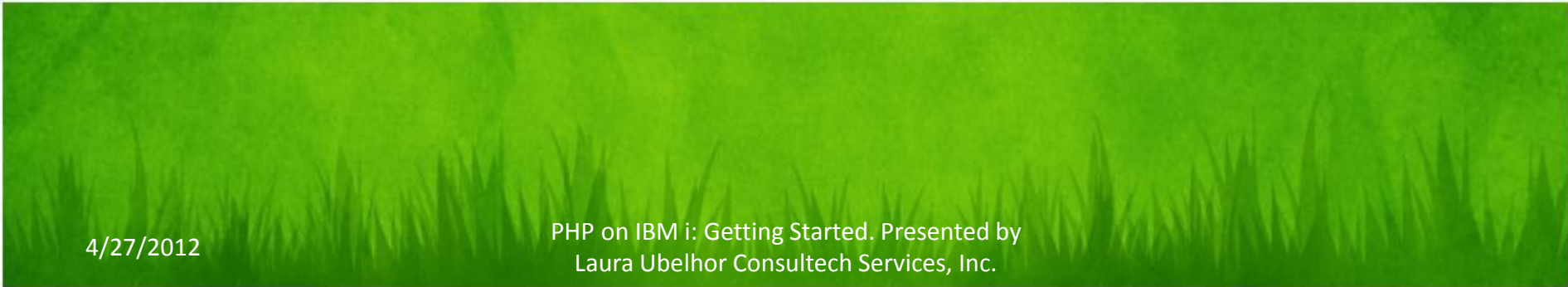




Laura A. Ubelhor – Consultech Services, Inc.  
lubelhor@consultechservicesinc.com



# PHP on IBM i: Getting Started



4/27/2012

PHP on IBM i: Getting Started. Presented by  
Laura Ubelhor Consultech Services, Inc.

# Laura A. Ubelhor Consultech Services, Inc.

## PHP on IBM Developer / Consultant / IBM i Education Enthusiast



Author of HTML for the Business Developer



Assistant Director of Common Education Foundation

President of SEMIUG

IBM i Business Partner Specializing in Application Development and Support



Owner and operator of Consultech Services, Inc. since 1992

Contact: [lubelhor@consultechservicesinc.com](mailto:lubelhor@consultechservicesinc.com)

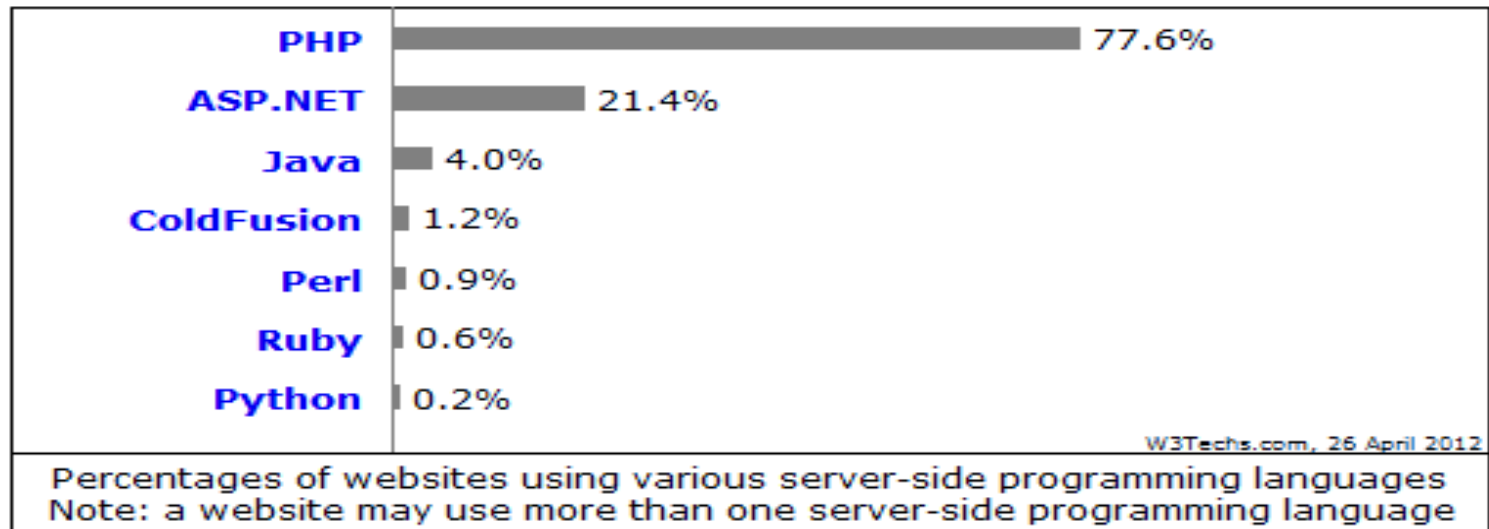
Phone 248-628-6800

## Usage of server-side programming languages for websites

This diagram shows the percentages of websites using various server-side programming languages. See [technologies overview](#) for explanations on the methodologies used in the surveys. Our reports are updated daily.

How to read the diagram:

PHP is used by 77.6% of all the websites whose server-side programming language we know.



[http://w3techs.com/technologies/overview/programming\\_language/all](http://w3techs.com/technologies/overview/programming_language/all)

# PHP on IBM i

---

- **Easy way to get data to Web**
  - Generates ordinary HTML, viewable in any browser
- **Cross-platform**
- **Offers gradual path of mastery**
  - Grass roots
  - Pilot project
  - Enterprise
- **Open source**
  - Managed by Zend, “the PHP company”
  - Contributors from community and corporations

# Open source is mainstream(ier)

<http://www.networkworld.com/community/node/73834>

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BACK TO MICROSOFT SUBNET

**Microsoft Tech**

Robert Mullins

-- Select Microsoft Subnet Blog -- ▾

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## Open source not just mainstream, it's mainstreamier

Survey shows 56 percent of end users say half their software purchases will be open source

By [Robert Mullins](#) on Mon, 05/16/11 - 11:04am.

 Email  2 Comments  Print

 Like

 0

I had to chuckle when I saw the news release headline "Open Source Now Mainstream," because that's been the theme of every open source conference I've covered for the last five years. But when Michael Skok, general partner at North Bridge Venture Partners and chair of the Open Source Business Conference (OSBC) 2011 that begins today in San Francisco, says open source is now mainstream, he can back it up.

A survey OSBC is releasing today at the conference is different from surveys in prior years because 60 percent of the respondents in the latest survey are end users, not vendors who'd be expected to hype open source. And the end users are fully embracing open source in both the public and private sectors. So I guess instead of being mainstream, it's "mainstreamier."

right people +  
right information +  
real time =  
**better business results**

**AVAYA**  
The Power of We™

**Rollover** to improve your business

# Where Did PHP Come From?



PHP development began in 1993/1994 and was introduced in 1995 when programmer [Rasmus Lerdorf](#) initially created a set of scripts he called "Personal Home Page Tools".

comp.infosystems.www.authoring.cgi

Message from discussion [Announce: Personal Home Page Tools \(PHP Tools\)](#)

[Rasmus Lerdorf](#) [View profile](#) [More options](#) Jun 8 1995, 3:00 am

Announcing the Personal Home Page Tools (PHP Tools) version 1.0.

