New Features in PHP 5.3

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Introduction

Are you using PHP 5.3?

Note that I’m using PHP 5.3 in development but not in production.

Past, Present & Future

PHP 5.0 brought us a new object model

PHP 5.3 brings us namespaces, closures, late static binding & more

PHP 5.3.99—huh?

Is anyone **not** on PHP 5 yet?

So What?

Speed & memory improvements

Some problems are easier to solve in PHP 5.3

Zend Framework 2.0, Symfony 2.0,
Lithium & Doctrine 2.0 will require PHP 5.3

The problems that are easier to solve tend to be those that are common in frameworks.

New Features

Namespaces, Late Static Binding & Closures

Namespaces

Namespaces provide you with another level of encapsulation and allow you to better organize your code.

Namespaced Classes

```php
<?php
namespace btvphp\stuff;
class Foo {}
$a = new \btvphp\stuff\Foo();
$b = new Foo(); // Same as above
```

Namespaces are analogous to directories when it comes to the backslash (\).

Namespaced Functions

```
<?php
namespace btvphp\stuff;
function sayHi()
{
    return'Hi';
}
echo \btvphp\stuff\sayHi(); // Hi
echo sayHi(); // Hi
```

Namespace Aliasing

Examples courtesy of Matthew Weier O'Phinney (http://weierophinney.net/matthew/)

Aliasing Classes

```php
<?php
namespace Zend\SignalSlot {
    class Signals {}
}
namespace { // global namespace
    use Zend\SignalSlot\Signals;
    $signals = new Signals();
}
```

The bracketed syntax is recommended when more than one namespace is in a file. The "namespace" without any qualifier references the global namespace.

Changing the Name

```
<?php
namespace Zend\Loader {
    class PluginBroker {}
}
namespace {
    use Zend\Loader\PluginBroker as Broker;
    $broker = new Broker();
}
```

Global Resolution

```php
<?php
namespace Doctrine {
    class Manager {
        public static function load() {}
    }
}
namespace {
     \Doctrine\Manager::load();
}
```

Late Static Binding

The Problem

Parent Class

```php
<?php
class Foo {
    protected static function speak() {
        return 'Hi';
    }
    public static function sayHi() {
        return self::speak();
    }
}
```

What happens if I call Foo::sayHi()?

Child Class

```php
<?php
class Bar extends Foo {
    protected static function speak() {
        return 'Hello';
    }
}
```

What happens if I call Bar::sayHi()?

“Hi” or “Hello”?

```
<?php
echo Bar::sayHi();
```

“Hi” or “Hello”?

```php
<?php
echo Bar::sayHi(); // Hi
```

Static references to the current class (self) are resolved using the class in which the function was defined.

The Solution

Parent Class

```
<?php
class Foo {
    protected static function speak() {
        return 'Hi';
    }
    public static function sayHi() {
        return static::speak();
    }
}
```

Use “static” keyword instead of “self”.

Child Class

```php
<?php
class Bar extends Foo {
    protected static function speak() {
        return 'Hello';
    }
}
```

The child class remains unchanged for this example.

“Hi” or “Hello”?

```
<?php
echo Bar::sayHi(); // Hello
```

The “static” keyword references the class that was initially called at runtime, in this case “Bar”.

Closures / Lambda Functions

See: http://bit.ly/9LYP3r

Link is to Vance Lucas' article on Practical Uses for PHP 5.3 Closures

Variable Assignment

```php
<?php
$sayHi = function () {
    return 'Hi';
};
echo $sayHi(); // Hi
```

Scope

```php
<?php
$sayWhat = 'Hi';
$say = function ($toWhom) use ($sayWhat) {
    return $sayWhat . ', ' . $toWhom;
};
echo $say('Bradley'); // Hi, Bradley
```

The “use” parameters are passed in when the closure is created.

Anonymous Functions

```php
<?php
$values = array(3, 7, 2);
usort($values, function ($a, $b) {
    if ($a == $b) { return 0; }
    return ($a < $b) ? -1 : 1;
});
/*  [0] => 2
    [1] => 3
    [2] => 7 */
```

This is a contrived example, there are better ways to sort this particular array.

Other Neat Stuff

New Bundled Extensions

Phar (PHP Archive)

Internationalization Functions

Fileinfo: guesses content type & encoding

SQLite version 3

Enchant spelling library

Extension Improvements

OpenSSL

More OpenSSL functionality
available natively within PHP

Faster than do-it-yourself or system calls

Useful if you’re working with OpenID, etc.

DateTime Object

Add or subtract date intervals

Calculate the difference between two dates

Get or set unix timestamp

See: http://bit.ly/5pDpWI

Brandon Savage has a good article on this.

