

# Introduction to PHP

Course Code: **CSC 3222**

Course Title: WEB TECHNOLOGIES



**Dept. of Computer Science**  
**Faculty of Science and Technology**

<b>Lecturer No:</b>	<b>2</b>	<b>Week No:</b>	<b>2</b>	<b>Semester:</b>	
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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.

```
C:\xampp\htdocs\Application\index.php (Application) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help

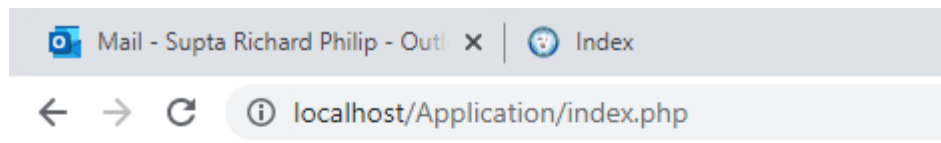
FOLDERS
- Application
  - index.php

index.php
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: $x <br>";`  
        `$x++;`  
    `}`  
    `?>`
- `<?php`  
    `$x = 1;`  
  
    `do {`  
        `echo "The number is: $x <br>";`  
        `$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 <br>";
}
?>
```
- ```
<?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



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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)