



STRATEGIC BUSINESS SYSTEMS: 2009 WINNER

*Power Systems Innovation Award: Best Web Solution
from IBM and COMMON*



Zend Server and Zend Framework on IBM i

Alan Seiden

Specialist, PHP on IBM i
aseiden@sbsusa.com



Long Island System Users Group (LISUG)

April 21, 2010

Strategic Business Systems, Inc.

- **IBM Business Partner**

- Provides hardware, software development, consulting for IBM i
- Developer of web apps on i since 1996
- Based in Ramsey, New Jersey



- **Zend (“the PHP company”) partner**

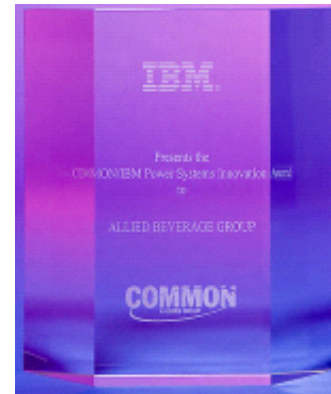
- Zend brought PHP to IBM i in 2006
- We offer Zend’s training and software to complement our own consulting/development services



Alan Seiden

PHP on IBM i Developer / Consultant / Mentor

- Contributor to IBM's Redbook *PHP: Zend Core for i5/OS*
- First IBM i developer certified in Zend Framework
- Developer of IBM/COMMON's "Best Web Solution" of 2009



Contact: aseiden@sbsusa.com or 201-327-9400

Blog/articles: alanseiden.com

Informal presentation agenda

- **PHP on i Overview**
- **Update on Zend Server (new PHP install for i)**
- **Zend Framework**

- **Answer any PHP questions**

PHP on i

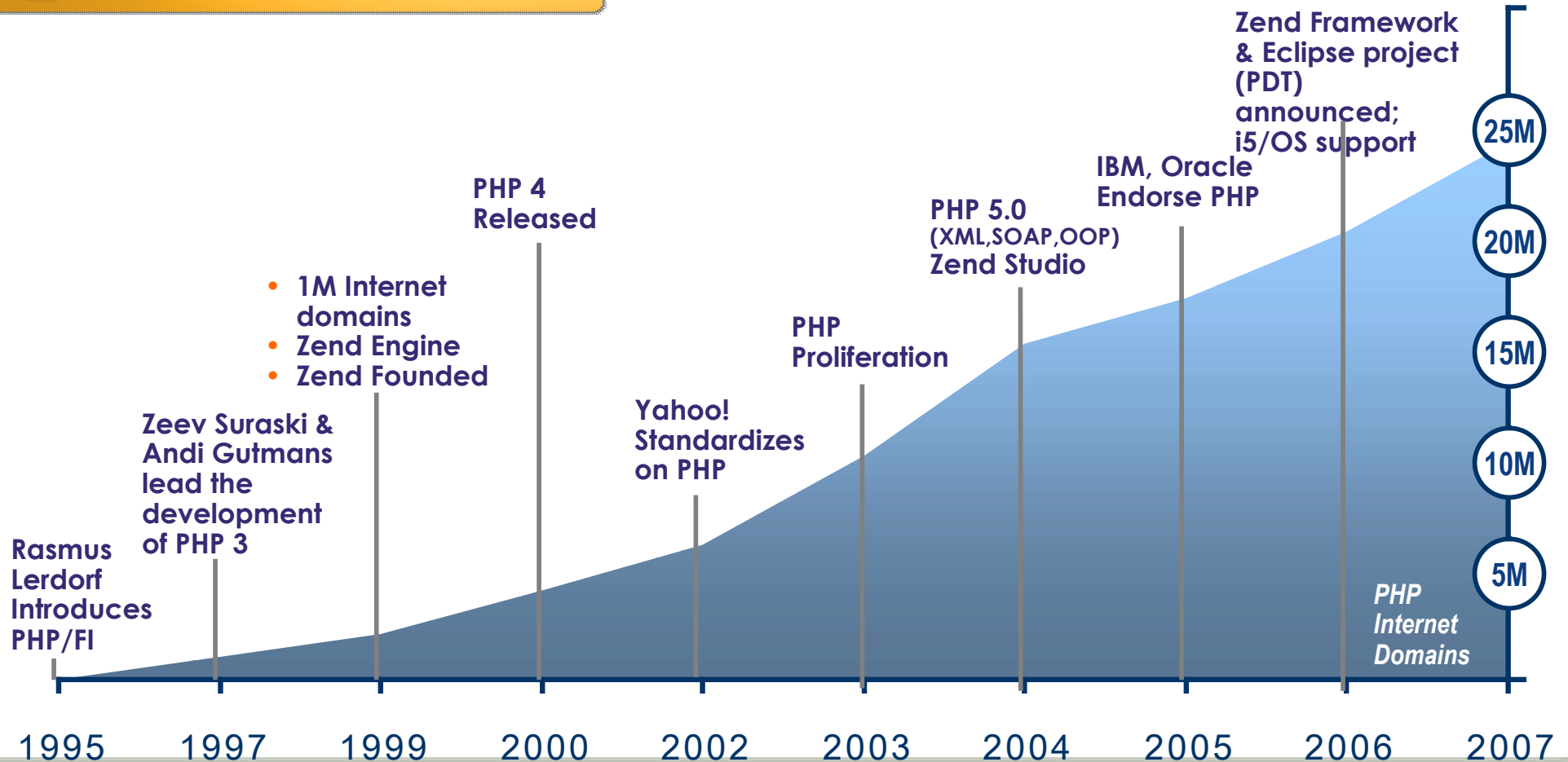
PHP's growth as web dev language (as of 2007)

34% of the internet runs on PHP

37% growth in PHP developers



ZF and PDT released, PHP 4 EOL announced



Who uses PHP?

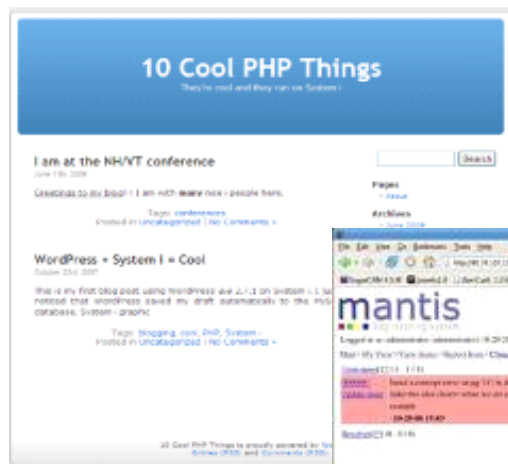
- **Yahoo, eBay, Wikipedia, Facebook**
- **Open source developers – 10,000+ projects**
- **Strong community worldwide**
- **7 million+ developers**
- **Growing community of IBM i shops**

Reasons for PHP's success

- **Easy way to get data to Web**
 - Generates ordinary HTML, viewable in any browser
- **Cross-platform: also runs on Windows, Linux, any mainstream OS**
- **Open source**
 - Managed by Zend, “the PHP company”
 - Contributors from community and corporations

Free, open source apps (fine on IBM i)

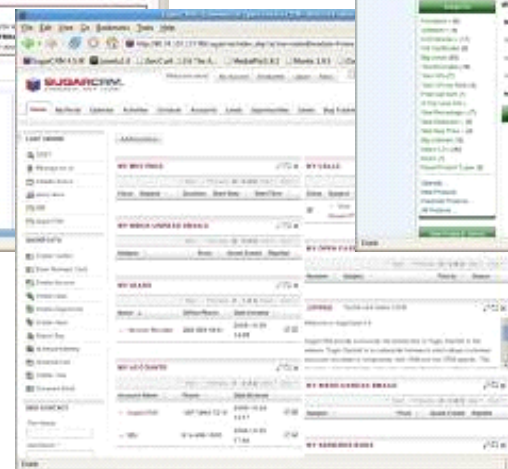
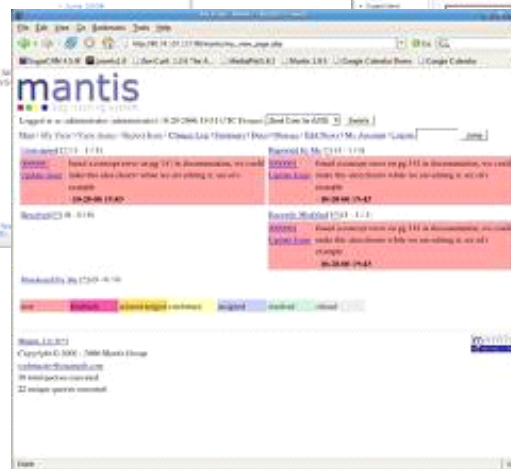
WordPress blog/CMS



MediaWiki (Wikipedia)



ZenCart e-Commerce



Bug Tracking/Helpdesk (Mantis400.com)

Sugar CRM

PHP on i—a short history

- **2004: i5php.net**
 - Unofficial PHP binary for “i” available online
- **2005: IBM and Zend got together**
- **2006: Zend Core for i5/OS**
 - Official release with help from IBM
 - Professional technical support from Zend
- **2007: Zend Studio: IDE/code editor**
- **2007: Zend Platform: performance booster and code tracer/monitor**
- **2008: Zend Framework supports “i” variant of db2**
- **2010: Zend Server for “i”**
 - Combines the best of Core and Platform

PHP on i

- **Runs completely on your good old “i”**
 - Uses IBM’s native Apache web server
 - Backed by IBM, shipped with v5r4 and beyond
 - Connects directly to db2 database
- **Light on its feet**
 - Efficient—runs well out of the box
 - Create useful functionality quickly; start small and grow
 - Plenty of room for sophistication in larger apps

i5 Toolkit is included

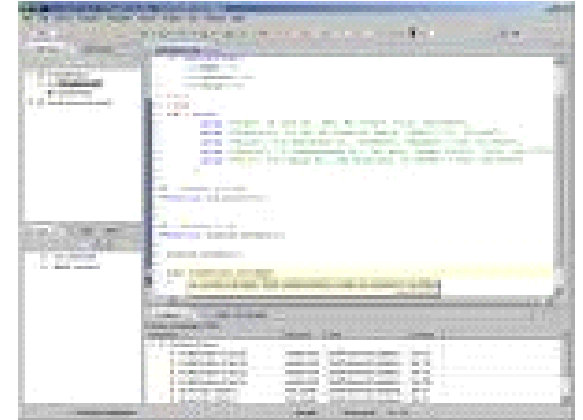
- **i5 Toolkit lets you:**
 - re-use your RPG logic
 - call commands
 - access data areas and other resources
- **Documentation**
 - http://files.zend.com/help/Zend-Core-i5/i5_php_connector_api.htm
- **Samples**
 - http://files.zend.com/help/Zend-Core-i5/program_samples.htm

i5 Toolkit functions to call CL/RPG

- **i5_connect(server, user, password, options)**
 - `$conn = i5_connect("1.2.3.4", "MYUSER", "MYPWD");`
- **i5_command(command, inputs, outputs)**
 - Good for commands/programs with no parameters
 - E.g. `i5_command("call LIB_NAME/PROGRAM_NAME")`
- **i5_program_prepare(name, description)**
 - Sets up parameter names and data types
- **i5_program_call(program, params, retvals)**
 - Calls program with parameter values

Zend Studio for Eclipse, IBM i Edition

- **Better IDE than “Notepad”**
- **Free for IBM i customers**
 - <http://zend.com/en/products/studio/downloads>
 - Look for “IBM i Edition”
- **Alerts you to any syntax errors or other mistakes; offers interactive debugging and code completion (similar to how green screens provide an F4 prompt)**
- **For good performance, your PC needs 2GB RAM**



What I've been doing lately with PHP and ZF

Wine distributor transaction search

http://ebizdev.alliedbeverage.com/transaction - Microsoft Internet Explorer provided by STRATEGIC BUSINESS SYSTEMS

http://ebizdev.alliedbeverage.com/transaction

Home Advanced Search Orders Transactions ABG Employee Connect Log out

eBiz@ABG Welcome, Angel Wong #105

Home PRICING MONTH: April 2010

Date range: 90 days 180 days other

Transaction type: Transaction status: Customer: Invoice:

NOTE: This information is presented for your convenience and while it has been compiled and presented with care, it may contain errors. If you find any discrepancies please contact our customer service or credit department for accurate, up-to-date information.

| Account | Terms | Trans Date | Type | Subtype | Transaction Number | Amount | Sales Rep | Paid Date | Check# | Status | Days Past Due | Original Inv# |
|---------|-------|------------|---------|---------|------------------------|---------|-----------|-----------|--------|--------|---------------|---------------|
| | NET | 04/13/10 | Invoice | | 709254 | 971.46 | 105 | | | Open | 8 | |
| | NET | 04/13/10 | Invoice | | 709286 | 1244.28 | 105 | | | Open | 8 | |
| | NET | 04/14/10 | Invoice | | 712191 | 1779.48 | 105 | | | Open | 7 | |
| | NET | 04/14/10 | Invoice | | 709906 | 1397.60 | 105 | | | Open | 7 | |
| | NET | 04/14/10 | Invoice | | 711390 | 623.96 | 105 | | | Open | 7 | |
| | NET | 04/14/10 | Invoice | | 711344 | 565.84 | 105 | | | Open | 7 | |
| | NET | 04/14/10 | Invoice | | 711345 | 162.24 | 105 | | | Open | 7 | |
| | NET | 04/14/10 | Invoice | | 711347 | 269.70 | 105 | | | Open | 7 | |
| | NET | 04/14/10 | Invoice | | 711448 | 3573.45 | 105 | | | Open | 7 | |
| | COD | 04/14/10 | Invoice | | 711359 | 797.47 | 105 | | | Open | 7 | |
| | NET | 04/15/10 | Invoice | | 713683 | 292.56 | 105 | | | Open | 6 | |
| | NET | 04/15/10 | Invoice | | 713140 | 136.39 | 105 | | | Open | 6 | |
| | NET | 04/15/10 | Invoice | | 713464 | 186.18 | 105 | | | Open | 6 | |

Click to display signed, scanned invoice

Displaying scanned, signed invoices

http://ebizdev.alliedbeverage.com/transaction/displayimage/id/0535847113905104141008 - Microsoft Internet Explorer provided by

http://ebizdev.alliedbeverage.com/transaction/displayimage/id/0535847113905104141008

91-16 34 Page No. 1

ALLIED NATIONS
ALLIED BEVERAGE GROUP LLC
600 WASHINGTON AVENUE
CARLSTADT, NEW JERSEY 07072

0535847113905104141008

Converted from single TIFF images into multi-page PDF for usability, all on the IBM i

It's Here!
Available Here!
All Cruzan Rum

NATIONS
PO BX 0838
CARLSTADT
NJ 07072

Sheet Cust#
105 053584

Invoice # / Due On
711390 4/14/10

License No.
0234-44-001-002

A SERVICE CHARGE OF 2% PER MONTH WILL BE CHARGED ON ALL ITEMS FOR WHICH PAYMENT HAS NOT BEEN RECEIVED IN ACCORDANCE WITH TERMS OF SALE ON FILE WITH THE ALCOHOLIC BEVERAGE CONTROL.

