

Introduction to Server-Side Development with PHP

Chapter 11

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Fundamentals of Web Development

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Chapter 11

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What Is Server-Side Development?

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Quick Tour of PHP

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Summary

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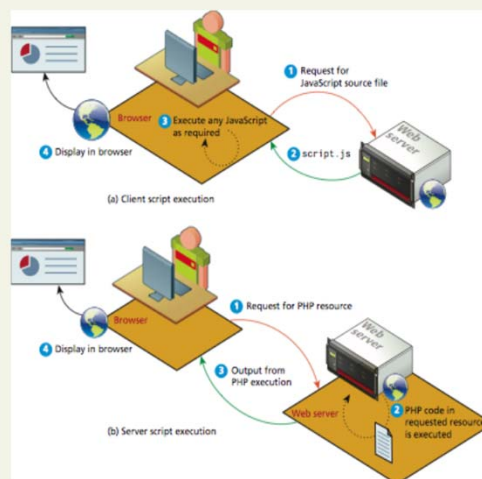
Summary

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What Is Server-Side Development?

Comparing Client and Server Scripts

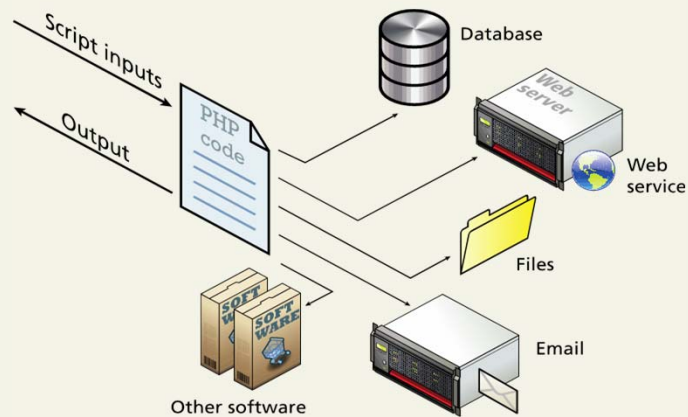


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What Is Server-Side Development?

Server-Side Script Resources



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What Is Server-Side Development?

Comparing Server-Side Technologies

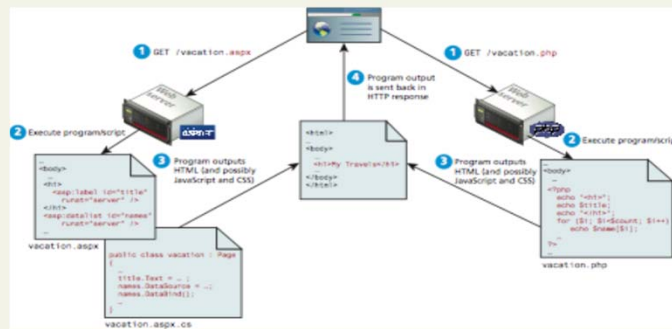
- ASP (Active Server Pages) / ASP.NET
- JSP (Java Server Pages)
- Node.js
- Perl
- PHP
- Python
- Ruby on Rails

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What Is Server-Side Development?

Comparing Server-Side Technologies

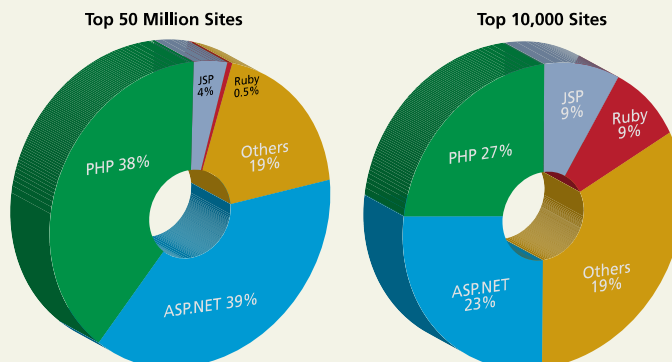


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What Is Server-Side Development?

