

Introduction to PHP

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Introduction to PHP



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Learning Objectives



- In this lecture , we will learn more details about "PHP: Hypertext Preprocessor“.
- Discussing the advantage and importance of PHP.
- Familiar with PHP language and its basic data structure.

PHP



- PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.
- PHP 7 is the latest stable release.
- PHP is an acronym for "PHP: Hypertext Preprocessor"
- PHP scripts are executed on the server
- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code is executed on the server, and the result is returned to the browser as plain HTML
- PHP files have extension ".php"

What Can PHP Do?



- PHP can generate dynamic page content
- PHP can create, open, read, write, delete, and close files on the server
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in your database
- PHP can be used to control user-access
- PHP can encrypt data

PHP Installation



- **Install XAMPP in your PC or server.**
- XAMPP is the most popular PHP development environment
- Apache + MariaDB(Mysql) + PHP + Perl
- Basic PHP Syntax

```
<?php
echo "Hello World!";
?>
```
- Save the file as **HelloWorld.php** in htdocs in Apache XAMPP.
- Start the server and browse <http://localhost/HelloWorld.php> in the browser. (We will see details in the Lab class.)

PHP Script



- A PHP script can be placed anywhere in the document.
- A PHP script starts with `<?php` and ends with `?>`
- keywords (e.g. if, else, while, echo, etc.), classes, functions, and user-defined functions are not case-sensitive.

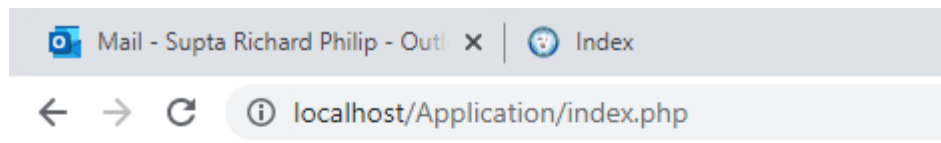
A screenshot of a Sublime Text editor window. The title bar reads 'C:/xampp/htdocs/Application/index.php (Application) - Sublime Text (UNREGISTERED)'. The menu bar includes 'File', 'Edit', 'Selection', 'Find', 'View', 'Goto', 'Tools', 'Project', 'Preferences', and 'Help'. On the left, a 'FOLDERS' panel shows a tree view with 'Application' and 'index.php'. The main editor area displays the following code:

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h1>My first PHP page</h1>
6
7 <?php
8 echo "Hello World!";
9 ?>
10
11 </body>
12 </html>
```

Run in Browser



- Start the server and browse <http://localhost/Application/index.php> in the browser. (We will see details in the Lab class.)



My first PHP page

Hello World!

PHP Syntax

Comments



- `<?php`
`// This is a single-line comment`
`# This is also a single-line comment`
`?>`
- `<?php`
`/*`
`This is a multiple-lines comment block`
`that spans over multiple`
`lines`
`*/`
`?>`

PHP Syntax

Variables



- In PHP, a variable starts with the \$ sign, followed by the name of the variable.
- Variable names are case-sensitive (\$age and \$AGE are two different variables).
- `<?php`
 `$txt = "Hello world!";`
 `$x = 5;`
 `$y = 10.5;`
 `echo "I love " . $txt . "!";`
 `echo $x + $y;`
 `?>`

PHP Data Types

Boolean and Array



- PHP supports the following data types: String, Integer, Float (floating point numbers - also called double), Boolean, Array, Object, NULL.
- A Boolean represents two possible states: TRUE or FALSE.

```
$x = true;
```

```
$y = false;
```

- An array stores multiple values in one single variable.
- In the following example \$cars is an array. The PHP **var_dump()** function returns the data type and value:

```
<?php  
$cars = array("Volvo", "BMW", "Toyota");  
var_dump($cars);  
?>
```

PHP Data Types

PHP Object



- An object is a data type which stores data and information on how to process that data.
- In PHP, an object must be explicitly declared.

```
• <?php
  class Car {
      function Car() {
          $this->model = "VW";
      }
  }
```

```
// create an object
$herbie = new Car();
```

```
// show object properties
echo $herbie->model;
?>
```

PHP Loop



The PHP while Loop and do...while Loop

- `<?php`
 `$x = 1;`

 `while($x <= 5) {`
 `echo "The number is: $x
";`
 `$x++;`
 `}`
 `?>`
- `<?php`
 `$x = 1;`

 `do {`
 `echo "The number is: $x
";`
 `$x++;`
 `} while ($x <= 5);`
 `?>`

PHP for and foreach Loop



- The foreach loop works only on arrays, and is used to loop through each key/value pair in an array.

- ```
<?php
for ($x = 0; $x <= 10; $x++) {
 echo "The number is: $x
";
}
?>
```
- ```
<?php
$colors = array("red", "green", "blue", "yellow");

foreach ($colors as $value) {
    echo "$value <br>";
}
?>
```

PHP conditional Statement

If else



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

```
<?php
$a =20;
$b = 30;
if ($a > $b) {
    echo "a is bigger than b";
} elseif ($a == $b) {
    echo "a is equal to b";
} else {
    echo "a is smaller than b";
}
?>
```

PHP conditional Statement

Switch



- HTTP stands for Hyper Text Transfer Protocol The switch statement is used to perform different actions based on different conditions.

```
<?php
```

```
$favcolor = "red";
```

```
switch ($favcolor) {
```

```
    case "red":
```

```
        echo "Your favorite color is red!";
```

```
        break;
```

```
    case "green":
```

```
        echo "Your favorite color is green!";
```

```
        break;
```

```
    default:
```

```
        echo "Your favorite color is neither red, blue, nor green!";
```

```
}
```

```
?>
```


PHP Functions



- PHP has more than 1000 built-in functions, and in addition you can create your own custom functions.

-

```
<?php
function addNumbers(int $a, int $b) {
    return $a + $b;
}
echo addNumbers(5, 5);
?>
```

PHP - Classes and Objects



- ```
<?php
class Fruit {
 // Properties
 public $name;
 // Methods
 function set_name($name) {
 $this->name = $name;
 }
 function get_name() {
 return $this->name;
 }
}
$apple = new Fruit();
$apple->set_name('Apple');

echo $apple->get_name();
?>
```



# Books

- W3Schools Online Web Tutorials; URL: <http://www.w3schools.com>
- PHP Documentation; URL: <http://www.php.net/docs.php>
- Sams Teach Yourself Ajax JavaScript and PHP All in One; Phil Ballard and Michael Moncur; Sams Publishing; 2010
- JavaScript Phrasebook; Christian Wenz; Sams Publishing; 2007
- PHP and MySQL Web Development, 4/E; Luke Welling and Laura Thomson; Addison-Wesley Professional; 2009
- JavaScript for Programmers Paul J. Deitel and Harvey M. Deitel; Prentice Hall; 2009
- Beginning PHP5, Apache, and MySQL Web Development; Elizabeth Naramore, Jason Gerner, Yann Le Scouarnec, Jeremy Stolz and Michael K. Glass; Wiley Publishing; 2005
- XML in a Nutshell, 3/E; Elliotte Rusty Harold and W. Scott Means; O'Reilly Media; 2004



# References

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2. <https://developer.mozilla.org/enUS/docs/Web/HTTP/Status>
3. [https://www.w3schools.com/html/html\\_intro.asp](https://www.w3schools.com/html/html_intro.asp)
4. [https://www.w3schools.com/html/html\\_xhtml.asp](https://www.w3schools.com/html/html_xhtml.asp)