

Gaurish Technologies Private Limited

PHP



Module-07

PHP Tutorial

PHP is a powerful tool for making dynamic and interactive Web pages.

PHP is the widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.

In our PHP tutorial you will learn about PHP, and how to execute scripts on your server.

PHP Introduction

PHP is a server-side scripting language.

What You Should Already Know

Before you continue you should have a basic understanding of the following:

- HTML/XHTML
- JavaScript

If you want to study these subjects first, find the tutorials on our [Home page](#).

What is PHP?

- 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

What is a PHP File?

- PHP files can contain text, HTML tags and scripts
- PHP files are returned to the browser as plain HTML
- PHP files have a file extension of ".php", ".php3", or ".phtml"

What is MySQL?

- MySQL is a database server
- MySQL is ideal for both small and large applications
- MySQL supports standard SQL
- MySQL compiles on a number of platforms
- MySQL is free to download and use

PHP + MySQL

- PHP combined with MySQL are cross-platform (you can develop in Windows and serve on a Unix platform)

Why PHP?

- PHP runs on different platforms (Windows, Linux, Unix, etc.)
- PHP is compatible with almost all servers used today (Apache, IIS, etc.)
- PHP is **FREE** to download from the official PHP resource: www.php.net
- PHP is easy to learn and runs efficiently on the server side

Where to Start?

To get access to a web server with PHP support, you can:

- Install Apache (or IIS) on your own server, install PHP, and MySQL
- Or find a web hosting plan with PHP and MySQL support

PHP Installation

What do you Need?

If your server supports PHP you don't need to do anything.

Just create some .php files in your web directory, and the server will parse them for you.

Because it is free, most web hosts offer PHP support.

However, if your server does not support PHP, you must install PHP.

Here is a link to a good tutorial from PHP.net on how to install PHP5:

<http://www.php.net/manual/en/install.php>

Download PHP

Download PHP for free here: <http://www.php.net/downloads.php>

Download MySQL Database

Download MySQL for free here: <http://www.mysql.com/downloads/>

Download Apache Server

Download Apache for free here: <http://httpd.apache.org/download.cgi>

PHP Syntax

The PHP script is executed on the server, and the plain HTML result is sent back to the browser.

Basic PHP Syntax

A PHP script always starts with `<?php` and ends with `?>`. A PHP script can be placed anywhere in the document.

On servers with shorthand-support, you can start a PHP script with `<?` and end with `?>`.

For maximum compatibility, we recommend that you use the standard form (`<?php`) rather than the shorthand form.

```
<?php
```

```
?>
```

A PHP file must have a .php extension.

A PHP file normally contains HTML tags, and some PHP scripting code.

Below, we have an example of a simple PHP script that sends the text "Hello World" back to the browser:

```
<html>
```

```
  <body>
```

```
    <?php
```

```
      echo "Hello World";
```

```
    ?>
```

```
  </body>
```

```
</html>
```

Each code line in PHP must end with a semicolon. The semicolon is a separator and is used to distinguish one set of instructions from another.

There are two basic statements to output text with PHP: **echo** and **print**.

In the example above we have used the echo statement to output the text "Hello World".

Comments in PHP

In PHP, we use `//` to make a one-line comment or `/*` and `*/` to make a comment block:

```
<html>
    <body>
        <?php
            //This is a comment
            /*
            This is
            a comment
            block
            */
        ?>
    </body>
</html>
```

PHP Variables

Variables are "containers" for storing information.

Do You Remember Algebra From School?

Do you remember algebra from school? $x=5$, $y=6$, $z=x+y$

Do you remember that a letter (like x) could be used to hold a value (like 5), and that you could use the information above to calculate the value of z to be 11?

These letters are called **variables**, and variables can be used to hold values ($x=5$) or expressions ($z=x+y$).

PHP Variables

As with algebra, PHP variables are used to hold values or expressions.

A variable can have a short name, like x , or a more descriptive name, like `carName`.

Rules for PHP variable names:

- Variables in PHP starts with a $\$$ sign, followed by the name of the variable
- The variable name must begin with a letter or the underscore character
- A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and `_`)
- A variable name should not contain spaces
- Variable names are case sensitive (y and Y are two different variables)

Creating (Declaring) PHP Variables

PHP has no command for declaring a variable.

