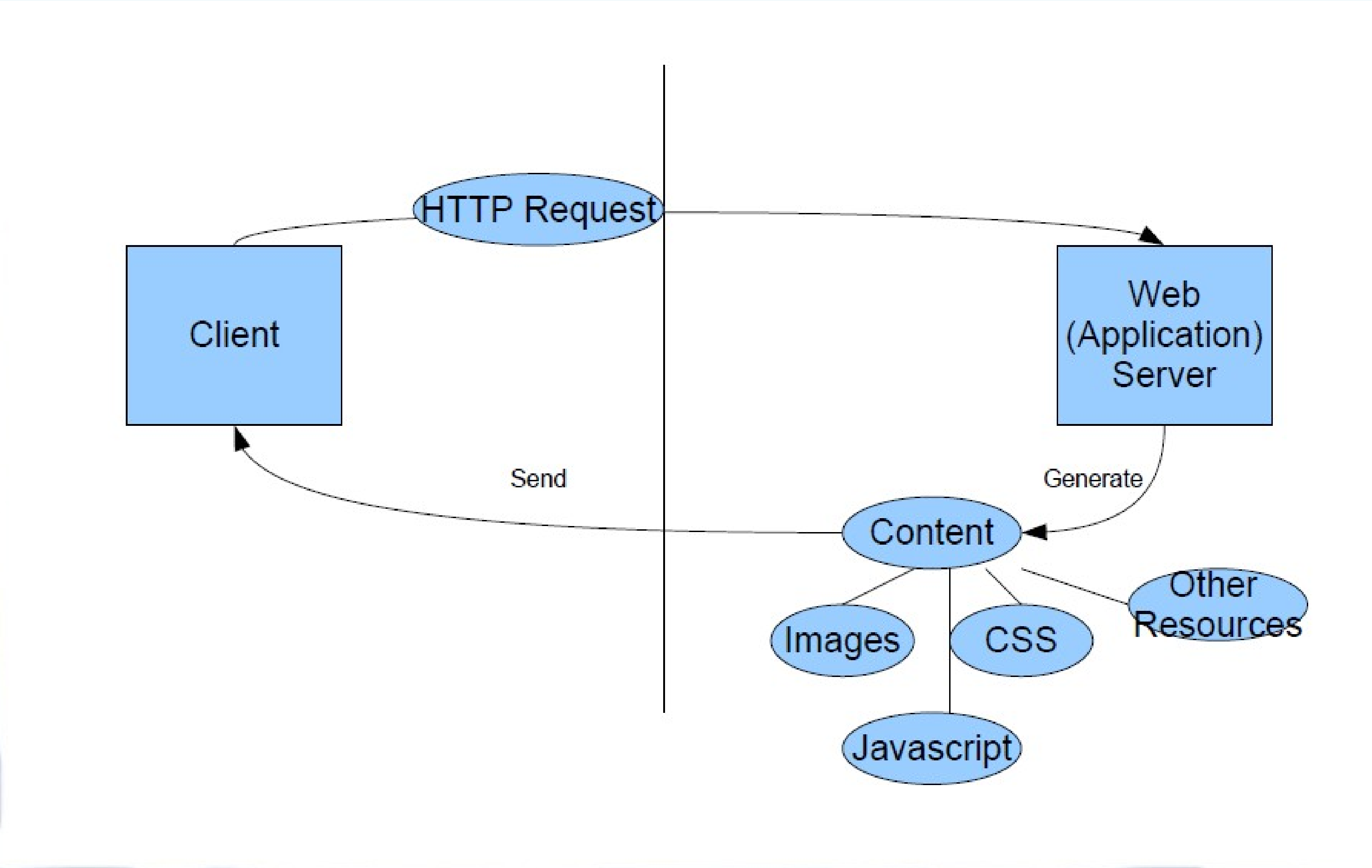
PHP: PHP Hypertext Preprocessor

Overview


HTTP Request
Client
Web (Application) Server
Send
Generate
Content
Images
CSS
Other Resources
Javascript

Overview

The goals/purposes of the web program/script:

- To generate content according to the specification indicated by a request.
- To generate content depending on the user.

PHP Introduction

PHP
(According to w3schools)

- PHP stands for PHP: Hypertext Preprocessor
- PHP is a server-side scripting language, like ASP
- PHP scripts are executed on the server
- PHP supports many databases (MySQL, Informix, Oracle, Sybase, Solid, PostgreSQL, Generic ODBC, etc.)
- PHP is an open source software
- PHP is free to download and use

PHP Introduction

PHP
(According to Wikipedia*)

- PHP (PHP: Hypertext Preprocessor)
  - Formerly Personal Home Page
- Rasmus Lerdorf
  - Wrote the early versions of PHP (CGI binaries) in C (1994).
- Andi Gutmans & Zeev Zuraski
  - Rewrote the PHP parser in 1997 (PHP 3)

PHP Introduction

PHP
(According to Wikipedia*)

- General purpose scripting language
  - Designed for web development and generally runs on a web server.
- Interpreted language*
- Open source and free software (PHP License)
- Used in many websites and other open source projects.

