



**Pune Vidyarthi Griha's**

**COLLEGE OF ENGINEERING, NASHIK**

# “SERVER SIDE TECHNOLOGIES - II”

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# Outline

PHP

WAP & WML,

AJAX

PHP

# Outline

Introduction to PHP,

Features,

sample code,

PHP script working,

PHP syntax,

conditions & Loops,

Functions,

String manipulation,

Arrays & Functions,

Form handling,

Cookies & Sessions,

using MySQL with PHP,

# Introduction to PHP

- PHP is an acronym for "PHP: Hypertext Preprocessor"
- PHP is a widely-used, open source scripting language
- PHP scripts are executed on the server
- PHP is free to download and use
  
- **What is a PHP File?**
- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code are executed on the server, and the result is returned to the browser as plain HTML
- PHP files have extension ".php"

# Introduction to 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
- With PHP you are not limited to output HTML. You can output images, PDF files, and even Flash movies. You can also output any text, such as XHTML and XML.

# Features / Advantages of PHP

- PHP runs on various platforms (Windows, Linux, Unix, Mac OS X, etc.)
- PHP is compatible with almost all servers used today (Apache, IIS, etc.)
- PHP supports a wide range of databases
- PHP is free. Download it from the official PHP resource:  
[www.php.net](http://www.php.net)
- PHP is easy to learn and runs efficiently on the server side.
- **Advantages :**
- Simple , Interpreted , Faster , Open Source , Platform Independent , Efficiency, Flexibility.

# PHP Syntax

- **Basic PHP Syntax**

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

- `<?php`

```
// PHP code goes here
```

```
?>
```

- The default file extension for PHP files is ".php".



# sample code –

## Example 1 to print Hello World using PHP

- ```
<!DOCTYPE html>  
<html>  
<body>  
  
<h1>My first PHP page</h1>  
  
<?php  
echo "Hello World!";  
?>  
  
</body>  
</html>
```

# sample code –

## Example 2 variable declaration

```
<html>
<body>

<?php
$txt = "Hello world!";
$x = 5;
$y = 10.5;

echo $txt;
echo "<br>";
echo $x;
echo "<br>";
echo $y;
?>

</body>
</html>
```

### Out Put

"Hello world!"
5
10.5

# PHP Variables

- **Rules for PHP variables:**
  - A variable starts with the \$ sign, followed by the name of the variable
  - A variable name must start with a letter or the underscore character
  - A variable name cannot start with a number
  - A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ )
  - Variable names are case-sensitive (\$age and \$AGE are two different variables)

# sample code –

## Example 3- To output text and a variable

- `<html>`  
`<body>`

```
<?php  
$txt = "W3Schools.com";  
echo "I love $txt";  
?>
```

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

- `<html>`  
`<body>`

```
<?php  
$txt = "W3Schools.com";  
echo "I love " . $txt . ;  
?>
```

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

I love W3Schools.com!

# Program for addition of two numbers

- `<body>`
- `<?php`
- `$n1=5;`
- `$n2=6;`
- `$sum=$n1+$n2;`
- `Echo "Summation is".$sum;`
- `?>`
- `</body>`

# PHP Variables Scope

- In PHP, variables can be declared anywhere in the script.
- The scope of a variable is the part of the script where the variable can be referenced/used.
- PHP has three different variable scopes:
  - local
  - global
  - static

# PHP Variables Scope- Global and Local Scope

## Example

```
<?php
$x = 5; // global scope

function myTest() {
    echo "Variable x inside function is: $x";
}

myTest();

echo "Variable x outside function is: $x";
?>
```

## Out put

- Variable x inside function is:
- Variable x outside function is: 5

A variable declared **outside** a function has a GLOBAL SCOPE and can only be accessed outside a function:

# PHP Variables Scope-

## Global and Local Scope

### Example

```
<?php
function myTest()
{
    $x = 5; // local scope
    echo "Variable x inside function is: $x";
}

myTest();
echo "Variable x outside function is: $x";
?>
```

### Out put

- Variable x inside function is: 5
- Variable x outside function is:

A variable declared **within** a function has a LOCAL SCOPE and can only be accessed within that function:



# PHP Variables Scope-

## The global Keyword

### Example

```
<?php  
$x = 5;  
$y = 10;
```

```
function myTest() {  
    global $x, $y;  
    $y = $x + $y;  
}
```

```
myTest(); // run function  
echo $y; // output the new value for variable $y  
?>
```

### Out put

15
----

The **global** keyword is used to access a global variable from within a function

# PHP Comparison Operators

Operator	Name	Example	Result
==	Equal	<code>\$x == \$y</code>	Returns true if <code>\$x</code> is equal to <code>\$y</code>
===	Identical	<code>\$x === \$y</code>	Returns true if <code>\$x</code> is equal to <code>\$y</code> , and they are of the same type
!= <>	Not equal	<code>\$x != \$y</code>	Returns true if <code>\$x</code> is not equal to <code>\$y</code>
>	Greater than	<code>\$x &gt; \$y</code>	Returns true if <code>\$x</code> is greater than <code>\$y</code>
<	Less than	<code>\$x &lt; \$y</code>	Returns true if <code>\$x</code> is less than <code>\$y</code>
>=	Greater than or equal to	<code>\$x &gt;= \$y</code>	Returns true if <code>\$x</code> is greater than or equal to <code>\$y</code>
<=	Less than or equal to	<code>\$x &lt;= \$y</code>	Returns true if <code>\$x</code> is less than or equal to <code>\$y</code>

