

Open Source PHP on IBM i

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The PHP Company

Target audience

- Looking to leverage excess capacity on IBM i
- Need a new application
- Thinking about or using PHP on IBM i
- Minimal resources for development
 - Staff
 - Cash
 - Time

Agenda

- What is Open Source
 - Advantages Open Source
 - Challenges with Open Source
- Implementing Open Source on IBM i
- Examples
 - Zend Framework
 - PHPMyAdmin
 - FPDF
- Wrap up / Q&A



What is Open Source?



Common Attributes of Open Source

- **Source code is freely accessible**
- **License agreement provides for anyone to use the code without paying royalties or fees. (GPL, GNU)**
- **Community surrounding the project**
- **Project has a purpose or goal**

Advantages of open source software

- **Powerful applications**
- **Low cost of entry**
- **Developed by people passionate about project**
- **Low or zero maintenance cost**
- **Developed by the community for the community**
- **Application quality can be higher than some commercial versions.**
- **Ability to redistribute source code**
- **Viral marketing tends to purify project message**

Challenges to Open Source Software

- **FUD: Liability still in question, “Is it truly free?”**
- **Commercial support not always available**
- **Abandoned / Forked projects**
- **Poor marketing makes some projects hard to find**
- **Application knowledge, services and training may be lacking or non-existent.**

Implementing Open Source on IBM i



Zend Framework on IBM i

- **Not going to go into the how's and why's of ZF**
- **You can get more info from our good friend Alan Seiden on our recorded webinar site at <http://www.zend.com/en/resources/webinars/i5-os>**
- **I will talk about the update process and how you can implement updates most efficiently**

How do I manage versions of ZF?

- **Zend Framework is its own project. While Core contains ZF, it does not control it like it does PHP.**
- **Customers may have needs for different versions of ZF most likely due to the version of ZF that an applications was developed with. This is supported by Zend.**
- **Updates to ZF may deprecate some features. While these events are well documented, a full test cycle should be implemented before updating a ZF application to a new release.**

Head out to website

<http://framework.zend.com/download/latest>

- Two packages for updates:
 - .zip
 - Tar.gz



Zip File is the easiest

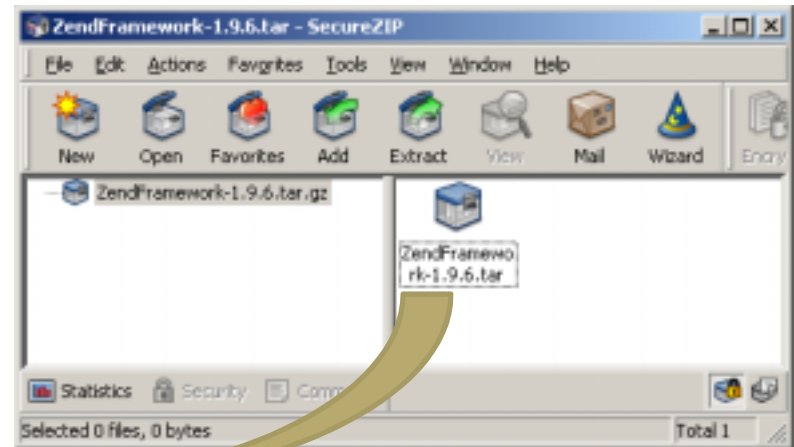
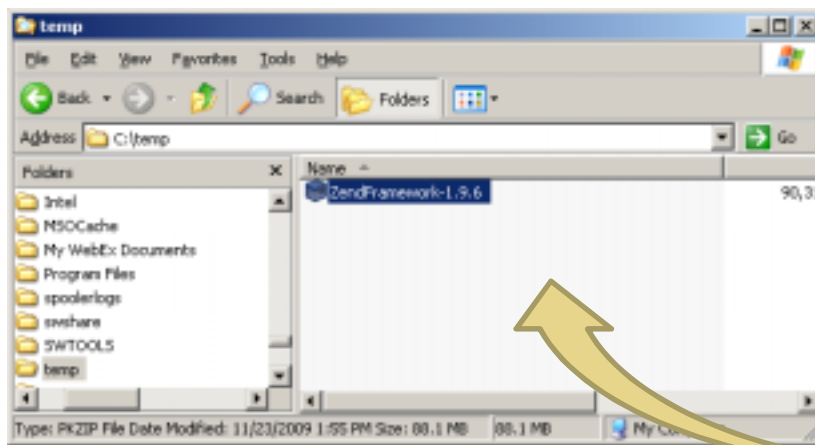
- **Download the zip**
- **Open the file**
- **Drag and drop to NetServer share on IBM i**
 - /usr/local/zend/ZendFramework
 - Or create a new directory in this path to store multiple version of ZF!
- **This is pretty straight forward, but there are limitations:**
 - Remote users experience latency using NetServer
 - NetServer performance can be unpredictable
 - Let's look at another method...

