Confessions of an RPG Programmer: **Why use Zend Framework?**

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PHP/i consultant and developer

First certified ZF developer on IBM i

September 29, 2009

About Strategic Business Systems, Inc.

- **IBM partner since 1982**
  - IBM i (AS/400) hardware, software development, consulting
  - Concentration in food & beverage and automotive industries
  - HQ in northern New Jersey
- **Zend (“the PHP company”) partner since 2008**
  - PHP’s been our preferred web technology for ourselves and clients since 2005
  - In addition to our consulting/development services, we offer Zend’s training and software
  - We represent Zend in the northeastern USA

We’ll be covering…

- What Zend Framework is
- Why ZF is a great match for the IBM i
- Intro to key concepts
- What ZF can do for your PHP/i projects
- How to get started!

What Zend Framework is

- **A free, open source PHP framework**
- **A starting point for your PHP applications, providing**
  - Modular design
  - Security features
- **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)

Community

- **Contributors include individuals and companies. Companies include:**
  - Zend (of course)
  - IBM
  - OmniTI

- **Technology partners:**
  - Adobe, Google, IBM, Microsoft, nirvanix, StrikeIron

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

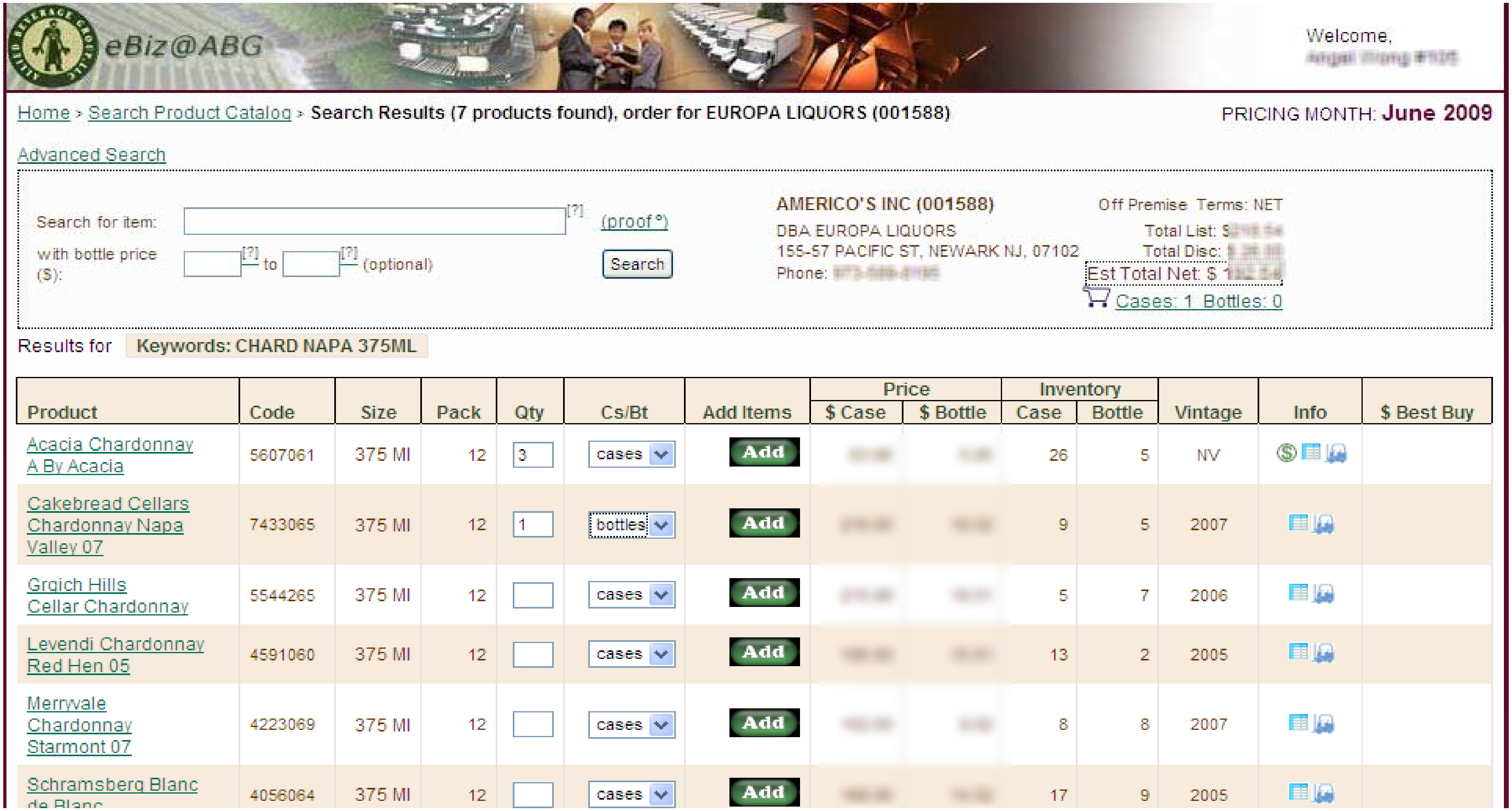
- **2005: PHP Collaboration Project at ZendCon**
  - Started as collection of components but coalesced
  - PHP 5, object oriented (OO) from the start
  - Set example of OO design patterns and practices
    - More on OO later

- **2007-2009: Fast progress**
  - July 2007: GA version 1.0
  - Feb. 2009: version 1.70 with db2/i5 support
  - June 2009: version 1.82; minor releases every couple of weeks

- **April 2009: ZF/i application won COMMON’s “best web solution”**

COMMON award winner

Allied Beverage Group: Wine catalog/ordering system on IBM i



Welcome,
[redacted]

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: [redacted]

Off Premise Terms: NET
Total List: [redacted]
Total Disc: [redacted]
Est Total Net: $ [redacted]
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 Ml	12	3	cases	Add	[redacted]	[redacted]	26	5	NV	$	
Cakebread Cellars Chardonnay Napa Valley 07	7433065	375 Ml	12	1	bottles	Add	[redacted]	[redacted]	9	5	2007		
Grgich Hills Cellar Chardonnay	5544265	375 Ml	12		cases	Add	[redacted]	[redacted]	5	7	2006		
Levendi Chardonnay Red Hen 05	4591060	375 Ml	12		cases	Add	[redacted]	[redacted]	13	2	2005		
Merryvale Chardonnay Starmont 07	4223069	375 Ml	12		cases	Add	[redacted]	[redacted]	8	8	2007		
Schramsberg Blanc de Blanc	4056064	375 Ml	12		cases	Add	[redacted]	[redacted]	17	9	2005		

Instant Intro to Object Orientation (2 slides!)

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	`$_orderNum`
Method	function or subprocedure	`isOrder()`

Class	Imagine an intelligent data structure containing both data (properties) and programming logic (methods), which are both called "members" of the class	`class Order {`
		`protected $_orderNum;`
		`function isOrder() {`
		`    . . .`
		`    }`
		`. . .`
		`}`

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.**

Timesavers

- **Autoloader**
  - PEAR convention for class/file names
    - Example: Search_Product = Search/Product.php
    - Put this in bootstrap file:

```
require_once 'Zend/Loader/Autoloader.php';
$loader = Zend_Loader_Autoloader::getInstance()->
  setFallbackAutoloader(true);
```

    - Now you won’t need an “include” statement to do:

```
$prod = new Search_Product();
```

- **Fluent interface**

```
$select = $db->select()
    ->from( ...specify table and columns... )
    ->where( ...specify search criteria... )
    ->order( ...specify sorting criteria... );
```

Model-View-Controller Pattern

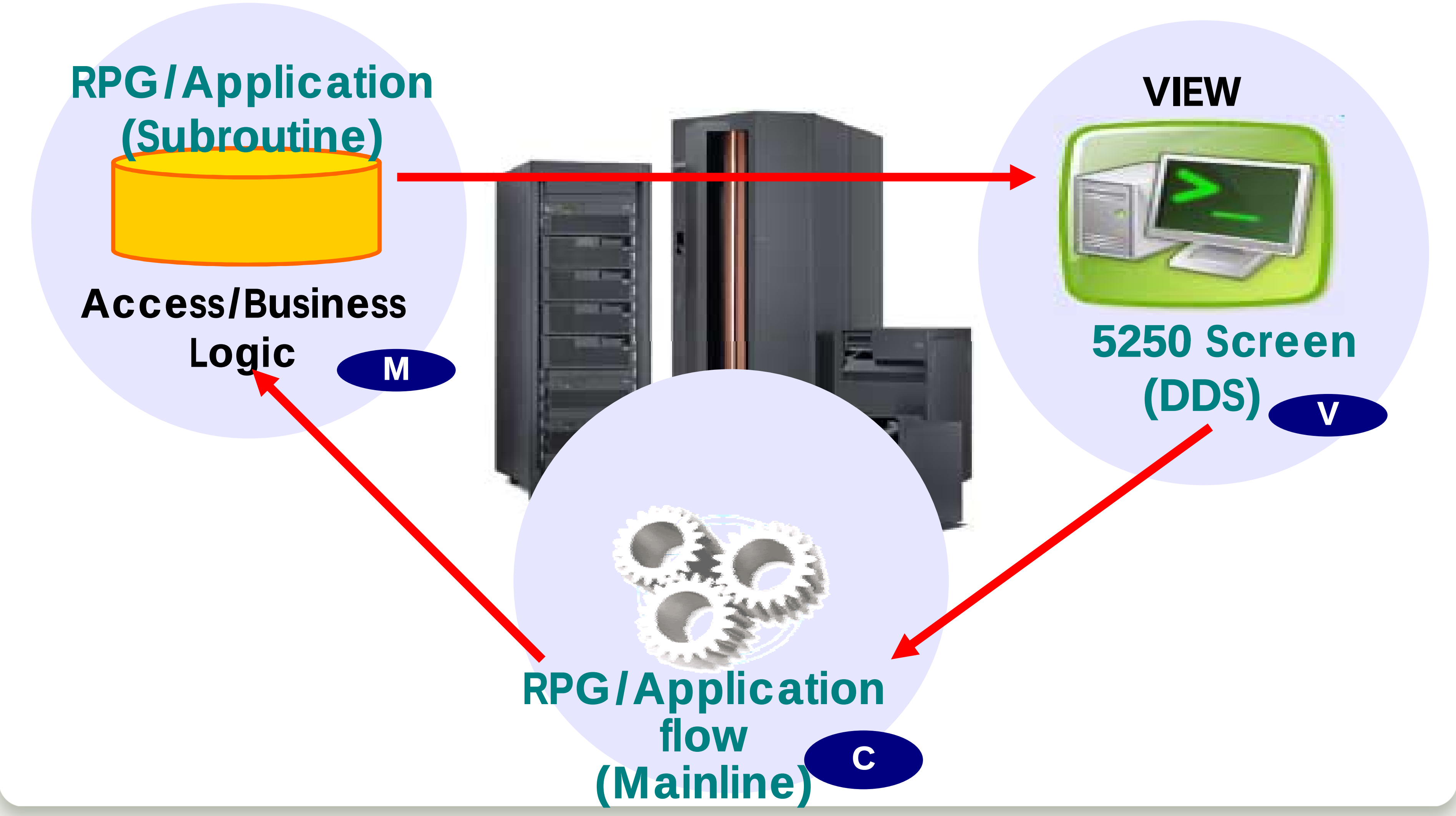
Model – View – Controller (MVC) design pattern

