TechNote: 5a-WordPress Install - PHP 5-2-x Setup

Introduction (1.1):

TechNote 5a in the WordPress installation and setup series reviews setting up PHP 5.2.x in an XP SP3 environment using IIS 5.1.

Prerequisites:

See TechNote: 0-WordPress Install Sequence On XP Pro plus Reference Links.

Note: If you are reading this install series for XP Pro and IIS 5.1 for the first time, it is highly recommended that you at least scan through the prior "pre-req" documents.

My Development Environment:

See TechNote: 0-WordPress Install Sequence On XP Pro plus Reference Links

Special Notes:

Trademark Note: the inclusion of screenshots, in this or other documents without a Trademark ™ symbol by my “FromTheRanks” Blog-site Title or Logo does not imply these are not Trademarked. They are. These are early in-development screenshots taken before the ™ was added.

Format Change: to accelerate the release of the WordPress TechNote series on www.fromtheranks.com, from TechNote 5a on I have changed the post content format. I have elected to provide basic introductory information only in the on-line post and the entire post (text and images) in the PDF version. Doing so allows me to publish (and update) the series far more quickly.

Homework:

PHP, aka Hypertext Preprocessor, is an embedded scripting language that provides a suite of tools for building dynamic websites. I can’t guarantee that you will use PHP, and you may not if you use WordPress, and your selected WordPress template, in total vanilla-flavor mode. Should you discover you need to “tweak” things to make them more dynamic, however, PHP is a good tool for this.

My installs are geared towards Windows XP Pro Sp3. If you are running any other O/S, determine if it will run on your platform – most are acceptable but verify yours.

The descriptions of the downloads can be found at: http://us3.php.net/downloads.php.

See the “Binaries for other systems” comments to the left of the above page.

See the installation document for your selected O/S, mine was: http://us3.php.net/manual/en/.

Choose which version to download:

At the time of this writing, there is only one current version: PPH 5.2.x.

Choose a distribution format:

Complete Source Code: Not appropriate unless you are a PHP guru intent on “tweaking” code

Windows Binaries: For now, ignore the non-thread safe and debug packs

Zip package: This is my choice. It is an exception to my normal use of .MSI installers because I want to configure PHP for ISAPI, and from what I understand the .MSI version automatically sets up CGI. The file ID is: php-5.2.x-Win32.zip (Note: though there is now a “fastCGI”, the current “best practices” is ISAPI both for speed and for security – see PHP’s doc for more info on the security issues.)

Installer:

Unless you want CGI installed as a default, use the Zip package and do a manual install – I do not describe the CGI install. Its file ID is: php-5.2.9-2-win32-installer.msi

Download the correct version for your environment (Windows, Linux, etc.) and the correct Installation Package. As discussed above, download from: http://us3.php.net/downloads.php

Read up on Installing PHP in your XP environment: http://us3.php.net/manual/en/install.windows.php

Installing PHP 5.2.9.2 Manually:

Create Install Folder:

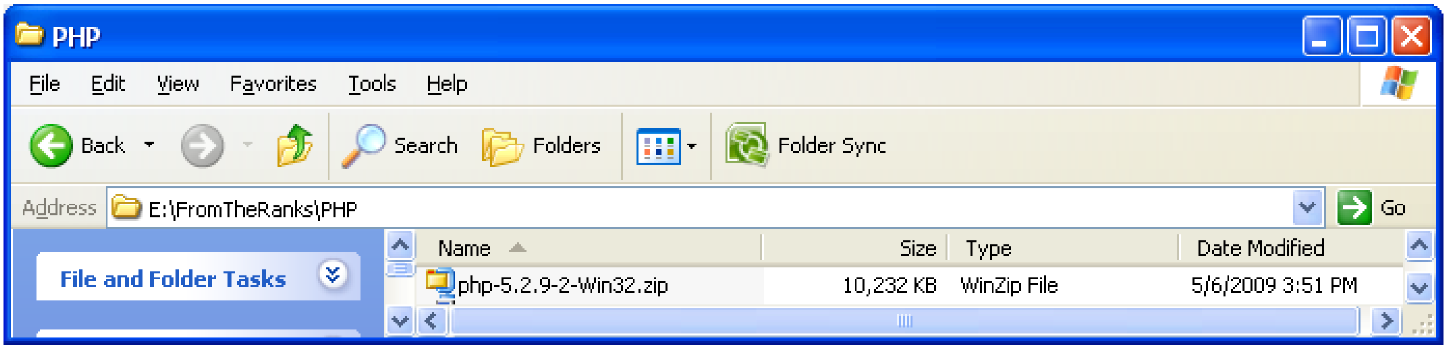
I recommend not installing anything on the C: drive that you don't have to. I'm putting mine out on my E: drive, ex: E:\PHP.

If you only have a C: or have tons of room on it and want to go "vanilla" then create a folder called: C:\php.

Note: do *not* create any install location with a name that includes spaces, ex: C:\My PHP Folder.

Extract Zip File:

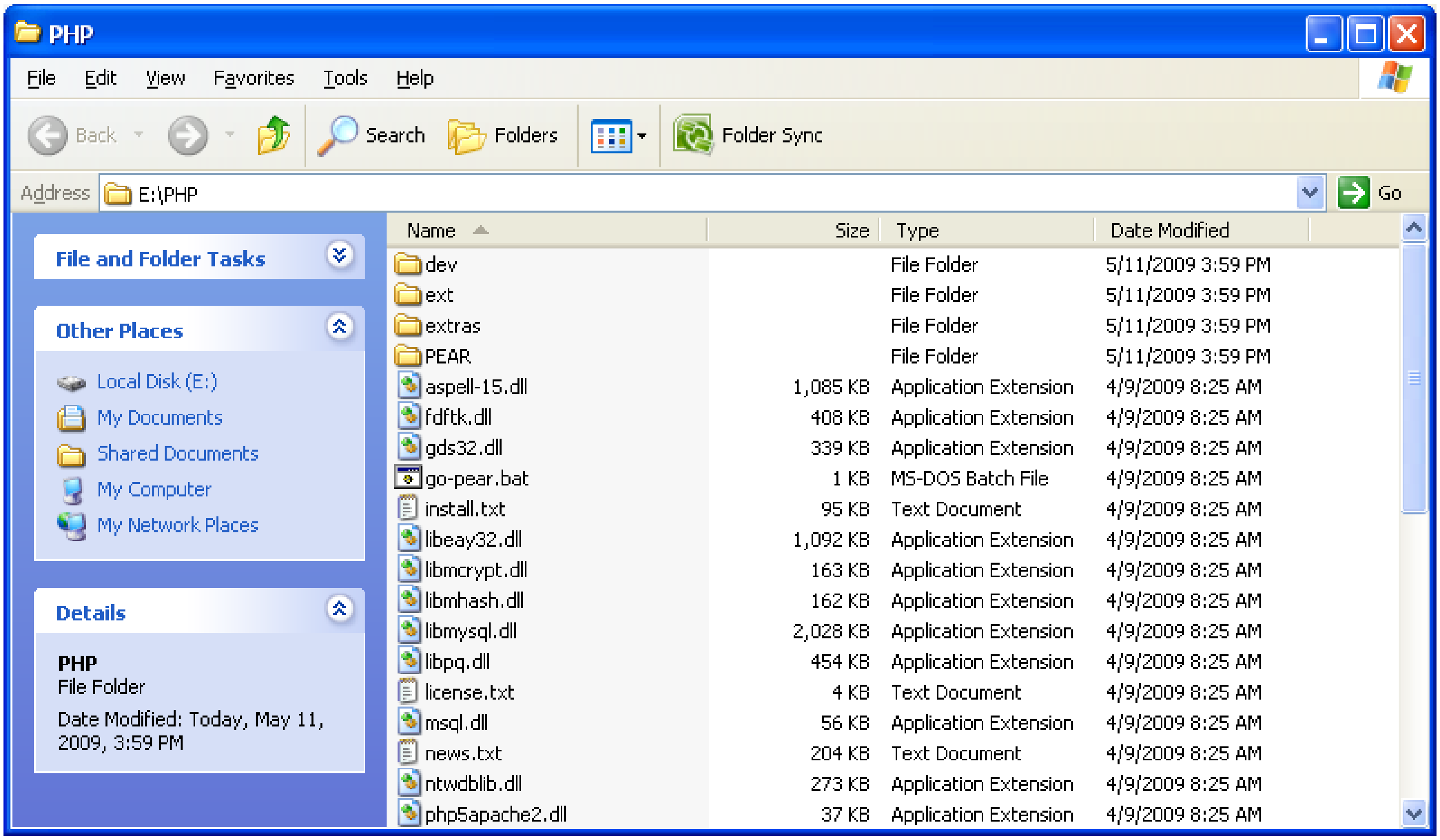
Find your zip file, as per this example:



Address: E:\FromTheRanks\PHP

Name	Size	Type	Date Modified
php-5.2.9-2-Win32.zip	10,232 KB	WinZip File	5/6/2009 3:51 PM

Double click on it and extract it into your installation folder. You'll end up with something like this:



PHP
File Folder
Date Modified: Today, May 11, 2009, 3:59 PM

Name	Size	Type	Date Modified
dev		File Folder	5/11/2009 3:59 PM
ext		File Folder	5/11/2009 3:59 PM
extras		File Folder	5/11/2009 3:59 PM
PEAR		File Folder	5/11/2009 3:59 PM
aspell-15.dll	1,085 KB	Application Extension	4/9/2009 8:25 AM
fdftk.dll	408 KB	Application Extension	4/9/2009 8:25 AM
gds32.dll	339 KB	Application Extension	4/9/2009 8:25 AM
go-pear.bat	1 KB	MS-DOS Batch File	4/9/2009 8:25 AM
install.txt	95 KB	Text Document	4/9/2009 8:25 AM
libeay32.dll	1,092 KB	Application Extension	4/9/2009 8:25 AM
libmcrypt.dll	163 KB	Application Extension	4/9/2009 8:25 AM
libmhash.dll	162 KB	Application Extension	4/9/2009 8:25 AM
libmysql.dll	2,028 KB	Application Extension	4/9/2009 8:25 AM
libpq.dll	454 KB	Application Extension	4/9/2009 8:25 AM
license.txt	4 KB	Text Document	4/9/2009 8:25 AM
msql.dll	56 KB	Application Extension	4/9/2009 8:25 AM
news.txt	204 KB	Text Document	4/9/2009 8:25 AM
ntwdblib.dll	273 KB	Application Extension	4/9/2009 8:25 AM
php5apache2.dll	37 KB	Application Extension	4/9/2009 8:25 AM

Configuring PHP:

Adding PHP to Window XP’s PATH:

Start → Settings → Control Panel

Find and double-click on System (or right-click on My Computer → Properties)

Go to “Advanced” tab

Click on the “Environment Variables” button

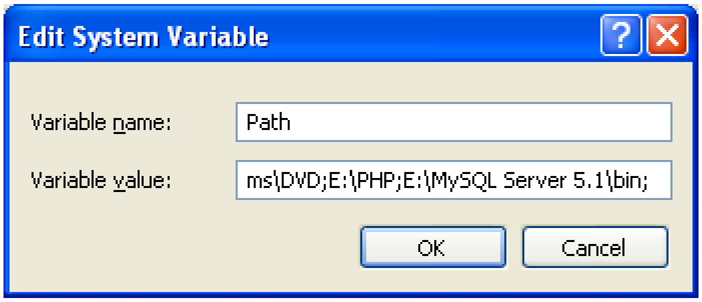
Under “System Variables” scroll down until you see the “Path” variable

Double click on the “Path” line. It will pop-up an “Edit System Variable” window

Add the path of the PHP folder you extracted the zip file into, before the entry for MySQL Server 5.1.

