

PHP

Dr. Michele Weigle

<http://www.cs.odu.edu/~mweigle/CS418-F12/>



What is PHP?

- ▶ PHP: Hypertext Preprocessor
- ▶ Server-side scripting language
 - ▶ different from JavaScript (a client-side scripting language)
- ▶ Free alternative to Microsoft's Active Server Pages (ASP)
- ▶ Can be directly embedded into HTML
- ▶ Syntax is similar to Perl and C
- ▶ PHP is often combined with a MySQL database

<http://www.w3schools.com/php/default.asp>

Outline

- ▶ Syntax
- ▶ Strings
- ▶ Conditionals
- ▶ Forms
- ▶ Arrays
- ▶ Loops
- ▶ Functions
- ▶ Ch 2 Code Example Demo/Walkthrough

Note: These slides (and examples inside the slides) are from my CS 312 class

<http://www.cs.odu.edu/~mweigle/cs312/#php>

Basic Syntax

- ▶ Start with `<?php`
- ▶ End with `?>`
- ▶ Each code line must end with a semicolon
- ▶ Comments
 - ▶ one-line `//`
 - ▶ multi-line `/* ... */`
- ▶ To output text, use `echo ' '`
- ▶ All variables start with `$`
 - ▶ data type does not need to be set before declaring variable
 - ▶ `$text = "Hello World";`
 - ▶ `$num = 16;`

Hello World Example

```
<html>
  <head><title>PHP Test</title></head>
  <body>
    <?php echo '<p>Hello World</p>'; ?>
  </body>
</html>
```

file extension must be php

<http://www.cs.odu.edu/~mweigle/cs312/php/hello.php>

<http://us.php.net/tut.php>

► 5

CS 418/518 - Fall 2012

PHPInfo Example

- `phpinfo()` is a built-in function that displays useful information about your system setup (loaded PHP modules, predefined variables, configuration settings)

```
<html>
  <head><title>PHP Info</title></head>
  <body>
    <?php phpinfo(); ?>
  </body>
</html>
```

<http://www.cs.odu.edu/~mweigle/cs312/php/info.php>

<http://us.php.net/tut.php>

► 6

CS 418/518 - Fall 2012

Displaying Browser Type

- ▶ Let's check what browser the user is using
 - ▶ look at the "User-Agent:" option that is sent in the HTTP request header
 - ▶ \$_SERVER is a special reserved variable

```
<html>
<head><title>PHP Browser Check</title></head>
<body>
  <?php
    echo $_SERVER['HTTP_USER_AGENT'];
  ?>
</body>
</html>
```

<http://www.cs.odu.edu/~mweigle/cs312/php/browser.php>

<http://us2.php.net/manual/en/reserved.variables.server.php>

▶ 7

CS 418/518 - Fall 2012

Strings in PHP

- ▶ Concatenation operator .

```
$txt1 = "Hello World";
$txt2 = "1234";
echo $txt1 . " " . $txt2;
```

Hello World 1234

http://www.w3schools.com/PHP/php_string.asp

▶ 8

CS 418/518 - Fall 2012

Useful String Functions

- ▶ **strlen(String)**
 - ▶ returns the length of the string
 - ▶ number of characters, including spaces
- ▶ **strpos(String, SearchString)**
 - ▶ returns the starting position of SearchString if found inside String
 - ▶ position starts from 0 (i.e., 0 is the first character)
 - ▶ returns FALSE if SearchString is not found in String

http://www.w3schools.com/PHP/php_string.asp

More PHP Syntax

- ▶ **Familiar C++/Java/Perl operators**
 - ▶ comparison: `==`, `!=`, `>`, `>=`, `<`, `<=`
 - ▶ assignment: `=`, `+=`, `*=`, ...
 - ▶ logical: `&&`, `||`, `!`
- ▶ **Familiar C++/Java/Perl conditionals syntax**

```
if (condition) {
    statements;
} elseif {
    statements;
} else {
    statements;
}
```

http://www.w3schools.com/PHP/php_if_else.asp

Displaying Browser Type

Now With Conditionals

*<html>, <head>,
<body> tags removed
in remaining examples
to save space*

```
<?php
if (strpos($_SERVER['HTTP_USER_AGENT'], 'MSIE') != FALSE) {
    echo "You are using Internet Explorer.";
} else {
    echo "You aren't using Internet Explorer, you're using <br />" .
    $_SERVER['HTTP_USER_AGENT'];
}
?>
```

