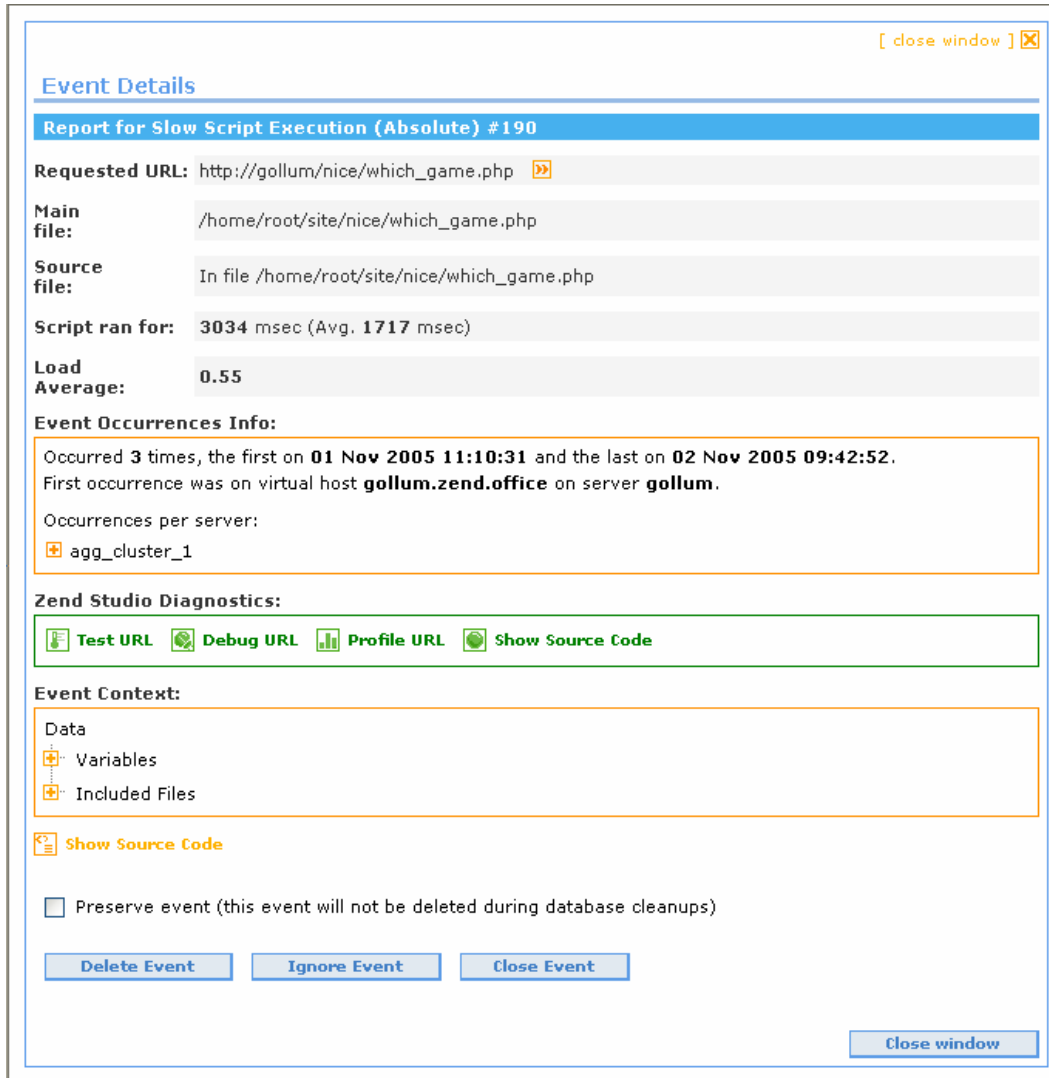


Figure: 21 - Event Details provide in-depth details and instant integration with Zend Studio diagnostic tools

Deploying with Zend Platform

Once your mission critical application is developed and fully tested, it is ready for deployment. We highly recommend companies with mission critical applications to deploy Zend Platform on their servers where their application will reside. With Zend Platform deployed on their servers, code and scripts can continue to be monitored for performance or any other issues. These issues can be addressed live using Zend Studio.