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# Conditions and Loops with parameter

## Conditional Statements

- If else
- Elseif ladder
- Switch case

## Loop Statements

- While
- Do while
- For
- Foreach

# If...else

## Syntax

- If(condition)
- statements;
- else
- statements;

## Example

- <body>
- <?php
- \$n=5;
- If(\$n%2 == 0)
- Echo "Number is Even";
- Else
- Echo "Number is Odd";
- ?>
- <body>

# Elseif

## Syntax

- If(condition)
- statements;
- Elseif(condition)
- statements;
- Else
- statements;

## Example

- <body>
- <?php
- \$day=date("l");
- If(\$day == "Saturday"))
- Echo "Happy Weekend";
- Elseif(\$day == "Sunday"))
- Echo "Happy Sunday";
- Else
- Echo "Nice Working day";
- ?>
- <body>

# Switch case

## Example

### Syntax

- Switch(expression)
- {
- Case constant\_expression:
- statements;
- break;
- Default:
- statements;
- }

- <?php  
\$favcolor = "red";  
switch (\$favcolor) {  
    case "red":  
        echo "Your favorite color is red!";  
        break;
- case "blue":  
    echo "Your favorite color is blue!";  
    break;
- default:  
    echo "Your favorite color is neither  
red, blue!";  
}
- ?>

# While Loop

## with parameter

### Syntax

- while (condition is true) {
- code to be executed;
- }

### Example

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

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



# Do-While Loop

## with parameter

### Syntax

- do {  
    code to be executed;  
} while (condition is true);

### Example

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

# For Loop

## with parameter

### Syntax

- for (init counter; test counter; increment counter)
- {  
    code to be executed;  
}

### Example

- <?php  
    for (\$x = 0; \$x <= 10; \$x++)  
    {  
        echo "The number is: \$x <br>";  
    }  
?>

# Foreach Loop

## with parameter

### Syntax

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

### Example

- ```
<?php
$colors = array("red", "green", "blue");
foreach ($colors as $value)
{
    echo "$value <br>";
}
?>
```

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# User Defined Functions

## Syntax

- function *functionName*()  
 {  
 *code to be executed*;  
 }

## Example

- <body>  
  
 <?php  
 function writeMsg() {  
 echo "Hello world!";  
 }  
  
 writeMsg();  
 ?>  
  
 </body>

# Parameterized Functions

## Example

- `<html>`
- `<body>`
- `<?php`  
function Add(\$a,\$b) {  
    \$sum=\$a+\$b;  
    echo "Sum is \$sum";  
}

`Add(10,20);`

`?>`

- `</body>`
- `</html>`

## Output

- Sum is 30

# Returning value through function

## Example

```
• <html>
• <body>
• <?php
  function Add($a,$b) {
    $sum=$a+$b;
    return $sum;
  }

  $Result=Add(10,20);
  echo "Sum is $Result";

?>
• </body>
• </html>
```

## Output

- Sum is 30

# Setting default values for function parameter

## Example

```
<html>
<body>
<?php
function Add($a,$b=300)
{
    $sum=$a+$b;
    echo "Sum is $sum";
}

Add(10);
Add(10,20);
?>
</body>
</html>
```

## Output

- Sum is 310
- Sum is 30



# Dynamic Function Calls

## Example

```
<<html>  
<body>  
<?php  
function Hello() {  
    echo "Hello How R U?";  
}  
$fh = "Hello";  
$fh();  
?>  
</body>  
</html>
```

## Output

Hello How R U?

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# String Manipulation

String Manipulation Function	Description	Example
<code>strlen()</code>	returns the length of a string	<pre>&lt;?php echo strlen("Hello world!"); ?&gt; // outputs 12</pre>
<code>str_word_count()</code>	counts the number of words	<pre>&lt;?php echo str_word_count("Hello world!"); ?&gt; // outputs 2</pre>
<code>strrev()</code>	reverses a string	<pre>&lt;?php echo strrev("Hello world!"); ?&gt; // outputs !dlrow olleH</pre>
<code>strpos()</code>	searches for a specific text within a string.	<pre>&lt;?php echo strpos("Hello world!", "world"); ?&gt; // outputs 6</pre>
<code>str_replace()</code>	replaces some characters with some other characters in a string.	<pre>&lt;?php echo str_replace("Ram", "Holly", "Hello Ram"); ?&gt; // outputs Hello Holly!</pre>

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# Arrays

- **Create an Array in PHP**
- In PHP, the `array()` function is used to create an array:
  - `array();`
- In PHP, there are three types of arrays:
  1. **Indexed arrays** - Arrays with a numeric index
  2. **Associative arrays** - Arrays with named keys
  3. **Multidimensional arrays** - Arrays containing one or more arrays