Note: doing so is the solution to a reported issue of PHP using the MySQL version of “libmysql.dll” rather than its own.

On ***my*** system the final result looks like this (yours will likely be a different location):

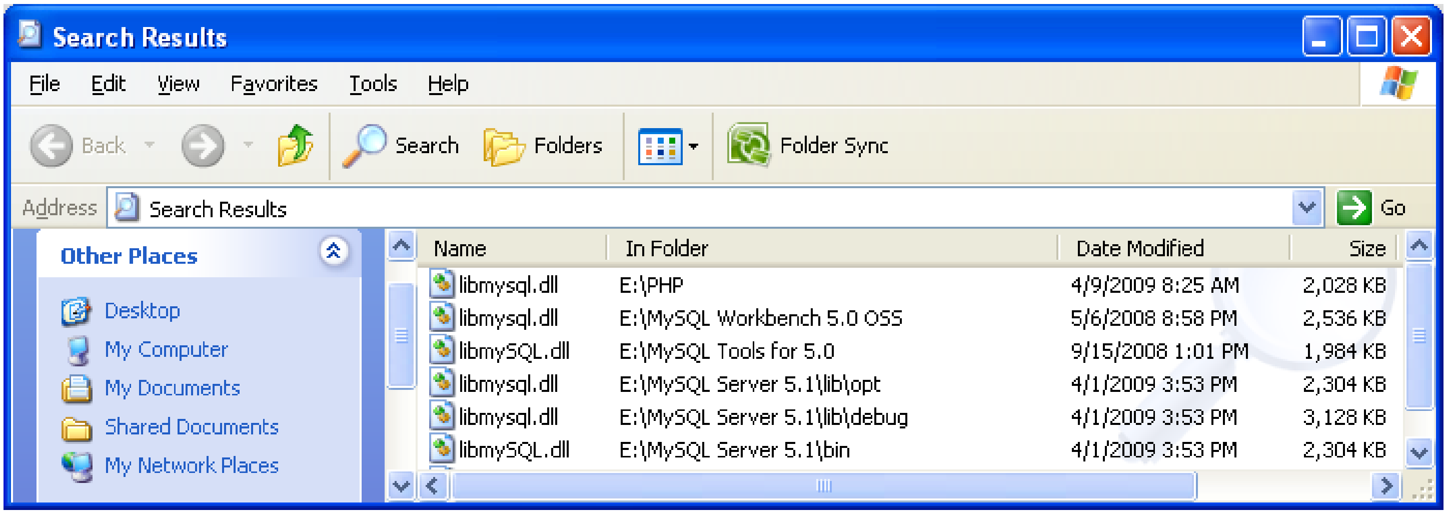


Variable name: Path

Variable value: ms\DVD;E:\PHP;E:\MySQL Server 5.1\bin;

Don't forget to put the ";" after your insert, and one at the end of the string!

This approach makes sense if you look at how many copies of libmysql.dll there are – see image below. PHP should use its own copy. Note: another solution was given of deleting or renaming all copies of "libmysql.dll", *except* the one in the ..\PHP folder. This seemed a bit drastic to me so I'll hold off on this option until tested.



Name	In Folder	Date Modified	Size
libmysql.dll	E:\PHP	4/9/2009 8:25 AM	2,028 KB
libmysql.dll	E:\MySQL Workbench 5.0 OSS	5/6/2008 8:58 PM	2,536 KB
libmySQL.dll	E:\MySQL Tools for 5.0	9/15/2008 1:01 PM	1,984 KB
libmysql.dll	E:\MySQL Server 5.1\lib\opt	4/1/2009 3:53 PM	2,304 KB
libmysql.dll	E:\MySQL Server 5.1\lib\debug	4/1/2009 3:53 PM	3,128 KB
libmySQL.dll	E:\MySQL Server 5.1\bin	4/1/2009 3:53 PM	2,304 KB

You can do the rest of these changes but the above won't take effect until your computer is rebooted.

Making PHP.INI available to PHP in Windows XP:

Windows knows where the PHP directory is, so now you need to let PHP know where its .INI file is. To do so:

Start → Settings → Control Panel

Find and double-click on System (or right-click on My Computer → Properties)

Click on Advanced tab

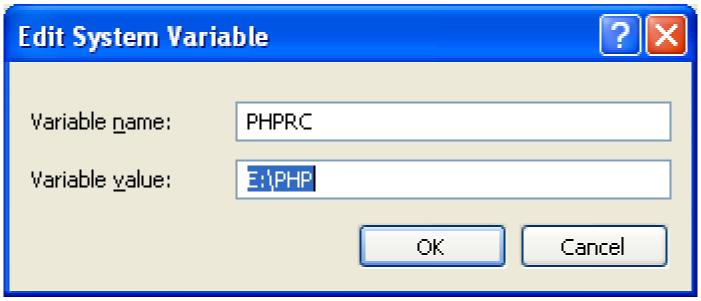
Click on "Environment Variables" button

Select into the System Variables pane, i.e. put your cursor on it

Click on "New" button

Enter ‘PHPRC’ as the variable name and your PHP root directly (E:\PHP for me) as the variable value.

My setup looks like this, yours will most likely vary:



Variable name: PHPRC

Variable value: E:\PHP

If correctly entered, click on “OK” all the way out to the Control Panel. Note: you will see this variable the next time you scroll through the System variables pane.

Modifying PHP After Install:

Before editing the php.ini, go to your PHP root directory (E:\PHP for me) and create the following folders/directories:

create a folder called “sessions”; ex: e:\php\sessions – used to store temp session files

create a folder called “upload”; ex: e:\php\upload – used for HTTP upload files

Find the sample .INI file “php.ini-recommended” file in the PHP root directly, e.g. for me E:\PHP.

Open this file and save it as “php.ini” in the same directory.

Find and enable or find and modify the following items:

Note 1: remove the ‘;’ from the beginning of the line, if present, to enable it.

Note2: when tweaking code I add a comment line above anything I change so I can easily find it again (ex: ; enabled &/or modified on 5/11/09 by DPH to …).

Note3: I’ve seen it both ways in various docs and I’ve tried it both ways – starting and stopping IIS in between – and it doesn’t seem to make a difference whether there are quotes around the paths or not. So, I stayed with the “traditional” method. Be sure to use YOUR path to these locations, not mine!

```
open_basedir = “E:\PHP”;”E:\Wordpress”   ← hasn’t been set but look into it
doc_root = “c:\inetpub\wwwroot”          ← default location
error_log = syslog                       ← enable error log to XP’s Event log
extension_dir = “e:\php\ext”             ← except enter your location
upload_tmp_dir = "e:\php\upload"         ← enable and change file from blank
```

session.save_path = "e:\php\sessions"	← enable and change file from "/tmp"
extension=php_mysql.dll	← enable
extension=php_mysqli.dll	← enable
mysql.default_host =	← leave blank as the default is "localhost"
extension=php_mbstring.dll	← enable if installing phpMyAdmin
extension=php_gd2.dll	← enable if installing phpMyAdmin
extension= php_openssl.dll	← enable for later use of SSL by WordPress*

* see TechNote XX: WordPress – Atahualpa – Adding Plugins And Widgets.

Note: as we are using IIS in ISAPI "mode" it is *not* necessary to set "cgi.force_redirect" or cgi.force_redirect" as you may read in other articles. These tweaks are for Apache or iPlanet servers only. Leave them remarked out.

Modify the Registry to point to the PHP.INI file:

Because you are doing a manual install, you need to set the Registry so that Windows knows exactly where the PHP.INI file is. Note: this is *in addition* to setting the PHPRC variable above.

BACKUP Your Registry FIRST!!!!

Start → Run → regedit

Click on "My Computer" so you're at the top of the hive

Got to: File → Export

Its default save location is "My Documents", which is okay
Enter and save it as a meaningful file name. I like "reg_mmddyy.reg", ex: reg_051109.reg

Create a text file with Notepad called: "php_ini_filepath_fix.txt".

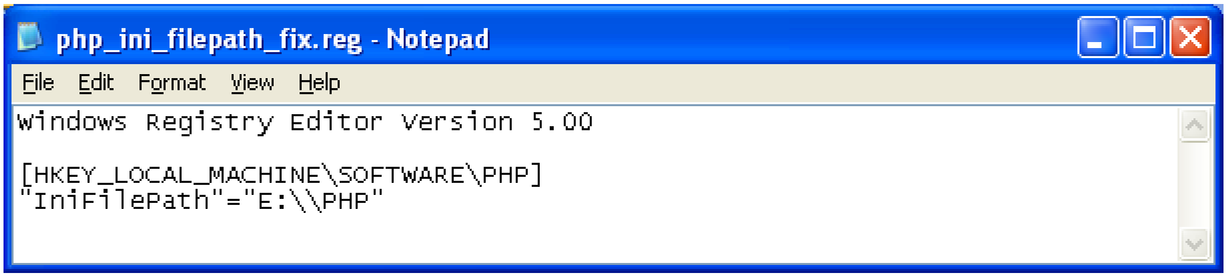
Save it anywhere, but my preference is to put it in my PHP directory so I can find it again.

