

PHP Functions

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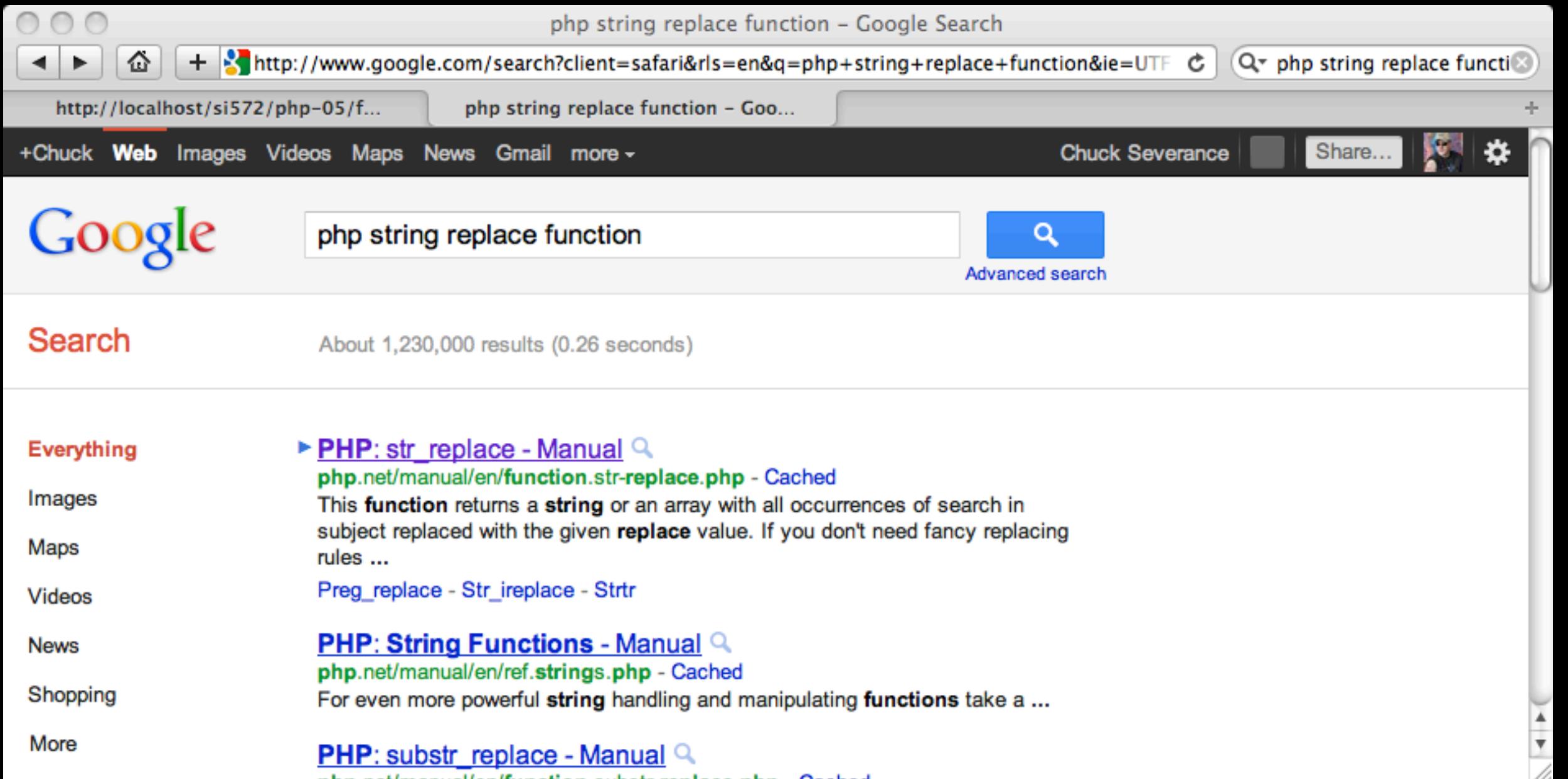
Why Functions?

- PHP has lots of built-in functions that we use all the time.
- We write our own functions when our code reaches a certain level of complexity.

To function or not to function...

- Organize your code into “paragraphs” - capture a complete thought and “name it”.
- Don’t repeat yourself - make it work once and then reuse it.
- If something gets too long or complex, break up logical chunks and put those chunks in functions.
- Make a library of common stuff that you do over and over - perhaps share this with your friends...

PHP Documentation - Google



php string replace function – Google Search

http://localhost/si572/php-05/f... php string replace function – Goo...

+Chuck Web Images Videos Maps News Gmail more Chuck Severance Share... 

Google Advanced search

Search About 1,230,000 results (0.26 seconds)

Everything ► [PHP: str_replace - Manual](#)  <http://php.net/manual/en/function.str-replace.php> - Cached
This **function** returns a **string** or an array with all occurrences of **search** in **subject** replaced with the given **replace** value. If you don't need fancy replacing rules ...

Images [Preg_replace](#) - [Str_ireplace](#) - [Strtr](#)