# Arrays- Indexed Arrays

- There are two ways to create indexed arrays:
  1. The index can be assigned automatically as below :
    - `$cars = array("Volvo", "BMW", "Toyota");`
  2. The index can be assigned manually:
    - `$cars[0] = "Volvo";`  
`$cars[1] = "BMW";`  
`$cars[2] = "Toyota";`

# Arrays- Indexed Arrays

- **To create and print array**

- **Example-**

- `<?php`

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

```
echo "I like " . $cars[0] . ", " . $cars[1] . " and " . $cars[2] . " .";
```

```
?>
```

- **Get The Length of an Array - The count() Function**

- **Example**

- `<?php`

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

```
echo count($cars);
```

```
?>
```

# Arrays- Indexed Arrays

- **Loop Through an Indexed Array**

- **Example**

- `<?php`

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

```
$arrlength = count($cars);
```

```
for($x = 0; $x < $arrlength; $x++) {
```

```
    echo $cars[$x];
```

```
    echo "<br>";
```

```
}
```

```
?>
```



# Arrays- Associative Arrays

- Associative arrays are arrays that use named keys that you assign to them.
- There are two ways to create an associative array:
  1. `$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");`
  2. `$age['Peter'] = "35";`  
`$age['Ben'] = "37";`  
`$age['Joe'] = "43";`

# Arrays- Associative Arrays

- **Example**

- `<?php`

```
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");  
echo "Peter is " . $age['Peter'] . " years old."  
?>
```

- **Output:**
- Peter is 35 years old.

- **Loop Through an Associative Array**

- **Example**

- `<?php`

```
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");  
foreach($age as $x => $x_value) {  
    echo "Key=" . $x . "Value=" . $x_value;  
    echo "<br>";  
}  
?>
```

- **Output:**
- Key=Peter, Value=35  
Key=Ben, Value=37  
Key=Joe, Value=43

# Arrays- Multidimensional Arrays

- PHP understands multidimensional arrays that are two, three, four, five, or more levels deep.
- **PHP - Two-dimensional Arrays**
- A two-dimensional array is an array of arrays
- First, take a look at the following table:

Name	Stock	Sold
Volvo	22	18
BMW	15	13

- **Example**
- `$cars = array  
(  
 array("Volvo",22,18),  
 array("BMW",15,13),  
);`

# Functions on Array

- **print\_r()** –Prints all elements of an array in standard format
- **extract()**-Converts array into variables
- **compact()**-Converts group of variables into array
- **is\_array()** –to check weather a particular elements is an array or not.
- **sort()** - sort arrays in ascending order
- **rsort()** - sort arrays in descending order,
- **asort()**-sorts associative arrays in **ascending order**, on **values**
- **ksort()**-sorts associative arrays in **ascending order**,on **keys**
- **arsort()**- sorts associative arrays in **descending order**,on **values**
- **krsort()**-sorts associative arrays in **descending order**,on **keys**

# Functions on Array: print\_r()

## Example

```
<?php
$a =
array ('a' => 'apple', 'b' => 'banana')
print_r ($a);
?>
```

## Out Put

```
Array
(
    [a] => apple
    [b] => banana
)
```

# Functions on Array: extract()

## Example

```
<?php
$my_array = array("Rno" => "1",
" Name" => "Anna",
"Class" => "TE Comp");

extract($my_array);

echo $Rno;
echo $Name;
echo $Class;
?>
```

## Out Put

```
1
Anna
TE Comp
```

# Functions on Array: compact()

## Example

```
<?php
$firstname = "Peter";
$lastname = "Griffin";
$age = "41";

$result = compact("firstname",
"lastname", "age");

print_r($result);
?>
```

## Out Put

```
Array
(
    [firstname] => Peter
    [lastname] => Griffin
    [age] => 41
)
```

# Functions on Array: sort()

sort()

## Example

```
<?php
$numbers = array(4, 6, 2, 22, 11);

sort($numbers);      //sort in ascending order
print_r ($numbers); //sort in ascending order

rsort($numbers);
print_r ($numbers);

?>
```