What the heck is tar.gz?

- **Some open source applications may only be packaged as tar.gz.**
- **Understanding how to work with these tools can enable more application opportunities.**
- **Let's work from the outside in:**
 - gz stands for GunZip (or GNU zip): this is a compression technology used to make packages smaller very much like zip.
 - tar stands for Tape Archive and behaves very much like a save file where you can save files and directories from the IFS.

Using your workstation to unzip the tar

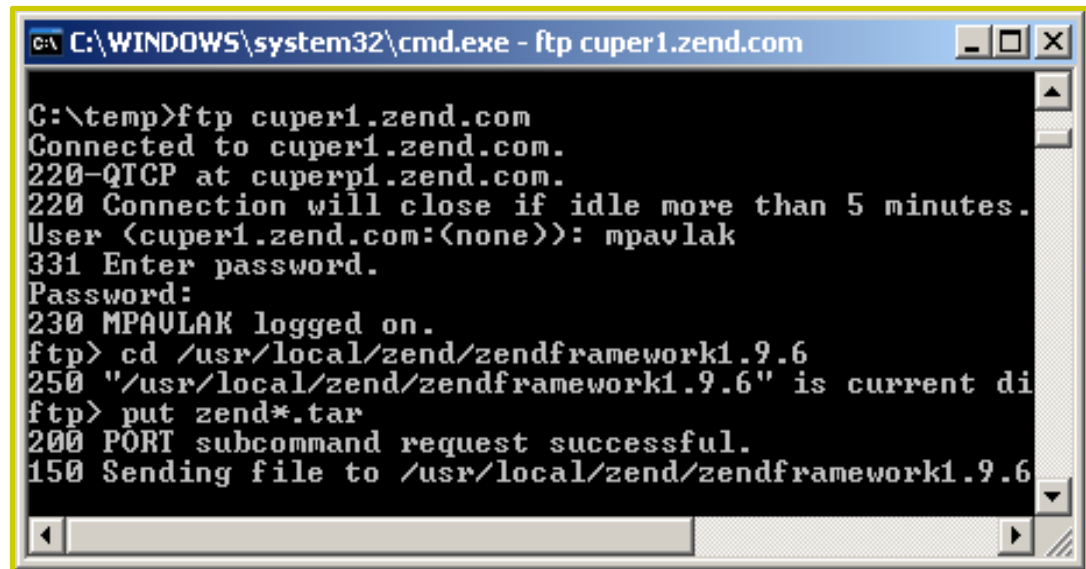
- I have Secure Zip loaded on my workstation.
- Secure zip knows how to unzip .gz files
- Free solution 7-zip at <http://www.7-zip.org/>
- Use this utility to extract the .tar file from the zip!
- I like to put this stuff in c:\temp



Get thyself to an IBM i

- Now upload the .tar to IBM i
- There are many ways, but I am partial to the old fashioned DOS based FTP (It's always there!)
- Create a target directory on IBM i (i.e. /usr/local/zend/zendframework1.9.6)

- `cd c:\temp`
- `ftp server.name`
 - `<login>`
- `cd /usr/local/zend`
- `put zend*.tar`



```
C:\WINDOWS\system32\cmd.exe - ftp cuper1.zend.com

C:\temp>ftp cuper1.zend.com
Connected to cuper1.zend.com.
220-QTCP at cuperpi.zend.com.
220 Connection will close if idle more than 5 minutes.
User (cuper1.zend.com:(none)): mpavlak
331 Enter password.
Password:
230 MPAVLAK logged on.
ftp> cd /usr/local/zend/zendframework1.9.6
250 "/usr/local/zend/zendframework1.9.6" is current di
ftp> put zend*.tar
200 PORT subcommand request successful.
150 Sending file to /usr/local/zend/zendframework1.9.6
```


Why does Mikey like this technique?

