OpenEMR 4.1.0 Appliance Manual

Page Last modified: 09/29/11 06:37:31 PM

LINK TO MANUAL IN PDF FORMAT

Author: Brady Miller
Email: brady@sparmy.com
Discussion Board: http://sourceforge.net/projects/openemr/forums

OpenEMR 4.1.0 Appliance Manual Table of Contents

Introduction

Main TOC Link

The clinical benefits of computerized medical records are clear, however, the costs of current proprietary systems are large. This high cost precludes many small practices from transitioning to computerized medical records. Open Source medical record systems are quickly becoming a viable, cost effective alternative.

The goal of this project is to maintain a comprehensive Open Source Medical Practice Management Software Appliance, which provides office scheduling, electronic medical records, prescriptions, insurance billing, accounting, and access controls. This appliance has many possible applications, such as a fully functional demo, a testing/developing platform, and as the starting point in real world clinic applications. It can be run on any operating system that supports the *VMware Player*. The detailed building instructions of this appliance are also included in this manual, which will allow easy modification/updates of appliance and will allow simple transition to a native server, if required.

OpenEMR is installed on the Ubuntu 8.04 Server Edition operating system. For users whom require a GUI desktop, the Ubuntu Server edition OS (8.04) does not come with a desktop, however it is easy to install and is described in this manual. The administration in the Ubuntu Server can be mostly done via Webmin, which is described in this manual.

This manual contains instructions on downloading, starting, and using the OpenEMR Appliance, OpenEMR user manual web links, helpful tips on OpenEMR use, instructions for configuration and administration of the Appliance, and full detailed instructions on how the Appliance was built.

The *Download the OpenEMR Appliance and VMware Player* chapter contains how and where to download software from.

The *Start the OpenEMR Appliance* chapter contains information on starting the OpenEMR Appliance.

The *Using the OpenEMR Appliance* chapter contains information on how to use the OpenEMR Appliance, web links to User Manuals, helpful tips, and all the login names and passwords that will be needed while using the appliance.

The *Configuration of the OpenEMR Appliance* chapter describes how to configure and administer OpenEMR and the appliance. There are instructions describing how to set up a printer, an email server, and an automated backup scheme. This chapter also describes how to choose the visual layout of OpenEMR

and how to add the pharmacy dispensary module along with other instructions on setting up a static IP address, installing a desktop environment, setting the time, changing the password, and safely shutting the appliance down.

The *Instructions for Building the OpenEMR Appliance* chapter describes in detail how this Appliance was built.

Online Demo

Main TOC Link

Here is the online demo of the OpenEMR 4.1.0 appliance:

http://OpenSourceEMR.com:2100/openemr/ (Main OpenEMR program)

This is a fully functional demo, which allows you to play around with all the software packages in the appliance. It uses all the same logins and passwords as the appliance(refer to 'Login Name and Password' section). The OpenEMR users were added to demonstrate the access controls:

-**Login name**------**Password**---------**Description**
1. admin_____pass_____Administrator
2. physician_____physician_____Physician(more access than clinician)
3. clinician_____clinician_____Clinician(less access than physician)
4. accountant_____accountant_____Accountant
5. receptionist_____receptionist_____Front desk receptionist

Don't worry about breaking it, because it resets itself to its original state every day at 5:00AM Pacific Time. Have fun. (If demo is not working email me at brady@sparmy.com)

Download the OpenEMR Appliance and VMware Player

Main TOC Link

1. Download and install the FREE VMware Player at: http://www.vmware.com/products/player/

2. Download the FREE OpenEMR Appliance.

1. You can download Appliance via Direct Download from sourceforge (file is approximately 1GB, which extracts to 2.5GB):

    1. Direct Download from Sourceforge: http://downloads.sourceforge.net/openemr/OpenEMR-4-1-0-appliance-1.zip

Start the OpenEMR Appliance

Main TOC Link

Windows

Main TOC Link

1. Unpackage the OpenEMR-4-1-0-appliance-1.zip file.

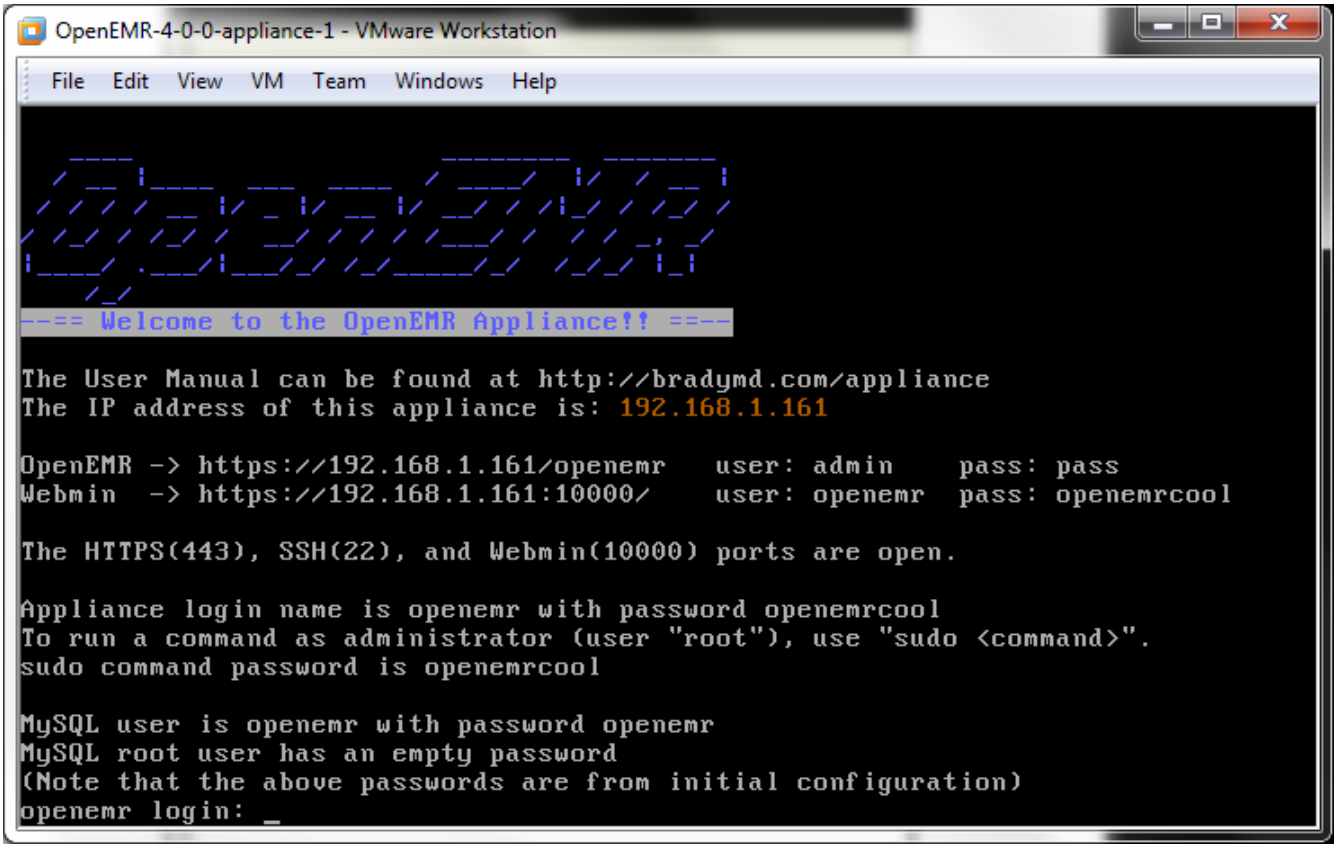
2. Run VMware Player (screenshot below). (see here if running on VirtualBox)

3. Start up the OpenEMR Appliance by opening the OpenEMR-4-1-0-appliance-1.vmx file in the VMware Player.

4. If this is your first time starting the OpenEMR Appliance, then a window will pop up (see screenshot below). Select 'I copied it' and click the 'OK' button.

5. Several windows may also pop up explaining that certain drives or sound drivers are not gonna work. Just click 'ok' and continue.

6. Ubuntu will now boot up, just give it some time. After boot up you will see the following introduction screen:



This is the introduction screen. Note that it automatically displays the IP address of your appliance, along with links to OpenEMR and Webmin. These links are customized for you depending on your IP address. The initial important user names and passwords are also displayed. To use appliance, proceed to the '[Using the OpenEMR Appliance]' section below.

Linux

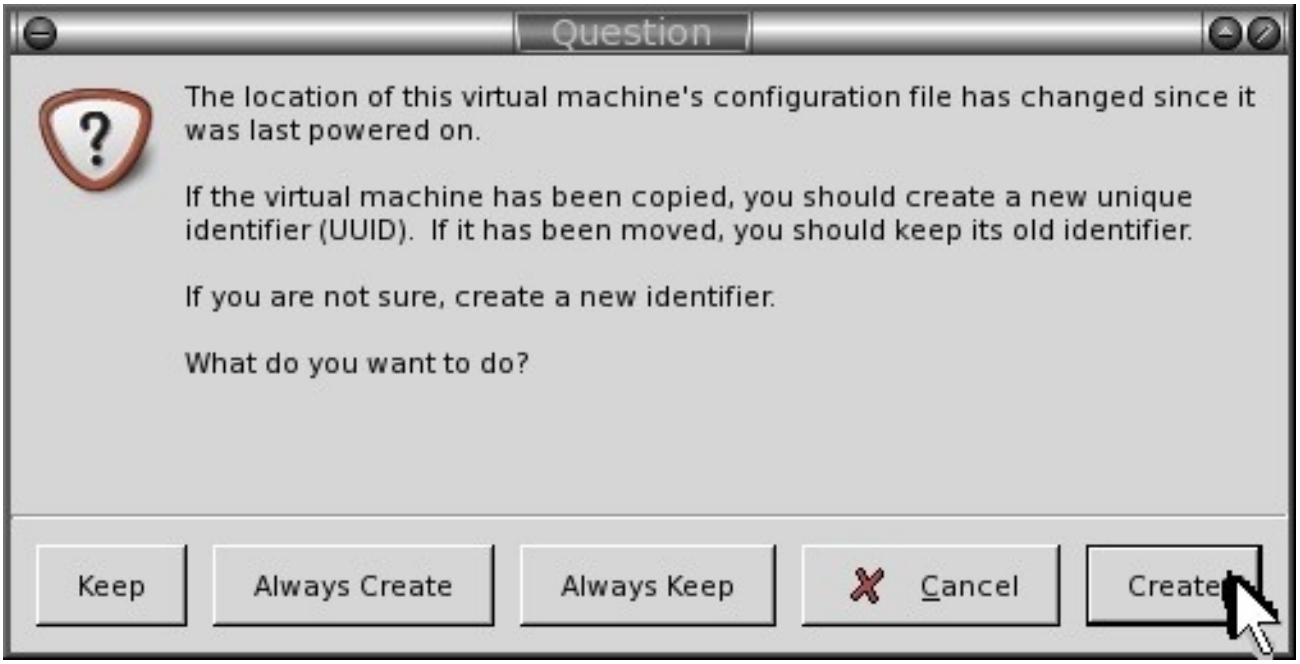
[Main TOC Link]

1. Unpackage the OpenEMR-4-1-0-appliance-1.zip file (use the 'unzip OpenEMR-4-1-0-appliance-1.zip' command).

2. Run VMware Player. ([see here if running on VirtualBox])

3. Start the OpenEMR appliance by opening the OpenEMR-4-1-0-appliance-1.vmx file in the VMware Player.

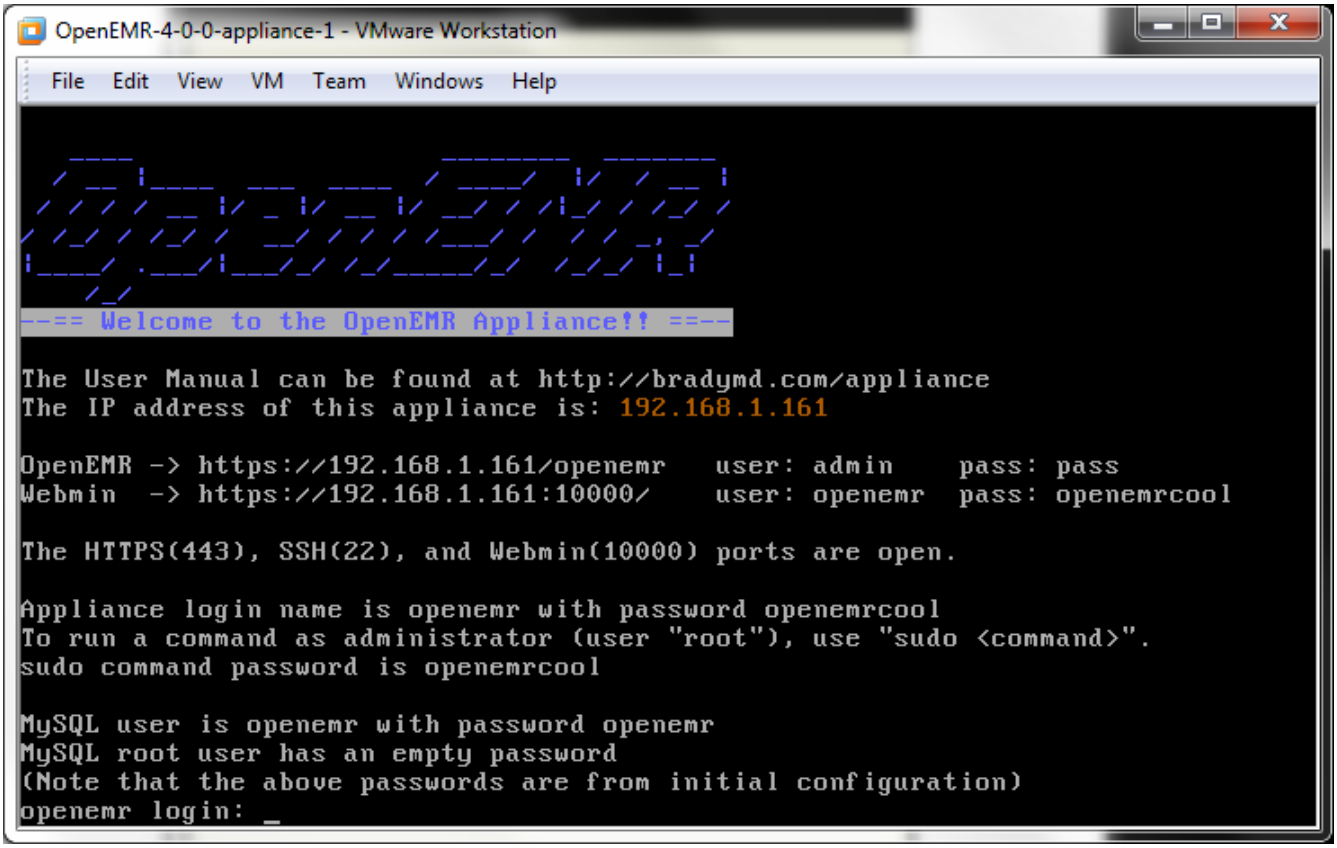
4. If this is your first time starting the OpenEMR Appliance, then the below window will pop up:



You will only see this window the first time you start the appliance. Click 'Create'.

5. Several windows may also pop up explaining that certain drives or sound drivers are not gonna work. Just click 'ok' and continue.

6. Ubuntu will now boot up, just give it some time. After boot up you will see the following introduction screen:



This is the introduction screen. Note that it automatically displays the IP address of your appliance, along with links to OpenEMR and Webmin. These links are customized for you depending on your IP address. The initial important user names and passwords are also displayed. To use appliance, proceed to the 'Using the OpenEMR Appliance' section below.

Using the OpenEMR Appliance

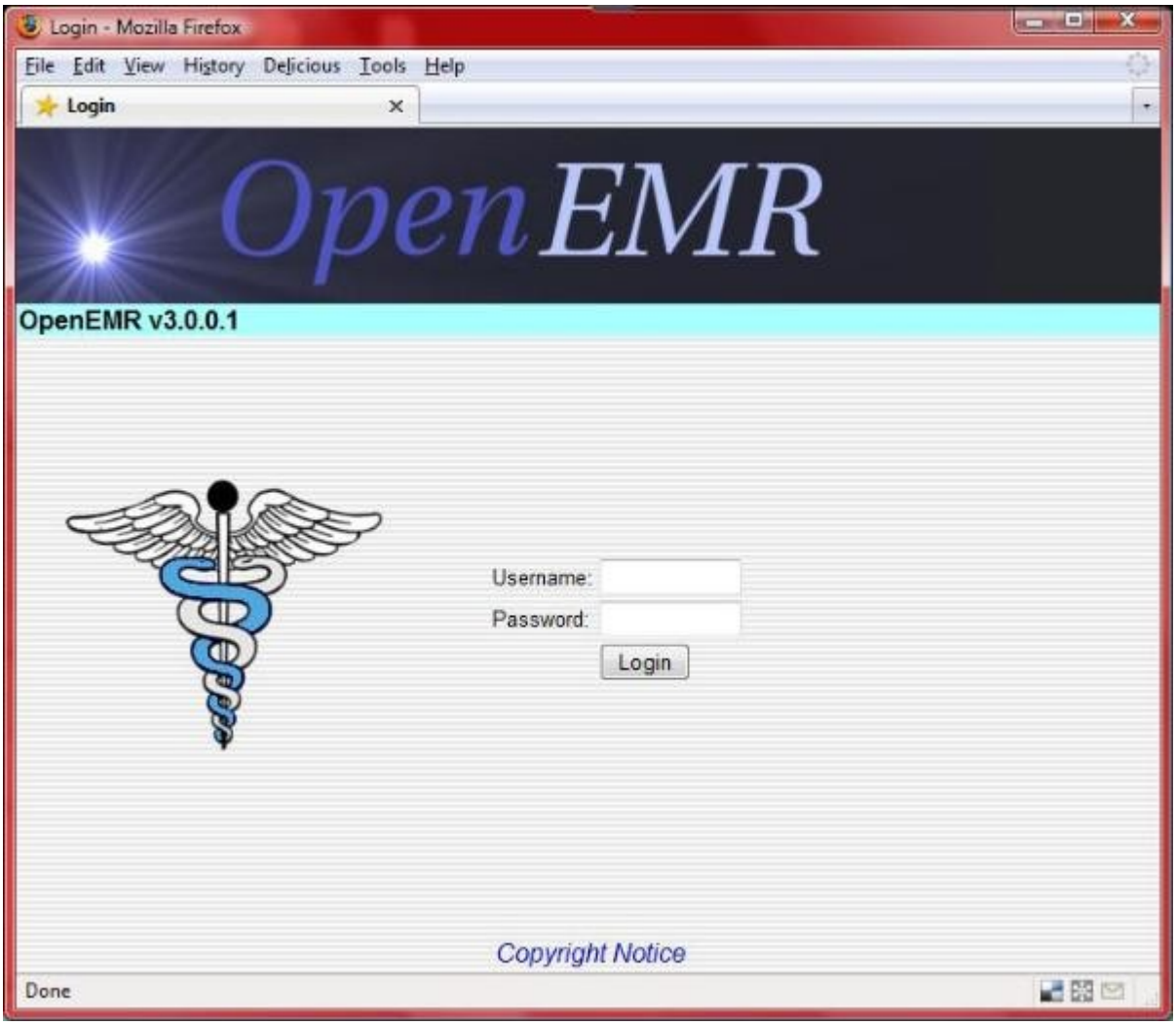
Main TOC Link

Using OpenEMR Appliance

Main TOC Link

1. You connect with the OpenEMR Appliance through a web browser. You can get the Appliance IP address along with links to OpenEMR and Webmin on the above introduction screen. Use those links as the web address on another computer's web browser. (If you get a security error in your web browser, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

    1. OpenEMR at https://*Appliance_IP_address*/openemr



2. Webmin at https://*Appliance_IP_address*:10000/

3. For the list of application login names and passwords go to the 'Login Name and Password' section below.

2. You can also change your IP address to a static one, so it doesn't change after your virtual server is turned off or re-started. Directions to to do this are in the 'Static IP Address Setup' section.

OpenEMR User Training

Main TOC Link

1. There is an excellent OpenEMR wiki with user manual links at: http://www.open-emr.org/wiki/
2. You can ask question at the SourceForge OpenEMR forum at: https://sourceforge.net/projects/openemr/forums
3. The OpenEMR home page is here: http://www.open-emr.org/
4. The most current version of this appliance user manual will hopefully always be available at: http://www.bradymd.com/

Helpful Tips

Main TOC Link

1. **NEED** to ensure clock is set correctly (Virtual computer time should not differ from the host computers, or there will be cron scheduling problems)

List of Login Names and Passwords

Main TOC Link

1. Ubuntu user -> user: 'openemr' password: 'openemrcool'
2. Ubuntu sudo command -> password: 'openemrcool'
3. Webmin -> user: 'openemr' password: 'openemrcool'
4. OpenEMR -> user: 'admin' password: 'pass'
5. MySQL user -> user: 'openemr' password: 'openemr'
6. MySQL admin -> user: 'root' NO PASSWORD

Configuration of the OpenEMR Appliance

Main TOC Link

Printer Setup

Main TOC Link

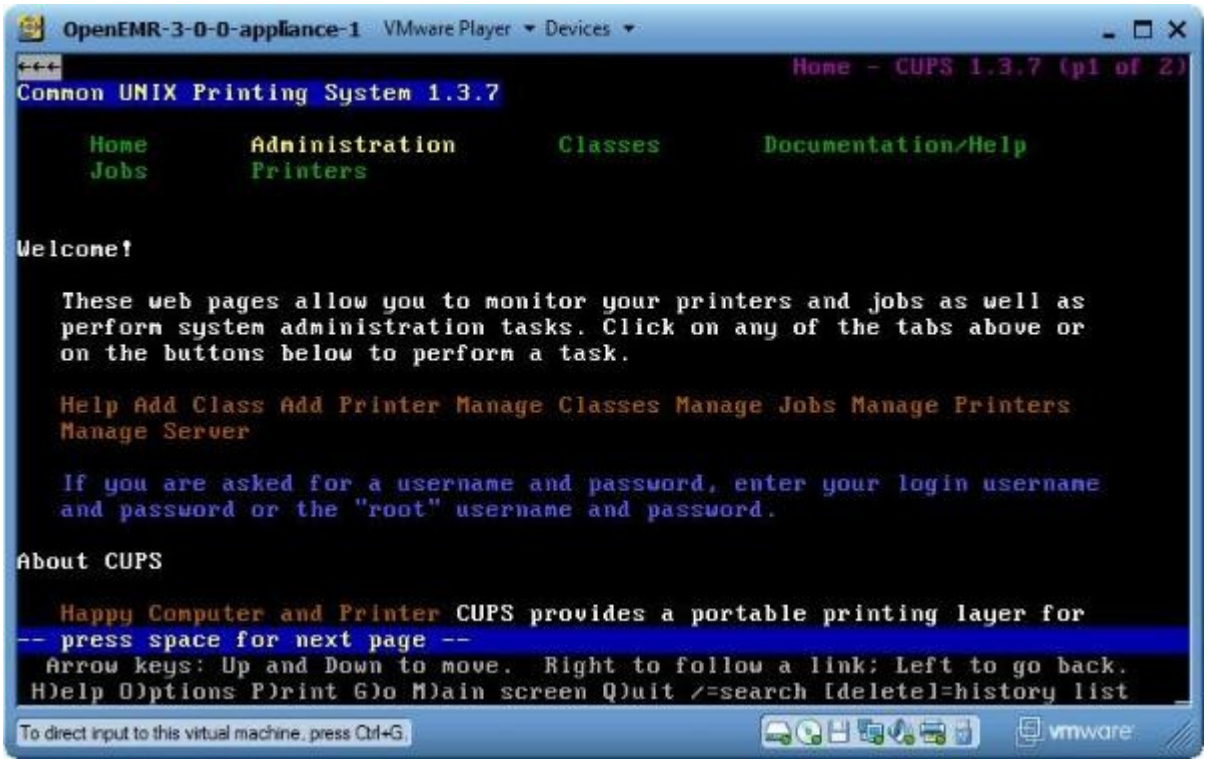
1. For USB printers, you will need to connect the device by clicking on printer on top of window. Your host computer may no longer be able to see the printer after this step(not permanent, but can be a pain).

In this case I click on the 'Hewlett-Packard...' button at top of VMware window.

This is just to demonstrate that the 'Hewlett-Packard...' button is now shaded.

2. Now, you need to add the printer . It would be great if we could add and administer the printer through webmin, but I was unable to get this to work. So we will add a new printer to CUPS directly. To do this, we will actually use a text based browser from the commandline (yes, you are now entering nerd world). Enter below **bolded** instructions on command line:

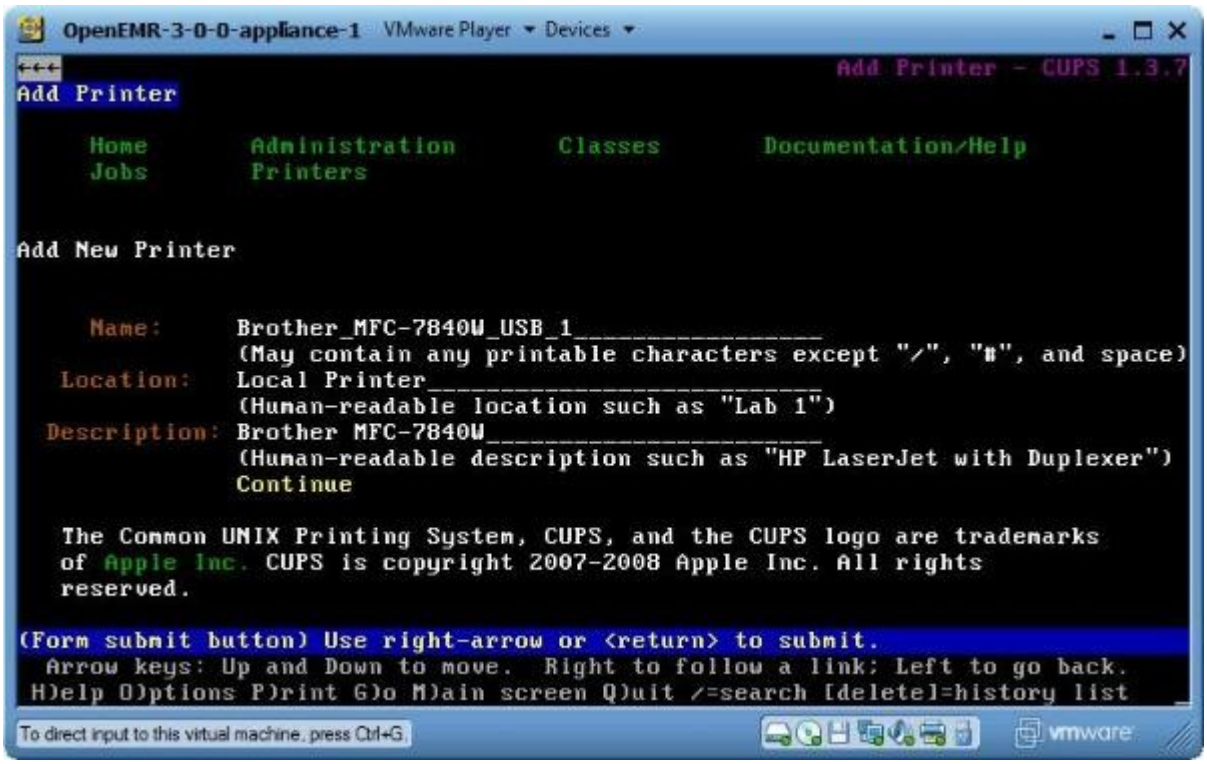
```
# first, update ubuntu package repository
sudo aptitude update

#open up web page with text based browser (use up/down
   arrow keys or 'tab' key to scroll thru links and hit 'enter'
   key to select a link)
lynx http://localhost:631
```



Select 'Administration'.