Maps

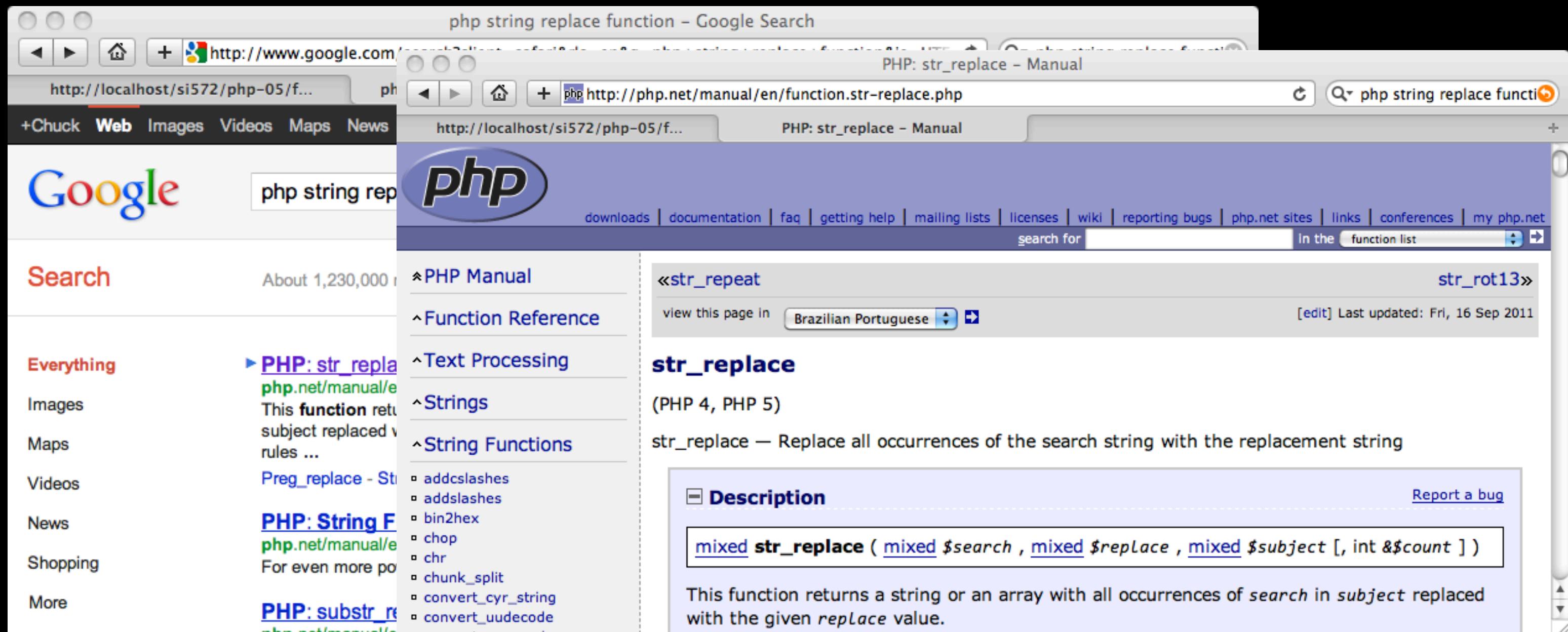
Videos

News ► [PHP: String Functions - Manual](#)  <http://php.net/manual/en/ref.strings.php> - Cached
For even more powerful **string** handling and manipulating **functions** take a ...

Shopping

More ► [PHP: substr_replace - Manual](#)  <http://php.net/manual/en/function.substr-replace.php> - Cached

PHP Documentation - Google



The screenshot shows a web browser window with two tabs open. The left tab is a Google search results page for "php string replace function", showing approximately 1,230,000 results. The right tab is the "PHP: str_replace - Manual" page from the official PHP documentation.

Google Search Results:

- Search bar: php string replace function
- Results count: About 1,230,000 results
- Navigation links: +Chuck, Web, Images, Videos, Maps, News
- Left sidebar: Everything, Images, Maps, Videos, News, Shopping, More
- Content: A snippet from the PHP manual page for str_replace is shown, along with links to other string functions like addcslashes, addslashes, bin2hex, chop, chr, chunk_split, convert_cyr_string, convert_uudecode, and convert_uuencode.

PHP Manual Page:

- Page title: PHP: str_replace - Manual
- Page URL: http://php.net/manual/en/function.str-replace.php
- Page content:
 - Header: str_replace
 - Text: (PHP 4, PHP 5)
 - Description: str_replace — Replace all occurrences of the search string with the replacement string
 - Signature: `mixed str_replace (mixed $search , mixed $repLace , mixed $subject [, int &$count])`
 - Text: This function returns a string or an array with all occurrences of *search* in *subject* replaced with the given *repLace* value.
- Page footer: view this page in Brazilian Portuguese [edit] Last updated: Fri, 16 Sep 2011

Built-In Functions...

- Much of the power of PHP comes from its built-in **functions**.
- Many are modeled after C string library functions (i.e. `strlen()`).

```
echo strrev(" .dlrow olleH");
echo str_repeat("Hip ", 2);
echo strtoupper("hooray!");
echo strlen("intro");
echo "\n";
```

```
Hello world.
Hip Hip
HOORAY!
5
```

Defining Your Own Functions

We use the **function** keyword to define a function, we **name the function** and take **optional argument variables**. The body of the function is in a block of code { }

```
function greet() {  
    print "Hello\n";  
}  
  
greet();  
greet();
```

```
Hello  
Hello
```

Choosing Function Names

- Much like variable names - but do not start with a dollar sign
- Start with a letter or underscore - consist of letters, numbers, and underscores (_)
- Avoid built-in function names
- Case does not matter – but please do not take advantage of this

Return Values

Often a function will take its arguments, do some computation, and return a value to be used as the value of the function call in the calling expression. The `return` keyword is used for this.

```
function greeting() {  
    return "Hello";  
}  
  
print greeting() . " Glenn\n";  
print greeting() . " Sally\n";
```

```
Hello Glenn  
Hello Sally
```

Arguments

Functions can choose to accept optional **arguments**. Within the function definition the variable names are effectively “aliases” to the **values** passed in when the function is called.

```
function howdy($lang) {  
    if ( $lang == 'es' ) return "Hola";  
    if ( $lang == 'fr' ) return "Bonjour";  
    return "Hello";  
  
}  
  
print howdy('es') . " Glenn\n";  
print howdy('fr') . " Sally\n";
```

```
Hola Glenn  
Bonjour Sally
```

Optional Arguments

Arguments can have defaults, and so can be omitted.

```
function howdy($lang='es') {  
    if ( $lang == 'es' ) return "Hola";  
    if ( $lang == 'fr' ) return "Bonjour";  
    return "Hello";  
}  
  
print howdy() . " Glenn\n";  
print howdy('fr') . " Sally\n";
```

```
Hola Glenn  
Bonjour Sally
```