- 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 these resources:
    - Data
    - 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)



RPG/Application (Subroutine)

Access/Business Logic

M

VIEW

5250 Screen (DDS)

V

RPG/Application flow (Mainline)

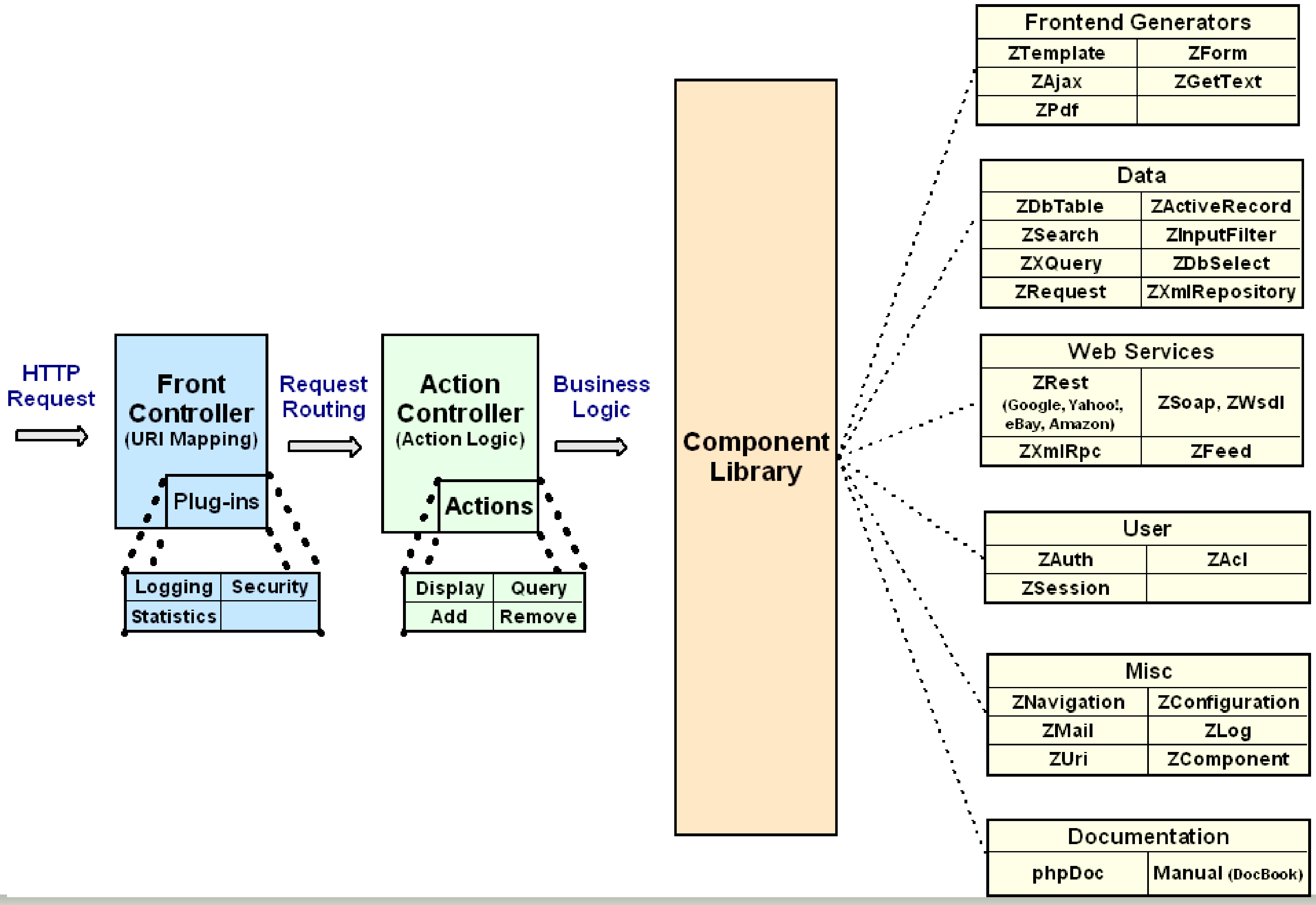
C

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

Initializize MVC

Front controller to action controller



HTTP Request

Front Controller (URI Mapping)

Plug-ins

Logging	Security
Statistics	

Request Routing

Action Controller (Action Logic)

Actions

Display	Query
Add	Remove

Business Logic

Component Library

Frontend Generators	
ZTemplate	ZForm
ZAjax	ZGetText
ZPdf	

Data	
ZDbTable	ZActiveRecord
ZSearch	ZInputFilter
ZXQuery	ZDbSelect
ZRequest	ZXmlRepository

Web Services	
ZRest (Google, Yahoo!, eBay, Amazon)	ZSoap, ZWsdl
ZXmlRpc	ZFeed

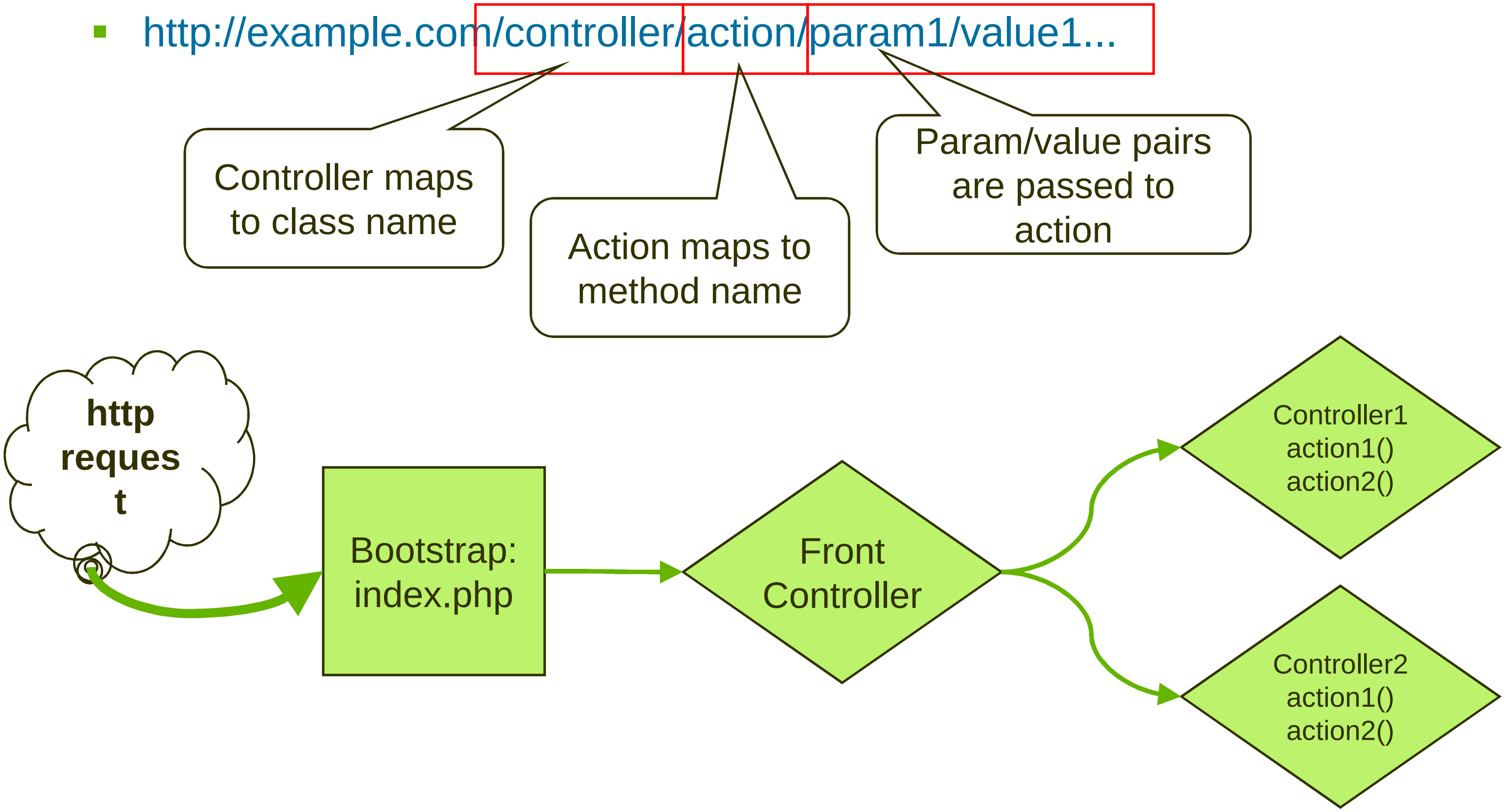
User	
ZAuth	ZAcl
ZSession	

Misc	
ZNavigation	ZConfiguration
ZMail	ZLog
ZUri	ZComponent

Documentation	
phpDoc	Manual (DocBook)

Front controller Routes “friendly” URL request

- **Default routing convention:**
  - http://example.com/controller/action/param1/value1...