Select 'Find New Printers'. (it will take a bit of time to load next page)

Select the printer you want to add.



Follow instructions to fill out 'Name:', 'Location:', and 'Description:' fields. Then select 'Continue'. (it will take a bit of time to load next page)

Choose the 'Model:' (use right-arrow key to show the menu after you select this field). Then select 'Add printer'. (it will take a bit of time to load next page)

Enter username 'openemr'.

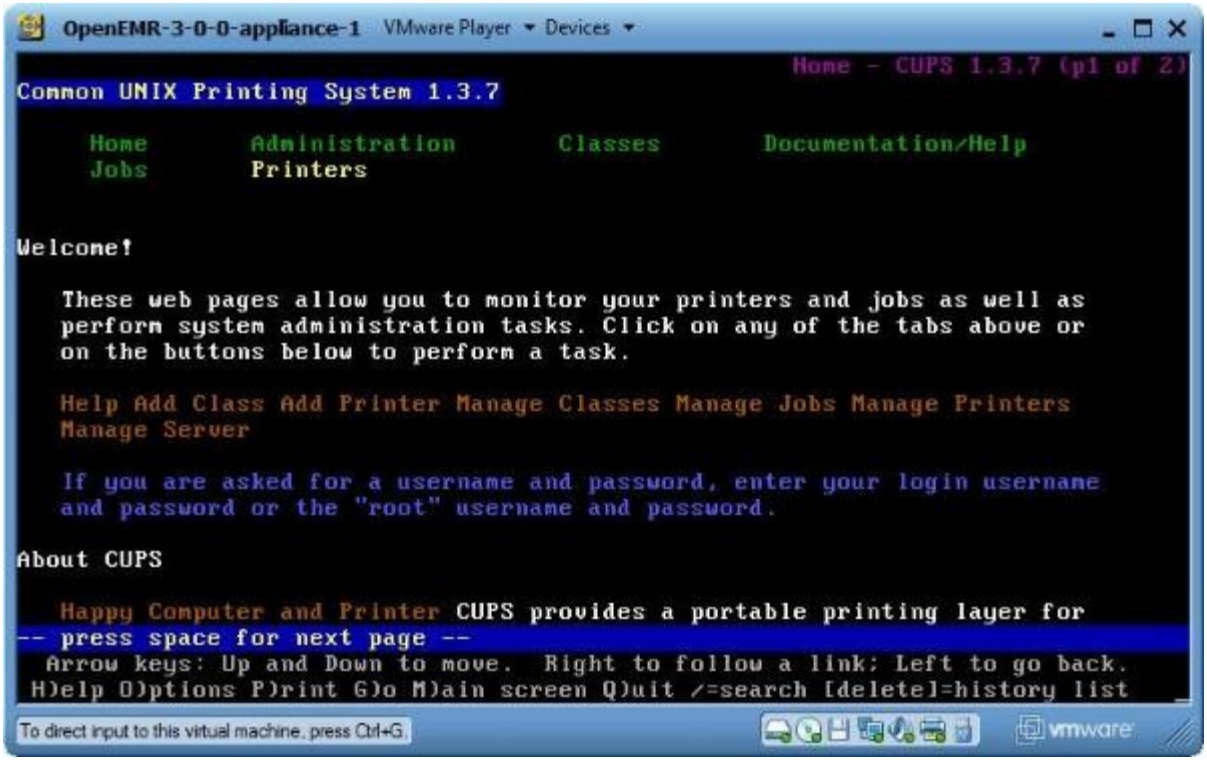
Enter your 'openemr' user password.

Shows printer was successfully added. Type 'q' to quit.

3. Now that the printer has been added, we can print a test page and learn how to administer the printer. Again, it would be great if we could do this through Webmin, but I was unable to get this to work. So we will go back to using CUPS directly through our text-based browser.

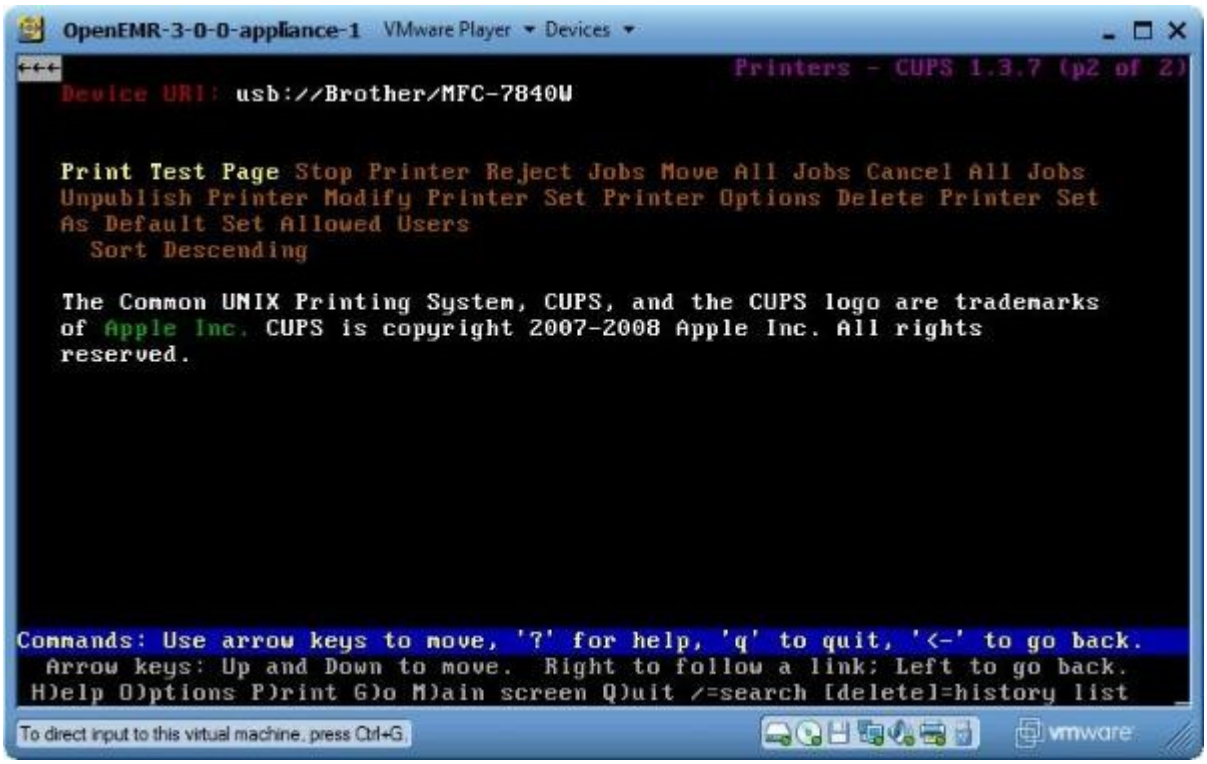
#open up web page with text based browser (use up/down arrow keys or 'tab' key to scroll thru links and hit 'enter' key to select a link)

lynx http://localhost:631

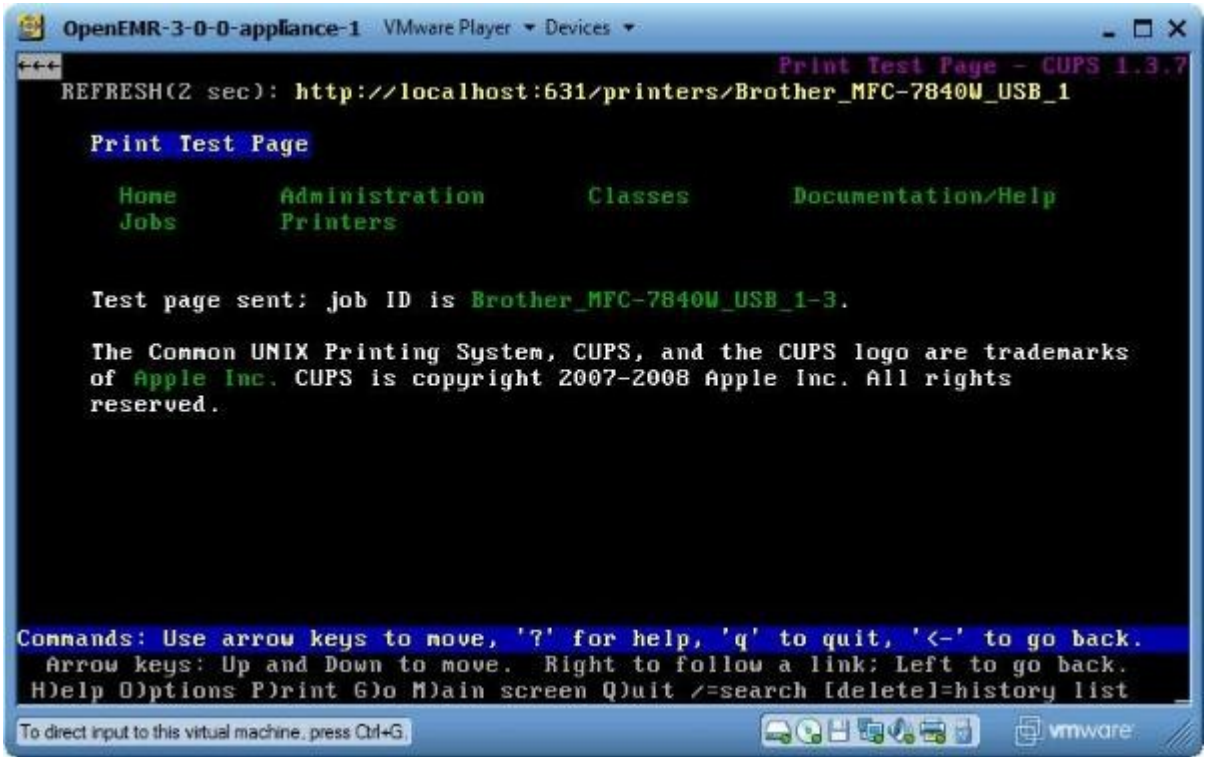


Select 'Printers'

Use down arrow key to scroll below the shown printer.



Select 'Print Test Page' (also note all the other administration options in case you need them in the future).



Confirmation of print job is shown. A test page should be sent to your printer. Type 'q' to quit. You are now officially a nerd.

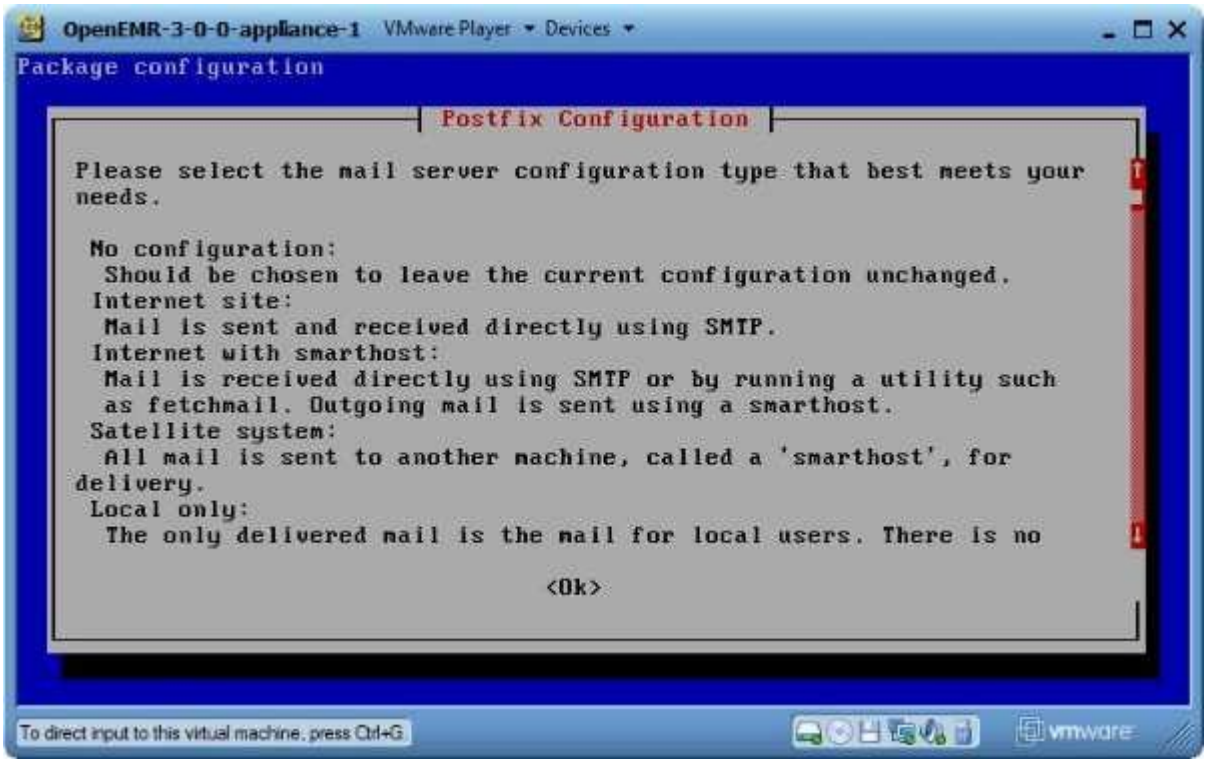
Email Server Setup

Main TOC Link

1. This will allow only locally produced emails (such as “status” emails during the below 'backup script' and emails originating from OpenEMR for appt confirmations) to be sent over the internet.

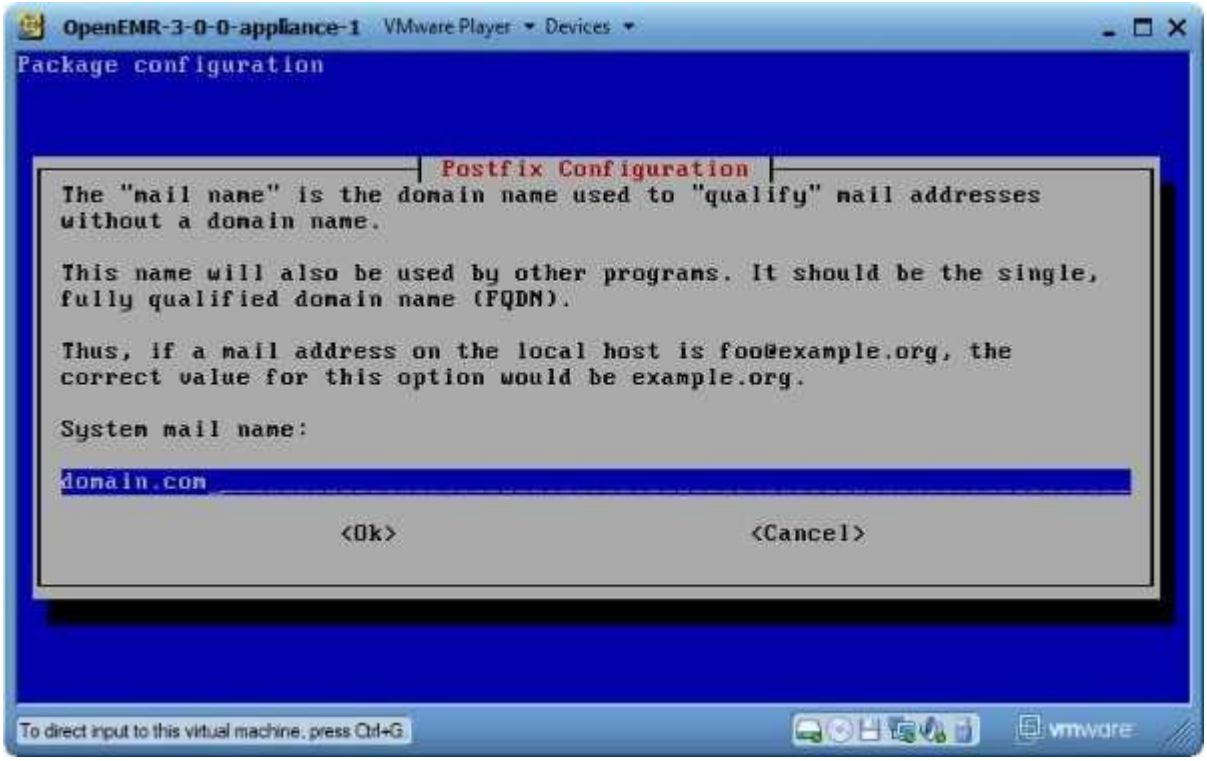
2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

    #log into root
    sudo aptitude update
    sudo aptitude install postfix



-Hit 'tab' key to select 'Ok'.

Select 'Internet Site', then select 'OK'.

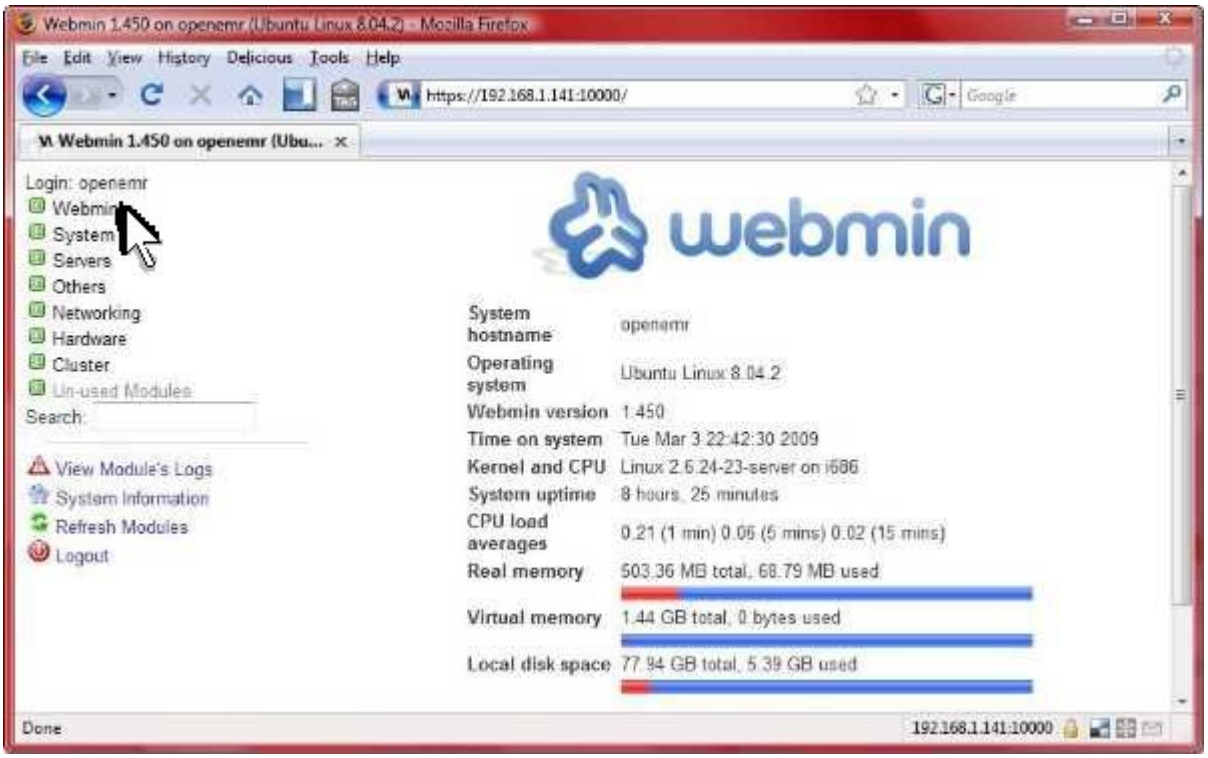


Enter the domain name that is put in the from field of your outgoing emails, for example ouroffice.com . (don't worry, this can always be changed after installation). Then select 'OK'.

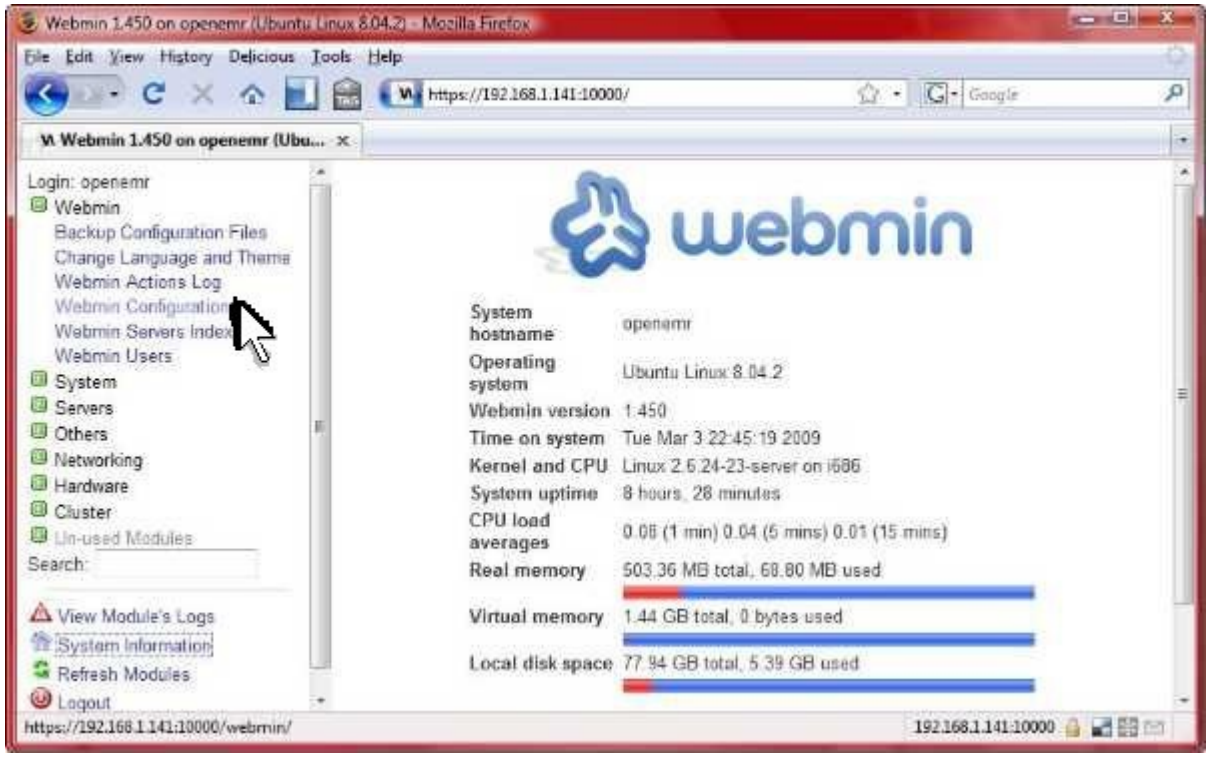
3. Now we can configure the mail server in Webmin. First we will start the Postfix module in Webmin, and hen we will configure it. Point a web browser outside your appliance to the Webmin link reported in your appliance introduction screen.

(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

Login.

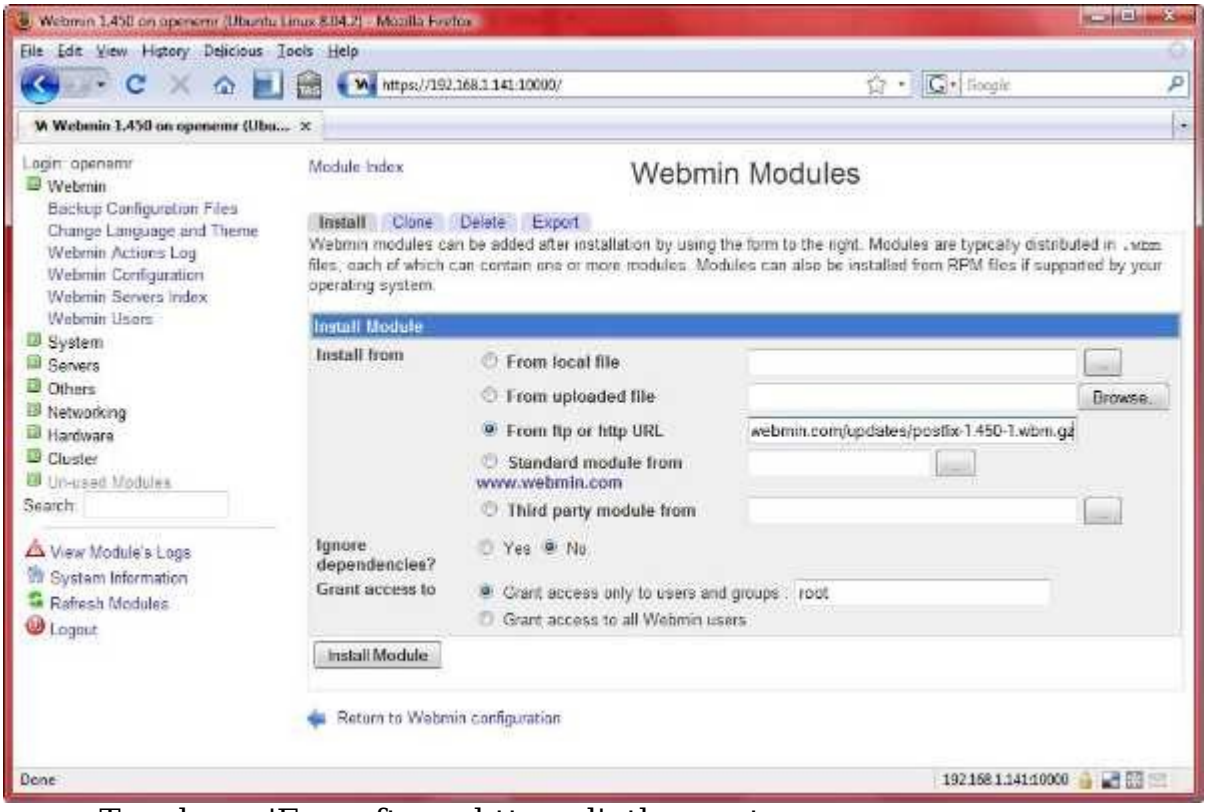


Click 'Webmin'.