- **No need for commercial software**
- **Consistent approach**
- **I can load virtually ANY Open Source application**
- **FREE!**

Implementing Open Source on IBM i



What is phpMyAdmin?

- **Free utility for administration of MySQL databases**
- **GUI interface to MySQL**
- **See DML, DDL**
- **Run SQL statements in console**
- **Navigate through tables, indexes, etc.**
- **Written in PHP!**

phpMyAdmin installation

- **Similar to the ZF example**
- **Move .tar file to htdocs and untar**
- **Target directory should be document root**
- **Run the setup to config, will need MySQL usr,pwd**

```
cd phpMyAdmin  
mkdir config  
chmod o+rw
```

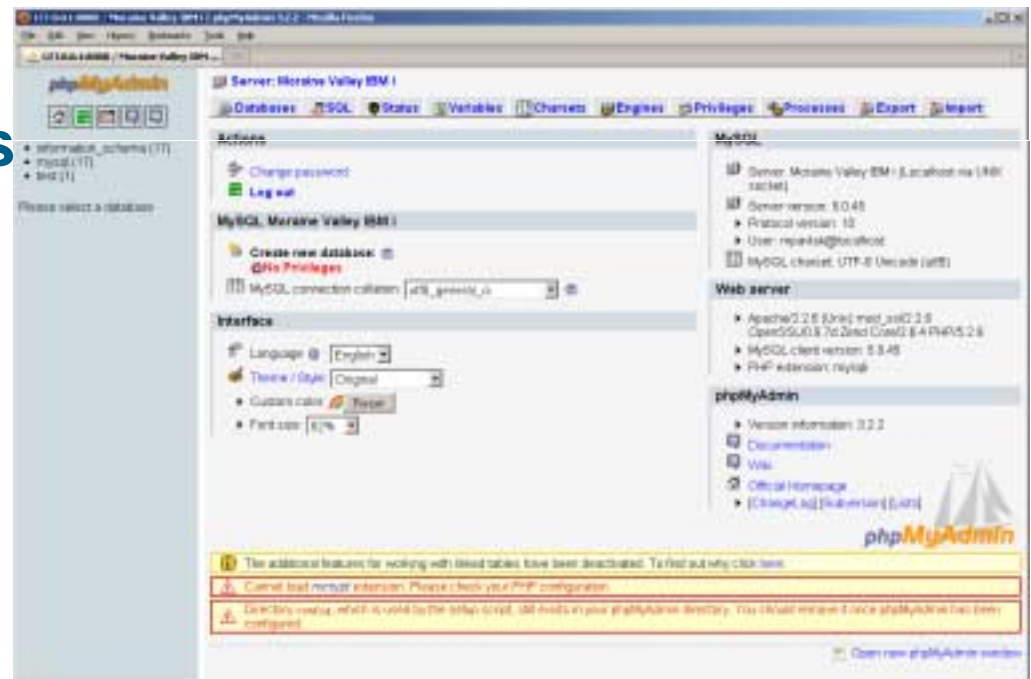
Run /setup script

```
mv config/config.inc.php .  
chmod o-rw config.inc.php
```

```
rm -rf config
```

phpMyAdmin interface

- Access all databases in MySQL
- Runs like any other PHP application on IBM i
- <http://yourhostname:89/phpmyadmin>
- Version 3.2.2 here
- Check doc for details