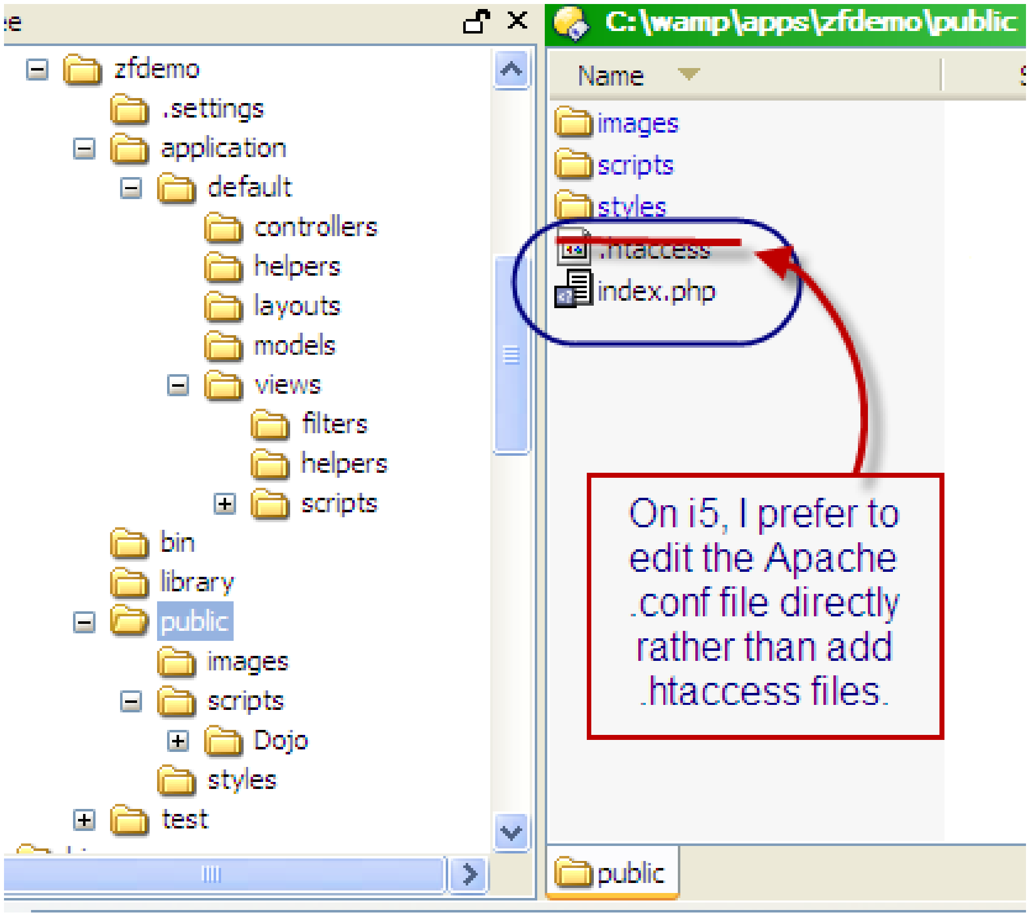

Controller maps to class name
Action maps to method name
Param/value pairs are passed to action
http reques t
Bootstrap: index.php
Front Controller
Controller1 action1() action2()
Controller2 action1() action2()

All requests routed through index.php in doc root

Document root is the only public folder.

index.php:

- initializes application
- instantiates Front Controller



On i5, I prefer to edit the Apache .conf file directly rather than add .htaccess files.

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
<?php
// minimum bootstrap file (can be many variations)

// explicit, full paths 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();
```

Action Controller

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**

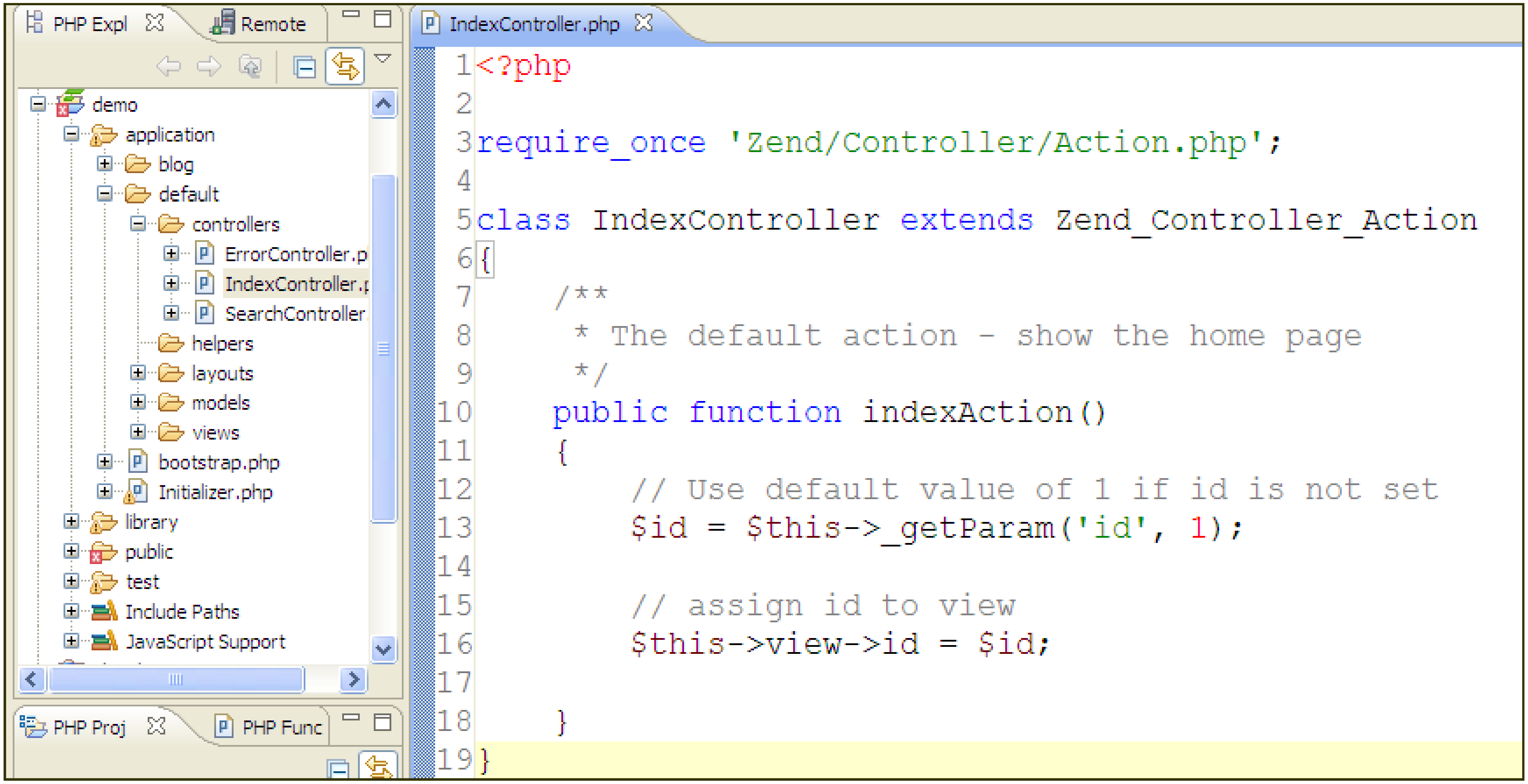
  Default: indexAction()

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

More controller functionality

- **Several standard methods help organize and control the flow**
  - init() – called by the constructor
  - preDispatch() – called before the action's method
  - postDispatch() – called after the action's method
- **Utility methods**
  - forward(), redirect(), getParam(), getRequest(), getResponse(), render()
- **Action helpers add functionality**
  - Built-in helpers. Example: gotoSimple()
  - Your own helpers
  - Avoids the need to build your own base controller class

Controller example



```php
<?php

require_once 'Zend/Controller/Action.php';

class IndexController extends Zend_Controller_Action
{
    /**
     * The default action - show the home page
     */
    public function indexAction()
    {
        // Use default value of 1 if id is not set
        $id = $this->_getParam('id', 1);

        // assign id to view
        $this->view->id = $id;

    }
}
```

View

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**
- **Placeholders**

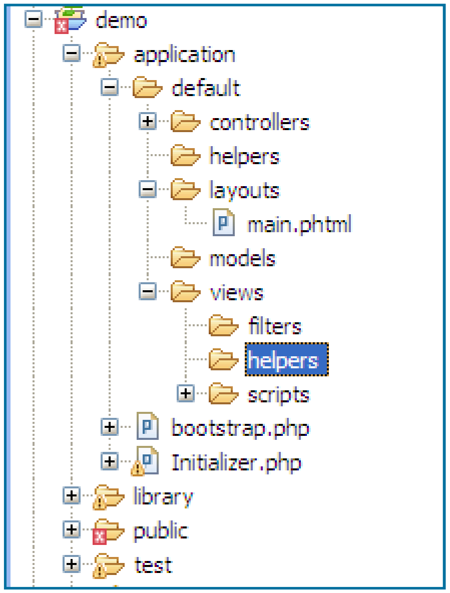
What View means to you

- **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 htmlentities() 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;
   }
}
```