Call By Value

- The argument variable within the function is an “alias” to the actual variable.
- But even further, the alias is to a *copy* of the actual variable in the function call.

```
function double($alias) {  
    $alias = $alias * 2;  
    return $alias;  
}  
$val = 10;  
$dval = double($val);  
echo "Value = $val Doubled = $dval\n";
```

```
Value = 10 Doubled = 20
```

Call By Reference

Sometimes we want a function to change one of its arguments, so we indicate that an argument is “**by reference**” using (&).

```
function triple(&$realthing) {  
    $realthing = $realthing * 3;  
}  
  
$val = 10;  
triple($val);  
echo "Triple = $val\n";
```

```
Triple = 30
```

sort

(PHP 4, PHP 5, PHP 7)
sort – Sort an array

Description

`bool sort (array &$array [, int $sort_flags = SORT_REGULAR])`

This function sorts an array. Elements will be arranged from lowest to highest when this function has completed.

Parameters

<http://php.net/manual/en/function.sort.php>



Variable Scope

Variable Scope

- In general, variable names used inside of function code do not mix with the variables outside of the function to avoid unexpected side effects if two programmers use the same variable name in different parts of the code.
- We call this “name spacing” the variables. The function variables are in one “name space” whilst the main variables are in another “name space”.

<http://php.net/manual/en/language.variables.scope.php>

Normal Scope (isolated)

```
function tryzap() {  
    $val = 100;  
}  
  
$val = 10;  
tryzap();  
echo "TryZap = $val\n";
```

TryZap = 10

Except for `$_GET`

<http://php.net/manual/en/language.variables.superglobals.php>

Global Scope (shared)

```
function dozap() {  
    global $val;  
    $val = 100;  
}  
  
$val = 10;  
dozap();  
echo "DoZap = $val\n";
```

```
DoZap = 100
```

Use this wisely, young Jedi...

Global Variables – Use Rarely

- Passing variable in as parameter
- Passing value back as return value
- Passing variable in by reference
- If you use global variables, use long names with nice unique prefixes

```
global $LastOAuthBodyBaseString;  
global $LAST_OAUTH_BODY_BASE_STRING;
```

Coping with Missing Bits

Sometimes, depending on the version or configuration of a particular PHP instance, some functions may be missing. We can check that...

```
if (function_exists("array_combine")){
    echo "Function exists";
} else {
    echo "Function does not exist";
}
```

This allows for evolution.

array_key_exists

Change language: English 
[Edit](#) [Report a Bug](#)

(PHP 4 >= 4.0.7, PHP 5, PHP 7)

array_key_exists – Checks if the given key or index exists in the array

Description

```
bool array_key_exists ( mixed $key , array $array )
```

array_key_exists() returns TRUE if the given key is set in the array. key can be any value possible for an array index.

