



The PHP Company

The Ideal PHP Development Environment for IBM i Programmers

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Agenda

- Zend Server 5.1 update...
- Technical overview of Zend Studio
- Remote Server Setup
- Remote Projects
- Code tracing
- Q&A

Zend Server for IBM i

www.zend.com

Zend Server 5.1 Update

Zend Server 5.1 for IBM i

Key Features

- ▶ Shipping with IBM i 6.1 & 7.1
- ▶ Oracle Database Connector
- ▶ New Open Source Toolkit *****Beta*****
- ▶ Performance enhancements
- ▶ PHP 5.3.6
- ▶ Zend Framework 1.11.3



New Open Source Toolkit Beta

PHP Demo Scripts

The following demo PHP scripts will help IBM i developers get started with PHP.

Clicking on the script name will run the code and clicking on the display code will display the PHP code

The scripts location is `/www/zendsvr/htdocs/Samples`.

- [Hello World Display Code](#)
- [SQL Access Display Code](#)
- [SQL Access using Zend Framework DB2 adapter Display Code](#)
- [SQL Access to MYSQL database Display Code](#)
- [Program Call Display Code](#)
- [LDAP connection Display Code](#)

- [New PHP Toolkit Demo Scripts](#)



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New Open Source Toolkit Beta

New PHP Toolkit Demo Scripts

The new Toolkit technology is based on an open source XML transport developed by IBM and Zend, which allows you to extend PHP code to access IBM i resources. The Toolkit XML service protocol is designed to work with "state full" RPG/CL programs (many open database files and other system resources), so a developer won't have to rewrite any programs just to get on the web. Clicking on the script name will run the code and clicking on the dsplay code will display the PHP code. The scripts location is `/www/zendsvr/htdocs/NewToolkit`.

- [Run Display Library \(DSPLIBL\) command Display Code](#)
- [Program Call with two parameters Display Code](#)
- [Program Call with Data structure parameters Display Code](#)
- [Service Program call that returns function value Display Code](#)

Additional code samples

- Work with Spooled File entries [Display Code](#)
- Work with Data Queue (keyed) [Display Code](#)
- Work with User Space [Display Code](#)
- Work with Objects [Display Code](#)
- Work with Jobs [Display Code](#)

[Zend Navigator Demo Application \(based on XML Service\) The Zend Navigator Demo Application demonstrates the usage of New PHP Toolkit functions. The source code for this application can be found in /usr/www/zendsvr/NewToolkit/Zend Navigator Demo. The main file is called login.php.](#)

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Zend Server for IBM i

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Technical overview of Zend Studio

Zend Studio 8.1 for IBM i

Key Features

- ▶ Develop and maintain code faster
- ▶ Find and solve problems quickly
- ▶ Improve team collaboration
- ▶ Leverage the latest technologies
- **No charge for IBM i version and 1 year of updates**
 - ▶ Download and go
 - ▶ License the product for...
 - Local development
 - How-To support

Zend Studio 8.x NEW FEATURES

Ajax Tools

- DOM
 - ▶ Inspector View
 - ▶ Source View
 - ▶ Watcher View
 - ▶ Compare View
- Browser Console View
- Request Monitor View
- CSS View

Java Script

- **Class Library Support**
- Integrated JavaScript & PHP Debug
- JavaScript Editor/View

Remote Server Support

- Completely revamped!
- Remote project
- FTP or SSH import/export
- Multi-mode execution
- Folder upload & download support
- Remote debugging improvements

Others

- VM Ware Workstation Integration
- Support for latest PHP 5.3 and ZF
- Source Code editing
 - Inspect Evaluated Expressions
 - Templated Content Assist
 - Show Inherited members
 - More...

Find and solve problems quickly

- Debugger
- Code Tracing integration
- Zend Server Integration
- JavaScript debugger, etc.

Zend Server 5 for IBM i

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Remote Server Setup

Today's example is using SSH

- SSH is secure and powerful
- Very stable in Zend Studio when talking to IBM I
- If on i6.1 or i7.1

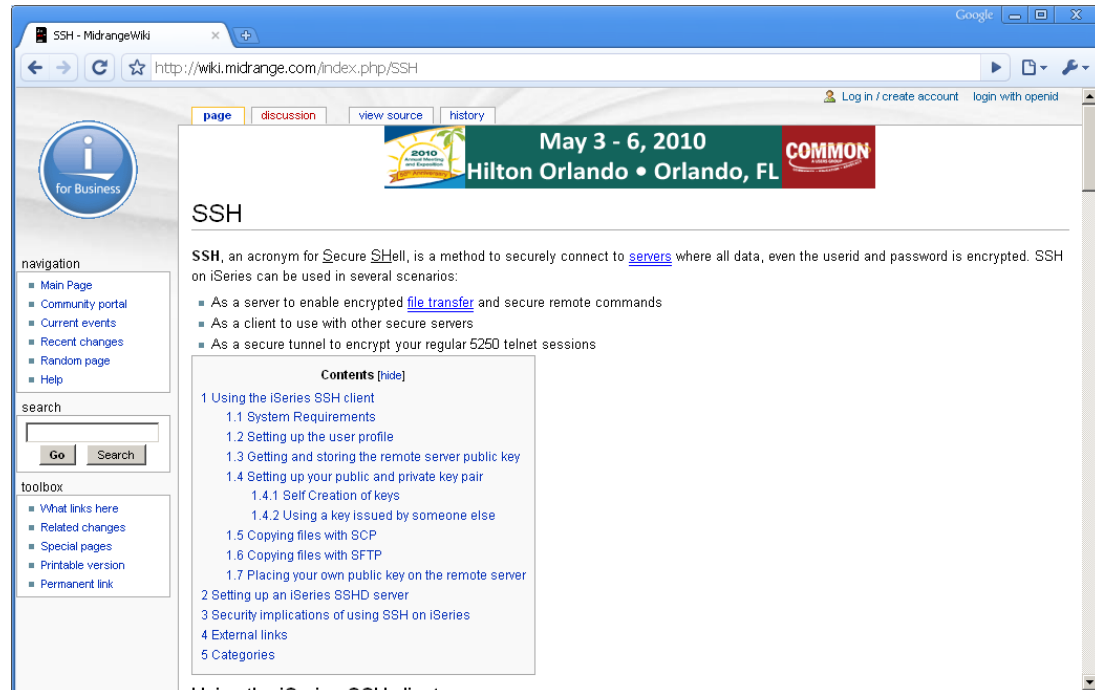
▶ STRTCPSVR

```
Selection or command  
==> STRTCPSVR SERVER(*SSH)
```

- ▶ This will install and configure everything on the server assuming pre-reqs are there!

