

COP 4610L: Applications in the Enterprise Spring 2006

Introduction to PHP – Part 1

Instructor : Mark Llewellyn
markl@cs.ucf.edu
CSB 242, 823-2790
<http://www.cs.ucf.edu/courses/cop4610L/spr2006>

School of Electrical Engineering and Computer Science
University of Central Florida



Introduction to PHP

- PHP is officially known as PHP: Hypertext Preprocessor and is very rapidly becoming the most popular server-side scripting language for creating dynamic web pages.
- PHP was created in 1994 by Rasmus Lerdorf (who currently works for Linuxcare, Inc. as a senior open-source researcher) to track users at his Web site. Lerdorf originally called it Personal Home Page Tools in a package he released in 1995. It eventually became an Apache Software Foundation project.
- PHP2 featured built-in database support and form handling. In 1997, PHP3 was released and featured a new parser which substantially increased performance and led to an explosion in PHP use.



Introduction to PHP (cont.)

- PHP4 featured the Zend Engine and was considerably faster and more powerful than its predecessors and further enhanced the popularity of PHP.
- The current release is PHP 5.1.2 and features the Zend Engine 2, which provides further increases in speed and functionality. You can download the latest version of PHP at www.php.net. For more details on the Zend Engine 2 see www.zend.com.
- Today more than 17 million domains utilize PHP technology.
- All of the examples we'll be looking at use the latest stable version of PHP which is 5.1.2 and was released in January 2006.



Introduction to PHP (cont.)

- The power of the Web resides not only in serving content to users, but also in responding to requests from users and generating Web pages with dynamic content.
- Interactivity between the user and the server has become a crucial part of Web functionality. While other languages can also perform these functions, PHP was written specifically for interacting with the Web.
- PHP code is embedded directly into XHTML documents. This allows the document author to write XHTML in a clear, concise manner, without having to use multiple `print` statements, as is necessary with other CGI-based languages.



Introduction to PHP (cont.)

- PHP script file names usually end with `.php`, although a server can be configured to handle other file extensions.
- To run a PHP script, PHP must first be installed on your system. Download PHP 5.1.2 from www.php.net. (Most recent version is 5.1.2, but any of the 5.1.x versions should be ok.)
- Although PHP can be used from the command line, a Web server is required to take full advantage of the scripting language. I would suggest the Apache server available from www.apache.org. (Note: this is not the Tomcat server you've already used.) Current version is 2.0.55 which just fixed a few simple bugs from some of the earlier versions (mostly in the security area). I would expect that any of the 2.0.x versions would be ok for what we will be doing.



Test Page for Apache Installation - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Recycle Bin Mail Print Taskbar Search AutoLink AutoFill Options

Address http://localhost:8081/ Go Links

Google Search 7 blocked Check AutoLink AutoFill Options


If you can see this, it means that the installation of the [Apache web server](#) software on this system was successful. You may now add content to this directory and replace this page.

Seeing this instead of the website you expected?

This page is here because the site administrator has changed the configuration of this web server. Please **contact the person responsible for maintaining this server with questions**. The Apache Software Foundation, which wrote the web server software this site administrator is using, has nothing to do with maintaining this site and cannot help resolve configuration issues.

The Apache [documentation](#) has been included with this distribution.

You are free to use the image below on an Apache-powered web server. Thanks for using Apache!



Done Local intranet

Note: since we will ultimately want to integrate Tomcat with Apache so that we can continue to run our servlets and JSPs through Tomcat, we'll set-up Apache on a different port than Tomcat. I've set-up Apache on port 8081, you can use whatever port you would like that does not cause conflicts with existing port assignments.



Apache Server Set-up

- Once you get the Apache Server downloaded and running on your machine...you've seen the screen on the previous page, you'll need to configure Apache to work with PHP.
- There are a couple of steps required to accomplish this task:
 1. Assume that you've downloaded PHP and placed it in the directory `c:/php`.
 2. Add the PHP directory to the PATH statement.
 3. Setup a valid configuration file for PHP. Do the following:
 - a) Copy `php.ini-recommend` inside `c:/php` and rename it to `php.ini`.

Details for obtaining the Apache HTTP server and PHP 5.1.2 begin on page 40.



Apache Server Set-up (cont.)