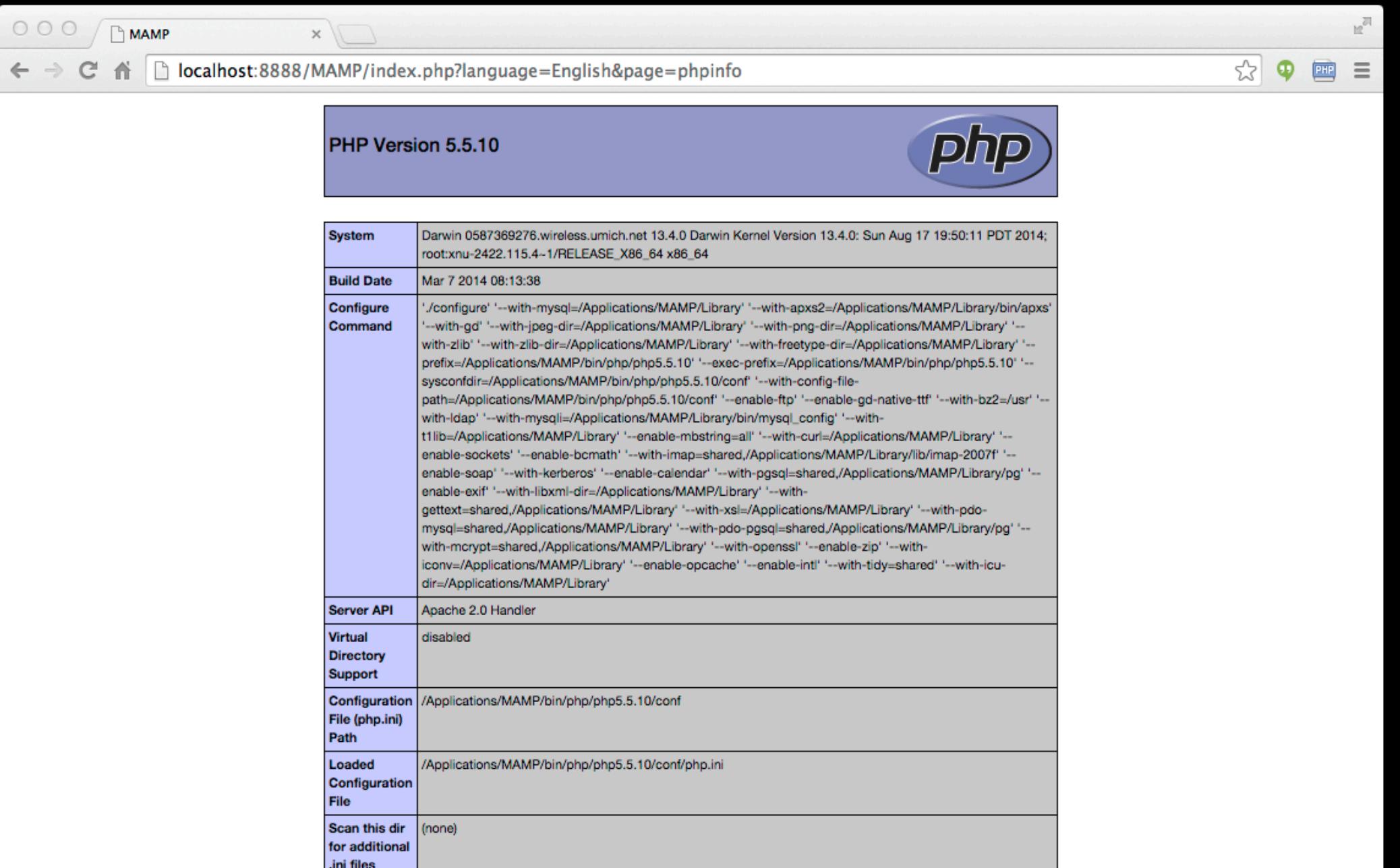
Parameters

<http://php.net/manual/en/function.array-key-exists.php>

One Heck of a Function...

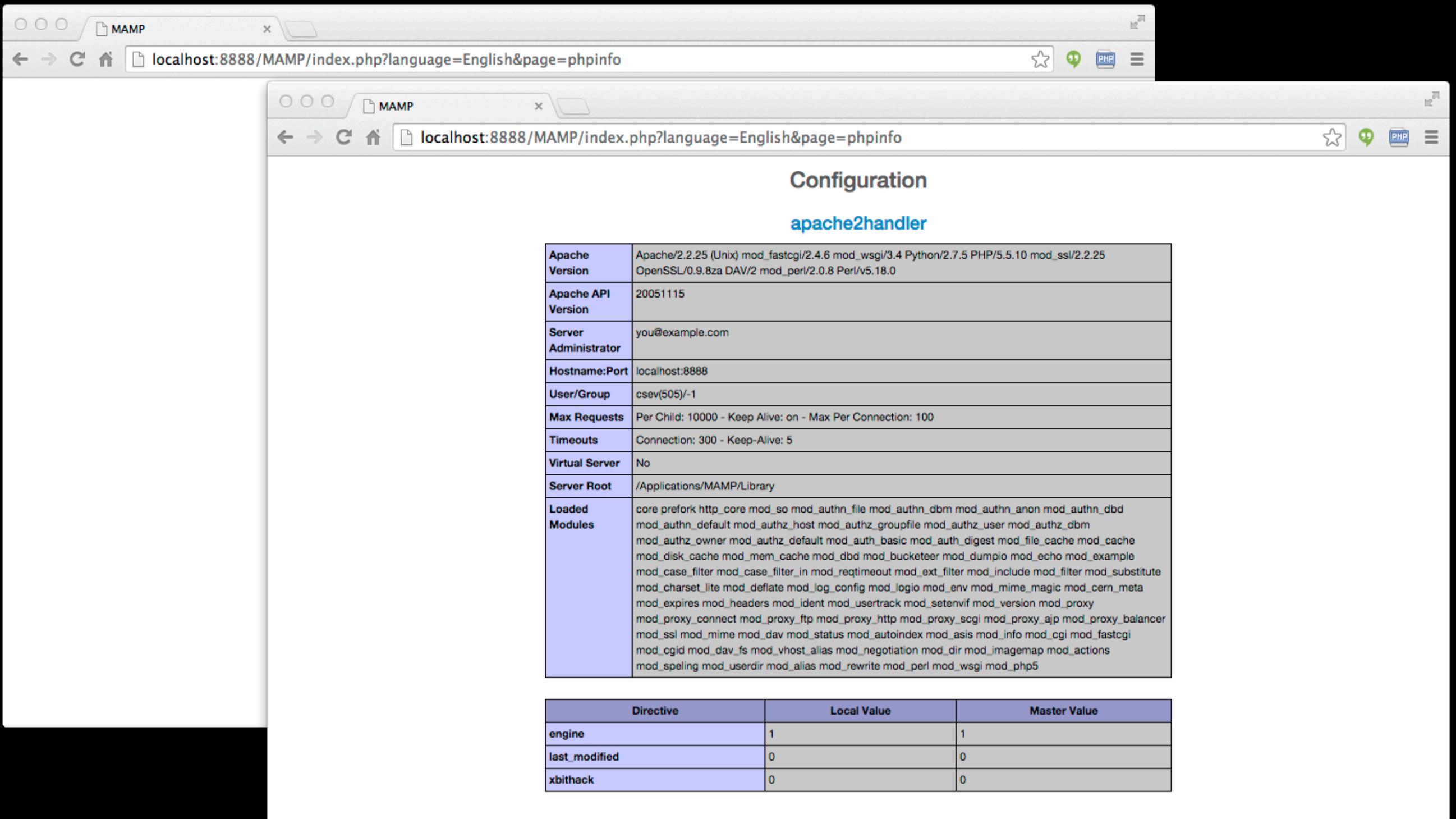
- PHP is a very configurable system and has lots of capabilities that can be plugged in.
- The `phpinfo()` function prints out the internal configuration capabilities of your particular PHP installation,