TO INSURE PROPER CREDIT PLEASE RETURN STUB WITH YOUR REMITTANCE

053584

MAYWOOD LIQUOR & DELI IN
MAYWOOD LIQ & DELI
40 WEST PLEASANT AVENUE
MAYWOOD NJ 07097

PLEASE PAY THIS AMOUNT

623.96

AVAILABLE APRIL 1 PATRON XO CAFE 1.75 L
NEW JERSEY ONLY STATE SELLING

4

| ADJUSTMENTS | | ID | CAS | BOT | A/C | CAS | BOT | SIZE | DESCRIPTION | PR | TRQB | QTY | POST | DISC | PRICE | AMOUNT | BT CST | R-I-P | PO | |
|-------------|--|----|-----|-----|-----|-----|-----|-------|---------------------|---------------------|---------|-----|------|-------|--------|--------|--------|--------|-------|-----|
| | | | | | | 1 | | 750ML | BEEFEATER GIN 94 h | 12 | 1381040 | | | | 229.08 | 229.08 | 12.00 | 217.08 | 18.09 | C 1 |
| | | | | | | 1 | | LITER | FINE CLL BAR SYRUP | 12 | 9032730 | | | | 40.60 | 40.60 | 3.39 | | | C 1 |
| | | | | | | 1 | | 1.5 L | LUNA CAB/MERLOT r | 6 | 4133020 | | | 20.04 | 96.00 | 75.96 | 12.66 | | | C 1 |
| | | | | | | 1 | | 750ML | STOLI ELIT 6PK r | 6 | 3694340 | | | | 290.32 | 290.32 | 48.39 | 50 | | C 1 |
| | | | ** | | *** | | | 750ML | STOLI GOLD 80 VOD h | 12 | 3999040 | | | | | | | | | |
| | | | | | | | | | | OUT OF STOCK 1 CASE | | | | | | | | | | |

R-I-P TOTAL
50

INVOICE TOTAL
623.96

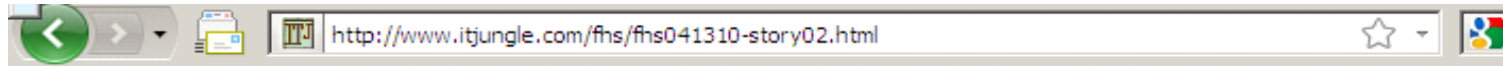
ORDER WAS RECEIVED IN FULL UNLESS OTHERWISE NOTED ON THIS DELIVERY RECEIPT.

RECEIVED BY _____ DATE _____

THE UNDERSIGNED RETAIL LICENSE HEREBY ACKNOWLEDGES THAT ALL OF THE ALCOHOLIC BEVERAGES ITEMIZED ABOVE HAVE BEEN ORDERED AND WERE RECEIVED BY HIM. MERCHANDISE MAY BE ACCEPTED FOR RETURN IF NOTIFIED WITHIN TWO BUSINESS DAYS OF DELIVERY IN THE EVENT THAT A CLAIM IS REQUIRED TO AN ATTORNEY FOR COLLECTION. A FEE OF 3% OF THE AMOUNT IN DEFAULT WILL BE IMPOSED. A SERVICE CHARGE OF 2% PER MONTH WILL BE CHARGED ON ALL ITEMS FOR WHICH PAYMENT HAS NOT BEEN RECEIVED IN ACCORDANCE WITH TERMS OF SALES ON FILE WITH THE ALCOHOLIC BEVERAGE CONTROL.

Zend Server

Just announced April 13, 2010



Volume 10, Number 14 -- April 13, 2010

Zend Server for i/OS Now Available

Published: April 13, 2010

by Alex Woodie

[Zend Technologies](#) yesterday announced the general availability of Zend Server 5.0 for i/OS, bringing the most complete stack yet of PHP software to the [IBM](#) midrange platform. With Zend Server running under i/OS, customers gain more streamlined implementation and deployments, application monitoring and optimization, error detection, security, and compliance. Two editions of Zend Server are available for i/OS, and Zend and IBM will begin phasing out older PHP stacks.

Zend announced that its enterprise-strength Zend Server stack of PHP software would be coming to the System i server [in October 2009](#), when the company launched Zend Server 5.0. While the stack has been available for Linux and Windows operating systems, the i/OS version has been in beta testing for the last six months.

Zend has built several PHP stacks for the IBM i/OS environment over the years, including Zend Core, Zend Studio, and Zend Platform. But with Zend Server, the company offers what it considers is the most feature-rich stack for developing and

New York: Sun 00:36 Done

Zend Server for IBM i

- **Next generation of PHP stack for IBM i**
- **Best of both Zend Core and Zend Platform**
- **Single Licensed Program Installation**
- **Two license levels**
 - **Zend Server for IBM i Community Edition (CE)**
 - FREE per IBM partnership
 - Includes “Optimizer+” that speeds up code
 - **Zend Server for IBM i**
 - Subscription available
 - High value extra features: application monitoring, diagnostics, page caching, more
 - Higher Support SLAs

Included with Zend Server CE

- **Everything you need to run PHP on your i**
- **Plus some goodies**
 - Java Bridge
 - Zend Framework
 - 5250 Bridge
 - phpMyAdmin 3.2.0
 - MySql and DB2 Storage Engine
- **Non-free features (need regular Zend Server license)**
 - Job queue
 - Code tracing/black box
 - Other productivity tools
 - Enhanced support options

Zend Server Installation

- **Click the green “Free Download” button here:**
 - <http://www.zend.com/en/products/server/zend-server-ibm-i>
- **Verify PTFs required by IBM’s FastCGI**
 - Current group for 57nnDG1 – IBM HTTP Server for i5/OS
 - http://www-912.ibm.com/s_dir/sline003.nsf/GroupPTFs?OpenView&view=GroupPTFs
 - V5R4
 - PASE – SI36004
 - HTTP – SI36026
 - i6.1
 - PASE – SI36005
 - HTTP – SI36027

Zend Server Installation (more)

- **Check the requirements/release notes**
 - <http://static.zend.com/topics/Zend-Server-for-IBM-i-Release-Notes-V5-0-1.txt>
 - i5/OS V5R4, v6.1, v7.1
 - PASE, Qshell, recent cumulative PTF package, more
- **Get Zend Server for i5/OS**
 - Download from <http://www.zend.com/en/products/server/downloads>
 - Free account required
 - Look for “IBM i” then “**Zend Server for IBM i (PHP 5.3)**”
 - Community Edition (CE) license is free
 - Register for one year of free support at:
<http://www.zend.com/en/products/server/ibm/license>
 - To upgrade to full version, get license at
<http://www.zend.com/en/products/server/license>
 - Choose Windows-based installer or *SAVF
- **Install on your i5**
 - If you need MySQL, can select it, too
- **Start Zend Server: GO ZENDSVR/ZSMENU, Option 5 then 1**

Zend Server Administration

- **Single interface for all controls**
- **Apache changes**
 - Single server (YAY!)
 - PASE server eliminated
 - IBM HTTP Server Powered by Apache
 - PHP implemented using Fast CGI developed by IBM
 - Restart button saves round trip to green screen!

Recommended (by me) changes to PHP.INI

Make changes to /usr/local/zendsvr/etc/php.ini (EDTF or text editor), then restart Zend Server

```
; Defines the default timezone.  
; See http://www.php.net/manual/en/timezones.php  
date.timezone = America/New_York  
  
; ensure that a session path is defined  
session.save_path = "/tmp"  
  
; Maximum allowed size for uploaded files.  
; increase from 2M to whatever you see fit  
upload_max_filesize = 10M
```

Zend Server's Interface

The screenshot displays the Zend Server web interface. At the top, the 'zend server' logo is on the left, and 'Help | About | Logout' is on the right. Below the logo is a navigation bar with tabs for 'Monitor', 'Rule Management', 'Server Setup', and 'Administration'. Underneath this is a secondary navigation bar with links for 'Dashboard', 'Events', 'Jobs', 'Queue Statistics', 'Code Tracing', 'Server Info', 'PHP Info', 'Logs', and 'Applications'. The main content area is divided into three sections: 'Recent Events', 'System Overview', and 'Tasks'. The 'Recent Events' section contains a table with columns for Id, Generated by Rule, Count, Last Occ., Severity, and Origin. The 'System Overview' section lists system components like PHP Version, Zend Framework Version, and various Zend Server services with their status (ON/OFF). The 'Tasks' section has links for learning about Zend Server and configuring extensions. At the bottom, there is a license expiration warning and a 'Restart PHP' button.

zend server Help | About | Logout

Monitor Rule Management Server Setup Administration

Dashboard Events Jobs Queue Statistics Code Tracing Server Info PHP Info Logs Applications

Recent Events

| Id | Generated by Rule | Count | Last Occ. | Severity | Origin |
|------------------------|--|-------|--------------|----------|---|
| 000001 | Severe Slow Query Execution | 1 | 05-Jan 06:22 | Critical | db2_exec |
| 000003 | Severe Slow Request Execution (Absolute) | 1 | 05-Jan 06:22 | Critical | http://192.168.15.203:10088/mpavlak/customers/partnerroadshow/zendcustlist1 |
| 000002 | PHP Error | 4 | 05-Jan 06:28 | Warning | /www/ZendSvr/htdocs/mpavlak/customers/partnerroadshow/zendcustlist1funct.p |
| 000004 | PHP Error | 7 | 05-Jan 06:28 | Warning | /www/ZendSvr/htdocs/mpavlak/customers/partnerroadshow/zendcustlist1funct.p |
| 000005 | PHP Error | 7 | 05-Jan 06:28 | Warning | /www/ZendSvr/htdocs/mpavlak/customers/partnerroadshow/zendcustlist1funct.p |

System Overview

PHP Version 5.2.11
Zend Framework Version 1.9.6
[more »](#)

Zend Server

Zend Code Tracing ON
Zend Data Cache ON
Zend Debugger ON
Zend Guard Loader OFF
Zend Java Bridge OFF
Zend Job Queue ON
Zend Monitor ON
Zend Optimizer+ ON
Zend Page Cache ON
[more »](#)

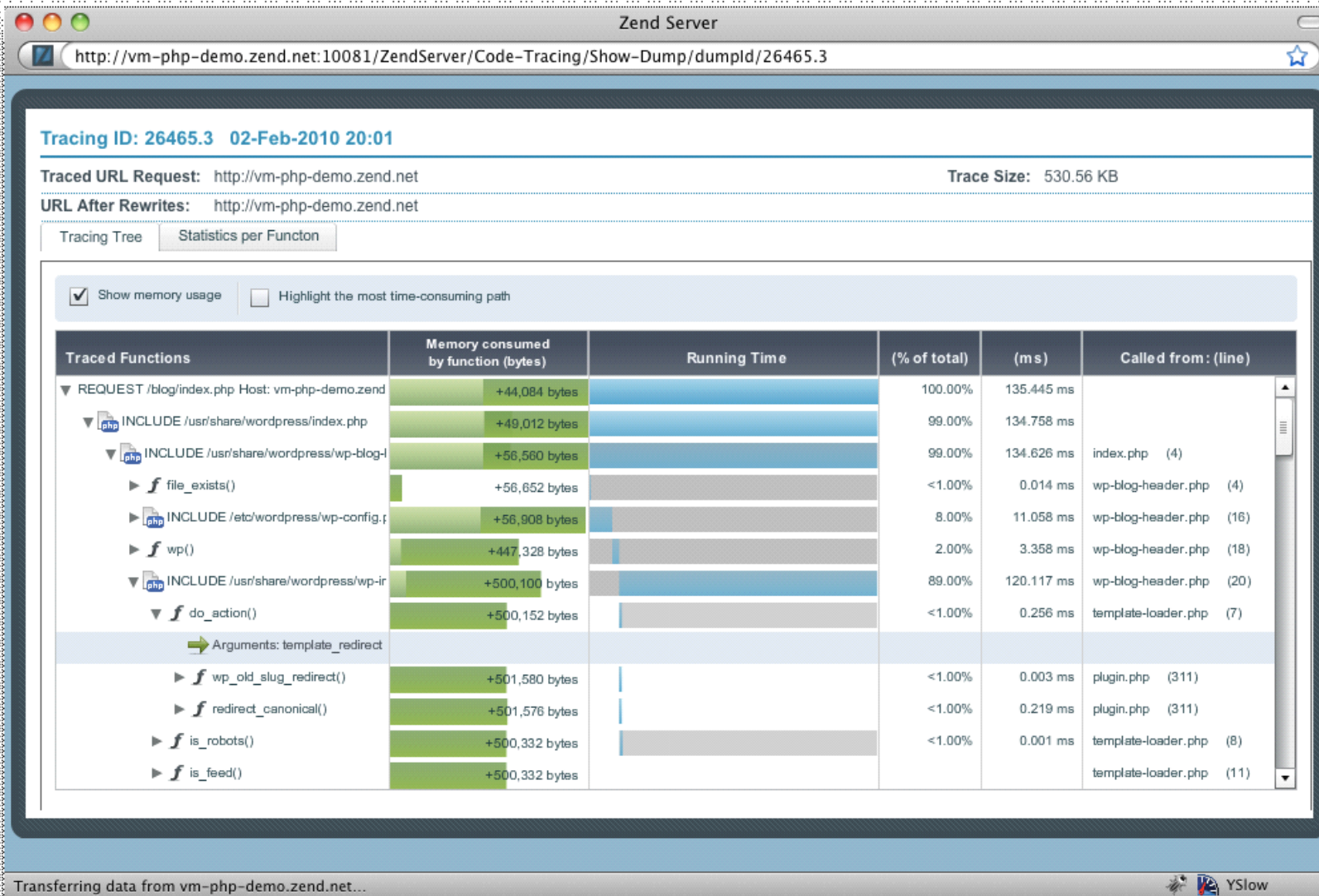
Tasks

[Learn how to start with Zend Server and PHP](#)
[Configure Zend Server Extensions](#)