SSH on V5R4

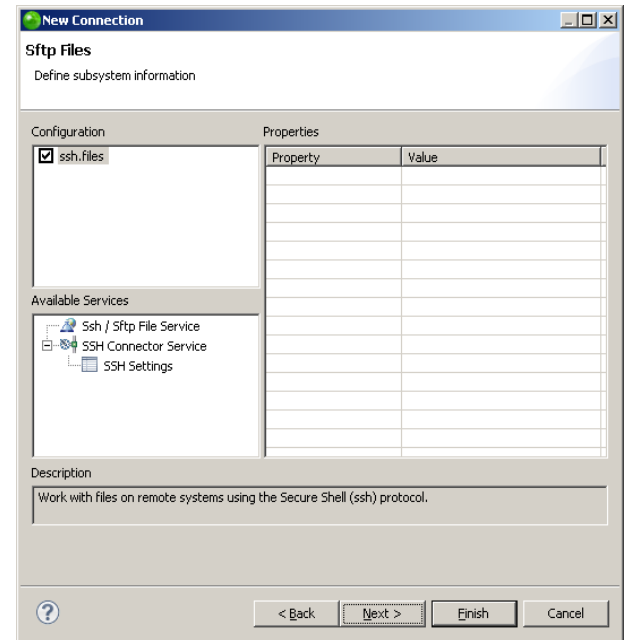
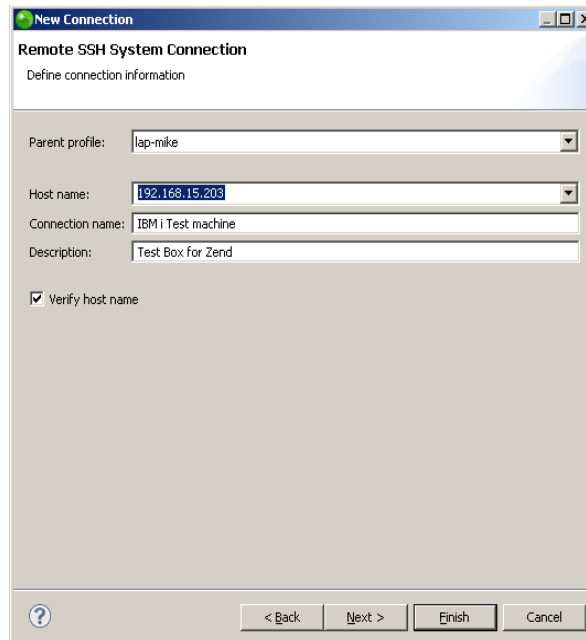
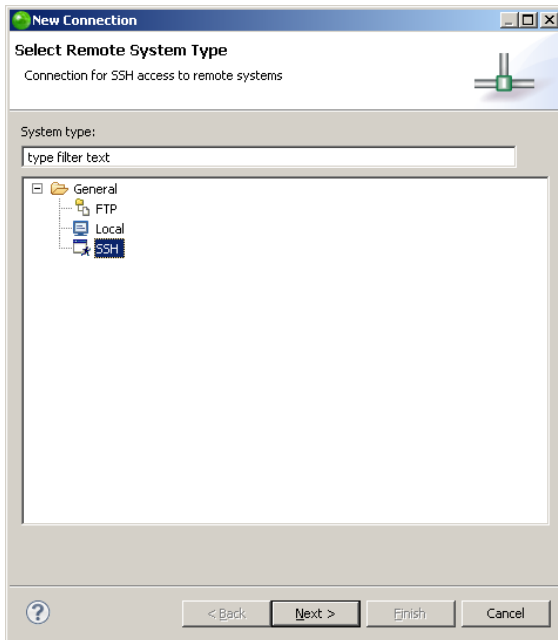
- Use QP2TERM
- Great tutorial on Midrange.com
 - ▶ <http://wiki.midrange.com/index.php/SSH>
 - ▶ Walks you through
 - ▶ Couple of minutes
 - ▶ Talk to Network Admin