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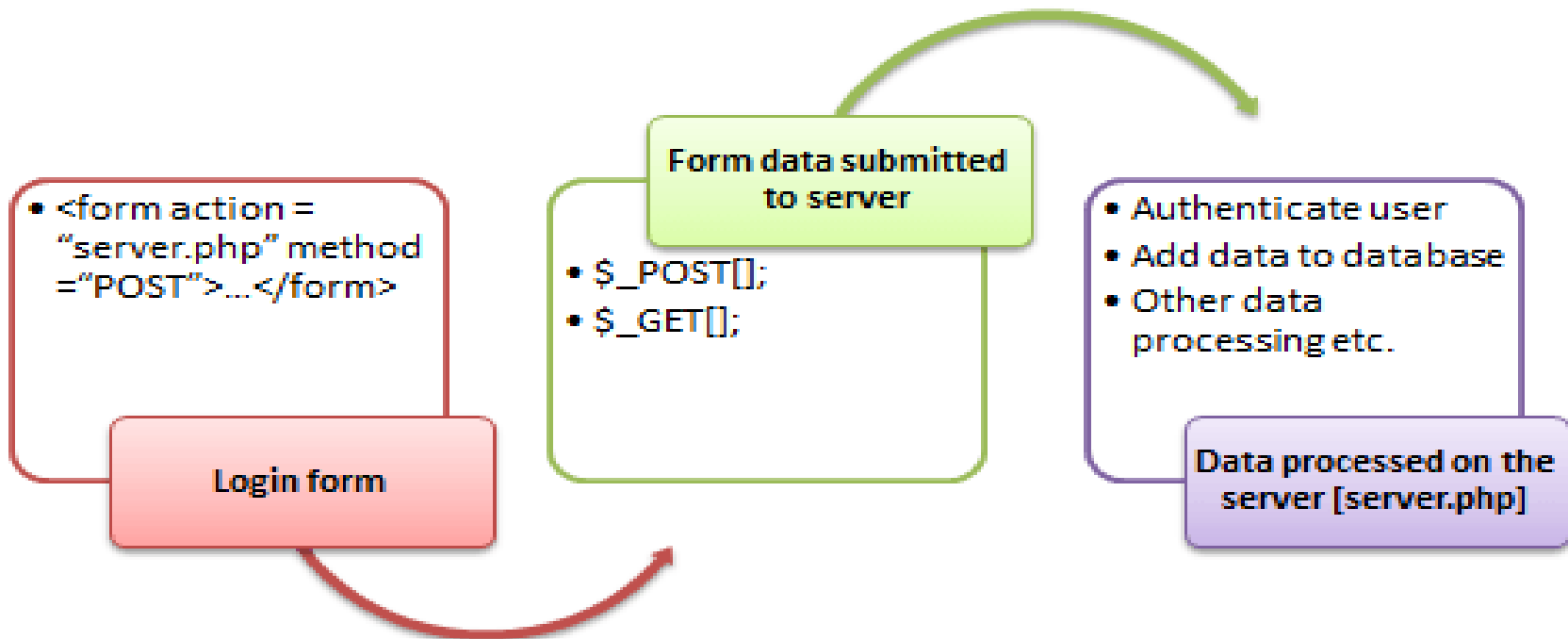
# FORM HANDLING IN PHP

## What is Form?

When you login into a website or into your mail box, you are interacting with a form.

Forms are used to get input from the user and submit it to the web server for processing.

The diagram below illustrates the form handling process.



# FORM HANDLING IN PHP

## When and why we are using forms?

Forms come in handy when developing flexible and dynamic applications that accept user input.

Forms can be used to edit already existing data from the database

## Create a form

We will use HTML tags to create a form. Below is the minimal list of things you need to create a form.

Opening and closing form tags `<form>...</form>`

Form submission type POST or GET

Submission URL that will process the submitted data

Input fields such as input boxes, text areas, buttons, checkboxes etc.

# FORM HANDLING IN PHP

## PHP POST method

This is the built in PHP super global array variable that is used to get values submitted via HTTP POST method.

The array variable can be accessed from any script in the program; it has a global scope.

This method is ideal when you do not want to display the form post values in the URL.

A good example of using post method is when submitting login details to the server.

It has the following syntax.

```
<?php
$_POST['variable_name'];
?>
```

HERE,

“\$\_POST[...]” is the PHP array

“variable\_name” is the URL variable name.

# FORM HANDLING IN PHP

## PHP GET method

This is the built in PHP super global array variable that is used to get values submitted via HTTP GET method.

The array variable can be accessed from any script in the program; it has a global scope.

This method displays the form values in the URL.

It's ideal for search engine forms as it allows the users to book mark the results.

It has the following syntax.

```
<?php
$_GET['variable_name'];
?>
```

HERE,

“\$\_GET[...]” is the PHP array

“variable\_name” is the URL variable name.

# POST VS GET IN PHP

POST	GET
Values not visible in the URL	Values visible in the URL
Has not limitation of the length of the values since they are submitted via the body of HTTP	Has limitation on the length of the values usually 255 characters. This is because the values are displayed in the URL. Note the upper limit of the characters is dependent on the browser.
Has lower performance compared to Php_GET method due to time spent encapsulation the Php_POST values in the HTTP body	Has high performance compared to POST method dues to the simple nature of appending the values in the URL.
Supports many different data types such as string, numeric, binary etc.	Supports only string data types because the values are displayed in the URL
Results cannot be book marked	Results can be book marked due to the visibility of the values in the URL

## FORM SUBMISSION POST METHOD

```
<form action="registration_form.php" method="POST">  
  First name: <input type="text" name="firstname"><br>  
  Last name: <input type="text" name="lastname">  
<br>  
  <input type="hidden" name="form_submitted" value="1"/>  
  <input type="submit" value="Submit">  
</form>
```

**Submission URL does not show form values**

localhost/tuttis/registration\_form.php

# POST VS GET IN PHP

## FORM SUBMISSION POST METHOD

```
<form action="registration_form.php" method="POST">  
  First name: <input type="text" name="firstname"><br>  
  Last name: <input type="text" name="lastname">  
  <br>  
  <input type="hidden" name="form_submitted" value="1"/>  
  <input type="submit" value="Submit">  
</form>
```

