

# Apache/MySQL/PHP/phpMyAdmin Installation

(For Windows)

Written by: Steven D. Anderson, Ph.D.

These applications (Apache, MySQL, PHP and phpMyAdmin) are open-source and available free online at the following URLs:

- \* Apache: [www.apache.org](http://www.apache.org)
- \* MySQL: [www.mysql.com](http://www.mysql.com)
- \* PHP: [www.php.net](http://www.php.net)
- \* phpMyAdmin: [www.phpmyadmin.net](http://www.phpmyadmin.net)

*Apache* is an http server (web server) and is the most used web server application on the Internet. *MySQL* is a relational database management system that allows easy access with scripting languages, such as PHP. *PHP* is a server-side scripting language. You can think of it as a “plug-in” for a web server that can retrieve information from a database and insert it into a web page. PHP can also take user input (such as an online survey) and place the information into a database. *phpMyAdmin* is a tool written in PHP to handle the administration of MySQL over the Web. Currently it can create and drop databases, create/drop/alter tables, delete/edit/add fields, execute any SQL statement, manage keys on fields, manage privileges, export data, and a whole range of other actions. Without phpMyAdmin, one would have to manage the MySQL database via a command line interface, which would be an exercise in self-punishment.

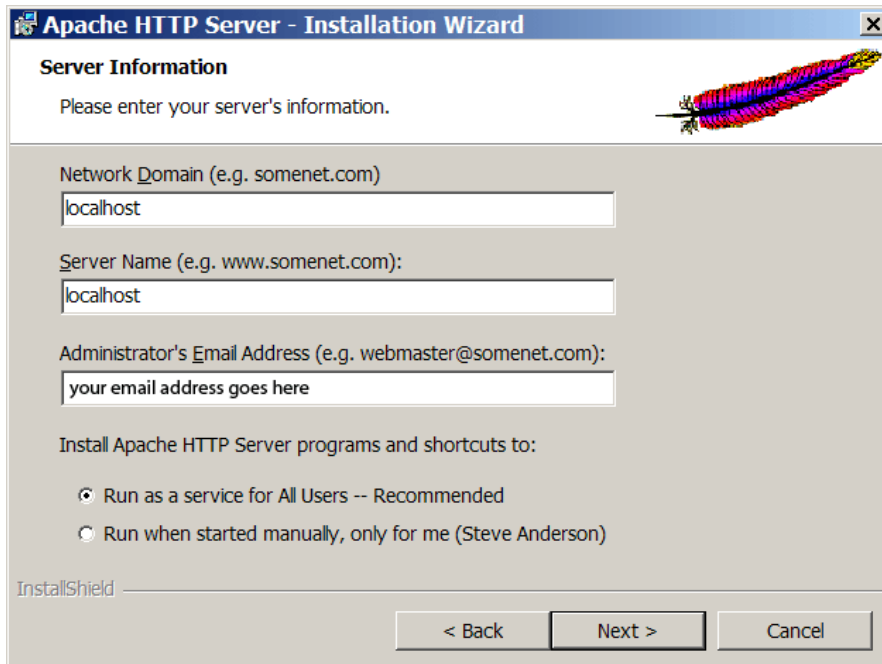
Many web hosting companies support all of these applications. If that’s the case, you won’t need to install these applications, unless you want to run your own server or just want to test your work on your own computer. This tutorial assumes you want to install the applications on your own PC.

## Apache Installation

- \* Go to: <http://www.apache.org>
  - Use the “HTTP Server” link on the left.
  - Click on the download link
  - Download the “Win32 Binary” **version 1.3.31** to your desktop.

There are a number of bugs that arise with PHP when running on Apache version 2.0 or later. So, even though a later version is available, use version 1.3.31.

- \* Double-click on the downloaded file to start the installation process.
  - Follow the screen prompts. When this screen comes up, use the following:  
(If you are installing on a computer that will be a web server on the Internet, use instead the information in the **REFERENCE** section below).



