

PHP

by

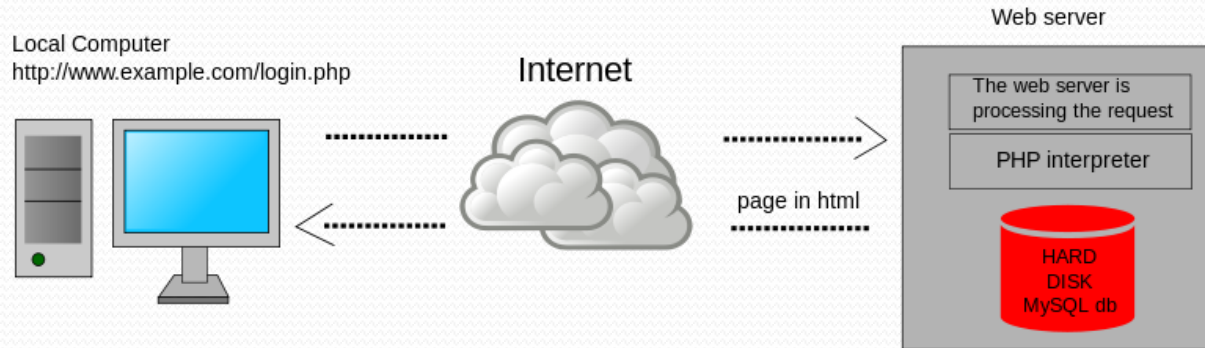
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Dynamic web site

A dynamic website contains Web pages that are generated dynamically. Each time a user accesses a page within a dynamic site, the HTML is generated in real-time and is sent to the user's Web browser. The content is typically accessed from a database, which is why dynamic websites are often called "database-driven" sites. Most large sites contain dynamic content, while smaller sites may be designed as static websites.





Static Website

A static website contains Web pages coded in HTML. The content of each page is fixed and does not change unless it is edited and republished by the webmaster. Static websites are usually small and only contain a few brochure-style Web pages. Large sites are typically designed as dynamic websites, since they are easier to maintain.

Client side scripting

Client-side scripting is changing interface behaviors within a specific web page in response to mouse or keyboard actions, or at specified timing events. In this case, the dynamic behavior occurs within the presentation. The Client-side content is generated on the user's local computer system.

Such web pages use presentation technology called rich interfaced pages. Client-side scripting languages like JavaScript or ActionScript , used for Dynamic HTML (DHTML) and Flash technologies respectively, are frequently used to orchestrate media types (sound, animations, changing text, etc.) of the presentation.

Server-side scripting

A program running on the web server (server-side scripting) is used to change the web content on various web pages, or to adjust the sequence of or reload of the web pages. Server responses may be determined by such conditions as data in a posted HTML form, parameters in the URL, the type of browser being used, the passage of time, or a database or server state.

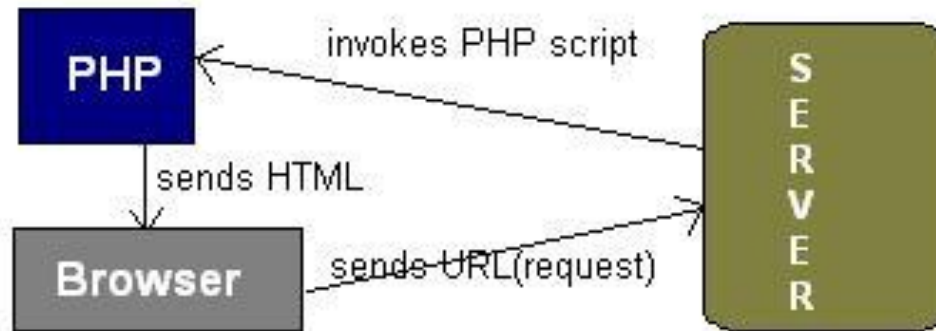
Such web pages are often created with the help of server-side languages such as ASP, ColdFusion, Perl, PHP and other languages. These server-side languages often use the Common Gateway Interface (CGI) to produce dynamic web pages.

Php was created by Rasmus Lerdort in 1994. PHP is a powerful tool for making dynamic and interactive Web pages. PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML. You don't have to have pure PHP code in a PHP document; you can switch between HTML and PHP.

- ✓ Php stands for **P**ersonal **H**ome **P**age or **PHP: H**ypertext **P**reprocessor
- ✓ server-side scripting language, like ASP
- ✓ scripts are executed on the server
- ✓ supports many databases (MySQL, Informix, Oracle, Sybase, Solid, PostgreSQL, Generic ODBC, etc.)
- ✓ open source software , free to download and use
- ✓ runs on different platforms (Windows, Linux, Unix, etc.)
- ✓ compatible with almost all servers used today (Apache, IIS, etc.)
- ✓ easy to learn and runs efficiently on the server side

How PHP works?