**Submission URL does not show form values**

localhost/tuttis/registration\_form.php

## FORM SUBMISSION GET METHOD

```
<form action="registration_form.php" method="GET">  
  First name: <input type="text" name="firstname"><br>  
  Last name: <input type="text" name="lastname">  
  <br>  
  <input type="hidden" name="form_submitted" value="1"/>  
  <input type="submit" value="Submit">  
</form>
```

**SUBMISSION URL SHOWS FORM VALUES**

localhost/tuttis/registration\_form.php?firstname=Smith&lastname=Jones&form\_submitted=1

# Form Handling- using Post Method

## a.html

```
<html>
<body>

<form action="welcome.php"
method="post">
Name:
  <input type="text" name="name">
<br>
<input type="submit">
</form>

</body>
</html>
```

## Welcome.php

```
<html>
<body>

Welcome

<?php
echo $_POST["name"];
?>

</body>
</html>
```



# Form Handling- using Get Method

## a.html

```
<html>
<body>

<form action="welcome.php"
method="get">
Name:
  <input type="text" name="name">
<br>
<input type="submit">
</form>

</body>
</html>
```

## Welcome.php

```
<html>
<body>

Welcome

<?php
echo $_GET["name"];
?>

</body>
</html>
```

# Form Handling-

## Difference between get and post method

- \$\_GET is an array of variables passed to the current **script via the URL parameters.**
- \$\_POST is an array of variables passed to the current script **via the HTTP POST method.**
  
- **When to use GET?**
- Information sent from a form with the GET method is **visible to everyone.** GET also has limits on the amount of information to send. The limitation is about 2000 characters.
  
- **When to use 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.

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# Cookie

- **What is a Cookie?**
- A cookie is often used to identify a user. A cookie is a small file that the server embeds on the user's computer. Each time the same computer requests a page with a browser, it will send the cookie too. With PHP, you can both create and retrieve cookie values.
- **Create Cookies With PHP-** is created with the `setcookie()` function.
- **Syntax**
- `setcookie(name, value, expire, path, domain, secure, httponly);`
- Only the *name* parameter is required. All other parameters are optional.

# Cookie-Create/Retrieve a Cookie

```
<?php
setcookie("name", "Amit", time() + (86400 * 30), "/"); // 86400 = 1 day
?>

<html>
<body>
<?php
if(isset($_COOKIE["name"]))
{
    $nm=$_COOKIE["name"];
    echo "Hello",$nm;
}
else { echo "Coocke is not set"; }
?>
</body>
</html>
```

# Cookie-Modifying a Cookie

- To modify a cookie, just set (again) the cookie using the `setcookie()` function:

# Cookie- Deleting Cookies

```
<?php
// set the expiration date to one hour ago
setcookie("user", "", time() - 3600);
?>
<html>
<body>

<?php
echo "Cookie 'user' is deleted.";
?>

</body>
</html>
```

# Sessions

- A session is a way to store information (in variables) to be used across multiple pages.
- Unlike a cookie, the information is not stored on the users computer.
- **What is a PHP Session?**
- When you work with an application, you open it, do some changes, and then you close it. This is much like a Session. The computer knows who you are. It knows when you start the application and when you end. But on the internet there is one problem: the web server does not know who you are or what you do, because the HTTP address doesn't maintain state.
- Session variables solve this problem by storing user information to be used across multiple pages (e.g. username, favorite color, etc). By default, session variables last until the user closes the browser.
- So; Session variables hold information about one single user, and are available to all pages in one application.



# Sessions- Start a Session

- A session is started with the `session_start()` function.
- Session variables are set with the PHP global variable: `$_SESSION`.
- **Example - `demo_session1.php`**

```
<?php
session_start(); // Start the session ?>
<html>
<body>
<?php
$_SESSION["favcolor"] = "green"; // Set session variable
echo "Session variables are set."; ?>
</body>
</html>
```

# Sessions: GetSession Variable Values

- Next, we create another page called "demo\_session2.php". From this page, we will access the session information we set on the first page ("demo\_session1.php").
- session variable values are stored in the global `$_SESSION` variable
- **Example- demo\_session2.php**

```
<?php
session_start(); ?>
<html>
<body>
<?php
// Echo session variables that were set on previous page
echo "Favorite color is " . $_SESSION["favcolor"];
?>
</body>
</html>
```

# Sessions- Modify a Session

- To change a session variable, just overwrite it:

```
<?php
session_start(); ?>
<html>
<body>
<?php
// to change a session variable, just overwrite it
$_SESSION["favcolor"] = "yellow";
print_r($_SESSION);
?>
</body>
</html>
```

# Sessions: Destroy a Session

- To remove all global session variables and destroy the session, use `session_unset()` and `session_destroy()`:
- **Example-**

```
<?php  
session_start(); ?>
```

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

```
<?php  
session_unset(); // remove all session variables  
session_destroy(); // destroy the session  
?>
```

