

## LAMP/MAMP/WAMP environment setup & Wordpress Install

In this exercise, we will create a (LMW)AMP environment on our laptops and install the Wordpress blogging software. To complete this exercise you may work individually or in groups. The purpose of this exercise is to:

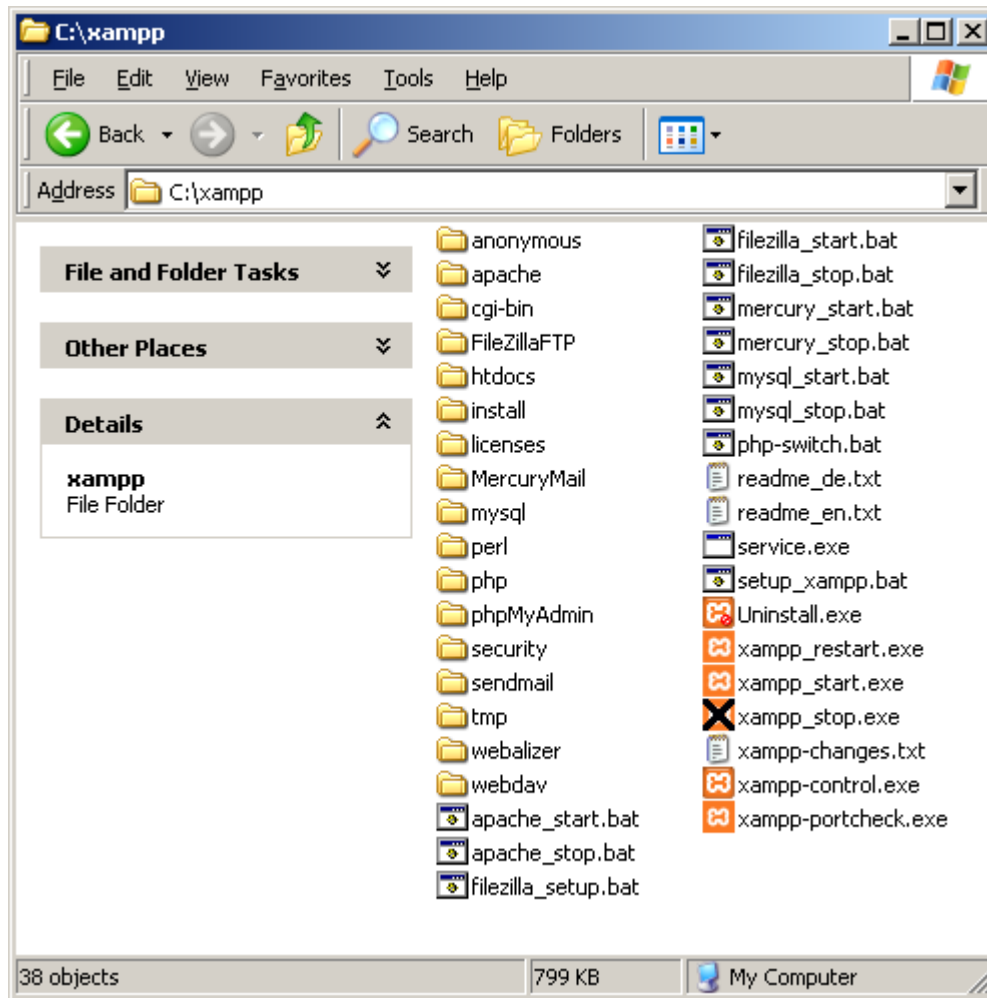
1. Demonstrate the purpose and relationships between Apache, MySQL, PHP, and Wordpress software.
2. Develop skills in installation, configuration, and management of web-server environments
3. Develop familiarity with open source software tools

This exercise will consist of three steps. First, we will install our required software. Second we will configure and 'bring-up' our implementation of Wordpress. Third, we will modify our Wordpress install by adding and activating plug-ins and widgets from the Wordpress library. Given the variety of platforms in the class, we will be using a cross-platform implementation of Apache/MySQL/PHP. Although the processes should be similar, the installation and configuration process has only been tested on a Windows XP machine.