A variable is created the moment you first assign a value to it:

```
$myCar="Volvo";
```

After the execution of the statement above, the variable **myCar** will hold the value **Volvo**.

Tip: If you want to create a variable without assigning it a value, then you assign it the value of *null*.

Let's create a variable containing a string, and a variable containing a number:

```
<?php
$txt="Hello World!";
```

```
$x=16;
```

```
?>
```

Note: When you assign a text value to a variable, put quotes around the value.

PHP is a Loosely Typed Language

In PHP, a variable does not need to be declared before adding a value to it.

In the example above, notice that we did not have to tell PHP which data type the variable is.

PHP automatically converts the variable to the correct data type, depending on its value.

In a strongly typed programming language, you have to declare (define) the type and name of the variable before using it.

PHP Variable Scope

The scope of a variable is the portion of the script in which the variable can be referenced.

PHP has four different variable scopes:

- local
- global
- static
- parameter

Local Scope

A variable declared **within** a PHP function is local and can only be accessed within that function. (the variable has local scope):

```
<?php
```

```
$a = 5; // global scope
```

```
function myTest()
```

```
{
```

```
    echo $a; // local scope
```

```
}
```

```
myTest();
```

```
?>
```

The script above will not produce any output because the echo statement refers to the local scope variable \$a, which has not been assigned a value within this scope.

You can have local variables with the same name in different functions, because local variables are only recognized by the function in which they are declared.

Local variables are deleted as soon as the function is completed.

Global Scope

Global scope refers to any variable that is defined outside of any function.

Global variables can be accessed from any part of the script that is not inside a function.

To access a global variable from within a function, use the **global** keyword:

```
<?php
$a = 5;
$b = 10;

function myTest()
{
    global $a, $b;
    $b = $a + $b;
}

myTest();
echo $b;
?>
```

The script above will output 15.

PHP also stores all global variables in an array called `$GLOBALS[index]`. Its index is the name of the variable. This array is also accessible from within functions and can be used to update global variables directly.

The example above can be rewritten as this:

```
<?php
$a = 5;
$b = 10;

function myTest()
{
    $GLOBALS['b'] = $GLOBALS['a'] + $GLOBALS['b'];
}

myTest();
echo $b;
?>
```

Static Scope

When a function is completed, all of its variables are normally deleted. However, sometimes you want a local variable to not be deleted.

To do this, use the **static** keyword when you first declare the variable:

```
static $rememberMe;
```

Then, each time the function is called, that variable will still have the information it contained from the last time the function was called.

Note: The variable is still local to the function.

Parameters

A parameter is a local variable whose value is passed to the function by the calling code.

Parameters are declared in a parameter list as part of the function declaration:

```
function myTest($para1,$para2,...)
{
    // function code
}
```

Parameters are also called arguments. We will discuss them in more detail when we talk about functions.

PHP String Variables

A string variable is used to store and manipulate text.

String Variables in PHP

String variables are used for values that contain characters.

In this chapter we are going to look at the most common functions and operators used to manipulate strings in PHP.

After we create a string we can manipulate it. A string can be used directly in a function or it can be stored in a variable.

Below, the PHP script assigns the text "Hello World" to a string variable called \$txt:

```
<?php
    $txt="Hello World";
    echo $txt;

?>
```

The output of the code above will be:

Hello World

Now, let's try to use some different functions and operators to manipulate the string.

The Concatenation Operator

There is only one string operator in PHP.

The concatenation operator (.) is used to put two string values together.

To concatenate two string variables together, use the concatenation operator:

```
<?php
$txt1="Hello World!";
$txt2="What a nice day!";
echo $txt1 . " " . $txt2;

?>
```

The output of the code above will be:

Hello World! What a nice day!

If we look at the code above you see that we used the concatenation operator two times. This is because we had to insert a third string (a space character), to separate the two strings.

The strlen() function

The strlen() function is used to return the length of a string.