These tools are a set of small tight cgi binaries written in C.  
They perform a number of functions including:

- . Logging accesses to your pages in your own private log files
- . Real-time viewing of log information
- . Providing a nice interface to this log information
- . Displaying last access information right on your pages
- . Full daily and total access counters
- . Banning access to users based on their domain
- . Password protecting pages based on users' domains
- . Tracking accesses \*\* based on users' e-mail addresses \*\*
- . Tracking referring URL's - HTTP\_REFERER support
- . Performing server-side includes without needing server support for it
- . Ability to not log accesses from certain domains (ie. your own)
- . Easily create and display forms
- . Ability to use form information in following documents

Here is what you don't need to use these tools:

# Where Did PHP Come From?

<http://itc.conversationsnetwork.org/shows/detail3298.html#>

 **ITConversations**  
A Conversations Network Channel

Search/Browse Podcasts ▾ My Podcasts ▾  RSS/Subscribe ▾ About ▾

## Rasmus Lerdorf

Yahoo

### PHP on Hormones

MySQL Conference from O'Reilly Media

44 minutes, 20.5mb, recorded 2007-04-26

Topics: [Software Development](#)



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In 1993, when Rasmus first saw the Mosaic Web browser, he knew that the Internet would be the platform of choice. But his employer, a Brazilian company, did not pay heed so he quit to return to Canada to do consulting work. During this six-month period, he found himself repetitively writing the same CGI programs in C. To avoid repetition, he collected his library of C programs and added a template parser that parsed HTML and made calls to his C routines. Thus was born the first version of PHP.



# Who uses PHP?

- Yahoo, eBay, Wikipedia, Mazda, Disney, Facebook, YouTube, Cisco, Indianapolis Motor Speedway, Bell Canada, IBM, McAfee, Levolor, NYSE Euronex, Corvette America, Allied Beverage
- Open source developers – 10,000+ projects
- Strong community worldwide
- PHP runs over 35% of the world's websites
- Millions of developers
- Deployed at more than 30,000 companies worldwide

# That age-old issue

- **“New users don’t like the green screens”**
- **“We need to open up our applications and data to the outside world, safely, and visually appealing**
- **But we don’t want to lose our investment in RPG code (or Cobol code)**
- **We still want stability...and want to run on the “i” !!**

# PHP is a server side Scripting Language

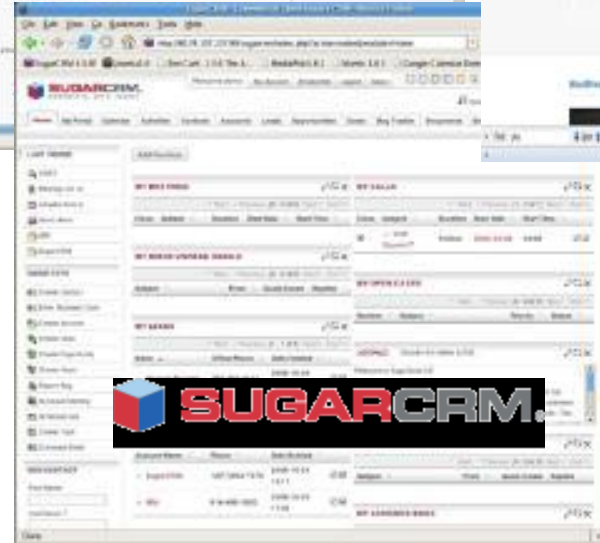
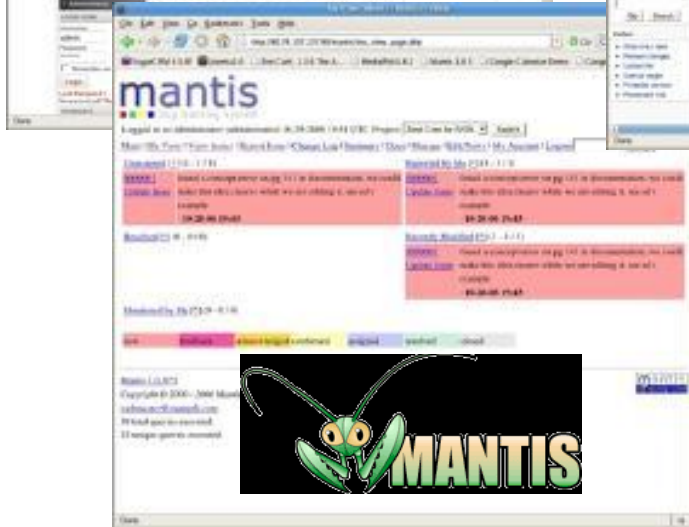
- **Interpreted, not compiled**
- **Forgiving and intuitive code structure (short learning curve)**
- **Immediate feedback during development**
- **Operating model is similar to Net.Data, not as verbose**
- **PHP is to Java what RPG is to COBOL**
- **PHP is an Object Oriented language that evolved from a procedural language and allows for starting out procedural and growing into OO**

# Downloadable applications (fine for IBM i)

Content Management  
[www.joomla.com](http://www.joomla.com)

Wiki  
<http://www.mediawiki.org>

Blog  
[www.wordpress.com](http://www.wordpress.com)



Bug Tracking/Helpdesk  
(Mantis400.com)

CRM  
[www.sugarcrm.com](http://www.sugarcrm.com)

E-Commerce  
[www.zen-cart.com](http://www.zen-cart.com)

# PHP on i History - always something new

- **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 and professional technical support from Zend
- **2007: Zend Studio: IDE/code editor  
and Zend Platform: performance booster and code tracer/monitor**
- **2008: Zend Framework supports “i” variant of db2**
- **2009: Zend Server Beta for “i”**
  - Combines the best of Core and Platform
- **2010: Zend Server released**
- **2011 New toolkit on “i”**

# PHP on i

## **Zend Server Community Edition for IBM i**

Zend Server CE is preloaded with IBM i 5.4, 6.1 and 7.1 starting in April 2010. The first year of Silver support (Web-based) from Zend is provided for no additional charge.

## **Zend Server for IBM i**

Zend Server with Gold and Platinum support from Zend is available for purchase from Zend (<http://www.zend.com/en/products/server/zend-server-ibm-i>) or IBM.

## **Zend Studio for IBM i**

Zend Studio can be downloaded from Zend's website (<http://www.zend.com/en/solutions/i5-solutions/>). The first year of Silver support (Web-based) from Zend is provided for no additional charge.

Zend Studio with advanced support options (Zend Developer Solution Standard and Zend Developer Solution Enterprise) from Zend can be purchased from Zend or IBM. Provides extra features, code tracing, higher support levels.

# Who is Zend?

## Zend is the PHP company

Developed initially by Rasmus Lerdorf in 1994



**Zeev Suraski and Andi Gutmans Contributing since 1997+**  
(ZEEv + aNDi = Zend)

**Zeev Suraski and Andi Gutmans, developers rewrote the parser in 1997 and formed the base of PHP 3, changing the language's name to *PHP: Hypertext Preprocessor*. The official launch came in June 1998. They also founded Zend Technologies.**

# Who is Zend?

## Zend is the PHP company

- **Leading provider of products and services for developing, deploying and managing business critical PHP applications**
- **PHP has quickly become the most popular language for building dynamic web sites**
- **Zend Provides comprehensive solution for support entire lifecycle of PHP applications**
- **Zend products are focused on PHP**
- **According to NetCraft, PHP has surpassed ASP making it the most popular web scripting language**
- **The Zend Engine is being utilized on over 20 million websites today**

- ❖ Powerful, flexible, popular
- ❖ Runs completely on your good old “i”
- ❖ Backed by IBM
- ❖ Allows your teams to work together
- ❖ Re-use RPG logic, called from PHP
- ❖ Consolidate departmental solutions (Excel spreadsheets!) into your reliable db2 database

# Why PHP on i

# PHP on i - a comfortable fit

- **Runs completely on your good old “i”**
  - Uses IBM’s native Apache web server
  - Shipped by IBM with V5R4 and higher
  - 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 applications

# Typical stages of PHP on i

- **Grass roots**
  - Prove to yourself how well PHP works on i
- **Pilot project(s)**
  - Managers see potential value; project approval
- **Enterprise PHP**
  - Important projects, developed with experience