In Zend Studio

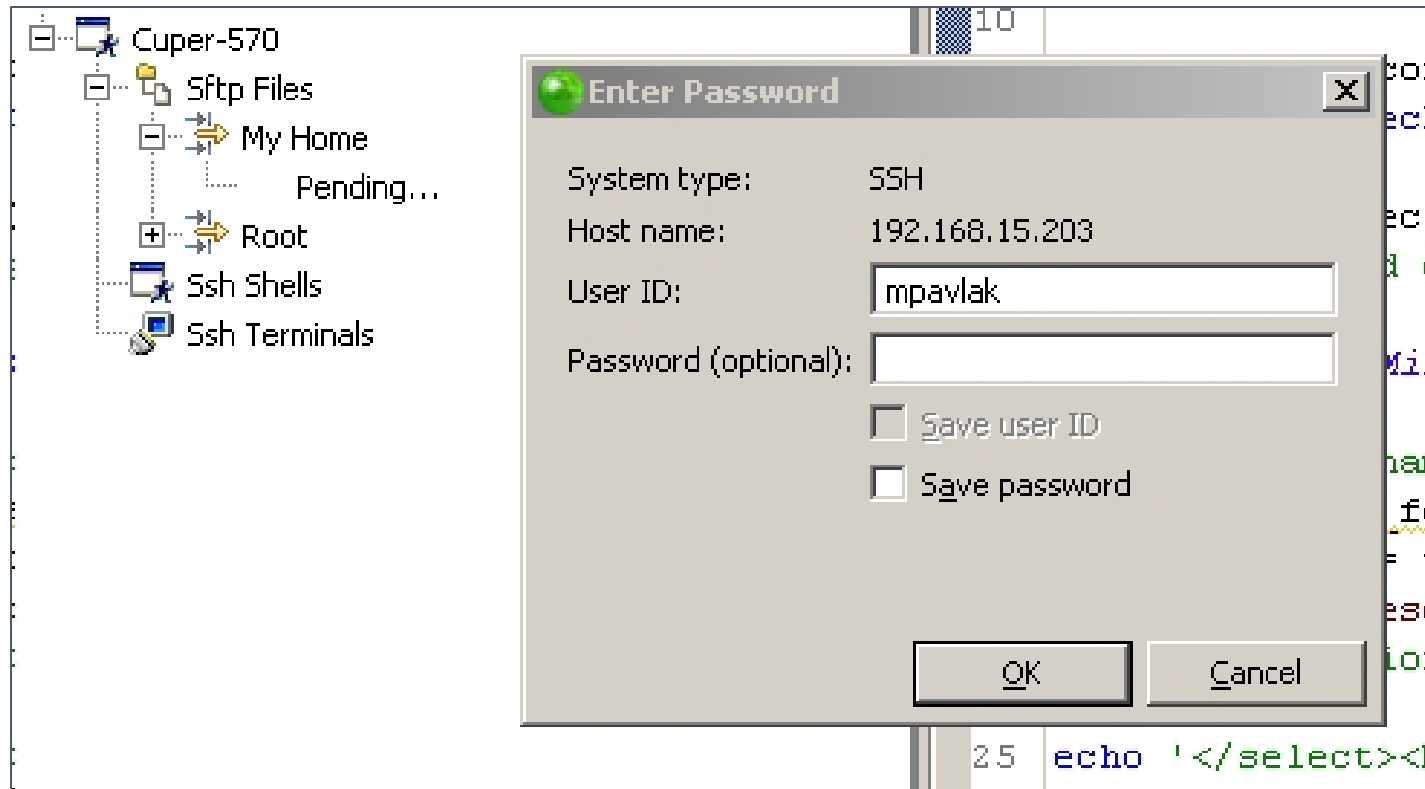
- Remote Server Window

- ▶ Right click -> new -> Connection ->SSH -> Next
- ▶ Enter System Info (SSH must be installed and running)
- ▶ Next -> Finish



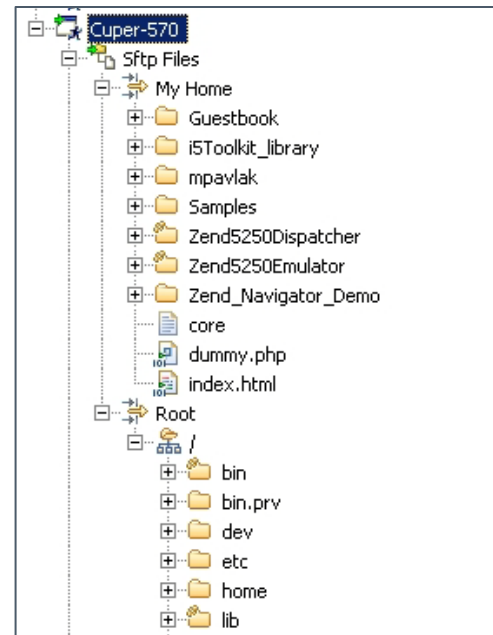
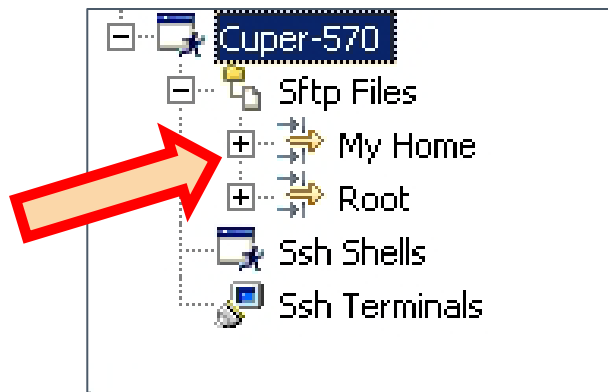
Open twistie and login

- Enter IBM i user credentials and go!



Access your files quicker

- Consider setting you user profile Home Directory
- This is something you should be able to do yourself
- No *SECOFR or *SECADM authority required
- CHGPRF HOMEDIR('/www/zendsvr/htdocs')



Zend Server 5 for IBM i

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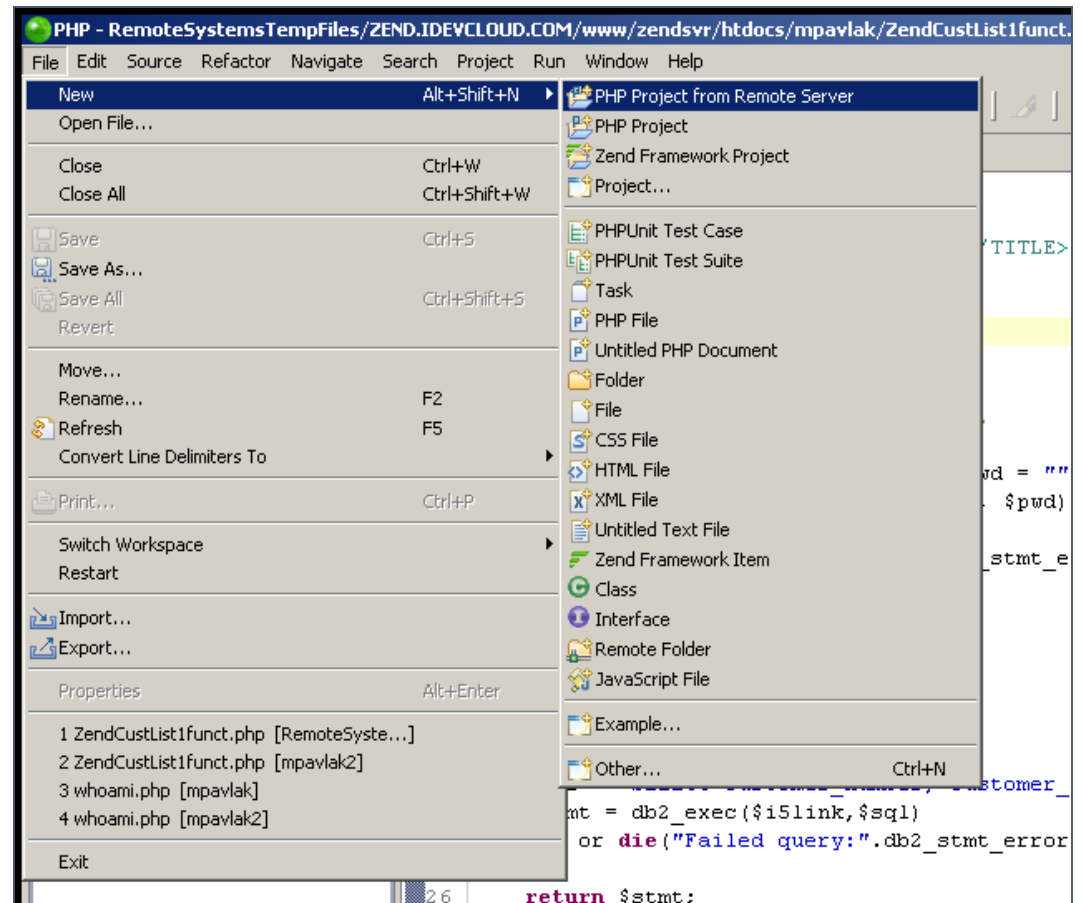
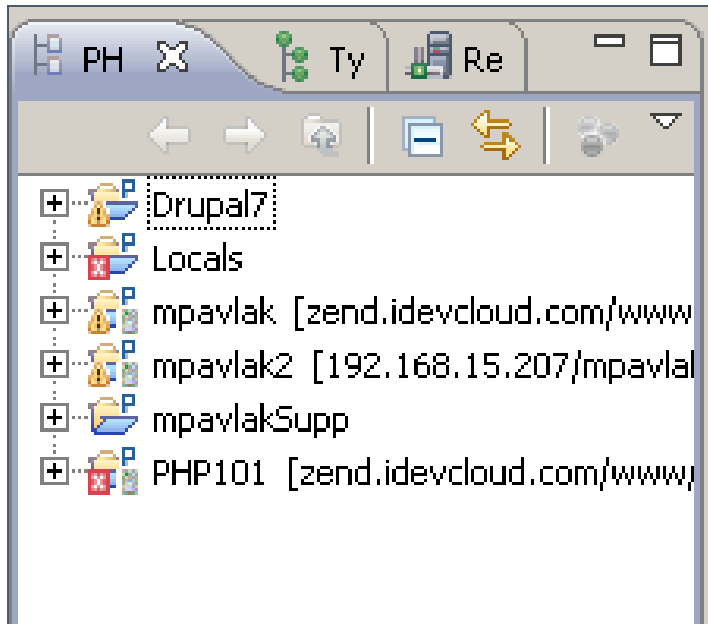
Remote Projects