Put a comment on the first row exactly as follows: Windows Registry Editor Version 5.00

Add the following text on a new line (except put YOUR PHP directory, where YOUR PHP.INI file is):

```
[HKEY_LOCAL_MACHINE\SOFTWARE\PHP]
"IniFilePath"="E:\\PHP"
```

My version looks like this:


php_ini_filepath_fix.reg - Notepad
File Edit Format View Help

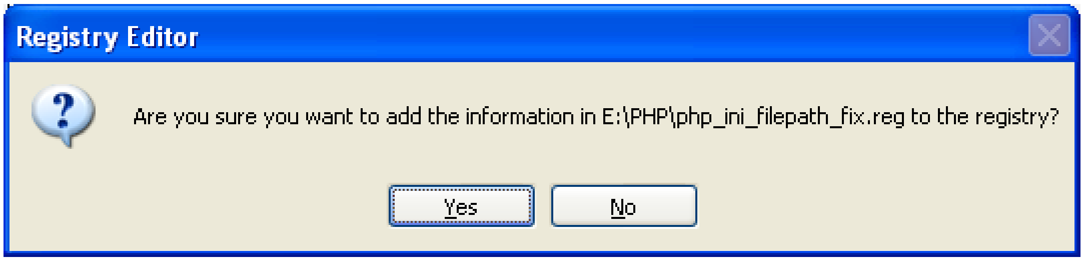
```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\PHP]
"IniFilePath"="E:\\PHP"
```

Note: it is *necessary* to “escape” the back-slash after the drive letter, i.e. E:\\PHP is NOT a typo. If you had a more extended path you would have to “escape” all of the back-slashes.

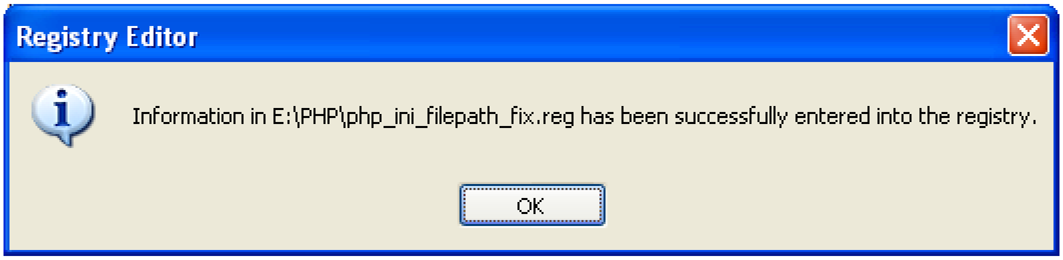
Save the file and then change the extension from “.txt” to “.reg”.

Double click on the file. You will get a pop-up that looks like this:



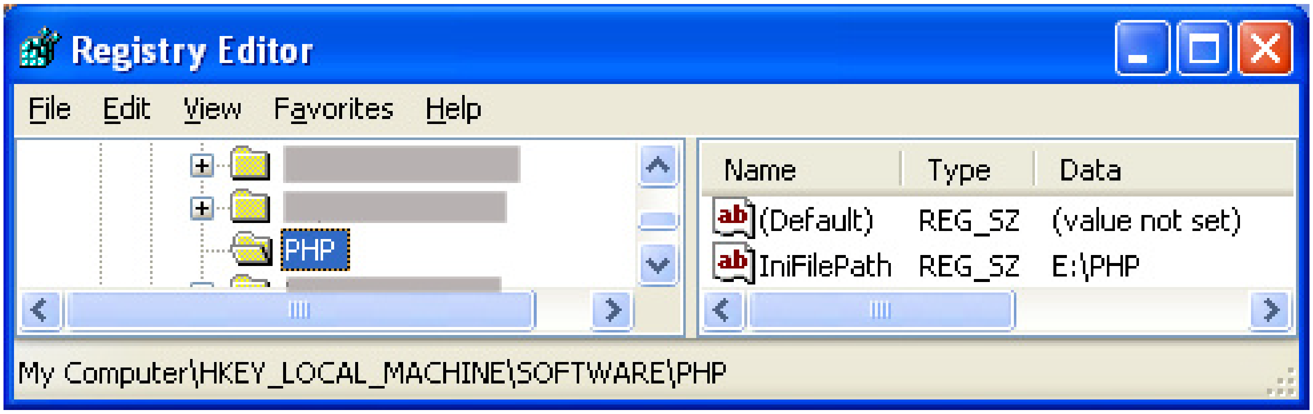
Are you sure you want to add the information in E:\PHP\php_ini_filepath_fix.reg to the registry?

Click on the “Yes” button. If you’ve typed everything correctly you should see:



Information in E:\PHP\php_ini_filepath_fix.reg has been successfully entered into the registry.

You can check your Registry to confirm, using run → regedit. It should look something like this:



Name	Type	Data
(Default)	REG_SZ	(value not set)
IniFilePath	REG_SZ	E:\PHP

My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\PHP

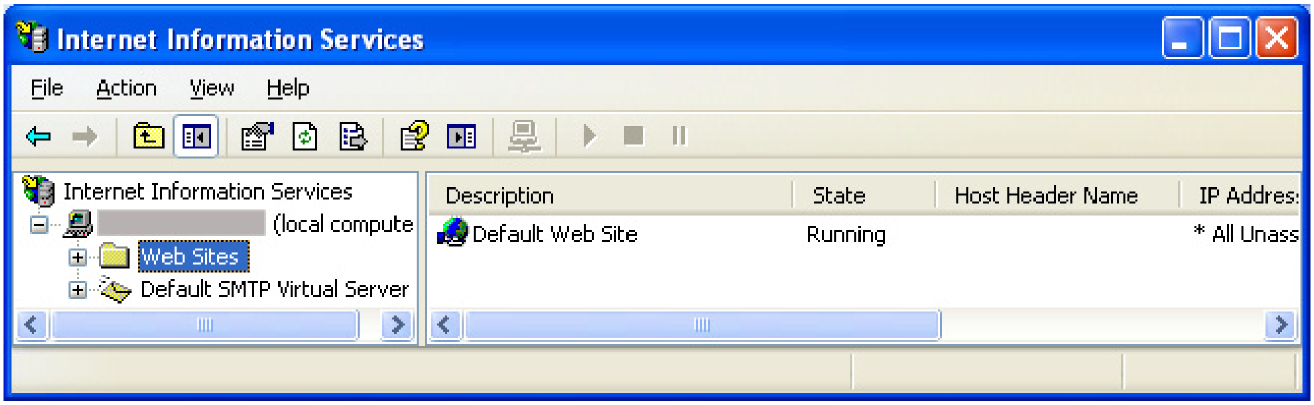
Notice the path in the status bar?

Setup the ISAPI Module, Etc. in IIS:

It is necessary to modify MMC to have IIS operate in ISAPI mode (for reasons discussed above). Now is the time to set this:

Start → Programs → Administrative Tools → Internet Information Services

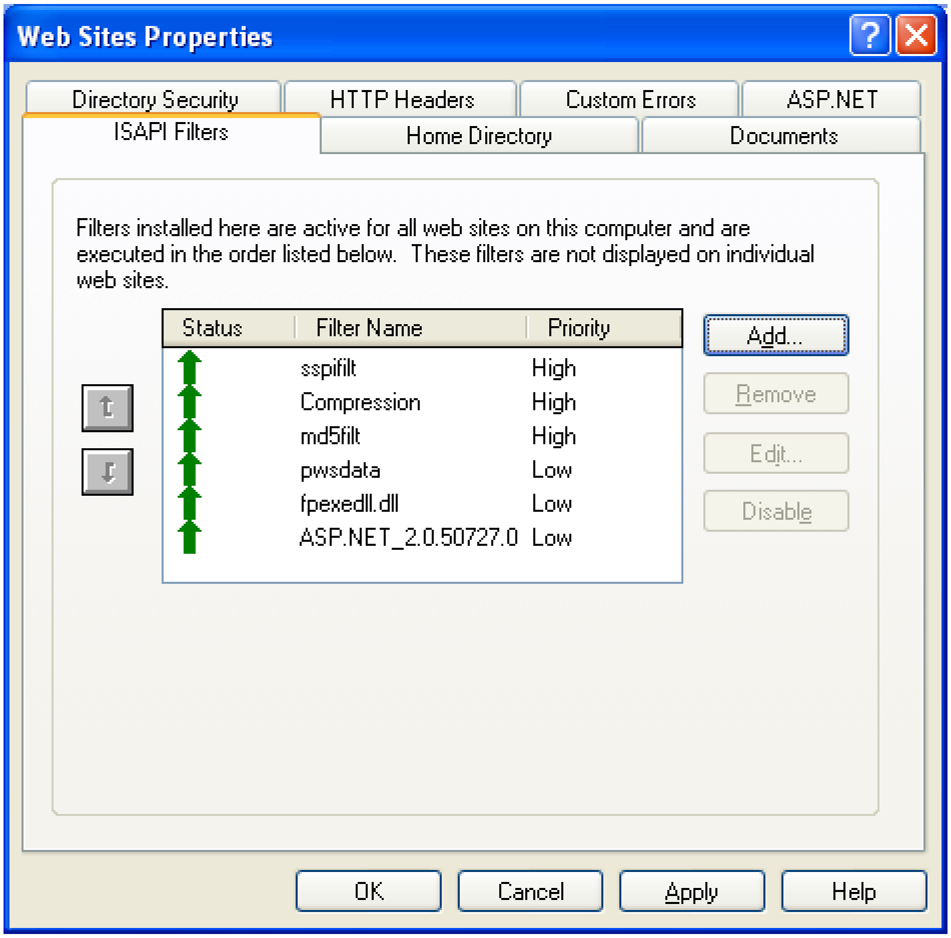
Under your local computer's name you'll see a folder called "Web Sites":



Internet Information Services
[redacted] (local compute
Web Sites
Default SMTP Virtual Server

Description	State	Host Header Name	IP Addres
Default Web Site	Running		* All Unass

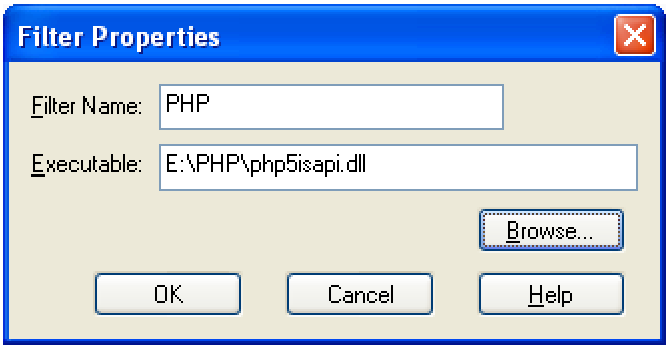
Right click on "Web Sites" and select "Properties", then click on the "ISAPI Filters" tab:



Filters installed here are active for all web sites on this computer and are executed in the order listed below. These filters are not displayed on individual web sites.

