

PHP Introduction

eZ Publish Summer Conference

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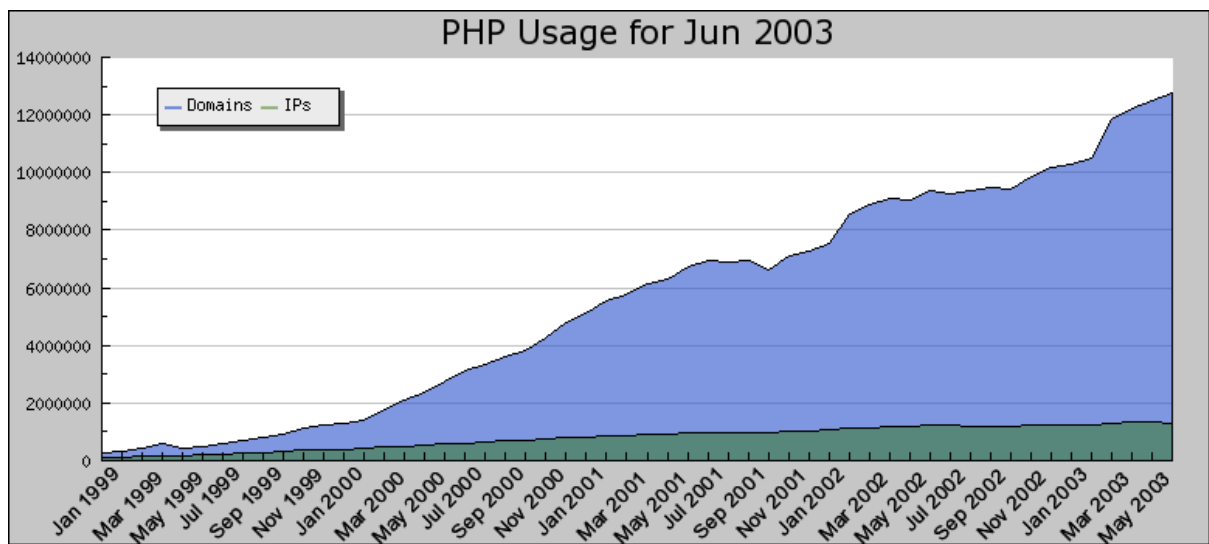
Derick Rethans <d.rethans@jdimedia.nl>

<http://pres.derickrethans.nl/ezcamp>

- o PHP: Hypertext Preprocessor
- o Started in 1997
- o Apache module
- o but also IIS, Iplanet, thttpd...
- o SQLite and MySQL integration
- o but also MSSQL, Oracle, PGSql...

June 2003 Netcraft Report

- o 40,936,076 Domains queried
- o 12,749,410 Domains. 1,317,425 IP addresses
- o PHP installed on 31% of all domains



Source: Netcraft

March 2003 Apache Module Report

- o 6,813,534 Apache Servers surveyed
- o 3,510,294 (51.52%) PHP
- o 2,075,828 (30.47%) OpenSSL
- o 2,007,598 (29.46%) mod_ssl
- o 1,486,868 (21.82%) Frontpage
- o 1,407,732 (20.66%) mod_perl
- o 401,097 (5.89%) DAV
- o 348,856 (5.12%) mod_throttle
- o 206,122 (3.03%) mod_jk
- o 175,924 (2.87%) AuthMySQL
- o 190,290 (2.79%) mod_log_bytes
- o 185,076 (2.72%) mod_bwlimited

Source: SecuritySpace.com

- o Open Source: Apache like BSD-style license
- o 732 developers
- o ~25 active (on PHP source)
- o Documentation in 26 languages
- o PHP 4.0.0 since May 2000
- o PHP 5.0.0beta1 in June 2003
- o PHP 4.3.3 in August 2003



- o PHP Extension and Application Repository
- o Commandline tool for maintenance
- o Dependency checking

```
[derick@kossu derick]$ sudo pear -v install Net_DIME
downloading Net_DIME-0.3.tgz ...
...done: 6,740 bytes
install ok: Net_DIME 0.3
```

```
[derick@kossu derick]$ sudo pear list-upgrades
Available Upgrades (beta):
=====
Package          Version  Size
DB                1.4.0   60kB
HTML_QuickForm   3.0Beta2 60kB
Net_Smtp          1.2.3   6.1kB
```

```
[derick@kossu derick]$ sudo pear list-all | head -6
All packages:
=====
Package          Latest   Local
apd               0.4p2
bcompiler         0.4     0.4
PHPDoc            0.1.0   0.1.0
```



- o PHP Extension Code Library
- o Shared extensions
- o Makes use of the 'pear' tool
- o Future home for all extensions

```
[derick@kossu nl]$ sudo pear -v install
http://files.derickrethans.nl/xdebug-1.2.0.tgz
downloading xdebug-1.2.0.tgz ...
...done: 58,608 bytes
28 source files, building
running: phpize
PHP Api Version      : 20020918
Zend Module Api No   : 20020429
Zend Extension Api No : 20021010
building in /var/tmp/pear-build-root/xdebug-1.2.0
running: /tmp/tmpXOqy3A/xdebug-1.2.0/configure
running: make
xdebug.so copied to /tmp/tmpXOqy3A/xdebug-1.2.0/xdebug.so
install ok: xdebug 1.2.0
```