Comparing Server-Side Technologies



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Quick Tour of PHP

PHP Tags

<?php tag and a matching closing **?>**

Inside is code to execute, outside is HTML to echo directly

Quick Tour of PHP

PHP Comments

- **Single-line comments.** Lines that begin with a #
- **Multiline (block) comments.** begin with a /* and encompass everything that is encountered until a closing */
- **End-of-line comments.** // to end of line

Quick Tour of PHP

Variables, Data Types, and Constants

- Variables in PHP are dynamically typed
- To declare a variable you must preface the variable name with the dollar (\$) symbol.
- Whenever you use that variable, you must also include the \$ symbol with it.
- Right to left assignment

```
$count = 42;
```

Quick Tour of PHP

Variables, **Data Types**, and Constants

- Boolean A logical true or false value
- Integer Whole numbers
- Float Decimal numbers
- String Letters
- Array A collection of data of any type (covered in the next chapter)
- Object Instances of classes

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Quick Tour of PHP

Variables, **Data Types**, and Constants

Escaping Strings

- \n Line feed
- \t Horizontal tab
- \\ Backslash
- \\$ Dollar sign
- \" Double quote

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Quick Tour of PHP

Variables, Data Types, and **Constants**

- Use `define()`
- uppercase for constants is a programming convention
- Then use the word without quotes (or \$)

```
define("DATABASE_LOCAL", "localhost");
```

```
echo DATABASE_LOCAL;
```

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Quick Tour of PHP

Writing to Output

```
echo()
```

```
echo ("hello");
```

Strings can easily be appended together using the concatenate operator, which is the period (.) symbol.

```
$username = "Ricardo";
```

```
echo "Hello". $username; //outputs Hello Ricardo
```

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Quick Tour of PHP

More concatenation examples

1 `echo "";`
 outputs
``

2 `echo "";`
 outputs
``

3 `echo "";`
 outputs
``

4 `echo "";`
 outputs
``

5 `echo "$firstName.\" \" . $lastName.\"";`
 outputs
`Pablo Picasso`

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Quick Tour of PHP

printf

```
$product = "box";
$weight = 1.56789;

printf("The %s is %.2f pounds", $product, $weight);
```

outputs
 The box is 1.57 pounds.

Placeholders Precision specifier

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Program Control

if ...else

// if statement

```
if ( $hourOfDay > 6 && $hourOfDay < 12 ) {
```

```
    $greeting = "Good Morning";
```

```
}
```

```
else if ( $hourOfDay == 12 ) { // optional else if
```

```
    $greeting = "Good Noon Time";
```

```
}
```

```
else { // optional else branch
```

```
    $greeting = "Good Afternoon or Evening";
```

```
}
```

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Program Control

switch ... case

```
switch ($artType) {  
    case "PT":  
        $output = "Painting";  
        break;  
    case "SC":  
        $output = "Sculpture";  
        break;  
    default:  
        $output = "Other";  
}
```

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Program Control

while and do ... while

```
$count = 0;  
while ($count < 10){  
    echo $count;  
    $count++;  
}
```

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Program Control

while and **do . . . while**

```
$count = 0;
```

```
do {
```

```
    echo $count;
```

```
    // this one increments the count by 2 each  
time
```

```
    $count = $count + 2;
```

```
} while ($count < 10);
```

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Program Control

for

```
for ($count=0; $count < 100; $count+=5)
```

```
{
```

```
    echo $count;
```

```
}
```

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Program Control

Alternate Syntax for Control Structure

```
<?php if ($userStatus == "loggedin") : ?>
    <a href="account.php">Account</a>
    <a href="logout.php">Logout</a>

<?php else : ?>
    <a href="login.php">Login</a>
    <a href="register.php">Register</a>

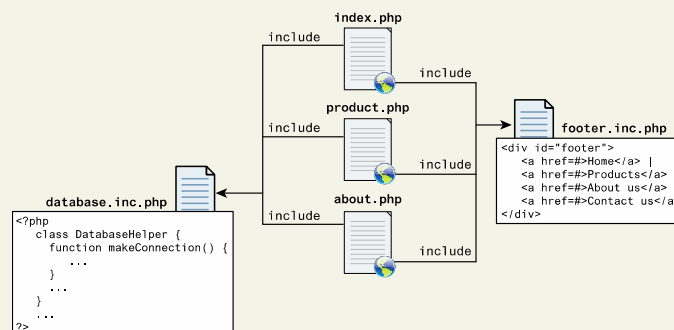
<?php endif; ?>
```