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



PHP Version 5.5.10

System	Darwin 0587369276.wireless.umich.net 13.4.0 Darwin Kernel Version 13.4.0: Sun Aug 17 19:50:11 PDT 2014; root:xnu-2422.115.4-1/RELEASE_X86_64 x86_64
Build Date	Mar 7 2014 08:13:38
Configure Command	'./configure' '--with-mysql=/Applications/MAMP/Library' '--with-apxs2=/Applications/MAMP/Library/bin/apxs' '--with-gd' '--with-jpeg-dir=/Applications/MAMP/Library' '--with-png-dir=/Applications/MAMP/Library' '--with-zlib' '--with-zlib-dir=/Applications/MAMP/Library' '--with-freetype-dir=/Applications/MAMP/Library' '--prefix=/Applications/MAMP/bin/php/php5.5.10' '--exec-prefix=/Applications/MAMP/bin/php/php5.5.10' '--sysconfdir=/Applications/MAMP/bin/php/php5.5.10/conf' '--with-config-file-path=/Applications/MAMP/bin/php/php5.5.10/conf' '--enable-ftp' '--enable-gd-native-ttf' '--with-bz2=/usr' '--with-ldap' '--with-mysqli=/Applications/MAMP/Library/bin/mysql_config' '--with-t1lib=/Applications/MAMP/Library' '--enable-mbstring=all' '--with-curl=/Applications/MAMP/Library' '--enable-sockets' '--enable-bcmath' '--with-imap=shared,/Applications/MAMP/Library/lib/imap-2007f' '--enable-soap' '--with-kerberos' '--enable-calendar' '--with-pgsql=shared,/Applications/MAMP/Library/pg' '--enable-exif' '--with-libxml-dir=/Applications/MAMP/Library' '--with-gettext=shared,/Applications/MAMP/Library' '--with-xsl=/Applications/MAMP/Library' '--with-pdo-mysql=shared,/Applications/MAMP/Library' '--with-pdo-pgsql=shared,/Applications/MAMP/Library/pg' '--with-mcrypt=shared,/Applications/MAMP/Library' '--with-openssl' '--enable-zip' '--with-iconv=/Applications/MAMP/Library' '--enable-opcache' '--enable-intl' '--with-tidy=shared' '--with-icu-dir=/Applications/MAMP/Library'
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/Applications/MAMP/bin/php/php5.5.10/conf
Loaded Configuration File	/Applications/MAMP/bin/php/php5.5.10/conf/php.ini
Scan this dir for additional .ini files	(none)



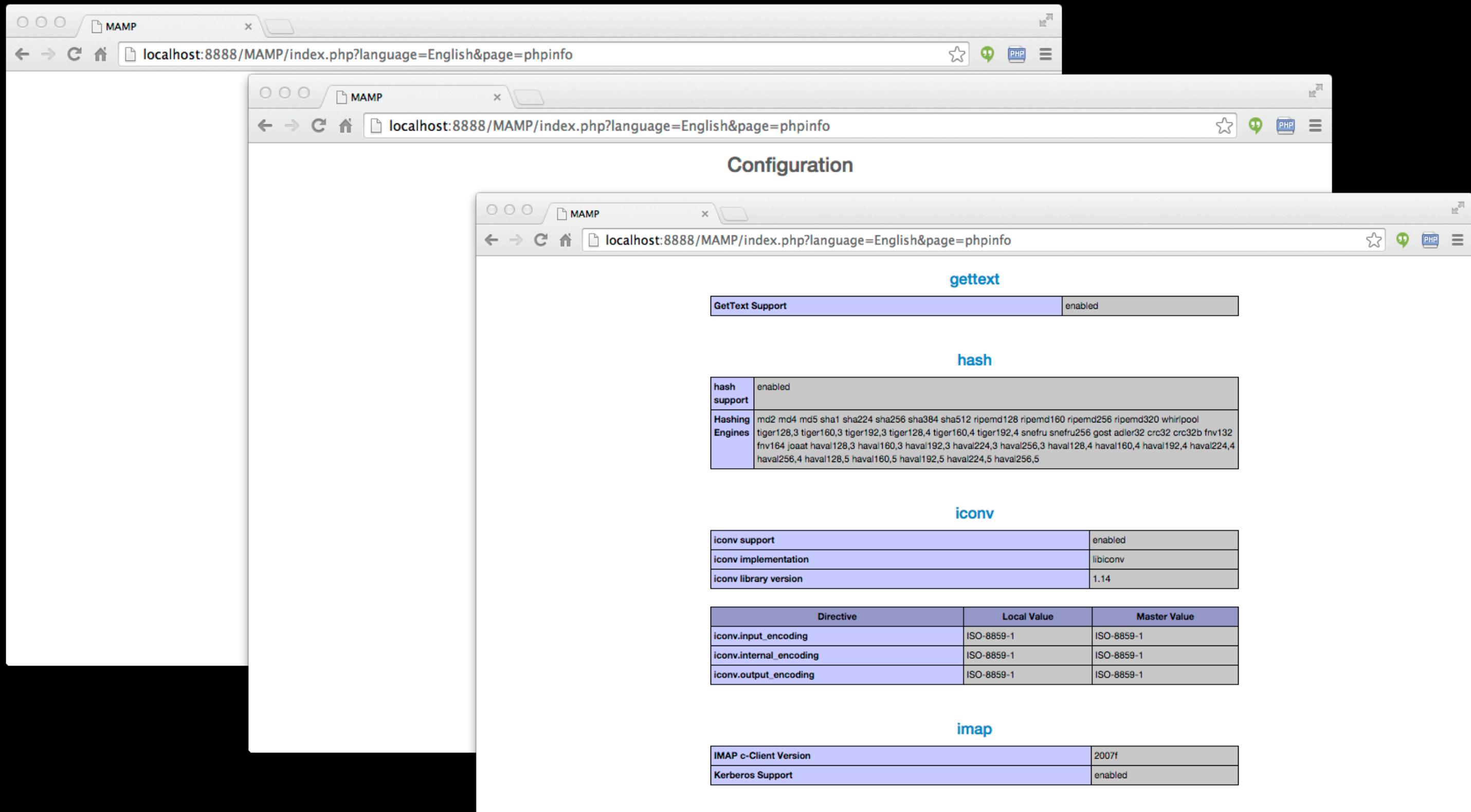
The image shows two side-by-side browser windows, both titled "MAMP" and displaying the URL "localhost:8888/MAMP/index.php?language=English&page=phpinfo".