- o Revamped Internals
- o Real Object Orientation
- o Exceptions
- o Improved Streams API
- o Bundled SQLite
- o New XML extensions based on libXML-2
- o SPL - Object Iterators and more

```
<?php
class OS {
    var $name;

    function OS($name) {
        $this->name = $name;
    }
}

function changeName($obj, $name) {
    $obj->name = $name;
}

$linux = new OS('linux');
changeName($linux, 'windows');
echo $linux->name;

? >
```


- o New type constructors: `__construct()`.
- o Finally destructors: `__destruct()`.



```
<?php
class Construction {
    var $area;
    function __construct($area) {
        $this->$area = $area;
    }
    function __destruct() {
        echo "Leaving {$this->area}\n";
    }
}

$c = new Construction('London');
$vegas = $c;
$vegas->area = "Las Vegas";

echo "\$c = NULL\n";
$c = NULL;
echo "\$vegas = NULL\n";
$vegas = NULL;
? >

$c = NULL
$vegas = NULL
Leaving Las Vegas
EOS
```

- o 'Strongest' access level
- o Can only be accessed/called from the same class
- o Force use of get()/set() functions to access properties

```
<?php
```

```
class Bedroom {
    private $action;

    function __construct() {
        $this->action = 'fun';
    }
}
```

```
$br = new Bedroom();
echo $br->action. "\n";
```

```
? >
```

```
Fatal error: Cannot access private property bedroom::$action in - on line 12
```

- o Only accessible/callable by the same, or an inherited class
- o Useful for 'packages'

```
<?php
class Bedroom {
    protected $action;

    function __construct() {
        $this->action = 'fun';
    }

    protected function peek() {
        echo $this->action. "\n";
    }
}

class Keyhole extends Bedroom {
    function peek() {
        echo $this->action. "\n";
    }
}

$kh = new Keyhole();
$kh->peek();

$br = new Bedroom();
$br->peek();           / Doesn't work /
? >
```

- o Property access handlers
- o In combination with private
- o As replacement for 'dynamic properties'

```
<?php
class OSses {
    private $names = array();

    public function __set($name, $value) {
        if (!in_array($name, array('windows', 'dos')))
            $this->names[$name] = $value;
    }

    public function getNames() {
        return $this->names;
    }
}

$osses = new OSses();
$osses->linux = 'rocks';
$osses->windows = 'blows';

var_dump($osses->getNames());
? >

array(1) {
    ["linux"]=>
    string(5) "rocks"
}
```

PHP 4:

```
<?php
  if (@mysql_connect('localhost', 'root', 'ut34Fb1Y:')) {
    if (@mysql_select_db('game')) {
      $r = mysql_query('SELECT * FROM news ORDER BY date DESC LIMIT 1');
      ...
    }
  }
```

PHP 5:

```
<?php
  try {
    mysql_connect('localhost', 'root', 'ut34Fb1Y:');
    mysql_select_db('game');
    $r = mysql_query('SELECT * FROM news ORDER BY date DESC LIMIT 1');
  } catch (Exception $e) {
    / Do recovery /
    exit();
  }
```



Example XML to parse:

```
<books>
  <book>
    <title>The Grapes of Wrath</title>
    <author>John Steinbeck</author>
  </book>
  <book>
    <title>The Pearl</title>
    <author>John Steinbeck</author>
  </book>
</books>
```

Expected output:

```
The Grapes of Wrath was written by John Steinbeck
The Pearl was written by John Steinbeck
```

```
<?php
$doc = domxml_open_file('book.xml');
$root = $doc->child_nodes();
$root = $root[0];
$books = $root->child_nodes();

foreach ($books as $book) {
    if (@$book->tagname == 'book') {
        $content = $book->child_nodes();
        foreach ($content as $elem) {
            if (@$elem->tagname == 'author') {
                $author = $elem->get_content();
            }
            if (@$elem->tagname == 'title') {
                $title = $elem->get_content();
            }
        }
        echo "{$title} was written by {$author}\n";
    }
}
? >
```

```
<?php
$books = simplexml_load_file('book.xml')->book;

foreach ($books as $book) {
    echo $book->title." was written by {$book->author}\n";
}
? >
```

- o **K.I.S.S.**
Keep It Simple Stupid

Before:

```
<security>
  <id>15</id>
</security>
```

Change the ID:

```
<?php
$s = simplexml_load_file('security.xml');
echo $s->id;
$s->id = 20;
simplexml_save_file($s, 'security.new.xml');
? >
```