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

# Outline

Introduction to PHP,

Features,

sample code,

PHP script working,

PHP syntax,

conditions & Loops,

Functions,

String manipulation,

Arrays & Functions,

Form handling,

Cookies & Sessions,

**Using MySQL with PHP,**

# Open a Connection to MySQL

```
<?php
// Create connection
$conn = new mysqli("localhost", "root", "");
//MySQLi extension (the "i" stands for improved)

// Check connection
if(!$conn){
    die('Could not connect: '.mysqli_connect_error());
}
echo 'Connected successfully<br/>';
?>
```

# Select Data From a MySQL Database

```
<?php
$conn = mysqli_connect('localhost', 'root', 'root', 'db1');
    if(!$conn){
        die(mysqli_connect_error());
    }
    echo 'Connected successfully<br>';

    $sql = 'SELECT * FROM STUD';
    $rs=mysqli_query($conn, $sql);
    $nrows= mysqli_num_rows($rs);
```

# Select Data From a MySQL Database

```
if($nrows > 0){
  while($row = mysqli_fetch_assoc($rs)){
    echo "ID :{$row['id']} <br>";
    echo "FNAME : {$row['firstname']} <br>";
    echo "LNAME : {$row['lastname']} <br>";
    echo "-----<br>";
  }
}
else { echo " No result"; }
mysqli_close($conn);
?>
```



# Outline

PHP

WAP & WML,

AJAX

# WAP & WML

# WAP- Introduction

WAP stands for Wireless Application Protocol

WAP is an application communication protocol

WAP is used to access services and information

WAP is for handheld devices such as mobile phones

WAP is a protocol designed for micro browsers

WAP enables the creating of web applications for mobile devices.

WAP uses the mark-up language WML

# WAP -Introduction

The basic aim of WAP is to provide a web-like experience on small portable devices - like mobile phones and PDAs



# WAP -Introduction

- **Purpose of WAP**

To enable easy, fast delivery of relevant information and services to mobile users.

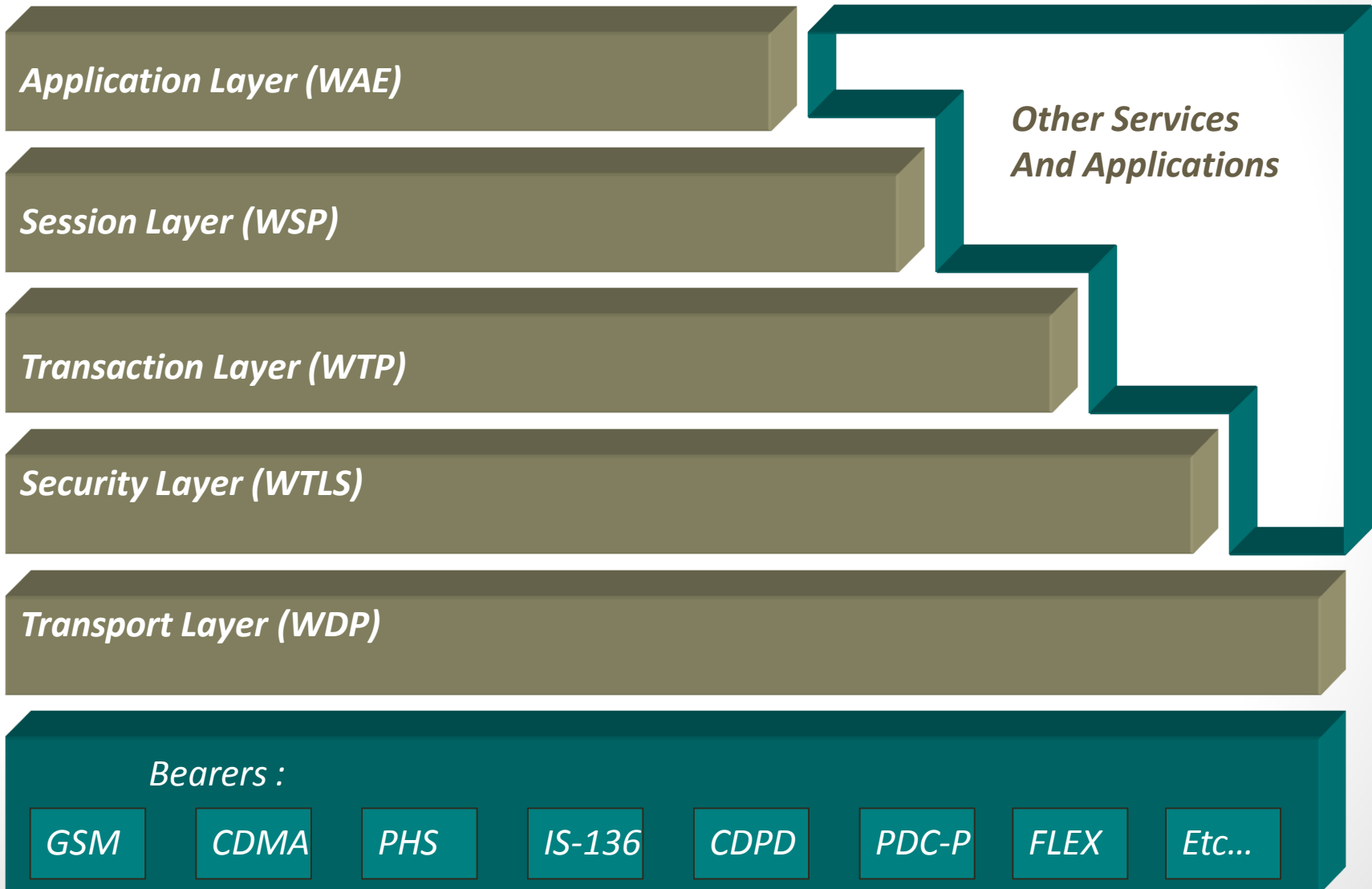
- **Type of devices that use WAP**

Handheld digital wireless devices such as mobile phones, pagers, two-way radios, smart phones and communicators -- from low-end to high-end.