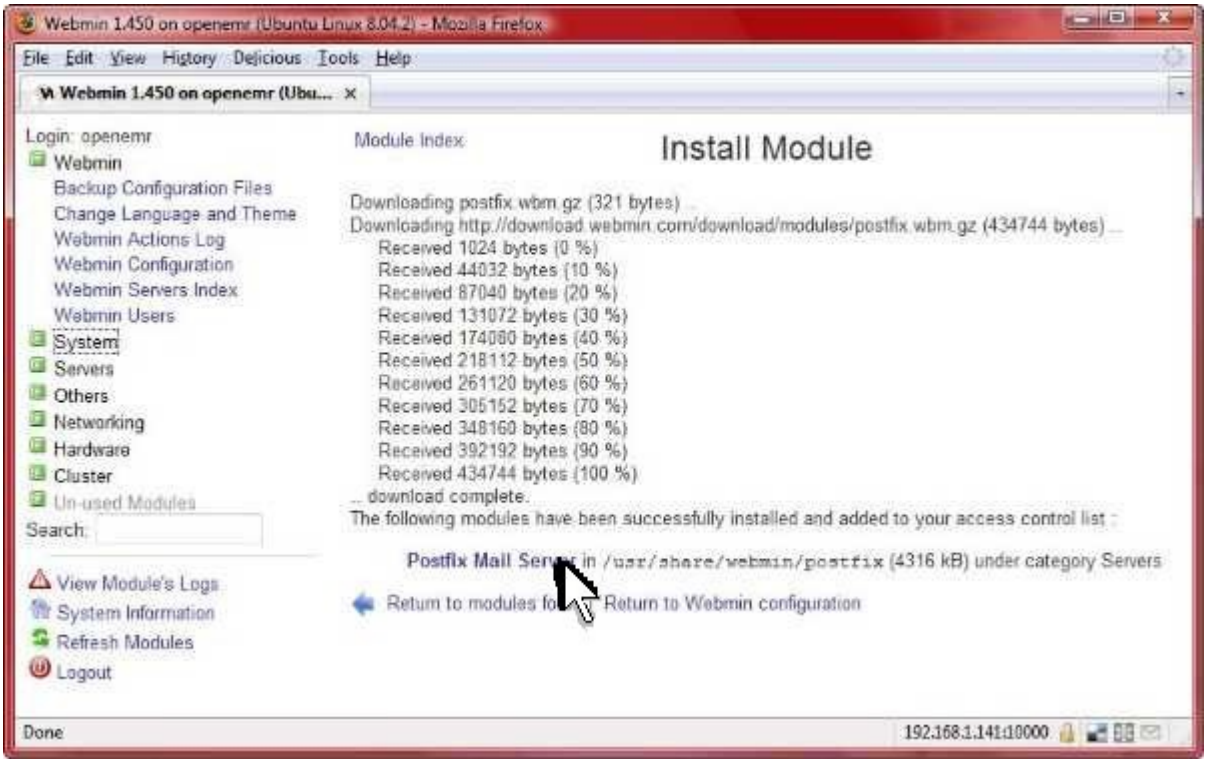


Click 'Webmin Configuration'

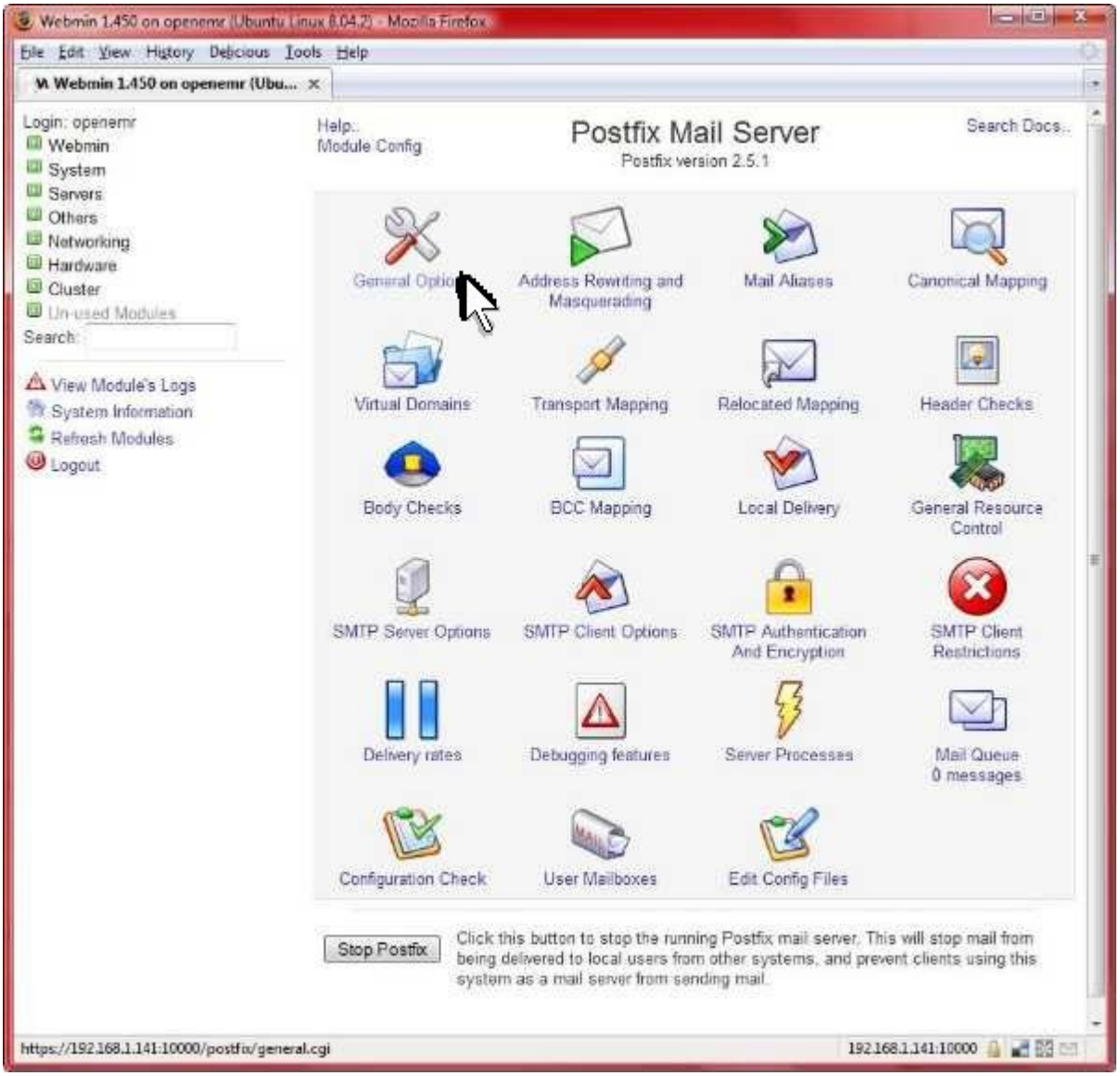
Click 'Webmin Modules'.



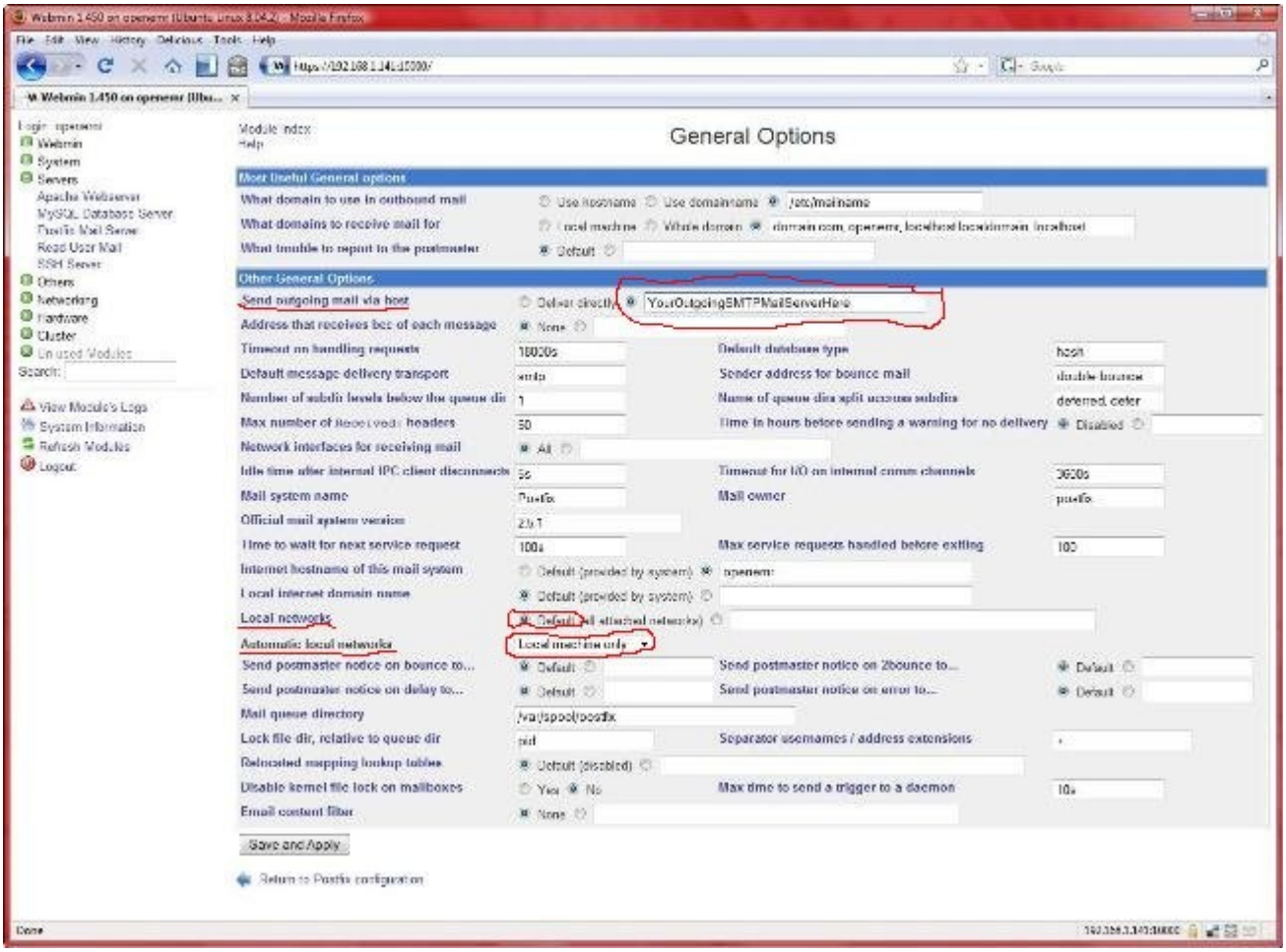
Toggle on 'From ftp or http url', then enter 'http://www.webmin.com/updates/postfix-1.450-1.wbm.gz'. Then click 'Install Module'. (We can't use the usual standard postfix module because of a bug in mail aliases).



Confirmed successful installation. Then click 'Postfix Mail Server'.

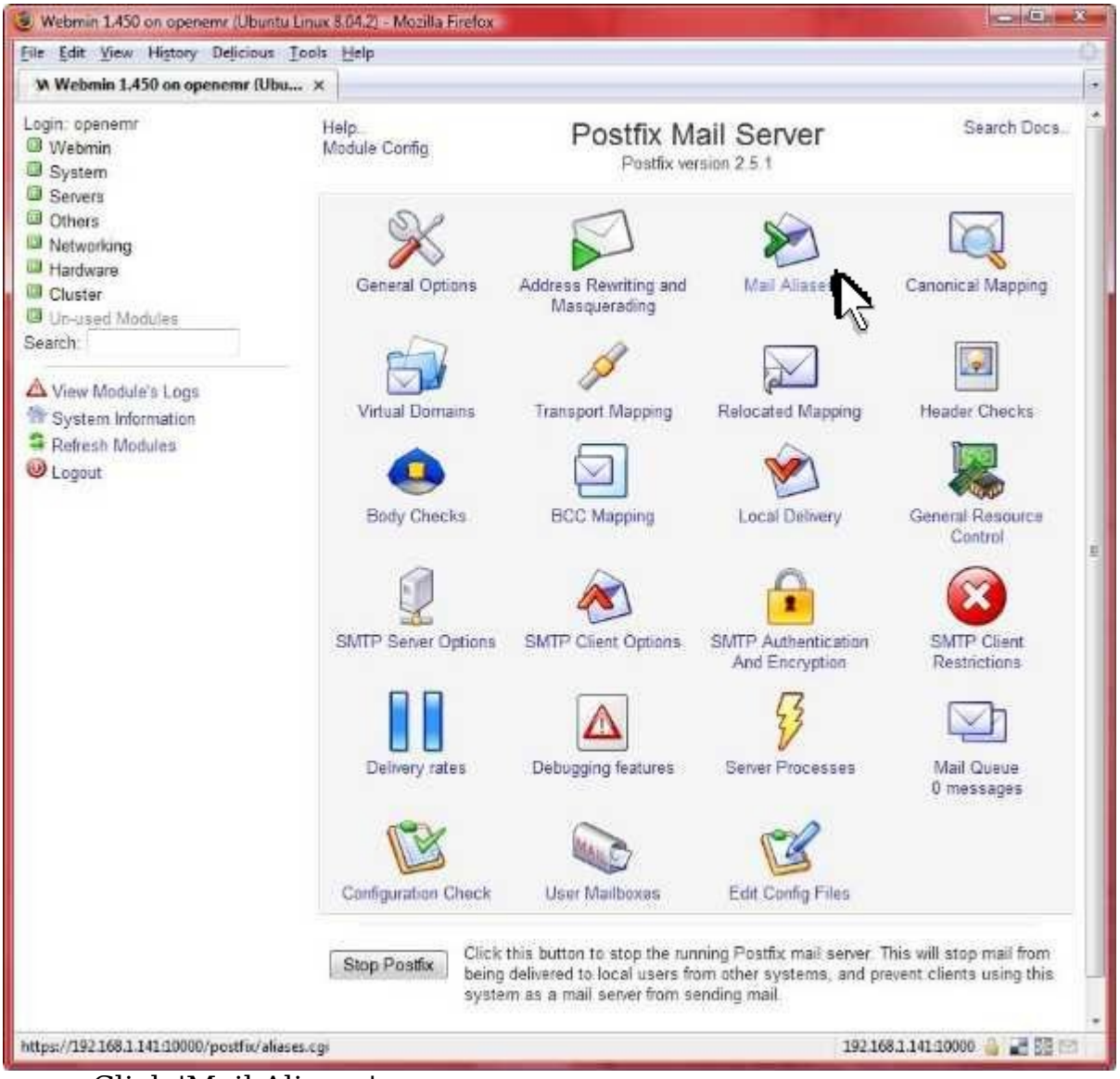


Click 'General Options'.

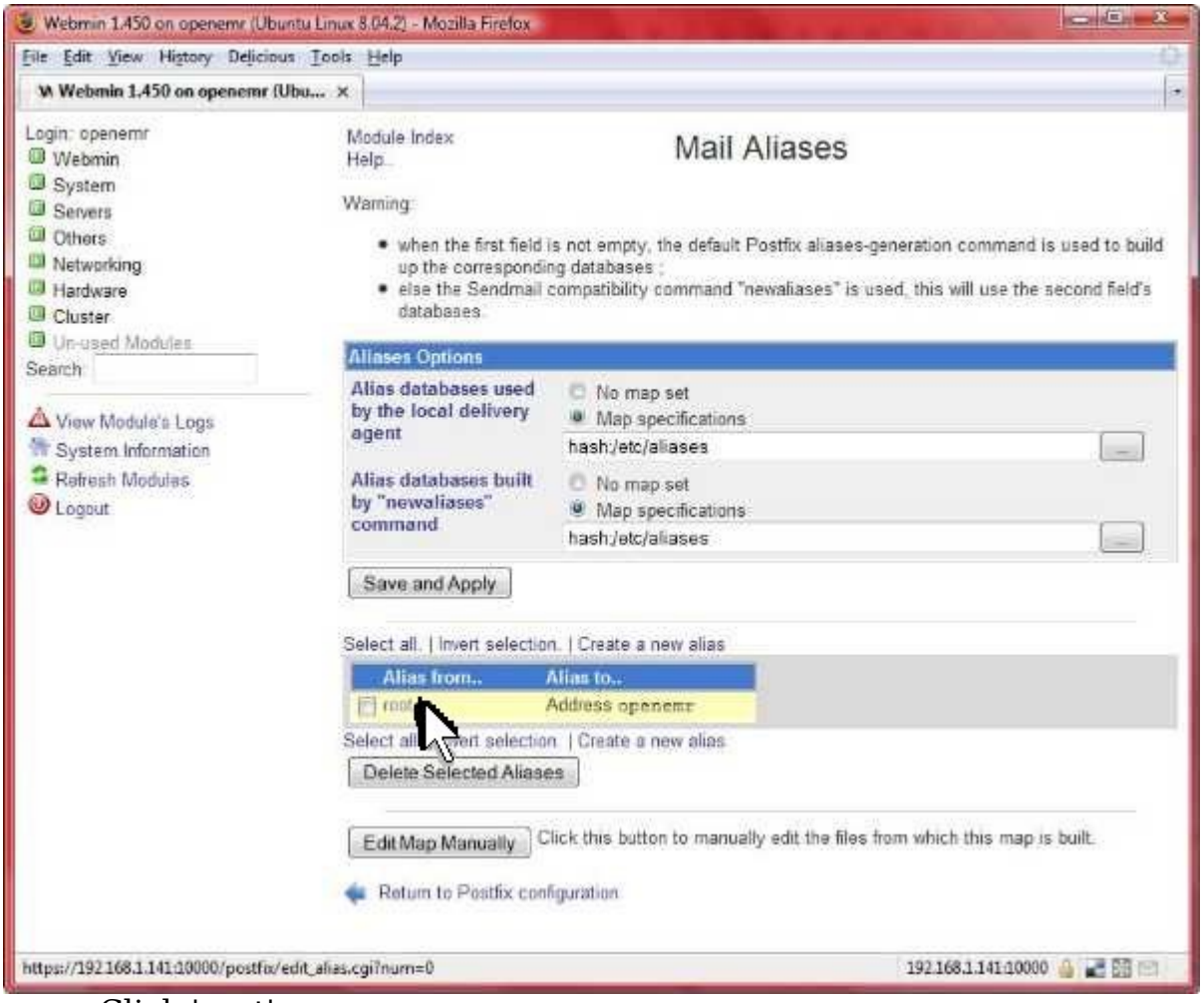


Sorry about the poor quality screenshot. Only several changes need to be made here (circled in red), which are all detailed directly below.

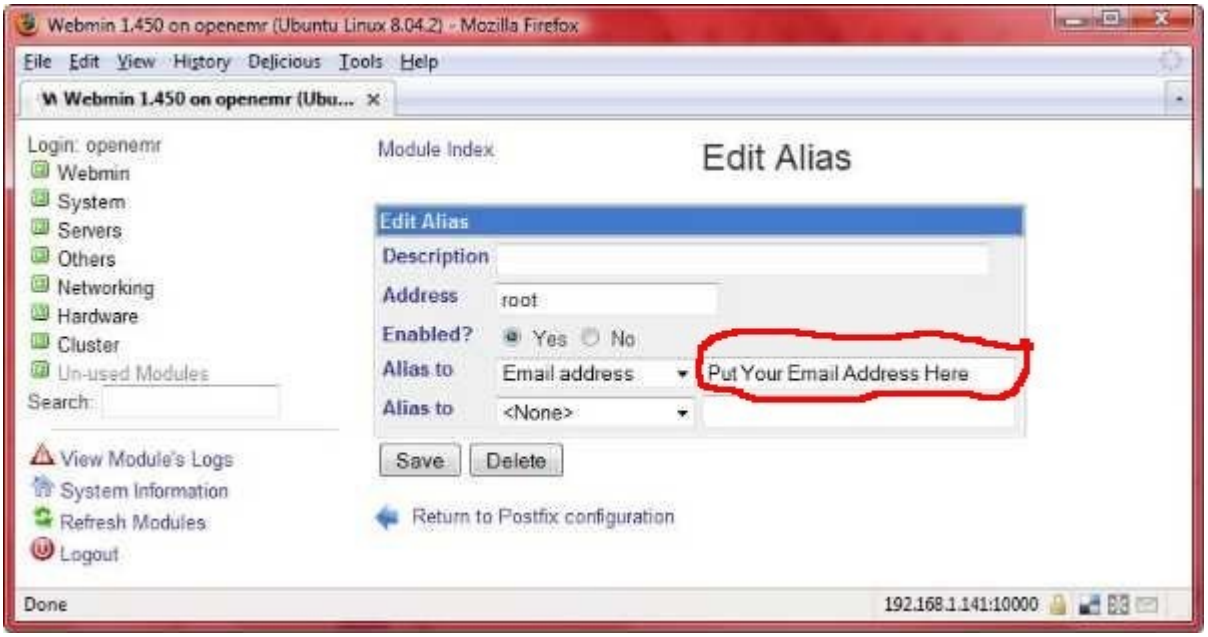
1) In 'Send outgoing mail via host', type your outgoing smtp mail server here (this should be given by your internet service provider).
2) In 'Local networks', toggle on 'Default'.
3) In 'Automatic local networks', choose 'Local machine only'.
4) Click the 'Save and Apply' button.



Click 'Mail Aliases'.

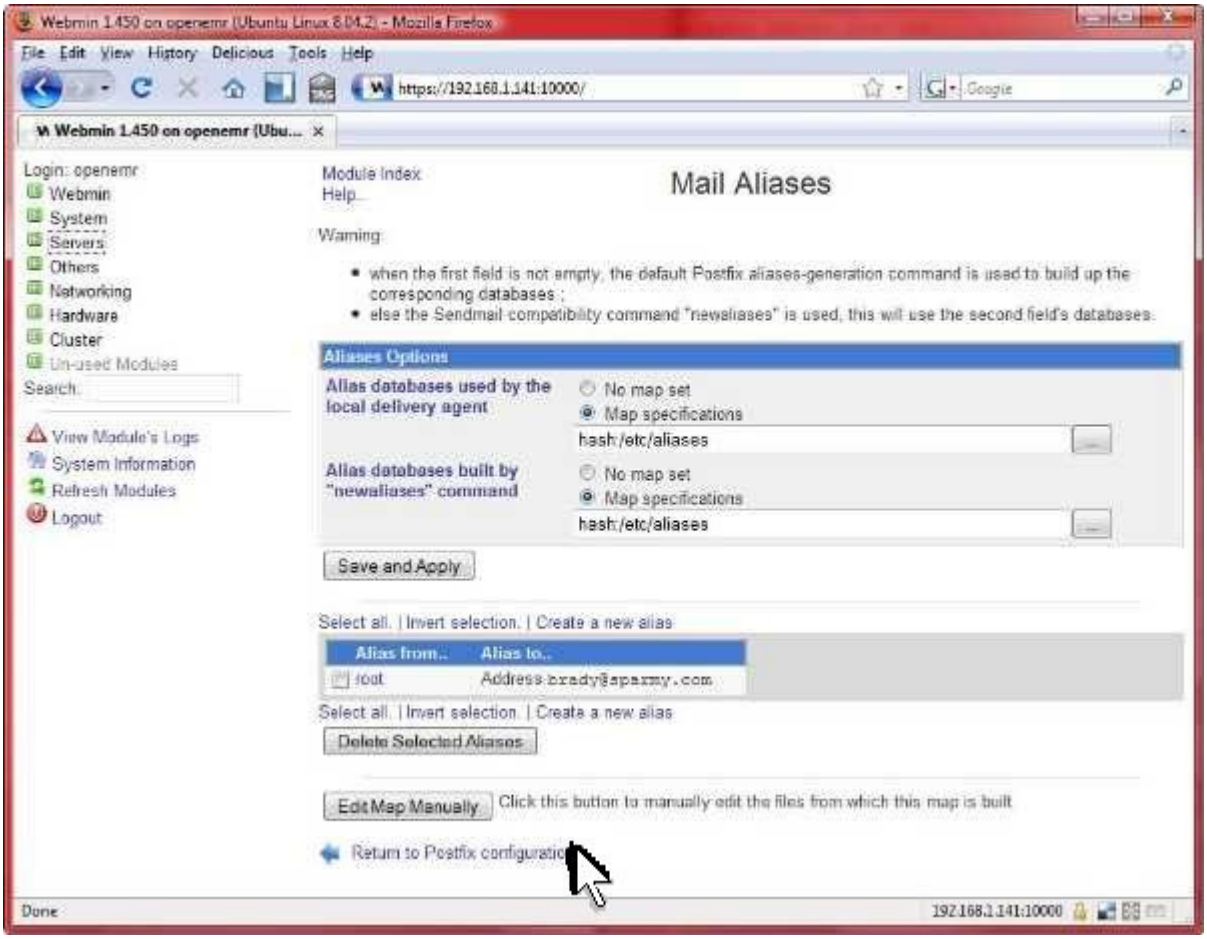


Click 'root'.

