

CFPHP ZCE Training

Session One: PHP Basics

In Today's Episode

- PHP Files
- Data Types
- Variables & Constants
- Operators
- Control Structures
- Errors
- Summary
- Useful Resources

PHP Files

Scripts

- Default Extension: .php
 - May be Overridden via Server Conf
- Not Compiled, Interpreted
 - Thus, PHP is a text-processing language

Tags

- Standard Tags
 - `<?php ?>`
- Short Tags
 - `<? ?>`

Tags

- Script Tags
 - `<script language="PHP"></script>`
- ASP Tags
 - `<% %>`
- * Standard tags are the only recommendation

Newlines

- Interpreter removes newlines at end of all scripts
- This prevents “Headers Already Sent” errors

Statement Termination

- Semicolons terminate PHP statements
 - `function_call();`
 - `$a = 123;`
- There are few exceptions
 - Control Structures
 - Last Line in PHP Script

Comments

- `//` Inline Comment
- `#` PERL Style Comment
- `/*` C Style
Multiline
Comment `*/`

Whitespace

- PHP = Loosely Typed
- Whitespace is usually ignored
- Exceptions:
 - Opening/Closing Tags
 - Keywords
 - Functions/Variable Names

Code Blocks

- Defined by { Curly Braces }
- Groups code into related blocks
- Runs under specific circumstances
 - Functions
 - Conditionals
 - Loops

Language Constructs

- Similar to Functions... different rules
- `if()`, `while()`, `for()`, `foreach()`, `function()`
- `echo()` vs `print()`
- `die()`, `exit()`

Data Types

Data Types

- 2 Main Categories
 - Scalar Values
 - Compound Values

Data Types

- Numeric Types
 - Integer
 - Floating Point

Data Types

- Integers
 - Signed values only
 - Defined Via
 - Decimal Notation
 - Octal Notation
 - Hexadecimal Notation

Data Types

- Floating Point
 - AKA: Doubles, Floats
 - Defined Via:
 - Decimal Notation
 - Exponential Notation

Data Types

- Strings
 - Junkdrawers for Binary Data (Usually Text)
 - Single Quotes = Simple Strings
 - Double Quotes = Complex Strings
 - Heredoc = Long Complex Strings

Data Types

- Booleans
 - TRUE
 - FALSE

Data Types

- Compound Data Types
 - Array
 - Object

Data Types

- Other Data Types
 - null
 - Resources

Variables & Constants

Syntax

- Defined by \$
- Names may be alpha-numeric
- May contain underscores
- May NOT begin with a Number

Variable Variables

- Variable Name becomes a variable
- Generally not recommended
- Code Difficult to read

Variable Existance

- `isset()`

Constants

- Similar to variables, but not
- Values Stored once, may never be changed
- Names are suggested to be in `ALL_CAPS`
- `define()`, `defined()`

Operators

Arithmetic

- Addition: +
- Subtraction: -
- Multiplication: *
- Division: /
- Modulus: %

Arithmetic

- Increment Before: $++\$a$
- Increment After: $\$a++$
- Decrement Before: $--\$a$
- Decrement After: $\$a--$

String Concatenation

- Period is only Concatenation Operator
- Two Ways to Concatenate
 - $\$c = \$a . \$b;$
 - $\$a .= \$b;$

Assignment

- Simple Assignment
- Arithmetic/Bitwise Assignment
 - $\$a += \$b;$
 - $\$a *= \$b;$

References

- `$a = 4;`
`$b = $a;`
`$a = 6;`

`echo $b;`

References

- `$a = 4;`
`$b &= $a;`
`$a = 6;`

`echo $b;`

References

- Scalar Values and Arrays are always **COPIED**
- Objects are Passed Via Reference

Comparison

- Results of Comparison Operations are ALWAYS boolean
- Equal ==
- Identical ===
- Not Equal !=
- Not Identical !==

Comparison

- Less Than $<$
- Greater Than $>$
- Less Than or Equal To $<=$
- Greater Than or Equal To $>=$

Logical

- NOT !
- AND && / and
- OR || / or
- XOR

Other

- Error Control Operator @
 - `@mysql_connect('foo', 'bar', 'beer');`
- Backtick
 - `$a = `ls -la`;`

Control Structures

Conditionals

- if
- else
- elseif
- Ternary
 - `$a = (isset($b)) : 'mike' ? 'chris';`

Loops

- while
- do...while
- for
- break / continue

Errors

Error Levels

- Compile Time
 - Errors occurred during script compilation.
 - Script execution is halted

Error Levels

- Fatal Errors
 - Errors in syntax, etc.
 - Script execution is halted

Error Levels

- Recoverable Errors
 - Significant failures
 - Can still run in a safe way

Error Levels

- Warnings
 - Recoverable errors.
 - Script execution continues

Error Levels

- Notices
 - Generally small errors. IE Undefined variables, etc.
 - Script execution continues

Error Reporting

- php.ini Directives
 - error_reporting
 - display_errors
 - log_errors

Handling Errors

- `set_error_handler()`

Questions?

Useful Resources

Reading

- **ZEND PHP 5 Certification Study Guide**
http://www.phparch.com/shop_product.php?itemid=135
- **Programming PHP**
<http://en.wikibooks.org/wiki/PHP>
- **Practical PHP Programming**
http://hudzilla.org/phpwiki/index.php?title=Main_Page
- **The PHP Manual**
<http://us2.php.net/manual/en/>