Installing Stuff

Alex S.*

1 Introduction

This document will help/guide you to install Apache, MySQL, PHP, and Perl. The assumption is that you're running Windows2000 (or WindowsXP). If you're on Linux, you likely have all these things already installed (they're pretty easy to install anyway; just read the documentation)

I tried to use the latest version at the time of writing this document. Later versions shouldn't be that much different to install. You are encouraged to repeat this installation several times (and possibly on different systems—try setting up a Linux machine with all these things) to get a good hang of how things work.

2 Apache

Apache is a Web Server, which you can download from:

`http://www.apache.org/`

For this tutorial, we will use Apache2, but the procedures are the similar (or exactly the same) as previous versions.

2.1 Installation

Installation of Apache under Windows involves double clicking on the:

`apache_2.0.54-win32-x86-no_ssl.msi`

The version you have may be different, but the process is the same. Follow the screens and accept all defaults until the dialog that asks you for location where to install Apache. The default is:

`C:\Program Files\Apache Group\`

*alex@theparticle.com

You don't want this. You want to set it to:

`C:\`

This will create directory `C:\Apache2\`, which is nice and short, compared to the alternative.

After the installation, the "Installation Completed" dialog box should come up with a "Finish" button; congratulations, you have just installed Apache Web Server.

2.2 Testing

You can test your install of Apache by going to:

`http://localhost/`

Or

`http://127.0.0.1/`

You should see a "Test Page for Apache Installation."

2.3 Troubleshooting

The installation or instantiation might fail if you have other web-server running on the computer—like a previous version of Apache, or more likely, Microsoft™ Internet Information Server (IIS). You should disable or remove that before installing Apache. A way to disable these things should be somewhere in the Control Panel.

2.4 Starting & Stopping

You can start/stop the server from command prompt (a.k.a. The DOS Box) by typing:

```
net start apache2
```

Or

```
net stop apache2
```

3 MySQL

MySQL is a Database Server, which you can download from:

`http://www.mysql.com/`

For this tutorial, we will use MySQL 5. This latest version makes installing much simpler compared to previous versions.

3.1 Installation

Installation of MySQL5 under Windows involves double clicking on the:

```
mysql-5.0.6-beta-win32.exe
```

The version you have may be different, but the process is the same. Follow the screens and accept all defaults. You can skip the sign-up process.

After the installation, you are asked to configure the server. Select that option, and proceed to the configuration wizard.

3.1.1 Configuration

In the configuration wizard, select "Standard Configuration." In the following screen, you should "Install as Windows Service," and "Include Bin Directory to Windows PATH,"—this will make it much easier to work with MySQL.

You will also be asked to provide the "root" (the MySQL administrator) password. Specify something easy to remember. While you're getting started, I recommend using "12345"; that way you won't get locked out of your own server[1].

At the end of the configuration wizard, you are asked to "Execute" all the configurations that you've specified. Do that now.

Congratulations, your server is now installed and configured (and hopefully running).

3.2 Testing

You can test the MySQL server by logging in. Start a Command Prompt (DOS Box), and type:

```
C:\>mysql -uroot -p mysql
```

This will ask you to enter the password (do that), at which point it should display a screen that looks something like this:

```
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 5 to server version: 5.0.6-beta-nt

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql>
```

This is the MySQL prompt, where you can type in any commands, including SQL statements. A simple list of commands to create a test database, and try it out is:

[1] Note that for a production server, you should use a more creative password.

```
mysql> create database blah;
Query OK, 1 row affected (0.01 sec)

mysql> grant all on blah.* to blah identified by '12345';
Query OK, 0 rows affected (0.11 sec)

mysql> use blah;
Database changed
mysql> create table glah (
    ->     id int unsigned auto_increment,
    ->     name varchar(20),
    ->     primary key(id)
    -> );
Query OK, 0 rows affected (0.34 sec)

mysql> insert into glah(name) values ('meh');
Query OK, 1 row affected (0.12 sec)

mysql> insert into glah(name) values ('beh');
Query OK, 1 row affected (0.08 sec)

mysql> select * from glah;
+----+------+
| id | name |
+----+------+
|  1 | meh  |
|  2 | beh  |
+----+------+
2 rows in set (0.04 sec)

mysql> exit
Bye
```

The `grant` command above gives the user `blah` all privileges on the `blah` database, and sets the password for user `blah` to "12345". To login as that user:

```
C:\>mysql -ublah -p blah
```

and type in that "12345" as the password. You can do anything you want on that `blah` database, but not any other database.

3.3 Troubleshooting

The first thing to check is whether your MySQL server is running. Check out Section 3.4 for information on starting/stopping the service.

Another thing that could be wrong is that MySQL didn't setup the `PATH` environment variable. In Command Prompt, try going to:

```
C:\Program Files\MySQL\MySQL Server 5.0\bin
```

and running all the commands from there.

3.4 Starting & Stopping

You can start/stop the server from command prompt (a.k.a. The DOS Box) by typing:

```
net start mysql
```

Or

```
net stop mysql
```

4 PHP

PHP is PHP Hypertext Processor, which you can download from:

```
http://www.php.net/
```

For this tutorial, we will use PHP 5. Installing previous versions is very similar.

4.1 Basic Installation

Installation of PHP 5 under Windows involves unzipping:

```
php-5.0.4-Win32.zip
```

Into some nice convenient place, like:

```
C:\php
```

Inside the `c:\php` directory, you will find `install.txt` file, that describes exactly, step by step, what you need to do to properly install and configure PHP with any number of servers. For this tutorial, we are using Apache2 (installed in Section 2), and MySQL5 (installed in Section 3).