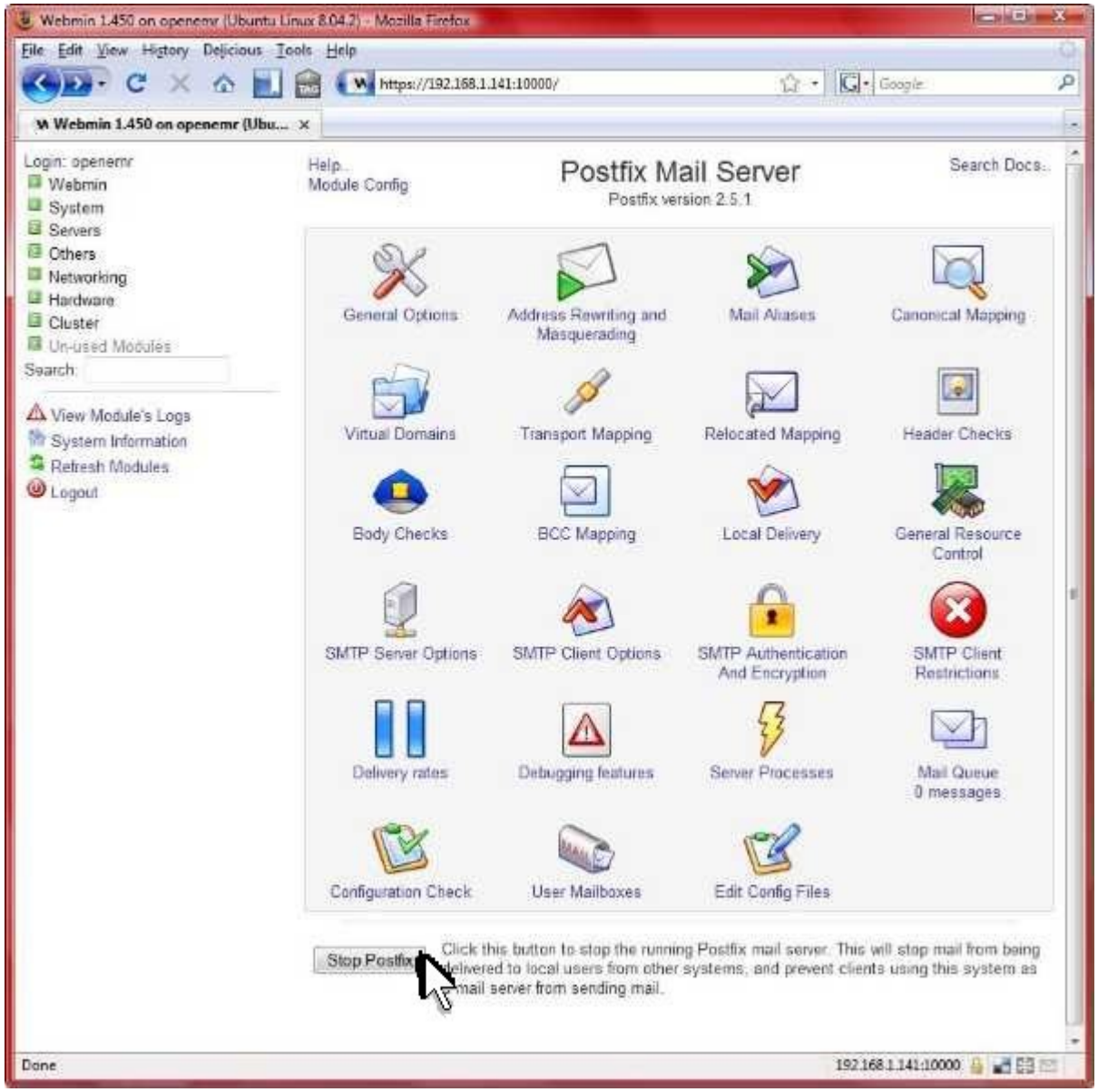


This is where you can direct all the administrative messages created by

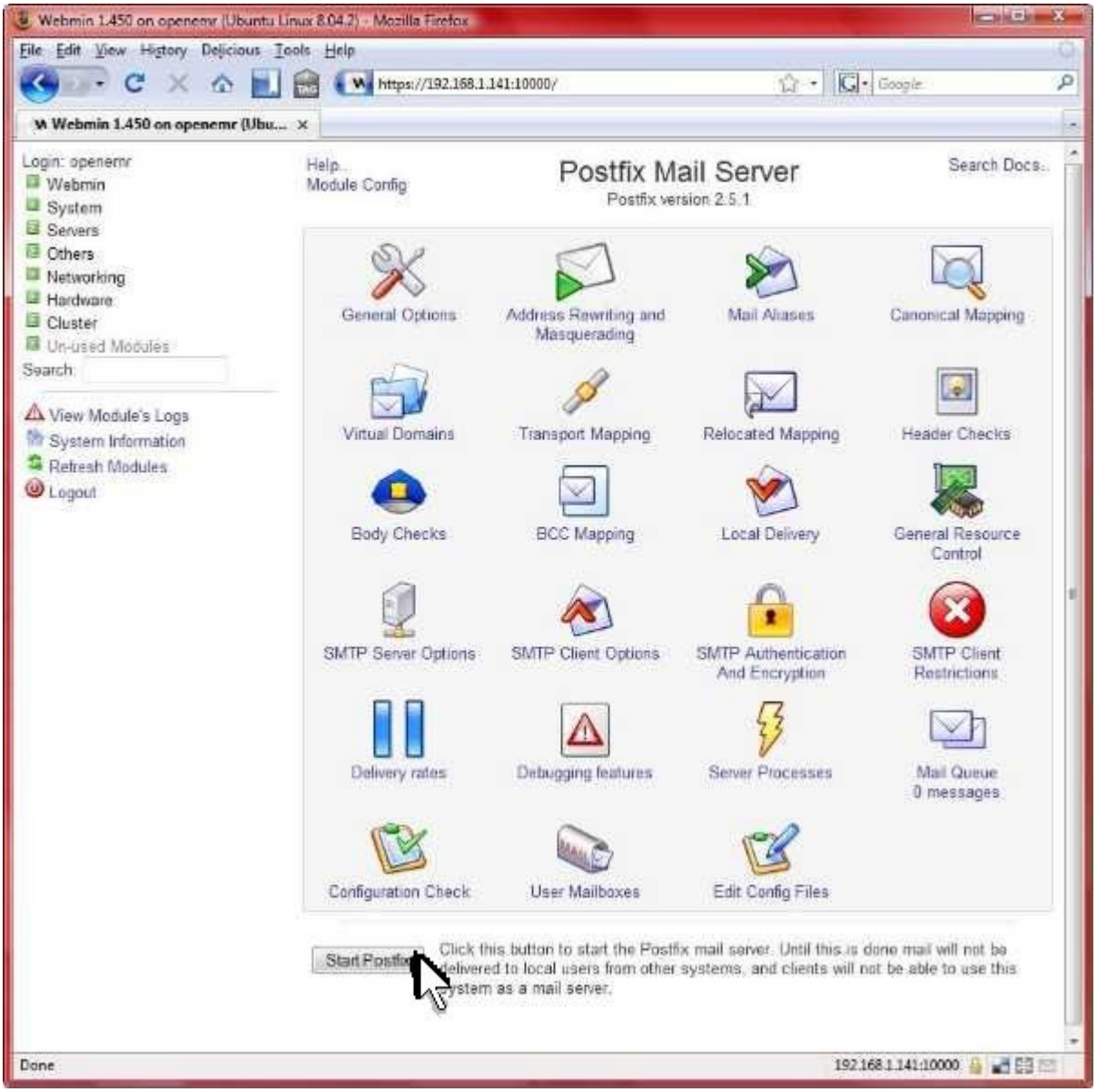
your appliance to your email address. Enter your email address in the field circled in red. Then click 'Save'.



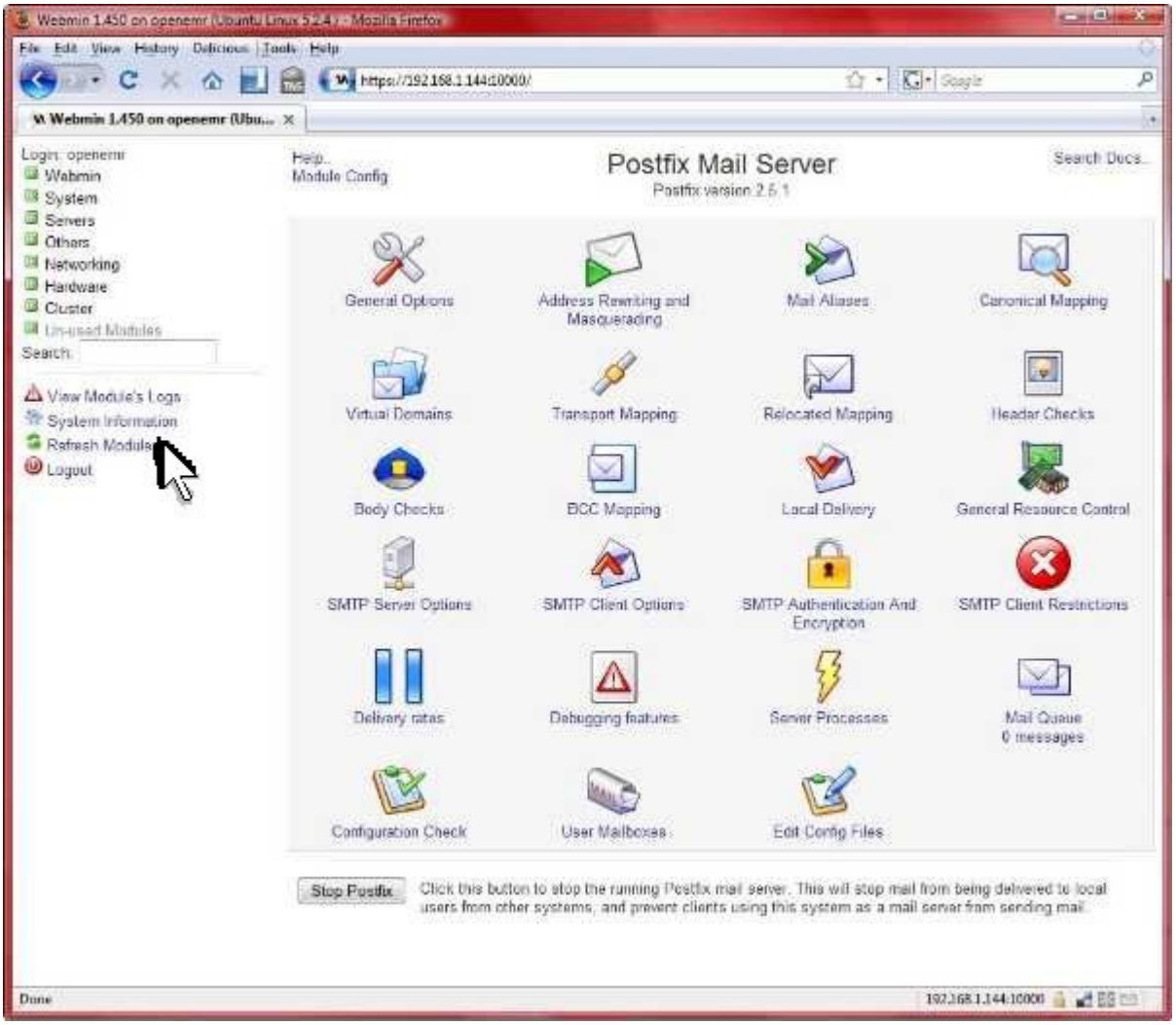
It worked, click 'Return to Postfix Configuration' to restart Postfix.



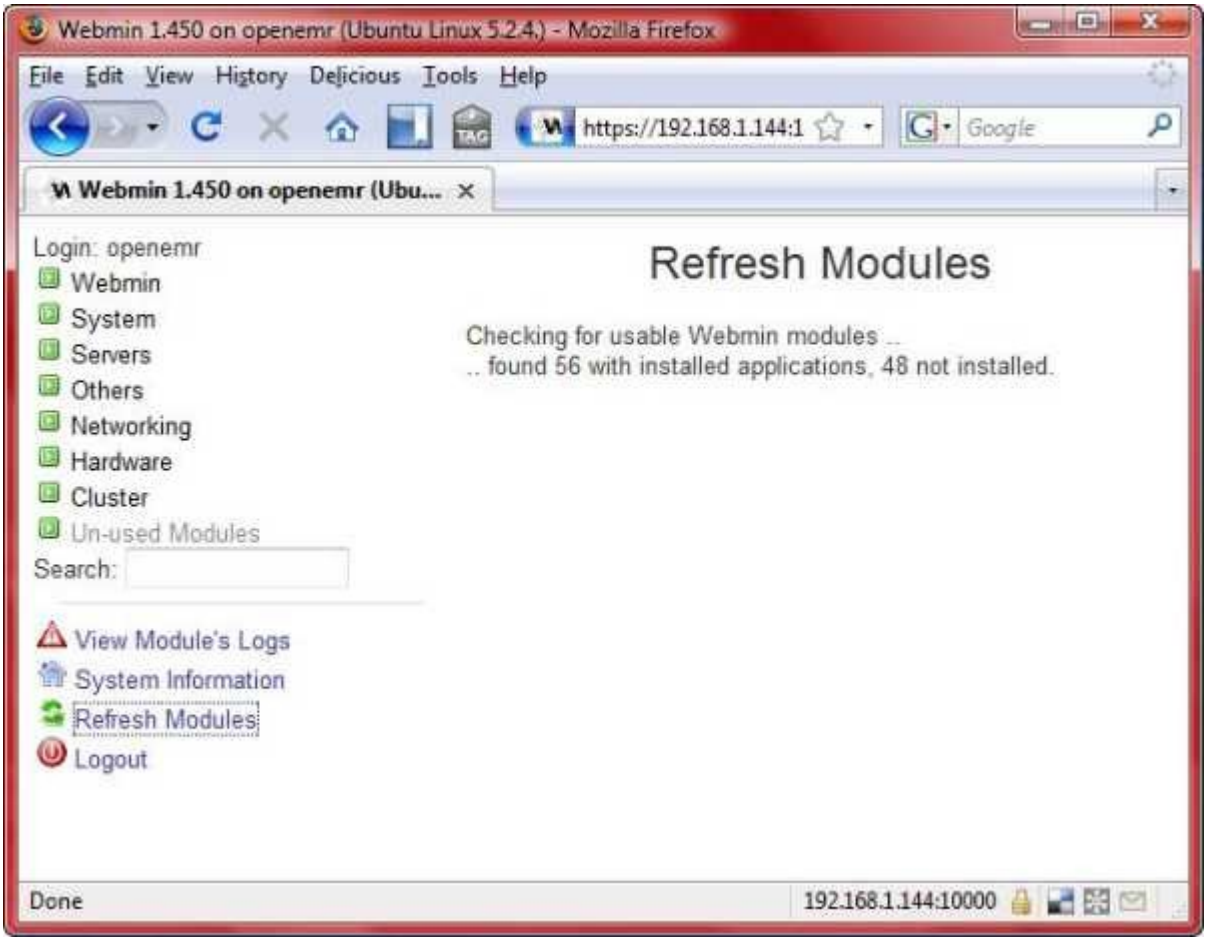
At bottom of page click 'Stop Postfix'.



At bottom of page click 'Start Postfix'.



Click 'Refresh Modules'.



After done, then refresh browser (this will place a postfix link into Webmin's menu in the 'Servers' section).

4. You are now done. For the future you can now get to the postfix configuration menu in Webmin in the 'Servers' section.

Backup (Automatic) Setup

Main TOC Link

1. Automatic backups are extremely important. There are numerous strategies and tools to do this. You can back up the entire appliance (turn it off first), you can use tools in Webmin, or you can use scripts/tools in linux. There is no absolute right way to do it (many administrators will employ more than one mechanism), but you have to do it. Imagine the horror if you walked into your clinic one day, and all of your data was gone. Considering the sensitivity of data, it is also a good idea to consider encryption with some backup schemes. The things that need to be backed up in the OpenEMR 4.1.0 Appliance are the openemr MySQL database and the openemr web directory.

2. The script provided will enable a daily backup of the openemr database in the MySQL server and the OpenEMR web directory. The script will place a encrypted backup in the local hard drive /tmp directory, and will also copy an encrypted backup to a DVD. The DVD copy works via multi-session, so you basically just need to leave one DVD in the DVD writer until it fills up. Do NOT use RW DVD. This script will work and should be used with R only DVD's. The output of the automated backup script will be emailed to the person's email entered in above email server setup.
    1. There is no restore script yet, will have to be done manually.
    2. The MySQL database is gzipped and the OpenEMR web directory is tarred and gzipped.

3. Configure file encryption package:
    1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

       #Configure file encryption. If you want to be able to decrypt your encrypted files you need to remember (case sensitive) the passphrase that you type below. I'd also remember all the other info you type below.
       cd /home/openemr
       sudo gpg --gen-key
       -'ENTER' to default of 1 for key selection
       -'ENTER' to default 2048 keysize bits
       -'ENTER' to default '0' so key does not expires
       -Type 'Y' to confirm above
       -Type your real full name
       -Type your real email address
       -Type 'openemr secure backup key'
       -Type 'O' to confirm
       -Type a very secure and long 'passphrase' (the longer your passphrase is the more secure, go for at least 15 characters with numbers, different cases, and strange characters)

       #**IMPORTANT!!!** You **NEED** to backup the entire contents of directory **/home/openemr/.gnupg** on the most indestructible disk(s) you can find and then keep in a secure place. This directory contains your secret key file, and without this you will be unable to restore from your encrypted data backup!!! You also need to **remember** your **passphrase**, or you won't be able to restore your backed up data.

       #The decrypt command, in case you need at some point:
       #gpg -o *OutputFilename* -d *InputFilename*

4. Configure backup script and automate it:
    1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

        #install the DVD burner software
        sudo aptitude update
        sudo aptitude install dvd+rw-tools
        -y to packages

        #create a secure backup directory
        sudo mkdir /backup
        sudo chown root:root /backup
        sudo chmod 700 /backup

        #download and move the backup script to /root , secure it, and allow execution
        wget http://www.bradymd.com/fullbackup4.sh
        sudo mv fullbackup4.sh /root
        sudo chown root:root /root/fullbackup4.sh
        sudo chmod 700 /root/fullbackup4.sh

        #edit file /root/dailybackup4.sh:
        sudo jed /root/fullbackup4.sh
            #**edit** the below DVDDEVICE line to what the
            #device for the DVD writer is. In the appliance (4.1.0)
            #it should be '/dev/scd0'.
            DVDDEVICE=***/dev/scd0***

            #**edit** full name you entered **above** for **encryption** key:
            YOURFULLNAME='***Brady Miller***'

            #**edit** KEEPDAYS
            # KEEPDAYS is the number of days to keep encrypted
            #backup files on the
            # hard disk, use 0 to keep forever
            KEEPDAYS=**7**

            TEXT EDITOR SAVE AND EXIT

        #Automate script to cron for a daily run at 1:02 AM. WARNING: This script needs to finish and start on the same day since it plays around with file names using the date command. Basically, don't start this script before midnight unless you are sure it will finish before midnight. This is why I have it set for 1:02AM.
        export EDITOR=/usr/bin/jed
        sudo crontab -e

#paste below line at end of file (also ensure you add a new line(enter key) after this line):
02 1 * * * /root/fullbackup4.sh
TEXT EDITOR SAVE AND EXIT

Static IP Address Setup

Main TOC Link

1. These are instructions for setting up a static IP address for your appliance using Webmin.

2. First, you should record the required IP addresses (example form below). The 'Appliance IP Address' is going to be the IP address of your appliance (within your network). The 'Subnet Mask' is 255.255.255.0 in most cases. The 'Broadcast IP Address' can be calculated by comparing the 'Appliance IP Address' and the 'Subnet Mask'. For example, if the 'Appliance IP Address' is 192.168.1.114 and the 'Subnet Mask' is 255.255.255.0, then the 'Broadcast IP Address' is 192.168.1.255. There is also a Subnet calculator that can calculate the 'Broadcast IP Address' at http://www.subnet-calculator.com/ . The 'Gateway IP Address' is the IP address of your gateway. The 'DNS server IP Address' entries are the IP addresses of your DNS servers (the DNS server IP addresses are generally supplied by your internet service providers, and there are usually two of them).

Appliance IP Address:_____

Subnet Mask:_____

Broadcast IP Address:_____

Gateway IP Address:_____

DNS server IP Address:_____

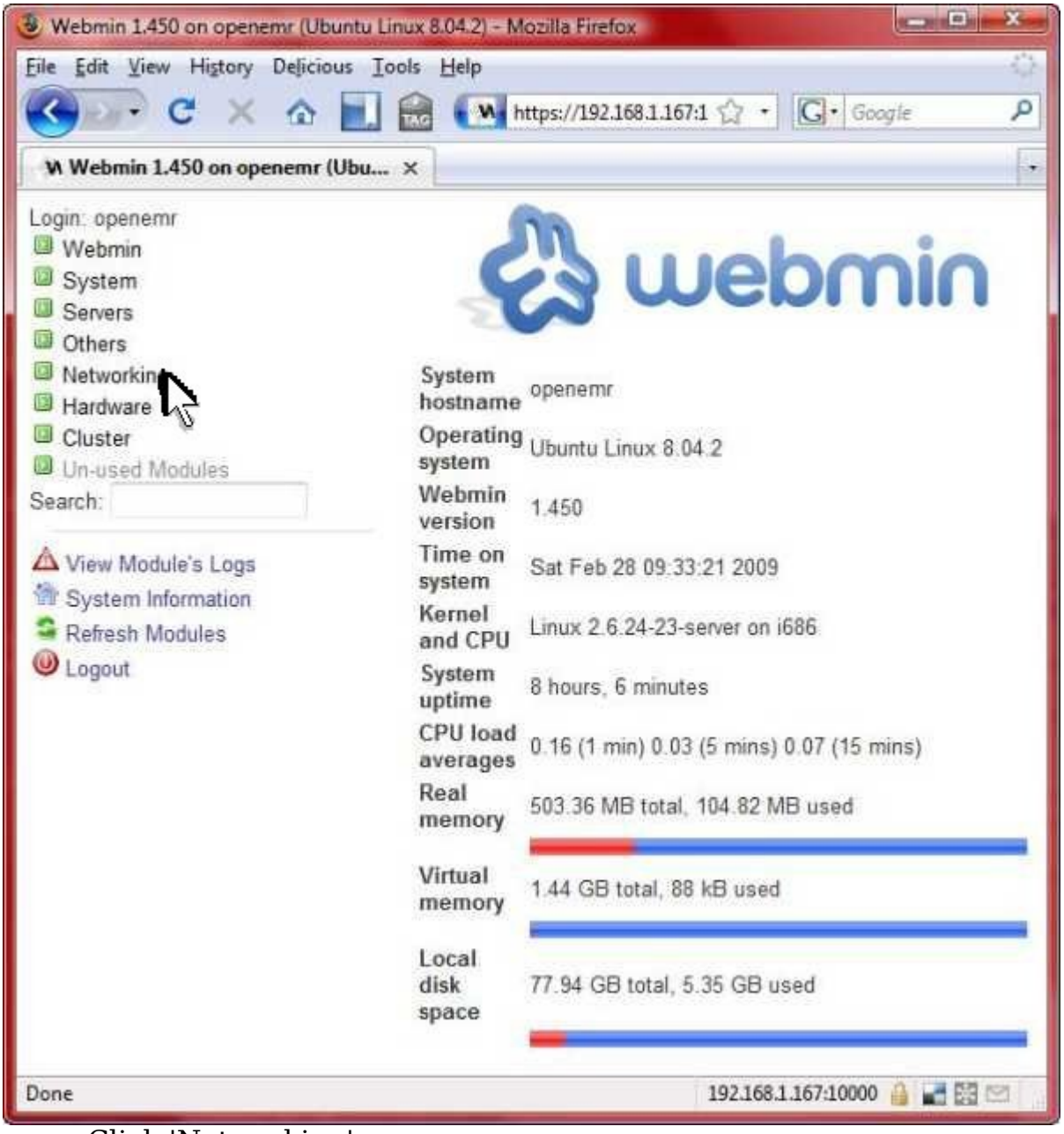
DNS server IP Address:_____

3. Point a web browser outside your appliance to the Webmin link reported in your appliance introduction screen.

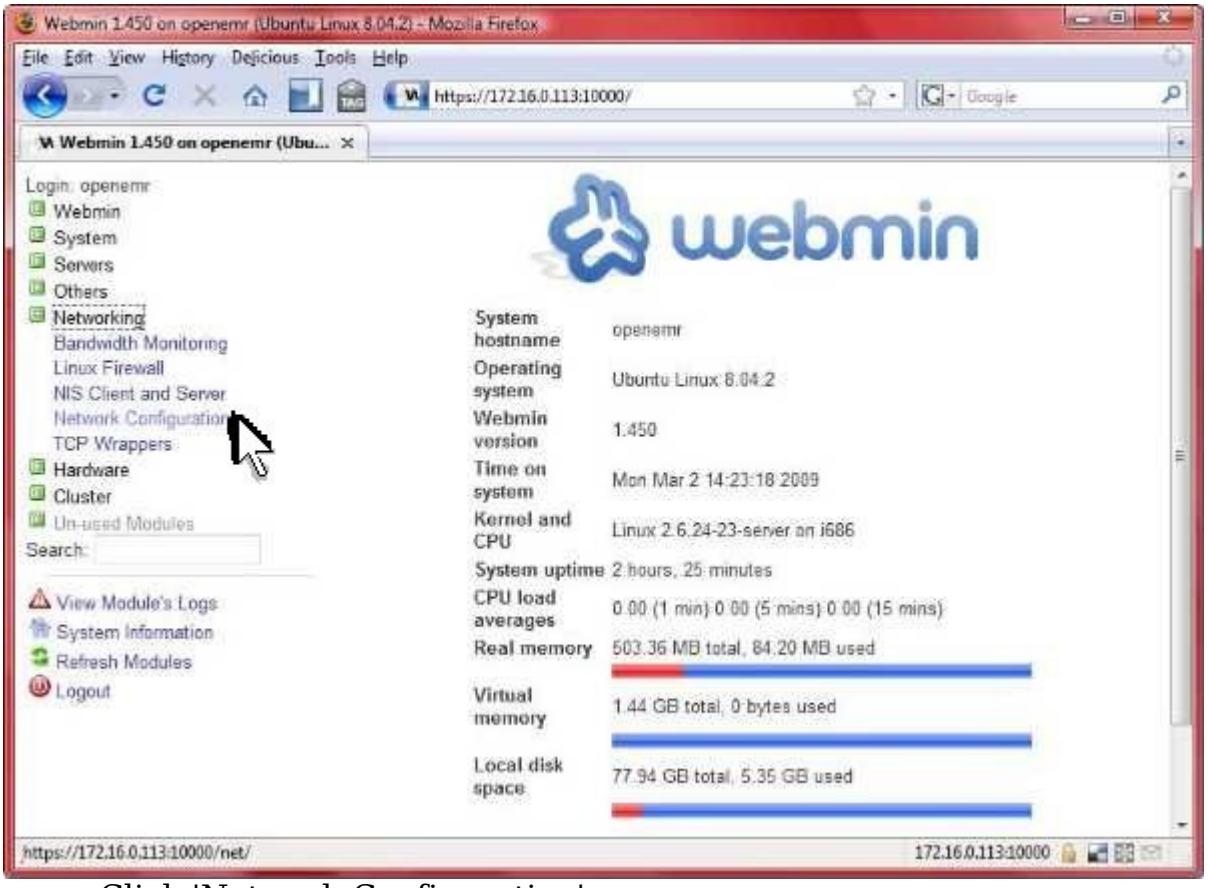
(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)


Mozilla Firefox
File Edit View History Delicious Tools Help
https://192.168.1.167:10000/
Login to Webmin
You must enter a username and password to login to the Webmin server on 192.168.1.167.
Username
openemr
Password
Remember login permanently?
Login
Clear
Done
192.168.1.167:10000

Login.

