Toolkits for PHP Web Application Consolidation

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Agenda

• Open Source Toolkit
• Compatibility Wrapper
• Application Deployment
• Q&A
Zend Server 5.6 - General Updates

- GA Toolkit (Hotfix 2)
- Application Deployment
- PHP version 5.3.8
- ZF version 1.11.10
- PTF Update as well as full package distribution
Zend Server 5.6 for IBM i

Key Features

- Shipping with IBM i 6.1 & 7.1
  - EOL announced for V5R4 (you got 18 months)
- New Open Source Toolkit ***GA***
  - Hotfix 2
- Performance enhancements
- PHP 5.3.8
- Zend Framework 1.11.3
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Open Source Toolkit
Why a new toolkit

• Open Source is the plan
• Open Source languages using an Open Source toolkit
  ‣ Makes sense to me...
• opportunity for community involvement
• Created enhancements beyond previous toolkit
• No effect on DB2 functions, only the i5 functions are impacted.
But I liked the old one, what are my options?

- **Upgrade customers**
  - Can continue to use Easycom or the new toolkit
  - PTF upgrade process **will not** remove Easycom
  - Support from Aura for Easycom

- **New download customers**
  - New Open Source toolkit
  - Easycom no longer ships with Zend Server 5.6 and higher
  - Compatibility Wrapper...
    - intercepts i5 function calls (minor code changes)
    - Passes to new toolkit, transparently
New toolkit FAQ

- Zend official position and response is in the forums
- Zend forums are a wonderful source of PHP info
- Forum PHP on IBM i → Zend Server for IBM i → New Tolkit
- Contact Zend with questions.
- More information coming:
  - Technote
  - Articles
  - Webinar
Notes on installation (PTF update only)

• Best to update Include_Path in php.ini
  ‣ PTF does not change it, first do no harm...

• Head to Server Setup ➔ Directives ➔ Paths & Directories

• Add: :/usr/local/zendsvr/share/ToolkitAPI
Bug in demos...sort of...(Hotfix 2 corrects this!)

- Current toolkit default to library XMLService (test lib)
- Utilities are loaded into ZENDSVR. (production lib)
- Need to tweak a file setting.
- File: /usr/local/zendsvr/share/ToolkitAPI/ToolkitServiceSet.php

```
4  //define('XMLSERVICELIB', 'XMLSERVICE');  //library with IBM support objects
5  define('XMLSERVICELIB', 'ZENDSVR');    //library with IBM support objects
6  define('DFTLIB', 'QGPL');             //library for creation of temporary objects (was QGPL
7  define('ZSTOOLKITLIB', 'ZENDSVR');    //library with Service program
8  define('ZSTOOLKITPGM', 'ZXMLSRV');    // or XSTREAMS?
9  define('DBPROTOCOL', 'ibm_db2');      // or XSTREAMS?
10 define('XMLINTERNALKEY', '/tmp/Toolkit')
```
New toolkit is Object Oriented

• Series of classes that “wrap” the IBM project
• All PHP but Object Oriented...(wait, there’s more!)
• Zend built the PHP wrapper

• Sam Pinkhasov, Zend
Toolkit Plumbing from 10,000 feet

- DB2 Functions
- OO Program Calls
- i5 functions
- DB2 Extension or ODBC
- PHP Classes Toolkit API
- Compatibility Wrapper
- DRDA
- XML
- DB2
  - Stored Procedures & Data
  - XML
  - Parm Data
  - RPG XMLSERVICE
  - Parm Data
  - RPG, COBOL
  - System Artifacts

HLL’s
XML Service

- IBM has open sourced XMLService.
- First Open Source project on IBM i. (that I know of...)
- Made up of RPG, CL and DB2 stored procedures (SQL)

- Tony Cairns, IBM Rochester
XML Service

- Cross platform
- Language agnostic
- Basic plumbing for all open source languages
Compatibility Wrapper

• Intercepts existing i5 function requests
• Passes them on to OO PHP which then...
• Passes on to XML Service

• Alan Seiden, SBS & alanseiden.com
PHP Classes

• Class where all wrapper functions start
  ▶ Yes, this is OO but not too bad...
  ▶ Look at it and poke around, It’s OK!
  ▶ This is why we need the path set correctly

```php
include_once 'ToolKitService.php';
```
Housekeeping...

- Need to set the extension and instantiate the object
  - Singleton pattern
  - Try & Catch
  - Can put this in your own include

```php
$extension='ibm_db2';
try {
    $ToolkitServiceObj = ToolkitService::getInstance($db, $user, $pass, $extension);
}

    catch (Exception $e) {
        echo $e->getMessage(), "\n";
        exit();
    }

$ToolkitServiceObj->setToolkitServiceParams(array('InternalKey' => '/tmp/$user'));
$code = $_POST ['code'];
$desc = ' ';
```
Now the program call

- Set parameters based on function
  - Call program
  - Output results

```php
$param[] = $ToolkitServiceObj->AddParameterChar('both', 10, 'CODE', 'CODE', $code);
$param[] = $ToolkitServiceObj->AddParameterChar('both', 10, 'DESC', 'DESC', $desc);
$result = $ToolkitServiceObj->PgmCall("COMMONPGM", "ZENDSVR", $param, null, null);
if($result){
    showTable( $result['io_param'] );
} else
    echo "Execution failed.";
```
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Demo ToolkitService.php
Why the compatibility wrapper?

- In the past 6 years many folks have invested in i5 functions
- New toolkit is OOP but i5 functions support procedural code
- Smooth the transition from Easycom to Open Source toolkit
- Currently in beta
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Open Source Integration Demo
Look at an Open Source application...

- PHPClasses.org
  - Email validation
  - Test, implement, integrate
  - Runs natively on IBM i
- Demo will integrate a simple file listing and maybe more!
  - Don’t re-invent the wheel, steal it!
Wrap it up...

• Advantages?
  ▶ Toolkits blend the best of both worlds
  ▶ Continuing evolution allows IBM i to remain relevant
  ▶ Lots of ways to deliver content to users using free/open source
  ▶ IBM is not waiting, tools are here TODAY!
Q&A

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