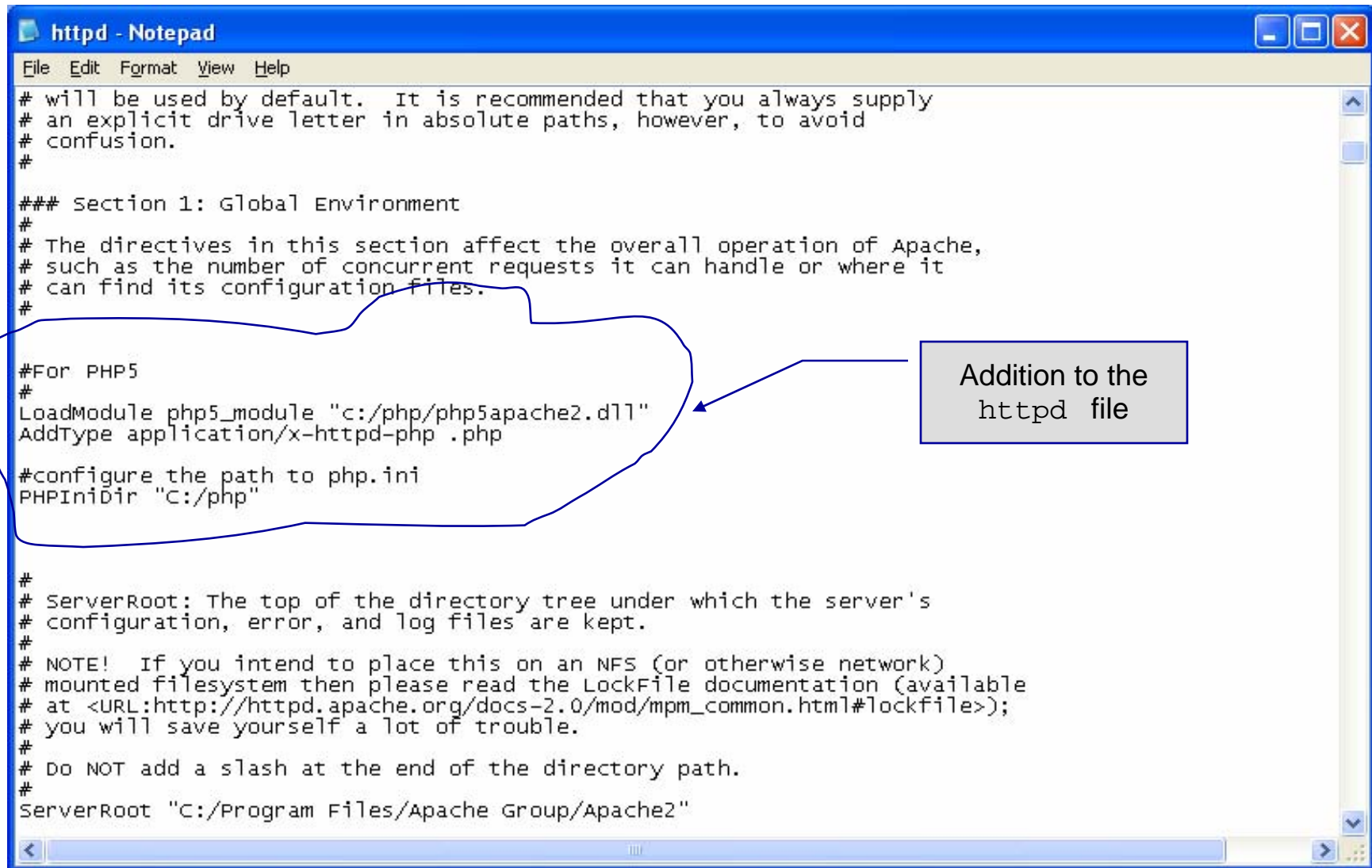
4. Install PHP as an Apache module by doing the following:
 - a) Edit the Apache `httpd.conf` file found in the `Apache conf` directory.
 - b) Add the following lines to this file in Section1: Global Environment. (screen shot on next page shows location of this edit)

```
#For PHP5
#
LoadModule php5_module "c:/php/php5apache2.dll"
AddType application/x-httpd-php .php
#configure the path to php.ini
PHPIniDir "C:/php"
```

5. Once these steps are completed, Apache is configured to run PHP (basic components – more later). When you've completed these steps, you can begin writing PHP code.



Apache Server Set-up (cont.)



```
File Edit Format View Help
# will be used by default. It is recommended that you always supply
# an explicit drive letter in absolute paths, however, to avoid
# confusion.
#
### Section 1: Global Environment
#
# The directives in this section affect the overall operation of Apache,
# such as the number of concurrent requests it can handle or where it
# can find its configuration files.
#
#For PHP5
#
LoadModule php5_module "c:/php/php5apache2.dll"
AddType application/x-httpd-php .php
#configure the path to php.ini
PHPIniDir "C:/php"
#
# ServerRoot: The top of the directory tree under which the server's
# configuration, error, and log files are kept.
#
# NOTE! If you intend to place this on an NFS (or otherwise network)
# mounted filesystem then please read the LockFile documentation (available
# at <URL:http://httpd.apache.org/docs-2.0/mod/mpm_common.html#lockfile>);
# you will save yourself a lot of trouble.
#
# Do NOT add a slash at the end of the directory path.
#
ServerRoot "C:/Program Files/Apache Group/Apache2"
```



A PHP Test Example

Create this file named `hello.php` and save it to the `htdocs` folder in Apache. Then start the Apache server, enter the URL: <http://localhost:8081/hello.php> and you should see output similar to that shown on the next slide.

```
<html>
<head>
<title>Hello From PHP</title>
</head>
<body style = "font-family: arial, sans-serif;
    background-color: #856363" background=image1.jpg>
<h1> Hello From PHP</h1>
```

```
<?
    print "Current Information";
    phpInfo();
?>
```

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


This is
PHP



Microsoft Internet Explorer window titled "Hello From PHP". The address bar shows `http://localhost:8081/hello.php`. The page content includes:

Hello From PHP

Current Information

PHP Version 5.1.2 

| | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------|
| System | Windows NT UCF-14431AD1E49 5.1 build 2600 |
| Build Date | Jan 11 2006 16:35:21 |
| Configure Command | <code>cscript /nologo configure.js "--enable-snapshot-build" "--with-gd=shared"</code> |
| Server API | Apache 2.0 Handler |
| Virtual Directory Support | enabled |
| Configuration File (php.ini) Path | E:\WINDOWS |
| PHP API | 20041225 |
| PHP Extension | 20050922 |
| Zend Extension | 220051025 |
| Debug Build | no |
| Thread Safety | enabled |
| Zend Memory Manager | enabled |
| IPv6 Support | enabled |
| Registered PHP Streams | php, file, http, ftp, compress.zlib |
| Registered Stream Socket Transports | tcp, udp |
| Registered Stream Filters | convert.iconv.*, string.rot13, string.toupper, string.tolower, string.strip_tags, convert.*, zlib.* |