Your license will expire in 29 days. Click [here](#) to update your license

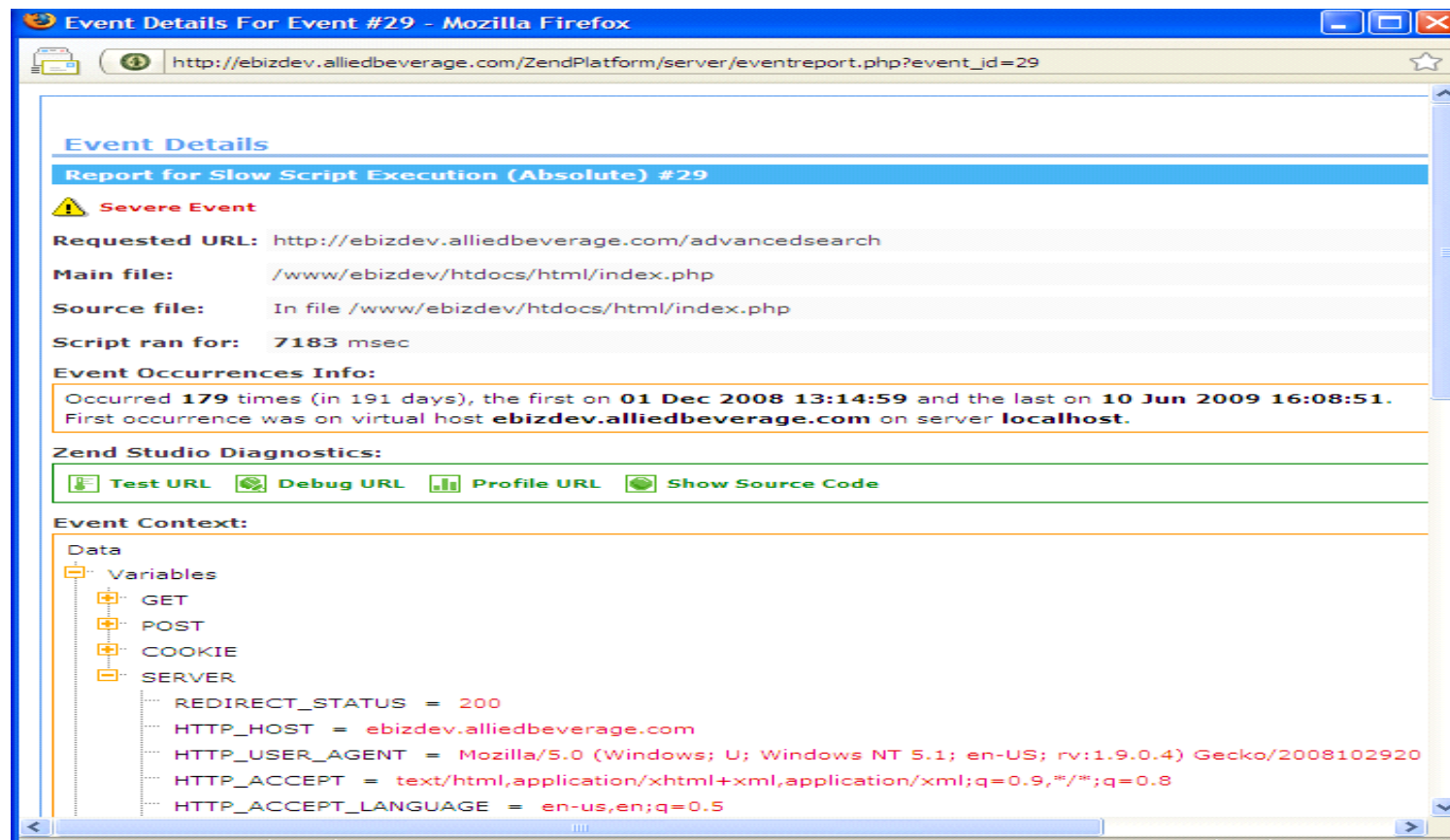
[Restart PHP](#)

Zend Server's Code Tracing (non-CE)



Zend Server for debugging

Drill down to find the cause of performance lags or errors



Event Details For Event #29 - Mozilla Firefox

http://ebizdev.alliedbeverage.com/ZendPlatform/server/eventreport.php?event_id=29

Event Details

Report for Slow Script Execution (Absolute) #29

Severe Event

Requested URL: http://ebizdev.alliedbeverage.com/advancedsearch

Main file: /www/ebizdev/htdocs/html/index.php

Source file: In file /www/ebizdev/htdocs/html/index.php

Script ran for: 7183 msec

Event Occurrences Info:
Occurred **179** times (in 191 days), the first on **01 Dec 2008 13:14:59** and the last on **10 Jun 2009 16:08:51**.
First occurrence was on virtual host **ebizdev.alliedbeverage.com** on server **localhost**.

Zend Studio Diagnostics:

Event Context:

Data

- Variables
 - GET
 - POST
 - COOKIE
 - SERVER
 - REDIRECT_STATUS = 200
 - HTTP_HOST = ebizdev.alliedbeverage.com
 - HTTP_USER_AGENT = Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.9.0.4) Gecko/2008102920
 - HTTP_ACCEPT = text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
 - HTTP_ACCEPT_LANGUAGE = en-us,en;q=0.5

Some Zend Jobs run in ZENDSVR

- Look in ZENDSVR subsystem for Zend jobs

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Work with Subsystem Jobs                                SBSUSA
                                                         04/20/10 02:09:54

Subsystem . . . . . : ZENDSVR

Type options, press Enter.
  2=Change  3=Hold  4=End  5=Work with  6=Release  7=Display message
  8=Work with spooled files  13=Disconnect

Opt  Job          User          Type      -----Status-----  Function
---  ---          ---          ---      -----
___  I5_COMD       QTCP         BATCH     ACTIVE                 PGM-EASYCMD
___  ZSJVA_BRG     QTMHHTTP    BATCHI    ACTIVE                 PGM-watchdog
___  ZSJVA_BRG     QTMHHTTP    BATCHI    ACTIVE                 JVM-com.zend.j
___  ZSJQB_MNG     QTMHHTTP    BATCHI    ACTIVE                 PGM-watchdog
___  ZSJQB_MNG     QTMHHTTP    BATCHI    ACTIVE                 PGM-jqd
___  ZSMON_MNG     QTMHHTTP    BATCHI    ACTIVE                 PGM-watchdog
___  ZSMON_MNG     QTMHHTTP    BATCHI    ACTIVE                 PGM-MonitorNod

                                                         Bottom

Parameters or command
===> _____
F3=Exit    F4=Prompt  F5=Refresh  F9=Retrieve  F11=Display schedule data
F12=Cancel F17=Top    F18=Bottom
```

Web server jobs run in QHTTPSVR

- QHTTPSVR is normal subsystem for web servers

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help

Work with Subsystem Jobs                                SBSUSA
                                                         04/20/10 02:12:32

Subsystem . . . . . : QHTTPSVR

Type options, press Enter.
  2=Change  3=Hold  4=End  5=Work with  6=Release  7=Display message
  8=Work with spooled files  13=Disconnect

Opt Job      User      Type      -----Status-----  Function
  1 ZENDCORE  QTMHHTTP BATCHI    ACTIVE             PGM-QZSRHTTP
  2 ZENDCORE  QTMHHTTP BATCHI    ACTIVE             PGM-QZSRHTTP
  3 ZENDSVR   QTMHHTTP BATCH      ACTIVE             PGM-QZHBMAIN
  4 ZENDSVR   QTMHHTTP BATCHI    ACTIVE             PGM-QZSRLOG
  5 ZENDSVR   QTMHHTTP BATCHI    ACTIVE             PGM-QZSRLOG
  6 ZENDSVR   QTMHHTTP BATCHI    ACTIVE             PGM-QZSRHTTP
  7 ZENDSVR   QTMHHTTP BATCHI    ACTIVE             PGM-zfcgi
  8 ZENDSVR   QTMHHTTP BATCHI    ACTIVE             PGM-php-cgi.bi
                                                         More...

Parameters or command
===>
F3=Exit    F4=Prompt  F5=Refresh  F9=Retrieve  F11=Display schedule data
F12=Cancel F17=Top    F18=Bottom
```

Differences: Core / Server

Differences: Zend Core and Server

| | Zend Core | Zend Server |
|--|--|--|
| Installation folder | /usr/local/zend/core | /usr/local/zendsvr |
| PHP.INI | /usr/local/zend/core/etc | /usr/local/zendsvr/etc |
| Web server root(s) | /www/zendcore and /usr/local/zend/apache2 | /www/zendsvr |
| Document root | /www/zendcore/htdocs | /www/zendsvr/htdocs |
| Zend Framework | /usr/local/Zend/ ZendFramework | /usr/local/zendsvr/share/ ZendFramework |
| PHP binaries folder where php resides | /usr/local/zend/core/bin | /usr/local/zendsvr/bin |
| PHP Log files | /usr/local/zend/core/logs | /usr/local/zendsvr/ var/log |
| Web user profile (assign authority to it) | NOBODY | QTMHHTTP |
| Default HTTP Port | :89 | :10088 |
| Admin Interface URL | http://yourIBMi:89/ZendCore/ | http://yourIBMi:10088/ZendServer/ |

Review: PHP basics on i

Review of PHP basics: Step 1

- **Learn some basic HTML**
 - Try <http://w3schools.com/html>
 - Tables (<table>, <tr>, <td>) useful for business data
 - “View Source” in browser to borrow bits of HTML
- **Optional: learn as needed**
 - Javascript
 - Adds dynamic functionality to pages
 - Cascading style sheets (CSS)
 - Modern way to specify colors, fonts, and other attributes of how a site looks

Step 2: Try a simple PHP script

- PHP scripts are text files that reside in the IFS
- Save script in /www/zendsvr/htdocs/helloworld.php
- Run in browser URL:
<http://i5system:10088/helloworld.php>

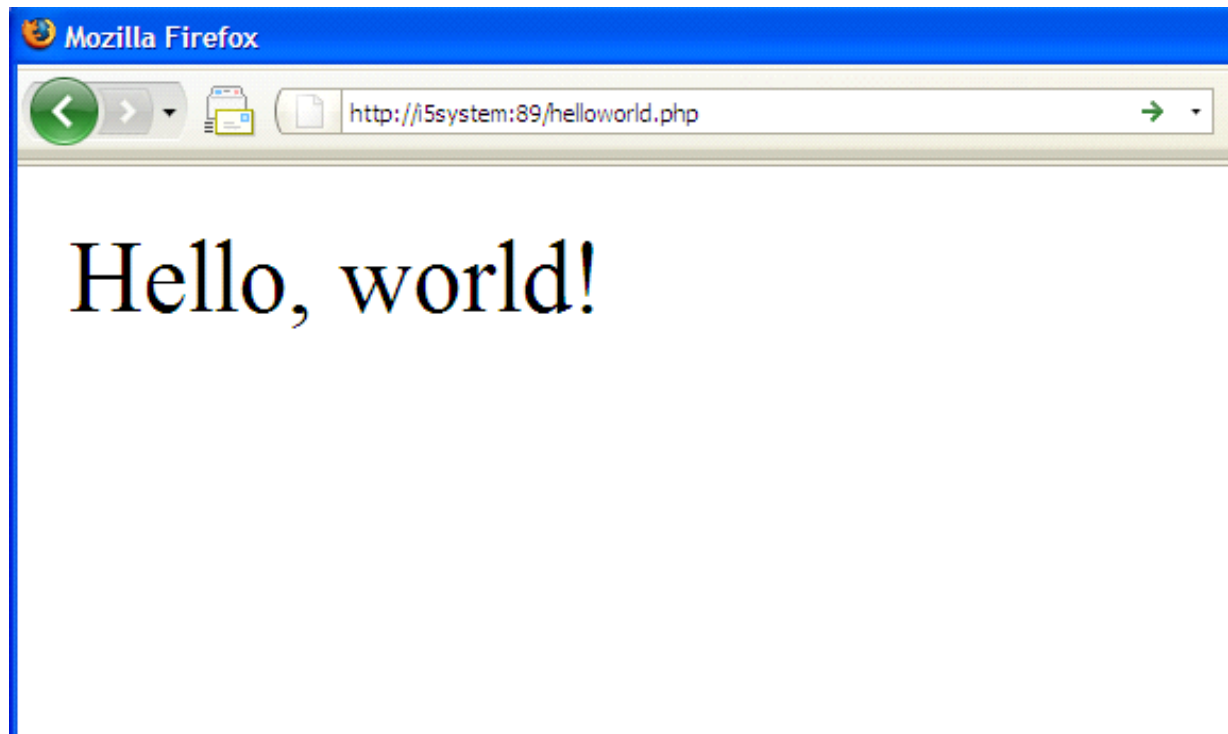
```
<?php

    // simple script to test PHP
    echo "Hello, world!";

?>
```