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Program Control

Include Files



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Program Control

Include Files

```
include "somefile.php";
```

```
include_once "somefile.php";
```

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Functions

Function Syntax

```
/**  
 * This function returns a nicely formatted string using the  
 * system time.  
 */  
function getNiceTime(){  
    return date("H:i:s");  
}
```

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Functions

Function Syntax – return type declaration

A Return Type Declaration explicitly defines a function's return type by adding a colon and the return type after the parameter list when defining a function

```
function mustReturnString() : string {  
    return "hello";  
}
```

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Functions

Calling a Function

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Functions

Parameters

Parameters are the mechanism by which values are passed into functions

- To define a function with parameters, you must decide
 - how many parameters you want to pass in, and
 - in what order they will be passed.

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Functions

Parameters

```
function getNiceTime($showSeconds) {  
    if ($showSeconds==true)  
        return date("H:i:s");  
    else  
        return date("H:i");  
}  
  
echo getNiceTime(true); // this will print seconds  
echo getNiceTime(false); // will not print seconds.
```

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Functions

Parameters – default values

In PHP you can set parameter **default values** for any parameter in a function. However, once you start having default values, all subsequent parameters must also have defaults.

```
function getNiceTime($showSeconds=true) {  
    if ($showSeconds==true)  
        return date("H:i:s");  
    else  
        return date("H:i");  
}
```

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Functions

Parameters – Passing Parameters by reference

By default, arguments passed to functions are **passed by value** in PHP.

PHP also allows arguments to functions to be passed by reference, which will allow a function to change the contents of a passed variable

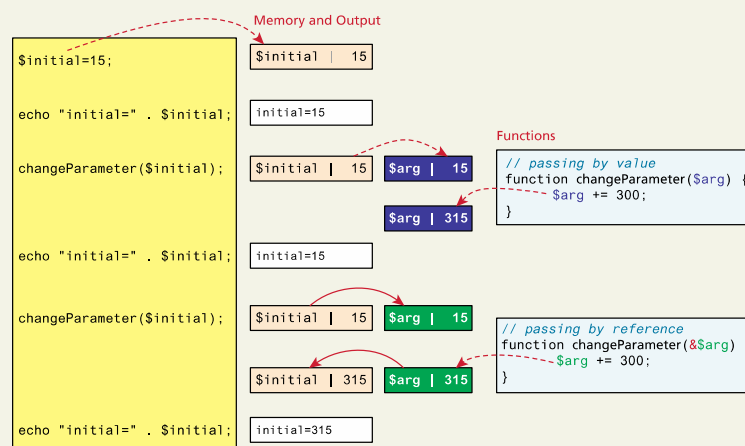
The mechanism in PHP to specify that a parameter is passed by reference is to add an ampersand (&) symbol next to the parameter name in the function declaration

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Functions

Parameters – Passing Parameters by reference



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Functions

Variable Scope within Functions

All variables defined within a function have function scope , meaning that they are only accessible within the function.

While variables defined in the main script are said to have global scope , these global variables are not by default, available within functions.

PHP does allow variables with global scope to be accessed within a function using the **global** keyword,

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Summary

Key Terms

ASP /ASP.NET	global scope	PHP core
built-in function	handlers	preforked
Common Gateway	Java Server Pages (JSP)	process
Interface (CGI)	loosely typed	Python
constant	module	Return-type
daemon	multi-process	declarations
data storage	multi-threaded	Ruby On Rails
data types	opcodes	SAPI
database	overloading	server-side includes
database management	parameters	(SSI)
system (DBMS)	parameter default	thread
dynamically typed	values	user-defined function
extension layer	passed by reference	virtual machine
fork	passed by value	web services
function	Perl	worker
function scope	PHP	Zend Engine

Summary

Questions?