After:

```
<security>
  <id>20</id>
</security>
```

- o Stacktraces
- o Functiontraces
- o parameters to functions
- o function/methodname, classname
- o file:line locations
- o memory allocation
- o Profiling
- o Script execution analysis

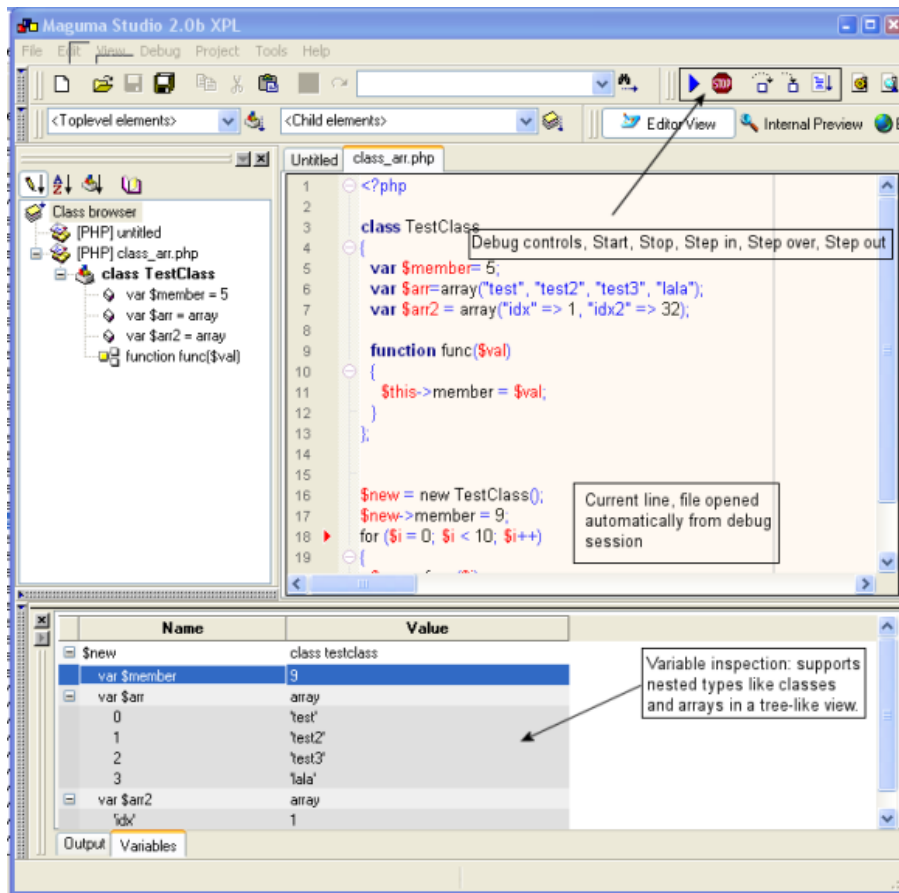
Updated error handler:

```
Warning: mysql_select_db() [function.mysql-select-db]: Can't connect to local MySQL server through socket '/var/lib/mysql/mysql.sock' (2) in /home/httpd/html/www.derickrethans.nl/html/xdebug/include/header.php on line 97
```

Call Stack		
#	Function	Location
1	{main}()	/home/httpd/html/www.derickrethans.nl/html/xdebug/updates.php:0
2	include(include/header.php)	/home/httpd/html/www.derickrethans.nl/html/xdebug/updates.php:1
3	mysql_select_db('blog')	/home/httpd/html/www.derickrethans.nl/html/xdebug/include/header.php:97

Updated var_dump() function:

```
array
  0 =>
    array
      0 => true
      1 => false
      2 => 3
    'twee' =>
      array
        0 => '4'
        1 => null
        2 => '6'
```



- o Bundled with PHP 5
- o Fast and easy interface to 'flatfiles'
- o SQL 99 subset
- o No daemon required
- o Enabled by default
- o Callbacks for normal functions and aggregation functions

```
<?php
function sqlite_starts_with($title, $char)
{
    $title = strtolower($title);
    $char = strtolower($char);
    if (!strlen($title) || !strlen($char)) {
        return FALSE;
    }
    return ($title{0} == $char{0});
}

$idx = sqlite_open("livedocs-en.sqlite");
sqlite_create_function($idx, 'STARTS_WITH', 'sqlite_starts_with');

$q = sqlite_query($idx,
    "SELECT title, id FROM idents WHERE STARTS_WITH(title, '$idx')");
if ($q) {
    while ($r = sqlite_fetch_array($q, SQLITE_NUM)) {
        list($title, $id) = $r;
        echo "$id: $title\n";
    }
}
? >
```



- o Published Bi-monthly
- o In shops in large part of europe
- o Focusses on professional PHP users
- o Reviews, User Questions, Inside Information, Databases, Development, XML, Internals

This presentation: <http://pres.derickrethans.nl/ezcamp>

International PHP Magazine: <http://www.php-mag.net>

PHP: <http://www.php.net>

SQLite: <http://www.sqlite.org>

e-mail: derick@php.net

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