- ✓ Internet browser requests "index.php" from WEB SERVER
- ✓ WEB SERVER receives request.
- ✓ WEB SERVER checks "what type of document is this?"
- ✓ WEB SERVER invokes the PHP engine and passes it the contents of "index.php".
- ✓ PHP Engine checks the document and anything between `<?php and ?>` is converted to HTML output.
- ✓ PHP returns the HTML output to the WEB SERVER.
- ✓ WEB SERVER sends document to internet browser.



PHP Process Diagram

PHP is known as a server-sided language. That's because the PHP doesn't get executed on your computer, it's executed on the server. The results are then handed over to you, and displayed in your browser.

What is web server?

A web server is service that runs on a computer and allows other computers to download documents from it. **AppServ** (WAMP) which will use Apache as a web server with PHP and MySQL support, to help people who want to run own web server

What is AppServ? (WAMP)

AppServ is an application that integrates Apache, PHP and MySQL, PhpMyAdmin and install them for you just in a few minutes.

Publish PHP scripts on Apache server

By default AppServ document root is “C:\ WAMP \WWW”. Save the file in that directory as “first.php”. Local host just refers to the server running on your own computer. Another way to refer to your server is by using the IP address 127.0.0.1.)

How PHP works?

You need a web server that works in conjunction with PHP? You need this because the PHP code has to be executed, the PHP interpreter handles this. The web server is set up to recognize certain extensions as a PHP document, say .php.

First Example

```
<html>
  <head>
    <title>My php page</title>
  </head>
  <body>
    <?php
      echo " Hello World";
    ?>
  </body>
</html>
```

echo (print) is a special statement in php for out putting data to the browser. This statement is more often used when we need to print something to the browser.

Make text bold

```
<?php
  echo " <b>Hello World</b><br>";
?>
```


Make text bold and green

```
<?php
    echo "<b><font color='green'>Hello there!</font><b>";
?>
```

Today's date

```
<?php
    echo "today is ".date('Y-m-d');
?>
```

PHP Comments

Comments are the way you can specify, what you are going to do with the program or command. During the execution of the scripts, comments are not going to interpret. PHP has three Types of comments.

Single line Comment

// this is a single line comment

Multiple line comment

```
/* this is
Multiple line
Comment*/
```

Shell script like comment

This is also single line comment.
Another single line comment

Variables

A variable is a mean to store values such as strings or integers (“Hello world” ,100). A variable can then be reused throughout your code, instead of having to type out the actual value over and over again. In PHP you define a variable with the following form:

\$variable_name = Value;

You assign a value to the variable using the assignment operator (=).

If you forget that dollar, it will not work.

NOTE: Also, variable names are case-sensitive, so use the exact same capitalization when using a variable. The variables **\$a_number** and **\$A_number** are different variables in PHP.

Note for programmers: PHP does not require variables to be declared before being initialized.

```
$variable = 2;
```

```
$variable = 'A';
```

```
$variable = 'This is a sentence.';
```

PHP Variable Naming Conventions

- ✓ PHP variables must start with a letter or underscore "_".
- ✓ PHP variables may only be comprised of alpha-numeric characters and underscores.
a-z, A-Z, 0-9, or _ .
- ✓ Variables with more than one word should be separated with underscores. `$my_variable`
- ✓ Variables with more than one word can also be distinguished with capitalization.
`$myVariable`

Predefine variables

PHP provides a large number of predefined variables to all scripts.

- ✓ Superregionals — Superglobals are built-in variables that are always available in all scopes
- ✓ `$GLOBALS` — References all variables available in global scope
- ✓ `$_SERVER` — Server and execution environment information
- ✓ `$_GET` — HTTP GET variables
- ✓ `$_POST` — HTTP POST variables
- ✓ `$_FILES` — HTTP File Upload variables
- ✓ `$_REQUEST` — HTTP Request variables
- ✓ `$_SESSION` — Session variables
- ✓ `$_ENV` — Environment variables
- ✓ `$_COOKIE` — HTTP Cookies
- ✓ `$php_errormsg` — The previous error message
- ✓ `$HTTP_RAW_POST_DATA` — Raw POST data
- ✓ `$http_response_header` — HTTP response headers
- ✓ `$argc` — The number of arguments passed to script
- ✓ `$argv` — Array of arguments passed to script

Printing Variable Values

If you want to print a value of a variable you can directly print it using “echo”.

```
<?php
$variable = 'printing out a variable here.';
echo $variable."<br>";
$num =100;
echo $ num;
echo "<br>";
$decimal_number = 100.01;
printf ('%.1f', $decimal_number);
?>
```

Use of Double Quote and Single Quote

There are two different ways of printing text using PHP script. Using double or single quoted. Double quotes allow us to escape special characters in our string.

```
<?php
echo "This is a double quoted string";
echo 'This is a single quoted string';
?>
```