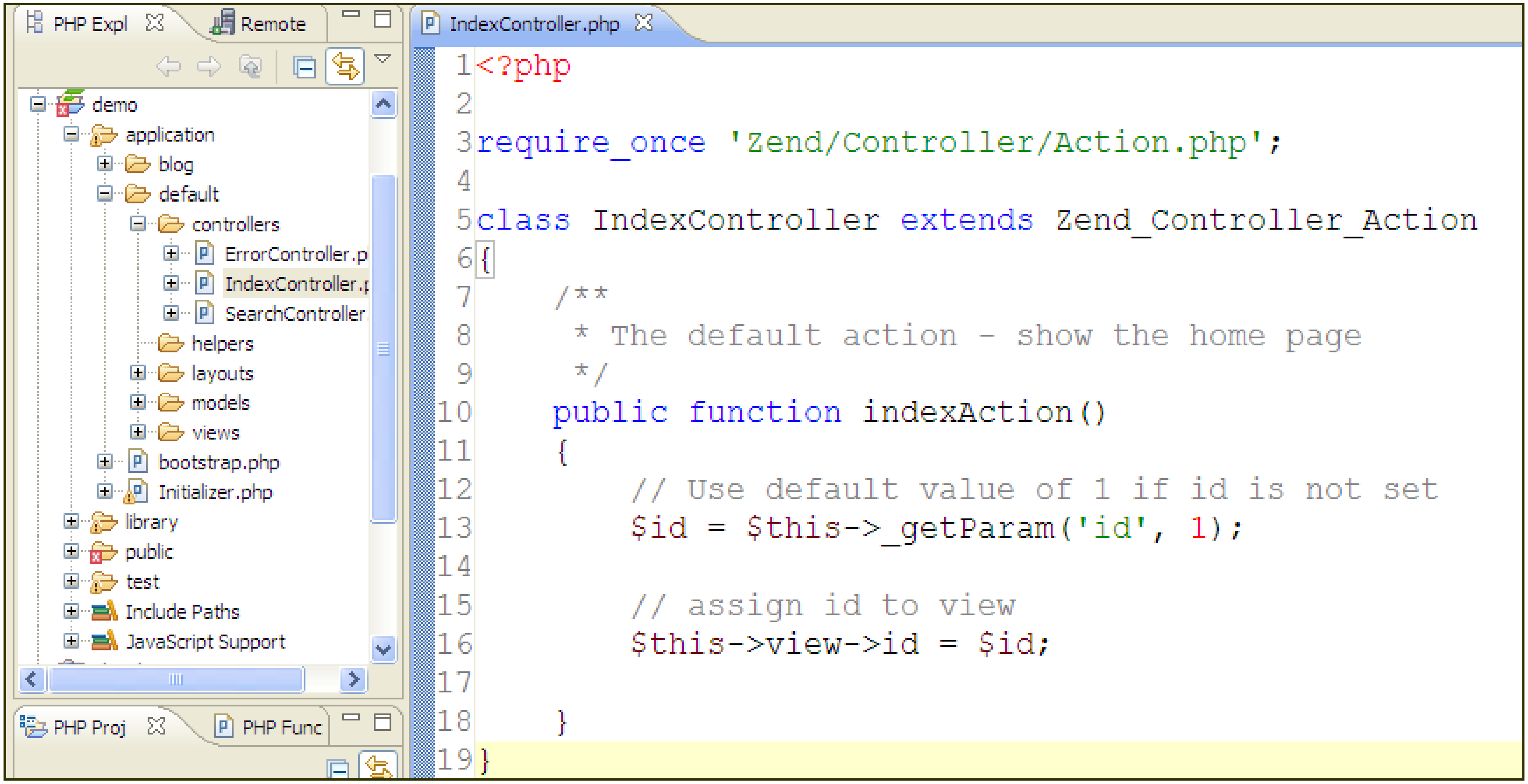


```
demo
  application
    default
      controllers
      helpers
      layouts
        main.phtml
      models
      views
        filters
        helpers
        scripts
    bootstrap.php
    Initializer.php
  library
  public
  test
```

Usage:

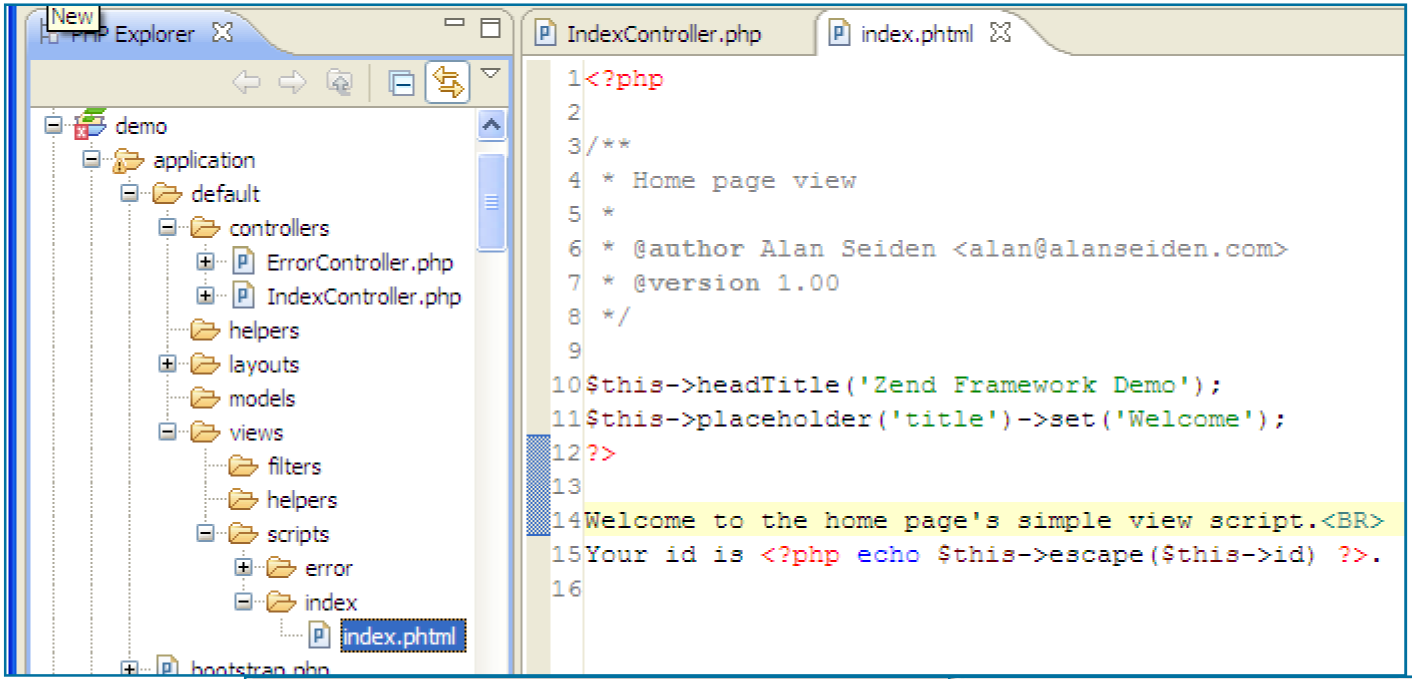
```
echo $this->titleCase('mozilla
firefox');

// Mozilla Firefox
```

Controller (again)…leads to view

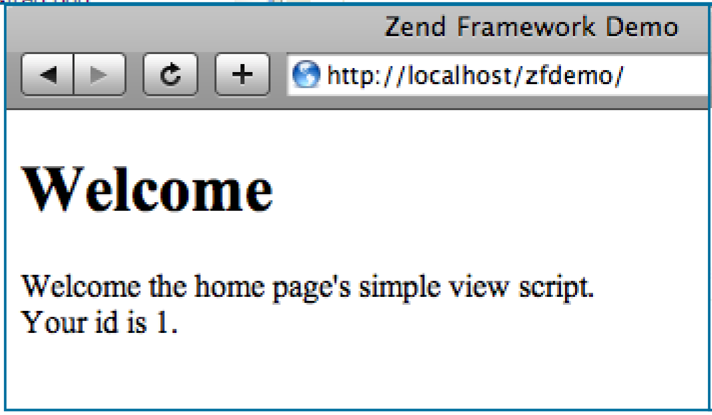


```php
<?php

require_once 'Zend/Controller/Action.php';

class IndexController extends Zend_Controller_Action
{
    /**
     * The default action - show the home page
     */
    public function indexAction()
    {
        // Use default value of 1 if id is not set
        $id = $this->_getParam('id', 1);

        // assign id to view
        $this->view->id = $id;

    }
}
```

View script automatically rendered

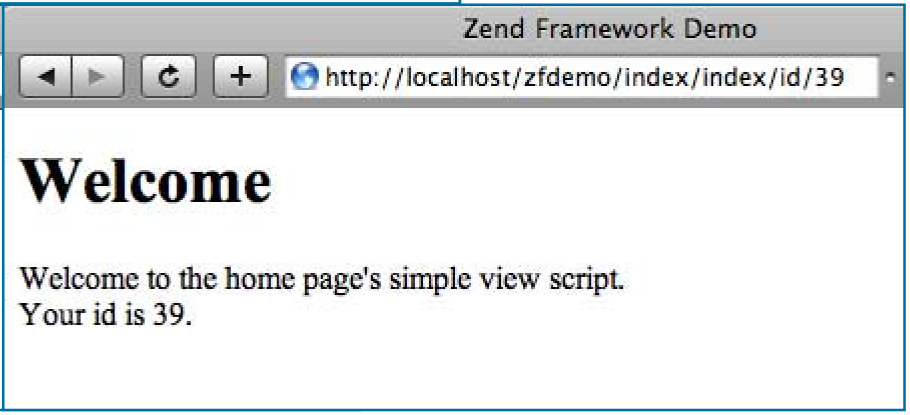


```
<?php

/**
 * Home page view
 *
 * @author Alan Seiden <alan@alanseiden.com>
 * @version 1.00
 */

$this->headTitle('Zend Framework Demo');
$this->placeholder('title')->set('Welcome');
?>

Welcome to the home page's simple view script.<BR>
Your id is <?php echo $this->escape($this->id) ?>.
```