Let's find the length of a string:

```
<?php
```

```
echo strlen("Hello world!");
```

```
?>
```

The output of the code above will be:

```
12
```

The length of a string is often used in loops or other functions, when it is important to know when the string ends. (i.e. in a loop, we would want to stop the loop after the last character in the string).

The strpos() function

The strpos() function is used to search for a character/text within a string.

If a match is found, this function will return the character position of the first match. If no match is found, it will return FALSE.

Let's see if we can find the string "world" in our string:

```
<?php
```

```
echo strpos("Hello world!","world");
```

```
?>
```

The output of the code above will be:

```
6
```

The position of the string "world" in the example above is 6. The reason that it is 6 (and not 7), is that the first character position in the string is 0, and not 1.

Complete PHP String Reference

For a complete reference of all string functions, go to our [complete PHP String Reference](#).

The reference contains a brief description, and examples of use, for each function!

PHP Operators

The assignment operator = is used to assign values to variables in PHP.

The arithmetic operator + is used to add values together.

Arithmetic Operators

The table below lists the arithmetic operators in PHP:

Operator	Name	Description	Example	Result
x + y	Addition	Sum of x and y	2 + 2	4
x - y	Subtraction	Difference of x and y	5 - 2	3
x * y	Multiplication	Product of x and y	5 * 2	10
x / y	Division	Quotient of x and y	15 / 5	3
x % y	Modulus	Remainder of x divided by y	5 % 2	1
			10 % 8	2
			10 % 2	0

- x	Negation	Opposite of x	- 2
a . b	Concatenation	Concatenate two strings	"Hi" . "Ha" HiHa

Assignment Operators

The basic assignment operator in PHP is "=". It means that the left operand gets set to the value of the expression on the right. That is, the value of "\$x = 5" is 5.

Assignment	Same as...	Description
x = y	x = y	The left operand gets set to the value of the expression on the right
x += y	x = x + y	Addition
x -= y	x = x - y	Subtraction
x *= y	x = x * y	Multiplication
x /= y	x = x / y	Division
x %= y	x = x % y	Modulus
a . b	a = a . b	Concatenate two strings

Incrementing/Decrementing Operators

Operator	Name	Description
++ x	Pre-increment	Increments x by one, then returns x
x ++	Post-increment	Returns x, then increments x by one
-- x	Pre-decrement	Decrements x by one, then returns x
x --	Post-decrement	Returns x, then decrements x by one

Comparison Operators

Comparison operators allows you to compare two values:

Operator	Name	Description	Example
x == y	Equal	True if x is equal to y	5==8 returns false
x === y	Identical	True if x is equal to y, and they are of same type	5==="5" returns false
x != y	Not equal	True if x is not equal to y	5!=8 returns true

x <> y	Not equal	True if x is not equal to y	5<>8 returns true
x !== y	Not identical	True if x is not equal to y, or they are not of same type	5!== "5" returns true
x > y	Greater than	True if x is greater than y	5>8 returns false
x < y	Less than	True if x is less than y	5<8 returns true
x >= y	Greater than or equal to	True if x is greater than or equal to y	5>=8 returns false
x <= y	Less than or equal to	True if x is less than or equal to y	5<=8 returns true

Logical Operators

Operator	Name	Description	Example
x and y	And	True if both x and y are true	x=6 y=3 (x < 10 and y > 1) returns true
x or y	Or	True if either or both x and y are true	x=6 y=3 (x==6 or y==5) returns true
x xor y	Xor	True if either x or y is true, but not both	x=6 y=3 (x==6 xor y==3) returns false
x && y	And	True if both x and y are true	x=6 y=3 (x < 10 && y > 1) returns true
x y	Or	True if either or both x and y are true	x=6 y=3 (x==5 y==5) returns false
! x	Not	True if x is not true	x=6 y=3 !(x==y) returns true

Array Operators

Operator	Name	Description
----------	------	-------------

<code>x + y</code>	Union	Union of x and y
<code>x == y</code>	Equality	True if x and y have the same key/value pairs
<code>x === y</code>	Identity	True if x and y have the same key/value pairs in the same order and of the same types
<code>x != y</code>	Inequality	True if x is not equal to y
<code>x <> y</code>	Inequality	True if x is not equal to y
<code>x !== y</code>	Non-identity	True if x is not identical to y

PHP If...Else Statements

Conditional statements are used to perform different actions based on different conditions.

