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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT

**COURSE NAME : 19SB602 FULL STACK DEVELOPMENT FOR NEXT
GENERATION IOT**

III YEAR / VI SEMESTER

Unit III- CORE PHP WITH MODEL–VIEW–CONTROLLER

Topic : Arrays, Form Validation



PHP Arrays

An array stores multiple values in one single variable

An array is a special variable that can hold many values under a single name, and you can access the values by referring to an index number or name.

Example

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



PHP Array Types

In PHP, there are **three types of arrays**:

Indexed arrays - Arrays with a numeric index

Associative arrays - Arrays with named keys

Multidimensional arrays - Arrays containing one or more arrays

PHP Indexed Arrays

In indexed arrays each item has an index number.

By default, the first item has index 0, the second item has item 1, etc.

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<pre>
```

```
<?php
```

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

```
var_dump($cars);
```

```
?>
```

```
</pre>
```

```
</body>
```

```
</html>
```

```
array(3) {  
    [0]=>  
        string(5) "Volvo"  
    [1]=>  
        string(3) "BMW"  
    [2]=>  
        string(6) "Toyota"  
}
```



PHP Associative Arrays

Associative arrays are arrays that use named keys that you assign to them.

```
<html>
```

```
<body>
```

```
<pre>
```

```
<?php
```

```
$car = array("brand"=>"Ford",  
"model"=>"Mustang", "year"=>1964);  
var_dump($car);  
?>
```

```
</pre>
```

```
</body>
```

```
</html>
```

```
array(3) {  
    ["brand"]=>  
        string(4) "Ford"  
    ["model"]=>  
        string(7) "Mustang"  
    ["year"]=>  
        int(1964)  
}
```



PHP - Multidimensional Arrays

A multidimensional array is an array containing one or more arrays.

PHP supports multidimensional arrays that are two, three, four, five, or more levels deep.

The dimension of an array indicates the number of indices you need to select an element.

- For a two-dimensional array you need two indices to select an element
- For a three-dimensional array you need three indices to select an element

PHP - Two-dimensional Arrays

A two-dimensional array is an array of arrays (a three-dimensional array is an array of arrays of arrays).

First, take a look at the following table:

Name	Stock	Sold
Volvo	22	18
BMW	15	13
Saab	5	2
Land Rover	17	15



We can store the data from the table above in a two-dimensional array, like this:

```
$cars = array (  
    array("Volvo",22,18),  
    array("BMW",15,13),  
    array("Saab",5,2),  
    array("Land Rover",17,15)  
);
```



```
<!DOCTYPE html>
<html>
<body>

<?php
$cars = array (
    array("Volvo",22,18),
    array("BMW",15,13),
    array("Saab",5,2),
    array("Land
Rover",17,15)
);
```

```
echo $cars[0][0].": In stock:
".$cars[0][1].", sold:
".$cars[0][2]."<br>";
echo $cars[1][0].": In stock:
".$cars[1][1].", sold:
".$cars[1][2]."<br>";
echo $cars[2][0].": In stock:
".$cars[2][1].", sold:
".$cars[2][2]."<br>";
echo $cars[3][0].": In stock:
".$cars[3][1].", sold:
".$cars[3][2]."<br>";
?>
</body>
</html>
```

Volvo: In stock: 22, sold: 18.
BMW: In stock: 15, sold: 13.
Saab: In stock: 5, sold: 2.
Land Rover: In stock: 17, sold: 15.



Working With Arrays

In this tutorial you will learn how to work with arrays, including:

Create Arrays

Access Arrays

Update Arrays

Add Array Items

Remove Array Items

Sort Arrays



Array Items

Array items can be of any data type.

The most common are strings and numbers (int, float), but array items can also be objects, functions or even arrays.

You can have different data types in the same array.

Example

Array items of four different data types:

```
$myArr = array("Volvo", 15, ["apples", "bananas"], myFunction);
```



Array Functions

The real strength of PHP arrays are the built-in array functions, like the `count()` function for counting array items:

Example

How many items are in the `$cars` array:

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



PHP Sorting Arrays

The elements in an array can be sorted in alphabetical or numerical order, descending or ascending.

The following PHP array sort functions:

`sort()` - sort arrays in ascending order

`rsort()` - sort arrays in descending order

`asort()` - sort associative arrays in ascending order, according to the value

`ksort()` - sort associative arrays in ascending order, according to the key

`arsort()` - sort associative arrays in descending order, according to the value

`krsort()` - sort associative arrays in descending order, according to the key



PHP Form Handling

The PHP **superglobals** **\$_GET** and **\$_POST** are used to collect form-data.

PHP - A Simple HTML Form

The example below displays a simple HTML form with two input fields and a submit button:



Example

```
<html>
```

```
<body>
```

```
<form action="welcome.php" method="POST">
```

```
Name: <input type="text" name="name"><br>
```

```
E-mail: <input type="text" name="email"><br>
```

```
<input type="submit">
```

```
</form>
```

```
</body>
```

```
</html>
```



Result Size: 668 x 492

Name:

E-mail:



PHP Form Validation

The HTML form we will be working on browser, contains various input fields: required and optional text fields, radio buttons, and a submit button:

PHP Form Validation Example

*** required field**

Name: *

E-mail: *

Website:

Comment:

Gender: ☐ Female ☐ Male ☐ Other *

Your Input:

The validation rules for the form above are as follows:

Field	Validation Rules
Name	Required. + Must only contain letters and whitespace
E-mail	Required. + Must contain a valid email address (with @ and .)
Website	Optional. If present, it must contain a valid URL
Comment	Optional. Multi-line input field (textarea)
Gender	Required. Must select one



First we will look at the plain HTML code for the form:

Text Fields

The name, email, and website fields are text input elements, and the comment field is a textarea.

The HTML code looks like this:

Name: `<input type="text" name="name">`

E-mail: `<input type="text" name="email">`

Website: `<input type="text" name="website">`

Comment: `<textarea name="comment" rows="5"
cols="40"></textarea>`



Radio Buttons

The gender fields are radio buttons and the HTML code looks like this:

Gender:

```
<input type="radio" name="gender" value="female">Female  
<input type="radio" name="gender" value="male">Male  
<input type="radio" name="gender" value="other">Other
```



The Form Element

The HTML code of the form looks like this:

```
<form method="post" action=" <?php echo  
htmlspecialchars($_SERVER["PHP_SELF"]);?>">
```

When the form is submitted, the form data is sent with method="post".

Validate Form Data With PHP

The first thing we will do is to pass all variables through PHP's `htmlspecialchars()` function.

When we use the **`htmlspecialchars()`** function; then if a user tries to submit the following in a text field:

```
<script>location.href('http://www.hacked.com')</script>
```

- this would not be executed, because it would be saved as HTML escaped code, like this:

```
&lt;script&gt;location.href('http://www.hacked.com')&lt;/script&gt;
```



The code is now safe to be displayed on a page or inside an e-mail.

We will also do two more things when the user submits the form:

Strip unnecessary characters (extra space, tab, newline) from the user input data (with the PHP trim() function)

Remove backslashes \ from the user input data (with the PHP stripslashes() function)

The next step is to create a function that will do all the checking for us (which is much more convenient than writing the same code over and over again).

We will name the function test_input().

Now, we can check each \$_POST variable with the test_input() function, and the script looks like this:

Example

```
// define variables and set to empty values  
$name = $email = $gender = $comment = $website = "";
```

```
if ($_SERVER["REQUEST_METHOD"] == "POST") {  
    $name = test_input($_POST["name"]);  
    $email = test_input($_POST["email"]);  
    $website = test_input($_POST["website"]);  
    $comment = test_input($_POST["comment"]);  
    $gender = test_input($_POST["gender"]);  
}
```

```
function test_input($data) {  
    $data = trim($data);  
    $data = stripslashes($data);  
    $data = htmlspecialchars($data);  
    return $data;  
}
```

PHP Form Validation Example

Name:

E-mail:

Website:

Comment:

Gender: ☐ Female ☐ Male ☐ Other

Your Input:



Any Query????

Thank you.....