4.1.1 php.ini

In the `C:\php` directory, make a copy of `php.ini-dist`, and name the copy `php.ini`. Open `php.ini` in your favorite text editor[2].

You need to set `doc_root` to Apache's `htdocs` directory. In other words:

```
doc_root = "C:\Apache2\htdocs"
```

You need to set `extension_dir` to:

```
extension_dir = "C:\php\ext"
```

You'll also need to setup session support. You need to create directory:

```
C:\Temp\php_session
```

And then you need to look for `session.save_path` line, and set it to:

```
session.save_path = "C:\Temp\php_session"
```

4.1.2 httpd.conf

We also need to configure Apache2 to work with PHP. This involves editing:

```
C:\Apache2\conf\httpd.conf
```

At the end of the "Loading Modules" section, you need to add:

```
# For PHP 5 do something like this:
LoadModule php5_module "c:/php/php5apache2.dll"
AddType application/x-httpd-php .php

# configure the path to php.ini
PHPIniDir "C:/php"
```

4.2 Basic Testing

PHP and Apache should now be configured. You should restart Apache, at Command Prompt run:

```
net stop apache2
net start apache2
```

If everything goes ok, open your web browser to:

```
http://localhost/asdf
```

[2]If you don't have a favorite editor, just open it in Notepad.

This should give you an Apache error message, but it should also give you the server signature, which should include PHP. Ie:

```
Apache/2.0.54 (Win32) PHP/5.0.4 Server at localhost Port 80
```

A more involved test requires you to write a simple PHP script. Take the following and place it in:

```
C:\Apache2\htdocs\phpinfo.php
```

The contents of the script is just one line:

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

Now, going to:

```
http://localhost/phpinfo.php
```

should provide a much better view of what you just installed.

4.3 Configuration

Yes, we're not done with configuration just yet. We need to ensure MySQL module (and library) are properly setup and running. For this, we need to update the `php.ini` file again. You'll need to find the line:

```
;extension=php_mysql.dll
```

and change it to:

```
extension=php_mysql.dll
```

In other words, remove the `;` character that comments out that line.

Also, now that we installed MySQL 5, we don't need the MySQL client library that PHP ships with (which I think is "Client API version: 4.1.7"—we have MySQL5, might as well use the proper client libraries).

Stop Apache2, and erase file:

```
C:\php\libmysql.dll
```

And start Apache2 once again.

Once done, if you go to that `phpinfo.php` page, under MySQL, it should display:

```
Client API version: 5.0.6-beta
```

(or the version of MySQL that you installed.

The reason the above works is because when we installed MySQL, we put its `\bin` directory into the `PATH`. Without that, those MySQL libraries would not be found. If having problems getting this to work, you can try moving the:

```
C:\Program Files\MySQL\MySQL Server 5.0\bin\libmySQL.dll
```

To some place like:

```
C:\Windows\System32\
```

Do not do this unless you're having problems starting Apache.

5 Perl

Perl is a Scripting Language, which you can download from:

`http://www.activeperl.com/`

For this tutorial, we will use ActivePerl 5.8.7.813, but the procedures are the similar (or exactly the same) as previous versions.

ActivePerl is a pretty good Windows version of Perl. Since Perl is open source, there are many distributions. ActivePerl is a Microsoft sponsored port of the generally UNIX Perl version to Windows.

5.1 Installation

Installation of Perl under Windows involves double clicking on the:

`ActivePerl-5.8.7.813-MSWin32-x86-148120.msi`

The version you have may be different, but the process is the same. Follow the screens and accept all defaults.

5.2 Testing

You can test Perl by opening the Command Prompt, and typing:

```
C:\>echo print qq{Hello World $_\n} for(1..5) |perl
```

Which should display something like:

```
C:\>echo print qq{Hello World $_\n} for(1..5) |perl
Hello World 1
Hello World 2
Hello World 3
Hello World 4
Hello World 5
```

Or you could just type:

```
C:\>perl --version
```

But that's not as fun :-)

6 Testing Everything

You can test everything (well, except Perl) by simply using a simple MySQL example from the PHP documentation:

`http://us3.php.net/manual/en/ref.mysql.php`

The modified example should be saved in file:

`C:\Apache2\htdocs\glah.php`

This particular example, will display the contents of the `glah` table created in Section 3.2. The code follows:

```
<?php
// Connecting, selecting database
$link = mysql_connect('localhost', 'blah', '12345')
   or die('Could not connect: ' . mysql_error());
echo 'Connected successfully';
mysql_select_db('blah') or die('Could not select database');

// Performing SQL query
$query = 'SELECT * FROM glah';
$result = mysql_query($query) or die('Query failed: '
                                     . mysql_error());

// Printing results in HTML
echo "<table>\n";
while ($line = mysql_fetch_array($result, MYSQL_ASSOC)) {
   echo "\t<tr>\n";
   foreach ($line as $col_value) {
       echo "\t\t<td>$col_value</td>\n";
   }
   echo "\t</tr>\n";
}
echo "</table>\n";

// Free resultset
mysql_free_result($result);

// Closing connection
mysql_close($link);
?>
```

After saving the above in `glah.php` file, you can see it work by going to:

```
http://localhost/glah.php
```

The page displays:

```
Connected successfully
1    meh
2    beh
```

This is exactly what's in those tables :-)

7 Conclusion

If everything in these pages worked, then you're ready to move onto the next round. Otherwise, I suggest re-installing things until things start to work.

Everything in these pages was tested as I write this (on a fresh install); so things should work if you follow the exact steps. Good luck.

If things still don't work, you can try installing:

```
http://sourceforge.net/projects/quickeasyphp/
```

This is an all-in-one installer for Apache/PHP/MySQL. This may seems like a quick time-saver, but I still highly recommend that you install things separately.