Welcome

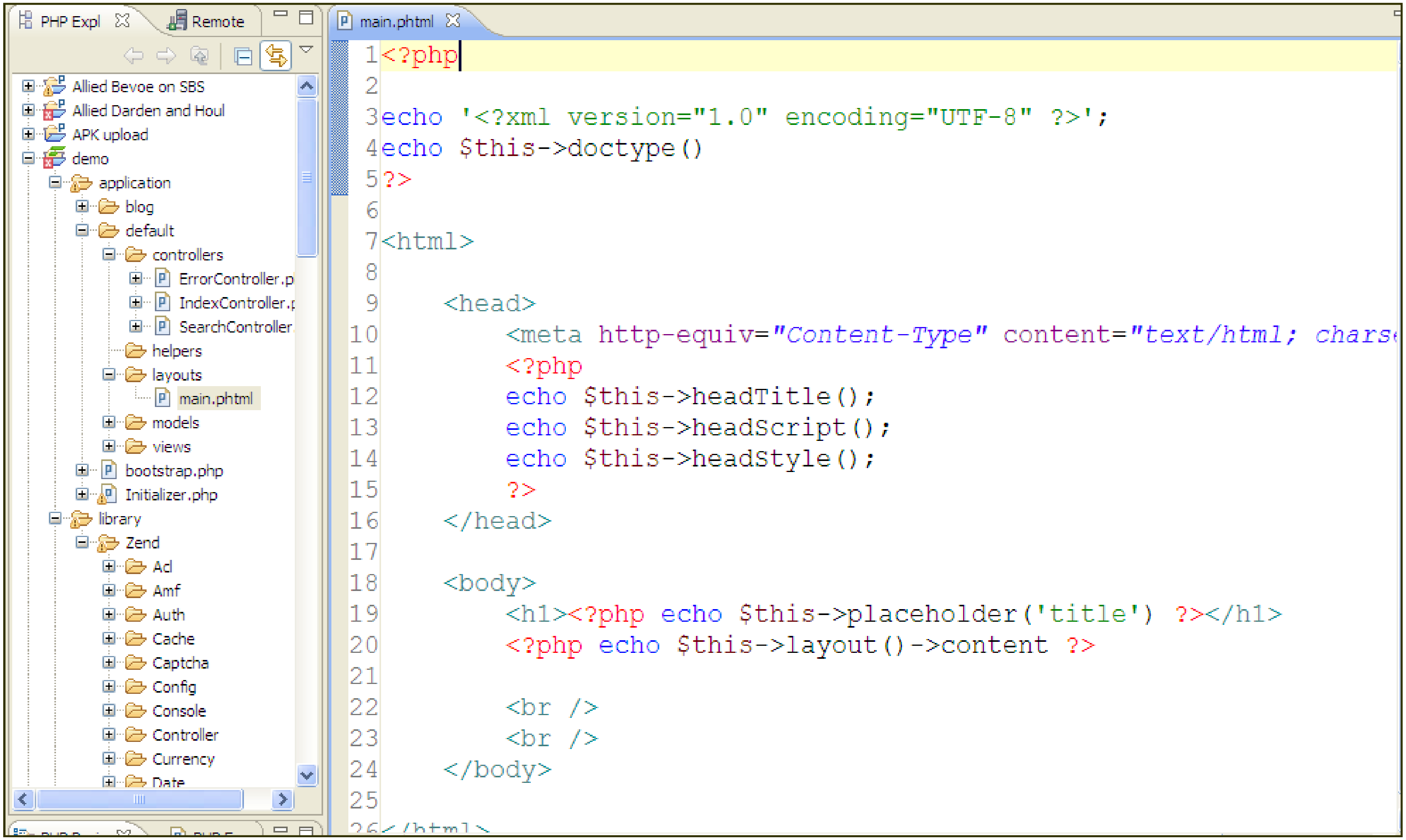
Welcome the home page's simple view script.
Your id is 1.



Welcome

Welcome to the home page's simple view script.
Your id is 39.

Zend_Layout



```
<?php

echo '<?xml version="1.0" encoding="UTF-8" ?>';
echo $this->doctype()
?>

<html>

    <head>
        <meta http-equiv="Content-Type" content="text/html; chars
        <?php
        echo $this->headTitle();
        echo $this->headScript();
        echo $this->headStyle();
        ?>
    </head>

    <body>
        <h1><?php echo $this->placeholder('title') ?></h1>
        <?php echo $this->layout()->content ?>

        <br />
        <br />
    </body>

</html>
```

Zend_Layout

- **Two-step view pattern**
  - Uses Zend_View for rendering
- **Placeholders useful for setting javascript, titles, other variable data**
- **Layout view helper**
  - shortcut to layout placeholder
  - These are equivalent:

```
// fetch 'content' key using layout helper:
echo $this->layout()->content;

// fetch ‘content' key using placeholder helper:
echo $this->placeholder('Zend_Layout')->content;
```

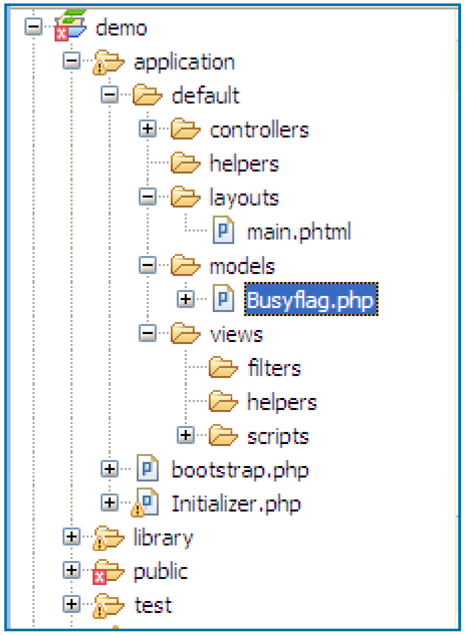
Model

Model

- **Models are abstract representations of data**
    - Can be extended from:
        - Zend_Db_Table_Row – For database abstraction
        - Zend_Feed_Element – For RSS 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

```
// 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)
```

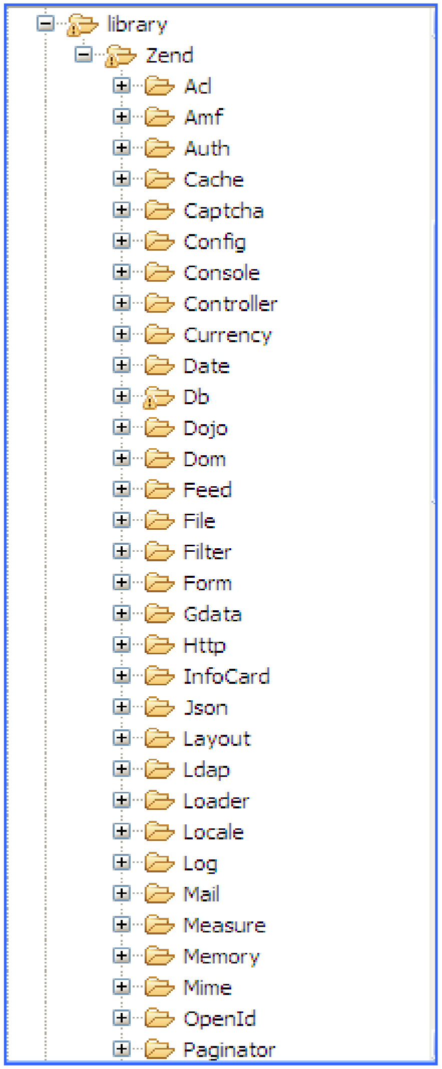


```
⊟ demo
  ⊟ application
    ⊟ default
      ⊞ controllers
        helpers
      ⊟ layouts
          main.phtml
      ⊟ models
        ⊞ Busyflag.php
      ⊟ views
          filters
          helpers
        ⊞ scripts
    ⊞ bootstrap.php
    ⊞ Initializer.php
  ⊞ library
  ⊞ public
  ⊞ test
```

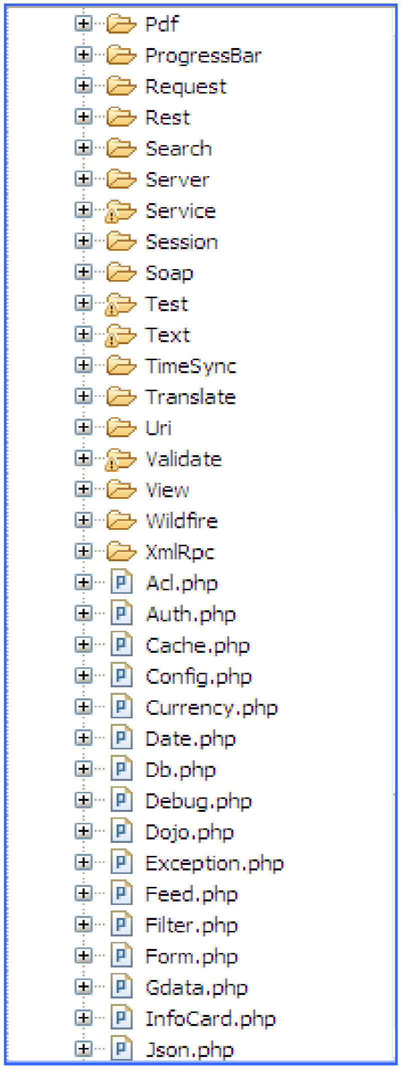
```
// usage (from a preDispatch front controller plugin)
$busyFlag = new Busyflag();
if (!$busyFlag->isSiteUp()) {
    // Take user to "site down" page.
} //(if (!$busyFlag->isSiteUp()))
```