SPL Data Structures

See: http://bit.ly/bz6pqY

Matthew Turland did a presentation on this at TEK and has performance tests you can run for yourself.

SplStack

Push & Pop

Last In, First Out (LIFO)

Uses less memory than arrays for big stacks
(greater than 5,000 elements)

As with other SPL data structures, SplStack provides a specialized alternative to using an array.

SplQueue

Enqueue & Dequeue

First In, First Out (FIFO)

Faster and uses less memory
than arrays for most queues

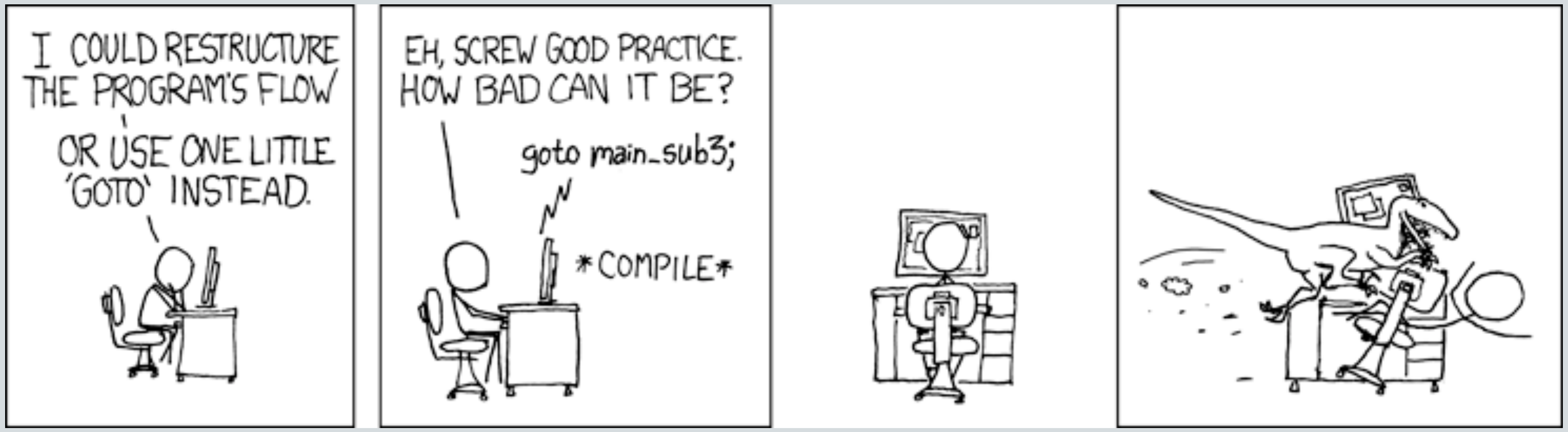
SplHeap

Insert & Remove

Reorders elements based
on comparisons

Faster and uses less memory
than arrays for most heaps

goto


I COULD RESTRUCTURE THE PROGRAM'S FLOW
OR USE ONE LITTLE 'GOTO' INSTEAD.
EH, SCREW GOOD PRACTICE. HOW BAD CAN IT BE?
goto main_sub3;
COMPILE

Courtesy of xkcd: http://xkcd.com/292/

Think of GOTO as a more flexible break statement.

New Syntax

__invoke()

```php
<?php
class Foo {
    public function __invoke($x) {
        return $x + $x;
    }
}
$foo = new Foo();
echo $foo(2); // 4
```

This allows you to call an object as a function.

__callStatic()

```php
<?php
class Foo {
    public static function __callStatic
($name, $args) {
        return $name . ' called
statically';
    }
}
echo Foo::bar(); // bar called statically
```

This is similar to __call but for static methods.

__DIR__

```php
<?php
echo dirname(__FILE__);
echo __DIR__; // Since PHP 5.3
```

This gets you the directory of the current file without needing to use the dirname function on __FILE__.

Miscellaneous

Nowdocs: “Nowdocs are to single-quoted strings what heredocs are to double-quoted strings.”

Improved ternary (? :) operator

I’m Sold, What Now?

Platform Support

Linux

Ubuntu 10.10

Fedora 12+

openSuse 11.2+

Red Hat Enterprise Linux (RHEL) 6

Since RHEL will have PHP 5.3 soon, so will CentOS.

Mac OS X

Bundled with Snow Leopard

MacPorts

Homebrew

Windows

Binary packages available

WebMatrix Beta 3

PHP 5.3 Hosting

ServerGrove

WebMatrix

A2 Hosting

Hostek

Resources

PHP Manual
http://php.net/

PHP 5.3.0 Release Announcement
http://php.net/releases/5_3_0.php

Migrating from PHP 5.2.x to PHP 5.3.x
http://www.php.net/manual/en/migration53.php

Questions?

Thank You

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