This program makes use of the Zend Scripting Language Engine: Powered By




Basic Configuration of PHP - Microsoft Internet Explorer

File Edit View Favorites Tools Help


Address <http://localhost:8081/info.php>

PHP Version 5.1.2



| | |
|-------------------------------------|------------------------------------------------------------------------------|
| System | Windows NT UCF-14431AD1E49 5.1 build 2600 |
| Build Date | Jan 11 2006 16:35:21 |
| Configure Command | csript /nologo configure.js "--enable-snapshot-build" "--with-gd=shared" |
| Server API | Apache 2.0 Handler |
| Virtual Directory Support | enabled |
| Configuration File (php.ini) Path | E:\WINDOWS\php.ini |
| PHP API | 20041225 |
| PHP Extension | 20050922 |
| Zend Extension | 220051025 |
| Debug Build | no |
| Thread Safety | enabled |
| Zend Memory Manager | enabled |
| IPv6 Support | enabled |
| Registered PHP Streams | php, file, http, ftp, compress.zlib |
| Registered Stream Socket Transports | tcp, udp |
| Registered Stream Filters | convert.iconv.*, string.rot13, string.toupper, string.lower, string.stzlib.* |

This program makes use of the Zend Scripting Language Engine:
 Zend Engine v2.1.0, Copyright (c) 1998-2006 Zend Technologies

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Local intranet

The default directory for the php.ini file will be the system directory C:/WINDOWS unless you set the path to the c:/php directory using the technique shown on page 7




Basic Configuration of PHP - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://localhost:8081/info.php


Google Search 7 blocked Check AutoLink AutoFill Options

PHP Version 5.1.2



| | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------|
| System | Windows NT UCF-14431AD1E49 5.1 build 2600 |
| Build Date | Jan 11 2006 16:35:21 |
| Configure Command | csript /nologo configure.js "--enable-snapshot-build" "--with-gd=shared" |
| Server API | Apache 2.0 Handler |
| Virtual Directory Support | enabled |
| Configuration File (php.ini) Path | E:\PHP\php.ini |
| PHP API | 20041225 |
| PHP Extension | 20050922 |
| Zend Extension | 220051025 |
| Debug Build | no |
| Thread Safety | enabled |
| Zend Memory Manager | enabled |
| IPv6 Support | enabled |
| Registered PHP Streams | php, file, http, ftp, compress.zlib |
| Registered Stream Socket Transports | tcp, udp |
| Registered Stream Filters | convert.iconv.*, string.rot13, string.toupper, string.tolower, string.strip_tags, convert.*, zlib.* |

This program makes use of the Zend Scripting Language Engine:
 Zend Engine v2.1.0, Copyright (c) 1998-2006 Zend Technologies

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Done Local intranet

The default directory for the php.ini file reset using the technique shown on page 7



A First PHP Example

- The following two pages illustrate a simple PHP “hello world” program.
- In PHP, code is inserted between the scripting delimiters `<?php` and `?>`. PHP code can be placed anywhere in XHTML markup, as long as the code is enclosed in these scripting delimiters.



welcome.php Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">

<!-- welcome.php -->
<!-- XHTML file containing a PHP script. -->

<?php
    $name = "Mark";    //php declaration and assignment
?>

<html xmlns = "http://www.w3.org/1999/xhtml">

    <!-- head section of document -->
    <head>
        <title>A Simple PHP Document</title>
    </head>