# Grass roots stage

# Grass roots stage

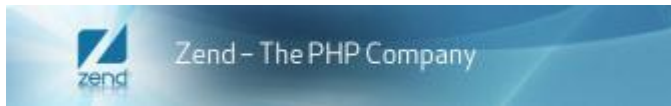


- **Go ahead, kick the tires!**
  - Download and install Zend Server CE (free)
  - Download Zend Studio
  - Create a simple web page, reading/writing DB2
  - Try open source software. Examples:
    - Mantis/400, [mantis400.com](http://mantis400.com)
    - WordPress, [wordpress.org](http://wordpress.org)
  - Prove it to yourself before “selling” to manager

# What you must know: grass roots

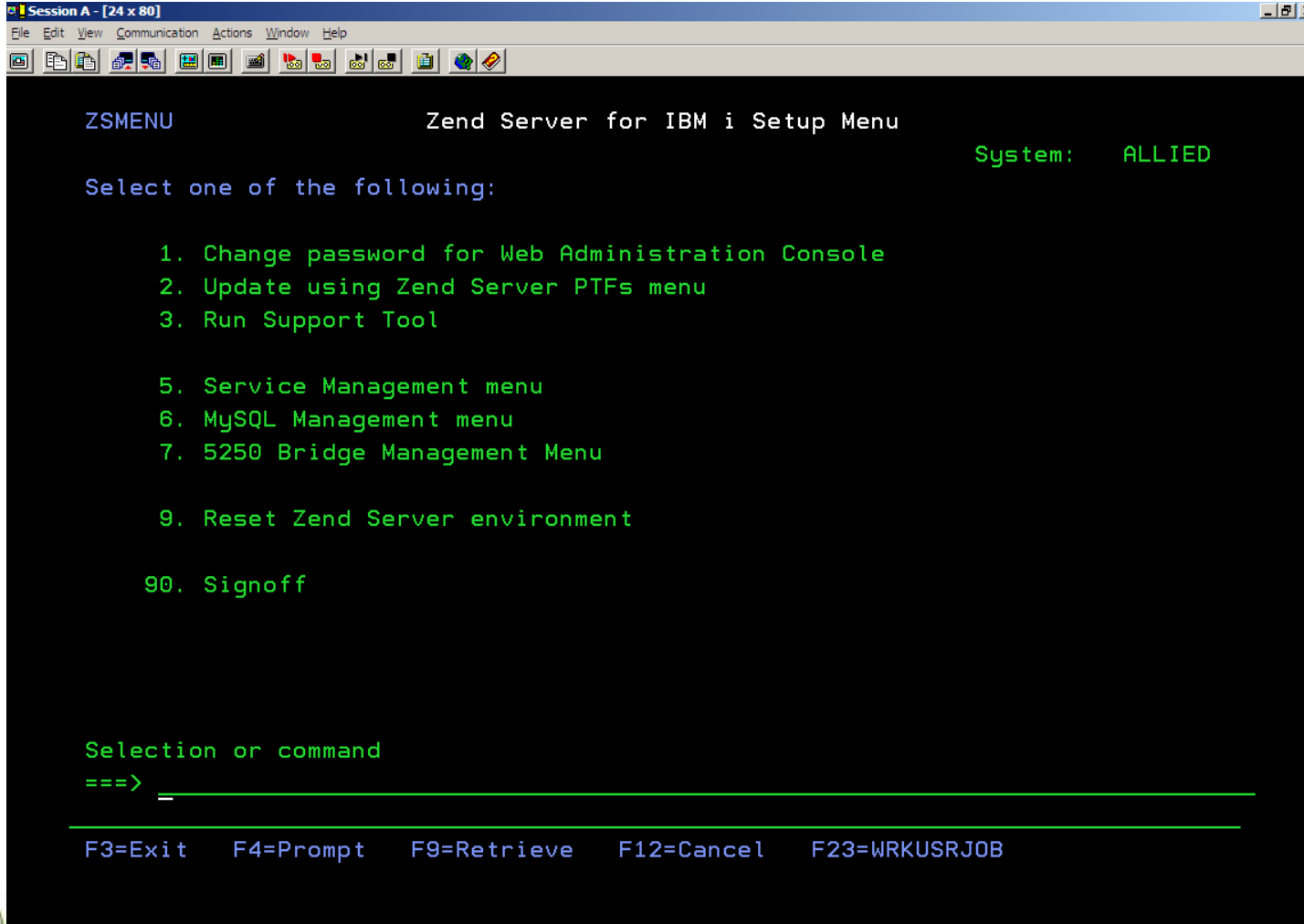
- **Learn some basic HTML**
  - Try <http://w3schools.com/html>
  - Tables (<table>,<tr>,<td>) useful for business data
  - “View Source” in browser to borrow bits of HTML
- **Learn some SQL**
  - <http://w3schools.com>
- **Learn basics of IFS**
- **Learn PHP basics**
  - <http://devzone.zend.com/6/php-101-php-for-the-absolute-beginner/>
  - <http://w3schools.com>
- **Optional: learn as needed**
  - Javascript <http://w3schools.com>
    - Adds dynamic functionality to pages
  - Cascading style sheets (CSS) <http://w3schools.com>
    - Great way to specify colors, fonts, and other attributes of how a site looks

# Installation



- <http://www.zend.com/products/server/downloads>
  - Click on the “IBM i” tab
- **Prerequisites**
  - V5R4 and:
    - [http://files.zend.com/help/Zend-Server-IBMi/i5\\_installing\\_zend\\_server.htm](http://files.zend.com/help/Zend-Server-IBMi/i5_installing_zend_server.htm)
    - IBM’s FastCGI PTF (free)
- **Try Zend Studio’s IDE (no charge, courtesy of IBM)**
  - “Zend Studio for Eclipse, IBM i Edition”
  - <http://zend.com/en/products/studio/downloads>
  - Look for “IBM i Edition”
- **Install on your i**
  - Start Zend Server: GO ZENDSVR/ZSMENU Option 5 then 1

# Admin menu (GO ZENDSVR/ZSMENU)



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

ZSMENU                                Zend Server for IBM i Setup Menu
System:  ALLIED

Select one of the following:

1. Change password for Web Administration Console
2. Update using Zend Server PTFs menu
3. Run Support Tool

5. Service Management menu
6. MySQL Management menu
7. 5250 Bridge Management Menu

9. Reset Zend Server environment

90. Signoff

Selection or command
===>

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F23=WRKUSRJOB
```

# First script: “Hello, World!”

- Save script in /www/zendsvr/htdocs/helloworld.php
- Run in browser URL:  
<http://isystem:10088/helloworld.php>

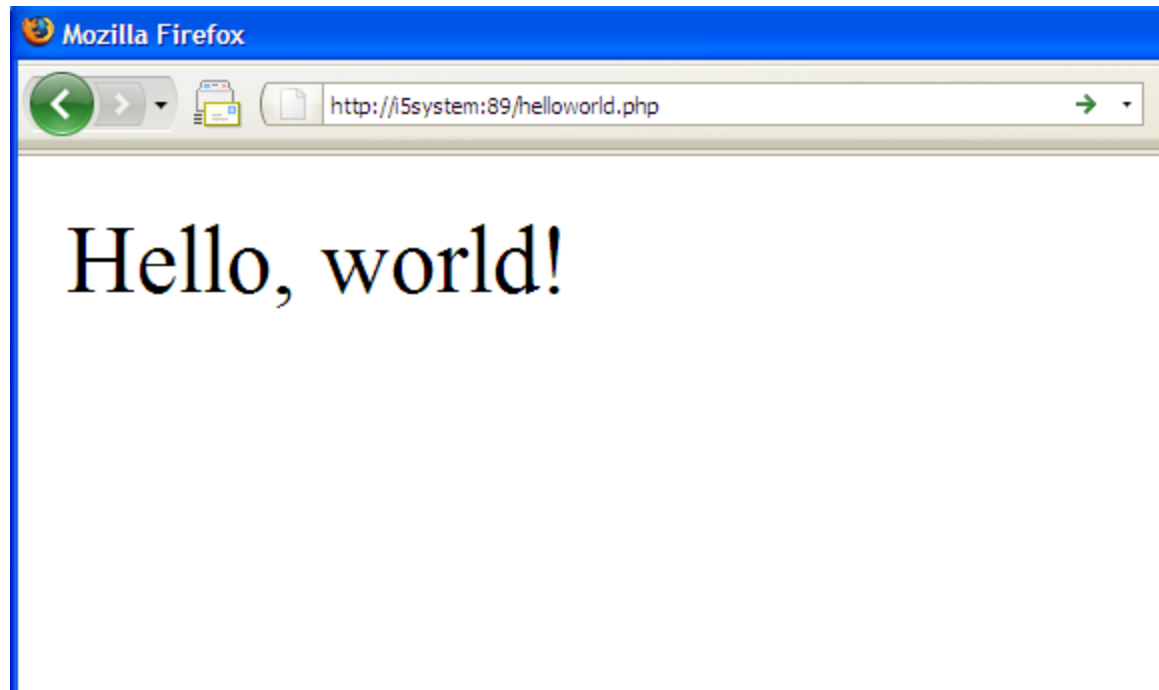
```
<?php

