

16

Linux VM Advanced

William W.-Y. Hsu

Department of Computer Science and Engineering

Department of Environmental Biology and Fisheries Science

National Taiwan Ocean University

CONTENTS

16.1	Introduction	147
16.2	Lab Procedures	147
16.2.1	Setting up NAT of VMWare Player	147
16.2.2	Setting up MySQL	149
16.2.3	Setting up the PHPBB3 Forum	149
16.2.4	Changing the Default Language	150
16.2.5	Enabling the Forum Service to the Public	151
16.3	Lab Questions	152
16.4	Lab Report	152

16.1 Introduction

Now that you have set up your own server! You may start to wonder, how do I let users from outside of my machine to connect to my virtual machine? In addition, how can I host more advance servers such as discussion forums? In this lab, you will learn how to setup and deploy a forum and let users from anywhere on the internet connect to your forum.

16.2 Lab Procedures

16.2.1 Setting up NAT of VMWare Player

In order to route network information from your physical machine to your virtual machine, you must set up NAT (Network Address Translation). VMWare already has a virtual network card, so we need to configure the NAT of that virtual network card manually. If you have VMWare workstation installed, it can be done using **Virtual Network Editor**. However, this was removed in **VMware Player**. We can still do this manually.

For Windows 7, the configuration file is at

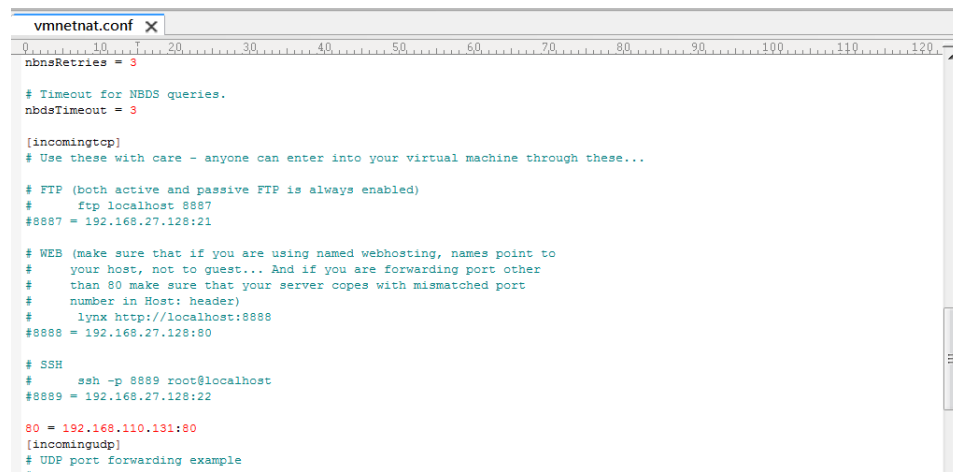
C:\Users\All Users\VMWare\vmnetnat.conf.

For Windows XP, the configuration file is at

C:\Documents and Settings\All Users\Application Data\VMware\vmnetnat.conf (they are symbolic links).

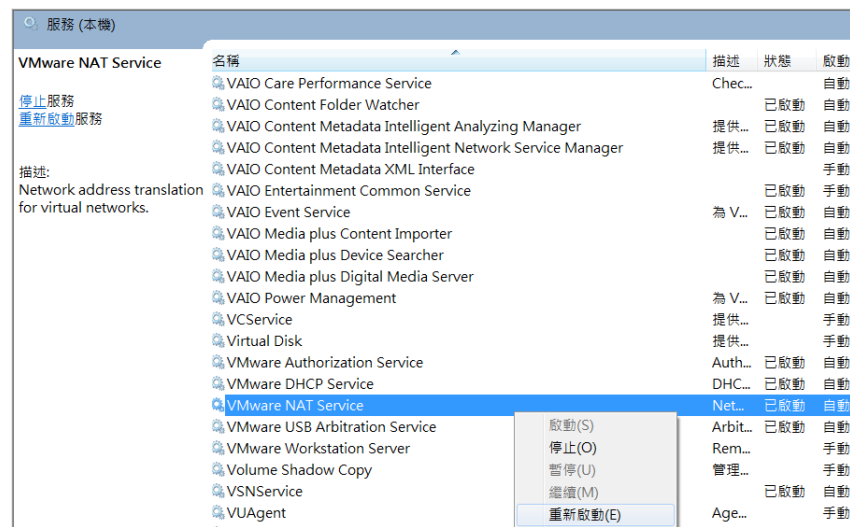
Suppose the IP of your virtual machine is 192.168.110.131 (it can be different!), open the file and add a line to the [incomingtcp] section:

```
80 = 192.168.110.131:80
```