<http://www.cs.odu.edu/~mweigle/cs312/php/browser2.php>

http://us.php.net/tut.php

► 11

CS 418/518 - Fall 2012

Mixing PHP and HTML

- Logical flow of the script remains intact even if broken up with HTML statements.

```
<?php
if (strpos($_SERVER['HTTP_USER_AGENT'], 'MSIE') != FALSE) {
?>
<h3>strpos() returned non-false</h3>
<p>You are using Internet Explorer</p>
<?php
} else {
?>
<h3>strpos() returned false</h3>
<p>You are not using Internet Explorer, you're using</p>
<?php
    echo $_SERVER['HTTP_USER_AGENT'];
}
?>
```

http://us.php.net/tut.php

<http://www.cs.odu.edu/~mweigle/cs312/php/html-php.php>

► 12

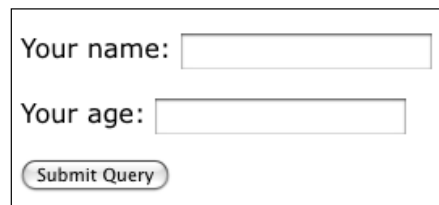
CS 418/518 - Fall 2012

PHP and Forms

- ▶ Use a separate PHP file (not embedded in HTML)

```
<form action="action.php" method="post">
  <p>Your name: <input type="text" name="name" /> </p>
  <p>Your age: <input type="text" name="age" /> </p>
  <p><input type="submit" /> </p>
</form>
```

<http://www.cs.odu.edu/~mweigle/cs312/php/php-form.html>



Your name:

Your age:

<http://us.php.net/tut.php>

PHP and Forms

- ▶ `$_POST` <http://www.cs.odu.edu/~mweigle/cs312/php/action.php>
 - ▶ when "post" method is used
- ▶ `$_GET`
 - ▶ when "get" method is used
- ▶ `$_REQUEST`
 - ▶ when either "get" or "post" is used

```
Hi <?php echo htmlspecialchars($_POST['name']); ?>.
You are <?php echo (int)$_POST['age']; ?> years old.
```

`htmlspecialchars()` ensures that any special HTML characters are properly encoded so people can't inject HTML tags or JavaScript into your page.

http://www.w3schools.com/PHP/php_get.asp

PHP Numeric Arrays

► Creation

```
$names = array("Peter", "Quagmire", "Joe");
```

OR

```
$names[0] = "Peter";
```

```
$names[1] = "Quagmire";
```

```
$names[2] = "Joe";
```

Length of an array:
`count (array)`

```
count ($names)  
3
```

► Usage

```
$names[1]      Quagmire
```

http://www.w3schools.com/PHP/php_arrays.asp

PHP Associative Arrays

► Creation

```
$ages = array("Peter"=>"32", "Quagmire"=>"30",  
"Joe"=>"34");
```

OR

```
$ages['Peter'] = "32";
```

```
$ages['Quagmire'] = "30";
```

```
$ages['Joe'] = "34";
```

► Usage

```
$ages['Peter']      32
```

http://www.w3schools.com/PHP/php_arrays.asp

PHP Loops

Familiar C++/Java syntax

```
while (condition) {  
    statements;  
}
```

```
do {  
    statements;  
} while (condition);
```

```
for (init; condition;  
    increment) {  
    statements;  
}
```

Includes Perl-like foreach statement

```
foreach (array as item) {  
    statements;  
}
```

```
$arr = array ("one", "two");  
foreach ($arr as $item) {  
    echo $item . "<br />";  
}
```

Perl syntax is slightly different

http://www.w3schools.com/PHP/php_looping.asp

PHP Functions

▶ There are over 700 built-in functions available

▶ <http://www.w3schools.com/PHP/default.asp>

▶ Writing your own functions

- ▶ begin with the word function
 - ▶ syntax similar to JavaScript

```
function functionName () {  
    statements;  
}
```

http://www.w3schools.com/PHP/php_functions.asp

PHP Functions

► Functions with parameters

```
function functionName (parameters) {  
    statements;  
}
```

► Functions with return values

```
function functionName (parameters) {  
    statements;  
    return value;  
}
```

http://www.w3schools.com/PHP/php_functions.asp

PHP Function Example

```
function add ($x, $y)  
{  
    $total = $x + $y;  
    return $total;  
}  
  
echo "1 + 16 = " . add (1,16);
```

1 + 16 = 17

http://www.w3schools.com/PHP/php_functions.asp

Outline

- ▶ Syntax
- ▶ Strings
- ▶ Conditionals
- ▶ Forms
- ▶ Arrays
- ▶ Loops
- ▶ Functions
- ▶ Ch 2 Code Example Demo/Walkthrough

Up Next: MySQL
Assigned Reading: Chs 3, 10

Demo/Walkthrough Time

- ▶ Examples from Chapter 2 (pp. 29-83)
- ▶ First PHP Program
- ▶ Simple Movie Site
- ▶ Passing Variables
- ▶ Passing Information with Forms
- ▶ Conditionals
- ▶ Using Includes
- ▶ Using Functions
- ▶ Arrays

<https://mweigle418.cs.odu.edu/~mweigle/textbook/ch02.htm>