

PHP

CS174

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Outline

- Introduction to PHP
- General Syntax
- Primitives
- Control Statements
- Arrays

Introduction to PHP

- PHP was originally developed in 1994 by Rasmus Lerdorf of the Apache Group as a support tool for his own website.
- Nowadays, PHP stands for the recursive definition PHP: Hypertext Processor
- PHP grew almost immediately in popularity and it is now widely used by such companies as Bank of America, IBM, Yahoo!, etc.
- Around 47% of online companies make use of Java, 54% make use of .NET, 38% make use of PHP. (BusinessWeek, Dec 2005)
- For projects of 10 or so people, there have been studies showing that it is faster getting a site up and working using PHP.

Overview

- The web site for PHP is <http://www.php.net>
- The web server determines that a page is PHP usually by looking for one of the extensions .php, .php3, .phtml
- When called from the web server on a PHP page, the PHP processor takes a PHP document and starts processing in one of two modes.
- When it sees XHTML it simply copies it to the output. (Copy mode).
- When it sees PHP code it executes the code and write the result to the output.(Interpretive mode)
- PHP is typically interpreted but it also can be precompiled.
- The syntax of PHP is closely related to Perl and Javascript.

Installation

- PHP should be installed and running as of HW1.
- It comes with AppServ.
- It also typically comes with most Apache installations and can also be downloaded from the PHP web-site.
- If it is not already configured to run you need to edit your httpd.conf file and uncomment the LoadModule and AddModule lines involving php.
- Once the web server is configure, configuration properties of PHP itself can be changed by editing the php.ini file.
- Common things you might want to change in this file are to allow ASP style tags or to allow short tags
- You might also want to change the display_error flag so that you can see all error messages.

General Syntax

- PHP scripts are run on the server.
- They can be run standalone, but typically, PHP code is embedded in an XHTML document.
- A section of PHP code is delimited with `<?php ... code here ...?>`
- The command `include("filename.php");` can be used to include one document in another.
- All variables in PHP begin with a \$ sign. Names of variables are otherwise like in Perl or other common programming languages.
- PHP can use either Perl, C++, or C comments: `#`, `//`, `/* ... */`

Primitives

- PHP has four scalar types: Boolean, integer, double, and string.
- There are also two compound types: array and object and two special types: resource and NULL.
- As with Javascript and Perl, PHP is dynamically typed: it has no type definitions.
- An unassigned variable is sometimes called an unbound variable and has value NULL. This can be coerced to one of the other types depending on the context.
- To check if a variable is currently bound you can use the `IsSet($variable_name)` function. This returns TRUE or FALSE (one of the two Boolean values).
- You can also call `error_reporting(15)`, to set PHP's error reporting level so that it prints unbound variables.

Integer, String, and Boolean Type

- Integers in PHP correspond to C long's (signed), so their size depends on the size of a long on a given machine.
- This is usually 32 bits.
- PHP's double type corresponds to C's double and literals follow the format for C (or Perl or Javascript) floating point literals: I.e., .345, 3E-7, etc.
- Characters in PHP are single bytes (No Unicode!).
- String literals are built up out of these characters.
- PHP distinguishes between single quote and double quote literals in the same way that Perl does. So the variable in "Bob=\$bob" is interpolated but in 'Bob=\$bob' is not.
- There are only two values for Boolean's: TRUE or FALSE. As for coercion, the empty string or a "0" or a "0.0" is interpreted as FALSE. Otherwise strings evaluate to TRUE. Integers and double evaluate to TRUE as long as they aren't zero.

Arithmetic Operators,etc

- PHP supports the usual arithmetic operators: +, -, *, /, %, ++, --.
- PHP also does type coercion.
- Division should be assumed to output a double if any fractional value exists.
- Some useful predefined functions are: floor, ceil, round, srand, rand, abs, min, and max.
- String concatenation is done with a “.”
- Some useful string operations are strlen, strcmp, strpos, substr, chop, trim, ltrim, strtolower, strtoupper.
- Type conversion can be done using expressions like (int)\$sum or intval(\$sum) or settype(\$sum, integer).
- You can also check the type with is_int, is_integer, is_long, etc.
- Assignment operators are like in C, Java, etc.

Output

- You can output text to be inserted into the page using either of the commands: `print` or `echo`
- For example,
`print "hi there";`

Control Statements

- PHP supports:
 - if, else if, else: For example,
if(\$a) print “hello”;
 - switch case:
switch(\$a)
{
 case 5:
 echo “hello”;
}
 - for : for(\$a = 0; \$a<10; \$a++){echo “hello \$a”;}
– while: while(!\$var) { /*do something*/}
– do while: do { /*do something */} while (!\$var);

Arrays

- Arrays can be declared with the syntax:
`$a = array("hi", 1, 2);`
- You can nest arrays:
`$b = array("hi", array(1,2), 2);`
- You can dereference arrays as in most languages:
`echo $a[0];`
- You can cycle over elements of an array using foreach: `foreach($arr as $var){echo $var;}`