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

?>
```

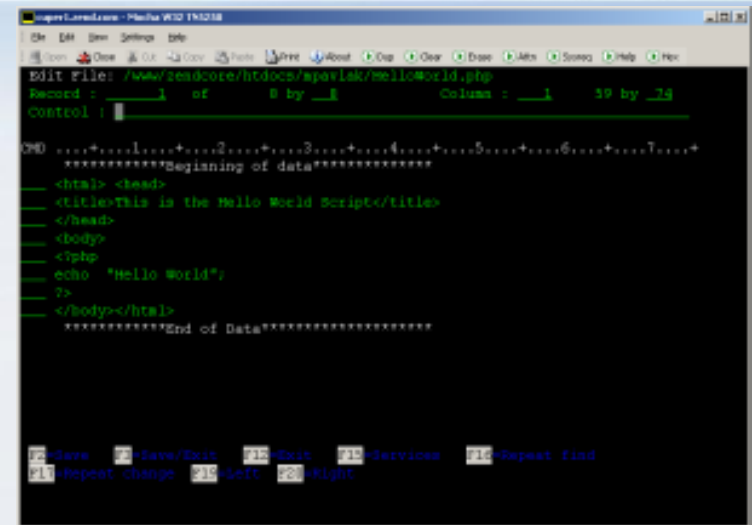
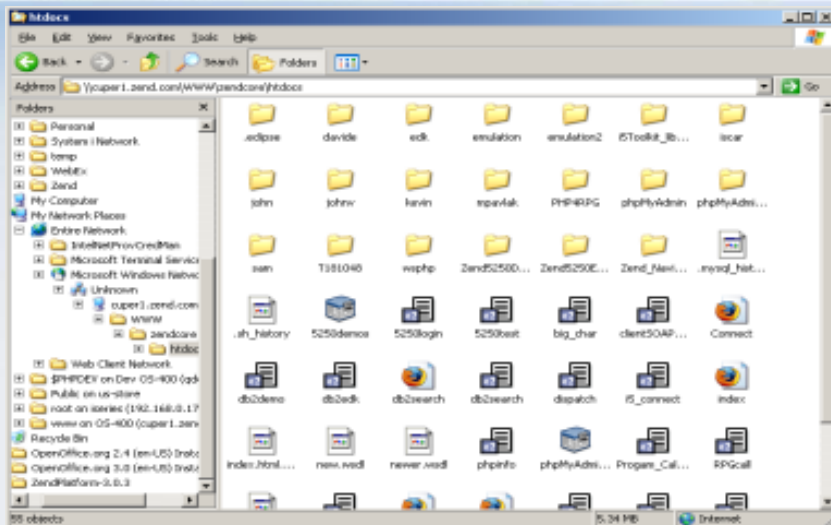
# “Hello, world!” in browser

- The output of helloworld.php



# How do I access IFS files?

- Three methods
  - Netserver file associations (or a mapped local drive)
    - Can be sluggish, but works in Explorer too
  - Remote server configuration
    - Recommended
  - WRKLNK
    - For emergencies only



- Better IDE than “Notepad”
- Free for IBM i customers
- Can connect to mapped drive (“local”) or FTP server (“remote”)
- Alerts you to any syntax errors or other mistakes; offers interactive debugging and code completion (like the F4 prompt)
- For good performance, your PC needs 2GB RAM

# Zend Studio for IBM i



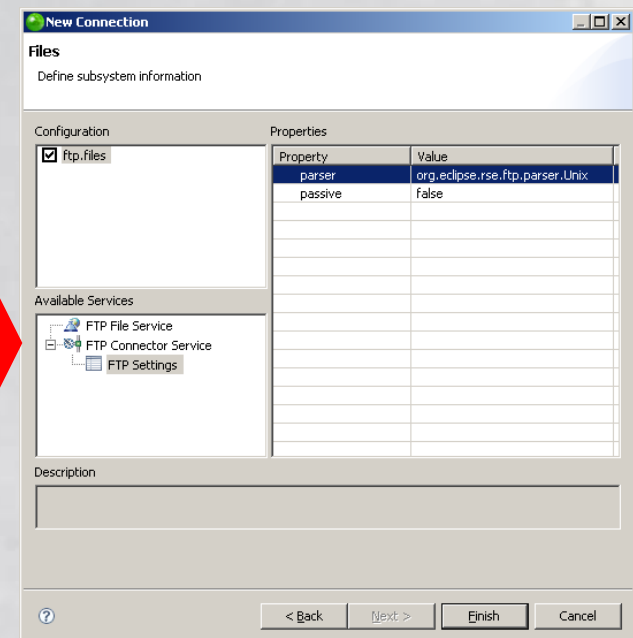
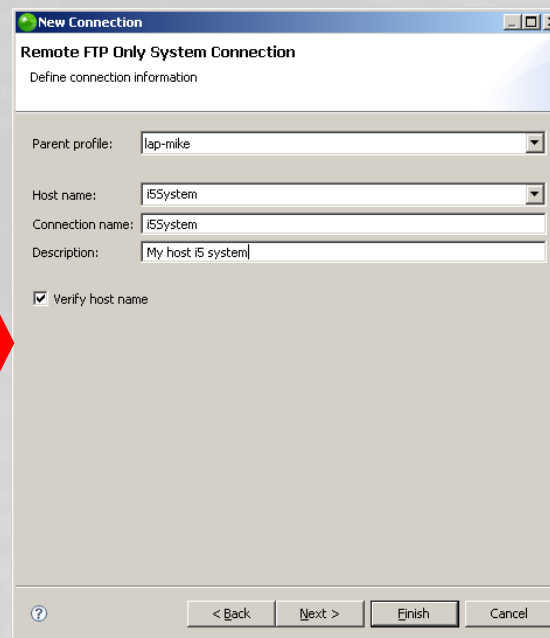
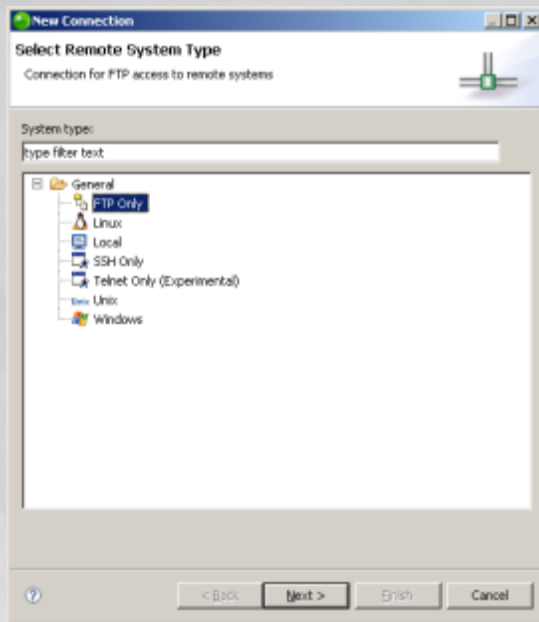
# Configure “Remote Server” in Studio

- FTP
  - Familiar
  - Sluggish
  - Most systems support FTP
- SSH
  - More secure
  - More powerful
  - Easy to setup
  - Easier to setup on i6.1 +



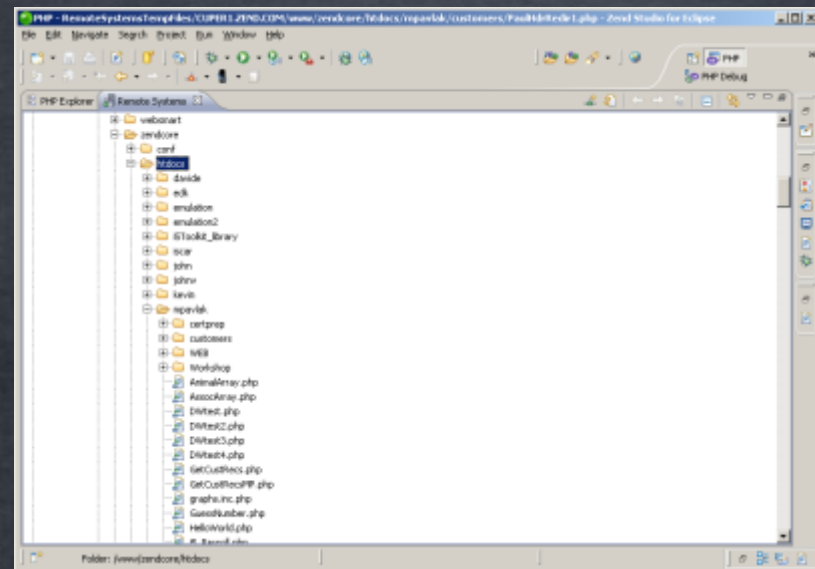
# Configure “Remote Server” in Studio

- Start Zend Studio for IBM i
- Click the new connection button, select FTP or SSH
- Enter domain name or IP address



# Navigate to files

- Expand the tree for your system
- Navigate to the directory /www/zendsvr/htdocs
- Enter user credentials and you're in!



PHP - RemoteSystemsTempFiles\CUPER1.ZEND.COM\www\zend.com\hdocs\mpavlak\ZendCustList1.php - Zend Studio for Eclipse

File Edit Refactor Source Navigate Search Project Run Window Help

PHP ExpL Remote

Local  
Cuper1  
Files  
My Home  
Root  
bin  
davidephp  
demos  
dev  
etc  
fastemp  
fixes  
fr\_tests  
home  
kevin  
lib  
media\_library

type filter text

AppendIterator  
ArrayAccess  
ArrayIterator  
ArrayObject  
ARRAY\_AS\_PROPS  
STD\_PROP\_LIST  
\_\_construct(array \$array)  
append(value \$value)  
asort()  
count()  
exchangeArray(array \$array)  
getArrayCopy()  
getFlags()  
getIterator()  
getIteratorClass()  
ksort()

\*ZendCustList1.php