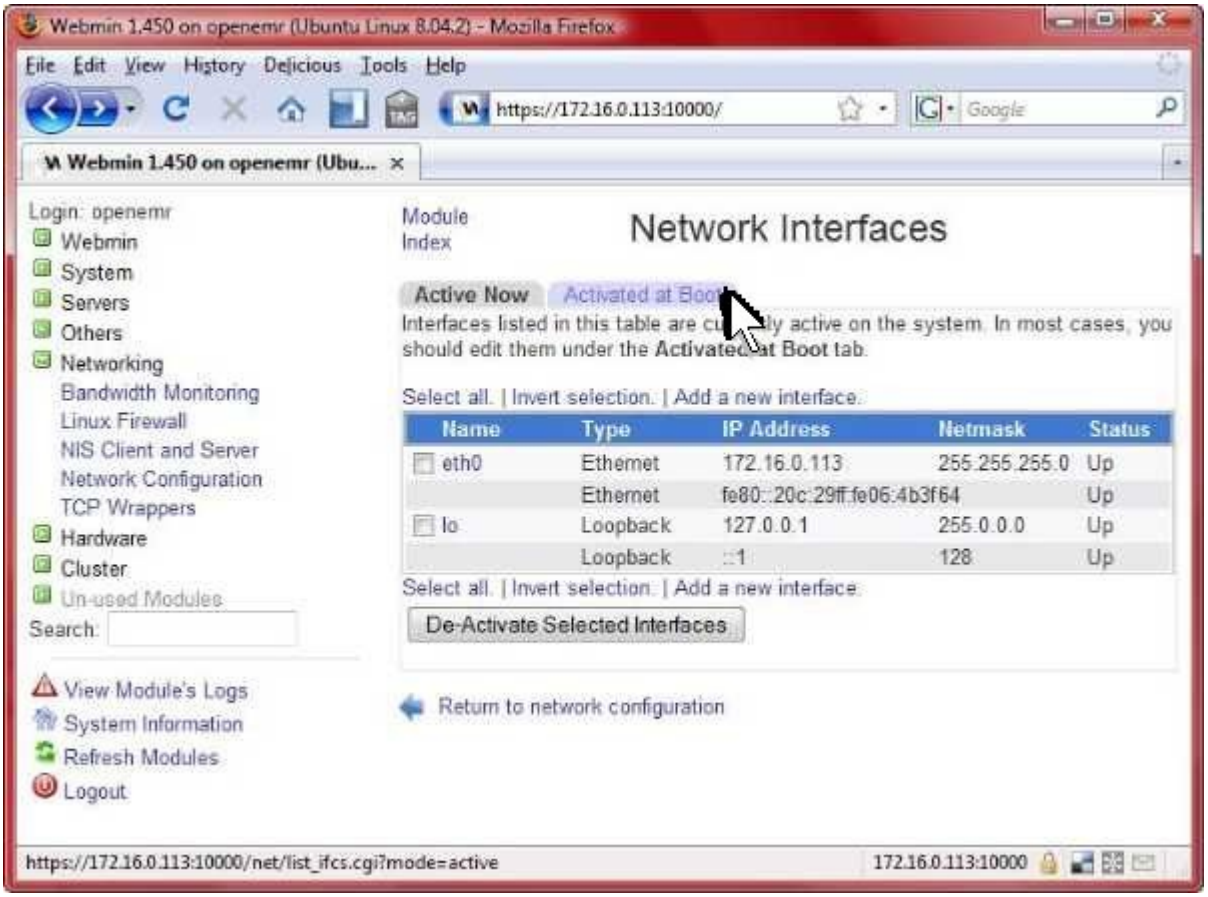


Click 'Networking'.

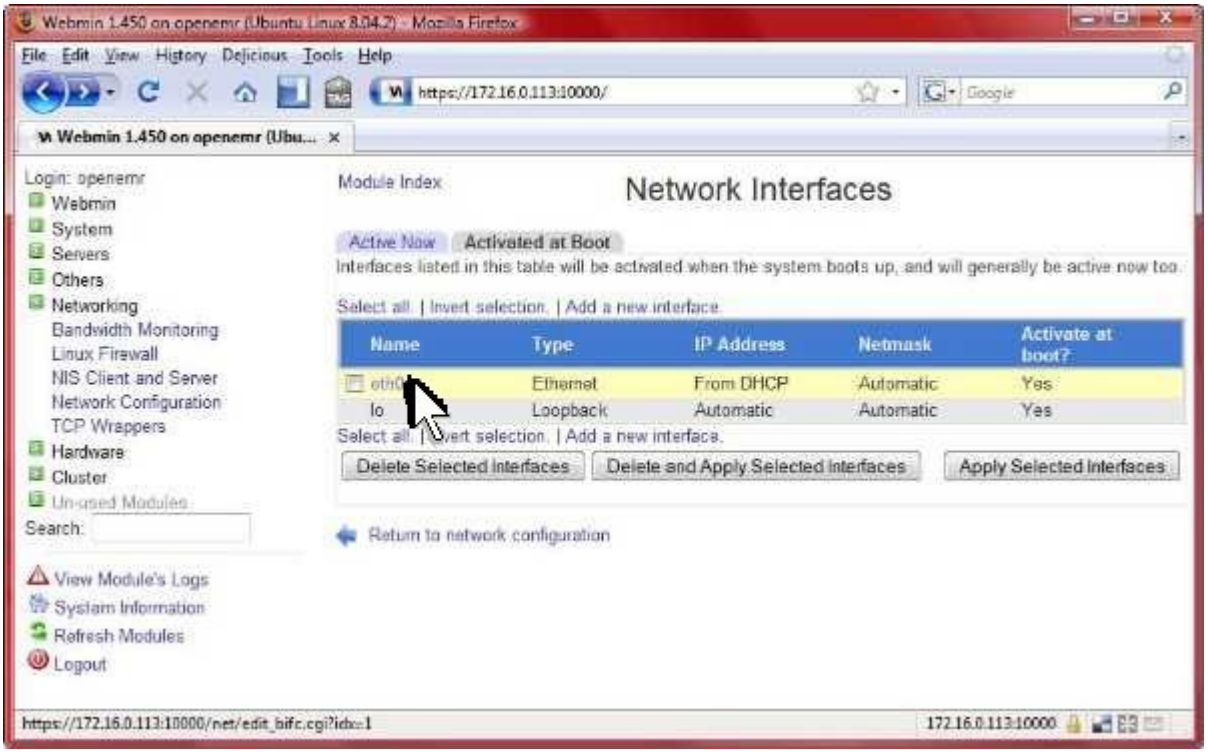


Click 'Network Configuration'.

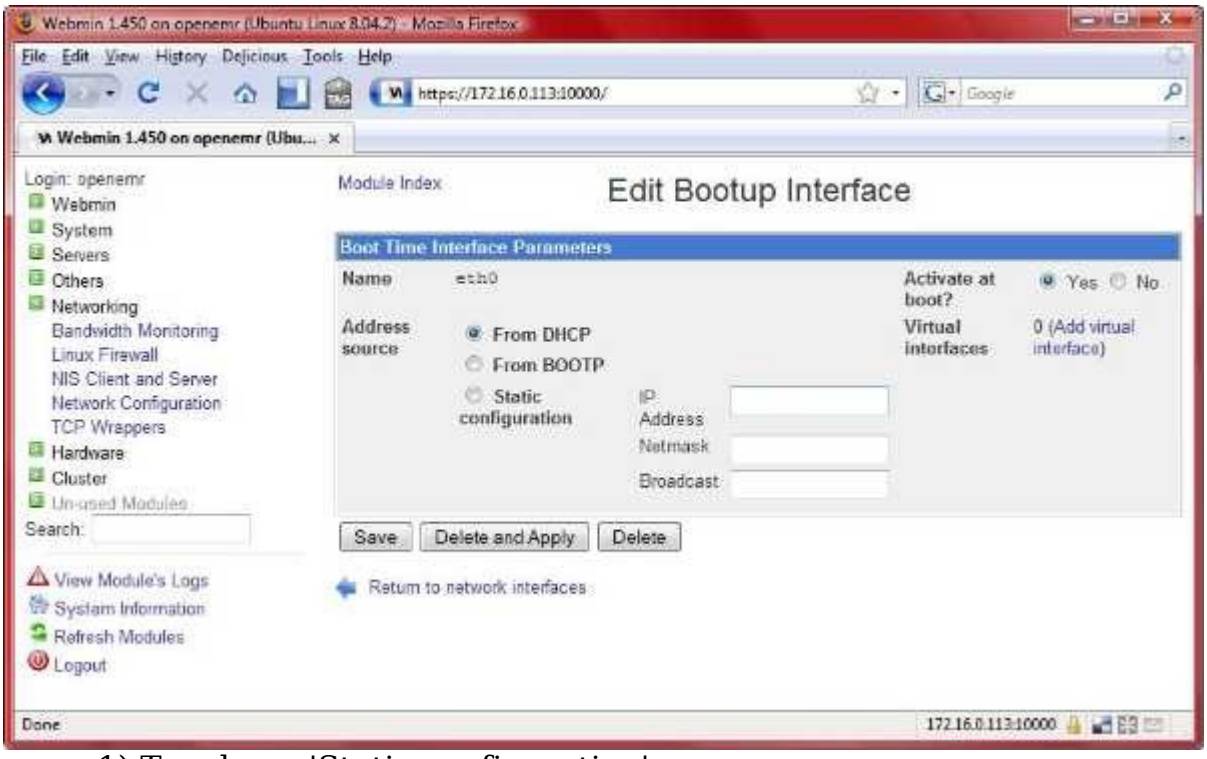
Click 'Network Interfaces'.



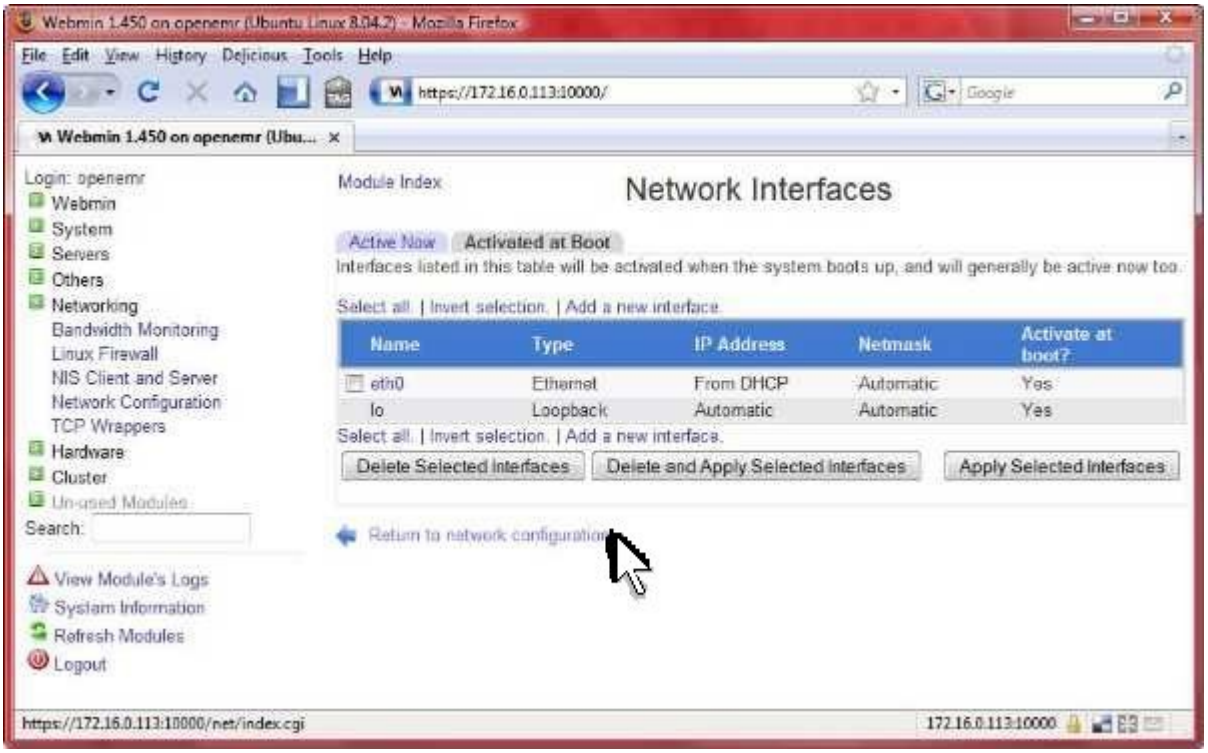
Click the 'Activated at Boot' tab.



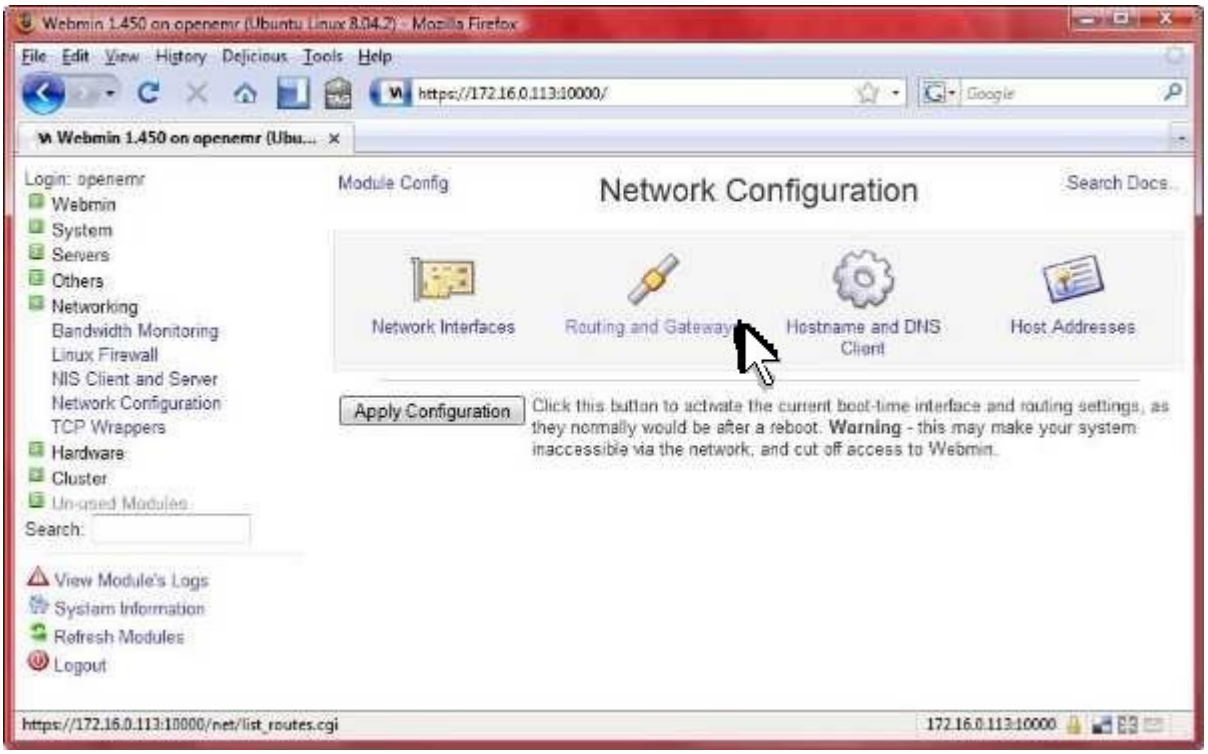
Click 'eth0'.



1) Toggle on 'Static configuration'.
2) Enter 'Appliance IP Address' into 'IP Address' field.
3) Enter 'Subnet Mask' into 'Netmask' field.
4) Enter 'Broadcast IP Address' into 'Broadcast' field.
5) Click 'Save'.

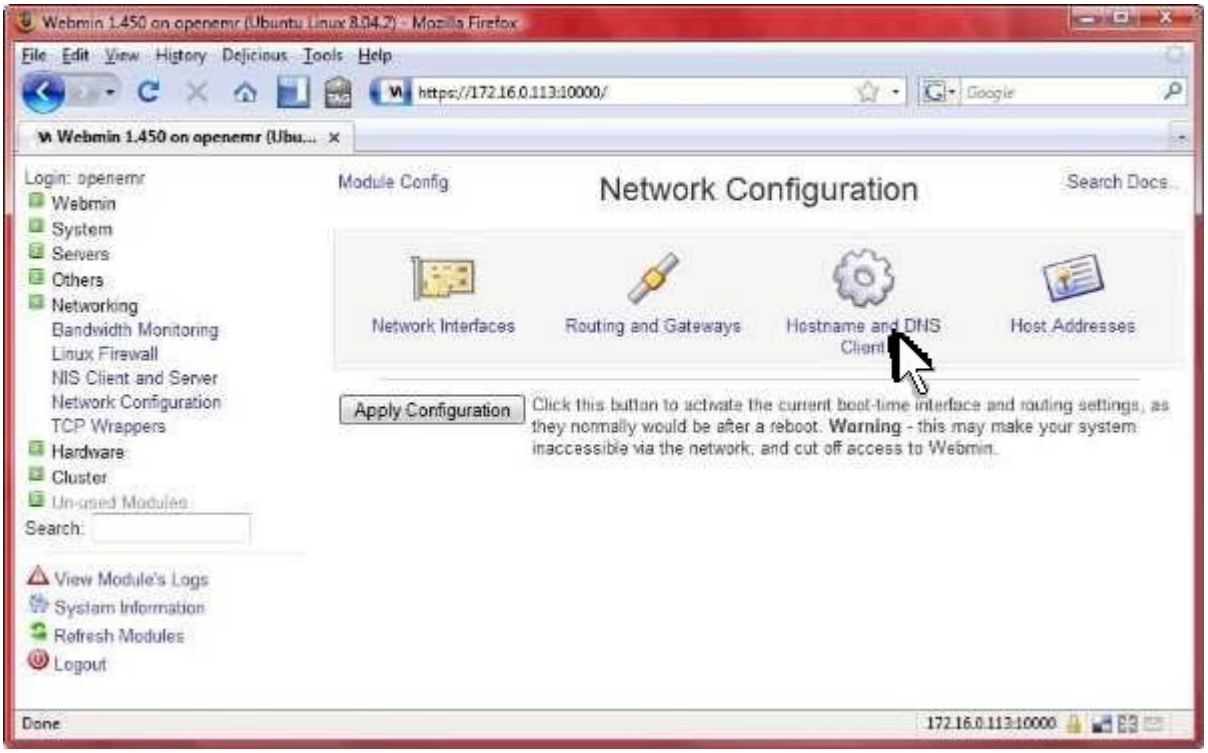


Click 'Return to network configuration'.



Click 'Routing and Gateways'.

1) Toggle on 'Gateway'
2) Enter the 'Gateway IP Address' into 'Gateway' field
3) Click 'Save'.



Click 'Hostname and DNS client'.

Enter the 'DNS server IP Address' values into the 'DNS servers' fields, then click 'Save'.

Click 'System Information'.

4. Then reboot the appliance per the instructions found in the 'Reboot or Shutdown Appliance' section.

Change Clock

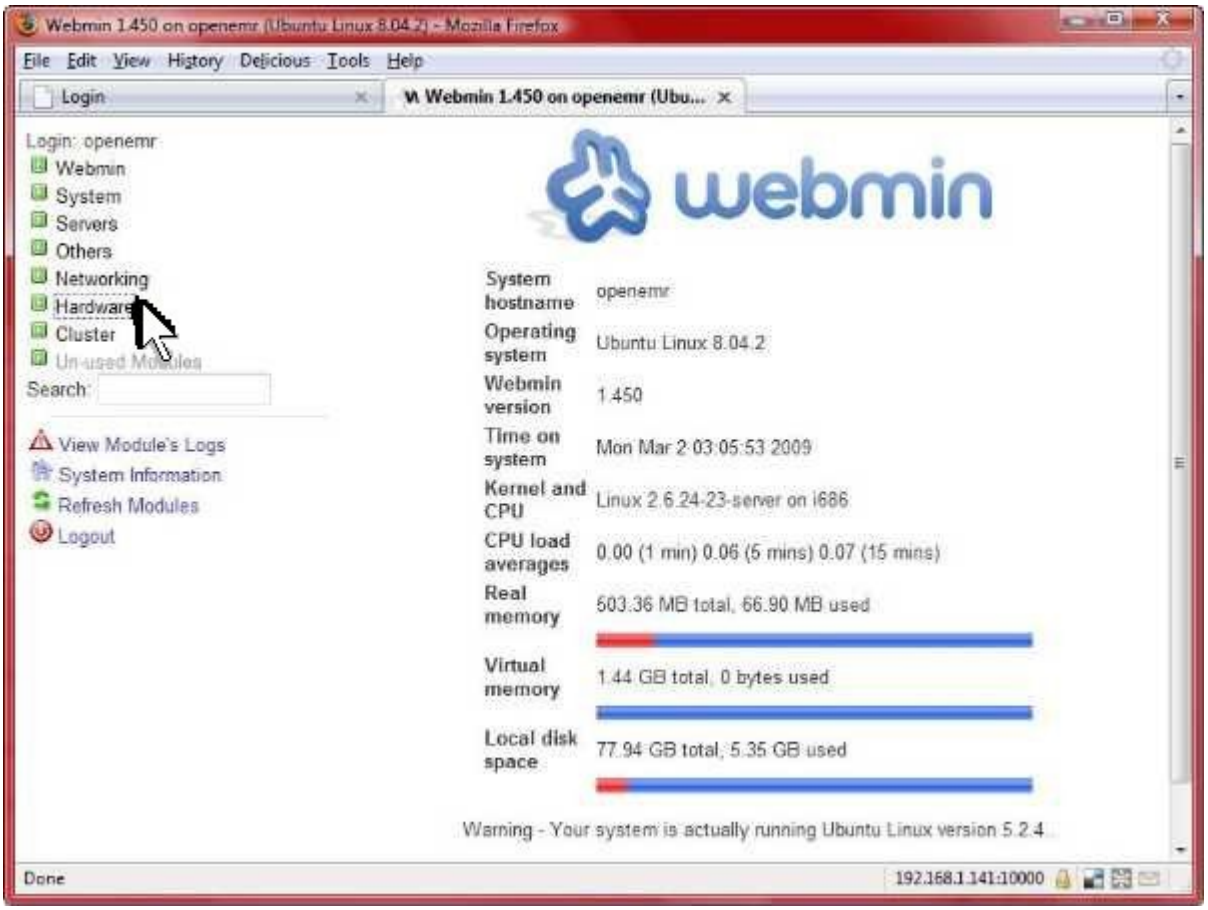
Main TOC Link

1. These are instructions on changing the time in your appliance using Webmin.

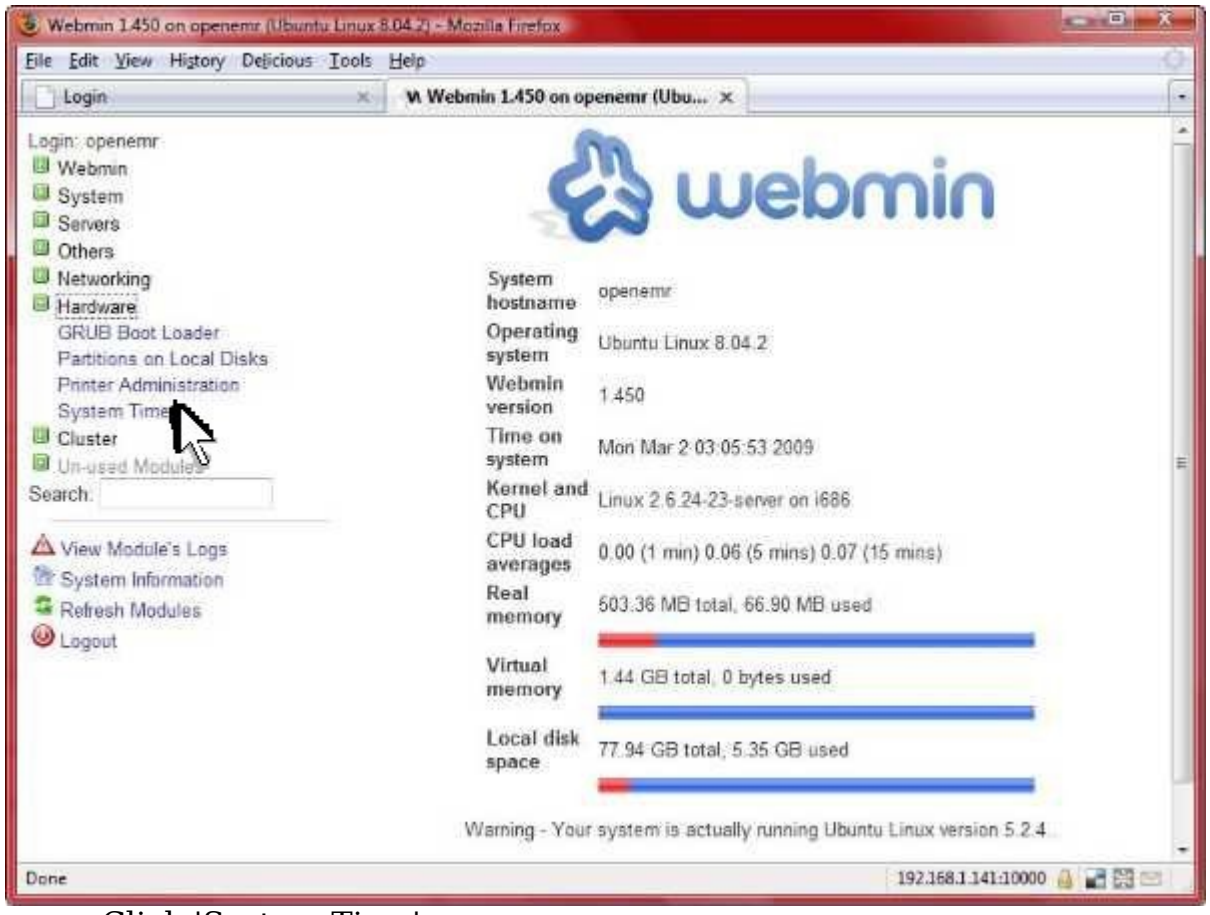
2. Point a web browser outside your appliance to the Webmin link reported in your appliance introduction screen.