### ***Configuring your system***

In this part of the exercise, we need to setup a Webserver (Apache), a server-side scripting platform (PHP), and a relational database platform (MySQL) for our blog application (Wordpress) to run on. Wordpress is an application written in PHP which runs on the MySQL platform. We will do this by installing a WAMP/MAMP environment on our laptops:

1. Go to your preferred XAMP environment download page:
  - a. XAMPP (Windows and Mac OS X) - <http://www.apachefriends.org/en/xampp.html>
  - b. If XAMPP for Mac does not work on your system, try MAMP (MAC Only) - <http://www.mamp.info/en/mamp.html>
  - c. A windows alternative to XAMPP is WAMPServer (Windows Only) - <http://wampserver.com/>
2. Run the install (the following instructions are for XAMPP server which is the recommended application for this exercise)
  - a. Download the installer and retrieve the installation manual pages
    - i. XAMPP Windows - <http://www.apachefriends.org/en/xampp-windows.html>
    - ii. XAMPP MAC - <http://www.apachefriends.org/en/xampp-macosx.html>
  - b. Run the XAMPP install make the following decisions during install:
    - i. Do not install as a service (windows) - this will allow you to manually start and stop XAMPP on your machine
  - c. Review the XAMPP directory:



d.

e. Some interesting folders:

- i. Apache/conf - the Apache configuration directory
- ii. Php/php.ini - the php configuration file
- iii. Htdocs - the web root directory
- iv. phpMyAdmin - a php application we will use to configure our MySQL database
- v. webalizer - a web-server statistics application

3. Launch the XAMPP control panel and start both Apache and MySQL

4. Go to <http://localhost> in your web browser and make sure your environment is running properly

5. Click on phpMyAdmin to see the PHP based administrative interface for MySQL - This application allows you to create databases, modify permissions, and run SQL commands.

- a. Note the security error about root password here. This is a major issue, we need to set our root password!

6. In order to set the root password for MySQL, we need to do two things. First, we need to set the password, second we need to update phpMyAdmin config files to reflect that change.
  - a. Changing our password
    - i. Open a command prompt in the directory C:\xampp\mysql\bin
    - ii. MySQL has a shell interface called mysql.exe that we can use to interact with the database, launch mysql using the following command: `mysql -u root -p`
    - iii. Hit enter at the password prompt, you should get a command prompt that looks like “mysql>”
    - iv. Use the following command to set the root password

```
1. SET PASSWORD FOR 'root'@'localhost' = PASSWORD('MyNewPassword');
```
    - v. If you get a response back of “Query Ok”, type exit and try to login again (using the command in 6.b). This time type in the password you just set.
  - b. Configuring phpMyAdmin
    - i. Try to go to <http://localhost/phpMyAdmin> - you should see some error messages about incorrect passwords. We need to modify our password in the phpMyAdmin config file in order to have this application work correctly.
    - ii. Go to C:\xampp\phpMyAdmin and edit the file config.inc.php
    - iii. Find the line that refers to the password for the root user:

```
$cfg['Servers'][$i]['user'] = 'root';  
$cfg['Servers'][$i]['password'] = 'rootpassword';
```
    - iv. Change the password to match the one you just created. Now re-visit the phpMyAdmin page and verify that the application is working (you may need to restart Apache)

## ***Installing Wordpress (These instructions are primarily copied/edited from Wordpress.org)***

1. Step 1: Download and Extract
  - a. Download and unzip the WordPress package from <http://wordpress.org/download/>.
  - b. Unzip Wordpress to your htdocs directory in c:\xampp
2. Step 2: Create the Database and a User using phpMyAdmin
  - a. Create a Wordpress database
    - i. If a database relating to WordPress does not already exist in the Database dropdown on the left, create one by clicking on the databases link on the phpMyAdmin page.
    - ii. Choose a name for your WordPress database ('wordpress' or 'blog' are good), enter it in the Create new database field, and click Create.