- **Type of OS that use WAP**

It can be built on any operating system including Palm OS, EPOC 32, Windows CE, FLEXOS, OS/9, Java O

# Components of WAP Architecture



# Wireless Application Environment (WAE) - components

**Addressing model** –uses URL & URI

**WML**- similar feature like HTML

**WML script** – For user I/P validation

**WTA**(Wireless Telephony Application)

# Wireless Markup Language (WML)

- **WML** is the markup language defined in the WAP specification. WAP sites are written in **WML**, while web sites are written in HTML. **WML** is very similar to HTML. Both of them use tags and are written in plain text format.
- *WML* (Wireless Markup Language), formerly called **HDML (Handheld Devices Markup Languages)**, is a language that allows the text portions of Web pages to be presented on cellular telephones and personal digital assistants (PDAs) via wireless access.



# Wireless Markup Language

**WML follows a deck and card.**

- A WML document is made up of multiple cards.
- Cards can be grouped together into a deck.

**A WML deck is similar to an HTML page.**

- A user navigates with the WML browser through a series of WML cards.

# WML Elements with parameter

`<p> </p>`

text

`<a href=...> </a>`

hyperlink (anchor)

`<do> </do>`

action

`<go href=.../>`

goto wml page

`<timer>`

trigger event (units = tenths of a second)

`<input/>`

input user text

`<prev/>`

return to previous page

`$(...)`

value of variable

`<img src=... />`

display image

`<postfield name=... value=.../>`

set variable

`<select > <option> <option> </select>`

select box

# WML Structure

```
< ? xml version="1.0" ? >  
<!DOCTYPE wml ...>  
<wml>  
  <card>  
    <p>  
      Text....  
    </p>  
    <p>  
      Text.....  
    </p>  
  </card>  
  <card>  
    ...  
  </card>  
</wml>
```

# WML Example

```
<?xml version="1.0"?>
<wml>
  <card id="one" title="First Card">
    <p>
      This is the first card in the deck
    </p>
  </card>
  <card id="two" title="Second Card">
    <p>
      Ths is the second card in the deck
    </p>
  </card>
</wml>
```

# WML Scripts

- WMLScript (Wireless Markup Language Script) is the client-side scripting language of WML (Wireless Markup Language).
- A scripting language is similar to a programming language, but is of lighter weight.
- With WMLScript, the wireless device can do some of the processing and computation.
- This reduces the number of requests and responses to/from the server.

# WAP Applications

- Banking:
- Finance:
- Shopping:
- Ticketing:
- Entertainment:
- Weather:
- E- Messaging:

# Outline

PHP

WAP & WML,

AJAX

AJAX



# AJAX

- **What is AJAX?**
  - AJAX = **A**synchronous **J**avaScript **A**nd **X**ML.
  - AJAX is not a programming language.
  - AJAX just uses a combination of:
    - A browser built-in XMLHttpRequest object (to request data from a web server)
    - JavaScript and HTML DOM (to display or use the data)

# AJAX - Technologies

- AJAX cannot work independently. It is used in combination with other technologies to create interactive webpages.
- **JavaScript**
  - Loosely typed scripting language.
  - JavaScript function is called when an event occurs in a page.
  - Glue for the whole AJAX operation.
- **DOM**
  - API for accessing and manipulating structured documents.
  - Represents the structure of XML and HTML documents.
- **CSS**
  - Allows for a clear separation of the presentation style from the content and may be changed programmatically by JavaScript
- **XMLHttpRequest**
  - JavaScript object that performs asynchronous interaction with the server.

# AJAX – Real Time Examples

- Here is a list of some famous web applications that make use of AJAX.

## 1. Google Maps

- A user can drag an entire map by using the mouse, rather than clicking on a button.

## 2. Google Suggest

- As you type, Google offers suggestions. Use the arrow keys to navigate the results.