    <!-- body section of document -->
    <body style = "font-size: 2em">
        <hr>
        <font color = blue><h1> Generating HTML From PHP </h1></font color>
        <p>
```

PHP code
declaring a
variable.



welcome.php Example

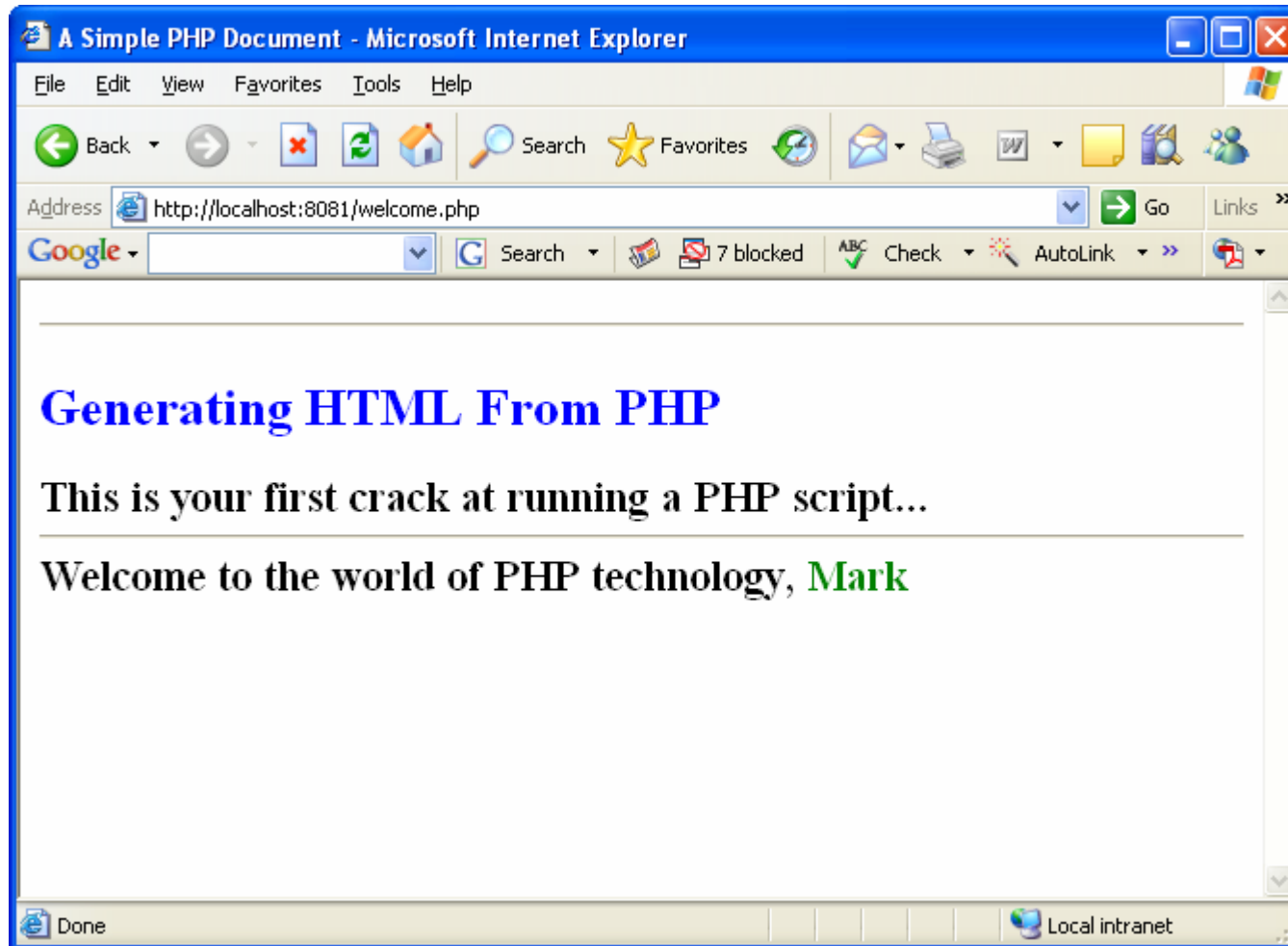
```
<strong>
  <!--print variable name's value in the message-->
  {
  <?php
    print("This is your first crack at running a PHP script...");
    print("<HR>");
    print("Welcome to the world of PHP technology, ");
  ?>
  <font color = green>
  {
  <?php
    print("$name");
  ?>
  </font color>
  }
  </strong>
</p>
</body>
</html> <!-- end XHTML document -->
```

PHP code

PHP code



welcome.php Example Output



Viewing Client/Server Environment Variables

- Knowledge of a client's execution environment is useful to system administrators who want to provide client-specific information.
- Environment variables contain information about a script's environment, such as the client's web browser, the HTTP host and the HTTP connection.
 - The table on the next page summarizes some of the superglobal arrays defined by PHP.
- The XHTML document on page 19 displays the values of the server's environment variables in a table. PHP stores the server variables and their values in the `$_SERVER` array. Iterating through the array allows one to view all of the server's environment variables.



Some Superglobal Environment Arrays

| Variable Name | Description |
|------------------------|------------------------------------------------------------|
| <code>\$_SERVER</code> | Data about the currently running server. |
| <code>\$_ENV</code> | Data about the client's environment. |
| <code>\$_GET</code> | Data posted to the server by the <code>get</code> method. |
| <code>\$_POST</code> | Data posted to the server by the <code>post</code> method. |
| <code>\$_COOKIE</code> | Data contained in cookies on the client's computer. |
| <code>\$GLOBALS</code> | Array containing all global variables. |



server.php Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<!-- server.php -->
<!-- Program to display $_SERVER variables -->
<html xmlns = "http://www.w3.org/1999/xhtml">
  <head>
    <title>SERVER Variables Display</title>
  </head>

  <body style = "font-family: arial, sans-serif;
  background-color: #856363" background=image1.jpg>

  <table border = "0" cellpadding = "2" cellspacing = "0"
  width = "100%">
  <?php
  // print the key and value for each element
  // in the $_SERVER array
  foreach ( $_SERVER as $key => $value )
    print( "<tr><td bgcolor = \"#11bbff\">
    <strong>$key</strong></td> <td>$value</td></tr>" );
  ?>
  </table>
</body>
</html>
```

Iterate through the
\$_SERVER array to list all
of the SERVER variables for
the current server on which
PHP is running.



Output from
executing
server.php

```
SERVER Variables Display - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites
Address http://localhost:8081/server.php Go Links
Google Search 7 blocked Check AutoLink
HTTP_ACCEPT */*
HTTP_ACCEPT_LANGUAGE en-us
HTTP_ACCEPT_ENCODING gzip, deflate
HTTP_USER_AGENT Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; SV1)
HTTP_HOST localhost:8081
HTTP_CONNECTION Keep-Alive
PATH E:\WINDOWS\system32;E:\WINDOWS;E:\WINDOWS\System32\Wbem;E:\Program
Files\Common Files\Adobe\AGL;E:\Program Files\Common Files\Roxio
Shared\DLLShared;E:\Program Files\SSH Communications Security\SSH Secure
Shell;E:\Program Files\Java\jdk1.5.0_06\bin
SystemRoot E:\WINDOWS
COMSPEC E:\WINDOWS\system32\cmd.exe
PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH
WINDIR E:\WINDOWS
SERVER_SIGNATURE Apache/2.0.55 (Win32) PHP/5.1.2 Server at localhost Port 8081
SERVER_SOFTWARE Apache/2.0.55 (Win32) PHP/5.1.2
SERVER_NAME localhost
SERVER_ADDR 127.0.0.1
SERVER_PORT 8081
REMOTE_ADDR 127.0.0.1
DOCUMENT_ROOT E:/Program Files/Apache Group/Apache2/htdocs
SERVER_ADMIN admin@cs.ucf.edu
SCRIPT_FILENAME E:/Program Files/Apache Group/Apache2/htdocs/server.php
REMOTE_PORT 1846
GATEWAY_INTERFACE CGI/1.1
SERVER_PROTOCOL HTTP/1.1
REQUEST_METHOD GET
QUERY_STRING
```



Form Processing and Business Logic

- XHTML forms enable web pages to collect data from users and send it to a web server for processing.
- Interaction of this kind between users and web servers is vital to e-commerce applications. Such capabilities allow users to purchase products, request information, send and receive web-based email, perform on-line paging and take advantage of various other online services.
- The XHTML document on the next few pages collects information from a user for the purposes of adding them to a mailing list.
- The PHP file on page 23 validates the data entered by the user through the form and “registers” them in the mailing list database.



form.html Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<!-- form.html -->
```

```
<!-- Form for use with the form.php program -->
```

```
<html xmlns = "http://www.w3.org/1999/xhtml">
```

```
<head>
```

```
<title>Sample form to take user input in XHTML</title>
```

```
</head>
```

```
<body>
```

```
<h1>This is a sample registration form.</h1>
```

Please fill in all fields and click Register.