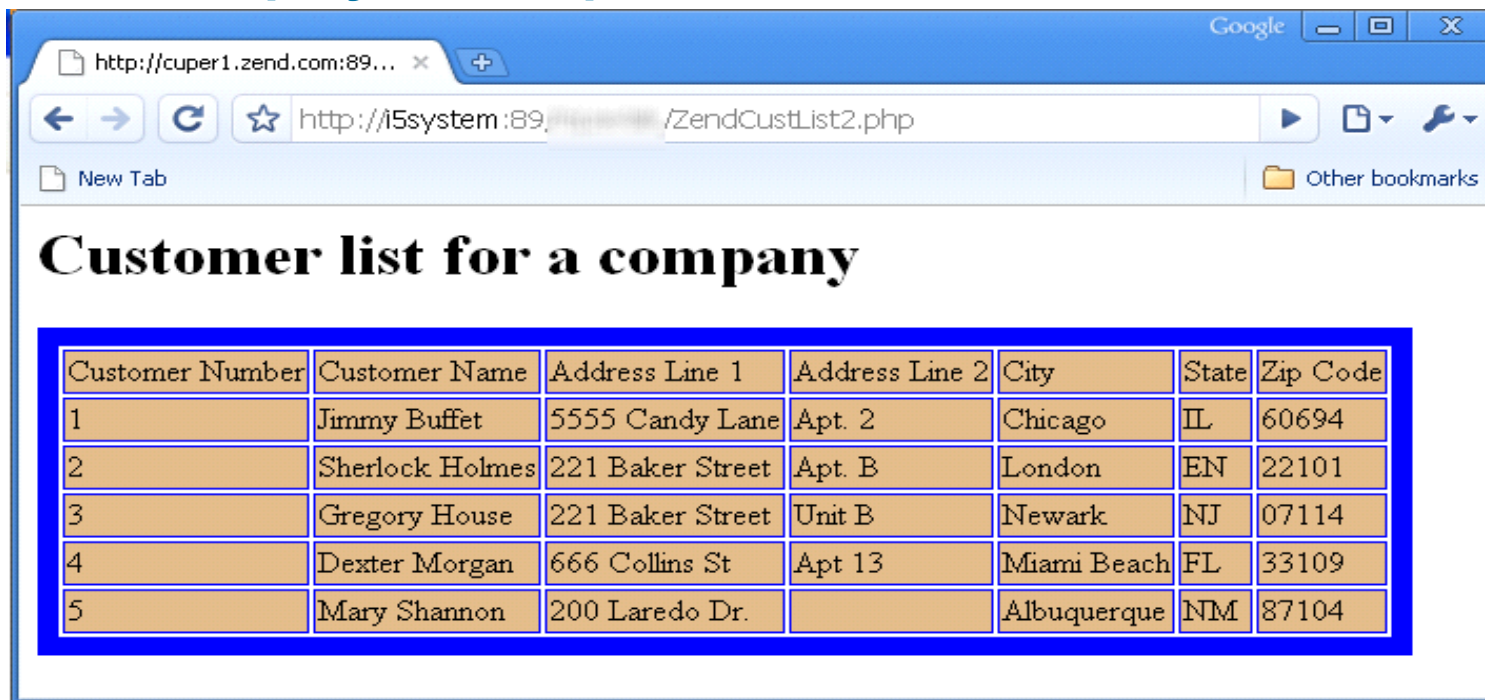
“Hello, world!” in browser

- **The output of helloworld.php**



Step 3: Access db2

- Example:
 - Connect to db2 on i
 - Select records from a db2 table
 - Load the records in an HTML table
 - Display the output



The screenshot shows a web browser window with the address bar containing the URL `http://i5system:89.../ZendCustList2.php`. The page title is "Customer list for a company". Below the title is a table with 7 columns: Customer Number, Customer Name, Address Line 1, Address Line 2, City, State, and Zip Code. The table contains 5 rows of customer data.

| Customer Number | Customer Name | Address Line 1 | Address Line 2 | City | State | Zip Code |
|-----------------|-----------------|------------------|----------------|-------------|-------|----------|
| 1 | Jimmy Buffet | 5555 Candy Lane | Apt. 2 | Chicago | IL | 60694 |
| 2 | Sherlock Holmes | 221 Baker Street | Apt. B | London | EN | 22101 |
| 3 | Gregory House | 221 Baker Street | Unit B | Newark | NJ | 07114 |
| 4 | Dexter Morgan | 666 Collins St | Apt 13 | Miami Beach | FL | 33109 |
| 5 | Mary Shannon | 200 Laredo Dr. | | Albuquerque | NM | 87104 |

Connection to DB2 for i

- Need three things (OK to leave blank for default):
 - Database name
 - User ID
 - Password

```
// Standard DB connection to DB2...
$conn = '*LOCAL'; $name = ""; $pwd = "";

$i5link = db2_connect($conn, $name, $pwd);
if (!$i5link)
echo 'Connection failed: '.db2_stmt_error().' : '.db2_stmt_errormsg();

$sql = "SELECT * from prodlib.customer";

$stmt = db2_exec($i5link,$sql)
or die("Failed query:".db2_stmt_error().": ".db2_stmt_errormsg());

?>
```

Reading data

Loop through record set

```
<h1> Customer list for a company</h1>
<TABLE BORDER="10" BORDERCOLOR="blue"><TBODY BGCOLOR="DEB887">
<TR><TD>Customer Number</TD><TD>Customer Name</TD><TD>Address Line 1</TD>
<TD>Address Line 2</TD><TD>City</TD><TD>State</TD><TD>Zip Code</TD></TR>

<?php

echo " <TR><TD> $row['CUSTNUM'] </TD>
    <TD>$row['CUSTNAME'] </TD>
    <TD>$row['CUSTADDR1']</TD>
    <TD>$row['CUSTADDR2'] </TD>
    <TD>$row['CUSTCITY']</TD>
    <TD>$row['CUSTSTATE'] </TD>
    <TD>$row['CUSTZIP']</TD></TR>";
}
echo ' </table> ';
db2_close($i5link);

?>
```

PHP Resources

- **Webinars:**
 - Zend's pre-recorded webinars: <http://www.zend.com/resources/webinars/i5-os>
 - My basic PHP presentation: <http://www.sbsusa.com/php/>
- **Support: Zend Server includes one year of “silver” support**
- **Forums and lists**
 - forums.zend.com (look for IBM i forums)
 - lists.nyphp.org (general PHP questions)
- **Books (online and print)**
 - PHP Manual: <http://php.net>
 - *Zend Core for i5/OS* Redbook
 - PHP on IBM i book by Jeff Olen & Kevin Schroeder (MC Press)
- **PHP User Groups**
 - nyphp.org, liphp.org
 - COMMON has lots of PHP



Zend Framework

Zend Framework

- **A starting point for your applications, providing**
 - Security features
 - Modular design
- **A collection of over 70 PHP components to simplify common tasks, including some for:**
 - Form creation (and reuse)
 - Logging
 - Database access
- **A demonstration of PHP 5 best practices**
- **It provides standards and great functionality but will not cramp your style. Your development is not limited in any way**

Why ZF's time is right

- **PHP is being used for critical apps on IBM i**
- **Managers, CIOs, technology architects are taking notice**
- **It's time for professional practices**
 - Standards and consistency
 - Awareness of security
 - Reuse and easy maintenance of code
 - Leverage your software investments
 - Training and support
 - Doing it “right”
- **ZF gets you there—“Enterprise PHP”—faster—and keeps you in control**

Why I use it

- **As I learn what it can do, the less boring code I write**
 - I can write less “plumbing” code
- **Use ZF’s code however you like**
 - <http://framework.zend.com/license>
 - Safe for corporate use
- **It keeps up with trends and APIs**
 - Compatibility with diverse database systems, and APIs (authentication, web services, more)

Zend Framework Community

- **Contributors include individuals and companies. Companies include:**
 - Zend (of course)
 - IBM
 - OmniTI
- **Technology partners:**
 - Adobe, Google, IBM, Microsoft, nirvanix, Strikelron

Here's why ZF reminds me of the i5 world

- **Appreciation of standards: naming, parameter lists**
- **The tools you need are already integrated**
 - Common components (template system, emailer, etc.) are there for you; no need to research/download/install
 - Upgrades like a “cume tape”—all components upgraded as a well tested unit
- **ZF support available from Zend**
 - Similar to phoning IBM about i5/OS



ZF's birth, early years, and maturity on i5

- **2005: PHP Collaboration Project at ZendCon**
 - Started as collection of components but coalesced
 - PHP 5, object oriented (OO) from the start
 - Set example of OO design patterns and practices
 - More on OO later
- **2007-2009: Fast progress**
 - July 2007: GA version 1.0
 - Feb. 2009: version 1.70 with db2/i5 support
 - Oct. 2009: version 1.94; minor releases every couple of weeks
- **April 2009: ZF/i application won COMMON's "best web solution"**

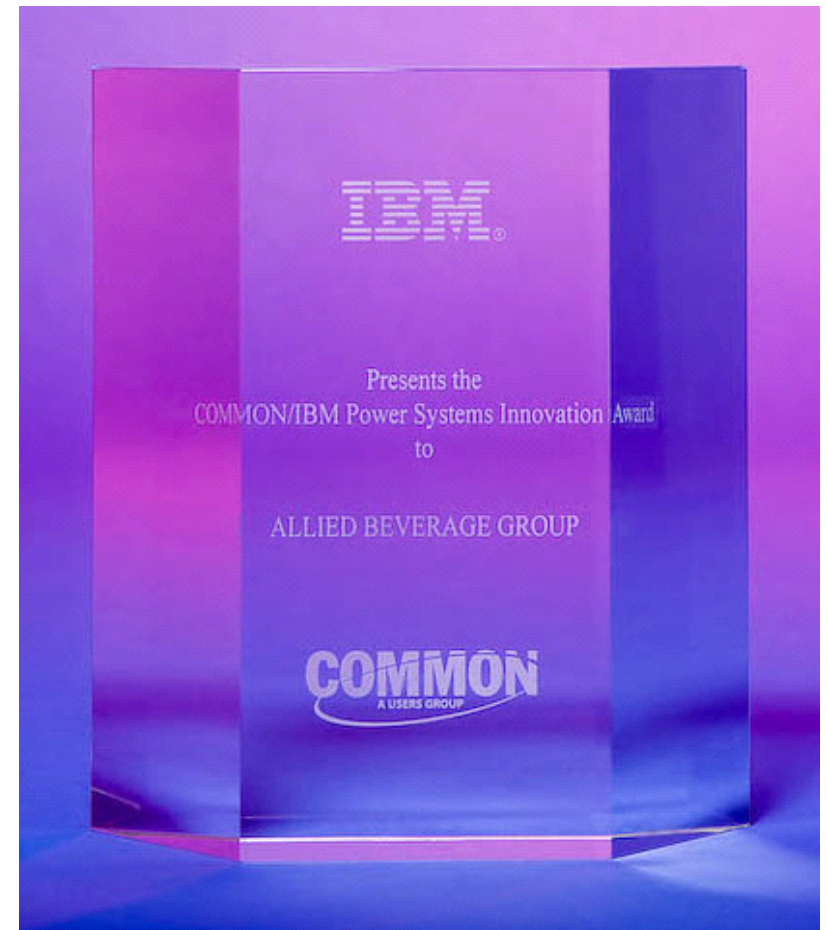
COMMON award for best web solution 2009

**Allied Beverage Group's
“eBiz”**

**Wine catalog/ordering system
on IBM i**

Built in Zend Framework

**Full-text catalog search in
native db2**



Why eBiz was successful

- **For Allied, PHP brings people and resources together on the “i”**
 - db2 database provides reliable, consistent product catalog and order data
 - No extra servers needed
 - Re-using RPG logic
 - Everyone on the same team
 - PHP is “superglue”: plans afoot to connect other systems, too
- **In the wine distribution industry, a solid reputation is important**
 - For their first high-profile project, asked Strategic (us) to develop the system
- **Consistency, standards, security, reusability**
 - Zend Framework
- **Speed critical for sales reps in the field**
 - (Being compared to green screen speed!)
 - Zend Platform

Allied Beverage eBiz live demo (if time)



Welcome,
Angel Wong #125

Home > Search Product Catalog > Search Results (7 products found), order for EUROPA LIQUORS (001588)

PRICING MONTH: **June 2009**

Advanced Search

Search for item: ^[?] [\(proof^o\)](#)
 with bottle price ^[?] to ^[?] (optional)

AMERICO'S INC (001588)
 DBA EUROPA LIQUORS
 155-57 PACIFIC ST, NEWARK NJ, 07102
 Phone: 973-686-8185

Off Premise Terms: NET
 Total List: \$215.54
 Total Disc: \$25.00
Est Total Net: \$190.54
 [Cases: 1](#) [Bottles: 0](#)

Results for **Keywords: CHARD NAPA 375ML**

| Product | Code | Size | Pack | Qty | Cs/Bt | Add Items | Price | | Inventory | | Vintage | Info | \$ Best Buy |
|---|---------|--------|------|--------------------------------|--|------------------------------------|---------|-----------|-----------|--------|---------|------|-------------|
| | | | | | | | \$ Case | \$ Bottle | Case | Bottle | | | |
| Acacia Chardonnay A By Acacia | 5607061 | 375 MI | 12 | <input type="text" value="3"/> | cases <input type="button" value="v"/> | <input type="button" value="Add"/> | | | 26 | 5 | NV | | |
| Cakebread Cellars Chardonnay Napa Valley 07 | 7433065 | 375 MI | 12 | <input type="text" value="1"/> | bottles <input type="button" value="v"/> | <input type="button" value="Add"/> | | | 9 | 5 | 2007 | | |
| Graich Hills Cellar Chardonnay | 5544265 | 375 MI | 12 | <input type="text"/> | cases <input type="button" value="v"/> | <input type="button" value="Add"/> | | | 5 | 7 | 2006 | | |
| Levendi Chardonnay Red Hen 05 | 4591060 | 375 MI | 12 | <input type="text"/> | cases <input type="button" value="v"/> | <input type="button" value="Add"/> | | | 13 | 2 | 2005 | | |
| Merrvale Chardonnay Starmont 07 | 4223069 | 375 MI | 12 | <input type="text"/> | cases <input type="button" value="v"/> | <input type="button" value="Add"/> | | | 8 | 8 | 2007 | | |
| Schramsberg Blanc de Blanc | 4056064 | 375 MI | 12 | <input type="text"/> | cases <input type="button" value="v"/> | <input type="button" value="Add"/> | | | 17 | 9 | 2005 | | |

Object Orientation

(Instant 2-slide intro)

Object Orientation (OO)

Here is an incredibly quick summary of OO, which you'll see used throughout ZF

| OO Concept | Analogy in i5 | Example |
|------------|---|--|
| Property | a field in a data structure | <code>\$_orderNum</code> |
| Method | function or subprocedure | <code>isOrder()</code> |
| Class | Imagine an intelligent data structure containing both data (properties) and programming logic (methods), which are both called "members" of the class | <pre>class Order { protected \$_orderNum; function isOrder() { . . . } . . . }</pre> |