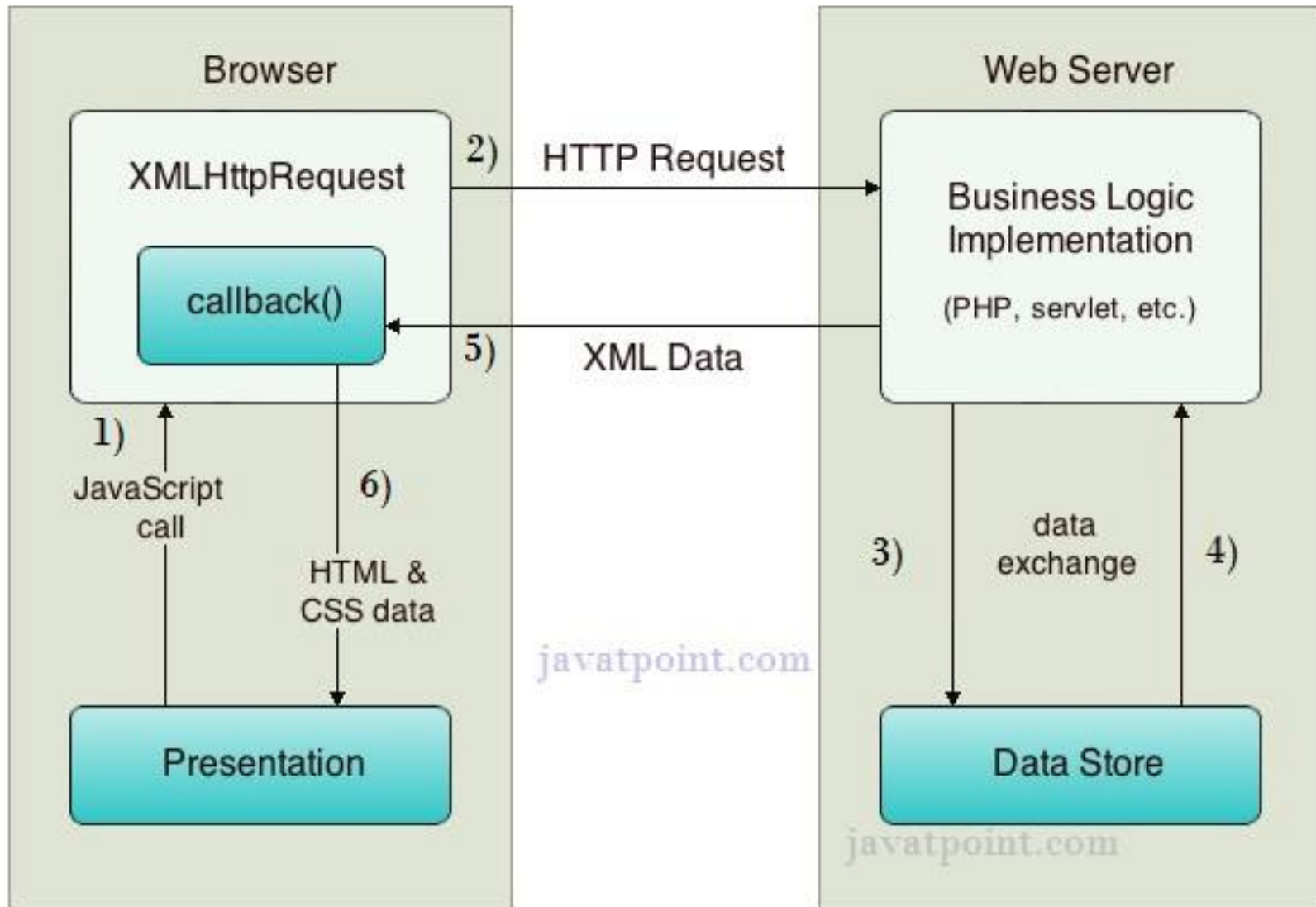
## 3. Gmail

- Gmail is a webmail built on the idea that emails can be more intuitive, efficient, and useful.

## 4. Yahoo Maps (new)

- Now it's even easier and more fun to get where you're going!

# How AJAX Works



# AJAX Processing Steps

- **Steps of AJAX Operation**

- A client event occurs.
- An XMLHttpRequest object is created.
- The XMLHttpRequest object is configured.
- The XMLHttpRequest object makes an asynchronous request to the Webserver.
- The Webserver returns the result containing XML document.
- The XMLHttpRequest object calls the callback() function and processes the result.
- The HTML DOM is updated.

# AJAX Example – table.html

with parameter

```
<html>
```

```
<head>
```

```
<script>
```

```
var request;
```

```
function sendInfo() {
```

```
var
```

```
v=document.f1.t1.value;
```

```
var
```

```
url="index.jsp?val="+v;
```

```
if(window.XMLHttpRequest){
```

```
    request=new
```

```
    XMLHttpRequest();
```

```
}
```

```
function getInfo(){
```

```
    if (request.readyState==4) {
```

```
        var val=request.responseText;
```

```
document.getElementById('amit').innerHTML=val;
```

```
    }
```

```
}
```

```
</script>
```

```
</head>
```

```
<body>
```

```
<h1>This is an example of ajax</h1>
```

```
<form name="f1">
```

```
<input type="text" name="t1">
```

```
<input type="button" value="ShowTable"  
onClick="sendInfo()">
```

```
</form>
```

```
<span id="amit"> </span>
```

```
</body>
```

```
</html>
```

# AJAX Example-index.jsp

```
<%
```

```
int n=Integer.parseInt(request.getParameter("val"));
```

```
for(int i=1;i<=10;i++)
```

```
out.print(i*n+"<br>");
```

```
%>
```

# AXAX Example output





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# Thank You

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