## **\*\* REFERENCE \*\***

1. **Network Domain.** Enter the DNS domain in which your server is or will be registered in. For example, if your server's full DNS name is `server.mydomain.net`, you would type `mydomain.net` here.
2. **Server Name.** Your server's full DNS name. From the example above, you would type `server.mydomain.net` here.
3. **Administrator's Email Address.** Enter the server administrator's or webmaster's email address here. This address will be displayed along with error messages to the client by default.

\* The files will install into the following path:  
c:\Program Files\Apache Group\Apache

## **Edit the Configuration File (httpd.conf)**

- \* Go to the following path:  
C:\Program Files\Apache Group\Apache\conf
- Open the file **httpd.conf** in Notepad (Or, some other plain ascii text editor).
  - Look for the following information.
  - **Find** and/or **Verify** the information in **GREEN**
  - **Change** the information in **RED**

## httpd.conf

```
# ServerAdmin: Your address, where problems with the server should be
# e-mailed. This address appears on some server-generated pages, such
# as error documents.
#
```

```
ServerAdmin youremail@jmu.edu
```

(This should include the email address you filled in during the installation)

```
# ServerName allows you to set a host name which is sent back to clients for
# your server if it's different than the one the program would get (i.e., use
# "www" instead of the host's real name).
#
```

```
# Note: You cannot just invent host names and hope they work. The name you
# define here must be a valid DNS name for your host. If you don't understand
# this, ask your network administrator.
```

```
# If your host doesn't have a registered DNS name, enter its IP address here.
# You will have to access it by its address (e.g., http://123.45.67.89/)
# anyway, and this will make redirections work in a sensible way.
#
```

```
# 127.0.0.1 is the TCP/IP local loop-back address, often named localhost. Your
# machine always knows itself by this address. If you use Apache strictly for
# local testing and development, you may use 127.0.0.1 as the server name.
#
```

```
ServerName localhost
```

(Use this if developing only on your own computer)

```
ServerName 134.126.47.45
```

```
ServerName streaming.smad.jmu.edu
```

(Change to either an IP address or domain name if using Apache online)

```
# DocumentRoot: The directory out of which you will serve your
# documents. By default, all requests are taken from this directory, but
# symbolic links and aliases may be used to point to other locations.
#
```

```
DocumentRoot "C:/Program Files/Apache Group/Apache/htdocs"
```

(Change the above line to reflect the folder you want as your root on the server, as below)

```
DocumentRoot "C:/web"
```

```
# Note that from this point forward you must specifically allow
# particular features to be enabled - so if something's not working as
# you might expect, make sure that you have specifically enabled it
# below.
#
```

```
# This should be changed to whatever you set DocumentRoot to.
#
```

```
<Directory "C:/Program Files/Apache Group/Apache/htdocs">
```

(Change the above line as below)

```
<Directory "C:/web">
```

\* Save the file **httpd.conf**.

## Restart Apache

- Start > Settings > Control Panel > Administrative Tools > Services
  - Right click on “Apache” and select “Restart”

\*\* You’ll need to restart the Apache service anytime you make changes to the httpd.conf file.

- \* Place your home page (index.html) in the c:/web folder
- \* Check to see that the server is working by going to the following URL in a browser:
  - <http://localhost>

## MySQL Installation

- \* Go to: <http://www.mysql.com/downloads>
  - Download the latest, non-development version of MySQL. (Version 4.0 as of this writing).
  - Unzip the file
  - Run setup.exe
    - Follow the instructions for a “Typical” installation.
- \* The files will install into the following path:
  - c:\mysql

## Working with .cnf Files in Windows

\* In the next step, we’ll have to move **my-small.cnf** to a different folder. The problem here is that .cnf files have special meaning in Windows, so even if you have Windows configured to show all file extensions, the **my-small.cnf** file will appear simply as **my-small**. To fix, this follow the next series of steps.