Create table

Server: Moraine Valley IBM i ▶ Database: test ▶ Table: mikey2

Field	Type	Length/Values ¹	Default ²	Collation
<input type="text" value="Name"/>	TEXT	<input type="text" value="20"/>	None	
<input type="text" value="address"/>	TEXT	<input type="text" value="20"/>	None	
<input type="text" value="City"/>	TEXT	<input type="text" value="20"/>	None	
<input type="text" value="State"/>	TEXT	<input type="text" value="2"/>	None	
<input type="text" value="Zip"/>	TEXT	<input type="text" value="13"/>	None	
<input type="text"/>	INT	<input type="text"/>	None	

Table comments:

Storage Engine: MyISAM

Collation:

Save Or Add field(s) Go

Create Table SQL...

Server: Moraine Valley IBM i ▶ Database: test ▶ Table: mikey2

Browse Structure SQL Search Insert Export Import Operations Empty

Table `test`.`mikey2` has been created.

```
CREATE TABLE `test`.`mikey2` (  
  `Name` TEXT NOT NULL ,  
  `address` TEXT NOT NULL ,  
  `City` TEXT NOT NULL ,  
  `State` TEXT NOT NULL ,  
  `Zip` TEXT NOT NULL  
) ENGINE = MYISAM ;
```

	Field	Type	Collation	Attributes	Null	Default	Extra	Action						
<input type="checkbox"/>	Name	text	latin1_swedish_ci		No									
<input type="checkbox"/>	address	text	latin1_swedish_ci		No									
<input type="checkbox"/>	City	text	latin1_swedish_ci		No									
<input type="checkbox"/>	State	text	latin1_swedish_ci		No									
<input type="checkbox"/>	Zip	text	latin1_swedish_ci		No									

Check All / Uncheck All *With selected:*

Implementing Open Source on IBM i



Free PDF library

- Last time we discovered free PDF's in ZF
- Now here is a complete PDF generator library
- Install to doc root
- Simple to use
- No administration
- OO based



Code Part 1

```
33 require\_once '/www/zendcore/htdocs/fpdf16/fpdf.php';
34 // Set up the PDF properties
35 $pdf = new FPDF('L', 'in', 'Letter');
36 $pdf->SetAuthor("Zend Tech");
37 $pdf->SetTitle("Short List of Anti Heros");
38 $pdf->SetSubject("Database Listing");
39
40 // Set up a title/heading
41 $pdf->AddPage();
42 $pdf->SetFont('arial', 'B', 24);
43 $pdf->SetTextColor(0, 96, 96);
44 $pdf->SetX(.5);
45 $pdf->Cell(1.75, .4, 'Short List of Anti-Heroes');
46 $pdf->Image('AntiHero.jpg', 6, .15, 1.04, .75);
47 $pdf->Ln(1);
```