Status	Filter Name	Priority
⬆	sspifilt	High
⬆	Compression	High
⬆	md5filt	High
⬆	pwsdata	Low
⬆	fpexedll.dll	Low
⬆	ASP.NET_2.0.50727.0	Low

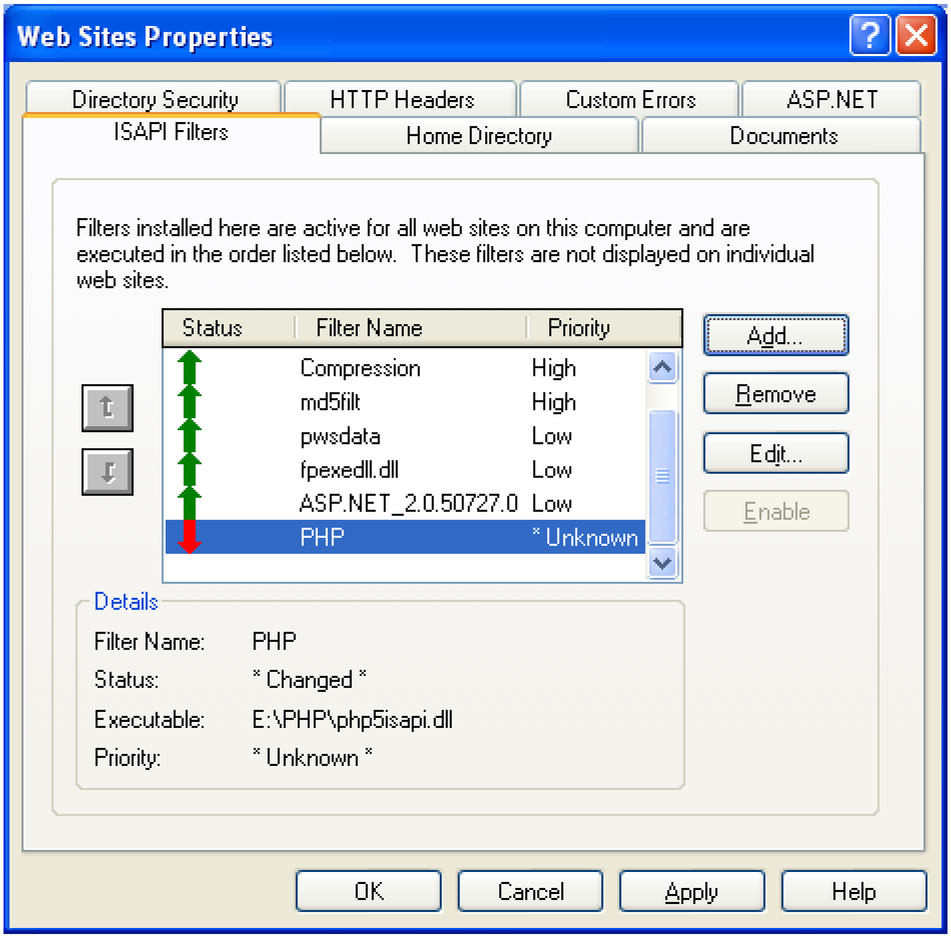
Click on the “Add” button and add a new filter, with the Filter Name as “PHP” and the “Executable” location for the “php5isapi.dll”, probably in your PHP root directory. Mine is set up as follows:



Filter Name: PHP

Executable: E:\PHP\php5isapi.dll

Click “OK” to close. You will have a new look:



Filters installed here are active for all web sites on this computer and are executed in the order listed below. These filters are not displayed on individual web sites.

Status	Filter Name	Priority
⬆	Compression	High
⬆	md5filt	High
⬆	pwsdata	Low
⬆	fpexedll.dll	Low
⬆	ASP.NET_2.0.50727.0	Low
⬇	PHP	* Unknown

Details

Filter Name: PHP

Status: * Changed *

Executable: E:\PHP\php5isapi.dll

Priority: * Unknown *

Note 1: the red down-arrow before "PHP" will turn to a green up-arrow after IIS is restarted.

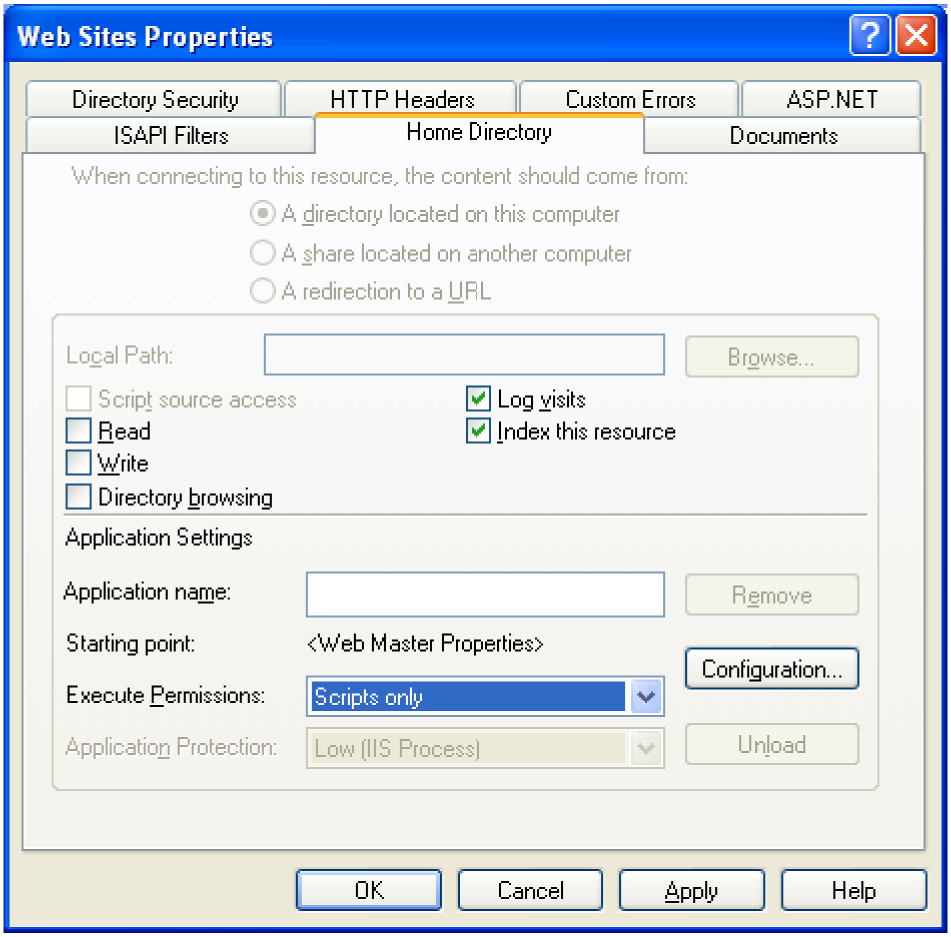
Note 2: The priority for "PHP" will remain as "Unknown". There is nothing you can do to fix this. Here's a quote from Microsoft Article ID: 237471:

> "ISAPI Filters that do not register with either High, Medium, or Low priority are marked as Unknown in the Microsoft Management Console (MMC). Filters marked as Unknown are called before all filters with any of the three priorities that have registered for the same notification. … Note that Global Filters installed under the Master WWW Properties are called before a filter with the same priority installed under one of the Web Server instances."

Note 3: this is NOT setting up the ISAPI (URL) Rewrite filter for Permalinks. If / when we need to do this we'll come back to it.

Don't leave this window yet!!!!

Click on the "Home Directory" tab. Find "Execute Permissions:" and select "Scripts Only":



Web Sites Properties

When connecting to this resource, the content should come from:

● A directory located on this computer

○ A share located on another computer

○ A redirection to a URL

Local Path:

□ Script source access

☑ Log visits

□ Read

☑ Index this resource

□ Write

□ Directory browsing

Application Settings

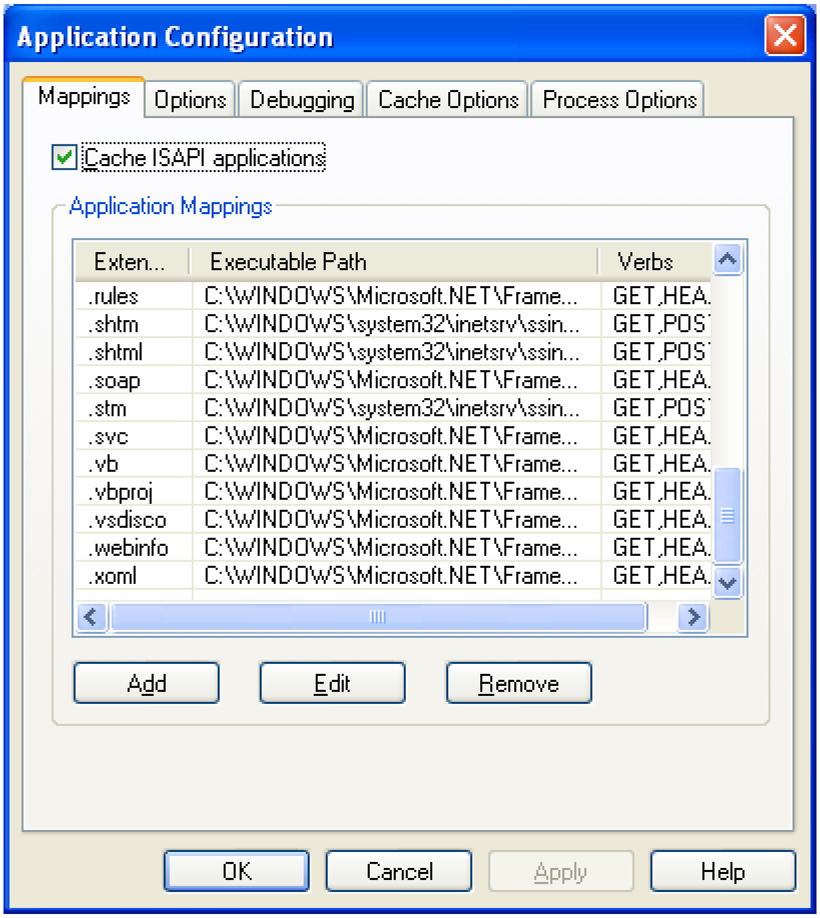
Application name:

Starting point: <Web Master Properties>

Execute Permissions: Scripts only

Application Protection: Low (IIS Process)

Click on the “Configuration” button, this opens the “Application Configuration” window:



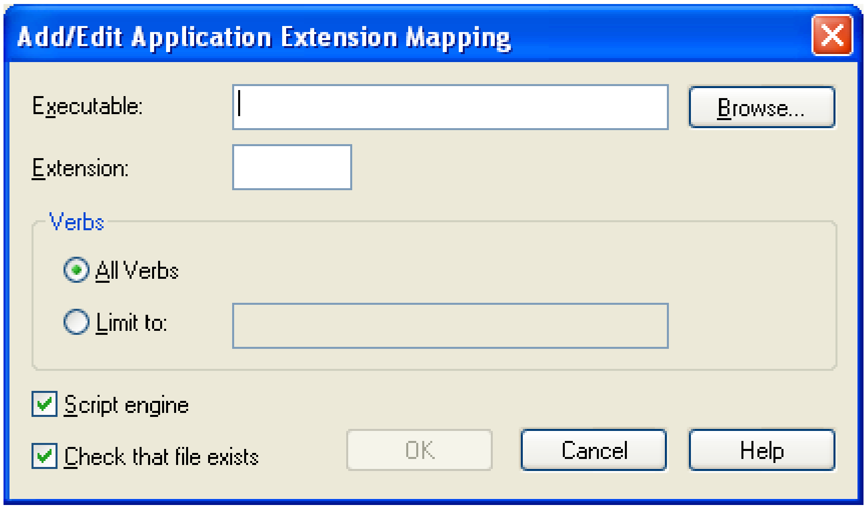
Application Configuration

☑ Cache ISAPI applications

Application Mappings

Exten...	Executable Path	Verbs
.rules	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.shtm	C:\WINDOWS\system32\inetsrv\ssin...	GET,POS
.shtml	C:\WINDOWS\system32\inetsrv\ssin...	GET,POS
.soap	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.stm	C:\WINDOWS\system32\inetsrv\ssin...	GET,POS
.svc	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.vb	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.vbproj	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.vsdisco	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.webinfo	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.xoml	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.

Click on the “Add” button, this will pop up the Add/Edit Application Extension Mapping window:



Add/Edit Application Extension Mapping

Executable:

Extension:

Verbs

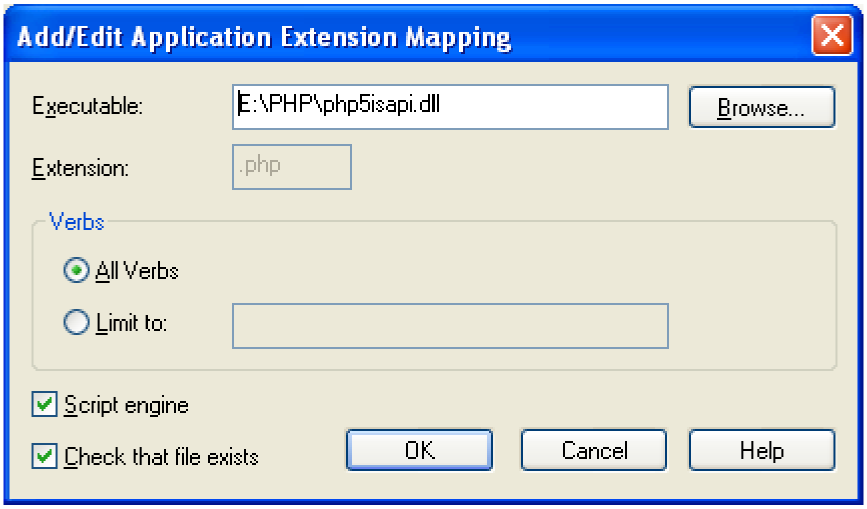
● All Verbs

○ Limit to:

☑ Script engine

☑ Check that file exists

Browse for the location of the “php5isapi.dll” – you may have to change File Type to see it. This DLL should be in your PHP root directory. Set the “Extension” to “.php”. Set “Limit to” to: “All Verbs”. Leave “Script engine” checked and “Check that file exists” checked (this slows “things” down just a tad but gives better error messages). For me it looks like this:



Add/Edit Application Extension Mapping

Executable: E:\PHP\php5isapi.dll

Extension: .php

Verbs

● All Verbs

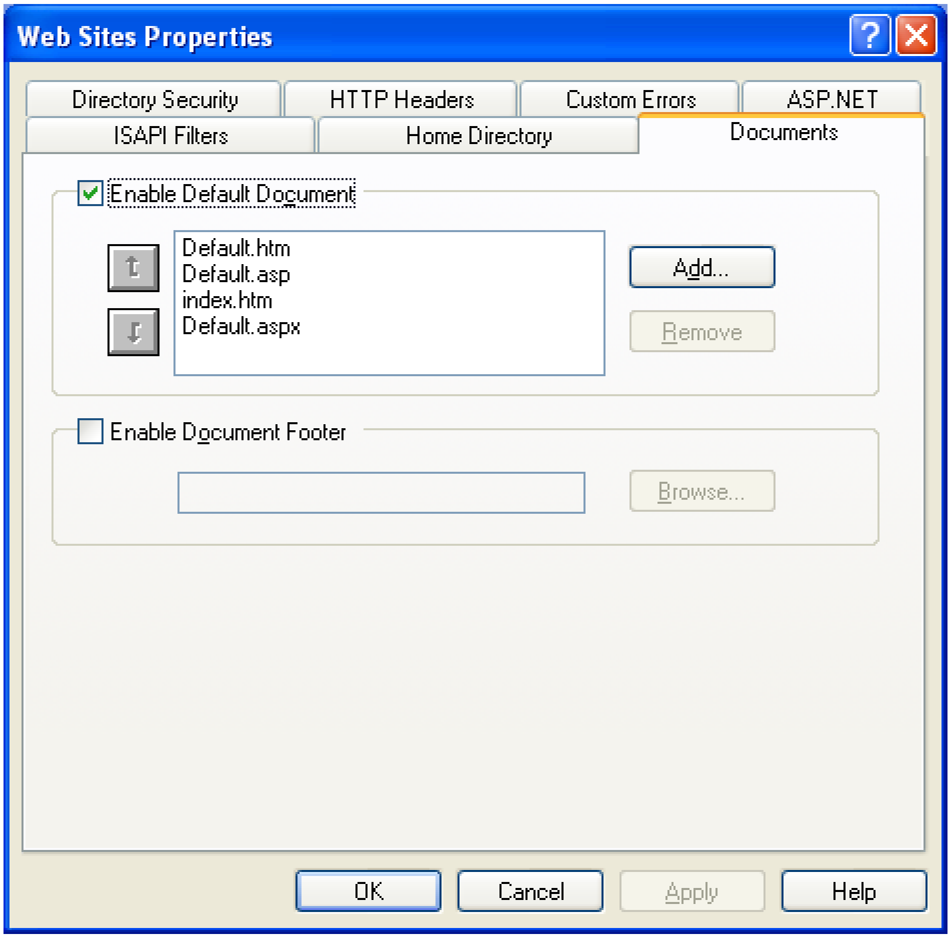
○ Limit to:

☑ Script engine

☑ Check that file exists

Click “OK” back to the “Web Sites Properties” windows. Do NOT go all the way back to IIS.

Click on the “Documents” tab. You should see something like this:



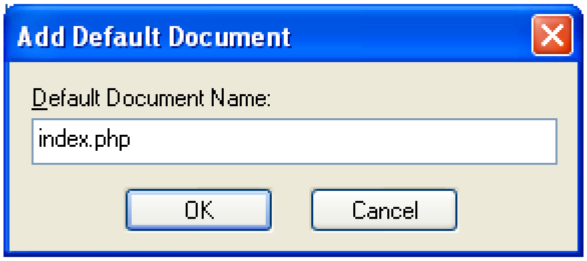
Web Sites Properties

☑ Enable Default Document

Default.htm
Default.asp
index.htm
Default.aspx

☐ Enable Document Footer

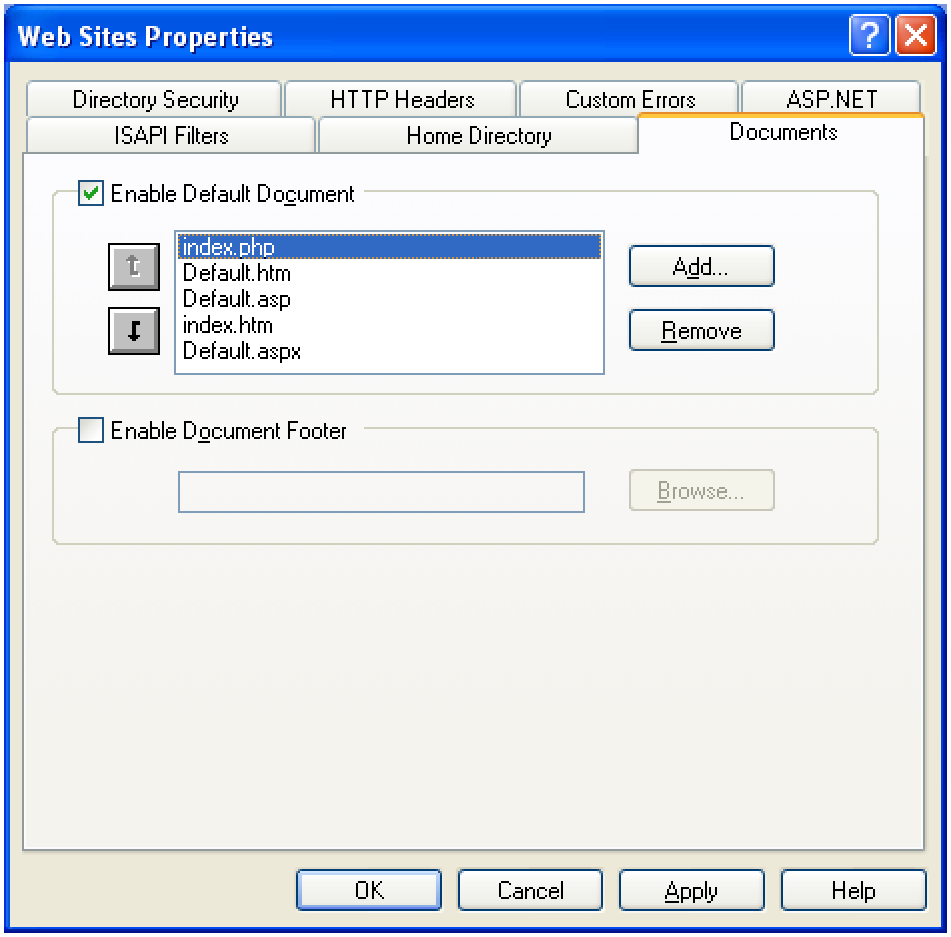
In order to use the standard “index.php” file as a default content page, click on the “Add” button and enter “index.php” for the Default Document Name:



Add Default Document

Default Document Name: index.php

I don't know how much difference it makes but back on the "Documents" tab, I adjusted the order and put "index.php" at the top:



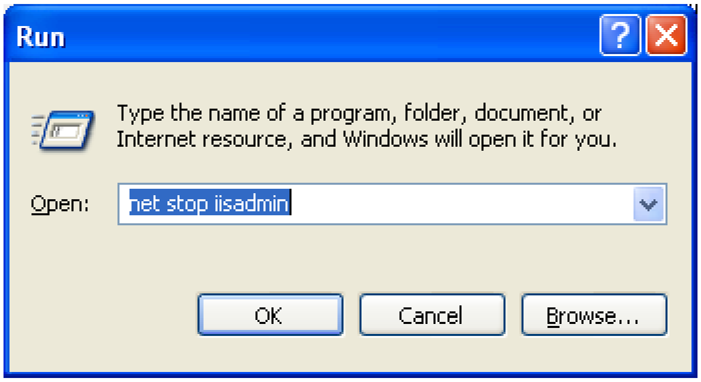
Web Sites Properties

☑ Enable Default Document

- index.php
- Default.htm
- Default.asp
- index.htm
- Default.aspx

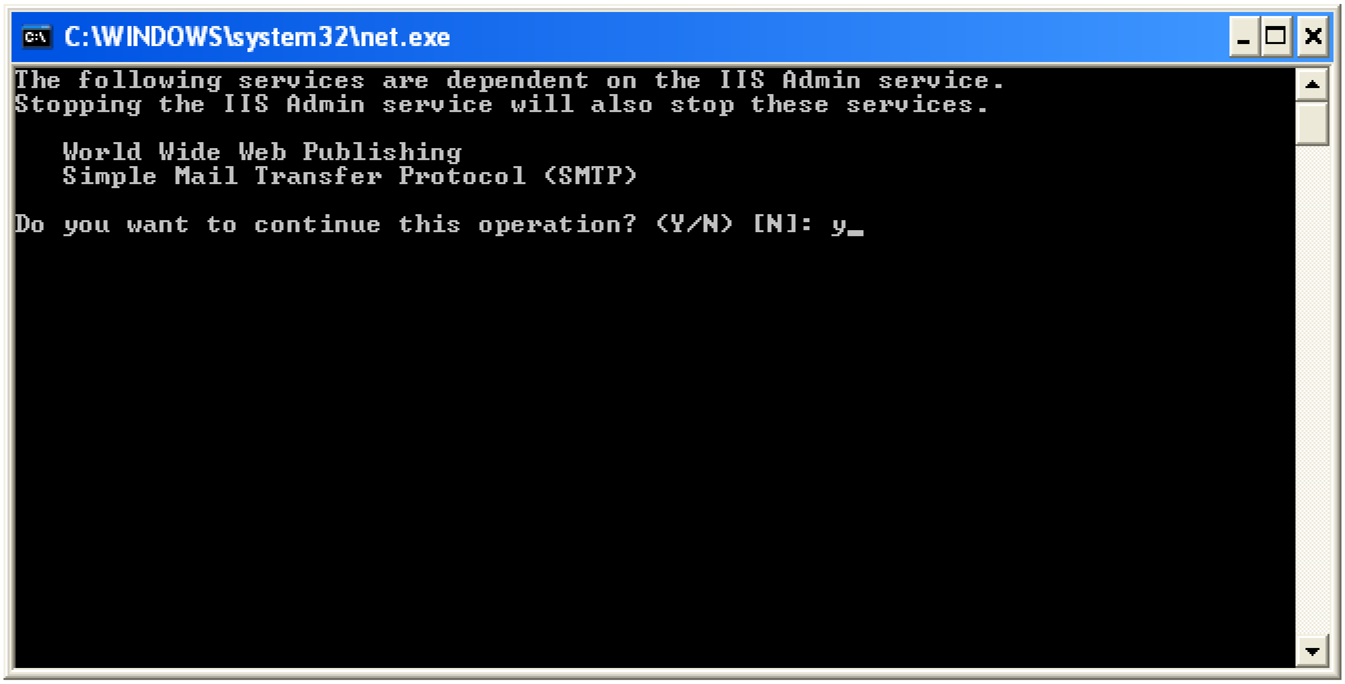
□ Enable Document Footer

Stop IIS by using run → "net stop iisadmin" (use *instead of* run → services.msc → IIS Admin → stop):


Run
?
Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:
OK
Cancel
Browse...

```
net stop iisadmin
```

You should see this. Enter 'y' and press the enter key:



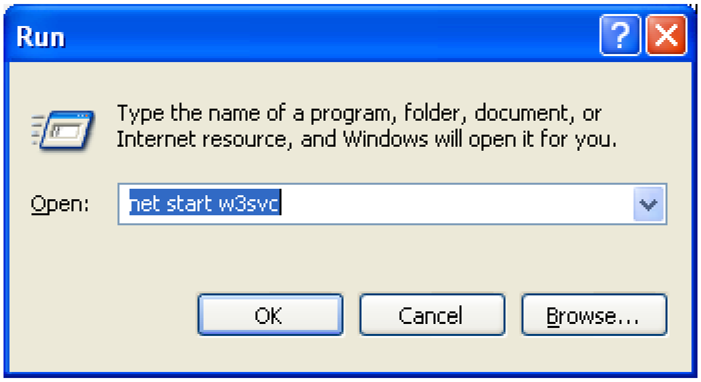
```
The following services are dependent on the IIS Admin service.
Stopping the IIS Admin service will also stop these services.

   World Wide Web Publishing
   Simple Mail Transfer Protocol (SMTP)

Do you want to continue this operation? (Y/N) [N]: y_
```

If you were to check run→ services.msc you would see that the IIS Admin service has stopped.

Start IIS by using run → net start w3svc (use *instead of* run → services.msc → IIS Admin → start):


Run
?
Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:
OK
Cancel
Browse...

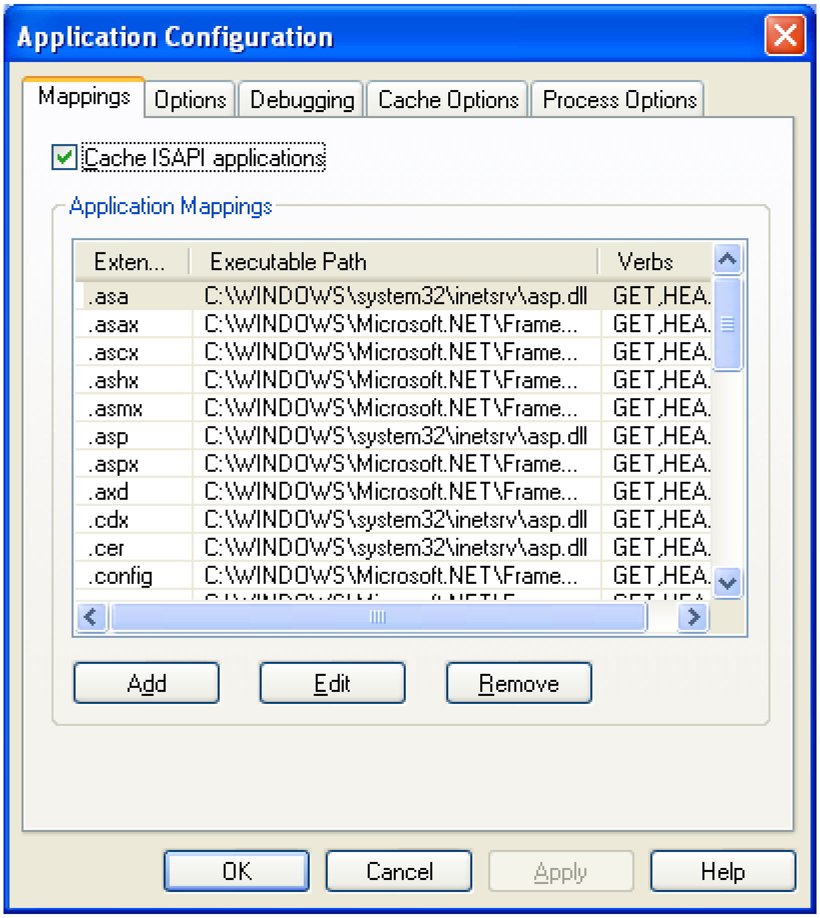
```
net start w3svc
```

The command prompt will display and show that World Wide Web Publishing is starting. A look back at run →

services.msc would show that IIS Admin has started.

Note: after restarting I opened up Internet Information Services window to verify further and noticed that the "Default SMTP Virtual Server" hadn't been restarted. I selected it, right-clicked on it and selected "start" and it fired right up. Probable glitch in the net start w3svc command.