- Start > Run: regedt32.exe
  - Enter
- Go to HHKEY\_LOCAL\_MACHINE\SOFTWARE\Classes
  - Select .cnf
  - Right click and select “Delete” (to remove it)
- Log off, then Log on Windows (for the change to take effect)
- The .cnf extensions will now show up

## Copy the my-small.cnf File to C:

- \* Go to the following path:  
C:\mysql
- \* Copy the file **my-small.cnf** to the root of C: and rename it **my.cnf**
- \* Open the file **my.cnf** in Notepad.
  - Look for the following lines:

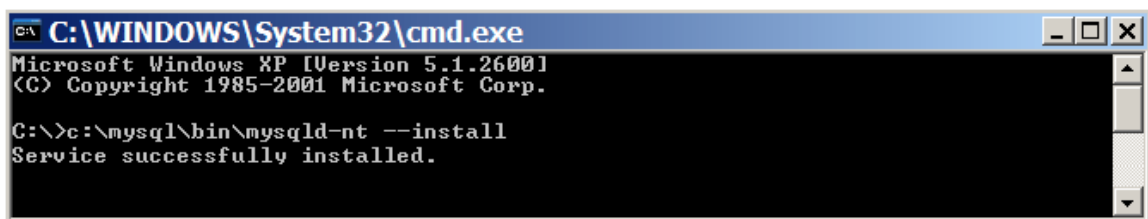
<b>my.cnf</b>
#basedir = d:/mysql #datadir = d:/mysql/data/

- In the lines above, remove the pound signs and change them to read:  
basedir = c:/mysql/  
datadir = c:/mysql/data/
- \* Save the file **my.cnf**

## Running MySQL

The MySQL server program can be found in the bin subfolder of the installation folder. There are actually several versions of the server you can run. Presuming you're running either Windows NT, 2000 or XP, you'll use the file called **mysqld-nt.exe**.

- \* Open a Command Prompt:
  - Start > Run: cmd
  - Enter
- \* Enter: **c:\mysql\bin\mysqld-nt --install** (shown below)



```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>c:\mysql\bin\mysqld-nt --install
Service successfully installed.
```

- You'll get a message that says: "Service successfully installed."
- \* This installs MySQL as a "Service" and will be automatically started every time you turn on your computer.
- \* To start the MySQL server now, without having to re-start, type this in the Command window:
  - Enter: **c:\>net start mysql**

## Verify that MySQL is Running

- \* Press Ctrl+Alt-Del to open the Windows Task Manager
  - Use the "Processes" tab
  - If you see **mysqld-nt.exe** in the list, the server is running.

## PHP Installation

- \* Go to: <http://www.php.net/downloads.php>
  - Download the latest, non-development version of PHP (Version 4.3.8 as of this writing. Get the version with both the CGI binary and the server API extensions, if available).
  - Unzip the file into a folder called **c:\php**
- \* Find the file called: **php4ts.dll** and copy it to the System32 subfolder of your Windows folder (i.e. **c:\Windows\System32**).
- \* Find the file called: **php.ini-dist** and copy it to your Windows folder (i.e. **c:\Windows**).
  - Rename the file in the Windows folder to: **php.ini**
- \* Open the file **php.ini** in Notepad.
  - Look for the following line:

### php.ini

```
extension_dir = "./"
```

- Change the line to:  
**extension\_dir = C:\php**

- Also, look for the following line:

### php.ini

```
;session.save_path = /tmp
```

- In the line above, remove the semi-colon and change the line to read:  
**session.save\_path = C:\windows\temp**

- \* Save the file **php.ini**

## Post-Installation Steps

### Adding PHP Support to Apache

- \* Go to the following path:
  - C:\Program Files\Apache Group\Apache\conf
  - Open the file **httpd.conf** in Notepad
- \* Add the following 3 lines to the bottom of the file:

<b>httpd.conf</b>
LoadModule php4_module c:/php/php-4.3.8-Win32/sapi/php4apache.dll AddType application/x-httpd-php .php .php3 .phtml AddType application/x-httpd-php-source .phps

- Make sure the path is correct for the first line.