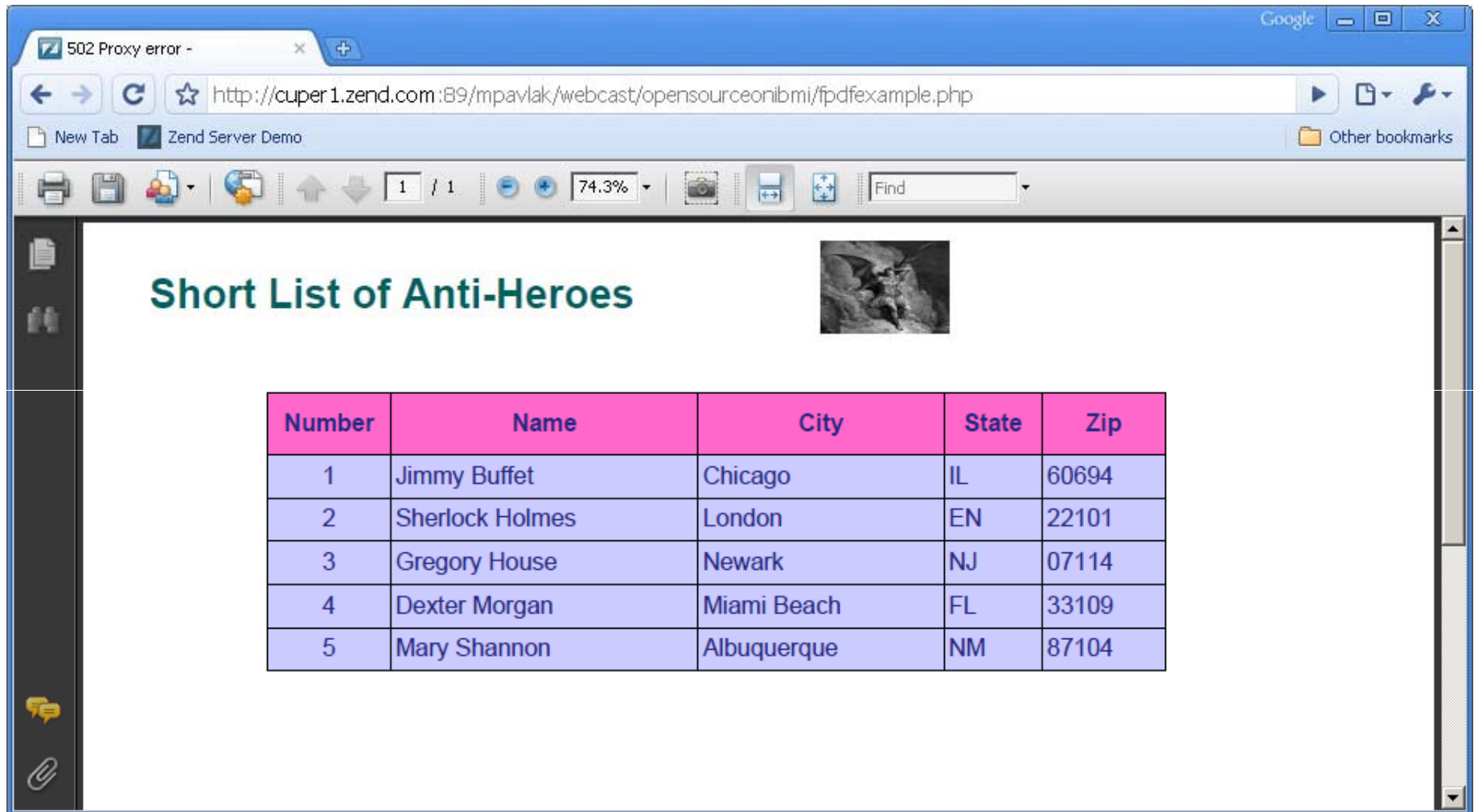
Code Part 2

```
49 // Set up table header formatting
50 $pdf->SetTextColor(32, 32, 128);
51 $pdf->SetFillColor(255, 102, 204);
52 $pdf->SetFont('arial', 'B', 14);
53
54 // Set up column titles
55 $pdf->SetX(1.5);
56 $pdf->Cell(1.0, .5, 'Number', 1, 0, 'C', true);
57 $pdf->Cell(2.5, .5, 'Name', 1, 0, 'C', true);
58 $pdf->Cell(2.0, .5, 'City', 1, 0, 'C', true);
59 $pdf->Cell(.8, .5, 'State', 1, 0, 'C', true);
60 $pdf->Cell(1.0, .5, 'Zip', 1, 0, 'C', true);
61 $pdf->Ln();
62
63 // Set up rest of table formatting
64 $pdf->SetFillColor(204, 204, 255);
65 $pdf->SetFont('arial', "", 14);
```

Code Part 3

```
68 // loop through employee records
69 $row = GetCustomer($i5link, true); // get first row
70 while($row){
71     list( $Customer_Number, $Customer_Name, $Customer_City,
72         $Customer_State, $Customer_Zip)= $row;
73
74     // Set up the data
75     $pdf->SetX(1.5);
76     $pdf->Cell(1.0, .35, $Customer_Number, 1, 0, 'C', true);
77     $pdf->Cell(2.5, .35, $Customer_Name, 1, 0, 'L', true);
78     $pdf->Cell(2.0, .35, $Customer_City, 1, 0, 'L', true);
79     $pdf->Cell(.8, .35, $Customer_State, 1, 0, 'L', true);
80     $pdf->Cell(1.0, .35, $Customer_Zip, 1, 0, 'C', true);
81     $pdf->Ln();
82
83     $row = GetCustomer($i5link, false); // get next row
84 }
85
86 // Dump the output to the page
87 $pdf->Output();
```