OO Syntax

- **The arrow (->) lets you access the members (methods and properties) of an object instance**
 - `$controller = $this->getRequest()->getControllerName();`
- **Sometimes you'll also see the double colon (::), which is similar, but is used when a member is "static" (one per class)**
 - `echo Zend_Registry::get('user');`
- **If you can read this notation, you can read ZF code. You will learn to appreciate its simplicity.**

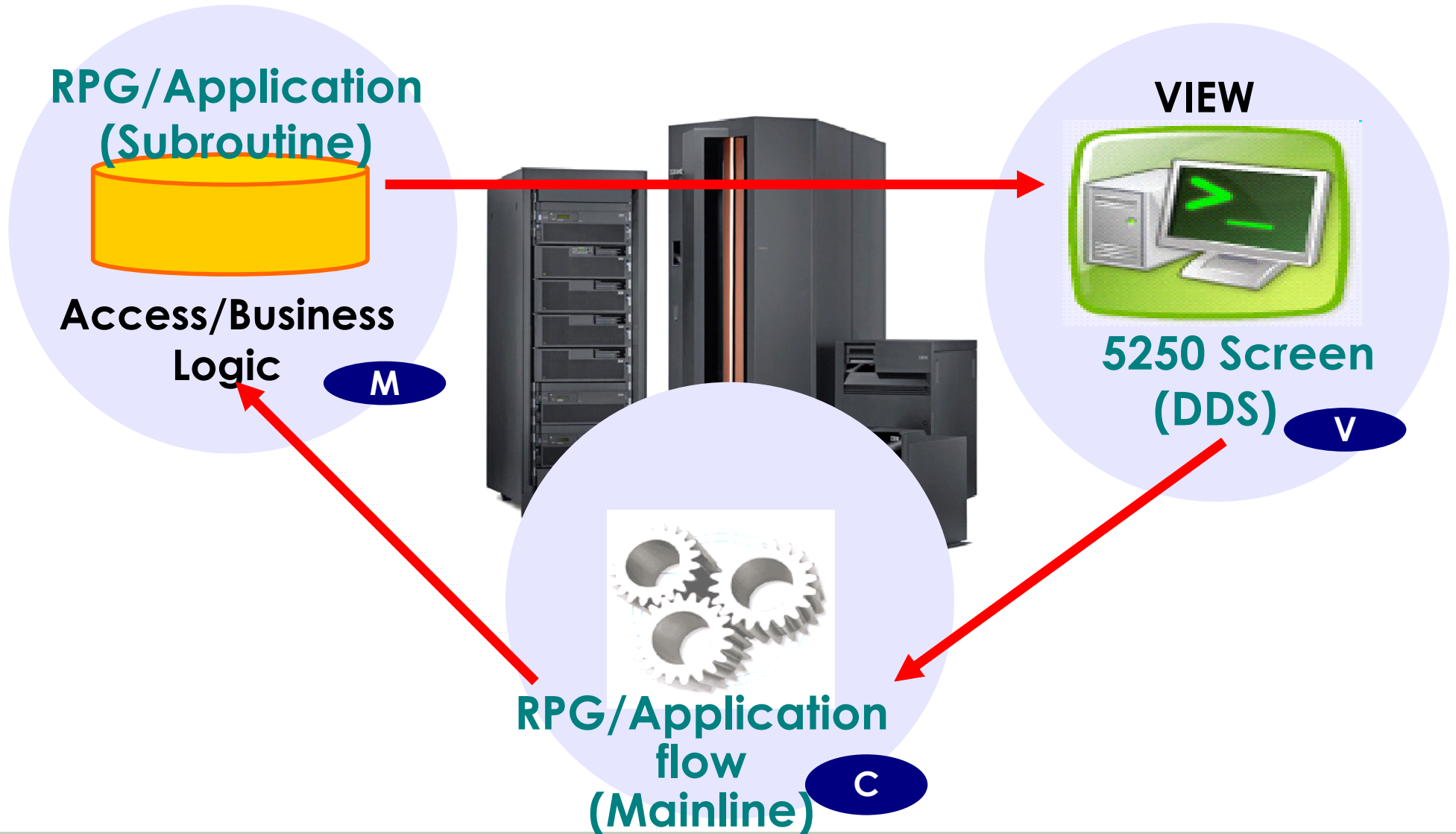
Model – View – Controller (MVC) design pattern

- **You already know this pattern from RPG/DDS**
- **With green screens, IBM handles it under the covers, so you take it for granted**
- **On the web, you must define your application's structure more explicitly**
- **Be patient...MVC seems strange at first, but you'll soon realize that you've been here before...**

MVC in detail

- **Model**
 - Reusable classes that access data and business rules
 - Keep SQL and application details in one place
- **View**
 - Templates containing HTML or other output, with small bits of PHP
 - Plunk your HTML into a “view” without worrying about overwriting your mainline PHP code—helps web designers work with business programmers
- **Controller (action controller)**
 - Application flow
 - Connects model and view
 - Don't confuse with “front controller,” which just initializes the MVC
- **Next: MVC from an RPG perspective**

RPG Model View Controller (MVC)



Confession

For my first attempt with ZF, I put all my SQL in the controller

It gave me a feeling of accomplishment

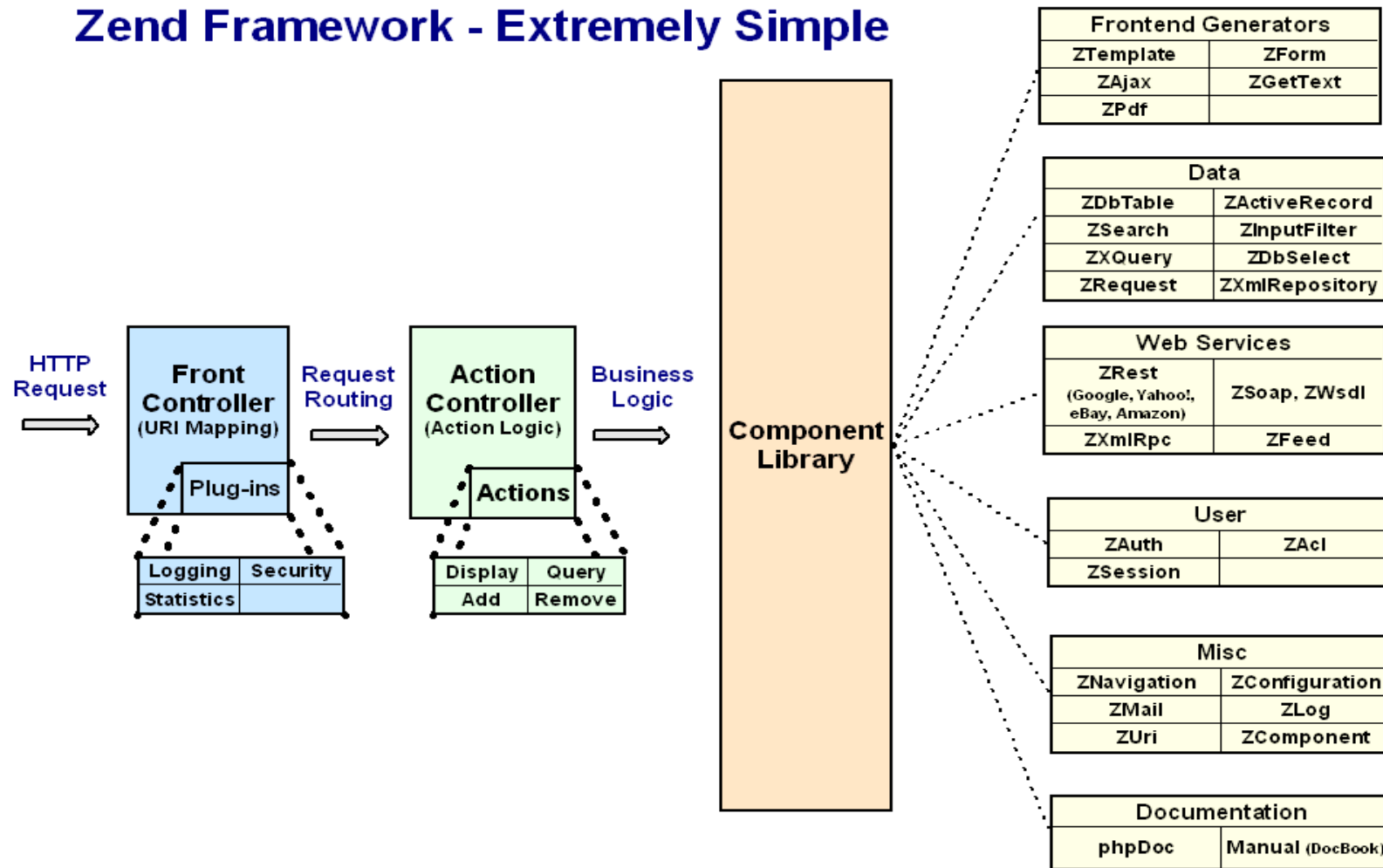
The MVC police did not appear

Later, I moved the SQL into a model class

- Simplified the controller, which was getting complex and hard to understand
- Made the SQL reusable

Front controller to action controller

Zend Framework - Extremely Simple



Front controller routes “friendly” URL

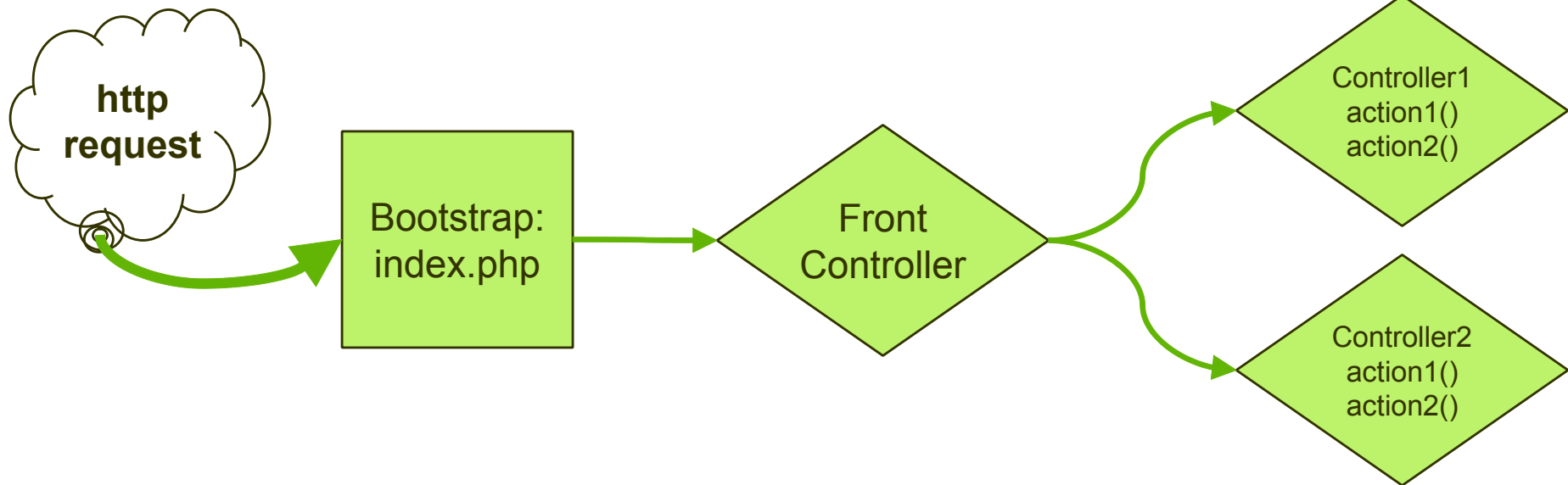
- **Default routing convention:**

- `http://example.com/controller/action/param1/value1...`

Controller maps
to class name

Action maps to
method name

Param/value pairs
are passed to
action

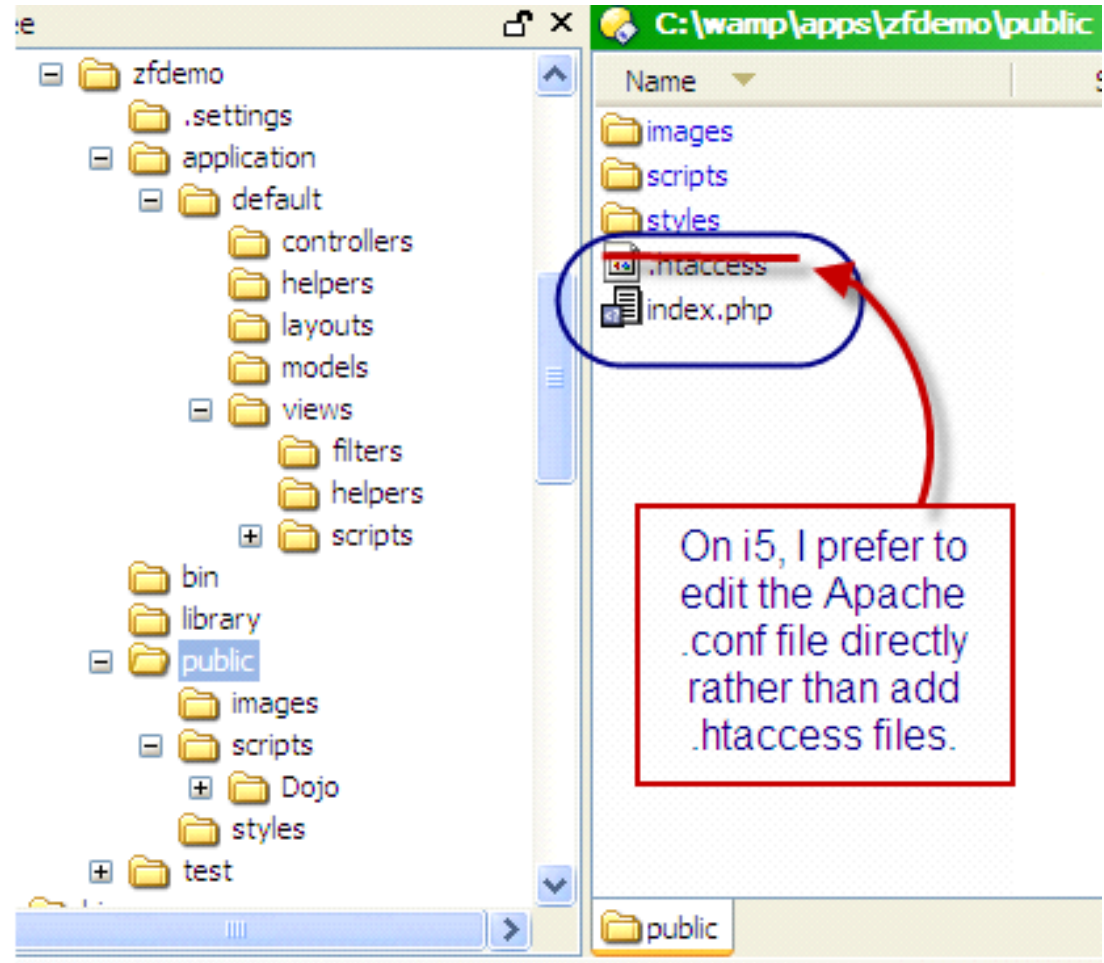


All requests through index.php in doc root

Document root is the only public folder.