Components

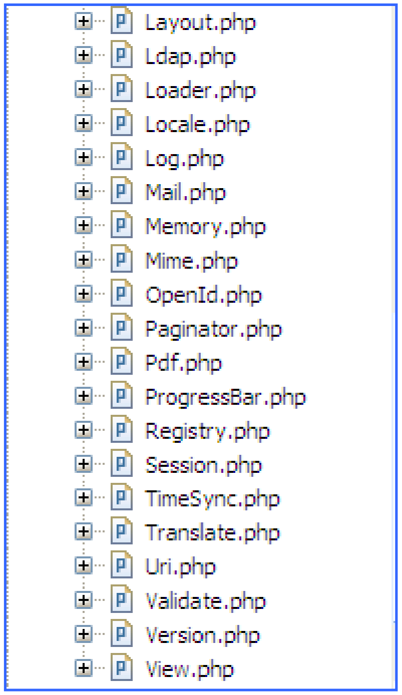
Library of Zend components



```
library
  Zend
    Acl
    Amf
    Auth
    Cache
    Captcha
    Config
    Console
    Controller
    Currency
    Date
    Db
    Dojo
    Dom
    Feed
    File
    Filter
    Form
    Gdata
    Http
    InfoCard
    Json
    Layout
    Ldap
    Loader
    Locale
    Log
    Mail
    Measure
    Memory
    Mime
    OpenId
    Paginator
```



```
    Pdf
    ProgressBar
    Request
    Rest
    Search
    Server
    Service
    Session
    Soap
    Test
    Text
    TimeSync
    Translate
    Uri
    Validate
    View
    Wildfire
    XmlRpc
    Acl.php
    Auth.php
    Cache.php
    Config.php
    Currency.php
    Date.php
    Db.php
    Debug.php
    Dojo.php
    Exception.php
    Feed.php
    Filter.php
    Form.php
    Gdata.php
    InfoCard.php
    Json.php
```



```
    Layout.php
    Ldap.php
    Loader.php
    Locale.php
    Log.php
    Mail.php
    Memory.php
    Mime.php
    OpenId.php
    Paginator.php
    Pdf.php
    ProgressBar.php
    Registry.php
    Session.php
    TimeSync.php
    Translate.php
    Uri.php
    Validate.php
    Version.php
    View.php
```

Reminder:

Zend/Db.php = Zend_Db

Zend/Db/Table.php = Zend_Db_Table

Forms

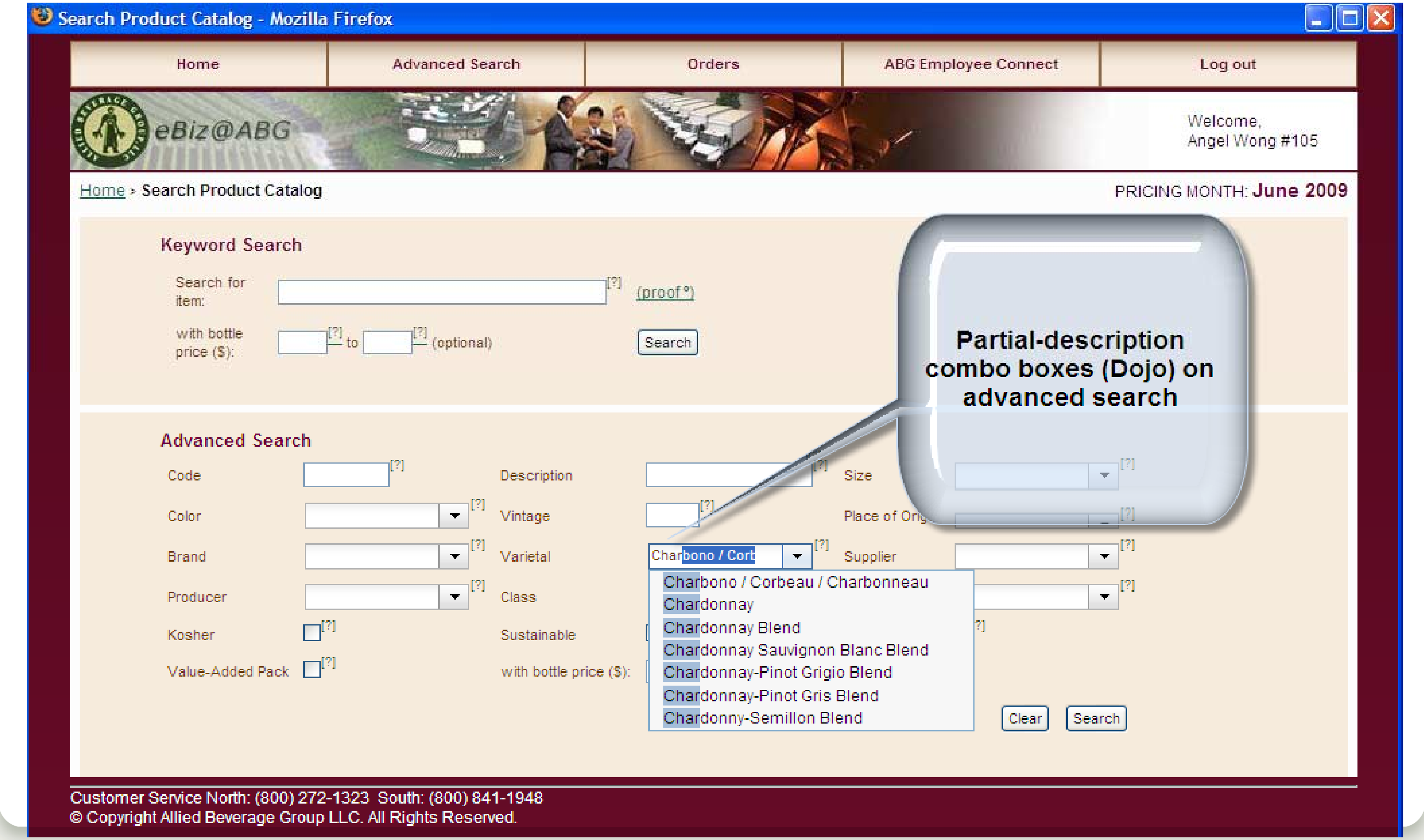
Zend_Form

- 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



Search Product Catalog - Mozilla Firefox

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

eBiz@ABG

Welcome,
Angel Wong #105

Home › Search Product Catalog

PRICING MONTH: **June 2009**

Keyword Search

Search for item: [?] (proof°)

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

Advanced Search

Code	[?]	Description	[?]	Size	[?]
Color	[?]	Vintage	[?]	Place of Orig	[?]
Brand	[?]	Varietal	Charbono / Corb [?]	Supplier	[?]
Producer	[?]	Class			[?]
Kosher	□[?]	Sustainable			[?]
Value-Added Pack	□[?]	with bottle price ($):			

Charbono / Corbeau / Charbonneau
Chardonnay
Chardonnay Blend
Chardonnay Sauvignon Blanc Blend
Chardonnay-Pinot Grigio Blend
Chardonnay-Pinot Gris Blend
Chardonny-Semillon Blend

Clear Search

Customer Service North: (800) 272-1323 South: (800) 841-1948
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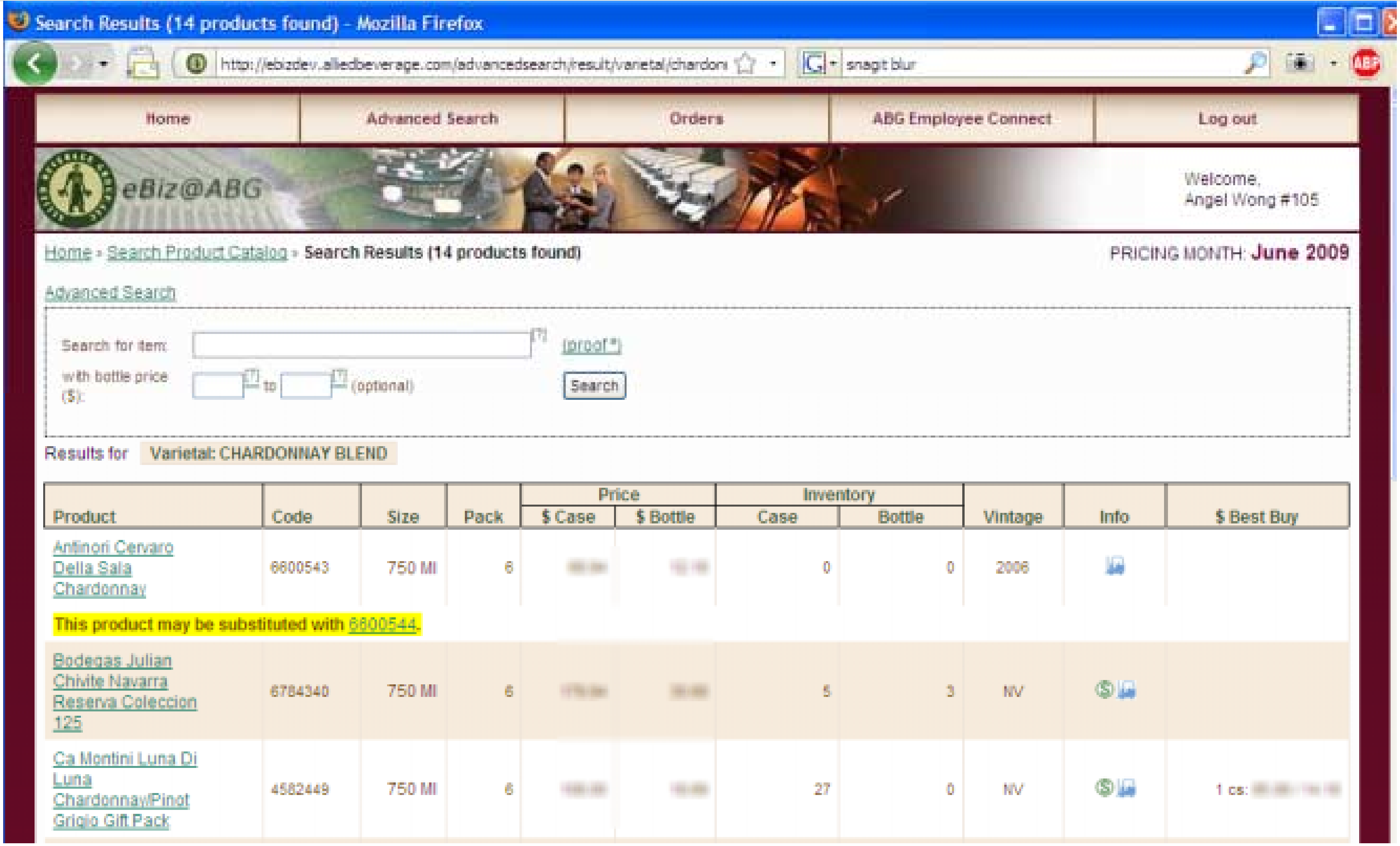
Partial-description combo boxes (Dojo) on advanced search