(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

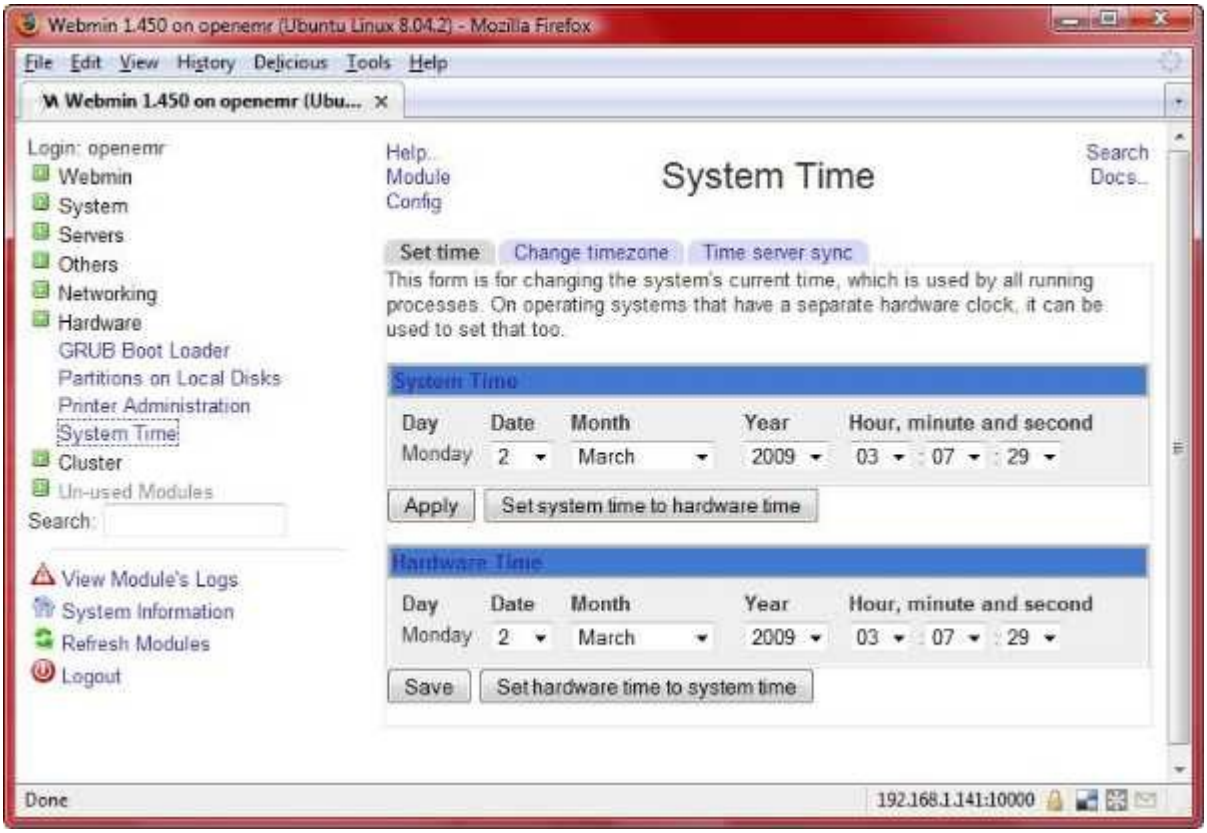
Login.



Click 'Hardware'.



Click 'System Time'.



Set the time and timezone of your appliance here. Do **NOT** set up a 'time server sync'; this will screw up your appliance.

Change Appliance Password

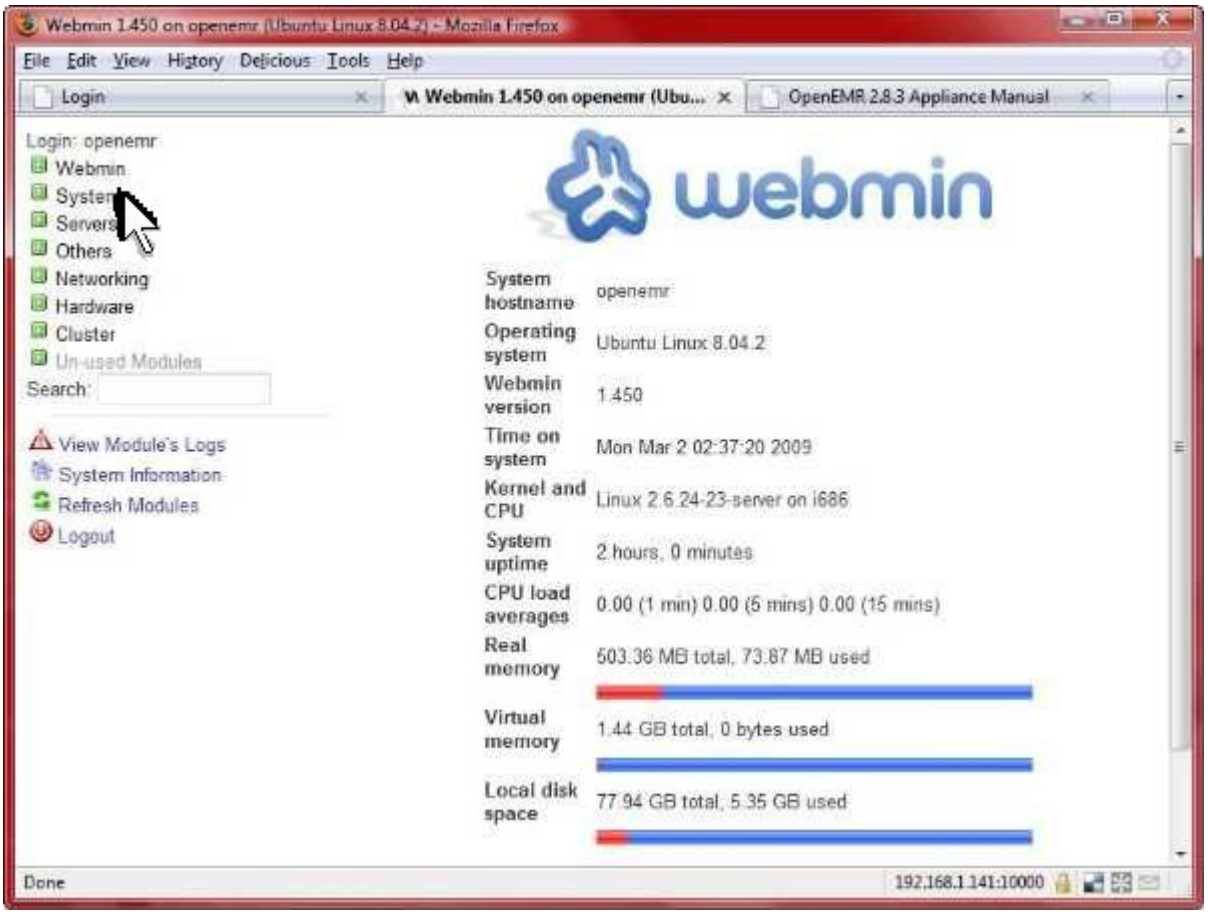
Main TOC Link

1. These are instructions for changing the password to the 'openemr' user in your appliance using Webmin. This is important to secure your appliance. It will effectively change the 'openemr' user password for logging into Webmin, logging into your appliance's commandline, and to confirm usage of the 'sudo' command.

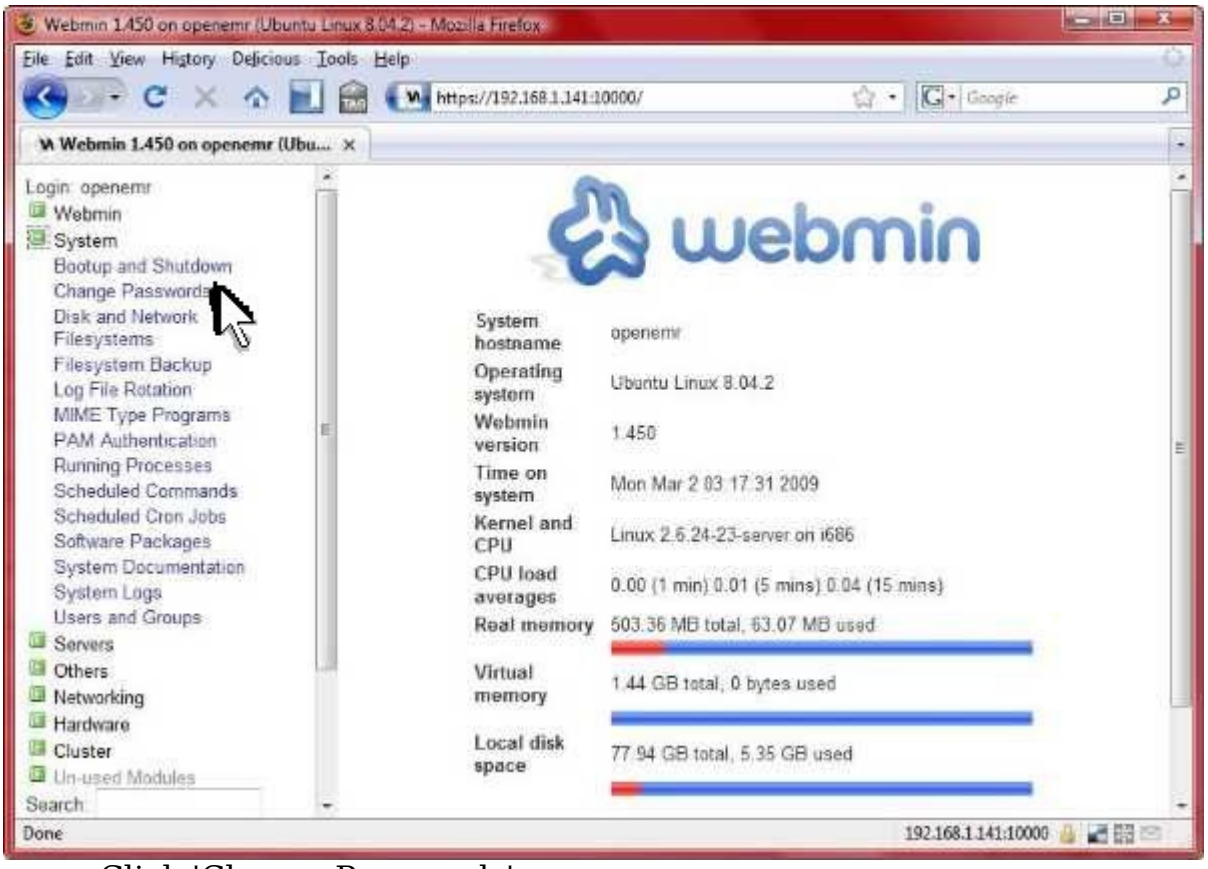
2. Point a web browser outside your appliance to the Webmin link reported in your appliance introduction screen.

(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

Login.



Click 'System'



Click 'Change Passwords'.

Click 'openemr'.

Type and confirm new password, then click 'change'

Reboot or Shutdown Appliance

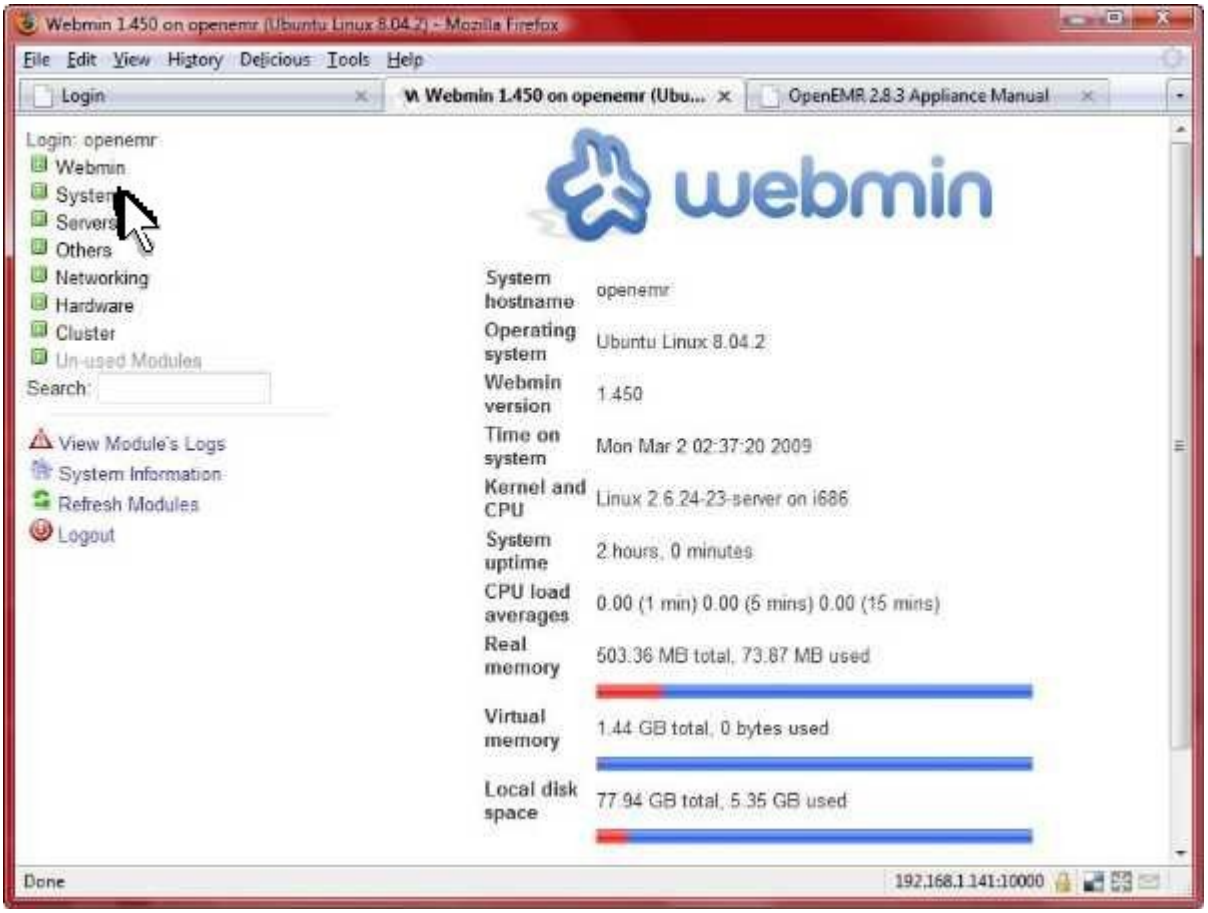
Main TOC Link

1. These are instructions on how to shutdown or restart your appliance using Webmin.

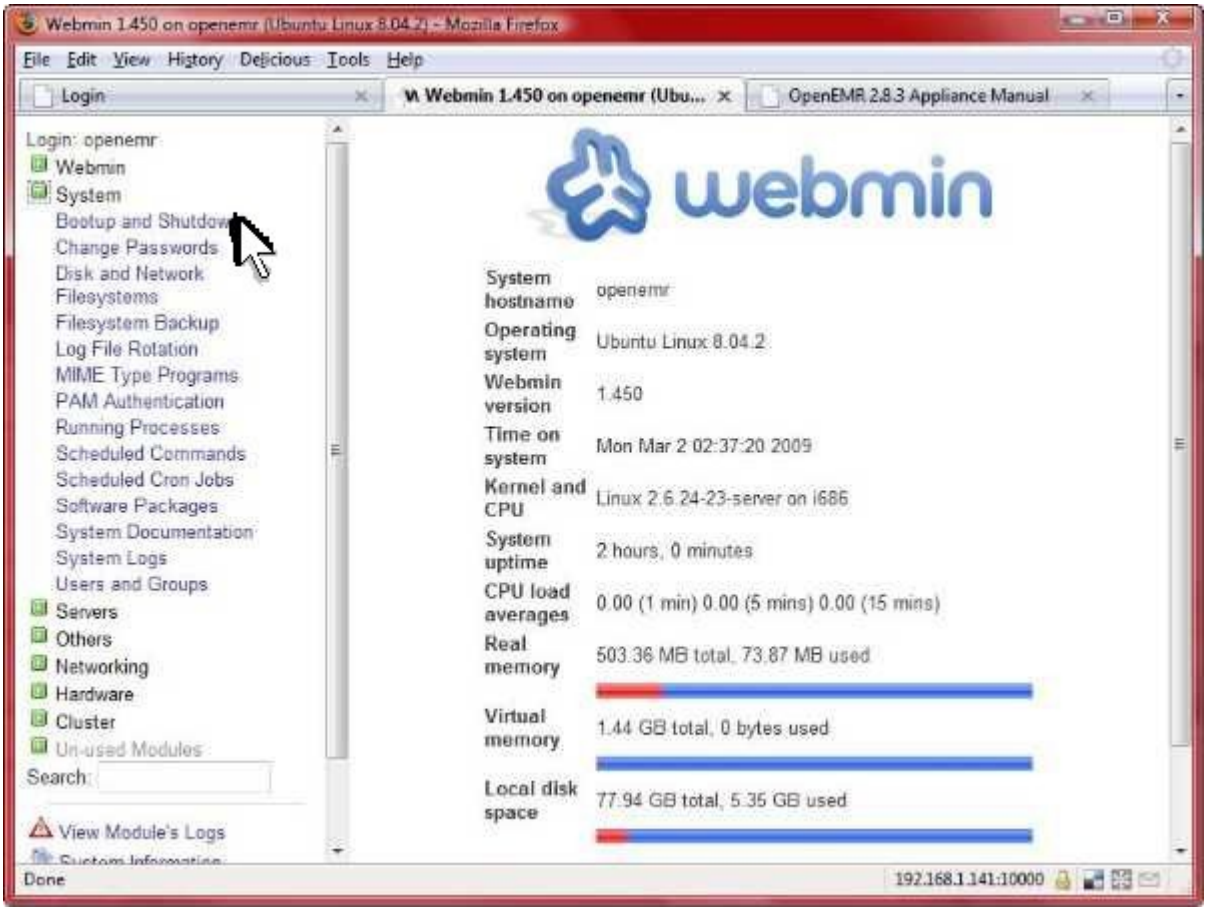
2. Point a web browser outside your appliance to the Webmin link reported in your appliance introduction screen.

(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

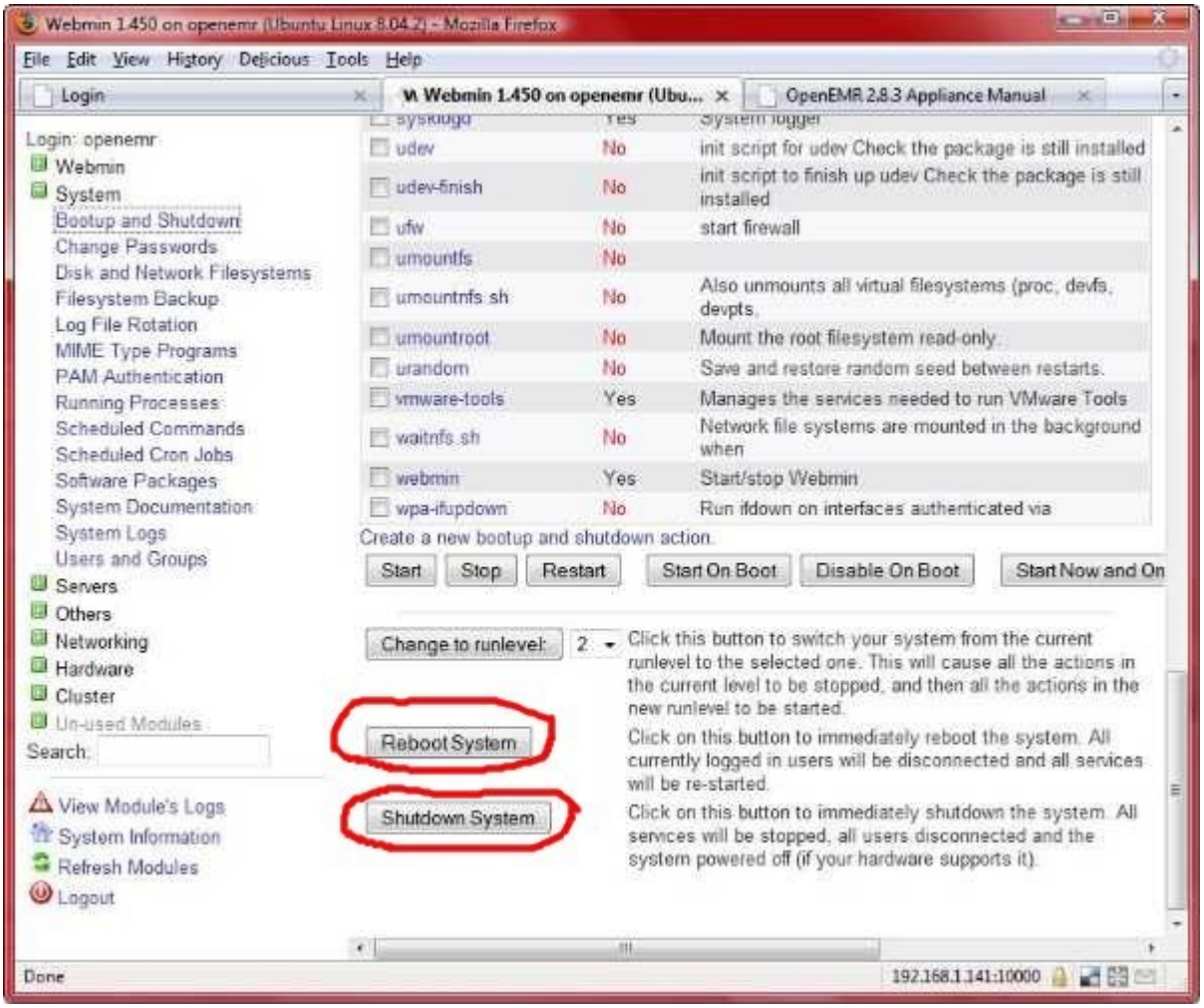
Login.



Click 'System'.



Click 'Bootup and Shutdown'.



Scroll to bottom of page. To reboot your appliance, click the 'Reboot System' button. To shutdown your appliance, click the 'Shutdown System' button. You will be asked to confirm this on the next screen.

Desktop Installation

Main TOC Link

1. This is for those wimps whom are having difficulty with administration of the appliance via commandline and/or Webmin. These are instructions to install the KDE desktop (includes all the thrills such as OpenOffice etc.) on your appliance. This will increase the size of your appliance by 1.6 GB.