```
<!-- post form data to form.php -->
```

```
<form method = "post" action = "form.php">
```

```
<img src = "images/user.gif" alt = "User" /><br />
```

```
<span style = "color: blue">
```

```
  Please fill out the fields below.<br />
```

```
</span>
```

```
<!-- create four text boxes for user input -->
```

```
<img src = "images/fname.gif" alt = "First Name" />
```

```
<input type = "text" name = "fname" /><br />
```

This XHTML document generates the form that the user will submit to the server via form.php



```
<img src = "images/lname.gif" alt = "Last Name" />
<input type = "text" name = "lname" /><br />
<img src = "images/email.gif" alt = "Email" />
<input type = "text" name = "email" /><br />
<img src = "images/phone.gif" alt = "Phone" />
<input type = "text" name = "phone" /><br />
<span style = "font-size: 10pt">
  Must be in the form (555)555-5555</span>
<br /><br />
<img src = "images/downloads.gif"
  alt = "Products" /><br />

<span style = "color: blue">
  Which publication would you like information about?
</span><br />

<!-- create drop-down list containing magazine names -->
<select name = "magazine">
  <option>Velo-News</option>
  <option>Cycling Weekly</option>
  <option>Pro Cycling</option>
  <option>Cycle Sport</option>
  <option>RadSport</option>
  <option>Mirror du Cyclisme</option>
</select>
<br /><br />
```




```
<img src = "images/os.gif" alt = "Operating System" />
<br /><span style = "color: blue">
  Which operating system are you currently using?
<br /></span>
<!-- create five radio buttons -->
<input type = "radio" name = "os" value = "Windows XP"
  checked = "checked" />
  Windows XP
<input type = "radio" name = "os" value =
  "Windows 2000" />
  Windows 2000
<input type = "radio" name = "os" value =
  "Windows 98" />
  Windows 98<br />
<input type = "radio" name = "os" value = "Linux" />
  Linux

<input type = "radio" name = "os" value = "Other" />
  Other<br />

<!-- create a submit button -->
<input type = "submit" value = "Register" />
</form>

</body>
</html>
```



form.php Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<!-- form.php -->
```

```
<!-- Read information sent from form.html -->
```

```
<html xmlns = "http://www.w3.org/1999/xhtml">
```

```
<head>
```

```
<title>Form Validation</title>
```

```
</head>
```

```
<body style = "font-family: arial,sans-serif">
```

```
<?php
```

```
extract($_POST);
```

```
// determine whether phone number is valid and print an error message if not
```

```
if ( !ereg( "^([0-9]{3})[0-9]{3}-[0-9]{4}$",
```

```
$phone ) ) {
```

```
print( "<p><span style = \"color: red; font-size: 2em\">
```

```
INVALID PHONE NUMBER:</span><br />
```

```
A valid phone number must be in the form
```

```
<strong>(555)555-5555</strong><br />
```

```
<span style = \"color: blue\">
```

```
Click the Back button, enter a valid phone number and resubmit.<br /><br />
```

```
Thank You.</span></p></body></html> " );
```

```
die(); // terminate script execution
```

```
}
```

```
?>
```

Function extract (associativeArray) creates a variable-value pair corresponding to each key-value pair in the associative array \$_POST.

See page 28 for explanation of regular expressions.

Function die() terminates script execution. An error has occurred, no need to continue.



```

<p>Hi
  <span style = "color: blue"> <strong> <?php print( "$fname" ); ?> </strong> </span>.
  Thank you for completing the survey.<br />
  You have been added to the <span style = "color: blue">
    <strong> <?php print( "$magazine " ); ?> </strong> </span> mailing list.
</p>
<strong>The following information has been saved in our database:</strong><br />
<table border = "0" cellpadding = "0" cellspacing = "10">
  <tr>
    <td bgcolor = "#ffffaa">Name </td>
    <td bgcolor = "#ffffbb">Email</td>
    <td bgcolor = "#ffffcc">Phone</td>
    <td bgcolor = "#ffffdd">OS</td>
  </tr>
  <tr>
    <?php
      // print each form field's value
      print( "<td>$fname $lname</td> <td>$email</td> <td>$phone</td> <td>$os</td>" );
    ?>
  </tr>
</table>
<br /><br /><br />
<div style = "font-size: 10pt; text-align: center">
  This is only a sample form.  You have not been added to a mailing list.
</div>
</body>
</html>

```



Sample form to take user input in XHTML - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost:8081/form.html> Go Links >>

This is a sample registration form.

Please fill in all fields and click Register.

User Information

Please fill out the fields below.

First Name

Last Name

Email

Phone

Must be in the form (555)555-5555

Publications

Which publication would you like information about?

Velo-News

Operating System

Which operating system are you currently using?

Windows XP Windows 2000 Windows 98

Linux Other

Done Local intranet

Execution of form.html within a web browser



Form Validation - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address http://localhost:8081/form.php Go Links

Hi **Mark**. Thank you for completing the survey.
You have been added to the **Pro Cycling** mailing list.

The following information has been saved in our database:

| Name | Email | Phone | OS |
|----------------|------------------|---------------|------------|
| Mark Llewellyn | markl@cs.ucf.edu | (407)823-2790 | Windows XP |

This is only a sample form. You have not been added to a mailing list.