index.php:

- initializes application
- instantiates Front Controller



Apache configuration

Most tutorials suggest `.htaccess`, but I prefer to use the main PASE Apache config file (without proxy): `/usr/local/Zend/apache2/conf/httpd.conf`

```
Listen 8000
```

```
RewriteEngine on
```

```
NameVirtualHost 10.11.12.13:8000
```

```
<VirtualHost 10.11.12.13:8000>
```

```
    DocumentRoot /www/ebiz/htdocs/html
```

```
</VirtualHost>
```

```
<Directory /www/ebiz/htdocs/html/>
```

```
    # disallow .htaccess, so webserver won't search for them
```

```
    AllowOverride None
```

```
    # funnel all requests to index.php
```

```
    # except requests for static resources
```

```
    RewriteEngine On
```

```
    RewriteRule !\.(js|ico|gif|jpg|png|css|html)$ index.php
```

```
</Directory>
```

Front controller bootstrap file: index.php

```
<?php
// minimum bootstrap file (can be many variations)
// use explicit, full paths to save the i5 time searching for
files
$paths = array(
    realpath(dirname(__FILE__) . '/../library'),
    realpath(dirname(__FILE__) . '/../application'),
    realpath(dirname(__FILE__) . '/../application/models'),
    '.'
);
set_include_path(implode(PATH_SEPARATOR, $paths));

// Prepare the front controller
$frontController = Zend_Controller_Front::getInstance();
// Dispatch the request using the front controller
$frontController->dispatch();
```

Model-View- Controller

(Good structure for your
application)

Action Controller

- **Controller classes handle groups of request URLs**

http://example.com/**controller**/action

Default: IndexController

- Organizes and groups functionality
- One class (extending Zend_Controller_Action) for each controller

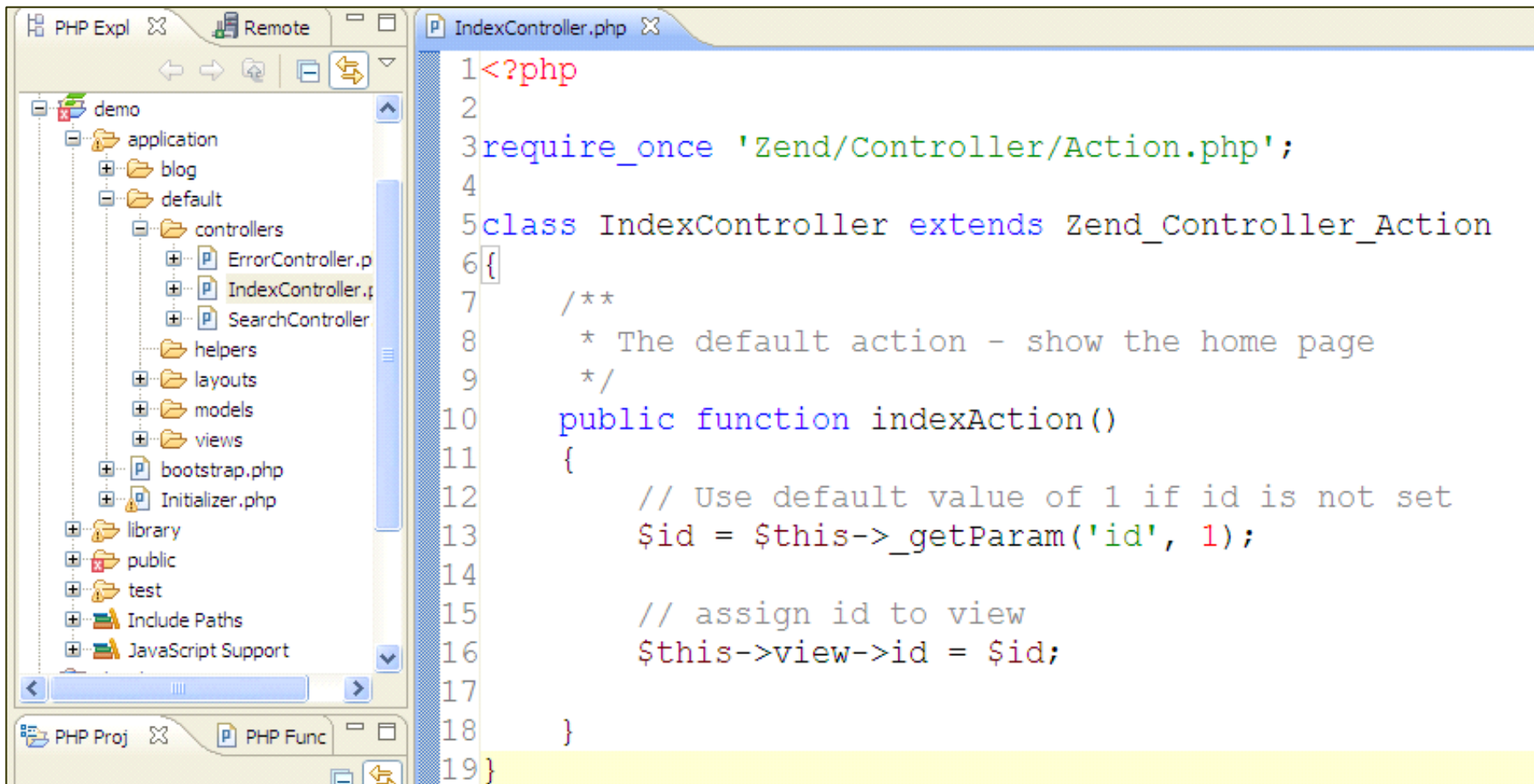
- **Action methods in each controller class handle requests**

http://example.com/controller/**action**

Default: indexAction()

- **Named like *action*Action()**
 - **Example: If *action* is “edit” then method is editAction()**

Controller example



The screenshot shows a PHP Explorer window with a project structure on the left and a code editor on the right. The project structure includes folders for application, blog, default, library, public, and test, and files for bootstrap.php and Initializer.php. The code editor displays the following PHP code for IndexController.php:

```
1 <?php
2
3 require_once 'Zend/Controller/Action.php';
4
5 class IndexController extends Zend_Controller_Action
6 {
7     /**
8      * The default action - show the home page
9      */
10    public function indexAction()
11    {
12        // Use default value of 1 if id is not set
13        $id = $this->getParam('id', 1);
14
15        // assign id to view
16        $this->view->id = $id;
17
18    }
19 }
```

Zend View

Scripts (templates)

- PHP-based script templates to present data
- Should contain only display logic, not business logic
- Default naming: “myaction.phtml”

Helpers

- Classes and methods that provide reusable view functionality
 - Examples of built-in view helpers: `escape()`, `formText()`, `partial()`, `partialLoop()`, `headTitle()`
 - Write your own, too

Layout

What View means to you

You can plunk HTML right into the view script and replace literals with PHP echo statements:

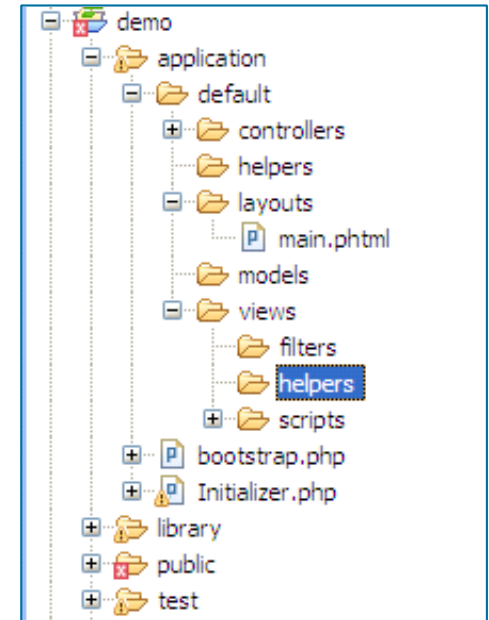
- `<?php echo $this->productNum ?>`

ZF provides smart defaults

- The `$this->escape()` view helper uses PHP's `htmlspecialchars()` function, recommended by most security experts.

My own view helper: TitleCase.php

```
class Zend_View_Helper_Title_Case {  
  
    public $view;  
  
    public function titleCase($string = '')  
    {  
        return ucwords(strtolower(trim($string)));  
    } //(public function titleCase())  
  
    public function setView(Zend_View_Interface $view) {  
        $this->view = $view;  
    }  
}
```