Output display

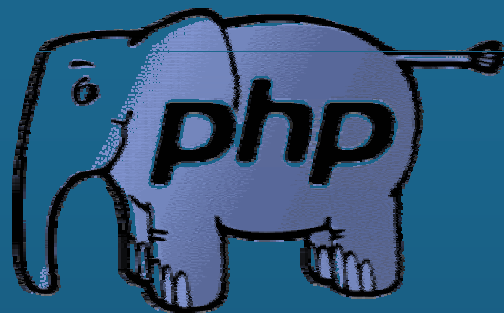


The screenshot shows a web browser window with the following details:

- Tab: 502 Proxy error -
- Address bar: <http://cuper1.zend.com:89/mpavlak/webcast/opensourceonibmi/fpdfexample.php>
- Page Title: Zend Server Demo
- Page Content: A page titled "Short List of Anti-Heroes" featuring a small image of a bat and a table with 5 rows of data.

Number	Name	City	State	Zip
1	Jimmy Buffet	Chicago	IL	60694
2	Sherlock Holmes	London	EN	22101
3	Gregory House	Newark	NJ	07114
4	Dexter Morgan	Miami Beach	FL	33109
5	Mary Shannon	Albuquerque	NM	87104

Wrapping up



Webcast series for IBM i

- **This wraps up 2009**
- **2010 will be VERY special**
- **Beta for Zend Server for IBM i is available at**
 - www.zend.com/en/products/server/zend-server-5-new-ibmi
- **We have ideas for more webcasts, but what would you like to see in 2010? Get your suggestions in now!**

Webcasts 2010

- **What's Mikey playing with?**

- MySQL and DB2 Storage Engine
- Drupal
- Zend Server for IBM i



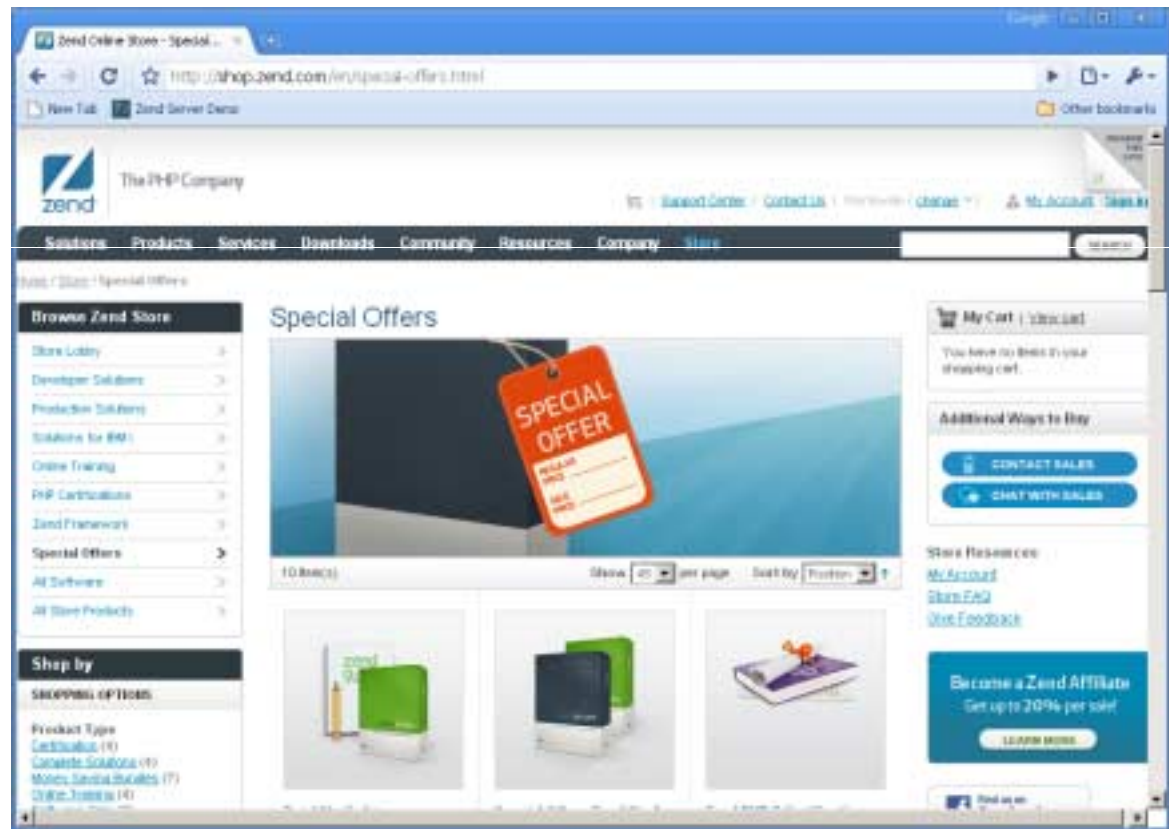
- **January webcast will introduce Zend Server for IBM i**
- **February webcast will show technical side of the Zend Server for IBM I**
- **Much, much more!**