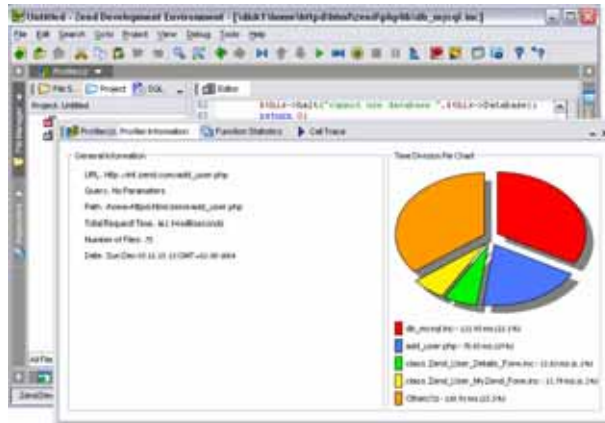


Figure: 22 - Testing Servers

Extensible & Customizable IDE

Customizing the UI

When enabled, Zend Studio Client will appear in a format similar to the OS on which it is installed e.g., Windows XP, Linux, etc.

Zend Studio also supports a wide range of languages for menu localization, including Asian fonts.

These features are all activated from the Preferences Menu (Tools | Preferences).

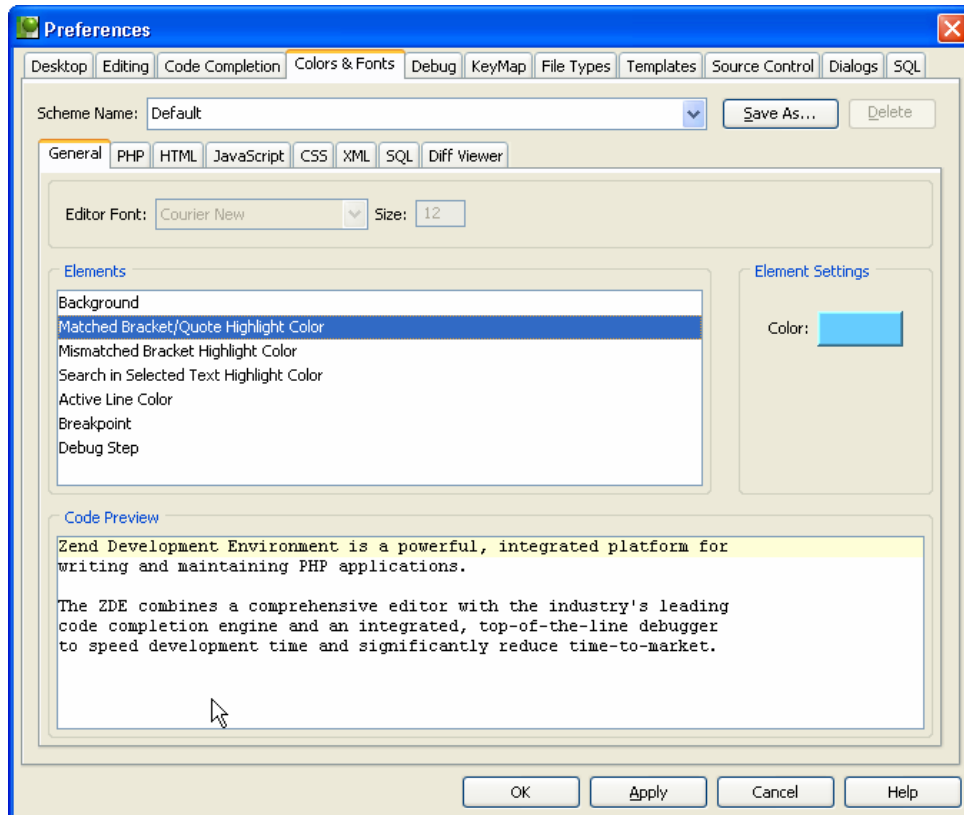


Figure: 23 - Customizing Syntax Highlighting Colors & Fonts

PHP Switching

Zend Studio facilitates the use of different versions of PHP. When installing Zend Studio specify the current PHP version in use to become the default.. The supported PHP versions are PHP 4 and PHP 5.

The supported version of PHP can be changed at any time through the Preferences menu so that developers can change the default version to PHP 4 or PHP 5 in cases where developers have advanced to PHP 5 but are still maintaining a PHP 4 remote site.