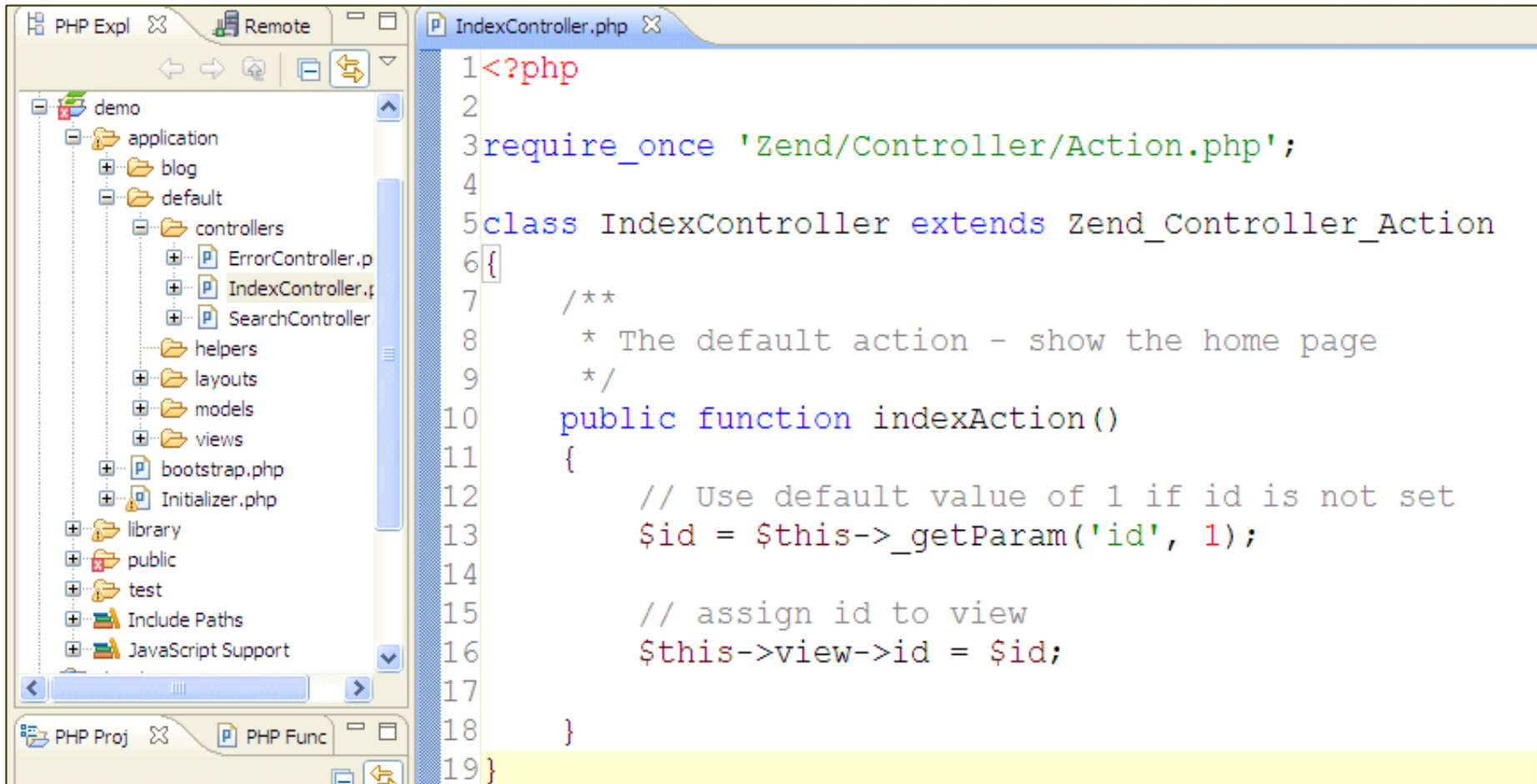


Usage:

```
echo $this->titleCase('mozilla  
firefox');
```

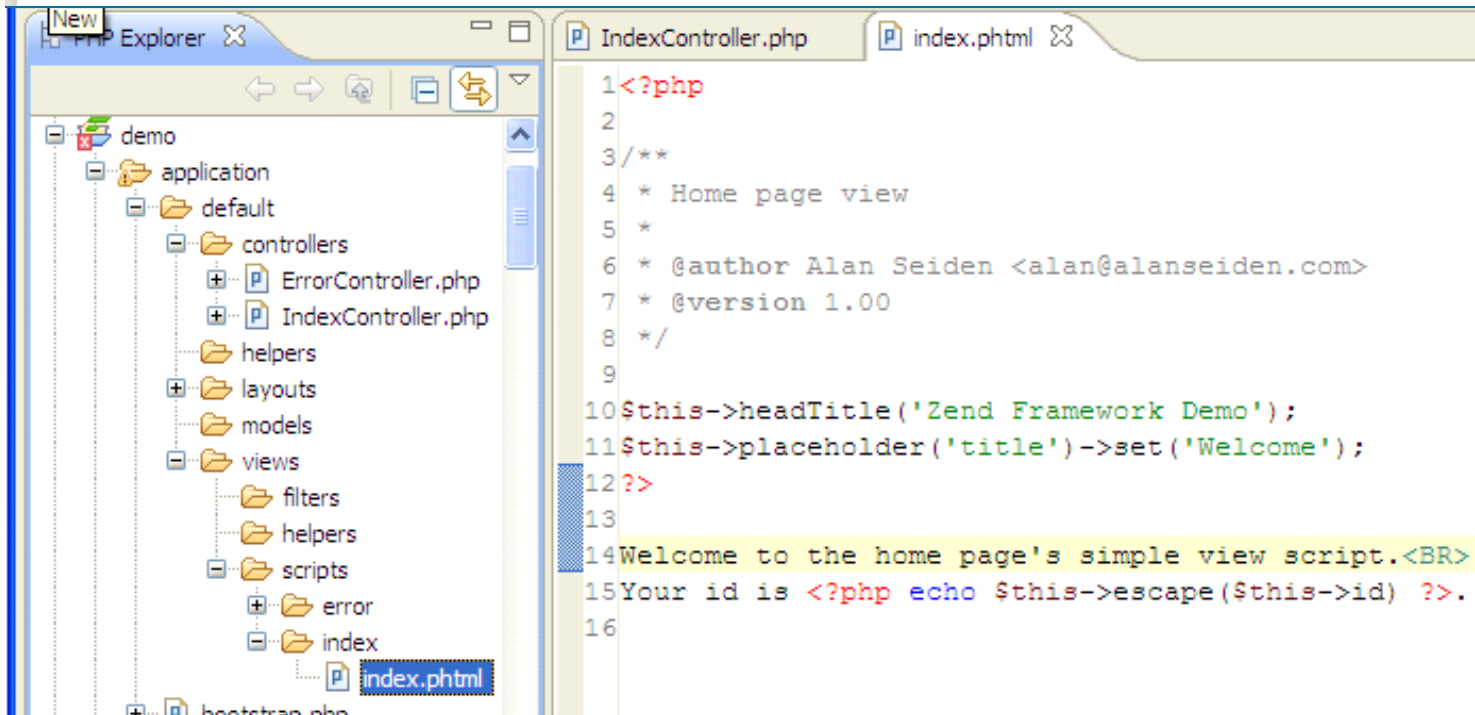
```
// Mozilla Firefox
```

Controller (again)...leads to view



```
1<?php
2
3require_once 'Zend/Controller/Action.php';
4
5class IndexController extends Zend_Controller_Action
6{
7    /**
8     * The default action - show the home page
9     */
10   public function indexAction()
11   {
12       // Use default value of 1 if id is not set
13       $id = $this->getParam('id', 1);
14
15       // assign id to view
16       $this->view->id = $id;
17
18   }
19}
```

View script automatically rendered



```
1 <?php
2
3 /**
4  * Home page view
5  *
6  * @author Alan Seiden <alan@alanseiden.com>
7  * @version 1.00
8  */
9
10 $this->headTitle('Zend Framework Demo');
11 $this->placeholder('title')->set('Welcome');
12 ?>
13
14 Welcome to the home page's simple view script.<BR>
15 Your id is <?php echo $this->escape($this->id) ?>.
16
```



| Zend Framework Demo | Zend Framework Demo |
|--|---|
| <p>http://localhost/zfdemo/</p> <p>Welcome</p> <p>Welcome the home page's simple view script. Your id is 1.</p> | <p>http://localhost/zfdemo/index/index/id/39</p> <p>Welcome</p> <p>Welcome to the home page's simple view script. Your id is 39.</p> |

Zend_Layout

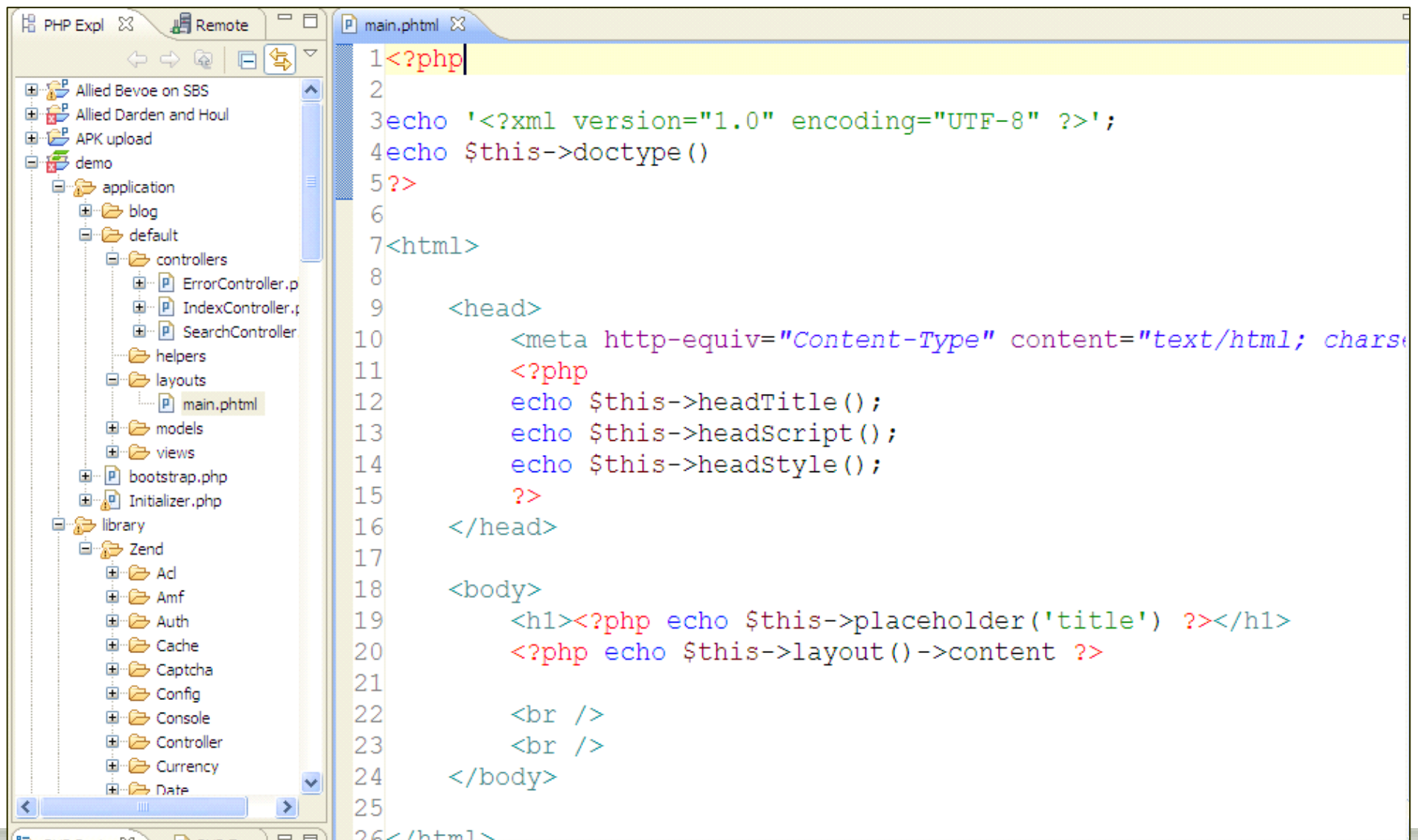
Gives your site a consistent look while retaining flexibility

Two-step view pattern

- Uses Zend_View for rendering

Placeholders useful for setting javascript, titles, other variable data

Zend_Layout code



The image shows a screenshot of a web development environment. On the left, a file explorer displays the directory structure of a Zend Framework application. The 'application' directory is expanded, showing sub-directories like 'blog', 'default', 'controllers', 'helpers', 'layouts', 'models', and 'views'. The 'layouts' directory contains the file 'main.phtml', which is currently open in the editor on the right.

```
1 <?php
2
3 echo '<?xml version="1.0" encoding="UTF-8" ?>';
4 echo $this->doctype()
5 ?>
6
7 <html>
8
9     <head>
10         <meta http-equiv="Content-Type" content="text/html; charse
11         <?php
12         echo $this->headTitle();
13         echo $this->headScript();
14         echo $this->headStyle();
15         ?>
16     </head>
17
18     <body>
19         <h1><?php echo $this->placeholder('title') ?></h1>
20         <?php echo $this->layout()->content ?>
21
22         <br />
23         <br />
24     </body>
25
26 </html>
```

Model

Model

Model classes are abstract representations of data

- Can be extended from:
 - Zend_Db_Table – For database abstraction
 - Or any other class that fits your needs
 - Or build your own own abstract representations of your data

Model classes can contain business logic to prepare complex data for presentation

I stuff any “weird” code in models so that controllers/views are clean

Model example: "system busy" flag

```
// model: Busyflag.php

class Busyflag
{
    protected $name = 'SYSFLAGS'; // old-fashioned "System 36"
    table

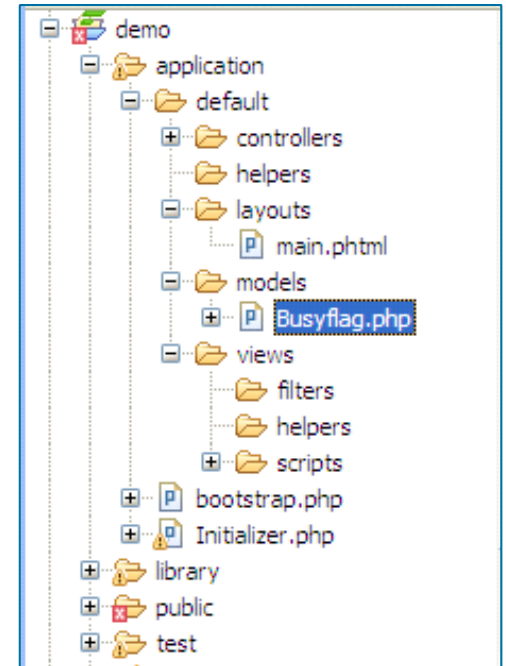
    // isSiteUp: return true if up, false if down
    public function isSiteUp() {

        $sql = "select BZYFLG from {$this->name} where RECID = 'B'";
        $row = SBSDbhelp::getOneRow($sql);

        // true if Y, false otherwise.
        return $row['BZYFLG'] == 'Y';

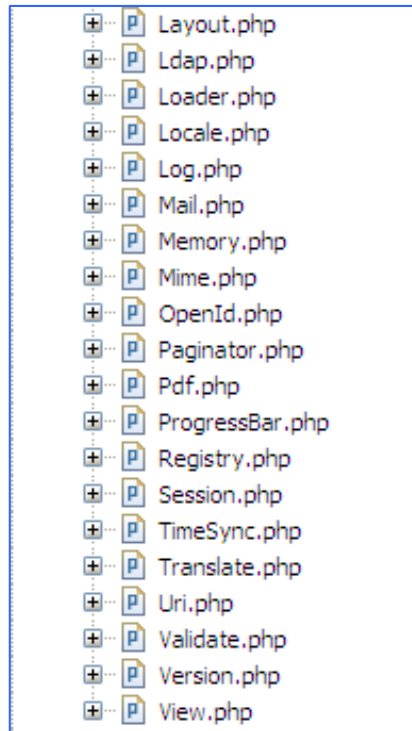
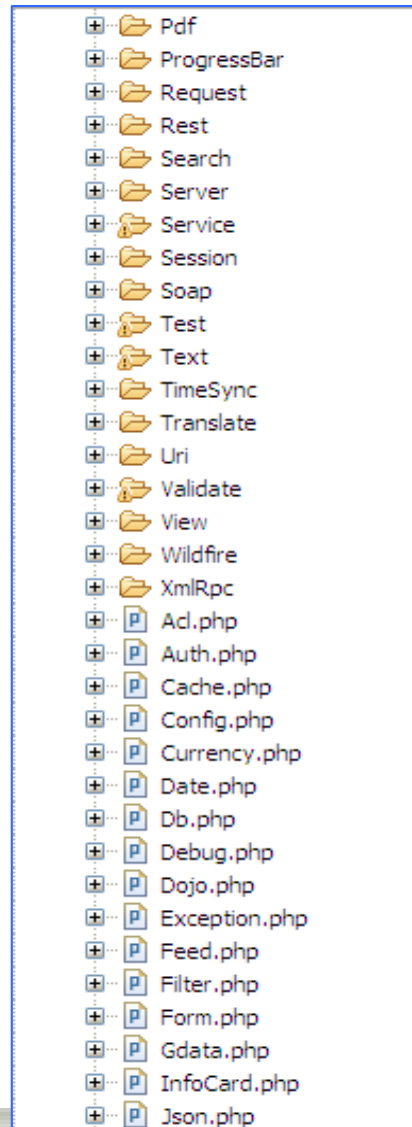
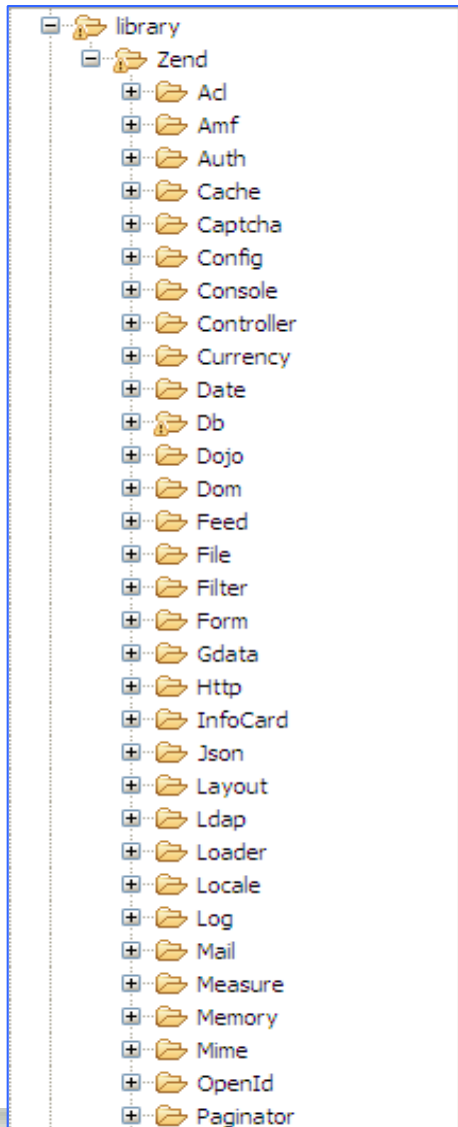
    } // (public function isSiteUp())
} // (class Busyflag)
```

```
// usage (from a preDispatch front controller plugin)
$busyFlag = new Busyflag();
if (!$busyFlag->isSiteUp()) {
    // Take user to "site down" page.
} // (if (!$busyFlag->isSiteUp()))
```



Components included

Library of Zend components



Reminder:

Zend/Db.php = Zend_Db

Zend/Db/Table.php = Zend_Db_Table

Zend_Form component

Zend_Form

- **Creates the HTML for your data entry forms**
 - `$form = new Zend_Form();`
 - `$form->addElement('text', 'ordernum');`
 - `$form->addElement('text', 'date');`
- **Several ways to output form elements**
 - `echo $form; // (all elements) or`
 - `echo $form->ordernum; // (just ordernum) or`
 - `echo $form->getElement('ordernum');`
- **The HTML generated by that last echo**
 - `<input type="text" name="ordernum" id="ordernum">`

More complex Zend_Form example in MVC

```
// in a model:
class My_Form extends Zend_Form
{
    /* Create a text box that checks for non-letter characters
    ** and converts text to lower case on submission */
    $form->addElement('text', 'username', array(
        'validators' => array(
            'alnum',
            array('regex', false, '/^[a-z]/i')
        ),
        'required' => true,
        'filters' => array('StringToLower'),
    ));
}

// in a controller:
$form = new My_Form();
$this->view = $form

// in a view:
echo $this->form;
```

Real life example of Zend_Form

The screenshot shows a web browser window titled "Search Product Catalog - Mozilla Firefox". The page has a navigation bar with links for "Home", "Advanced Search", "Orders", "ABG Employee Connect", and "Log out". Below the navigation bar is a banner image with the "eBiz@ABG" logo and a welcome message: "Welcome, Angel Wong #105". The main content area is titled "Search Product Catalog" and includes a "PRICING MONTH: June 2009" indicator.