Conditional Statements

Very often when you write code, you want to perform different actions for different decisions.

You can use conditional statements in your code to do this.

In PHP we have the following conditional statements:

- **if statement** - use this statement to execute some code only if a specified condition is true
- **if...else statement** - use this statement to execute some code if a condition is true and another code if the condition is false
- **if...elseif....else statement** - use this statement to select one of several blocks of code to be executed
- **switch statement** - use this statement to select one of many blocks of code to be executed

The if Statement

Use the if statement to execute some code only if a specified condition is true.

Syntax

if (condition) code to be executed if condition is true;

The following example will output "Have a nice weekend!" if the current day is Friday:

```
<html>
<body>
    <?php
        $d=date("D");
        if ($d=="Fri") echo "Have a nice weekend!";
    ?>
</body>
</html>
```

Notice that there is no `..else..` in this syntax. The code is executed **only if the specified condition is true**.

The if...else Statement

Use the if....else statement to execute some code if a condition is true and another code if a condition is false.

Syntax

if (condition)

code to be executed if condition is true;

else

code to be executed if condition is false;

Example

The following example will output "Have a nice weekend!" if the current day is Friday, otherwise it will output "Have a nice day!":

```
<html>
  <body>
    <?php
      $d=date("D");
      if ($d=="Fri")
        echo "Have a nice weekend!";
      else
        echo "Have a nice day!";
    ?>
  </body>
</html>
```

If more than one line should be executed if a condition is true/false, the lines should be enclosed within curly braces:

```
<html>
  <body>
    <?php
      $d=date("D");
      if ($d=="Fri")
      {
        echo "Hello!<br />";
        echo "Have a nice weekend!";
        echo "See you on Monday!";
      }
    ?>
  </body>
</html>
```

The if...elseif....else Statement

Use the if....elseif...else statement to select one of several blocks of code to be executed.

Syntax

if (condition)

code to be executed if condition is true;

elseif (condition)

code to be executed if condition is true;

else

code to be executed if condition is false;

Example

The following example will output "Have a nice weekend!" if the current day is Friday, and "Have a nice Sunday!" if the current day is Sunday. Otherwise it will output "Have a nice day!":

```
<html>

    <body>

        <?php
            $d=date("D");
            if ($d=="Fri")
                echo "Have a nice weekend!";
            elseif ($d=="Sun")
                echo "Have a nice Sunday!";
            else
                echo "Have a nice day!";

        ?>

    </body>
</html>
```

PHP Switch Statement

Conditional statements are used to perform different actions based on different conditions.

The PHP Switch Statement

Use the switch statement to select one of many blocks of code to be executed.

Syntax

```
switch (n)
{
    case label1:
        code to be executed if n=label1;
        break;
    case label2:
        code to be executed if n=label2;
        break;
    default:
        code to be executed if n is different from both label1 and label2;
}
```

This is how it works: First we have a single expression n (most often a variable), that is evaluated once. The value of the expression is then compared with the values for each case in the structure. If there is a match, the block of code associated with that case is executed. Use **break** to prevent the code from running into the next case automatically. The default statement is used if no match is found.

Example

```
<html>

    <body>

        <?php
            $x=1;
```

```
switch ($x)
{
    case 1:
        echo "Number 1";
        break;
    case 2:
        echo "Number 2";
        break;
    case 3:
        echo "Number 3";
        break;
    default:
        echo "No number between 1 and 3";
}
?>
</body>
</html>
```

PHP Arrays

An array stores multiple values in one single variable.

What is an Array?

A variable is a storage area holding a number or text. The problem is, a variable will hold only one value.

An array is a special variable, which can store multiple values in one single variable. If you have a list of items (a list of car names, for example), storing the cars in single variables could look like this:

```
$cars1="Saab";
```

```
$cars2="Volvo";
```

```
$cars3="BMW";
```

However, what if you want to loop through the cars and find a specific one? And what if you had not 3 cars, but 300?

The best solution here is to use an array!

An array can hold all your variable values under a single name. And you can access the values by referring to the array name.