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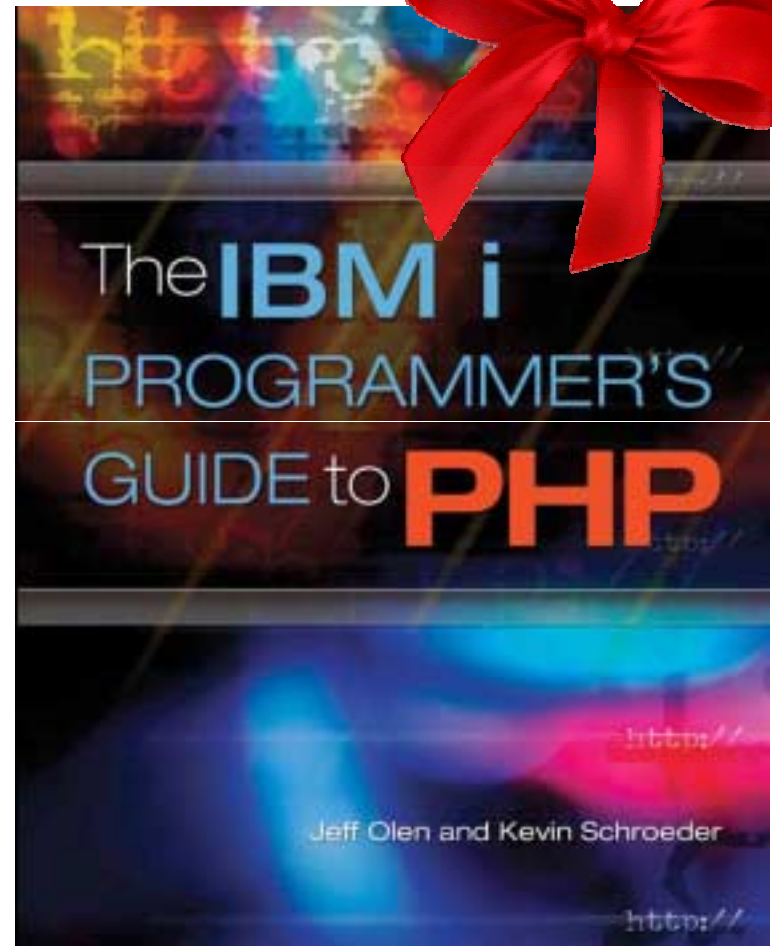


Holiday gift ideas for your staff!

**Kevin Schroeder from Zend's
Global Services Group
w/Jeff Olen, co-author of...**

**Second printing due to
OVERWHELMING demand!**

**Has topped the MCPress best
seller list for nearly all of
2009! Get your copy in
time for 2010!**



Q&A Thank you!

Happy Holidays!

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