```

1 <?php
2
3 // Standard DB connection to DB2...
4 $conn = "*LOCAL"; $name = ""; $pwd = "";
5 $i5link = db2_connect($conn, $name, $pwd);
6 if (!$i5link)
7     echo 'Connection failed: ' . db2_stmt_error() . ' : ' .
8     i5
9 $stmt = db2_stmt($conn, $stmt_text, DB2_STMT_FETCH_FIRST);
10 $stmt = db2_stmt($conn, $stmt_text, DB2_STMT_FETCH_FIRST);
11 //
12 //
13 //
14 echo "Customer Name: " . $customer_name . "
15 echo "Address Line 2: " . $customer_address_line2 . "
16 // loop di loop through customer recs...
17 while($row=db2_fetch_array($stmt)){
18     list( $CUSTOMER_NUMBER, $CUSTOMER_NAME, $CUSTOMER_ADDRESS_LINE2,
19          $CUSTOMER_CITY, $CUSTOMER_STATE, $CUSTOMER_ZIP) = $row;
20     echo("<TR><TD> $CUSTOMER_NUMBER</TD> <TD>$CUSTOMER_NAME</TD>
21          <TD>$CUSTOMER_ADDRESS_LINE2</TD><TD>$CUSTOMER_CITY</TD>
22          <TD>$CUSTOMER_STATE</TD><TD>$CUSTOMER_ZIP</TD></TR>");
23 }

```

Description  
Fetch a row of data from the resource.

Parameters  
result resource resulting from operation returning data  
option int[optional] flag specifying which record to fetch (IS\_READ\_SEEK - Current record, IS\_READ\_NEXT - Next record, IS\_READ\_PREV - Previous record, IS\_READ\_FIRST - First record, IS\_READ\_LAST - Last record).

Problems Tasks Console

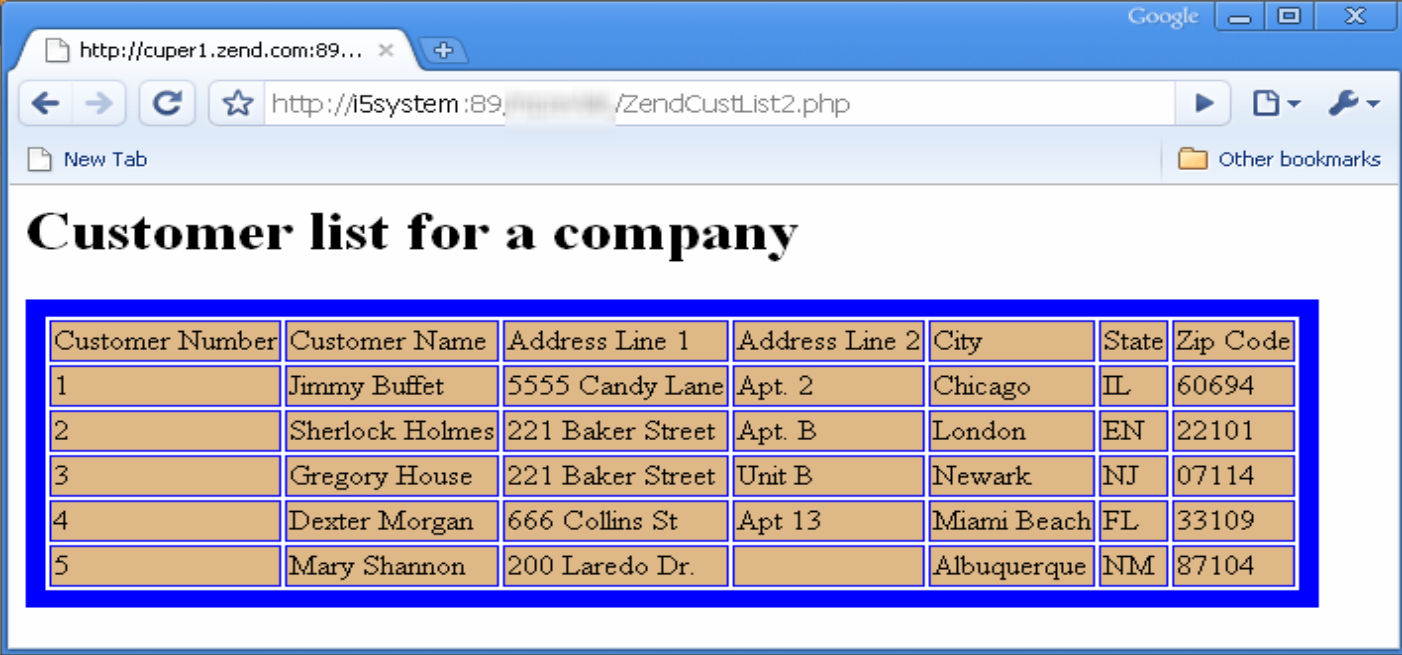
0 errors, 3 warnings, 0 others

| Description                                 | Resource         | Path               | Location | Type             |
|---------------------------------------------|------------------|--------------------|----------|------------------|
| Warnings (3 items)                          |                  |                    |          |                  |
| bool-assign : Assignment in condition       | ZendCustList1... | RemoteSystemsTe... | line 18  | Code Analyzer... |
| expr-unused : Expression result is never u  | ZendCustList1... | RemoteSystemsTe... | line 11  | Code Analyzer... |
| var-use-before-def-global : Global variable | DebugDemo.php    | ExampleProject     | line 61  | Code Analyzer... |

<> PHP Writable Smart Insert 8 : 4

# Basic file listing script

- Connect to DB2 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 displaying `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 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:
  - System
  - User ID
  - Password

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

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

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

$stmt = db2_exec($link,$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
while($row=db2_fetch_array($stmt)){
list( $CUSTOMER_NUMBER, $CUSTOMER_NAME, $CUSTOMER_ADDRESS_LINE1,
    $CUSTOMER_ADDRESS_LINE2, $CUSTOMER_CITY, $CUSTOMER_STATE,
    $CUSTOMER_ZIP)= $row;

echo(" <TR><TD> $CUSTOMER_NUMBER </TD><TD> $CUSTOMER_NAME </TD>
    <TD> $CUSTOMER_ADDRESS_LINE1 </TD><TD>$CUSTOMER_ADDRESS_LINE2 </TD>
    <TD> $CUSTOMER_CITY</TD><TD> $CUSTOMER_STATE </TD>
    <TD> $CUSTOMER_ZIP </TD></TR> ");
}
echo ' </table> ';
db2_close($i5link);

?>
```