LAMP

- **Linux-Apache-MySQL-PHP**
  - “P” sometimes mean Perl
- **Software stack/bundle, popular in deploying web applications.**
  - Easy to configure.
  - All open source.

PHP Installations

- Easy to Install bundles available for Windows:
  - WAMPServer, XAMPP, etc.
  - Get Installers for Apache WS, PHP, MySQL individually. PHP comes with a README*.
- For Linux
  - Standard installations using system tools for installation (i.e. apt-get, Package Manager)

PHP Files

- PHP files contain *.php or *.php3 or *.phtml

- PHP files contain web content:
  - Text, tags, scripts, etc.

- PHP files are parsed and interpreted at the server side and outputs plain content.

Syntax

- **Scripting Blocks** – PHP code embedded/mixed into the content.

```
<?php
echo “This is PHP Code”;
?>

<? echo “This is the shorthand”; ?
>
```

Syntax

- **Scripting Blocks – Expressions**

```
<html>
<head>...</head>
<body>
<? $value=3; ?>
<? echo $value; ?>
</body>
</html>
```

Syntax: Comments

Simillar to C/Java comments

```
<?php
//Single line comment
/*
Multi-line comment
*/
?>
```

Syntax: Variables

PHP is a loosely typed language.

- Data types are not declared with the variable
- Variables need not to be declared before adding a value to it.
- The type of the value can change during runtime.

Syntax: Variables

- Variables start with **$** .
- Must start with a letter or underscore.
- May contain alphanumberic and underscore characters after the first.
- No spaces.

Syntax: Variables

```
$_myVar = 10;

$________ = “Empty variable
name.”;

$_myVar = “Now a string!”;

$index7 = 'Also a string.';
```

Syntax: Functions

PHP comes with many built-in functions*

```
function functionName( ) {
//code to be executed
//reminds you of Javascript?
}
```

*http://www.w3schools.com/php/default.asp

Syntax: Functions

Functions with parameters

```
<?php
function convertData($param)
{
echo strtoupper($param);
}
//calling
convertData('Hello');
?>
```

Global Vars

Generally $vars you declare outside functions are global variables. To refer to “globals”

```
<?php
$g = 10;
function useG( ) {
global $g; // “global” keyword
echo $g;
}
?>
```

Declaring $g as global within the function will refer to the global version of the variable.

Syntax: Classes/Objects

Object Oriented Programming via classes is possible in PHP (starting from PHP 4)

```
<?php
class SimpleClass {
//property declaration
public $var = 10;
//method
public function getVar( ) {
return $this->var; //$this is reserved
}
} ?>
```

PHP: Data Types

- $boolean_val = true; //or TRUE or True
- $string_val = “This is a string.”;
- $string_val = 'Another string.';
- $anumber = 12; //integer, may use octal or hex
- $hexnum = 0XABC;
- $octal = 012;
- $float = 12.34;

Strings

Maybe enclosed in “ “ or ' ' (single quotes).
Difference:
Variables are evaluated inside “ “ .

```
<?php
$str = 'This is it.'
echo “I said $str”;
?>
```

Operators

See reference for mathematical operators in PHP.

http://www.w3schools.com/php/php_operators.asp

Assignment: what does “===” stand for?

String concatenation operator is “.”;

```
<?php echo “Part1” . $whatever . “
part2”; ?>
```

PHP Arrays

```
<?php
//Numeric index
$sections = array(“UV-1L”, “UV-2L”, “UV-3L”);
echo $sections[0]; //0 based automatic

$subjs = array(); //manual assignment
$subjs[0] = 'CMSC 100';
$subjs[ ] = 'CMSC 22'; //adds new element to
array
?>
```

Associative Arrays

```
<?php
//Associative
$difficulty = array( “CMSC100”=>”hard”,
“CMSC22”=>”hard”);

echo $difficulty['CMSC100'];

$difficulty['MATH17'] = “easy”;
?>
```

Multidimensional Array

```
<?
$multi = array (
“Cartoon”=> array (“Ben”,
“Bubbles”),
“Action”=> array(“Arnold”,
“Bruce”)
);
echo $multi['Cartoon'][0];
?>
```