iii. Click the Home icon in the upper left to return to the main page

b. Create a Wordpress database user

i. Click Privileges and Add a new User.

ii. Chose a username for WordPress ('wordpress' is good) and enter it in the User name field. (Be sure Use text field: is selected from the dropdown.)

iii. Choose a difficult-to-guess password (ideally containing a combination of upper- and lower-case letters, numbers, and symbols), and enter it in the Password field. (Be sure Use text field: is selected from the dropdown.) Re-enter the password in the Re-type field.

iv. Write down the username and password you chose.

v. Leave all options under Global privileges at their defaults.

vi. Click Go.

c. Assign database privlidgees for your user:

i. Return to the Privileges screen and click the Check privileges icon on the user you've just created for WordPress.

ii. In the Database-specific privileges section, select the database you've just created for WordPress under the Add privileges to the following database dropdown. The page will refresh with privileges for that database.

iii. Check off all privileges under data and structure and click go.

3. Step 3: Set up wp-config.php

a. Locate the wp-config-sample.php file and open it in a text editor

b. Modify the file to match the database and user that you just created in phpMyAdmin

For the next part, the code you will be looking to change is as follows:

```
// ** MySQL settings ** //
```

```
define('DB_NAME', 'putyourdbnamehere'); // The name of the database
```

```
define('DB_USER', 'usernamehere'); // Your MySQL username
```

```
define('DB_PASSWORD', 'yourpasswordhere'); // ...and password
```

```
define('DB_HOST', 'localhost'); // 99% chance you won't need to change this value
```

```
define('DB_CHARSET', 'utf8');
```

```
define('DB_COLLATE', '');
```

Returning to where you extracted the WordPress package in Step 1, rename the file wp-config-sample.php to wp-config.php.

Open the renamed wp-config.php file in your favorite [text editor](#) and fill in the following information, per the example above:

DB\_NAME

The name of the database you created for WordPress in Step 2 .

DB\_USER

The username you created for WordPress in Step 2.

DB\_PASSWORD

The password you chose for the WordPress username in Step 2.

DB\_HOST

The hostname you determined in Step 2 (usually localhost, but not always. See [some possible DB\\_HOST values](#)).

DB\_CHARSET

The database character set, normally should not be changed. See [Editing wp-config.php](#) for details.

DB\_COLLATE

The database collation should normally be left blank. See [Editing wp-config.php](#) for details.

- c. Save the file as wp-config.php
  - i. For more extensive details, and step by step instruction for creating the configuration file, refer to [Editing wp-config.php](#).

#### 4. Step 4: Run the Install Script

- a. Point your favorite web browser to start the installation script.
- b. Your Wordpress install should be in <http://localhost/wordpress>
- c. Run through the install script - if you get database errors at this point, you probably mis-typed something.
- d. Take note of the admin username and password assigned to you & complete the install:

#### 5. Login to your blog and look around:

- a. Take note of the Manage and Design tabs
- b. Take a look at the settings, plugins and users tabs
- c. Write a post or two and create some categories for your posts
- d. Try changing the style of your blog - you can do this in themes or

#### 6. Wordpress tasks

- a. Install a new theme
  - i. Go to [http://codex.wordpress.org/Using\\_Themes](http://codex.wordpress.org/Using_Themes) and pick a new theme
  - ii. Download the zip file and extract it to: C:\xampp\htdocs\wordpress\wp-content\themes
  - iii. Go back into your administrative interface and apply the theme
- b. Install a plug-in
  - i. Go to <http://wordpress.org/extend/plugins/> and pick a plug-in
  - ii. Download the plug-in and extract it to: C:\xampp\htdocs\wordpress\wp-content\plugins
  - iii. Go to the plug-ins tab in the administrative interface and activate the plug-in you downloaded
  - iv. After you activate, you may need to follow additional steps (such as visiting the widgets tab to edit/modify)