Single quotes should be used when outputting HTML code. Since HTML tag attributes use double quotes with in themselves and since using double quotes in HTML tags is the convention, therefore it is advisable to use single quotes when wrapping a HTML code in PHP. Here's an example.

```
<?php
$name = 'saman \n';
echo $name      // saman\n
?>
```

Double quotes are used when we want to use special characters in our strings such as new line characters `\n` and `\r`. Single quotes will treat them as regular characters. Also when printing a variable in a string, it is advisable to use double quotes

```
<?php
$variable = "Peter ";
echo 'this $variable will not print!\n <br>';
echo "He is a $variable\n ";
?>
// this $variable will not print!\n
//He is a Peter
```

```
<?php
$text2 = "\"hello world!\\"";
echo $text2;  //"hello world!"
?>
```

If a variable is to be printed out amongst the words of a string then the whole thing must be contained within double quotes. If we wish to interpolate a variable into a sentence this is how we do it

```
<?php
$variable = 'printing out a variable here.';
echo $variable;
?>
```

```
<?php
$Var1="Web Designing";
$var1="PHP Tutorial";
echo "$Var1-$var1" ;
```

Concatenating Strings in PHP

Sometimes while working with strings in our code, we need to join two strings. In PHP, you can use '.' to concatenate two or more strings together to form a single string

```
<?php
$str1 = "I Love PHP.";
$str2 = "PHP stand for Personal Home Page.";
echo $str1. " " . $str2; ?>
```

PHP String Functions

strlen() Function

```
<?php
$text = "University!";
echo strlen($text);
?>
```

str_replace() Function

This function replaces all occurrences of the search string in the main string with the replace string.

```
<?php
$text = "Hello! How are you today?";
echo str_replace("Hello", "Hi", $text);
?>
```

strtoupper() Function

This function converts all lower case letters to upper.

```
<?php
$text1 = "hello!";
$text2 = "WORLD!";
echo strtoupper($text1 );
echo strtolower($text2 );
?>
```

ucfirst() Function

This function changes the first letter in the string to upper case

```
<?php
$text= "hello world!";
echo ucfirst($text);
?>
```

trim() Function

The trim() function removes whitespaces and other predefined characters (\t, \n, \o, " ", \r) from both sides of a string.

```
<?php
$text = " hello  world! ";
echo trim($text);
?>
```


How to create a constant

PHP constant names follow the same rules as PHP variable names. The only difference is that constant names don't start with a \$ (dollar) symbol, while variable names do.

PHP constant names are case-sensitive. Usually, constant names use all-uppercase letters, with underscores to separate words within the name.

```
define( "CONSTANT_NAME", constant_value );
```

Constants

A constant is an identifier (name) for a simple value. As the name suggests, that value cannot change during the execution. A constant is case-sensitive by default. By convention, constant identifiers are always uppercase.

```
<?php

// Valid constant names
define("FOO", "something");
define("FOO2", "something else");
define("FOO_BAR", "something more");

// Invalid constant names
define("2FOO", "something");

// This is valid, but should be avoided:
// PHP may one day provide a magical constant
// that will break your script
define("__FOO__", "something");

echo FOO;
echo "<br>";
echo FOO2;
echo "<br>";
echo FOO_BAR;
echo "<br>";
//echo 2FOO;
echo __FOO__;
?>
```

Data Types of PHP

Booleans

This is the simplest type. A Boolean expresses a truth value. It can be either **TRUE** or **FALSE**.

Integers

An integer is a number of the set $Z = \{..., -2, -1, 0, 1, 2, ...\}$.

The size of an integer is platform-dependent, although a maximum value of about two billion is the usual value (that's 32 bits signed).

PHP does not support unsigned integers. Integer size can be determined using the constant `PHP_INT_SIZE`, and maximum value using the constant `PHP_INT_MAX`

```
$a = 1234; // decimal number
```

```
$a = -123; // a negative number
```

```
$a = 0123; // octal number (equivalent to 83 decimal)
```

```
$a = 0x1A; // hexadecimal number (equivalent to 26 decimal)
```

Floating point numbers

Floating point numbers (also known as "floats", "doubles", or "real numbers") can be specified using any of the following syntaxes:

```
$a = 1.234;
```

```
$b = 1.2e3;
```

```
$c = 7E-10;
```

Strings

String values are sequence of characters, included in a single quote or double quotes.

Arrays

An array in PHP is actually an ordered map. As array values can be other arrays, trees and multidimensional arrays are also possible.

```
$arr = array("foo" => "bar", 12 => true);
```

Objects

Instance of a Class is call as an object. Using new key word we create object

NULL

The special NULL value represents a variable with no value. NULL is the only possible value of type NULL.

A variable is considered to be null if:
it has been assigned the constant NULL.
it has not been set to any value yet.
it has been unset().

Four scalar types:

boolean , integer , float , string

Two compound types:

array object