System Administration for Beginners

Week 7 Laboratory

October 27, 2008

You should work on this laboratory in your project groups. Please note that any commands where you'll be installing, removing, or updating software will require `root`. You should try to perform any many commands as possible without `root`, though, to get you into the habit of safe computing.

1 Setting Up LAMP

Last week, we installed the Apache web server daemon from packages. This week, we'll be installing the rest of the components of LAMP to convert your virtual server into a complete Internet server.

1.1 Installing MySQL

[1] Use `apt-cache search` to determine the package names for the MySQL (Version 5) server and client packages. Install these packages.

[2] Read the MySQL documentation in `/usr/share/doc/mysql-server`. Make sure to read the `README.Debian` file. This file contains special information about what you should do after your installation of MySQL, such as how to set the administrator password for MySQL.

[3] Per the information you obtained in Problem 2, set an administrator password for MySQL. DO NOT SKIP THIS STEP. If you trouble performing this step, please seek my help. If you do not perform this step, anybody will be able to control your MySQL server.

1.2 Installing PHP

[1] Use `apt-cache search` to determine the package name for PHP (Version 5). Install this package. Ensure that the `libapache2-mod-php5` package is also installed.

[2] You'll have to restart Apache to allow it to recognize PHP. Restart Apache.

2   Installing phpMyAdmin

MySQL is normally managed using a set of command-line tools. While such tools are highly-efficient, they are difficult to use and require memorization of many special parameters. We're going to install phpMyAdmin, a program written in PHP that provides a nice web interface for managing MySQL.

[1] Use `apt-cache search` to determine the package name for phpMyAdmin. Install these packages. If you are prompted to enabled support for Apache, choose to enable support for all the options listed.

[2] You'll have to restart Apache to allow it to recognize your installation of phpMyAdmin. Restart Apache if you were not already prompted to do so during the installation of phpMyAdmin.

To use phpMyAdmin, visit

> `http://decal.ocf.berkeley.edu:3XX80/phpmyadmin/`

where `XX` is your group number.

[3] Login to phpMyAdmin using the login name 'root' and the administrator password you set after the installation of MySQL. Explore the interface. What are some things you can do with phpMyAdmin?

[4] **EXTRA:** While phpMyAdmin is a useful tool, many times the environment you may be working in doesn't allow or necessitate the use for such a tool. How would you use the provided command-line utilities included with MySQL to do steps 1-3?

3   Testing LAMP with WordPress

We're going to test your installation of LAMP by installing WordPress, a popular blog program. The process of setting up WordPress is very similar to the process of setting up any piece of Internet software that requires a database. You'll have to obtain a copy of the software, create a database and database user account for it, edit a configuration file to provide the software with the database information, and run the software's installation program.

[1] Download the latest version of WordPress from `wordpress.org` and extract it into the `public_html` directory of one of your user accounts.

[2] WordPress requires a MySQL database. Use phpMyAdmin to create a new database.

To access the MySQL database you just created, WordPress requires its own MySQL user account. MySQL user accounts are separate from system accounts and only work with MySQL.

[**3**] Create a new MySQL user account using phpMyAdmin. You may find the appropriate link under the Privileges. Provide a user name and password, but do not grant any global privileges.

MySQL user accounts have to be granted explicit access to a database, unless they have global privileges, which apply to any database managed by MySQL. In order to allow the user account you just created to access the Wordpress database, you need to grant access to that database.

[**4**] Return to the Privileges tab in MySQL and choose Edit Privileges (it should be the icon on the far right). Choose to add database-specific privileges, inputting the name of your WordPress database. Grant all privileges.

You must provide your MySQL user account and database information to Word-Press before you can complete the installation.

[**5**] In the directory where you have extracted WordPress, edit the `wp-config-sample.php` file, providing your MySQL user account and database information where directed. Rename the file to `wp-config.php` and change its permissions so that anybody can read it.

[**6**] Per the instructions you find on `wordpress.org`, continue with the Word-Press installation. Once you have successfully installed WordPress, make a new post on your installation with the names of your group members and a link to a web site you think is interesting.

4   Submission

As usual, please submit your laboratory to us at `cardi+decal@ocf.berkeley.edu` and `jchu+decal@ocf.berkeley.edu`. Only one submission is necessary per a final project group. In your submission, include any commands, notes, observations, output, etc, that you feel is relevant and necessary to demonstrate that you successfully completed the laboratory. Be sure to include your group number, group members names, and `inst` logins.