Done Local intranet

After execution of form.php has verified correct entries made within the form.



Sample form to take user input in XHTML - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address <http://localhost:8081/form.html> Go Links

This is a sample registration form.

Please fill in all fields and click Register.

User Information

Please fill out the fields below.

First Name

Last Name

Email

Phone

Must be in the form (555)555-5555

Publications

Which publication would you like information about?

Operating System

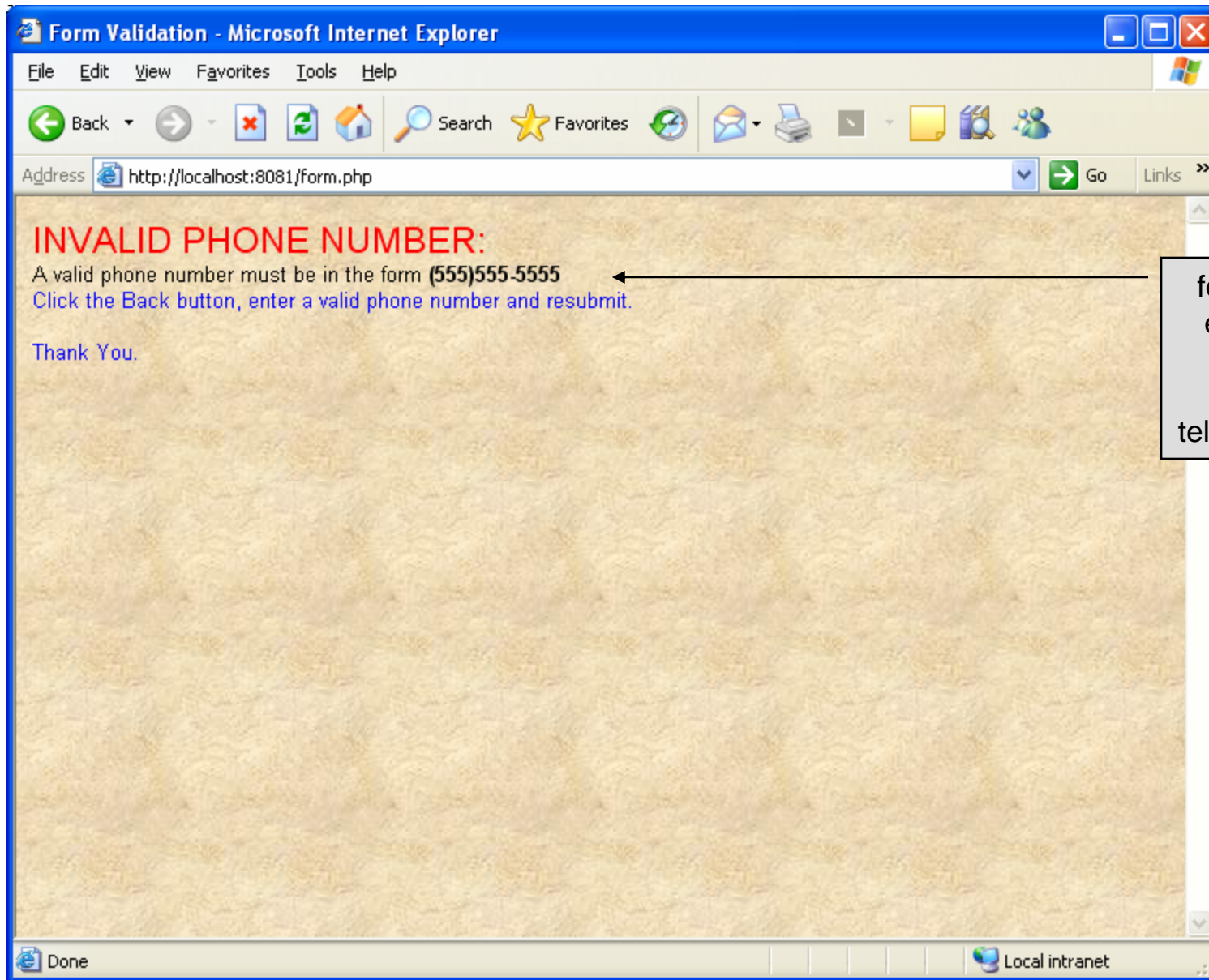
Which operating system are you currently using?

Windows XP Windows 2000 Windows 98
 Linux Other

Done Local intranet

User enters an improperly formatted telephone number in the form.





form.php issues error regarding improperly formatted telephone number.



How the Form Example Works

- The `action` attribute of the `form` element, indicates that when the user clicks the `Register` button, the form data will be posted to `form.php` for processing.
- Using `method = "post"` appends the form data to the browser request that contains the protocol (i.e., HTTP) and the requested resource's URL. Scripts located on the web server's machine (or accessible through the network) can access the form data sent as part of the request.
- Each of the form's input fields are assigned a unique name. When `Register` is clicked, each field's name and value are sent to the web server.
- Script `form.php` then accesses the value for each specific field through the global array `$_POST`.



How the Form Example Works (cont.)

- The superglobal arrays are associative arrays predefined by PHP that hold variable acquired from the user input, the environment, or the web server and are accessible in any variable scope.
 - If the information from the form had been submitted via the HTTP method `get`, then the superglobal array `$_GET` would contain the name-value pairs.
- Since the HTML form and the PHP script “communicate” via the name-value pairs, it is a good idea to make the XHTML object names meaningful so that the PHP script that retrieves the data is easier to understand.



Register_globals

- In PHP versions 4.2 and higher, the directive `register_globals` is set to `Off` by default for security reasons.
- Turning off `register_globals` means that all variables sent from an XHTML form to a PHP document now must be accessed using the appropriate superglobal array (either `$_POST` or `$_GET`).
- When this directive was turned On, as was the default case in PHP versions prior to 4.2, PHP created an individual global variable corresponding to each form field.