- \* Also, look for the line that begins with **DirectoryIndex**

<b>httpd.conf</b>
# DirectoryIndex: Name of the file or files to use as a pre-written HTML # directory index. Separate multiple entries with spaces. # <IfModule mod_dir.c> <b>DirectoryIndex index.html</b> </IfModule>

- Change the line to:  
**DirectoryIndex index.html ... index.php index.php3 index.phtml**

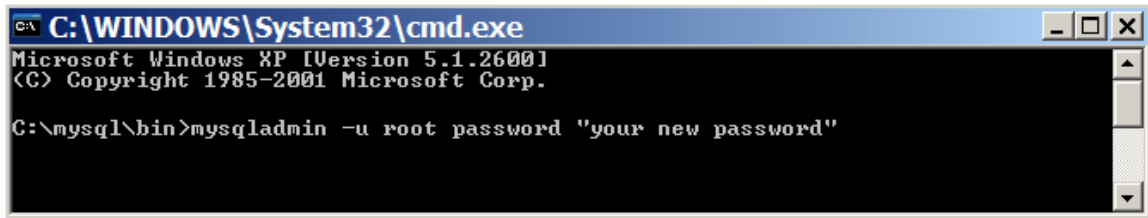
- \* Save the file **httpd.conf**
- \* Restart Apache
  - Start > Settings > Control Panel > Administrative Tools > Services
  - Right click on “Apache” and select “Restart”

### Assigning a MySQL Root Password

Once PHP and MySQL are installed, you'll need to assign a root password for MySQL. When MySQL is installed, it's configured to allow users to view and manipulate the database information, without needing to enter a password.

- \* Open a Command Prompt:
  - Start > Run: cmd
  - Enter

\* From the c:\mysql\bin folder, enter: **mysqladmin -u root password "your new password"** (shown below)



```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\mysql\bin>mysqladmin -u root password "your new password"
```

(Put your password in without the quotes)

## Trying the New Password

\* Command Prompt:

- From the c:\mysql\bin folder, enter: **mysqladmin -u root -p status**
- Enter your password
- If it worked, you'll see system information

## Configuring PHP

\* In the Windows folder, open the file **php.ini** in Notepad.  
- Make sure the following lines conform:

<b>php.ini</b>
register_globals = off magic_quotes_gpc = On doc_root = c:\web extension_dir = c:\php\php-4.3.8-Win32

- **doc\_root:** This should be the same as the root directory you made in the Apache httpd.conf file.
- **extension\_dir:** This should be the folder where PHP was installed.

\* Save the file **php.ini**

\* Restart Apache

- Start > Settings > Control Panel > Administrative Tools > Services
- Right click on "Apache" and select "Restart"

## Final Testing

- \* Place a PHP file in the c:\web folder, such as welcome.php
- \* Go to a browser and enter the URL: <http://localhost/welcome.php>

## phpMyAdmin

- \* Go to: <http://www.phyadmin.net>
  - Download the latest, stable version of phpMyAdmin (Version 2.5.7 as of this writing).
  - Unzip the file into the **c:\web** folder
  - Rename the folder it extracts to: **phpmyadmin** (It should be available at c:\web\phpmyadmin)
- \* In the phpmyadmin folder, open the file **config.inc.php** in Notepad.
  - Look for the following lines and verify that they are as follows:

### config.inc.php

```
$cfg['PmaAbsoluteUri'] = 'http://localhost/phpmyadmin/';

$cfg['Servers'][$i]['host']      = 'localhost'; // MySQL hostname or IP address

$cfg['Servers'][$i]['connect_type'] = 'tcp';    // How to connect to MySQL server ('tcp' or 'socket')
$cfg['Servers'][$i]['compress']  = FALSE;     // Use compressed protocol for the MySQL connection

$cfg['Servers'][$i]['auth_type'] = 'http';    // Authentication method (config, http or cookie based)?
$cfg['Servers'][$i]['user']      = 'root';    // MySQL user
```

- For the first line, if you're using this on the web, use instead a URL, such as:  
**`$cfg['PmaAbsoluteUri'] = 'http://streaming.smad.jmu.edu/phpMyAdmin/';`**
- \* Save the file **config.inc.php**
- \* Restart Apache
  - Start > Settings > Control Panel > Administrative Tools > Services
  - Right click on “Apache” and select “Restart”
- \* Check to see if it's working at: <http://localhost/phpmyadmin>
  - Username: root
  - Password: (the password you assigned in the “Assigning a MySQL Root Password” above).