PHP Explorer Window

- Access applications by project
- Great for organizing code
- Supports SVN repository
- Assume code exists... Sample project from Sample Code?

Create the project

- Open/Navigate to PHP explorer window



Create project from remote server

- Give it a name
- Decide where it goes
- Click next...

New PHP Project with Remote Server Support

Create a PHP project with Remote Server Support
Create a PHP remote project in the workspace or in an external location.

Project name:

Contents

Create new project in workspace

Create project at existing location (from existing source)

Directory:

Create project on a local server

Directory:

PHP Version

Use default PHP settings

Use project specific settings: PHP Version:

Project Layout

Use project as source folder

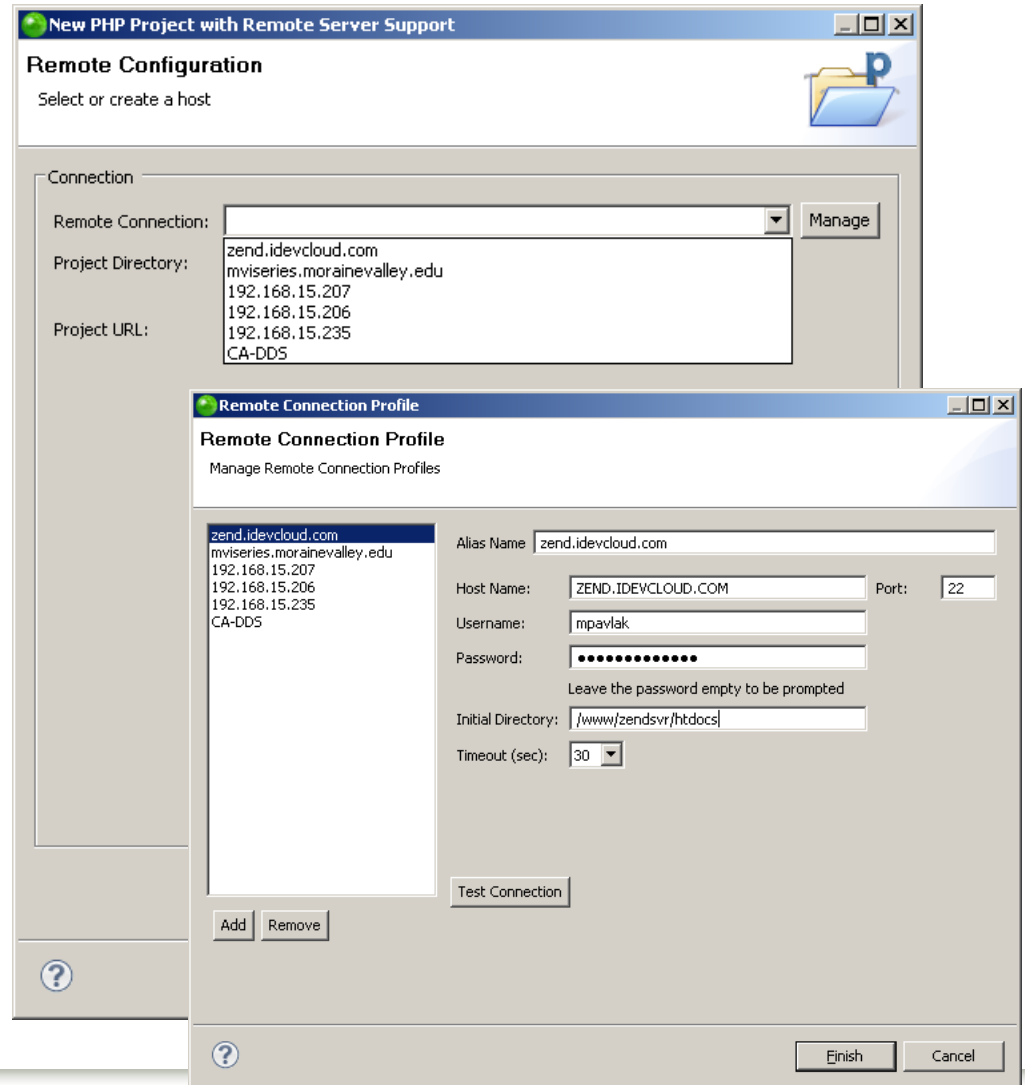
Create separate folders for source files and public resources [Configure default...](#)