Each element in the array has its own index so that it can be easily accessed.

In PHP, there are three kind of arrays:

- **Numeric array** - An array with a numeric index
- **Associative array** - An array where each ID key is associated with a value
- **Multidimensional array** - An array containing one or more arrays

Numeric Arrays

A numeric array stores each array element with a numeric index.

There are two methods to create a numeric array.

1. In the following example the index are automatically assigned (the index starts at 0):

```
$cars=array("Saab","Volvo","BMW","Toyota");
```

2. In the following example we assign the index manually:

```
$cars[0]="Saab";
```

```
$cars[1]="Volvo";
```

```
$cars[2]="BMW";
```

```
$cars[3]="Toyota";
```

Example

In the following example you access the variable values by referring to the array name and index:

```
<?php
```

```
$cars[0]="Saab";
```

```
$cars[1]="Volvo";
```

```
$cars[2]="BMW";
```

```
$cars[3]="Toyota";
```

```
echo $cars[0] . " and " . $cars[1] . " are Swedish cars.";
```

```
?>
```

The code above will output:

Saab and Volvo are Swedish cars.

Associative Arrays

An associative array, each ID key is associated with a value.

When storing data about specific named values, a numerical array is not always the best way to do it.

With associative arrays we can use the values as keys and assign values to them.

Example 1

In this example we use an array to assign ages to the different persons:

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

Example 2

This example is the same as example 1, but shows a different way of creating the array:

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

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

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

The ID keys can be used in a script:

```
<?php
```

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

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

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

```
echo "Peter is " . $ages['Peter'] . " years old.";
```

```
?>
```

The code above will output:

Peter is 32 years old.

Multidimensional Arrays

In a multidimensional array, each element in the main array can also be an array. And each element in the sub-array can be an array, and so on.

Example

In this example we create a multidimensional array, with automatically assigned ID keys:

```
$families = array
(
    "Griffin"=>array
    (
        "Peter",
        "Lois",
        "Megan"
    ),
    "Quagmire"=>array
    (
        "Glenn"
    ),
    "Brown"=>array
    (
        "Cleveland",
        "Loretta",
        "Junior"
    )
);
```

The array above would look like this if written to the output:

```
Array
(
    [Griffin] => Array
        (
            [0] => Peter
            [1] => Lois
            [2] => Megan
        )
    [Quagmire] => Array
        (
            [0] => Glenn
        )
    [Brown] => Array
        (
            [0] => Cleveland
```



```
[1] => Loretta  
[2] => Junior  
)  
)
```

Example 2

Lets try displaying a single value from the array above:

```
echo "Is " . $families['Griffin'][2] .  
" a part of the Griffin family?";
```

The code above will output:

Is Megan a part of the Griffin family?

Complete PHP Array Reference

For a complete reference of all array functions, go to our [complete PHP Array Reference](#). The reference contains a brief description, and examples of use, for each function!

PHP Looping - While Loops

Loops execute a block of code a specified number of times, or while a specified condition is true.

PHP Loops

Often when you write code, you want the same block of code to run over and over again in a row. Instead of adding several almost equal lines in a script we can use loops to perform a task like this.

In PHP, we have the following looping statements:

- **while** - loops through a block of code while a specified condition is true
- **do...while** - loops through a block of code once, and then repeats the loop as long as a specified condition is true
- **for** - loops through a block of code a specified number of times
- **foreach** - loops through a block of code for each element in an array

The while Loop

The while loop executes a block of code while a condition is true.

Syntax

```
while (condition)  
{  
    code to be executed;  
}
```

Example

The example below defines a loop that starts with i=1. The loop will continue to run as long as i is less than, or equal to 5. i will increase by 1 each time the loop runs:

```
<html>  
    <body>  
        <?php
```

```
$i=1;
while($i<=5)
{
    echo "The number is " . $i . "<br />";
    $i++;
}
?>
</body>
</html>
```

Output:

The number is 1
The number is 2
The number is 3
The number is 4
The number is 5

The do...while Statement

The do...while statement will always execute the block of code once, it will then check the condition, and repeat the loop while the condition is true.