The search form is divided into two sections:

- Keyword Search:** Includes a text input for "Search for item:" with a "[?]" icon and a "(proof)" link. Below it is a "with bottle price (\$):" section with two numeric inputs and a "(optional)" label, followed by a "Search" button.
- Advanced Search:** A grid of search criteria including "Code", "Color", "Brand", "Producer", "Kosher", "Value-Added Pack", "Description", "Vintage", "Varietal", "Class", "Sustainable", "Size", "Place of Origin", "Supplier", and "with bottle price (\$)". Each input field has a "[?]" icon. The "Varietal" dropdown menu is open, showing a list of options: "Charbono / Corbeau / Charbonneau", "Chardonnay", "Chardonnay Blend", "Chardonnay Sauvignon Blanc Blend", "Chardonnay-Pinot Grigio Blend", "Chardonnay-Pinot Gris Blend", and "Chardonnay-Semillon Blend".


A callout box with a pointer to the "Varietal" dropdown menu contains the text: "Partial-description combo boxes (Dojo) on advanced search". At the bottom of the page, there is contact information: "Customer Service North: (800) 272-1323 South: (800) 841-1948" and "© Copyright Allied Beverage Group LLC. All Rights Reserved."

Search results

Search Results (14 products found) - Mozilla Firefox

http://ebizdev.alliedbeverage.com/advancedsearch/result/variatal/chardonni ☆ | snagit blur

Home | Advanced Search | Orders | ABG Employee Connect | Log out

 eBiz@ABG

Welcome, Angel Wong #105






Home > Search Product Catalog > Search Results (14 products found) PRICING MONTH: **June 2009**

[Advanced Search](#)

Search for item: [?] (proof °)

with bottle price (\$): [?] to [?] (optional)

Results for **Varietal: CHARDONNAY BLEND**

| Product | Code | Size | Pack | Price | | Inventory | | Vintage | Info | \$ Best Buy |
|---|---------|--------|------|-------------------|------------------|-----------|--------|---------|---|--|
| | | | | \$ Case | \$ Bottle | Case | Bottle | | | |
| Antinori Cervaro Della Sala Chardonnay | 6600543 | 750 MI | 6 | 149.99 | 24.99 | 0 | 0 | 2006 |  | |
| This product may be substituted with 6600544. | | | | | | | | | | |
| Bodegas Julian Chivite Navarra Reserva Coleccion 125 | 6784340 | 750 MI | 6 | 179.99 | 29.99 | 5 | 3 | NV |   | |
| Ca Montini Luna Di Luna Chardonnay/Pinot Grigio Gift Pack | 4582449 | 750 MI | 6 | 149.99 | 24.99 | 27 | 0 | NV |   | 1 cs: 149.99 - 24.99 |

Implementation of Product Id field

```
// AdvancedSearchForm class is a model:
class AdvancedSearchForm extends Zend_Form {

    $prodId = new Zend_Form_Element_Text("prodid",
        array('size' => 7, 'maxlength' => 7, 'class' =>
'width5'));
    $prodId->setRequired(false)
        ->addFilters(array("StripTags", "StringTrim"))
        ->addValidator(new Zend_Validate_Digits())
        ->setDescription("Partial product ID")
        ->setLabel("Code");

    $this->addElements(array($prodId));

} // (AdvancedSearchForm)
```

Zend_Db

database access

Database access with Zend_Db

Zend_Db can create SQL for you

- Fewer long, error-prone SQL strings

Zend_Db offers a lot beyond creating SQL

- consistent quoting
- escaping
- prepared statements (substitutions for “?”)
- profiler

Database access

Several classes give you a good start

- `Zend_Db_Adapter_Abstract`: uniform API for many RDBMS's
 - `Zend_Db_Adapter_Db2`
 - `Zend_Db_Adapter_Pdo_Mysql`
- `Zend_Db_Table`
 - Gateway class for doing queries on a given table
- `Zend_Db_Statement`
 - Specify SQL for “prepared” statement (secure--with ? marks)
- ...and more

Zend_Db_Table

Zend_Db_Table gives you record-level access similar to what you may be used to.

- Insert
 - `$products->insert(array('prodid' => '1234567', 'prodname' => 'sparkling water',));`
- Update
- Find (like chaining with a key)
 - `$results = $products->find('1234567');`
- Delete

Zend_Db techniques for IBM i

```
$driverOptions = array('i5_lib' => 'MYLIBRARY');
// Use 'driver_options' => array('i5_naming' => DB2_I5_NAMING_ON) for liblists

$config = array(
    'host'      => 'localhost',
    'username' => 'ALAN',
    'password' => 'secret',
    'dbname'   => 'SBSDB',
    'driver_options' => $driverOptions);

$db = Zend_Db::factory('DB2', $config);

// Using "select" method to select and display records
$rows = $db->select()->from('CUSTOMERS')
        ->where('CUSTNO >= 0');
// or write your own SQL with parameters
$sql = 'SELECT * FROM CUSTOMERS WHERE CUSTNO > ? and CUSTNO < ?';
$rows = $db->fetchAll($sql, array(100, 2000));

// either way, output results
foreach ($rows as $row) {
    echo $row['CUSTNO'] . ' ' . $row['CUSTNAME'];
}
```

Zend_PDF

```
<?php
// combine three TIFF images into a multi-page PDF
$images = array('/images/page1.tif', '/images/page2.tif', '/images/page3.tif');

$newFileName = '/pdf/full_document.pdf';

$pdf = new Zend_Pdf();

foreach ($images as $image) {

    // Create new page
    $pdfPage = $pdf->newPage(Zend_Pdf_Page::SIZE_A4);
    $image = Zend_Pdf_Image::imageWithPath($image);
    $pdfPage->drawImage($image, 10, 10, 400, 500);

    // add page to pdf
    $pdf->pages[] = $pdfPage;

} //(foreach ($images as $image))

// Save document as a new file
$pdf->save($newFileName);
```

Client classes for web services

- **Akismet**
- **Amazon**
- **Audioscrobbler**
- **Delicious**
- **Flickr**
- **Google Data**
- **Nirvanix**
- **ReCaptcha**
- **Simple**
- **SlideShare**
- **Strikelron**
- **Technorati**
- **Twitter**
- **Yahoo**

Zend_Service_Yahoo

Search the web with Yahoo

- Get your application ID from <http://developer.yahoo.com/wsregapp/>
- Class uses Zend_Rest_Client under the covers
- Returns Zend_Service_Yahoo_WebResultSet containing instances of Zend_Service_Yahoo_WebResult

```
$yahoo = new Zend_Service_Yahoo("YAHOO_APPLICATION_ID");
$results = $yahoo->webSearch('IBM PHP',
                             array('results' => '10',
                                    'start'   => 1));

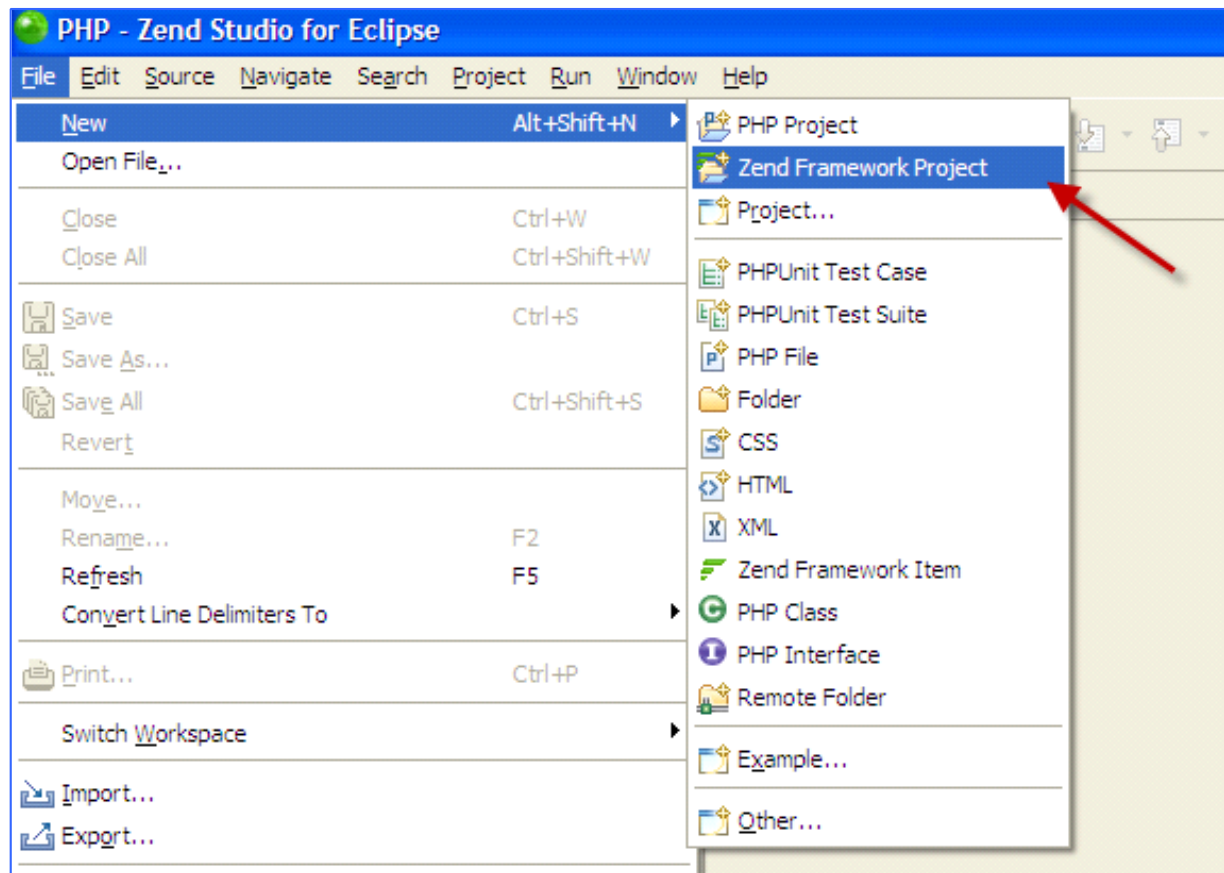
foreach ($results as $result) {
    echo '<b>' . $result->Title . '</b> ' . $result->Url . '<br />';
}
```

Results from \$yahoo->webSearch

IBM developerWorks : Blogs : Patrick Mueller <http://www.ibm.com/developerworks/blogs/page/pmuellr?tag=php>
Informed Networker - Social News for IT Professionals. - IBM, Zend ... <http://www.informednetworker.com/other/ibplatform/>
:: News : PHP : Zend Core for IBM on Linux <http://madpenguin.org/cms/?m=show&id=4775>
:: News : PHP : IBM backs open-source Web software <http://madpenguin.org/cms/index.php/?m=show&id=3567>
Digg - IBM: PHP development within Eclipse http://digg.com/programming/IBM_PHP_development_within_Eclipse
Digg - Will IBM Buy Zend / PHP ? http://digg.com/linux_unix/Will_IBM_Buy_Zend_PHP
php, simplexml | Diigo <http://www.diigo.com/tag/php+simplexml>
ibm, rest | Diigo <http://www.diigo.com/tag/ibm,rest>
IBM poop heads say LAMP users need to "grow up" <http://naeblis.cx/rtomayko/2005/05/28/ibm-poop-heads>
Hypergene MediaBlog " IBM, blogging and the rise of the world's biggest ... <http://www.hypergene.net/blog/print.ph>

Start the right way with Zend Studio for Eclipse

- **Creates a complete “hello world” application for you**
 - Leverage the ZF development team’s best practices



Resources: online

Official information:

- framework.zend.com/docs/quickstart
- zend.com/resources/webinars

Community tutorials and answers:

- zfforums.com
- devzone.zend.com

Path to ZF

- **Jump in**
 - Have a pilot project in mind
 - Take a ZF training class
 - Get mentoring from someone savvy in both ZF and “i”
- **Stay connected**
 - Join a ZF community, either online or a Meetup in person
 - Subscribe to Zend’s ZF support if it’s a mission-critical app

Now it's your turn

Share what you've been working on

- **Or what you'd LIKE to be working on**
- **I'll answer any questions about PHP or web**
 - How to get started
 - Comparisons of technologies
 - Specific PHP issues
 - How to do a particular task

Thanks! See you at next talk tonight

**Alan Seiden (blog and articles: alanseiden.com)
aseiden@sbsusa.com or 201-327-9400**



To receive free PHP/i tips by email, write to aseiden@sbsusa.com with subject: “PHP tips.”
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