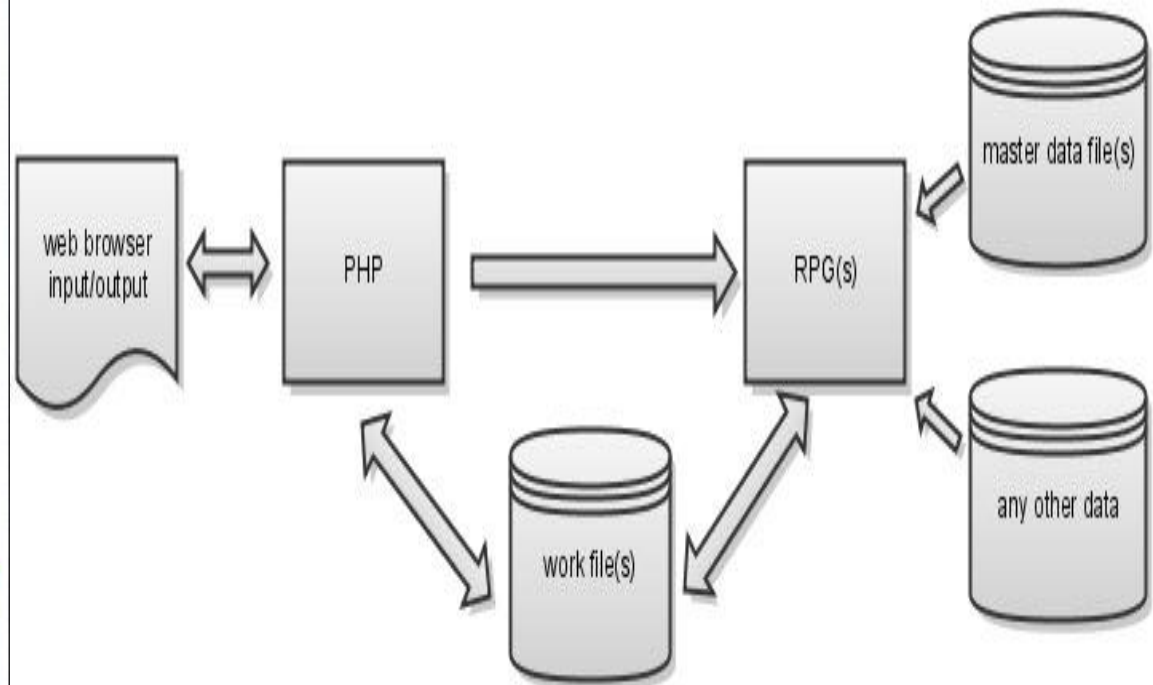
# Call RPG/CL from PHP

Two methods:

- **Open Source Toolkit**
  - Included with Zend Server
  - Call commands and programs
  - Access data areas, spool files and other resources
- **DB2 Stored Procedures**
  - “Native” way to call RPG/CL
  - Flexible: Add SQL or multiple program calls in one stored procedure



# Flow of PHP/RPG



# Open Source Toolkit

- **Included with Zend Server CE**
- **Allows a PHP application to:**
  - Run IBM i/OS commands and programs
  - Access DB2 for i5 natively or in SQL
  - Access DTAARA, DTAQ, User Spaces
  - Read system values
  - Read/list/create spool files
  - List system objects
- **Example coming up...**

# Open Source (i5) Toolkit Example: Retrieve Job Attributes

```
<?php

// rtvjoba.php: connect to i5, call command via Zend's i5 Toolkit
// two functions: i5_connect, i5_command

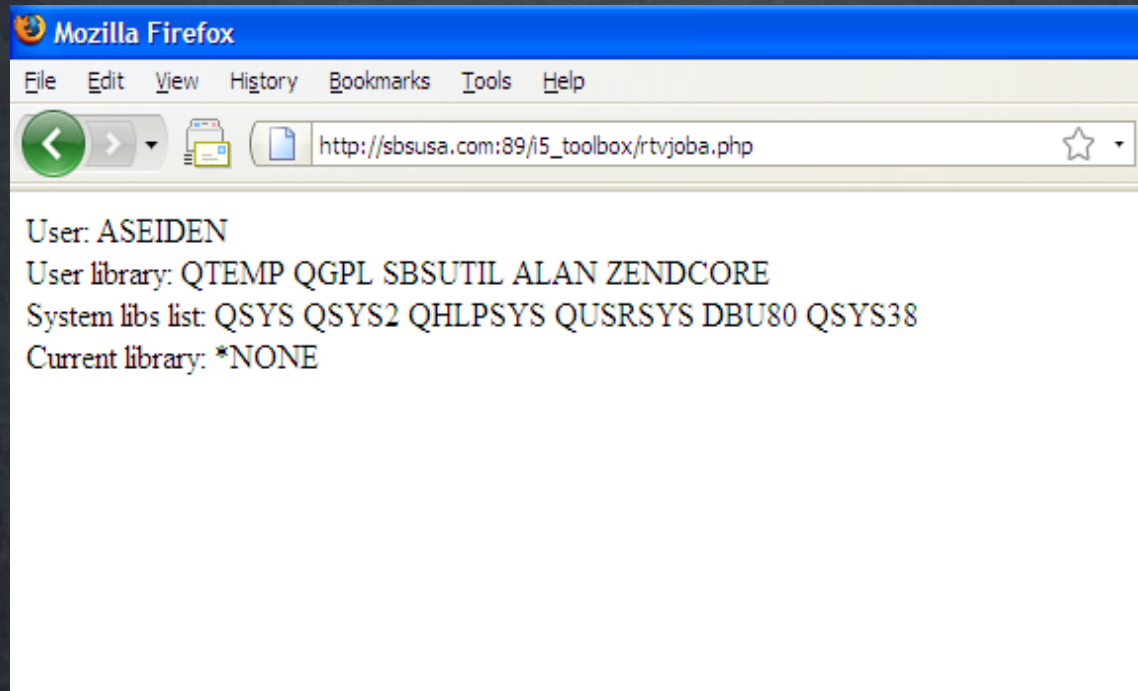
$conn = i5_connect("localhost", "ASEIDEN", "password");

$ret = i5_command(
    "rtvjoba",
    array(),
    array(
        "user" => "user",
        "curlib" => "curl",
        "usrlib1" => "userlib",
        "syslib1" => array("syslib", "char(165)")
    )
);

echo "User: $user<br>";
echo "Current library: $curl<br>";
echo "User library: $userlib<br>";
echo "System libs list: $syslib<br>";

?>
```

