CIS 3003, Fundamentals of Information Technology   Assigned: 10/23/2008
Fall 2008   **Assignment #6** (10 pts.)   Due: 11/4/2008 in class
Note (added 10/24/2008): Please correct a typo in Step (6): the name of the file to specify DNS services is /et/resolv.con (i.e., the spelling is resolv without letter "e" as in the original copy).
Note (added 10/28/2008): Additional steps (9 through 17) for setting up MySQL and PHP.
Instructions: This is a homework involving team work. You need to arrange for team meetings, and need to keep a journal of the work performed, time, place, and system used for the work, minutes of team meetings, amount of time spent by each member, and division of work among team members. You need to submit a report by the due date with these details. All members of the same team will receive the same grade
Objectives: To learn how to set up a LAMP platform (Linux, Apache, MySQL, and PHP) on a Debian Linux machine.

Detailed Steps:
(1) Get together with your team members and have a kickoff meeting.
(2) Install SSH Secure Shell 3.29 on your own Windows machine (XP, Vista) by downloading it from http://web.wm.edu/it/index.php?id=2928. This shell allows you to log into your (virtual) Debian server and managing it.
(3) (Optional Step) If you plan to access your Debian sever from off campus network you need to request a VPN (virtual private network) account through UCF NOC, by applying online at http://www.noc.ucf.edu/VPN/default.htm.
(4) To make an SSH connection to your Debian server please enter the IP address assigned to your team's server and use "root" as the user name (and port 22 for SSH connection). Once prompted please enter your default password as announced in class. Once you are connected to the UCF campus network (via wireless connection on campus, VPN connection, or working from a UCF lab computer), use SSH client (from Step 2 above) to connect to the Debian server assigned to your team (see another listing of your team assignment and its local UCF IP address).
(5) The first thing to do is change your password, using the command "passwd" (without the quotation marks). Remember your password since if you lost it I will have to reset your server and losing its contents.
(6) Use the tutorial document
     http://allyourtech.com/content/articles/16_01_2006_setting_up_a_local_web_server_in_deb ian_linux.php as a guideline to learn how to install Apache, MySQL, and PHP services. First, use the nano editor to create a DNS server file as follows:
     (a) Type "nano /etc/resolv.conf" then hit Enter key, which brings you into the editor.
     (b) Add two lines to the file:
          nameserver 132.170.108.1
          nameserver 132.170.240.15
     (c) Save the file "/etc/resolv.conf" then exit the editor.
     Note that these two IP addresses run domain name services (DNS) that translate domain name (e.g., www.ucf.edu) to its IP address (132.170.240.131). Type the command "ping www.ucf.edu" to verify that DNS is working (then type Control-C to terminate the ping command.)
(7) Follow the instructions given in the above tutorial to install the apache server, specifically, run each of the following commands:
     (a) apt-get update
     (b) apt-get install apache2
     (c) apt-get install apache2-doc
     (d) /etc/init.d/apache2 start

After this, enter the appropriate URL into a browser on your PC (or laptop) to produce the apache welcome page. Include this welcome page in your journal report.

(8) Other useful commands to know:
   exit (or logout, to terminate the SSH session)
   df (to find out the disk free space)

(9) To set up MySQL use the following commands
   (a) apt-get install mysql-server (to install MySQL server)
   (b) apt-get install mysql-doc (to install MySQL documentation)
   (c) /etc/init.d/mysql start (to test if MySQL is running)
   An alternative method to testing if MySQL is running is to use the Linux ps command to identify the processes related to MySQL:
      ps -eaf | grep mysql

(10) You may now enter MySQL's SQL shell, by typing the command:
      mysql
   Once you are in you may look up online help by following the instructions. Exit the MySQL shell by typing "\q" (without the quotation marks.

(11) Since by default MySQL's root user has no password, use the following mysqladmin command to set up a password:
      mysqladmin -u root password "new-password"
   After the password is set up the command "mysql" will produce an error message for access denied due to password protection.

(12) Finally, to set up the PHP server use the following commands:
   (a) apt-get install php4
   (b) apt-get install php4-mysql php4-pear
   (c) apt-get install libapache2-mod-php4 php4-cgi

(13) You also need to add the following line
      AddType application/x-httpd-php .php
   into the file /etc/apache2/apache2.conf, using a text editor (e.g., nano). I suggest that you locate other lines within the file that begins with AddType then add the new line below them.

(14) To get those changes to take effect, we'll have to restart Apache using the following command:
      /etc/init.d/apache2 restart (to restart apache2)

(15) To test PHP is working create a text file "/var/www/apache2-default/index.php" with the following three lines:
   <?php
    phpinfo();
   ?>
   Then open the link in a browser
   http://<IP address>/index.php
   to see a test page. Copy the page and paste to your report.

(16) We now set up the phpMyAdmin tool to manage the MySQL, by downloading the tool:
      apt-get install phpmyadmin

(17) To test the tool point your web browser to http://<IP address>/phpmyadmin/. You will be prompted with user name (enter "root") and password (that you set up in Step 11). Copy the welcome page to your report.