JavaScript Support

Enable JavaScript support for this project

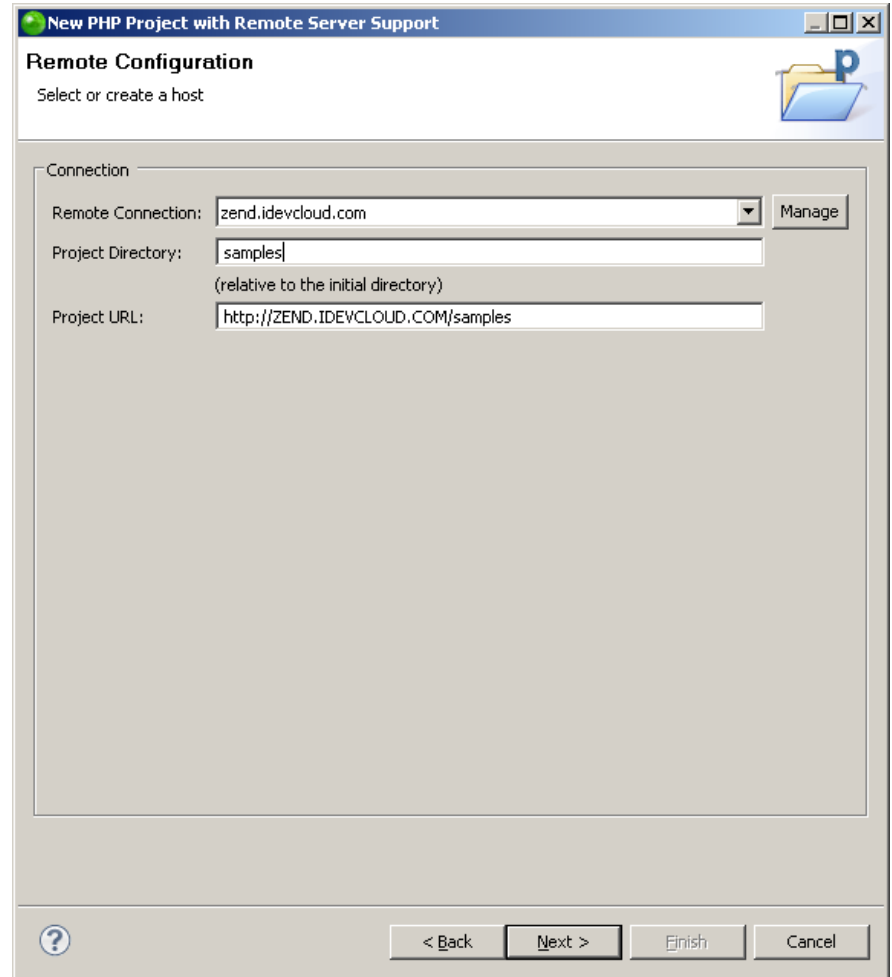
Create project from remote server

- Select a remote connection from drop down list
- Click Manage to set default directory...



Create project from remote server

- Set the application directory...



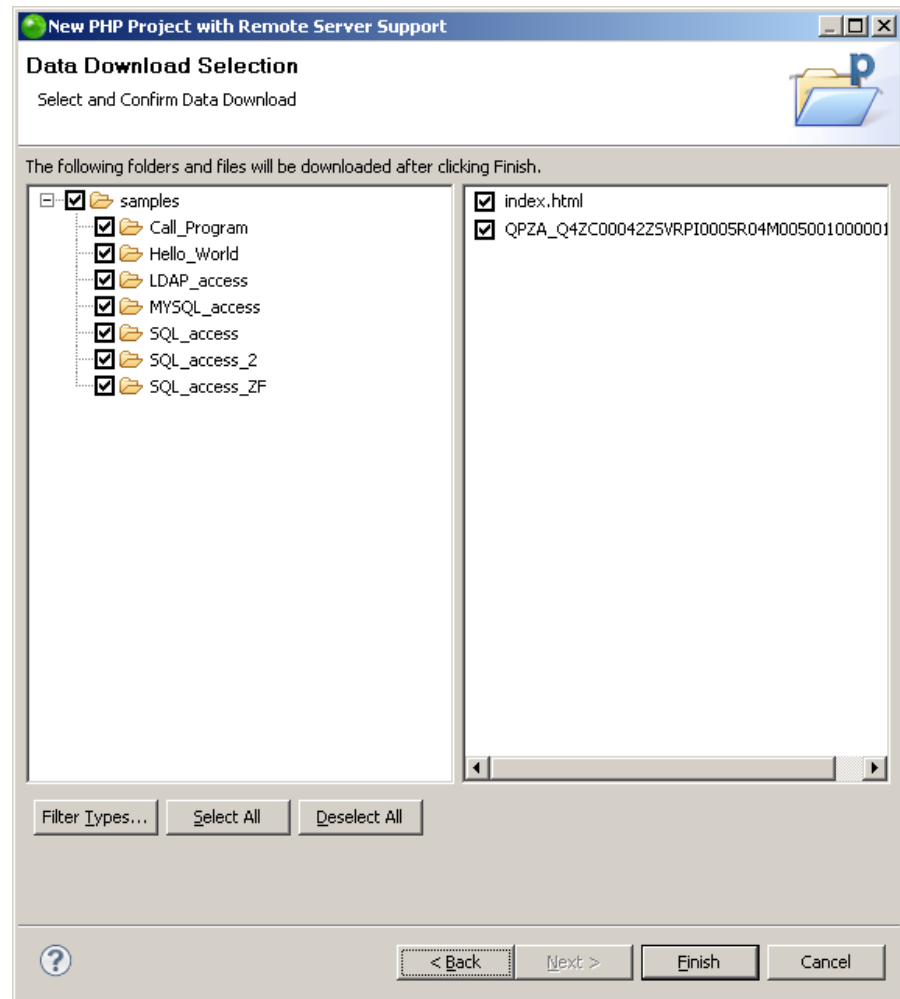
The screenshot shows a dialog box titled "New PHP Project with Remote Server Support" with a sub-tab "Remote Configuration". The instruction "Select or create a host" is displayed. The "Connection" section contains the following fields:

- Remote Connection:** A dropdown menu with "zend.idevcloud.com" selected and a "Manage" button to its right.
- Project Directory:** A text input field containing "samples", with a note "(relative to the initial directory)" below it.
- Project URL:** A text input field containing "http://ZEND.IDEV.CLOUD.COM/samples".

At the bottom of the dialog, there is a help icon (question mark), and four buttons: "< Back", "Next >", "Finish", and "Cancel".

Create project from remote server

- Deselect subdirectories, if desired...
- Click finish and all of the PHP source files from the server will be copied to your workspace...