The top window displays the Apache configuration for the "apache2handler" module. The configuration table includes the following entries:

Apache Version	Apache/2.2.25 (Unix) mod_fastcgi/2.4.6 mod_wsgi/3.4 Python/2.7.5 PHP/5.5.10 mod_ssl/2.2.25 OpenSSL/0.9.8za DAV/2 mod_perl/2.0.8 Perl/v5.18.0
Apache API Version	20051115
Server Administrator	you@example.com
Hostname:Port	localhost:8888
User/Group	csev(505)/-1
Max Requests	Per Child: 10000 - Keep Alive: on - Max Per Connection: 100
Timeouts	Connection: 300 - Keep-Alive: 5
Virtual Server	No
Server Root	/Applications/MAMP/Library
Loaded Modules	core prefork http_core mod_so mod_authn_file mod_authn_dbm mod_authn_anon mod_authn_dbd mod_authn_default mod_authz_host mod_authz_groupfile mod_authz_user mod_authz_dbm mod_authz_owner mod_authz_default mod_auth_basic mod_auth_digest mod_file_cache mod_cache mod_disk_cache mod_mem_cache mod_dbd mod_bucketeer mod_dumpio mod_echo mod_example mod_case_filter mod_case_filter_in mod_reqtimeout mod_ext_filter mod_include mod_filter mod_substitute mod_charset_lite mod_deflate mod_log_config mod_logio mod_env mod_mime_magic mod_cern_meta mod_expires mod_headers mod_ident mod_usertrack mod_setenvif mod_version mod_proxy mod_proxy_connect mod_proxy_ftp mod_proxy_http mod_proxy_scgi mod_proxy_ajp mod_proxy_balancer mod_ssl mod_mime mod_dav mod_status mod_autoindex mod_asis mod_info mod_cgi mod_fastcgi mod_cgid mod_dav_fs mod_vhost_alias mod_negotiation mod_dir mod_imagemap mod_actions mod_speling mod_userdir mod_alias mod_rewrite mod_perl mod_wsgi mod_php5

The bottom window displays the PHP configuration table, showing the following directives:

Directive	Local Value	Master Value
engine	1	1
last_modified	0	0
xbithack	0	0



The image shows three separate browser windows, each displaying the PHPinfo output for different PHP modules. The windows are arranged vertically, each with its own title bar and address bar.

gettext

GetText Support	enabled
-----------------	---------

hash

hash support	enabled
Hashing Engines	md2 md4 md5 sha1 sha224 sha256 sha384 sha512 ripemd128 ripemd160 ripemd256 ripemd320 whirlpool tiger128,3 tiger160,3 tiger192,3 tiger128,4 tiger160,4 tiger192,4 snefru snefru256 gost adler32 crc32 crc32b fnv132 fnv160 joaat haval128,3 haval160,3 haval192,3 haval224,3 haval256,3 haval128,4 haval160,4 haval192,4 haval224,4 haval256,4 haval128,5 haval160,5 haval192,5 haval224,5 haval256,5

iconv

iconv support	enabled
iconv implementation	libiconv
iconv library version	1.14

Directive	Local Value	Master Value
iconv.input_encoding	ISO-8859-1	ISO-8859-1
iconv.internal_encoding	ISO-8859-1	ISO-8859-1
iconv.output_encoding	ISO-8859-1	ISO-8859-1

imap

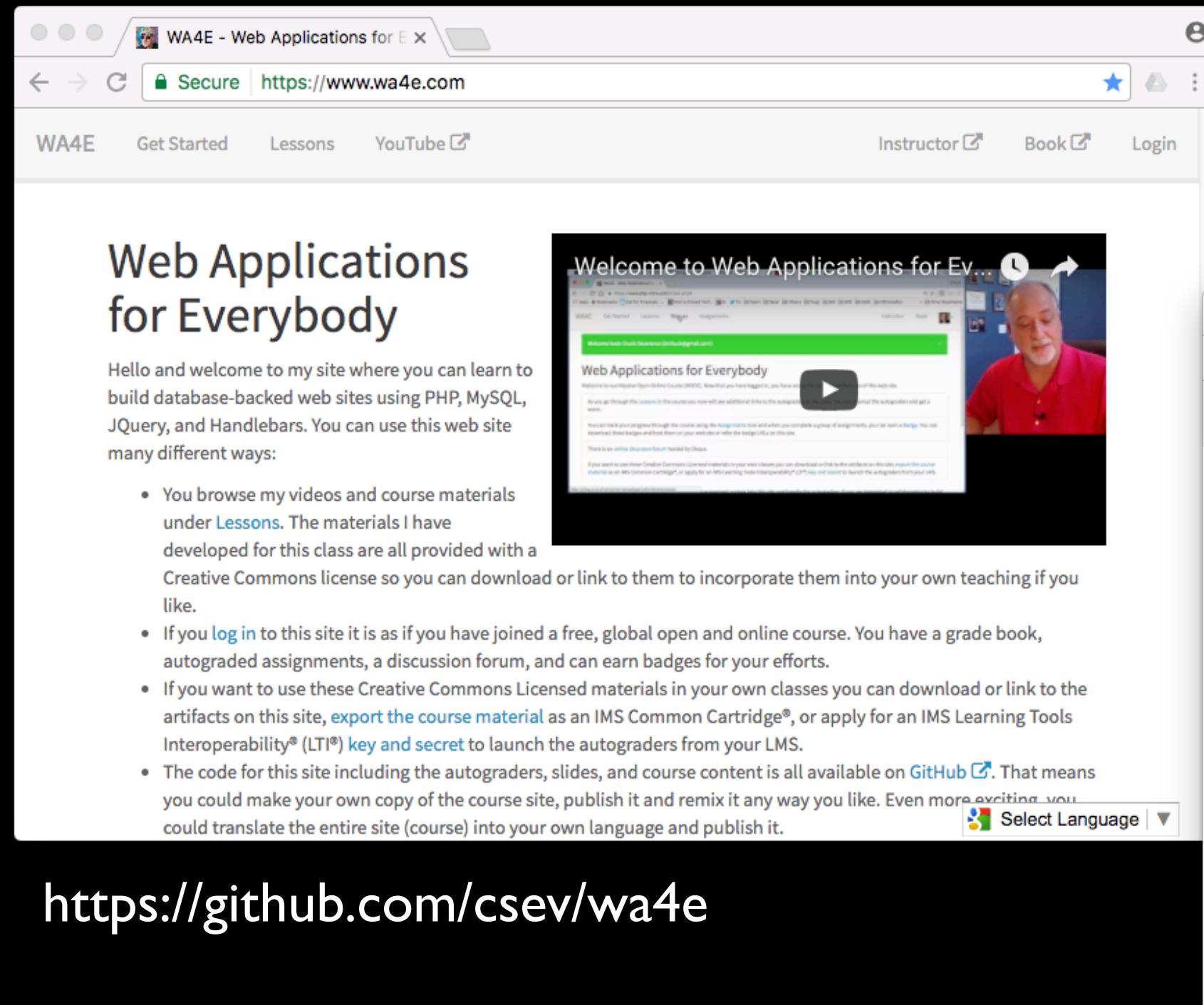
IMAP c-Client Version	2007f
Kerberos Support	enabled