Syntax

```
do
{
    code to be executed;
}
while (condition);
```

Example

The example below defines a loop that starts with i=1. It will then increment i with 1, and write some output. Then the condition is checked, and the loop will continue to run as long as i is less than, or equal to 5:

```
<html>
<body>
<?php
    $i=1;
    do
    {
        $i++;
        echo "The number is " . $i . "<br />";
    }
    while ($i<=5);
?>
```

```
</body>
</html>
Output:
```

```
The number is 2
The number is 3
The number is 4
The number is 5
The number is 6
```

The for loop and the foreach loop will be explained in the next chapter.

PHP Looping - For Loops

Loops execute a block of code a specified number of times, or while a specified condition is true.

The for Loop

The for loop is used when you know in advance how many times the script should run.

Syntax

```
for (init; condition; increment)
{
    code to be executed;
}
```

Parameters:

- *init*: Mostly used to set a counter (but can be any code to be executed once at the beginning of the loop)
- *condition*: Evaluated for each loop iteration. If it evaluates to TRUE, the loop continues. If it evaluates to FALSE, the loop ends.
- *increment*: Mostly used to increment a counter (but can be any code to be executed at the end of the iteration)

Note: The *init* and *increment* parameters above can be empty or have multiple expressions (separated by commas).

Example

The example below defines a loop that starts with *i*=1. The loop will continue to run as long as *i* is less than, or equal to 5. *i* will increase by 1 each time the loop runs:

```
<html>
<body>
    <?php
        for ($i=1; $i<=5; $i++)
        {
            echo "The number is " . $i . "<br />";
        }
    ?>
</body>
</html>
```

Output:

The number is 1
The number is 2
The number is 3
The number is 4
The number is 5

The foreach Loop

The foreach loop is used to loop through arrays.

Syntax

```
foreach ($array as $value)
{
    code to be executed;
}
```

For every loop iteration, the value of the current array element is assigned to \$value (and the array pointer is moved by one) - so on the next loop iteration, you'll be looking at the next array value.

Example

The following example demonstrates a loop that will print the values of the given array:

```
<html>
    <body>
        <?php
            $x=array("one","two","three");
            foreach ($x as $value)
            {
                echo $value . "<br />";
            }
        ?>
    </body>
</html>
```

Output:

one
two
three

PHP Functions

The real power of PHP comes from its functions.
In PHP, there are more than 700 built-in functions.

PHP Built-in Functions

For a complete reference and examples of the built-in functions, please visit [PHP Reference](#).

PHP Functions

In this chapter we will show you how to create your own functions.

To keep the script from being executed when the page loads, you can put it into a function. A function will be executed by a call to the function. You may call a function from anywhere within a page.

Create a PHP Function

A function will be executed by a call to the function.

Syntax

```
function functionName()  
{  
    code to be executed;  
}
```

PHP function guidelines:

- Give the function a name that reflects what the function does
- The function name can start with a letter or underscore (not a number)

Example

A simple function that writes my name when it is called:

```
<html>  
    <body>  
        <?php  
            function writeName()  
            {  
                echo "Vishy";  
            }  
  
            echo "My name is ";  
            writeName();  
        ?>  
    </body>  
</html>
```

Output:

My name is Vishy

PHP Functions - Adding parameters

To add more functionality to a function, we can add parameters. A parameter is just like a variable.

Parameters are specified after the function name, inside the parentheses.

Example 1

The following example will write different first names, but equal last name:

```
<html>  
  
    <body>
```

```
<?php

function writeName($fname)

{

    echo $fname . " Singh.<br />";

}

echo "My name is ";
writeName("Vishy");
echo "My sister's name is ";
writeName("Divya");
echo "My brother's name is ";
writeName("Anurag");
?>

</body>
</html>
```

Output:

My name is Vishy Singh.
My sister's name is Divya Singh.
My brother's name is Anurag Singh.

Example 2

The following function has two parameters:

```
<html>
    <body>
        <?php
        function writeName($fname,$punctuation)
        {
            echo $fname . " Singh" . $punctuation . "<br />";
        }
        echo "My name is ";
        writeName("Vishy",".");
        echo "My sister's name is ";
        writeName("Divya","!");
        echo "My brother's name is ";
        writeName("Anurag","?");
        ?>
    </body>
</html>
```

Output:

My name is Vishy Singh.