Zend Server for IBM i

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Code Tracing

Application Monitoring

Zend Server Monitor will watch your application for:

- ▶ PHP Errors (including warnings, notices, uncaught exceptions...)
- ▶ Failing functions (user-defined or internal)
- ▶ Failing DB queries
- ▶ Slow functions (user-defined or internal) or DB queries
- ▶ Slow request executions
- ▶ High memory consumption
- ▶ Errors reported by Zend Server components

When an issue is detected, Zend Server reports an event

Monitoring Events

The screenshot shows the Zend Server monitoring interface in a Mozilla Firefox browser. The browser address bar shows the URL `http://localhost:10081/ZendServer/Index/Index#1256708440780`. The Zend Server interface has a navigation bar with tabs for Monitor, Rule Management, Server Setup, and Administration. The Monitor tab is active, showing a dashboard with links for Events, Jobs, Queue Statistics, Code Tracing, Server Info, PHP Info, and Logs. The Events section is selected, and the filter is set to "All Open Events". The table below displays a list of events with columns for ID, Rule Name, Severity, Count, Status, First Occ., Last Occ., and Occurred at... The table contains 7 rows of event data.

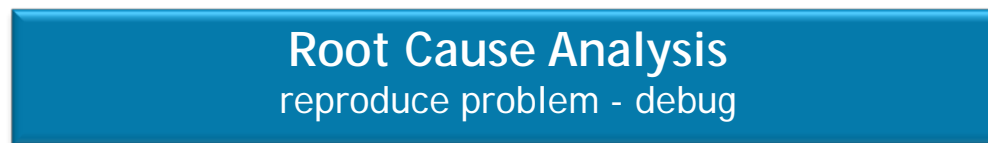
ID	Rule Name	Severity	Count	Status	First Occ.	Last Occ.	Occurred at...
000006	Custom Event	Warning	15	Open	15-Oct 16:36	27-Oct 19:58	
000007	Severe Slow Request Execution (Absolute)	Critical	5	Open	15-Oct 16:39	27-Oct 19:58	http://localhost/magento/index.php/
000023	PHP Error	Warning	1	Open	27-Oct 17:43	27-Oct 17:43	/var/www/html/phpExcelReader/Excel
000024	Fatal PHP Error	Critical	1	Open	27-Oct 17:43	27-Oct 17:43	/var/www/html/phpExcelReader/Excel
000022	Severe Slow Request Execution (Absolute)	Critical	1	Open	16-Oct 02:27	16-Oct 02:27	http://localhost/magento/
000017	Severe Slow Request Execution (Absolute)	Critical	2	Open	16-Oct 01:51	16-Oct 02:13	http://localhost/magento/index.php/cat
000021	High Memory Usage (Absolute)	Warning	1	Open	16-Oct 02:13	16-Oct 02:13	http://localhost/magento/index.php/cat

At the bottom of the interface, there is a "Change status to" dropdown menu set to "Closed" and a "Restart PHP" button.

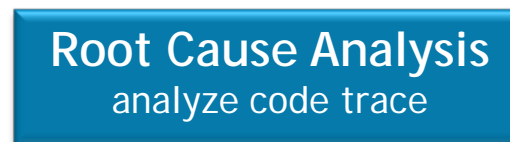
Code Tracing

- Eliminates the need to reproduce problems
- Records live application execution when problems occur
- Activated through Zend Server monitoring rules or manually
- Works in a live production environment or in a test lab
- Cuts Root Cause Analysis Time by up to 50%

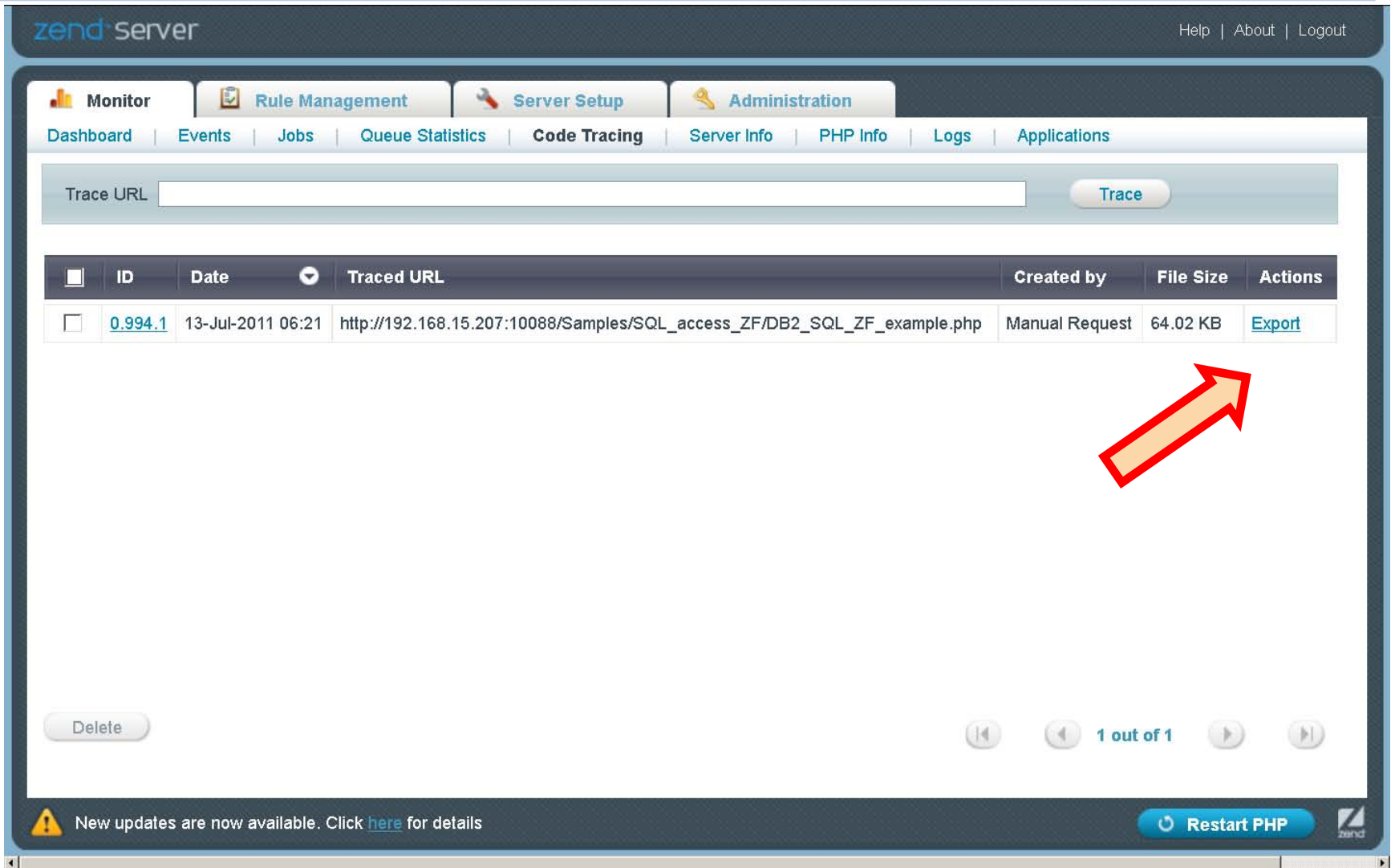
Problem resolution time
without Code Tracing



