

Installing Your Web Server on Linux

READY TO INSTALL? Go to <https://www.apachefriends.org/index.html> and click the **XAMPP for Linux** button. To install XAMPP just do the following:

Change the permissions to the installer as follows (IMPORTANT: be sure to replace * with the exactly-as-written version number of your installation, and be sure to leave the hyphens on either side of the version number):

```
chmod 755 xampp-linux-*-installer.run
```

Run the installer (IMPORTANT: be sure to replace * with the exactly-as-written version number of your installation, and be sure to leave the hyphens on either side of the version number):

```
sudo ./xampp-linux-*-installer.run
```

That's all. XAMPP is now installed below the **/opt/lampp** directory.

How do I start XAMPP? To start XAMPP simply call this command:

```
sudo /opt/lampp/lampp start
```

You should now see something like this on your screen:

```
Starting XAMPP 1.8.2...
XAMPP: Starting Apache...
XAMPP: Starting MySQL...
XAMPP started.
Ready. Apache and MySQL are running.
```

If you get any error messages visit our community pages for help.

Also, note that there is a graphical tool that you can use to manage your servers easily. You can start this tool with the following commands:

```
cd /opt/lampp
sudo ./manager-linux.run (or manager-linux-x64.run)
```

How to test XAMPP

Now let's connect to the Web server from your Web browser. Start any browser of your choice and type the URL: **http://localhost**

A web page will be displayed with the message "Welcome to XAMPP" This Web page is being delivered to your Web browser by the Web server that you just installed and is now running on your computer.

Congratulations! You have now installed xampp and have successfully started your Web server and tested that it is working correctly. If you get a 404 error, you may need to set permissions, see below..

How do I stop XAMPP?

To stop XAMPP

```
sudo /opt/lampp/lampp stop
```

Just to show that the Web server is no longer running, try typing **http://localhost** again in your Web browser. You will be told this site can't be found or reached.

ADDING THE TEXTBOOK FILES AND FOLDERS TO YOUR WEB SERVER

Now that you have your Web server installed you just need to add the folder that contains the files you will use with this textbook.

Download the file named **webtech.zip** from the textbook Web site. You can find this under the INSTALLATION section the Students page:

<https://www.mikeokane.com/textbooks/WebTech/support.php>

Unzip the webtech.zip file to obtain a folder named **webtech**. Move this folder and all its contents directly under **/opt/lampp/htdocs**. After you have done this, your webtech folder should be located at **/opt/lampp/htdocs/htdocs/webtech**

TESTING THE TEXTBOOK FILES IN THE webtech FOLDER

Now let's test that your webtech folder was installed correctly. Open your XAMPP Control Panel and start your web server again if it isn't already running. Now open any Web browser and this time type the URL: **http://localhost/webtech**

Now you should see a page with the title "**A Web-Based Introduction to Programming**". You will also see a link to "**Run files in the samples folder**". Click this link. You will see a list of all the files included in the samples folder; these are referenced throughout the textbook. Click the file named **add-two-numbers.html** and you will see a Web page that displays a form that asks for two numbers. Type in two numbers and click the "Tell me the sum" button. Another page will display showing the sum of the two numbers. You can take this approach to run any .html files in your samples folder. You can also click the "**Run files in the coursework folder**" link from the main webtech page to run files in the coursework folder (don't worry if these generate error messages, these are exercises that you must complete as you work through the book).

Congratulations! You have now added the webtech folder to your Web server and you are ready to start work!

NOTE: If you use your file manager to look inside your webtech folder you will see that it actually contains two sub-folders: **coursework** and **samples**. The coursework folder contains chapter folders and this is where you will complete and test your chapter coding exercises. The samples folder contains all of the sample files that are used as examples throughout the textbook. See Chapter 2 in the textbook to learn how to use the Web server, and how to create, edit, save, and test your coursework.

INSTALLATION PROBLEMS AND SECURITY

If you get a 404 error when you try to connect to your Web server, first check that your Web server is started. If it is you may have to set the permissions. Navigate to the root folder of your installation, for example:

```
cd /opt/lampp
```

and type **ls -l** to view the permissions that are listed for the htdocs (the folder that by default contains your Web content). The correct permissions should be: drwxr-xr-x. The permissions are listed for three users in order (owner, you), group, and others. Each user may have three permissions: r (read), w (write), and x (execute). The d indicates that the item is a folder (directory) and not a file. For Web access, you want to have rwx access, while groups and others are restricted to r-x access. So drwxr-xr-x means htdocs is a directory in which the owner has read write execute, group has read and execute, others have read and execute.

If you need to change the permissions an easy way is using the chmod command followed by 3 numbers (one for each type of user, using the following specification:

| Number | Read (R) | Write (W) | Execute (X) |
|--------|----------|-----------|-------------|
| 0 | No | No | No |
| 1 | No | No | Yes |
| 2 | No | Yes | No |
| 3 | No | Yes | Yes |
| 4 | Yes | No | No |
| 5 | Yes | No | Yes |
| 6 | Yes | Yes | No |
| 7 | Yes | Yes | Yes |

So **755 = rwxr-xr-x**

To set these permissions, be sure you are in the lampp folder and type:

sudo chmod -R 755 htdocs/

Using sudo gives you super user rights to change permissions, you will have to give your password. The -R will apply the permission recursively, to all folders and files inside htdocs.

You can also go into the htdocs folder to set permissions for specific folders and files if you need to.

NOTE: on an active server you can usually use your FTP client to set file and folder permissions: just connect to the server and use your FTP options to do this (often you can right click a folder or file).

For more support and information, including how to make your XAMPP installation more secure, refer to:

https://www.apachefriends.org/faq_linux.html