# Results of rtvjoba.php



# Open Source (i5) Toolkit APIs

- **System values**
  - i5\_get\_system\_value
- **Data areas**
  - i5\_data\_area\_prepare
  - i5\_data\_area\_receive
  - i5\_data\_area\_send
  - i5\_data\_area\_close
- **Print/Get spooled file**
  - i5\_spool\_list
  - i5\_spool\_list\_read
  - i5\_spool\_list\_close
  - i5\_spool\_get\_data
  - i5\_spool\_from\_file??
- **Job logs**
  - i5\_jobLog\_list
  - i5\_jobLog\_list\_read
  - i5\_jobLog\_list\_close
- **Active jobs**
  - i5\_job\_list
  - i5\_job\_list\_read
  - i5\_job\_list\_close
- **Objects list**
  - i5\_object\_list
  - i5\_object\_list\_read
  - i5\_object\_list\_close
- **User space**
  - i5\_userspace\_create
  - i5\_userspace\_prepare
  - i5\_userspace\_get
  - i5\_userspace\_put
- **Programs**
  - i5\_program\_prepare
  - i5\_program\_call

# Grass roots resources

- **Support: Zend Server includes one year of “silver” support**
- **Forums and lists**
  - forums.zend.com (look for IBM i forums)
- **Books (online and print)**
  - PHP Manual: <http://php.net>
  - PHP: Zend for i5/OS
  - The IBM i Programmer's Guide to PHP by Jeff Olen & Kevin Schroeder (MC Press)
- **PHP User Groups, LUGS, Common**
- **Surf unlimited source examples, blogs, forums**

# Pilot project

# Pilot project: how to pick one ?

- **Well defined, useful, with modest scope**
- **Accesses IBM i resources**
  - DB2
  - RPG calls (optional)
- **Could be a new application or extension of an existing application**

# Pilot project

1. Start

2. Transferee Info

3. Services

4. Crating/Uncrating

5. Special Instructions

6. Review and Submit



Select tabs above by clicking on the tab names (or by pressing Alt and the tab number).  
See a summary of your order, and submit it, on Tab 6.

# Pilot Project

[Home](#) [User Maintenance](#) [Email Maintenance](#) [Container Weight Maintenance](#) [Skid Work Maintenance](#)



Dextech Fastener  
Technologies, Inc.

123 Sunshine Dr.  
Wonderland, MI 48123  
(248)111-2222

## Skid Work Maintenance

Michigan Metals ▾



| Edit | Item           | Q Lot   | Skid Box | Pieces | Shipper | Cans | Pallets | Tubs      | Net Wgt (lbs) | Process   | Due Date   | Transfer Date | Transfer Location | Transfer Due Date | Hot Sheet Ind |
|------|----------------|---------|----------|--------|---------|------|---------|-----------|---------------|-----------|------------|---------------|-------------------|-------------------|---------------|
|      | 90176TA0A010M1 | X101E03 | 4076693  | 16892  | 519437  | 0    | 0       | 6         | 4766.00       | 8S4JS5TQR | 10/20/2011 | 10/13/2011    | MM                | 12/15/2011        |               |
|      | 90181TA0A010M1 | 9301E02 | 4075633  | 36402  | 519403  | 0    | 0       | 2         | 2158.00       | 8S4JS5TQR | 10/24/2011 | 10/13/2011    | MM                | 12/15/2011        |               |
|      | 90162S5A0000   | X061D05 | 4076386  | 34182  | 519425  | 0    | 0       | 4         | 4114.00       | 8S4JS5TQR | 10/24/2011 | 10/13/2011    | MM                | 12/15/2011        |               |
|      | 90162SYP0000   | X021D01 | 4075869  | 51495  | 519408  | 0    | 0       | 4         | 5880.00       | 8S4JS5TQR | 10/24/2011 | 10/13/2011    | MM                | 12/15/2011        |               |
|      | 90162SYP0000   | X021D02 | 4075875  | 51128  | 519408  | 0    | 0       | 5         | 5838.00       | 8S4JS5TQR | 10/31/2011 | 10/13/2011    | MM                | 12/15/2011        |               |
|      | 90165SDAA000   | X011D01 | 4075742  | 48151  | 519405  | 25   | 0       | 5         | 5853.00       | 8S4JS5TQR | 10/17/2011 | 10/13/2011    | MM                | 12/31/2011        |               |
|      | TOTALS         |         | 238,250  |        | 250     | 0    | 650     | 28,609.00 | GRAND TOTAL:  | 928.00    |            |               |                   |                   |               |



- **Small scale lets you do it right**
  - Set standards for future
  - Safe space to get experience
- **You need these free tools**
  - Zend Server
  - Zend Studio
- **And consider one or more of these:**
  - Training/Support
  - A PHP framework (e.g. Zend Framework, which is free)
  - Mentoring, coached development
    - Greatly accelerate progress, save staff time
    - Zend Server for IBM i (try 60-day trial)

# But what is Enterprise PHP?

# Enterprise PHP is:

- **Grown-up development**
- **Think of your mature RPG processes**
  - Consistent
  - Reliable
- **You know how to do that**

# Zend Framework helps you do it right

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

# Zend Framework

- Like the “i,” it has everything you need
- You don’t have to integrate lots of pieces (template system, emailer, etc.)
- It’s all tested for you



# Zend Framework's Model, View, Controller

- M, V, and C separate parts of application for you
- Model contains most of your business logic
- View: If you have HTML you want to use, just plunk it in the “view” without worrying about overwriting your mainline PHP code
- Controller handles the application's flow



**Zend**

**Framework resources**

[framework.zend.com](http://framework.zend.com)  
[devzone.zend.com](http://devzone.zend.com)



# Enterprise *PHP* in *detail*



- **Design/development cycle**
  - Standards
  - Security
  - Focus on easy maintenance
  - Reusable functionality (not just copy and paste)
  - Procedures that ensure quality
- **Deployment**
  - Need tools to help support application in live environment
  - Predictable and consistent performance

# Enterprise and Zend Framework site

## Allied Beverage Group: Wine catalog/ordering system

Search Results (7 products found), order for EUROPA LIQUORS (001588) - Mozilla Firefox

Home Advanced Search Orders ABG Employee Connect Log out

 eBiz@ABG

Welcome, Angel Strong #935

Home > Search Product Catalog > Search Results (7 products found), order for EUROPA LIQUORS (001588) PRICING MONTH: **June 2009**

Advanced Search

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

AMERICO'S INC (001588)  
DBA EUROPA LIQUORS  
155-57 PACIFIC ST, NEWARK NJ, 07102  
Phone: 973-666-8195

Off Premise Terms: NET  
Total List: \$218.54  
Total Disc: \$26.00  
Est Total Net: \$192.54  
Cases: 1 Bottles: 0