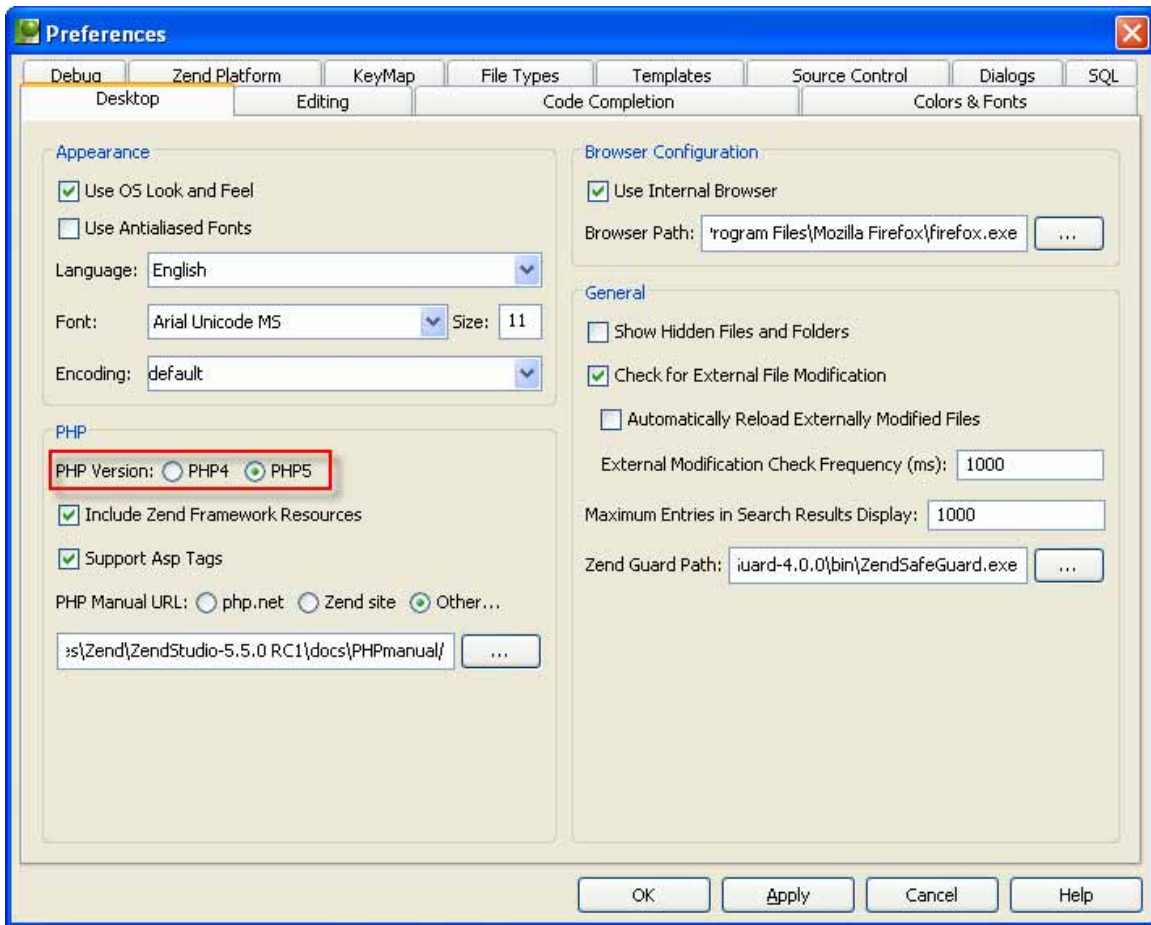


Figure: 24 - Easily switch between PHP4 and PHP5

Switching between versions of PHP is more than just selecting a version; the Code Completion and Internal Debugger will automatically be converted to suit the selected version.

Choosing Preferred Keystrokes

If you're accustomed to other Coding Styles from third party software such as Visual Basic from Microsoft or Mac and Emacs, Zend Studio facilitates keystroke emulation from chosen software. Seamlessly Switch between Coding Styles, by selecting the software emulation of your choice from the Preferences Dialog.