Modularity

Including Files in PHP

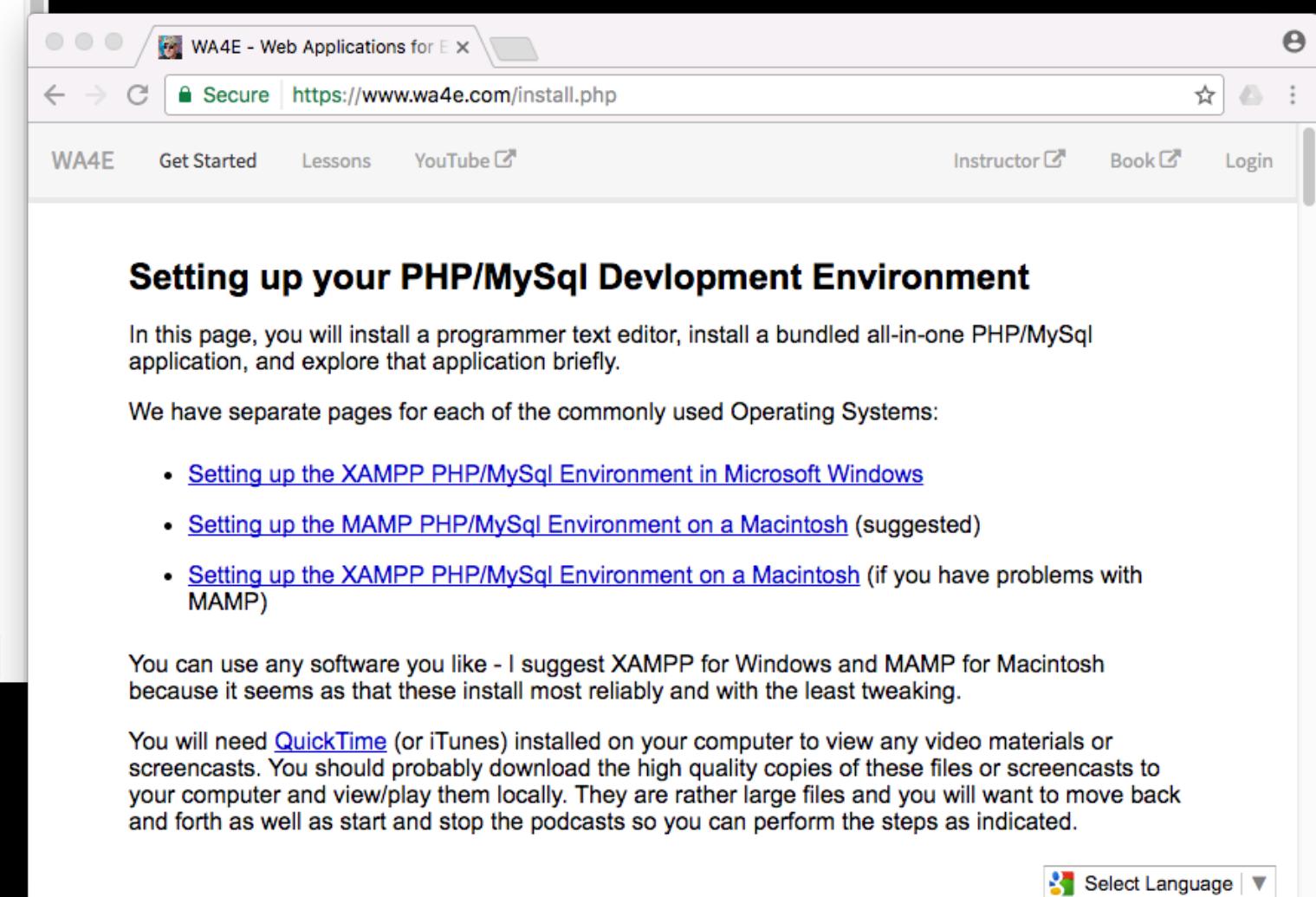
- `include "header.php";` - Pull the file in here
- `include_once "header.php";` - Pull the file in here unless it has already been pulled in before
- `require "header.php";` - Pull in the file here and die if it is missing
- `require_once "header.php";` - You can guess what this means...
- These can look like functions - `require_once("header.php");`



The screenshot shows the WA4E website homepage. The main title "Web Applications for Everybody" is displayed prominently. Below it, a paragraph of text explains the purpose of the site: "Hello and welcome to my site where you can learn to build database-backed web sites using PHP, MySQL, JQuery, and Handlebars. You can use this web site many different ways:". A bulleted list follows, detailing various ways to use the site, including browsing videos and course materials, logging in to join a free online course, using Creative Commons licensed materials, and cloning the GitHub repository. A video player is embedded in the page, showing a video of the instructor.