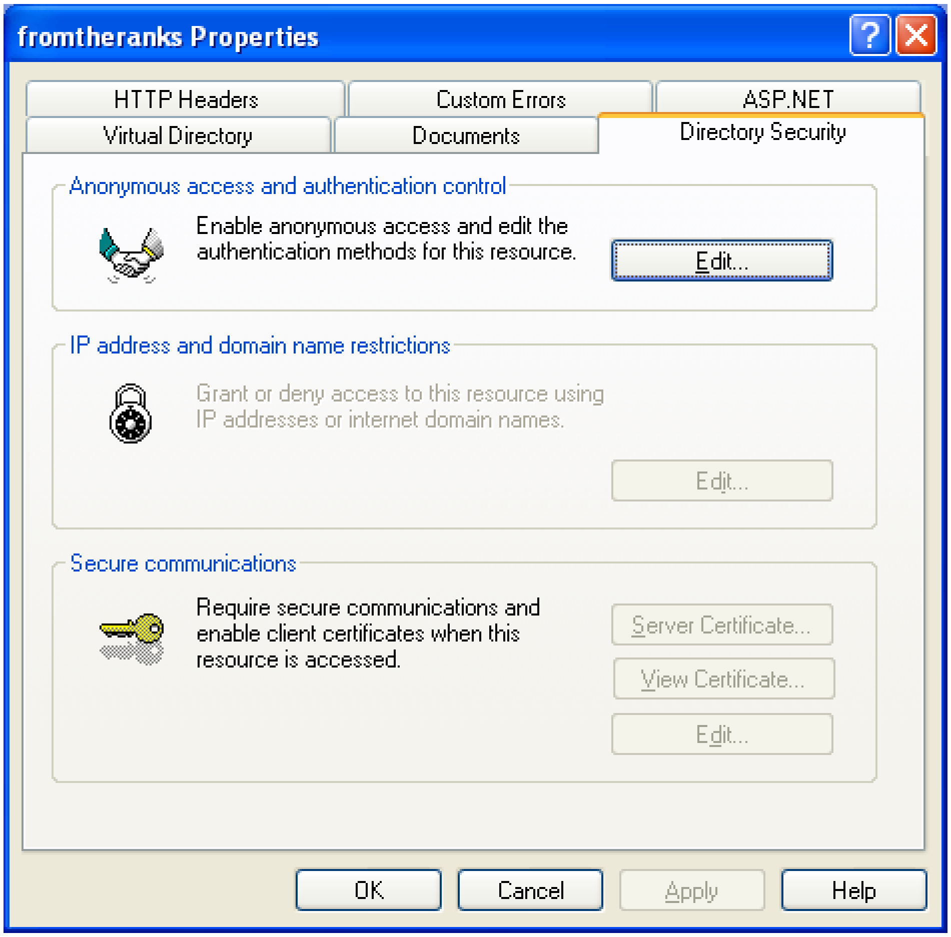
Note from the PHP manual install manual: "If you experience 100% CPU usage after some time, turn off the IIS setting Cache ISAPI Application". That option is here, in the upper left hand corner:



☑ Cache ISAPI applications

Exten...	Executable Path	Verbs
.asa	C:\WINDOWS\system32\inetsrv\asp.dll	GET,HEA.
.asax	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.ascx	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.ashx	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.asmx	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.asp	C:\WINDOWS\system32\inetsrv\asp.dll	GET,HEA.
.aspx	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.axd	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.
.cdx	C:\WINDOWS\system32\inetsrv\asp.dll	GET,HEA.
.cer	C:\WINDOWS\system32\inetsrv\asp.dll	GET,HEA.
.config	C:\WINDOWS\Microsoft.NET\Frame...	GET,HEA.

There is one more thing to check, while you are at it. Click "OK" on the Mappings tab to go back to the Properties tab. Click on the "Directory Security" tab. You should see something like this:



fromtheranks Properties

Anonymous access and authentication control

Enable anonymous access and edit the authentication methods for this resource.

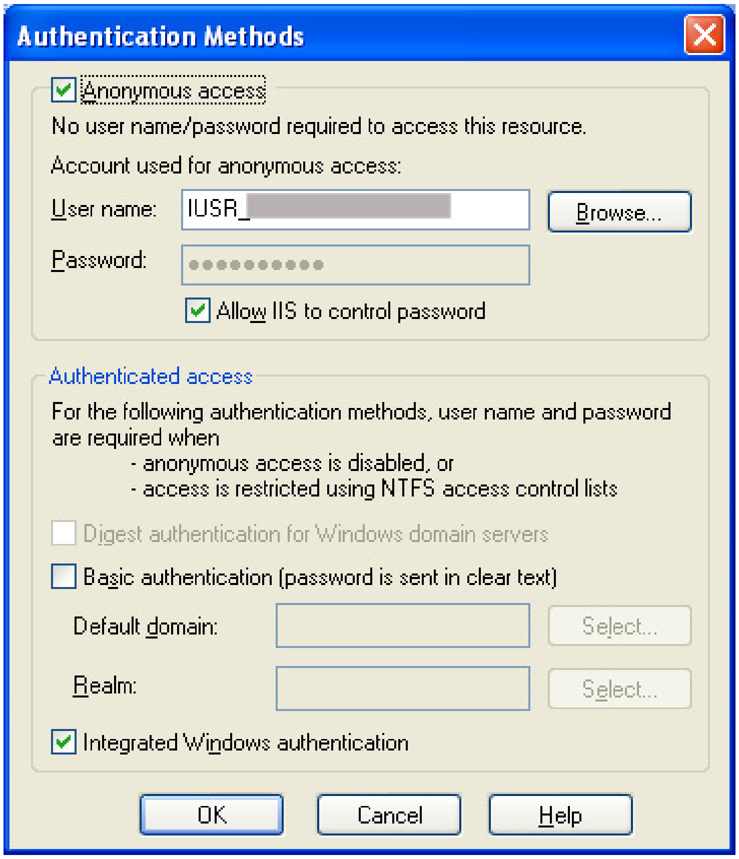
IP address and domain name restrictions

Grant or deny access to this resource using IP addresses or internet domain names.

Secure communications

Require secure communications and enable client certificates when this resource is accessed.

Click on the “Edit” button. It should be setup something like this, except with your machine’s name after “IUSR_”. You may want to change this on a production box, but for development this is fine.:



☑ Anonymous access

No user name/password required to access this resource.

Account used for anonymous access:

User name: IUSR_[redacted]

Password: ●●●●●●●●●●●

☑ Allow IIS to control password

Authenticated access

For the following authentication methods, user name and password are required when
- anonymous access is disabled, or
- access is restricted using NTFS access control lists

□ Digest authentication for Windows domain servers

□ Basic authentication (password is sent in clear text)

Default domain:

Realm:

☑ Integrated Windows authentication

Testing PHP and IIS:

Now is a good time to reboot your computer to make sure PATH, etc., is properly set and recognized.

It should be, but, just to be safe, make sure IIS is running.

For a quick test, using a basic text editor like Notepad, create a file called test.php. Its content is simply:

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

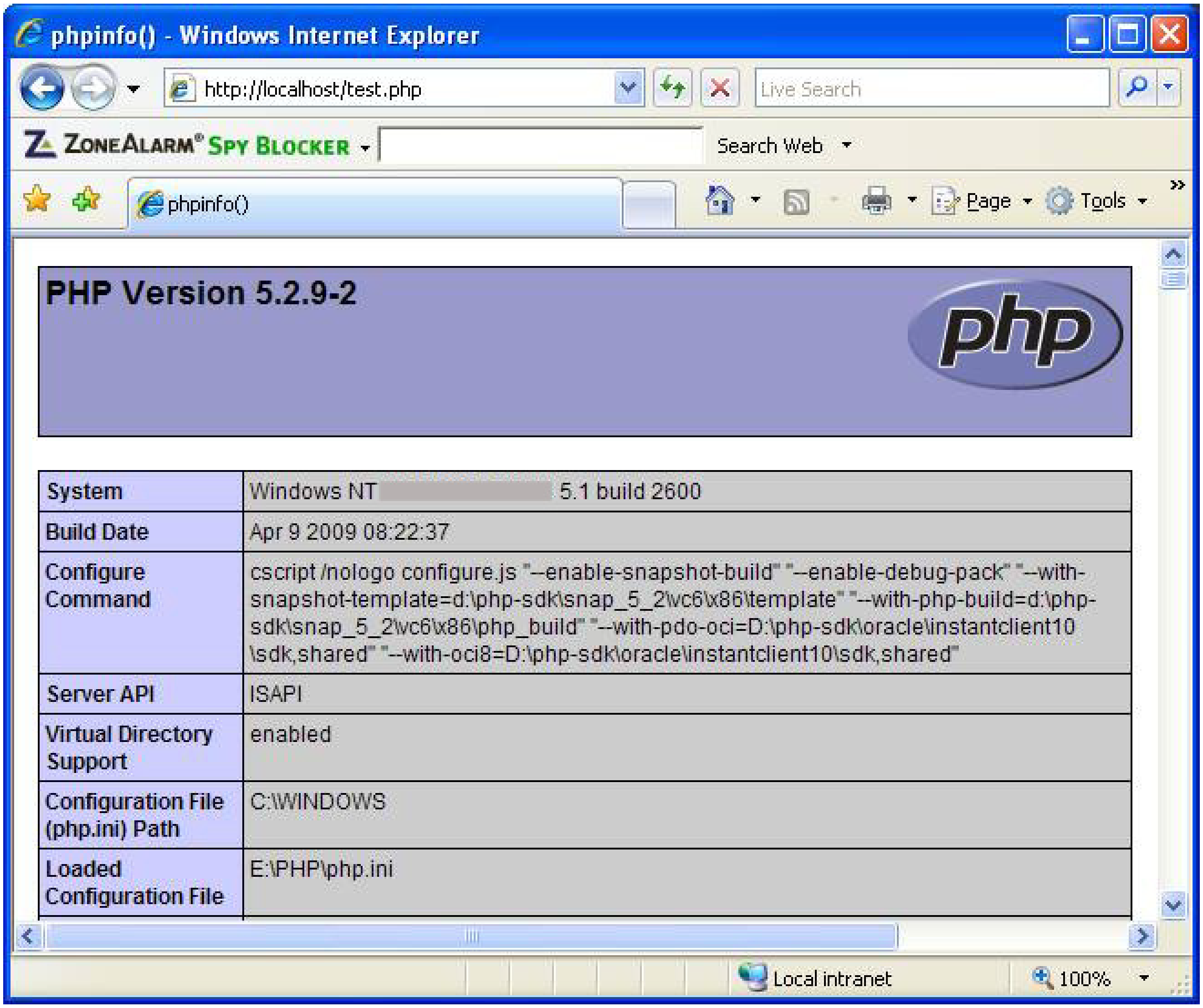
Save “test.php” in: c:\inetpub\wwwroot

After restarting IIS open IE and on the URL line, enter:

http://localhost/test.php

Note: later on after your local site is further setup this URL will change.