2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

    #install kubuntu desktop
    sudo aptitude update

sudo apt-get install kubuntu-desktop
-enter Y to continue
-(this will take awhile)
#install the x-windows manager and start it
sudo apt-get install gdm
-enter Y to continue
-enter 'ok'
-select 'kdm'

#restart computer (will now boot into the KDE desktop)
sudo shutdown -r now

Instructions for Building the OpenEMR Appliance

Main TOC Link

LINK TO MANUAL IN PDF FORMAT

Instructions for Building the OpenEMR Appliance Chapter Index

Software

Main TOC Link

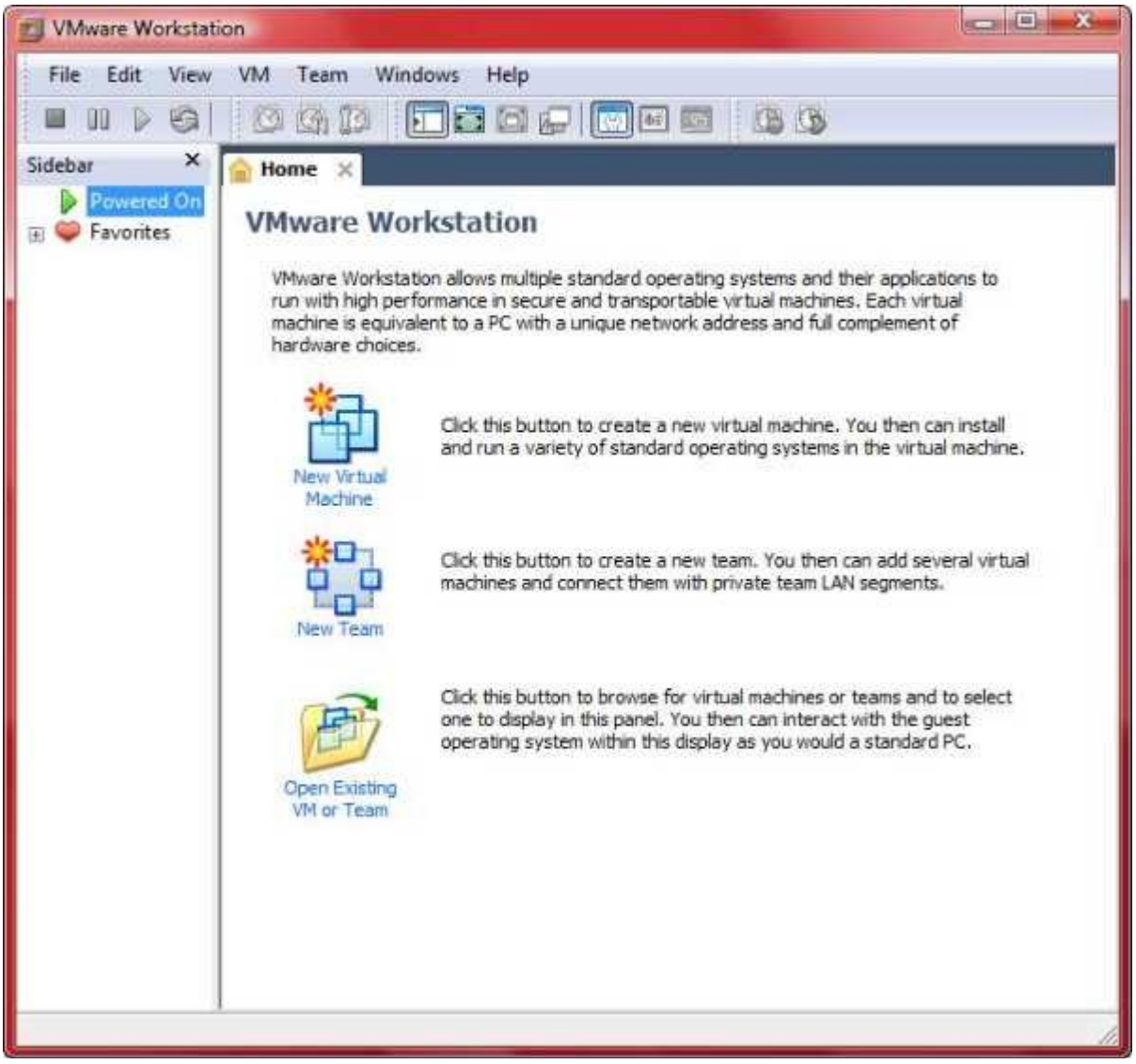
Chapter Index Link

1. Ubuntu Server Edition (8.04)
2. Apache (2.2.8), MySQL (5.0.51a), and PHP (5.2.4)
3. Webmin (1.470 and 1.500)
4. OpenEMR (3.0.1 and 3.1.0 and 3.2.0 and 4.0.0 and 4.1.0)

Install the Ubuntu 8.04 Server Virtual Computer

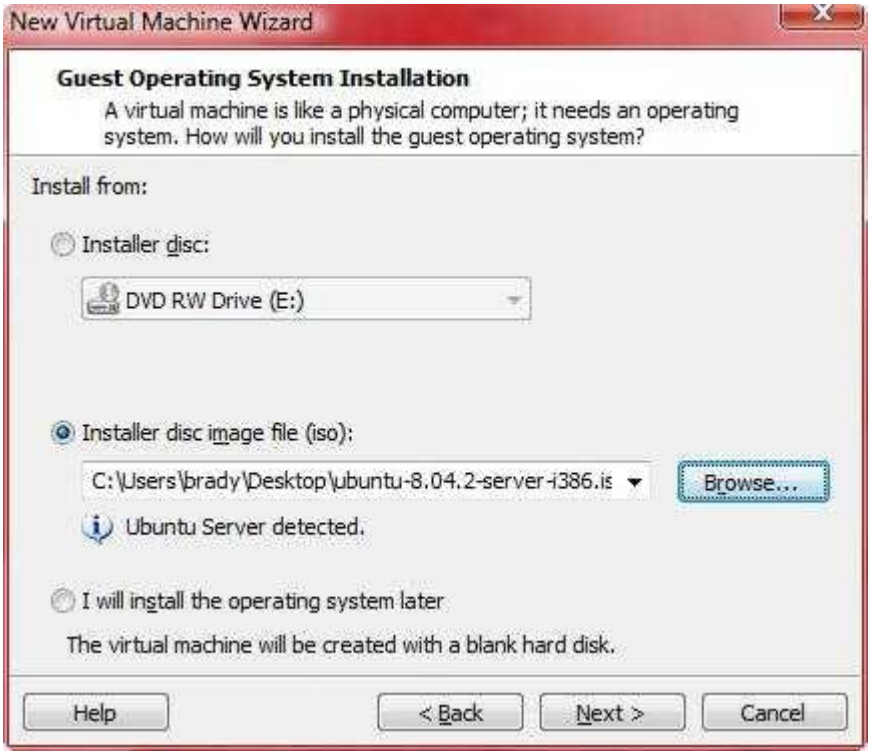
Main TOC Link
Chapter Index Link

1. You can use either VMware Workstation or VMware Server to build the Ubuntu 8.04 Server Appliance.
2. Download Ubuntu Server Edition 8.04 installation ISO file from http://www.ubuntu.com/getubuntu/download .
3. Ubuntu Server Edition 8.04 Appliance Installation with Vmware Workstation version 6.5:

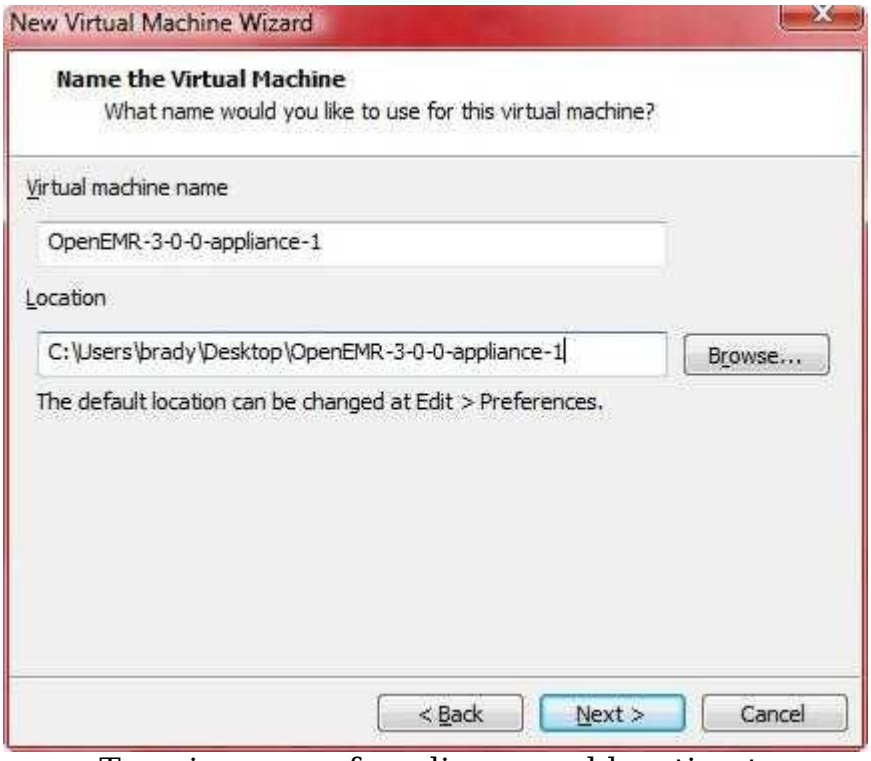


Click 'New Virtual Machine'.

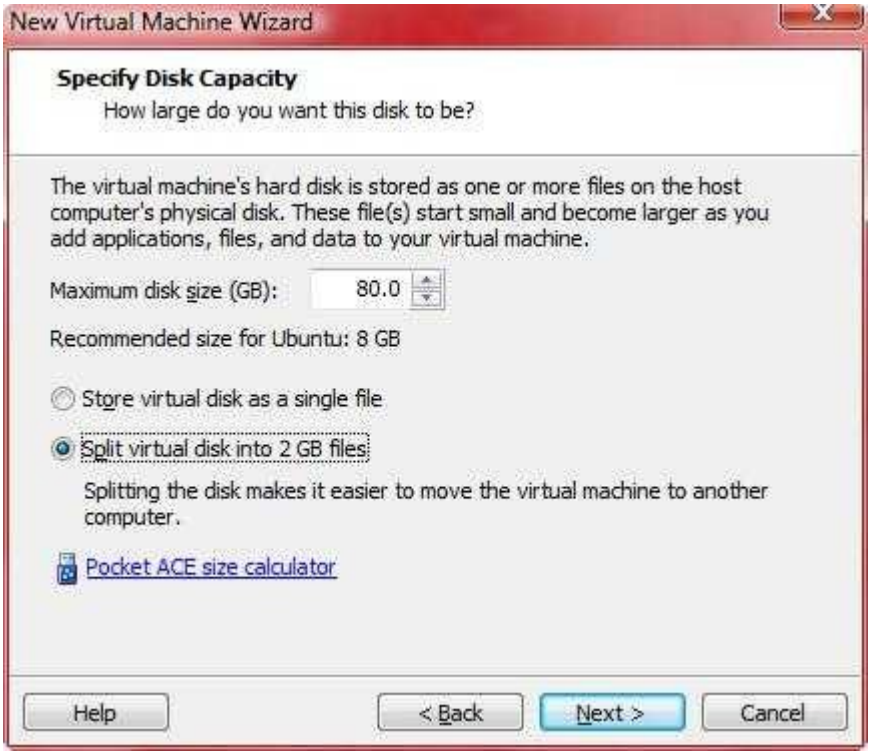
Select 'Typical', then Click 'Next'.



Browse and select ubuntu-8.04.2-server-i386.iso file, then click 'Next'.

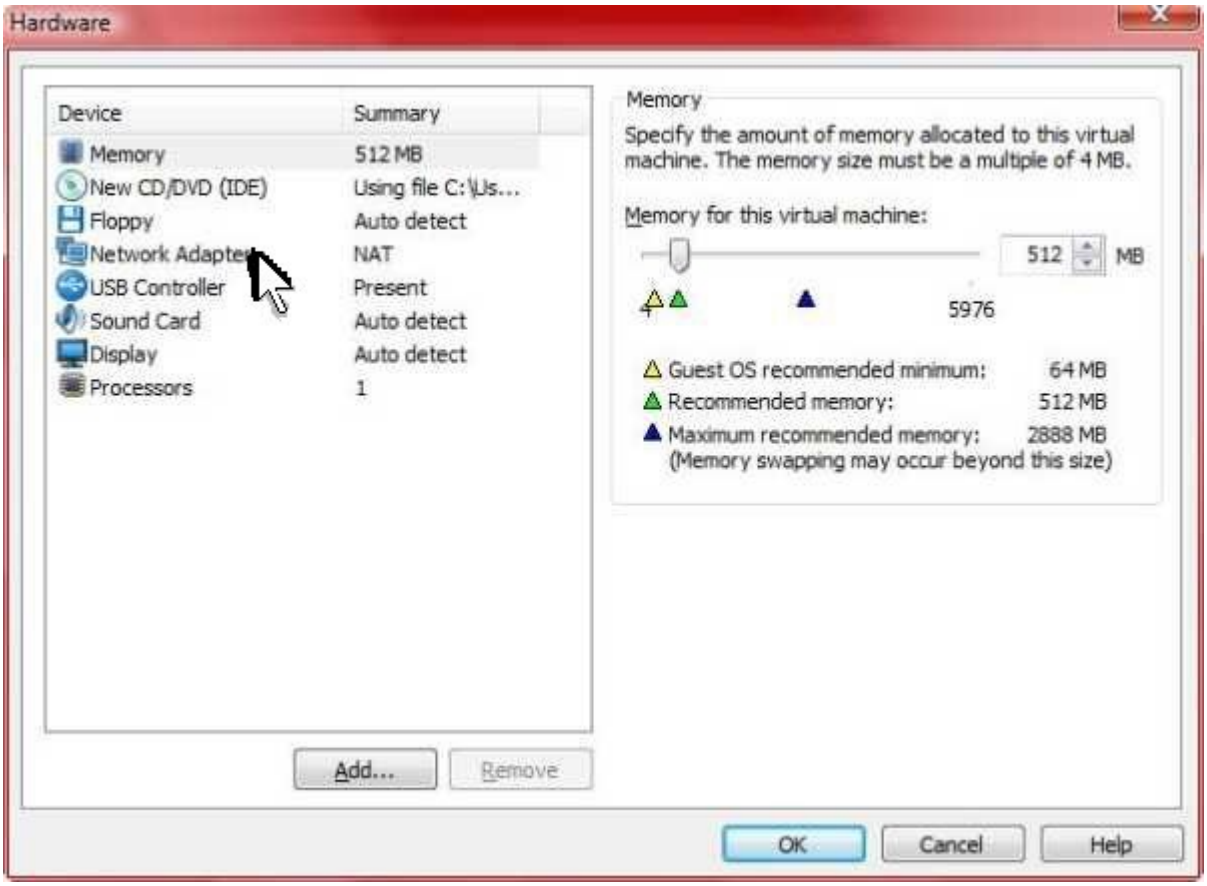


Type in name of appliance and location to save it to, then click 'Next'. I typed OpenEMR-3-0-1-appliance-1.

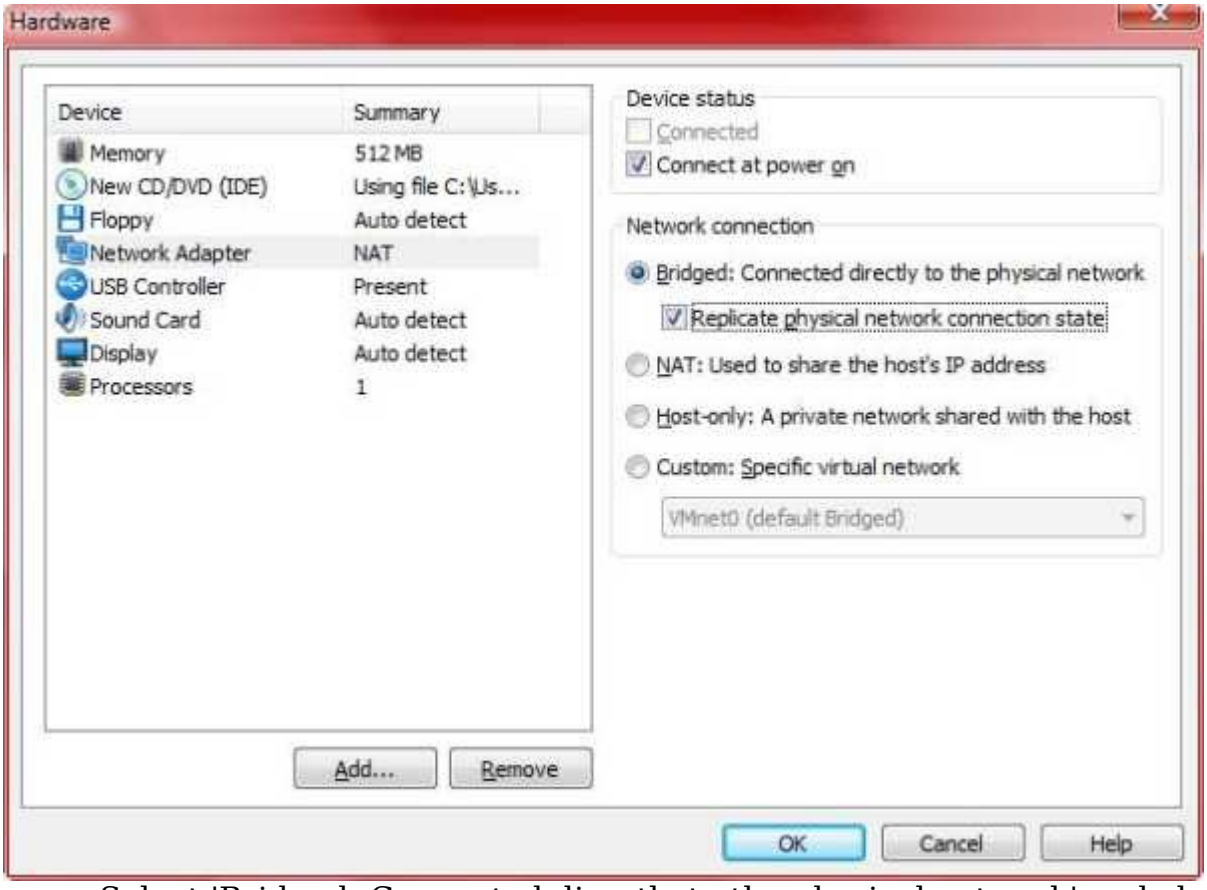


Set maximum disk size to 80GB, select 'Split virtual disk into 2GB files', then click 'Next'.

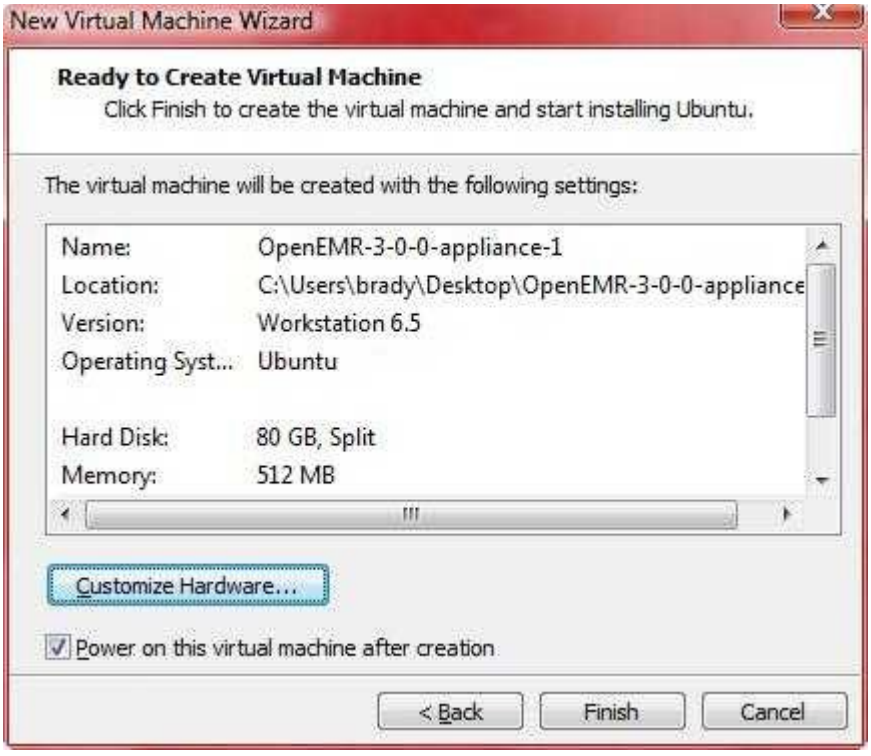
Click 'Customize Hardware...'.



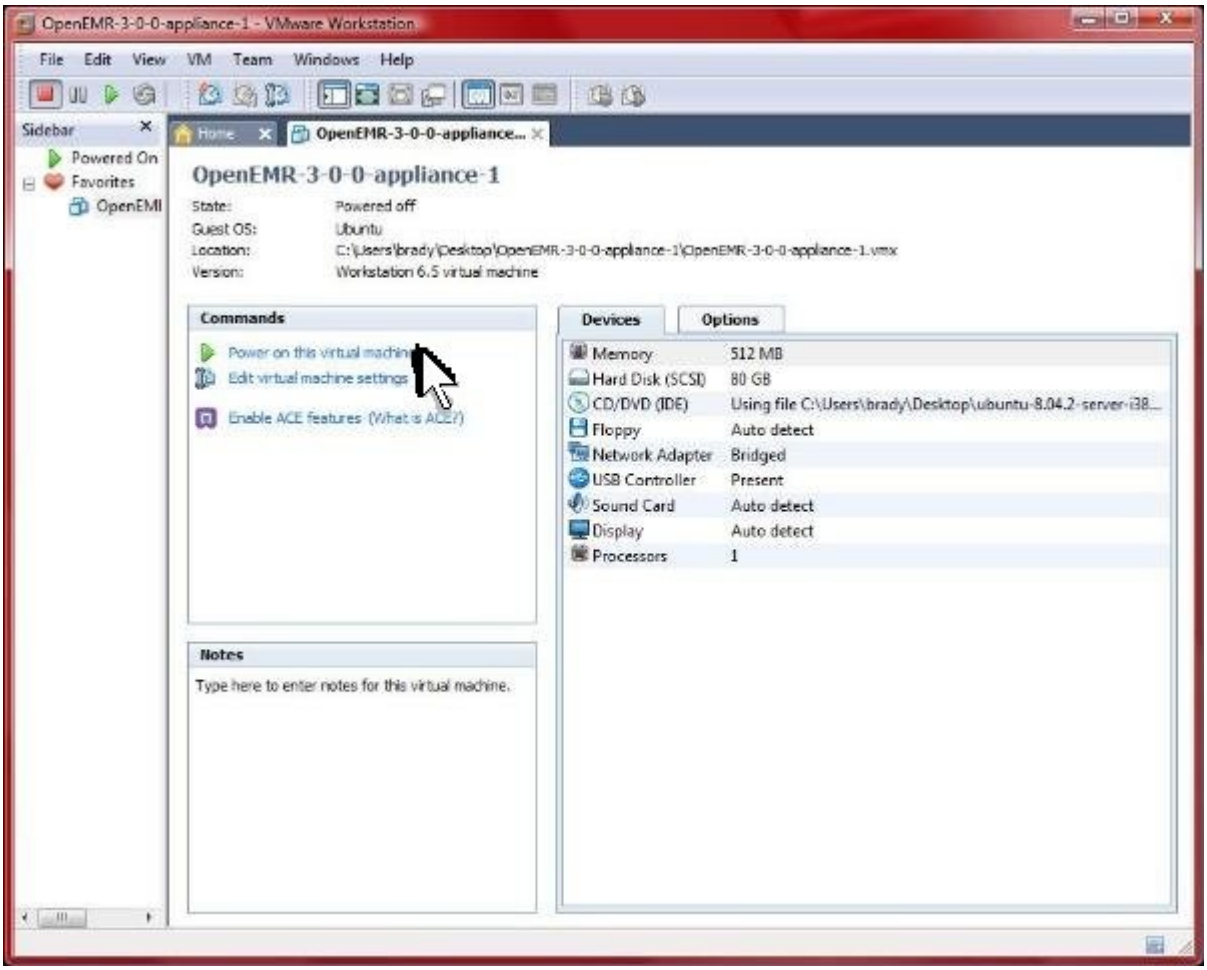
Click 'Network Adapter'.



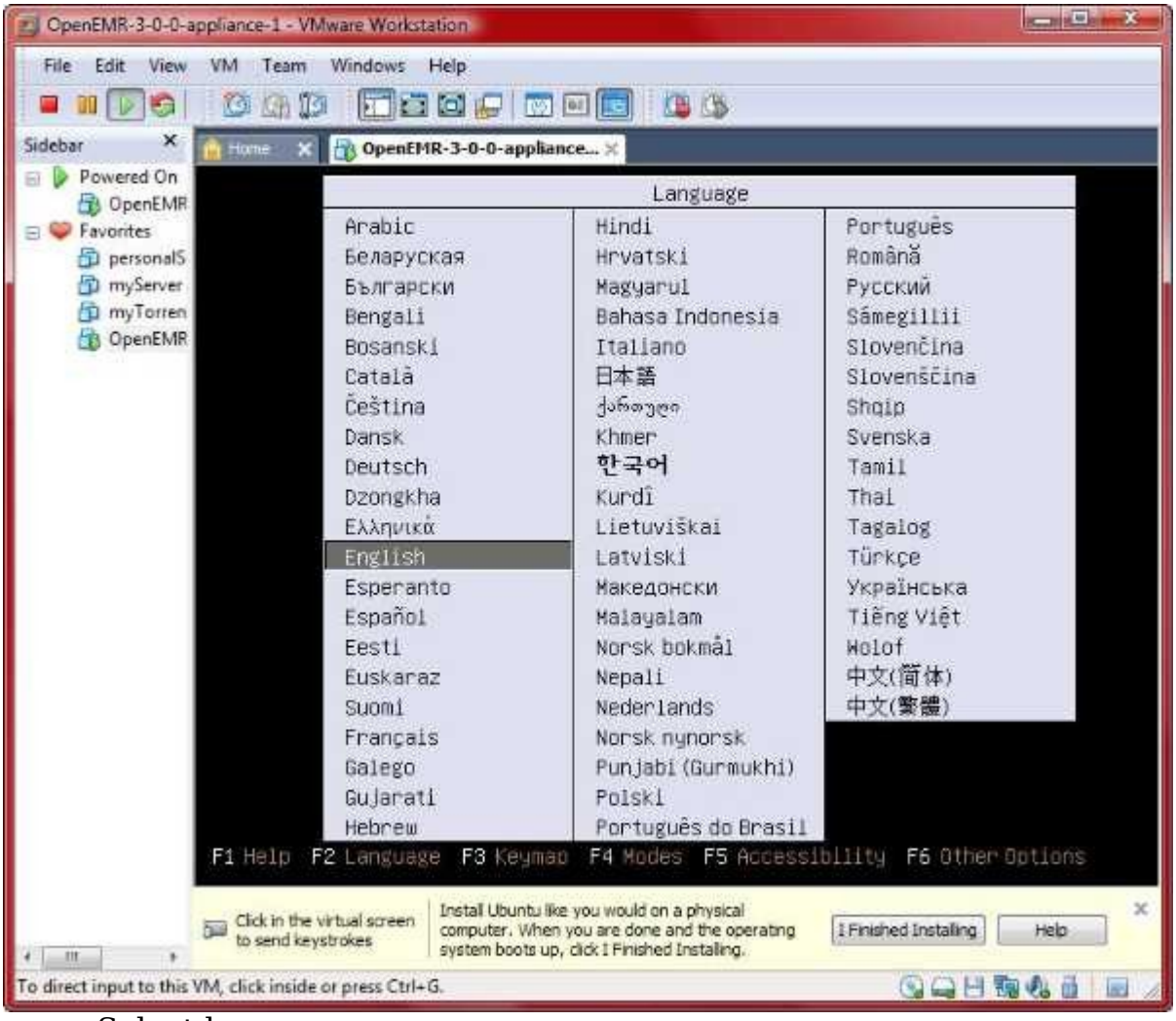
Select 'Bridged: Connected directly to the physical network' and check 'Replicate physical network connection state', then click 'OK'.