Search results



Search Results (14 products found) - Mozilla Firefox
http://ebizdev.alliedbeverage.com/advancedsearch/result/varietal/chardon
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)

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Advanced Search

Search for item: [?] (proof*)

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

Results for Varietal: CHARDONNAY BLEND

Product	Code	Size	Pack	Price		Inventory		Vintage	Info	$ Best Buy
				$ Case	$ Bottle	Case	Bottle			
Antinori Cervaro Della Sala Chardonnay	6800543	750 Ml	6	[redacted]	[redacted]	0	0	2006	🖼	
This product may be substituted with 6800544.										
Bodegas Julian Chivite Navarra Reserva Coleccion 125	6784340	750 Ml	6	[redacted]	[redacted]	5	3	NV	$ 🖼	
Ca Montini Luna Di Luna Chardonnay/Pinot Grigio Gift Pack	4582449	750 Ml	6	[redacted]	[redacted]	27	0	NV	$ 🖼	1 cs: [redacted]

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)
```

Database access

Database access with Zend_Db

- **Zend_Db can create SQL for you. You don’t have to be an SQL expert to do everyday tasks**

- **Zend_Db offers a lot beyond creating SQL**
  - Consistent quoting, escaping, prepared statements, profiler

- **Eventually, you should try to become proficient in SQL, both to understand what Zend_Db is doing, and for creating more complex queries.**

Databases

- **Several classes give you a good start**
  - Zend_Db_Adapter_Abstract
    - Abstract class for all adapters
    - You will most likely use this or concrete implementations (such as Zend_Db_Adapter_Db2) for your database access
  - Zend_Db_Table
    - Gateway class for doing queries on a given table
  - Zend_Db_Table_Row
    - An instance of a given row
  - Zend_Db_Statement

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

More Zend_Db examples for i5

```
$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'];
}
```

Config.ini lets you externalize Zend_Db settings

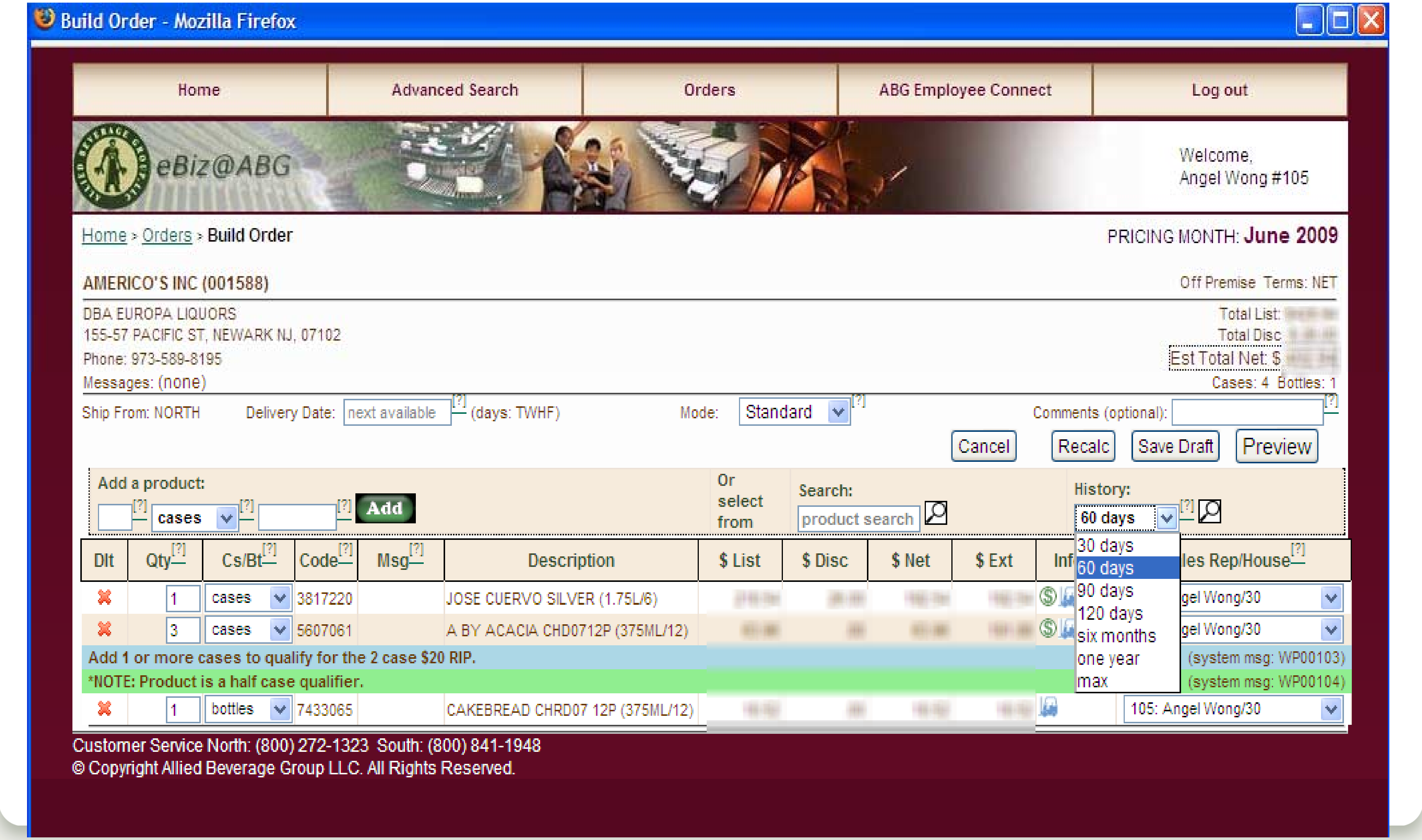
```
; config.ini
[dev]
db.adapter = PDO_MYSQL
db.params.username = alan
db.params.password = secret
db.params.dbname = devdb
db.params.host = 12.13.14.15

// in index.php (bootstrap file)
$config = new
  Zend_Config_Ini(realpath(dirname(__FILE__) .
  '/../application/config.ini'), 'dev');
$db = Zend_Db::factory($config->db);
```

Working with RPG

Use models to call RPG from ZF

- **I always wrap RPG calls in a model class to simplify my code. Here's why:**
  - If the RPG program's name changes, or we call a different program (e.g. CL instead of RPG), I only need to change the model class, not every place it's used
  - Implement consistent error handling (e.g. level check)
  - The model bridges the worlds of RPG and PHP
    - From PHP to RPG, zero-pad numbers
    - From RPG to PHP (return), interpret the RPG's results
      - Convert 'Y' to 'true'. Boolean values are well understood by PHP, can be evaluated by **`if($flag)`**…

Example of calling RPG from ZF



Welcome,
Angel Wong #105

Home › Orders › Build Order

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AMERICO'S INC (001588)

Off Premise Terms: NET

DBA EUROPA LIQUORS
155-57 PACIFIC ST, NEWARK NJ, 07102
Phone: 973-589-8195
Messages: (none)

Total List: [redacted]
Total Disc: [redacted]
Est Total Net: $ [redacted]
Cases: 4 Bottles: 1

Ship From: NORTH   Delivery Date: next available [?] (days: TWHF)   Mode: Standard [?]   Comments (optional): [?]

Add a product: [?] cases [?] [?] Add   Or select from   Search: product search   History: 60 days [?]

Dlt	Qty[?]	Cs/Bt[?]	Code[?]	Msg[?]	Description	$ List	$ Disc	$ Net	$ Ext	Inf	les Rep/House[?]
✖	1	cases	3817220		JOSE CUERVO SILVER (1.75L/6)	[redacted]	[redacted]	[redacted]	[redacted]	$	gel Wong/30
✖	3	cases	5607061		A BY ACACIA CHD0712P (375ML/12)	[redacted]	[redacted]	[redacted]	[redacted]	$	gel Wong/30
Add 1 or more cases to qualify for the 2 case $20 RIP.											(system msg: WP00103)
*NOTE: Product is a half case qualifier.											(system msg: WP00104)
✖	1	bottles	7433065		CAKEBREAD CHRD07 12P (375ML/12)	[redacted]	[redacted]	[redacted]	[redacted]		105: Angel Wong/30

Customer Service North: (800) 272-1323 South: (800) 841-1948
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Model hides the details of calling RPG

```
class wer104
{
  public function___construct($sequence = 0) {

       // lots of code in here, conversions, erorr handling, etc.
       . . . $parmsIn = array('PWEBID'=>$sessionKey);
       . . . I5_command . . .