Results for Keywords: CHARD NAPA 375ML

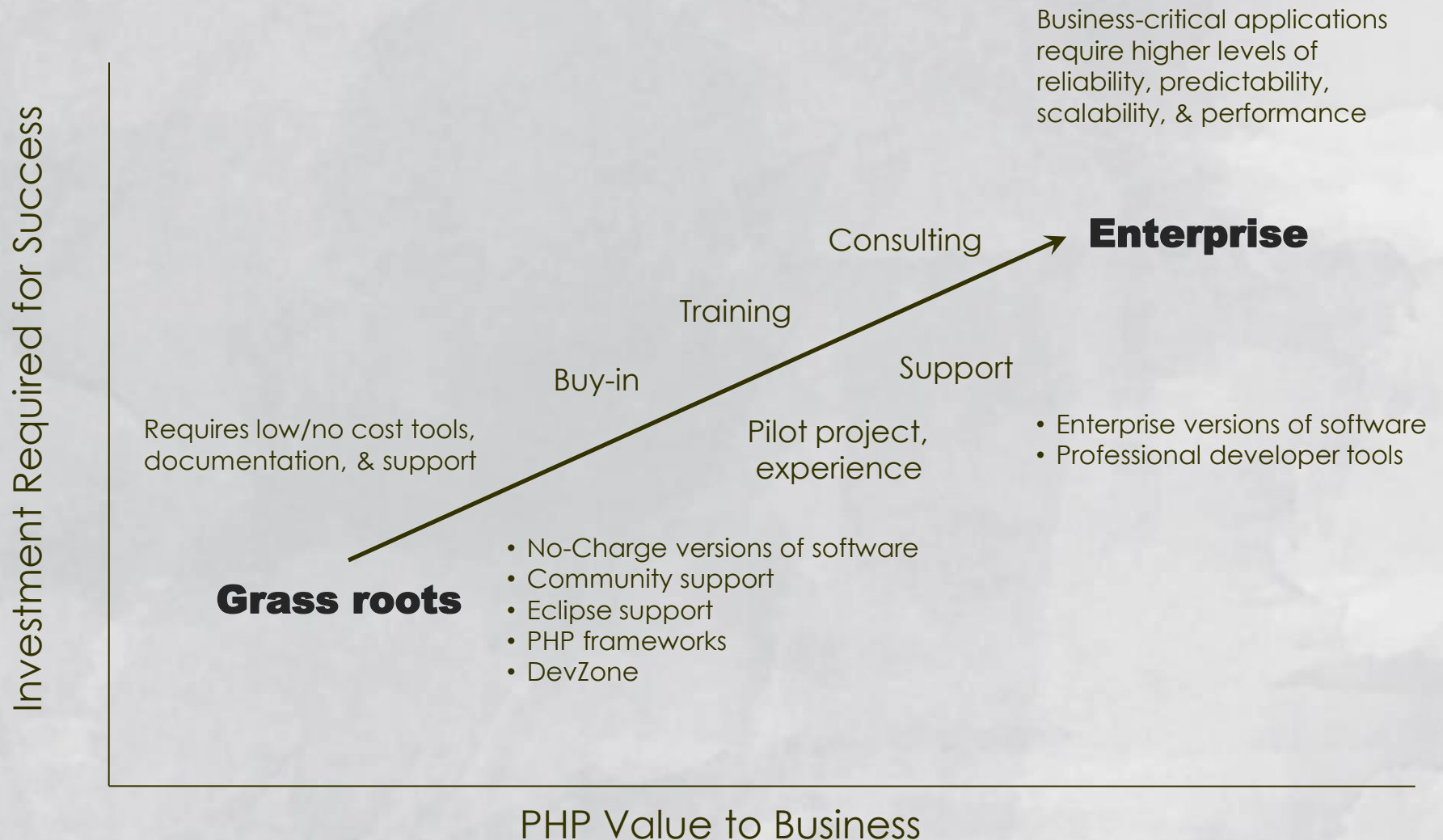
| Product                                                     | Code    | Size   | Pack | Qty                            | Cs/Bt   | Add Items | Price   |           | Inventory |        | Vintage | Info                                                                                                  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

# Allied Beverage Enterprise Application ingredients

- **Allied project won IBM/COMMON “Best Web Solution” of 2009**
- **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 Business Systems 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
    - Also allows monitoring of production environment

# How do we get there?

# Path to Enterprise PHP



# Tools that help

**Grass roots**

Consistent & Predictable

**Enterprise**



# Get help to smooth the learning curve



## Support

### Gold Support

Business Hour Phone Access  
4 hr Priority Response

### Platinum Support

24/7 Phone Access  
4 hr Priority Response/2 hr on P1

## Training

PHP I: Foundations  
PHP for RPG Prog  
PHP for Exp Prog  
Studio w/ Platform

PHP II: Higher Structures  
Building Apps w/ Framework  
Zend Certifications

Zend Platform for SysAdmins  
Building Secure Apps

## Consulting

Architecture & Design  
SmartStart Rapid App Dev  
Coached Development

Remote Install & Admin  
PHP Performance Audits  
PHP Security Audits

App Migration

# Enjoy the ride...

# Enjoy the ride... ...on the path to Enterprise PHP!

- **Start with grass roots, experiment.**
- **Get training and move on to pilot project.**
- **As your confidence grows, use Zend Framework and other tools. Consider mentoring to accelerate progress, avoid pitfalls.**
- **Connect with others and have fun!**

# Enjoy the ride...



## PHP Sites

[www.zend.com](http://www.zend.com)

[Zend.com/forums](http://Zend.com/forums)

[www.php.net](http://www.php.net)

[www-03.ibm.com/systems/i/software/php](http://www-03.ibm.com/systems/i/software/php)

[www.hotscripts.com](http://www.hotscripts.com)

[www.phpmagazine.net](http://www.phpmagazine.net)

[www.phptoplist.com](http://www.phptoplist.com)

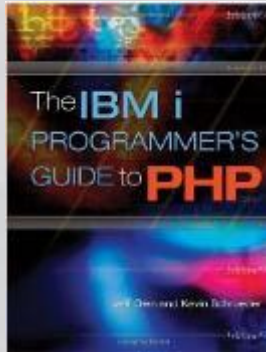
[www.planet-php.net](http://www.planet-php.net)

[www.phpdeveloper.org](http://www.phpdeveloper.org)

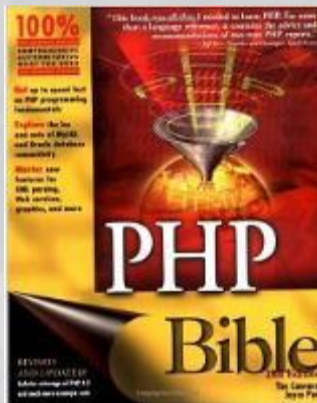
[www.php.resourceindex.com](http://www.php.resourceindex.com)

[www.phpbuilder.com](http://www.phpbuilder.com)

# PHP Books

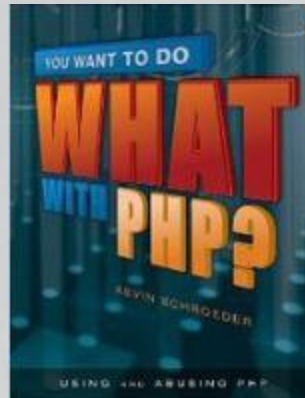


**The IBM i Programmer's guide to PHP**  
Jeff Olen and Kevin Schroeder  
McPress

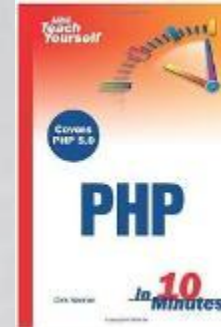


**PHP Bible**  
Tim Converse and Joyce Park  
Wiley Publishing, Inc.

**PHP: Zend for i5OS**  
Gary L. Mullen-Schultz  
Melissa Anderson  
Vlatko Kosturjak



**You Want To Do What With PHP?**  
Kevin Schroeder  
McPress



**Teach Yourself PHP in 10 Minutes**  
Chris Newman  
SAMs



**HTML for The Business Developer**  
Kevin Forsythe and Laura Ubelhor  
McPress

# Thanks

## Special Thanks to Alan Seiden!



# QUESTIONS?

Hope this information peaked your interest further and motivates you to move forward Getting Started using PHP on i.



**Laura A. Ubelhor – Consultech Services, Inc.**  
**[lubelhor@consultechservicesinc.com](mailto:lubelhor@consultechservicesinc.com)**