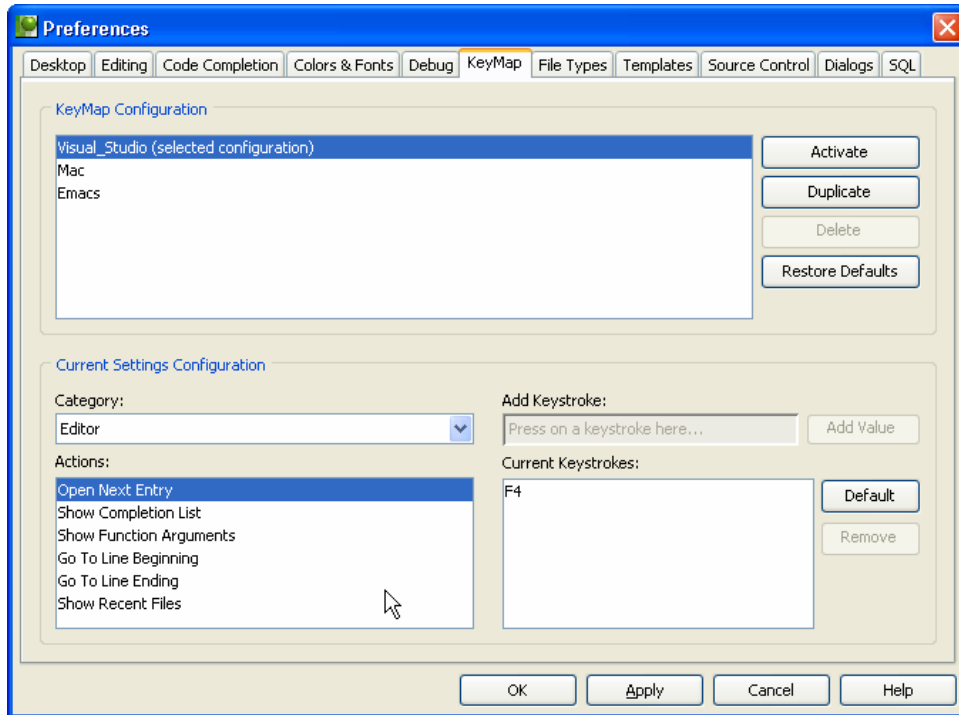


Figure: 25 - Work with the code style of your choice from different software keystroke emulation.

Support & Help for Developers

Developer Zone

The Zend Developer Zone is the leading resource center for PHP developers. Learn about PHP and meet the experts. The Zend Developer Zone features the following:

- The PHP 5 Info Center
- Articles and Tutorials
- PHP and PEAR News Weeklies
- Worldwide Job Classifieds

Visit: www.zend.com/devzone

Code Gallery (online)

At Zend, we encourage our developer community to take part in actively publishing their code and in return have a place where other developers can benefit from others. Code in the gallery is reviewed and ranked by other developers and you can even participate in prize-winning contests, visit: <http://www.zend.com/codex.php>

Discussion Forums

Our project managers and developers constantly visit and participate in a wide range of forums targeted for Zend Product owners and the PHP developer community.

Visit: <http://www.zend.com/phorum/>

Newsletter

Zend's monthly Newsletter contains the hottest updates including, special promotions and developer information such as article summaries on Zend.com. Every month, the Studio Development Team will provide two usability tips that will assist in working smarter and more effectively with Zend Studio. Sign-up for the Zend Newsletter in the Developers Zone visit: www.zend.com/devzone

Zend Studio Support

Zend' Studio Support provides Zend Product owners and prospective Zend Product owners with information regarding: System Requirements, Installation Instructions, General FAQ, Quick Start Guide and much more.

Visit: http://www.zend.com/support/support_studio.php

Feedback

Send feedback, questions and comments on the Online Help and Documentation to: Documentation@zend.com

Send feedback, questions and comments on the Zend Studio IDE: studio-feedback@zend.com

Summary

No matter your level of expertise with PHP or the type of application development you intend to do, there is a Zend Studio solution for you.

The top reasons to buy or upgrade to Zend Studio 4 are:

- Zend Studio Professional provides the most comprehensive set of development tools for creating PHP business and database applications
- Simplify Web database application development with an integrated suite of database tools
- Learn or reuse code from top-notch PHP developers with over 50 sample database applications
- Increase productivity with a proven professional development environment
- Deliver applications in record time with the productivity of 100+ reusable code snippets
- Code smarter with new and enhanced analytical and optimization tools
- Make documenting your code, applications, and projects a breeze with PhpDocumentor
- Debug locally or remotely on the native environment using the most powerful debugger for PHP
- Facilitate team development and team collaboration
- Simplify deployment with FTP and SFTP integration
- Leverage the expertise of Zend – the PHP Company

Zend Studio 5 System Requirements

Client System Requirements:

- Supported platforms:
 - Microsoft Windows (32 bit) 2000 / XP Professional / 2003 Server family. (For Windows 2000 users, it is strongly recommended to install Microsoft's Service Pack 3)
 - Linux glibc 2.1 / 2.2 / 2.3 (e.g. RedHat 6.x / 7.x / 8.x / 9.x / Fedora Core, Debian 2.2, SuSE 6.4 / 7.2, Mandrake 8.1 / 9 / 10, and others)
 - Mac OS X 10.4 G3, G4, G5 and Intel processors with Java 5 (available for download at <http://www.apple.com/support/downloads/java2se50release1.html>).

Note:

The Zend Development Environment is likely to work under other platforms, which support the Java 2 environment. However, it is not officially supported under these platforms.

- 500MHz processor (800MHz processor recommended)
- 256MB RAM (512MB recommended)
- 100MB of hard disk space

Client PHP Compatibility:

- Supports all PHP versions

System Requirements are regularly updated online. To be sure you have current details regarding compatibility with platforms, PHP versions, and Zend's other products refer to the information available online.