My sister's name is Divya Singh!

My brother's name is Anurag Singh?

PHP Functions - Return values

To let a function return a value, use the return statement.

Example

```
<html>
  <body>
    <?php
      function add($x,$y)
      {
          $total=$x+$y;
          return $total;
      }

      echo "1 + 16 = " . add(1,16);
    ?>
  </body>
</html>
```

Output:

1 + 16 = 17

PHP Forms and User Input

The PHP \$_GET and \$_POST variables are used to retrieve information from forms, like user input.

PHP Form Handling

The most important thing to notice when dealing with HTML forms and PHP is that any form element in an HTML page will **automatically** be available to your PHP scripts.

Example

The example below contains an HTML form with two input fields and a submit button:

```
<html>
  <body>
    <form action="welcome.php" method="post">
      Name: <input type="text" name="fname" />
      Age: <input type="text" name="age" />
      <input type="submit" />
    </form>
  </body>
</html>
```

When a user fills out the form above and clicks on the submit button, the form data is sent to a PHP file, called "welcome.php":

"welcome.php" looks like this:

```
<html>
    <body>
        Welcome <?php echo $_POST["fname"]; ?>!  

        You are <?php echo $_POST["age"]; ?> years old.
    </body>
</html>
```

Output could be something like this:

Welcome John!

You are 28 years old.

The PHP \$_GET and \$_POST variables will be explained in the next chapters.

Form Validation

User input should be validated on the browser whenever possible (by client scripts). Browser validation is faster and reduces the server load.

You should consider server validation if the user input will be inserted into a database. A good way to validate a form on the server is to post the form to itself, instead of jumping to a different page. The user will then get the error messages on the same page as the form. This makes it easier to discover the error.

PHP \$_GET Variable

In PHP, the predefined \$_GET variable is used to collect values in a form with method="get".

The \$_GET Variable

The predefined \$_GET variable is used to collect values in a form with method="get". Information sent from a form with the GET method is visible to everyone (it will be displayed in the browser's address bar) and has limits on the amount of information to send.

Example

```
<form action="welcome.php" method="get">
    Name: <input type="text" name="fname" />
    Age: <input type="text" name="age" />
    <input type="submit" />
</form>
```

When to use method="get"?

When using method="get" in HTML forms, all variable names and values are displayed in the URL.

Note: This method should not be used when sending passwords or other sensitive information!

However, because the variables are displayed in the URL, it is possible to bookmark the page. This can be useful in some cases.

Note: The get method is not suitable for very large variable values. It should not be used with values exceeding 2000 characters.

PHP \$_POST Function

In PHP, the predefined \$_POST variable is used to collect values in a form with method="post".

The \$_POST Variable

The predefined \$_POST variable is used to collect values from a form sent with method="post".

Information sent from a form with the POST method is invisible to others and has no limits on the amount of information to send.

Note: However, there is an 8 Mb max size for the POST method, by default (can be changed by setting the post_max_size in the php.ini file).

Example

```
<form action="welcome.php" method="post">
    Name: <input type="text" name="fname" />
    Age: <input type="text" name="age" />
    <input type="submit" />
</form>
```

The "welcome.php" file can now use the \$_POST variable to collect form data (the names of the form fields will automatically be the keys in the \$_POST array):

```
Welcome <?php echo $_POST["fname"]; ?>!<br />
You are <?php echo $_POST["age"]; ?> years old.
```

When to use method="post"?

Information sent from a form with the POST method is invisible to others and has no limits on the amount of information to send.

However, because the variables are not displayed in the URL, it is not possible to bookmark the page.

The PHP \$_REQUEST Variable

The predefined \$_REQUEST variable contains the contents of both \$_GET, \$_POST, and \$_COOKIE.

The \$_REQUEST variable can be used to collect form data sent with both the GET and POST methods.

Example

```
Welcome <?php echo $_REQUEST["fname"]; ?>!<br />
You are <?php echo $_REQUEST["age"]; ?> years old.
```