Validation of Form Generated Data

- The form example illustrates an important concept in the validation of user input. In this case, we simply checked the validity of the format of the telephone number entered by the client user.
- In general, it is crucial to validate information that will be entered into database or used in mailing lists. For example, validation can be used to ensure that credit-card numbers contain the proper number of digits before the numbers are encrypted to a merchant.
- In this case, the form.php script is implementing the **business logic** or **business rules** for our application.



Pattern Matching in PHP

- For powerful string comparisons (pattern matching), PHP provides functions `ereg` and `preg_match`, which use regular expressions to search a string for a specified pattern.
- Function `ereg` uses **Portable Operating System Interface (POSIX) extended regular expressions**.
 - POSIX-extended regular expressions are a standard to which PHP regular expression conform.
- Function `preg_match` provides **Perl-compatible regular expressions**.
- Perl-compatible regular expressions are more widely used than POSIX regular expressions. PHP's support for Perl-compatible regular expressions eases migration from Perl to PHP. The following examples illustrate these concepts.



expression.php - Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<!-- expression.php -->
<!-- Using regular expressions -->
<html xmlns = "http://www.w3.org/1999/xhtml">
  <head>
    <title>Regular expressions</title>
  </head>
  <body>
    <?php
      $search = "Now is the time";
      print( "Test string is: '$search'<br /><br />" );
      // call function ereg to search for pattern 'Now' in variable search
      if ( ereg( "Now", $search ) )
        print( "String 'Now' was found.<br />" );

      // search for pattern 'Now' in the beginning of the string
      if ( ereg( "^Now", $search ) )
        print( "String 'Now' found at beginning of the line.<br />" );

      // search for pattern 'Now' at the end of the string
      if ( ereg( "Now$", $search ) )
        print( "String 'Now' was found at the end of the line.<br />" );
```

^ matches at beginning
of a string

\$ matches at end of a
string



```

// search for any word ending in 'ow'
if ( ereg( "[[:<:]]([a-zA-Z]*ow)[[:>:]]", $search,
    $match ) )
    print( "Word found ending in 'ow': " .
        $match[ 1 ] . "<br />" );

// search for any words beginning with 't'
print( "Words beginning with 't' found: " );

while ( eregi( "[[:<:]](t[[:alpha:]]+)[[:>:]]",
    $search, $match ) ) {
    print( $match[ 1 ] . " " );

    // remove the first occurrence of a word beginning
    // with 't' to find other instances in the string
    $search = ereg_replace( $match[ 1 ], "", $search );
}