If all is well, at this point anyway, you should see something like the following:



PHP Version 5.2.9-2

System	Windows NT [redacted] 5.1 build 2600
Build Date	Apr 9 2009 08:22:37
Configure Command	cscript /nologo configure.js "--enable-snapshot-build" "--enable-debug-pack" "--with-snapshot-template=d:\php-sdk\snap_5_2\vc6\x86\template" "--with-php-build=d:\php-sdk\snap_5_2\vc6\x86\php_build" "--with-pdo-oci=D:\php-sdk\oracle\instantclient10\sdk,shared" "--with-oci8=D:\php-sdk\oracle\instantclient10\sdk,shared"
Server API	ISAPI
Virtual Directory Support	enabled
Configuration File (php.ini) Path	C:\WINDOWS
Loaded Configuration File	E:\PHP\php.ini

Don't worry about the "NT" designation, XP is based on the original NT O/S. And, do you notice the "C:\WINDOWS"? Even when you have everything "pathed" correctly this "hangs around". This drove me crazy, until I found out this value is hard-coded (compiled) into the function and there is no way to change it. [Thanks to Peter Guy of www.peterguy.com for the tip.]

There is a second test script that you might want to run. I found this on the PHP web-site:

Create a new Notepad file called something like: test-php-ini-loaded.php

Save it in c:\inetpub\wwwroot (or your root directory as appropriate)

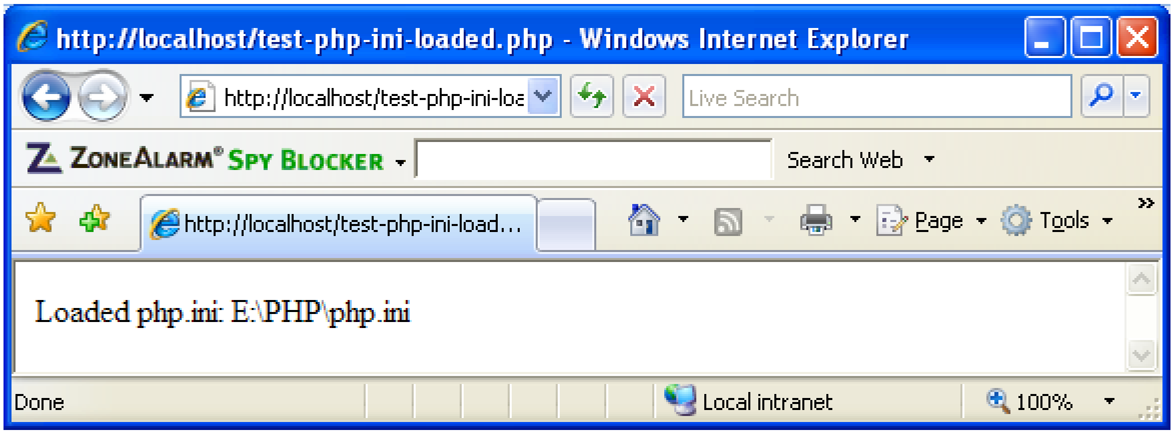
Add this code to it exactly as shown:

```
<?php
$inipath = php_ini_loaded_file();

if ($inipath) {
   echo 'Loaded php.ini: ' . $inipath;
} else {
   echo 'A php.ini file is not loaded';
}
?>
```

Then run it from your localhost, i.e. http://localthost/test-php-ini-loaded.php

You should see something like this:


http://localhost/test-php-ini-loaded.php - Windows Internet Explorer
http://localhost/test-php-ini-loa
Live Search
ZoneAlarm® Spy Blocker
Search Web
http://localhost/test-php-ini-load...
Page
Tools
Done
Local intranet
100%

```
Loaded php.ini: E:\PHP\php.ini
```

Testing PHP and MySQL:

There is an elegant test example in the article "How To Install MySQL and PHP on IIS 6.0 " found on www.iisadmin.co.uk, posted on 5th September, 2007. The test is on "Page 4". IIS 6 runs on Server 2003, of course, but this test should work for IIS 5.1 – when I have some time I'll try it out.

There is a shorter test which I found at: http://www.artfulsoftware.com/php_mysql_win.html

Its down at "6. Test" and includes a simple PHP script. Again. Make sure IIS and MySQL are running – I mention this because I forgot to start MySQL before trying this test -- paint my cheeks pink – and, of course, it failed. Kind of goes back to the early days of: "Is your computer plugged in?"

As a third option, you can build this script which I found the framework for somewhere on the web but can't, for the life of me, recall where. If it works properly you should be in good shape:

Create a Notepad file called test-php-mysql-connection.php

Save it in the c:\inetpub\wwwroot directory (or as appropriate for your system)

Add this code to it (everything between 'c.' and 'd.'):

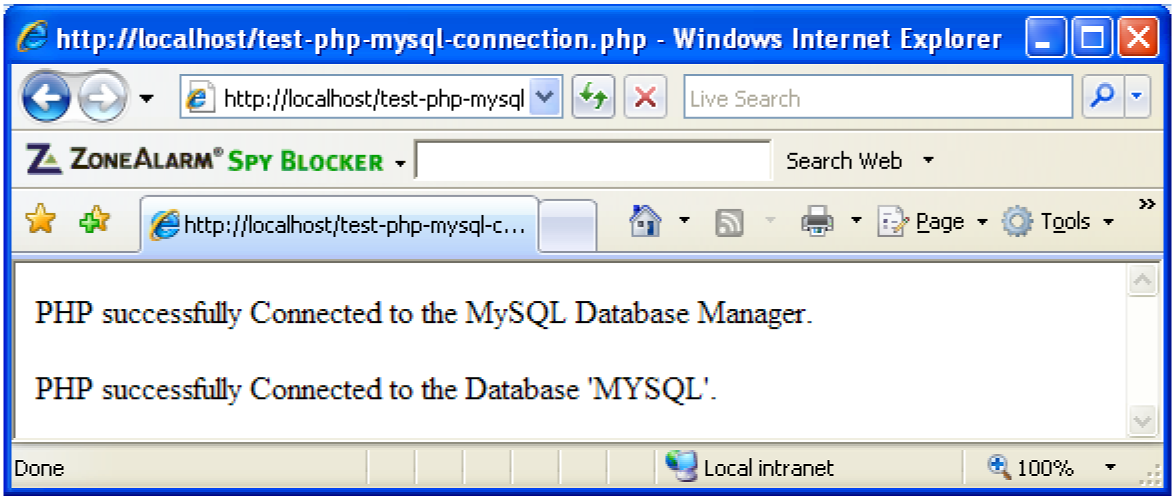
```
<?PHP
//first param is server name, 2nd is username 'root', 3rd is YOUR password
$rst = @mysql_connect("localhost","root","<your password>");
```

```
if (!$rst){
echo( "<p>PHP unable to connect to the database manager.</p>");
die('Could not connect: ' . mysql_error());
exit();
} else {
echo("<p>PHP successfully Connected to the MySQL Database Manager.</p>");
}

if (! @mysql_select_db("mysql") ){
echo( "<p>PHP unable to connect database...</p>");
exit();
} else {
echo("<p>PHP successfully Connected to the Database 'MYSQL'.</p>");
}
?>
```

Then run it from your localhost, i.e. http://localthost/test-php-mysql-connection.php

You should see something like this:

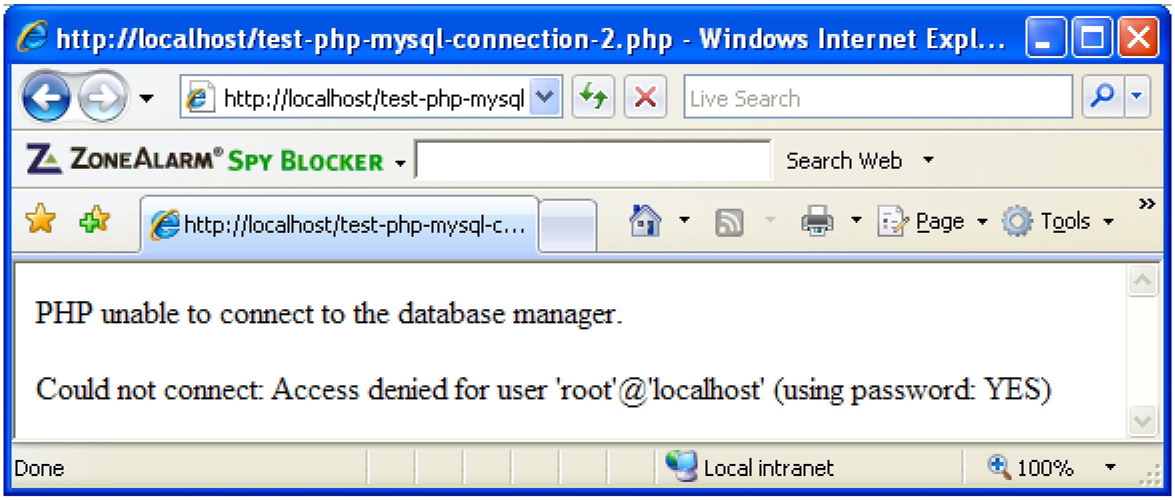


http://localhost/test-php-mysql-connection.php - Windows Internet Explorer
http://localhost/test-php-mysql
Live Search
ZoneAlarm® Spy Blocker
Search Web
http://localhost/test-php-mysql-c...
Page
Tools
Done
Local intranet
100%

PHP successfully Connected to the MySQL Database Manager.

PHP successfully Connected to the Database 'MYSQL'.

If you have an invalid password (or code error), you will see something like this:


http://localhost/test-php-mysql-connection-2.php - Windows Internet Expl...
http://localhost/test-php-mysql
Live Search
ZoneAlarm® Spy Blocker
Search Web
http://localhost/test-php-mysql-c...
Page
Tools
Done
Local intranet
100%

```
PHP unable to connect to the database manager.

Could not connect: Access denied for user 'root'@'localhost' (using password: YES)
```

PHP should now be setup and ready for use.

Next Step:

Technically the next TechNote in the series (TechNote: 5b-WordPress Install - IIS 5-1 PHP 5-2-9-2 phpinfo Tests) is not required reading. It documents some additional testing I did to confirm that PHP was properly installed. I did this testing because the phpinfo ( ) function incorrectly reported the value for “Configuration File (php.ini) Path. While “slightly” off-track, this TechNote is well worth the read as, at the very least, it will familiarize you with the PHP scripting language, and the architecture of your development site.

However, you can skip this document and go directly to the next in the series. If that is your wish, see: TechNote: 6-WordPress Install - IIS 5-1 Adding A Virtual Directory.