This will route all incoming connection to port 80 of our physical PC to your virtual machine. Under Windows 7, you may need to grant enough permission to write to this file (An alternative way is to copy it to your desktop, modify it, and then copy the file back to its location). Next, you will have to restart the VMWare NAT service by typing the following command in your windows system:

```
services.msc
```



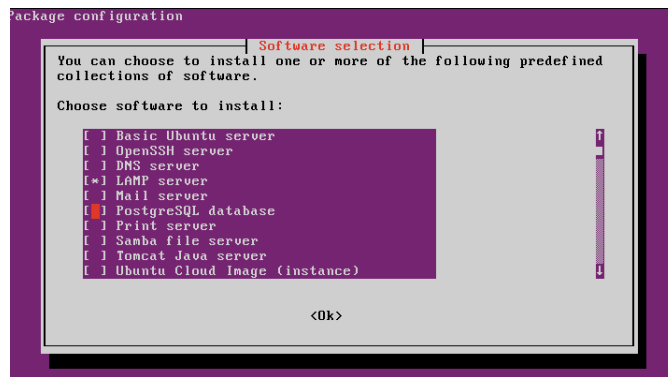
Find the VMware NAT Service and restart it. You can test to see if it is successful by typing `http://127.0.0.1/ lab` and see if your personal website is appearing.

16.2.2 Setting up MySQL

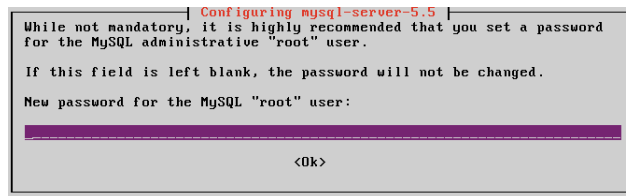
First, you need to install a database system (MySQL) to your system. To do so, issue the command:

```
sudo tasksel
```

You should see the following screen:



Enable the LAMP server and **TAB** to Ok to install the server. After installation is complete, you will be asked for a password. This password is used to connect to your MySQL database (anyone with this password can connect to your database, so usually, we designate a different password for it).



Wait a few minutes and your installation will be complete.

16.2.3 Setting up the PHPBB3 Forum

With a database available, you can proceed to install a forum software. We will be using the PHPBB3. To install it to your system, use the following command:

```
sudo apt-get install phpbb3
```

The installation will continue until it will ask you if you are to use a common database configuration. Please select **YES**, and the next page will require you to select the database. Please select **mysql**. The installation will continue and ask you for the password to your database. Please input the password you assigned in the last section. Finally, the installation will require you to provide a password for the **Administrator** of the PHPBB3 forum. Please remember this password as you will be using this to configure your forum (This password must contain at least 6 characters).

Finally, to let people outside your server access this forum, create a symbolic link

```
sudo ln -s /usr/share/phpbb3/www /var/www/phpbb
```

Restart your **apache2** web server (see previous lab manual) and you should be able to access the forum by the following URL: **http://your ip/phpbb**.

You should see something like:

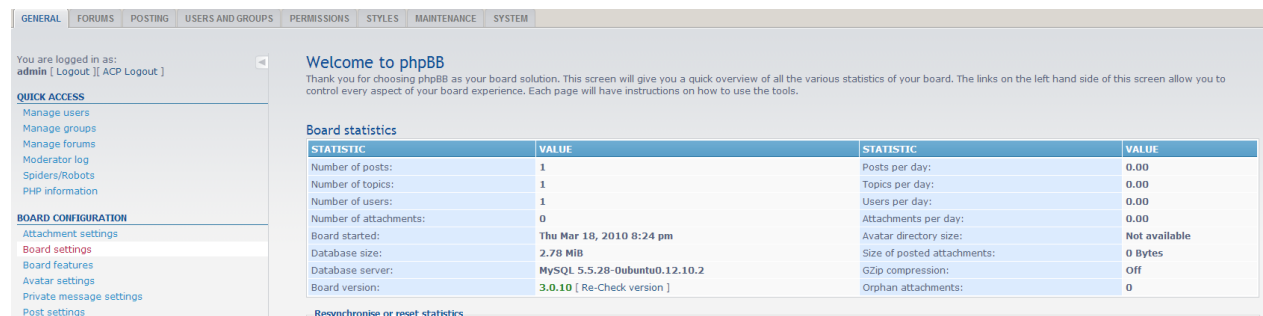


To the right of the site, there is a **Login** button. Press it and use the account **admin** and the password you entered during installation to log into your forum with the highest administrator privileges.

16.2.4 Changing the Default Language

You may discover that your BBS is in English. The following steps will help you change it into Chinese version. The PHPBB3 website at <https://www.phpbb.com/languages> contains more than 50 translation. You can go to the website and download language files. Using FTP technique uploading it to your virtual machine, and then decompress them over your installation.

You will discover that although you changed the language packs, the system is still at its default: English! To change this, please go to the **General** tab and choose **BOARD CONFIGURATION** → **Board settings**.



Change the **Default Language** to **正體中文** and press the **Submit** button at the end of the page.

Board settings
Here you can determine the basic operation of your board, give it a fitting name and description, and among other settings adjust the default values for timezone and language.

Board settings

Site name:

Site description:

Disable board:
This will make the board unavailable to users. You can also enter a short (255 character) message to display if you wish. ☒ Yes ☐ No

Default language:

Date format:

Guest timezone:

The default language for the boards should now be Chinese the next time you login. How about for user default language that overrides this setting? Go to the **User Control Panel** at the upper left of the website.

Board index

[User Control Panel](#) (0 new messages) • [View your posts](#)

[FAQ](#) [Members](#) [Logout](#) [admin](#)

Inform [User Control Panel](#) currently disabled.

It is currently Thu Dec 20, 2012 6:03 am
[Moderator Control Panel]

Last visit was: Thu Dec 20, 2012 6:01 am

[View unanswered posts](#) • [View unread posts](#) • [View new posts](#) • [View active topics](#)

[Mark forums read](#)

EXAMPLE CATEGORY **TOPICS** **POSTS** **LAST POST**

To the third tab **Board Preferences**, you can change your language preferences again.

Overview **Profile** **Board preferences** **Private messages** **Usergroups** **Friends & Foes**

Edit global settings

Edit global settings

Edit posting defaults

Edit display options

Users can contact me by e-mail: ☒ Yes ☐ No

Administrators can e-mail me information: ☒ Yes ☐ No

Allow users to send you private messages: ☒ Yes ☐ No
Note that administrators and moderators will always be able to send you messages.

Hide my online status: ☐ Yes ☒ No
Changing this setting won't become effective until your next visit to the board.

Notify me on new private messages: ☒ Yes ☐ No

Pop up window on new private message: ☒ Yes ☐ No

My language:

Remember to press the **Submit** button at the end of the page. Why do you have to do this? Because the **admin** account was created before changing the system default language, so settings that it has was all before the change. From this point and on, new accounts will apply the new default languages.

16.2.5 Enabling the Forum Service to the Public

The default configuration prevents users from login and registering. To open your forum to the public, go into the administrative menu and look for board settings. Suppose we have Chinese language installed already, you will see: To the third tab **Board Preferences**, you can change your language preferences again.



Change the 關閉討論區 option to 否. Your done! People can now enter your forum and register. Now you have every setting available. You can decide how should people register and be verified, create new boards, set permissions, change styles and etc.

16.3 Lab Questions

Show to the TA how you can accomplish the following tasks:

- See if your friend can access your personal web page from their machine.
- Have PHPBB3 installed, showing the screen.
- Change default language to Chinese.
- Create new discussion boards.
- Have a friend register and post an article.
- (Advanced) Download and install new styles for your forum (<http://www.phpbb3styles.net/>).

16.4 Lab Report

Demonstration is done in class.