print( "<br />" );
?>
</body>
</html>

```

Uses a regular expression to match a word ending in "ow".



Output From `expression.php` - Example



Getting The Apache HTTP Server

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Welcome!

The Apache Software Foundation provides support for the Apache community of open-source software projects. The [Apache projects](#) are characterized by a collaborative, consensus based development process, an open and pragmatic software license, and a desire to create high quality software that leads the way in its field. We consider ourselves not simply a group of projects sharing a server, but rather a community of developers and users.

Support the Apache Software Foundation

You are invited to participate in The Apache Software Foundation. Our [membership](#) consists of those individuals who have demonstrated a commitment to collaborative open-source software development through sustained participation and contributions within the Foundation's projects. Of course, you can contribute to the foundation in many ways:

[Buy Apache Gear](#) [Donate your old car](#) [Donate via PayPal](#) [Support FAQ](#)

Latest News

If you would like to keep up with news and announcements from the foundation and all its projects, you can subscribe to the new [Apache Announcements List](#).

projects.apache.org Now Open

Have you ever wondered how to get an idea of all the different projects under the Apache Software Foundation umbrella? Many interesting hours can be spent browsing our project websites to find those interesting gems. But now there is also an alternative.

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Get Involved

From the main www.apache.org webpage, select the HTTP Server link.



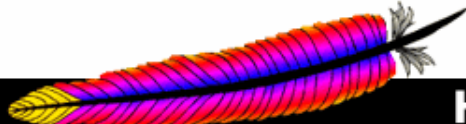
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The Number One HTTP Server On The Internet

The Apache HTTP Server Project is an effort to develop and maintain an open-source HTTP server for modern operating systems including UNIX and Windows NT. The goal of this project is to provide a secure, efficient and extensible server that provides HTTP services in sync with the current HTTP standards.

Apache has been the most popular web server on the Internet since April 1996. The November 2005 Netcraft survey shows that more than 70% of the web sites on the Internet are using Apache, thus making it more widely used than any other web server.

The Apache HTTP Server is a project of the [Apache Software Foundation](#).

Apache 2.2.0 Released

The Apache HTTP Server Project is proud to [announce](#) the release of version 2.2.0 of the Apache HTTP Server ("Apache").

This version of Apache is a major release and the start of a new stable branch, and represents the best available version of Apache HTTP Server. [New features](#) include Smart Filtering, Improved Caching, AJP Proxy, Proxy Load Balancing, Graceful Shutdown support, Large File Support, the Event MPM, and refactored Authentication/Authorization.

[Download](#) | [New Features in Apache 2.2](#) | [ChangeLog for 2.2](#)

Apache 2.0.55 Released

The Apache HTTP Server Project is proud to [announce](#) the release of version 2.0.55 of the Apache HTTP Server ("Apache").

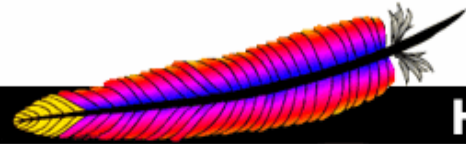
This version of Apache is principally a security and bug fix release.

For further details, see the [announcement](#).

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From the main HTTP Server page, select download from a mirror site.





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Downloading the Apache HTTP Server

Use the links below to download the Apache HTTP Server from one of our mirrors. You **must verify the integrity** of the downloaded files using signatures downloaded from our main distribution directory.

Only current recommended releases are available on the main distribution site and [download site](#).

If you are downloading the Win32 distribution, please read these [important notes](#).

Mirror

The currently selected mirror is <http://apache.mirrors.hoobly.com>. If you encounter a problem with this mirror, please select another mirror. If all mirrors are failing, there are *backup* mirrors (at the end of the mirrors list) that should be available.



Other mirrors:

You may also consult the [complete list of mirrors](#).

Apache HTTP Server 2.2.0 is the best available version

For details see the [Official Announcement](#) and the [CHANGES_2.2](#) list.

Apache 2.2 add-in modules are not compatible with Apache 2.0 or 1.3 modules. If you are running third party add-in modules, you will need to obtain new modules written for Apache 2.2 from that third party before you attempt to upgrade from Apache 2.0.

Either accept the default mirror site or select another.

Choose your option from the 2.0.55 version

PHP: Hypertext Preprocessor - Microsoft Internet Explorer

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search for phpInfo() in the function list

What is PHP?

PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML. If you are new to PHP and want to get some idea of how it works, try the [introductory tutorial](#). After that, check out the online [manual](#), and the example archive sites and some of the other resources available in the [links section](#).

Ever wondered how popular PHP is? see the [Netcraft Survey](#).

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[Yahoo! Inc.](#)

php|tek 2006

[02-Mar-2006] The [php|tek 2006 conference](#) will take place in Orlando, Florida, April 25-28.

This year's speaker roster features many well-known PHP and open-source experts: Lerdorf, IBM's Rod Smith and Zend's Andi Gutmans, speaking on a variety of topics on scalability, robustness and future.

PHP Quebec 2006

[26-Feb-2006] The [PHP Quebec team](#) is pleased to announce the 4th edition of the [PHP Quebec Conference](#). This year, the conference will be held at the Montreal Plaza Hotel from March 29th to 31st. It features 2 days of technical learning and an additional day of workshop. Among the speakers, the well known PHP Experts such as Rasmus Lerdorf, Andrei Zmeivski, Derick Rethans and Ilia Alshanetsky.

The conference will have three distinct tracks of session: Advanced Techniques, Professional Development and Databases. With over 31 sessions, including workshops, the PHP Québec Conference is great opportunity to learn about the latest PHP techniques and professional development techniques to help you build high quality PHP software. The conference will also present the various storage solutions available such as IBM DB2, PostgreSQL, SQLite and MySQL.

Early bird pricing are available until march 3rd.
 Learn more about this [exciting conference](#).

Upcoming Events [\[add\]](#)

April

Users group

- 11. [Dallas PHP Users Group \(DPUG\)](#)
- 11. [Austin PHP Meetup](#)
- 11. [OKC PHP Meetup](#)
- 12. [Wash DC PHP Developers Group](#)
- 13. [Meeting usergroup Dortmund](#)
- 13. [PHP Usergroup Frankfurt/Main](#)
- 13. [AperoPHP Lille](#)
- 14. [Apéroweb Rennes](#)
- 15. [Kansas City](#)
- 15. [Los Angeles LAMP SIG](#)
- 15. [Miami Linux Users Group](#)
- 15. [Twin Cities PHP](#)
- 15. [PHP on the IBM System i5](#)
- 18. [Madison PHP User's Group](#)
- 19. [Miami PHP User Group](#)
- 19. [Broward Php Usergroup](#)

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search for _____ in the function list

Binaries for other systems

We do not distribute UNIX/Linux binaries. Most Linux distributions come with PHP these days, so if you do not want to compile your own, go to your distribution's download site. Binaries available on external servers:

[AS/400](#)
[Mac OS X](#)
[Novell NetWare](#)
[OS/2](#)
[RISC OS](#)
[SGI IRIX 6.5.x](#)
Solaris ([SPARC](#), [INTEL](#))

Older versions of PHP

See [our releases page](#) for older PHP versions.

Other Downloads

For downloadable manual packages, go to the [documentation download page](#)

Get some [PHP logos](#) for your site, and some PHP icons to use on your computer

To download the latest development version, see the [instructions on using anonymous CVS](#)

[Zend Optimizer](#) for PHP 4.0.3 and later is available on Zend

PHP 5.1.2

Complete Source Code

- [PHP 5.1.2 \(tar.bz2\)](#) [6,172Kb] - 12 Jan 2006
md5: 79cee17e9db85be878000a2a4198378e
- [PHP 5.1.2 \(tar.gz\)](#) [7,875Kb] - 12 Jan 2006
md5: b5b6564e8c6a0d5bc1d2b4787480d792

Windows Binaries

- [PHP 5.1.2 zip package](#) [8,926Kb] - 12 Jan 2006
md5: d2c3440e40c697e62a0b6f23514d03dc
- [Collection of PECL modules for PHP 5.1.2](#) [1,669Kb] - 12 Jan 2006
md5: 09571722fd44bec411a64eca8ca383ae
- [PHP 5.1.2 installer](#) [2,585Kb] - 12 Jan 2006
(CGI only, packaged as Windows installer to install and configure PHP, and automatically configure IIS, PWS and Xitami, with manual configuration for other servers. N.B. no external extensions included)
md5: f4e47bda69ddc081fb44068cd9237b85

We have a [PHP 5 / Zend Engine 2 page](#) explaining the language level changes introduced in PHP 5. The [PHP 5 ChangeLog](#) details all the other changes.

PHP 4.4.2

Select appropriate download for your system. For Windows, the installer version works well except it requires manual set-up for Apache. See earlier notes for details.

Internet