Problem resolution time
with Code Tracing



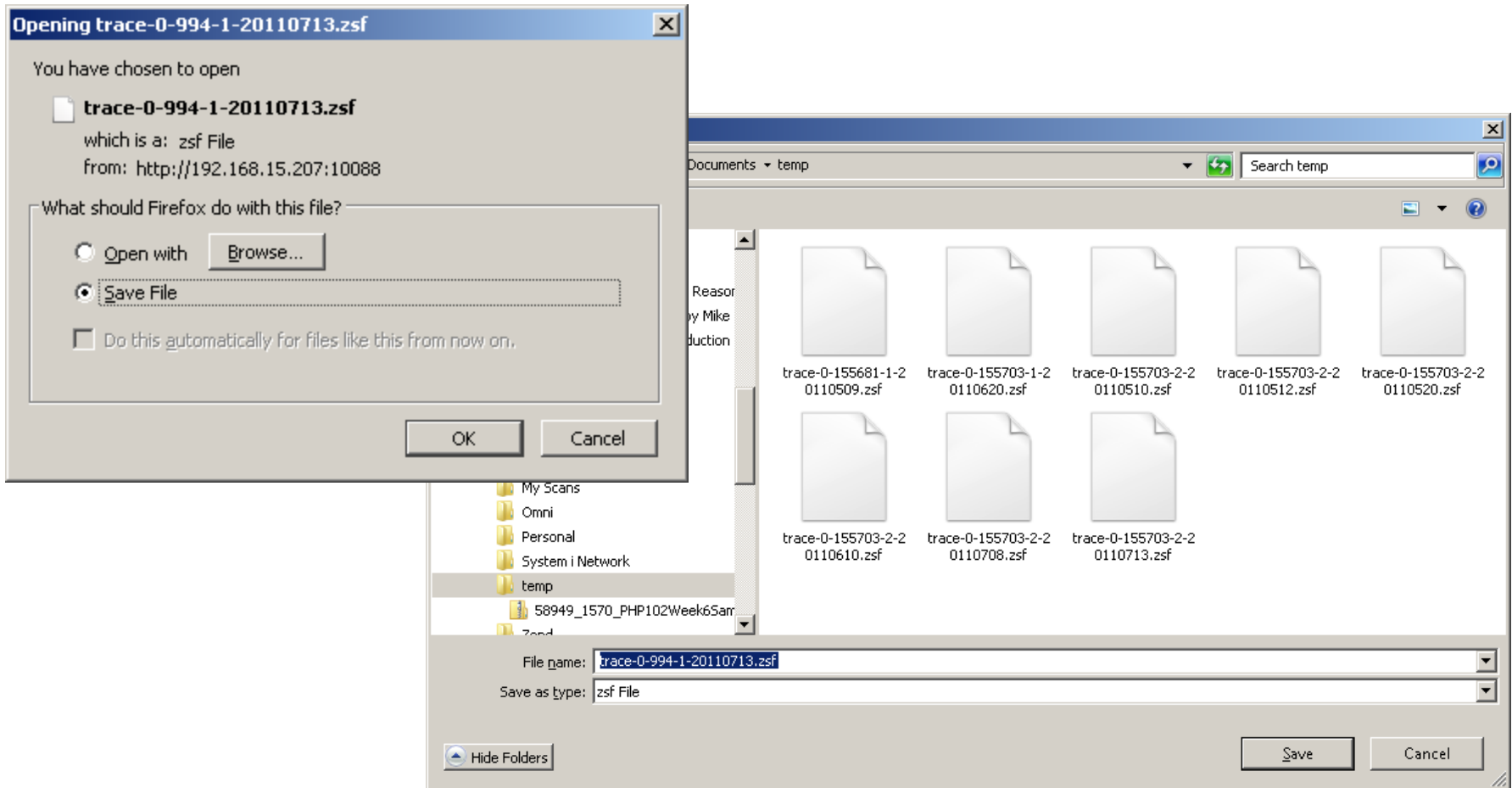
Export Code Trace in Zend Server



The screenshot displays the Zend Server web interface. At the top, there is a navigation bar with tabs for Monitor, Rule Management, Server Setup, and Administration. Below this is a secondary navigation bar with links for Dashboard, Events, Jobs, Queue Statistics, Code Tracing (which is active), Server Info, PHP Info, Logs, and Applications. The main content area features a 'Trace URL' input field and a 'Trace' button. Below this is a table listing code traces. The table has columns for ID, Date, Traced URL, Created by, File Size, and Actions. A single trace entry is visible with ID 0.994.1, dated 13-Jul-2011 06:21, and a file size of 64.02 KB. The 'Export' link in the Actions column is highlighted by a red arrow. At the bottom of the interface, there is a 'Delete' button, a pagination indicator showing '1 out of 1', and a 'Restart PHP' button. A notification banner at the very bottom indicates that new updates are available.