       $this->_isValidData = (($returnValues['PRTN'] == 'Y') ? true
  : false);
       // be very explicit, true or false

   }

final public function isValidData()
  {
    return $this->_isValidData;
  }

} //(class wer104)
```

See how simple the controller code is

```
/* in controller, use model ‘wer104’
 * which wraps/calls RPG */
$validationCall = new wer104($sequence);

if (!$validationCall->isValidData()) {
    // validation failed; redirect to “edit"
    . . .
}

// otherwise, we passed validation…
```

Paginator

Zend_Paginator

- **Handles page-at-time logic, similar to subfiles, for large lists**
- **Gives you:**
  - the right data records
  - Page numbering, back, next, first, last
- **For data, it’s commonly “fed” an array or db select object**
  - If database select, paginator is smart enough to read only the records to be displayed on the page

Example of Zend_Paginator code

Controller

```
$result = $db->select()->from("SLEMSTP");

$paginator = Zend_Paginator::factory($result);

// Set parameters for paginator
$paginator->setCurrentPageNumber($this->_getParam("page")); // URL must be something like:
     http://example.com/orders/index/page/1  <- meaning we are currently on page one, and pass that
     value into the "setCurrentPageNumber"
$paginator->setItemCountPerPage(20);
$paginator->setPageRange(10);

// Make paginator available in views
$this->view->paginator = $paginator;
```

View script

```
<?php if (count($this->paginator)): ?>
<ul>
<?php foreach ($this->paginator as $item): ?>
  <li><?= $item['LENAME1']; ?></li>
<?php endforeach; ?>
</ul>
<?php endif; ?>

<?= $this->paginationControl($this->paginator, 'Sliding', 'partials/paginationcontrol.phtml'); ?>
```

Example of Zend_Paginator code

View Partial (used in View Script on previous slide)

NOTE these view helpers: `$this->url` which build URL links with the prev, next, and other page numbers, and leads back to controller with the page clicked by user.

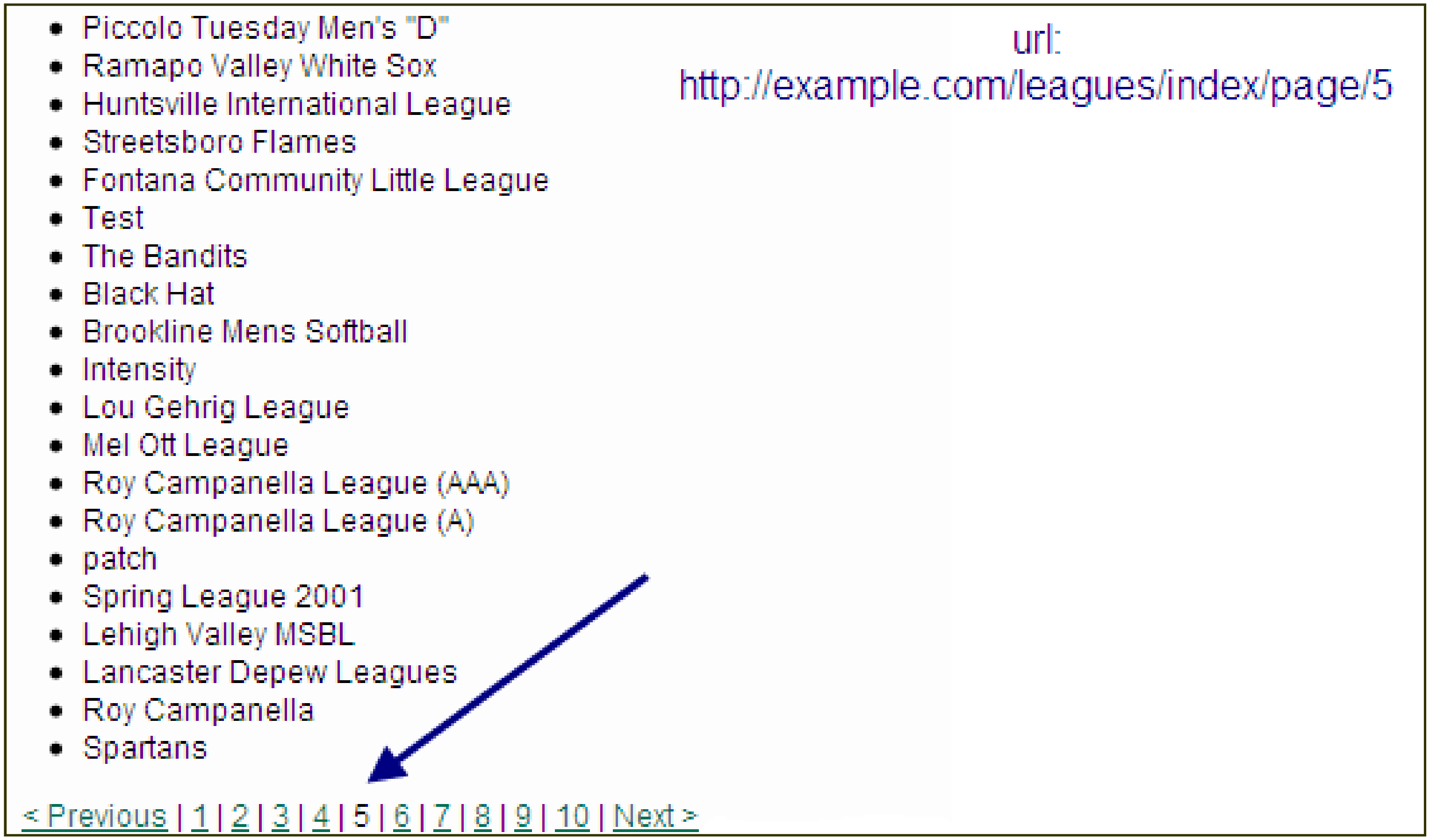
```
<?php echo sprintf('Page %s of %s', $this->current, 'xxx'); ?>
<?php if ($this->pageCount): ?>
<div class="paginationControl">
<!-- Previous page link -->
<?php if (isset($this->previous)): ?>
  <a href="<?= $this->url(array('page' => $this->previous)); ?>">&lt; Previous</a> |
<?php else: ?>
  <span class="disabled">&lt; Previous</span> |
<?php endif; ?>

<!-- Numbered page links -->
<?php foreach ($this->pagesInRange as $page): ?>
  <?php if ($page != $this->current): ?>
    <a href="<?= $this->url(array('page' => $page)); ?>"><?= $page; ?></a> |
  <?php else: ?>
    <?= $page; ?> |
  <?php endif; ?>
<?php endforeach; ?>

<!-- Next page link -->
<?php if (isset($this->next)): ?>
  <a href="<?= $this->url(array('page' => $this->next)); ?>">Next &gt;</a>
<?php else: ?>
  <span class="disabled">Next &gt;</span>
<?php endif; ?>
</div>
<?php endif; ?>
```

Zend_Paginator display

(The appearance can be fully customized by changing the View and View Partial scripts)



- Piccolo Tuesday Men's "D"
- Ramapo Valley White Sox
- Huntsville International League
- Streetsboro Flames
- Fontana Community Little League
- Test
- The Bandits
- Black Hat
- Brookline Mens Softball
- Intensity
- Lou Gehrig League
- Mel Ott League
- Roy Campanella League (AAA)
- Roy Campanella League (A)
- patch
- Spring League 2001
- Lehigh Valley MSBL
- Lancaster Depew Leagues
- Roy Campanella
- Spartans

< Previous | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Next >

url:
http://example.com/leagues/index/page/5

Other components you’ll like

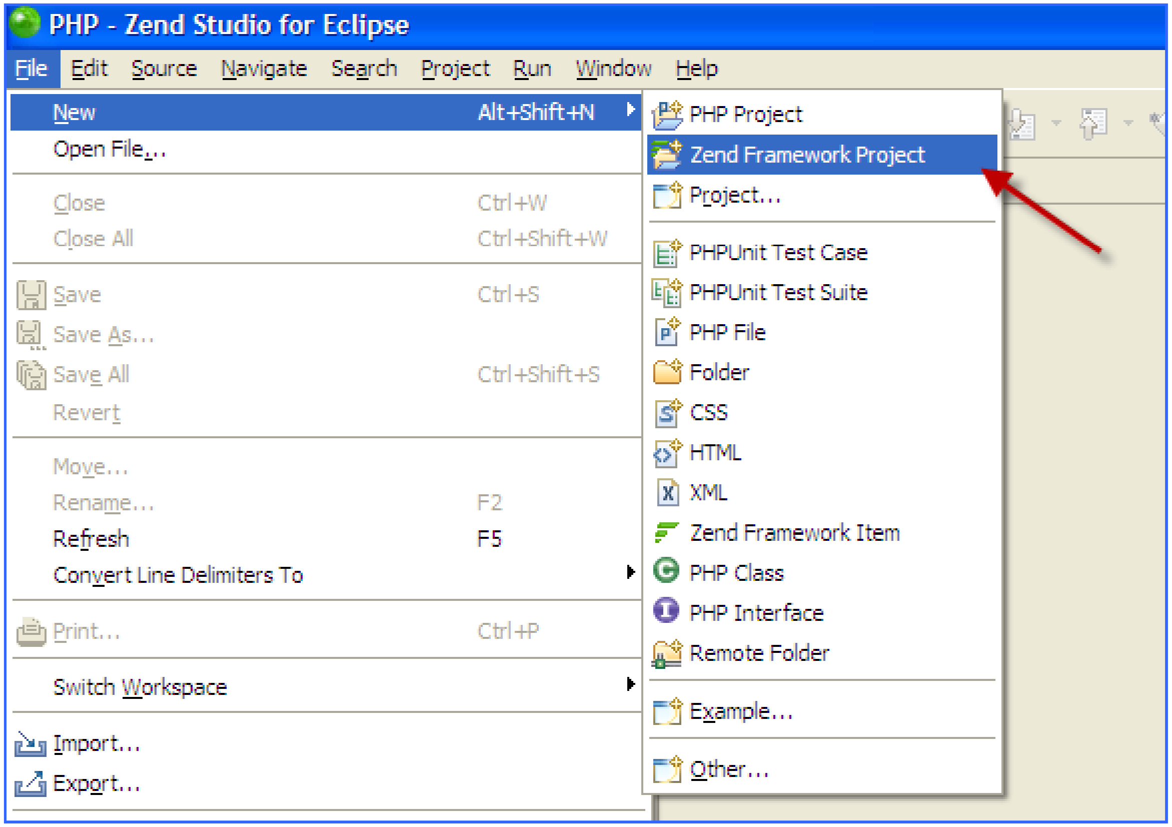
Other components

- **Auth**
- **ACL**
- **Filter/Validate**
- **Log (with familiar concept of logging levels)**
- **Navigation (bread crumbs)**

How to start a ZF project?

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
  - Write to me for guidance: aseiden@sbsusa.com

Questions and Thanks

Alan: aseiden@sbsusa.com

Leave a comment: alanseiden.com/presentations