<https://github.com/csev/wa4e>

<http://www.wa4e.com/>



The screenshot shows the "Setting up your PHP/MySQL Development Environment" page. The page title is "Setting up your PHP/MySQL Development Environment". Below the title, a paragraph explains the goal of the page: "In this page, you will install a programmer text editor, install a bundled all-in-one PHP/MySQL application, and explore that application briefly." A bulleted list follows, listing separate pages for different operating systems: Microsoft Windows, Macintosh (suggested), and Macintosh (if you have problems with MAMP). A note at the bottom suggests using XAMPP or MAMP for reliability. A "Select Language" dropdown menu is visible at the bottom right.

```
<?php
require "top.php";
require "nav.php";
?>
<div id="container">
<h1>Web Applications...</h1>
    •
    •
    •
</div>
<?php
require "foot.php";
```

WA4E - Web Applications for E X

Secure | https://www.wa4e.com

WA4E Get Started Lessons YouTube

Instructor Book Login

Web Applications for Everybody

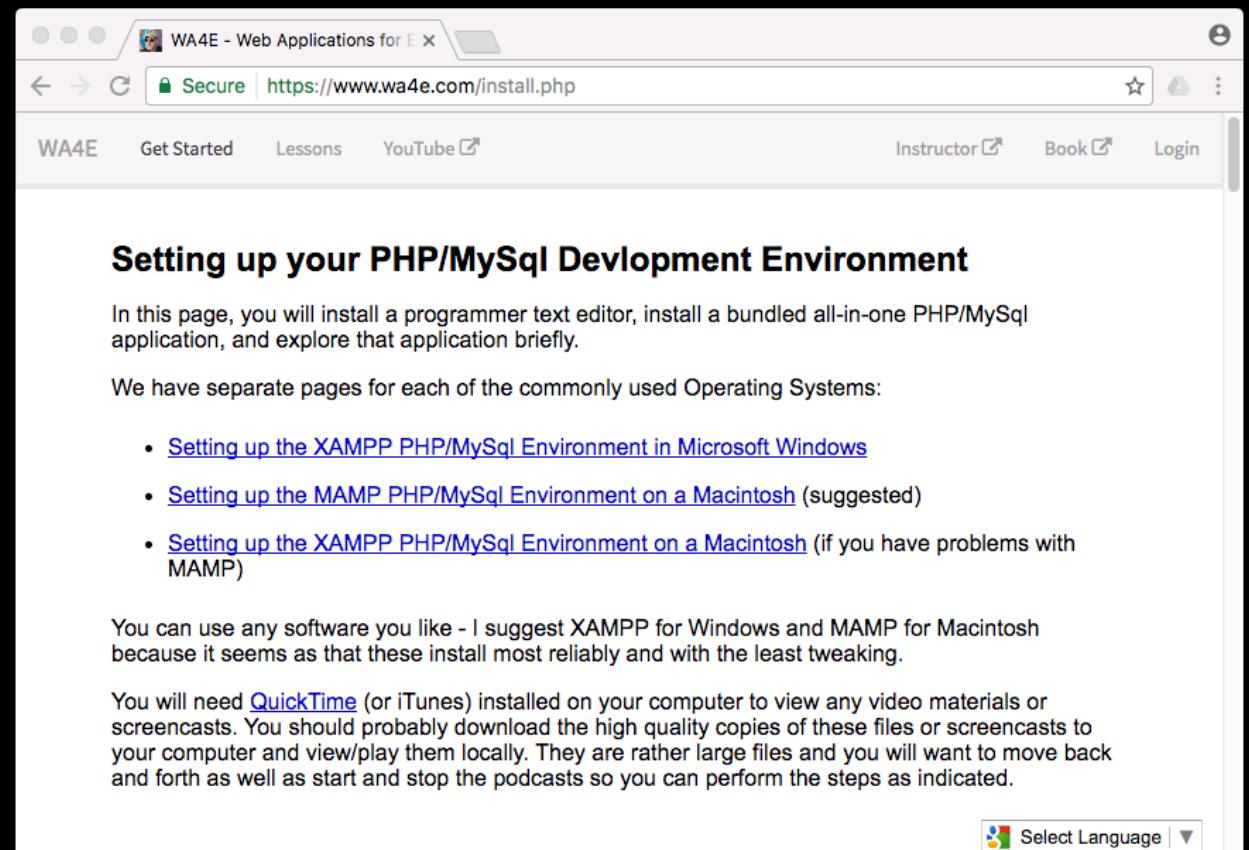
Hello and welcome to my site where you can learn to build database-backed web sites using PHP, MySQL, JQuery, and Handlebars. You can use this web site many different ways:

- You browse my videos and course materials under [Lessons](#). The materials I have developed for this class are all provided with a Creative Commons license so you can download or link to them to incorporate them into your own teaching if you like.
- If you [log in](#) to this site it is as if you have joined a free, global open and online course. You have a grade book, autograded assignments, a discussion forum, and can earn badges for your efforts.
- If you want to use these Creative Commons Licensed materials in your own classes you can download or link to the artifacts on this site, [export the course material](#) as an IMS Common Cartridge®, or apply for an IMS Learning Tools Interoperability® (LTI®) key and secret to launch the autograders from your LMS.
- The code for this site including the autograders, slides, and course content is all available on [GitHub](#). That means you could make your own copy of the course site, publish it and remix it any way you like. Even more exciting you could translate the entire site (course) into your own language and publish it.

Select Language

index.php

```
<?php
require "top.php";
require "nav.php";
?>
<div id="container">
<iframeheight="4600" width="100%" frameborder="0"
marginwidth="0" marginheight="0" scrolling="auto" src="software.php">
</iframe>
</div>
<?php
require "foot.php";
```



install.php

Summary

- Built-in functions
- Making new functions
- Arguments - pass by value and pass by reference
- Including and requiring files
- Checking to see if functions are present

Acknowledgements / Contributions



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