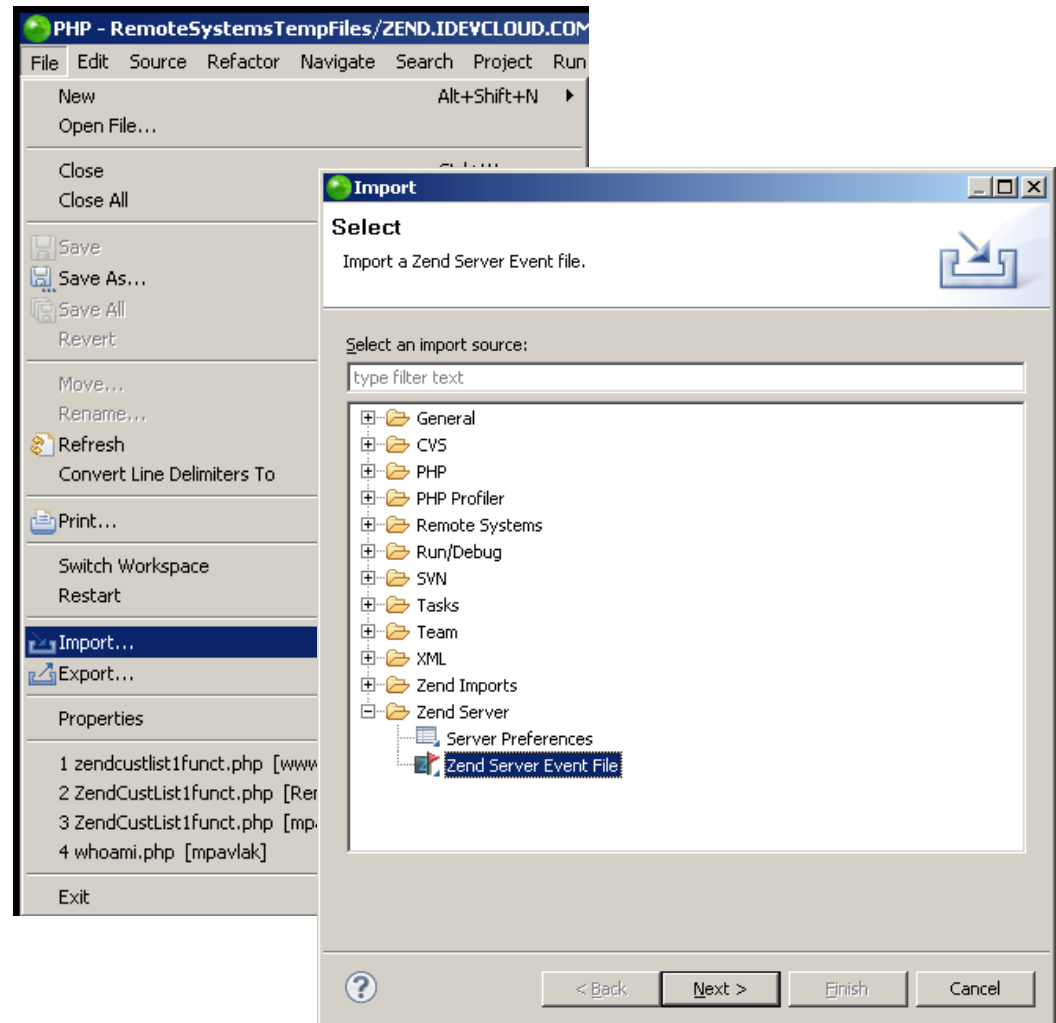
<input type="checkbox"/>	ID	Date	Traced URL	Created by	File Size	Actions
<input type="checkbox"/>	0.994.1	13-Jul-2011 06:21	http://192.168.15.207:10088/Samples/SQL_access_ZF/DB2_SQL_ZF_example.php	Manual Request	64.02 KB	Export

Save it locally and then email or, whatever...



In Studio, import the code trace...

- Click File→Import...
- Select Zend Server→Zend Server Event File



Opening Code Trace in Studio

- Browse to the file
- Select it
- Click Finish
- Change perspective, and...

Code Trace in Studio...

The screenshot displays the Zend Studio Code Tracing interface. The top window, titled "Code Tracing - RemoteSystemsTempFiles/ZEND.IDEVCLOUD.COM/www/zendsvr/htdocs/mpavlak/ZendCustList1funcnt.php - Zend Studio - C:\Users\mike.p\Zend\workspaces\DefaultWorkspace7", shows a "Tracing Tree" with a table of traced functions. The table includes columns for "Running Time", "% of total", "(ms)", and "Called from: (line)". The "REQUEST" function is the root, accounting for 100.00% of the total time (67.479 ms). It includes several sub-functions, with "INCLUDE /www/zendsvr/htdocs/Samples/SQL_access_ZF/DB2_SQL_ZF_example.php" being the most significant, taking 85.00% of the time (57.348 ms). Other functions include "INCLUDE /usr/local/zendsvr/share/ZendFramework/library/Zend/Db/Adapter/Db2.php" (4.00%), "Zend_Db_Adapter_Abstract::__construct()" (2.00%), "Zend_Db_Adapter_Abstract::query()" (2.00%), "Zend_Db_Statement_Db2::fetch()" (82.00%), "ShowTableHeader()" (<1.00%), "ShowTableRow()" (0.033 ms), "Zend_Db_Statement_Db2::fetch()" (0.070 ms), "ShowTableRow()" (0.075 ms), "Zend_Db_Statement_Db2::fetch()" (0.047 ms), "ShowTableRow()" (0.047 ms), "Zend_Db_Statement_Db2::fetch()" (0.053 ms), "ShowTableRow()" (0.047 ms), and "Zend_Db_Statement_Db2::fetch()" (0.053 ms).

The bottom window shows the code editor for "ZendCustList1funcnt.php". The code is as follows:

```
1 <html>
2 <head>
3 <TITLE>A function based record lookup</TITLE></head><body BGCOLOR=SILVER></body>
4 <h1>Short List of Anti-Heros:</h1>
5
6 <?php
7
8 function Connect() {
9     // Standard DB connection to DB2...
10
11     $conn = "MYSQAL"; $conn = "M"; $conn = "M";
```

Zend Server for IBM i

www.zend.com

Wrap up

Tips - Summary

- Get to know your Network Manager
- Don't give up! Open a support ticket
 - ▶ <http://www.zend.com/en/support-center/>
 - ▶ One year of Silver support (72 hour turnaround on email)
 - ▶ Continued or upgraded support available!
 - Gold - Business hour phone support
 - Platinum - 24x7 2 hours response on level 1
- Forums - <http://forums.zend.com/viewforum.php?f=77>
- Knowledgebase Articles (more coming!)
 - ▶ <http://kb.zend.com/index.php?View=entry&EntryID=334>
 - ▶ Education-Education-Education!

Upcoming Webinars

- August
 - ▶ A Tale of Two Toolkits
- More soon...



Zend PHP Conference
October 17-20, 2011 – Santa Clara, CA

Join us at ZendCon

The premier PHP conference!

October 17-19, 2011 – Santa Clara, CA



Conference Themes

Cloud Computing

Learn about the latest developments in PHP Cloud infrastructure, management and application services

Mobile and User Experience

Learn how to build engaging mobile apps with the latest PHP technologies and tools

Enterprise and Professional PHP

Explore PHP best practices, new technologies and practical tips with industry experts

Conference Highlights

- Sessions focused on how to best develop and deploy PHP
- Sessions designed for all knowledge levels
- Intensive tutorials for accelerated learning
- PHP Certification crash courses and testing
- Exhibit hall showcasing the latest products
- Special networking opportunities during meals and

www.zendcon.com events

Q&A

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