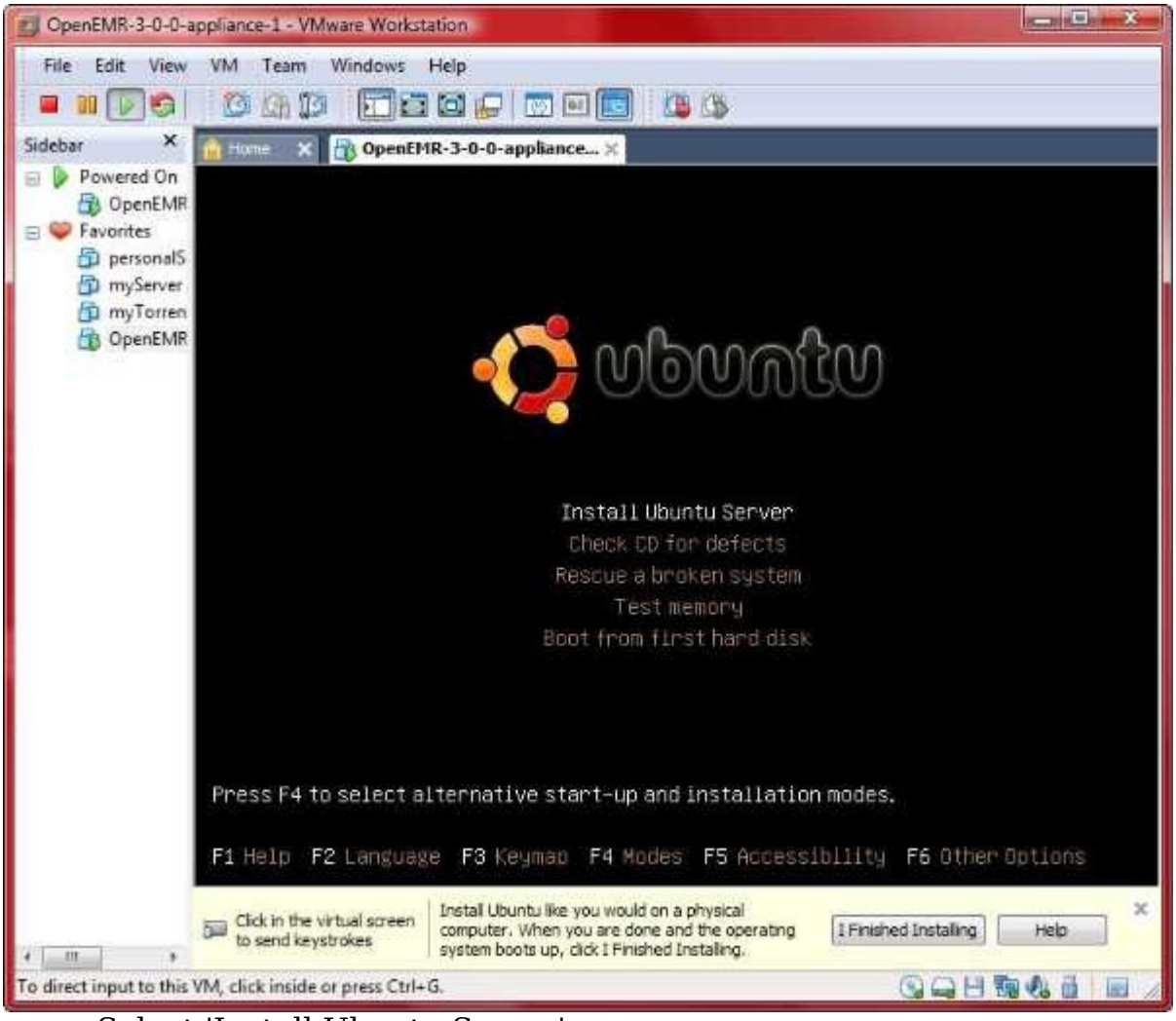
Click 'Finish'.



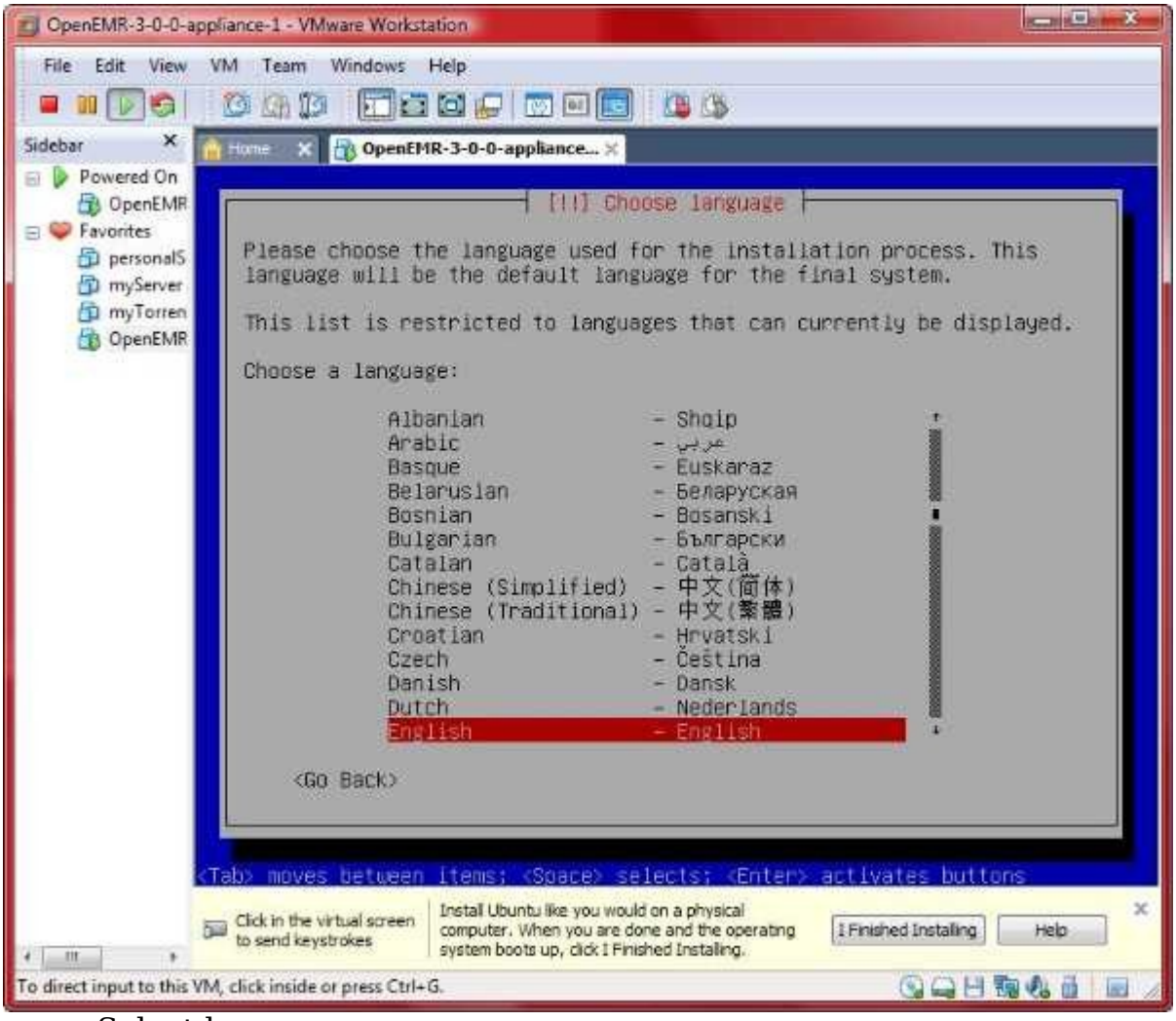
Click 'Power on this virtual machine'.



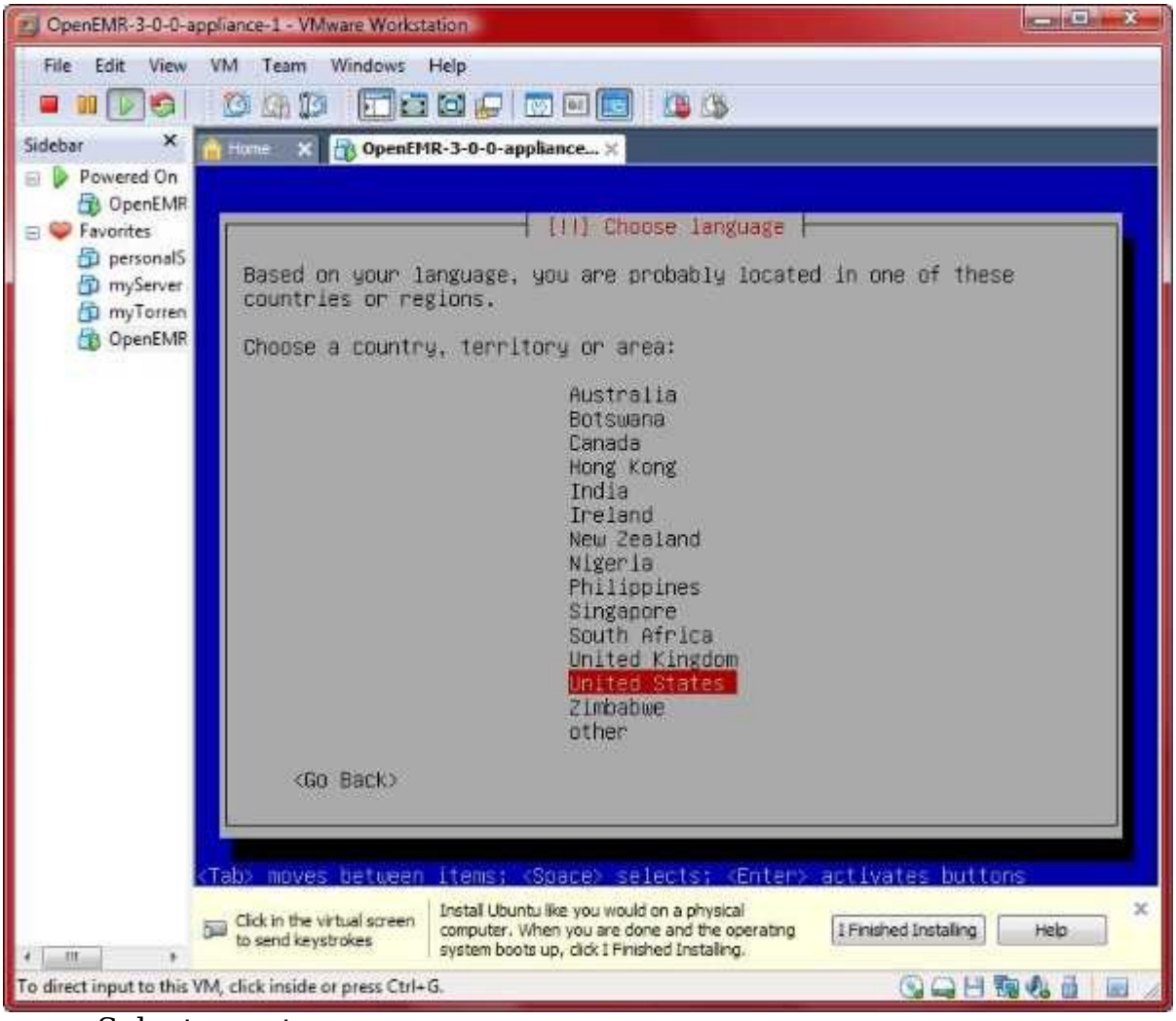
Select language.



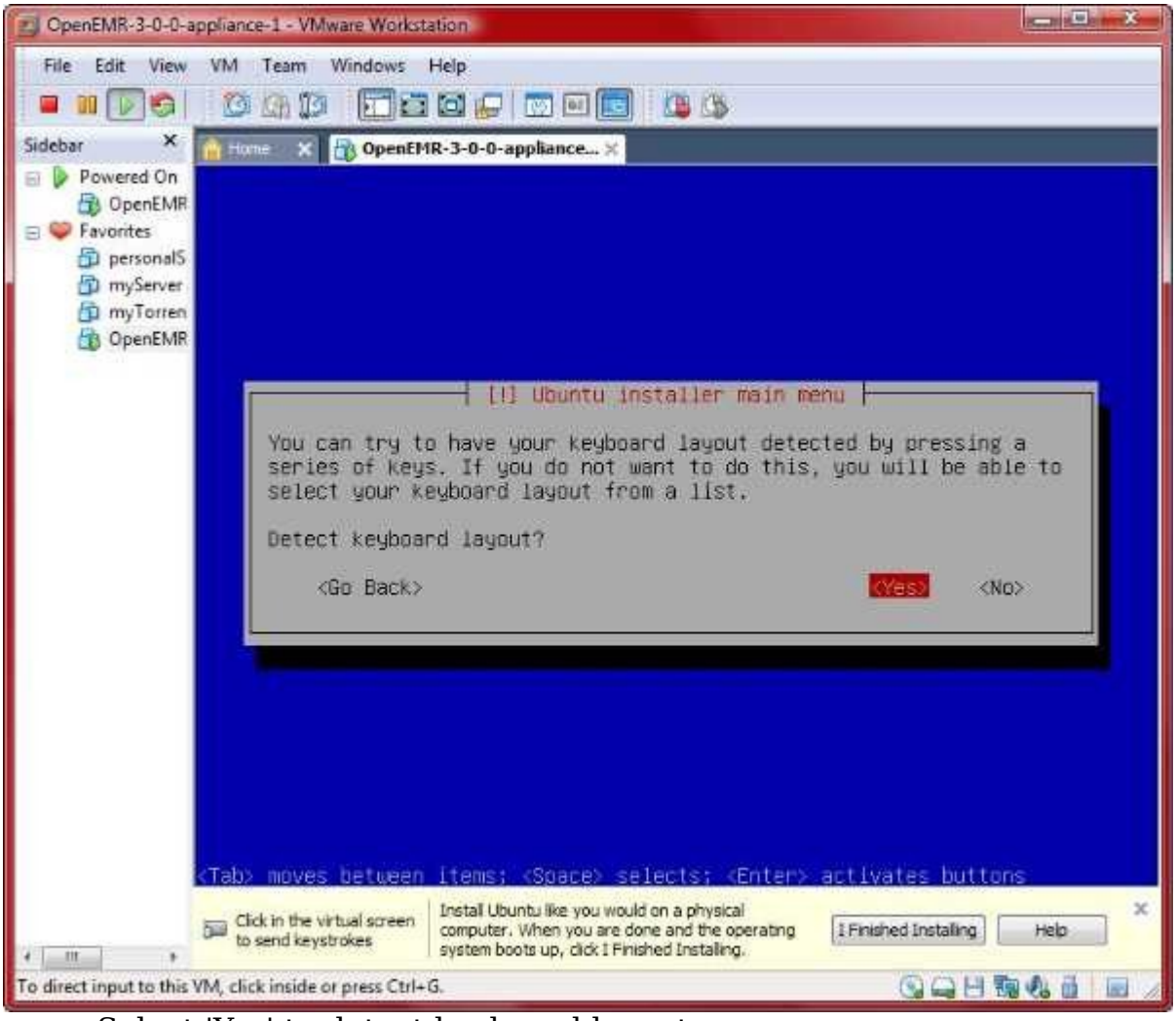
Select 'Install Ubuntu Server'.



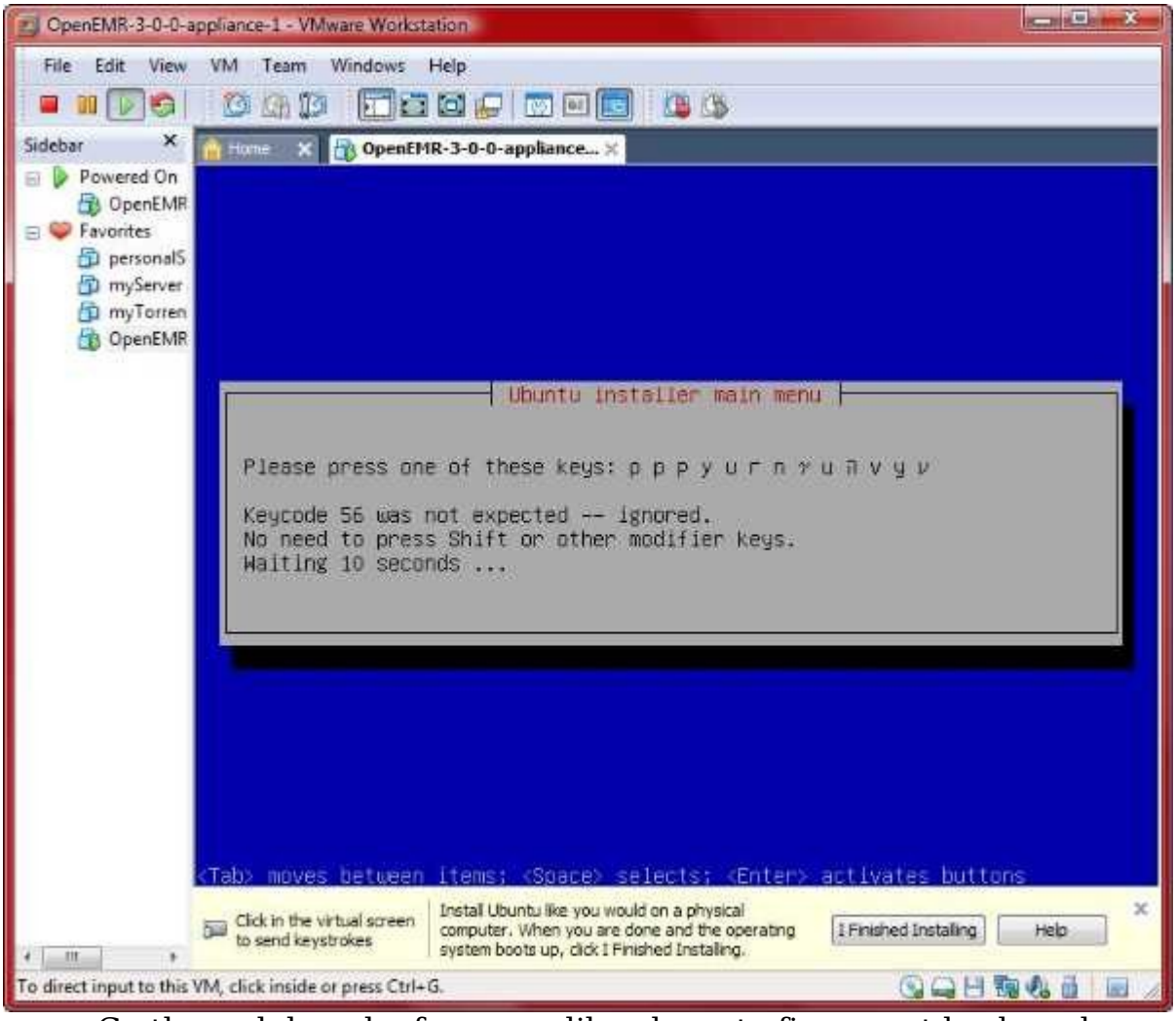
Select language.



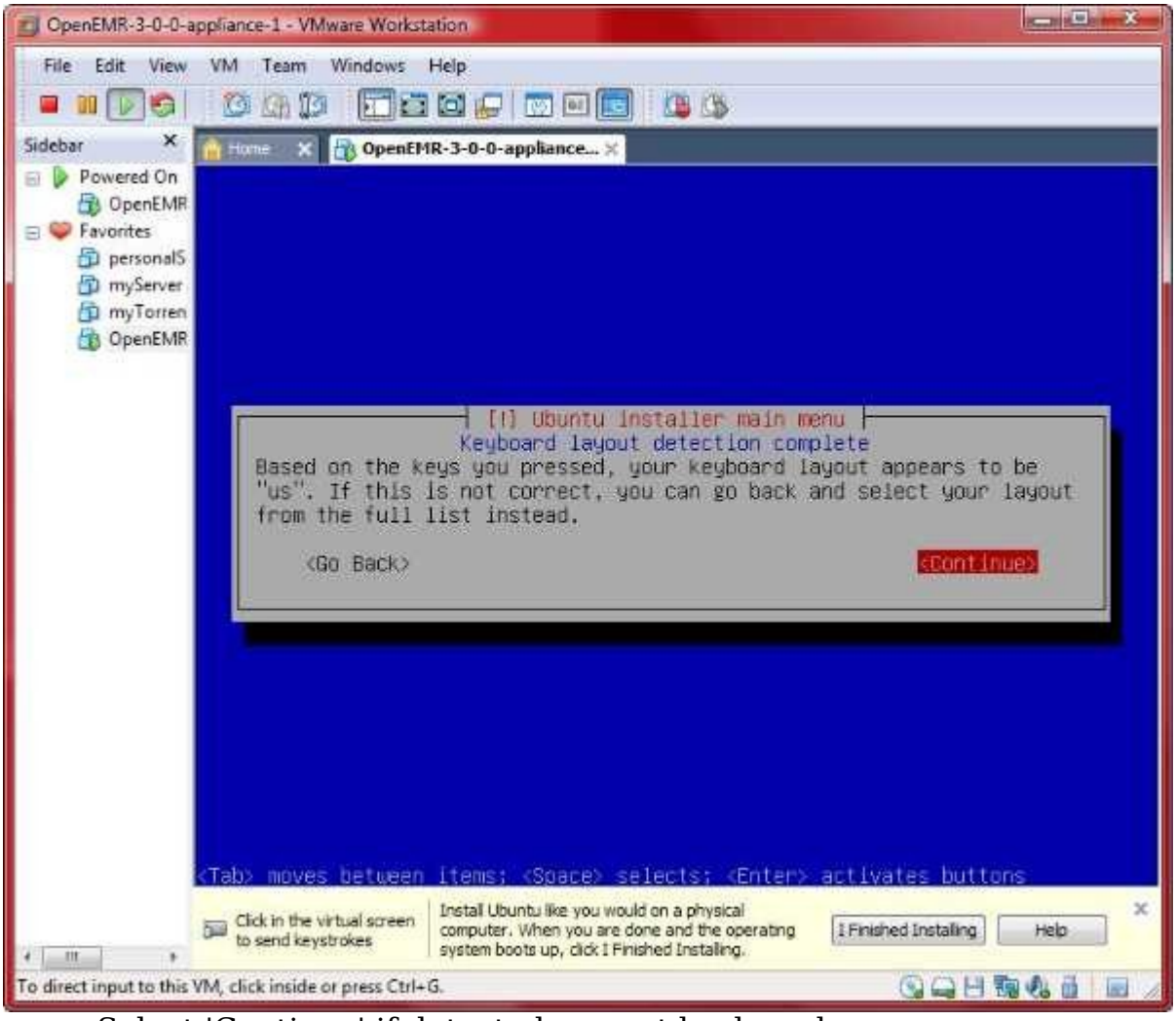
Select country.



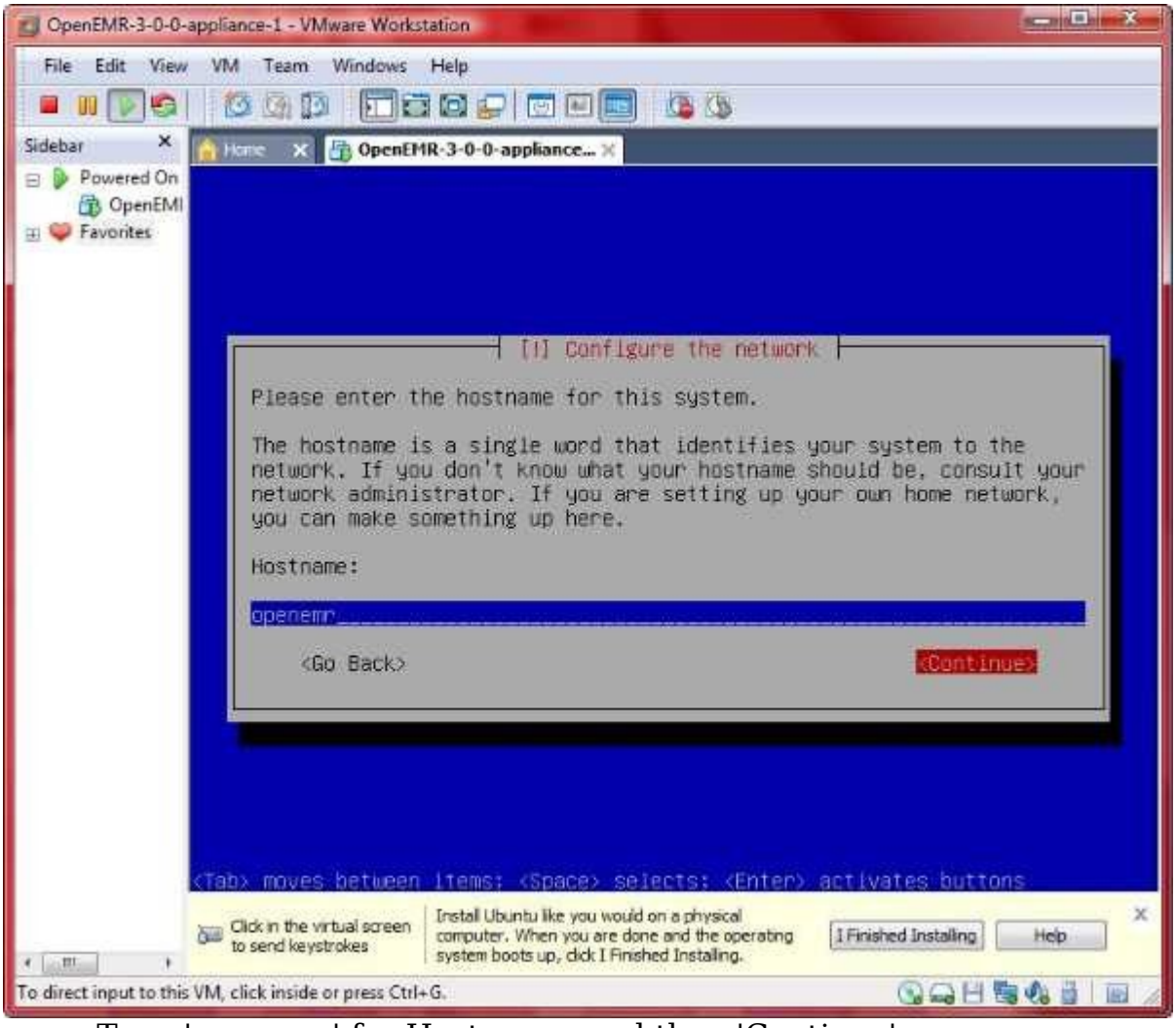
Select 'Yes' to detect keyboard layout.



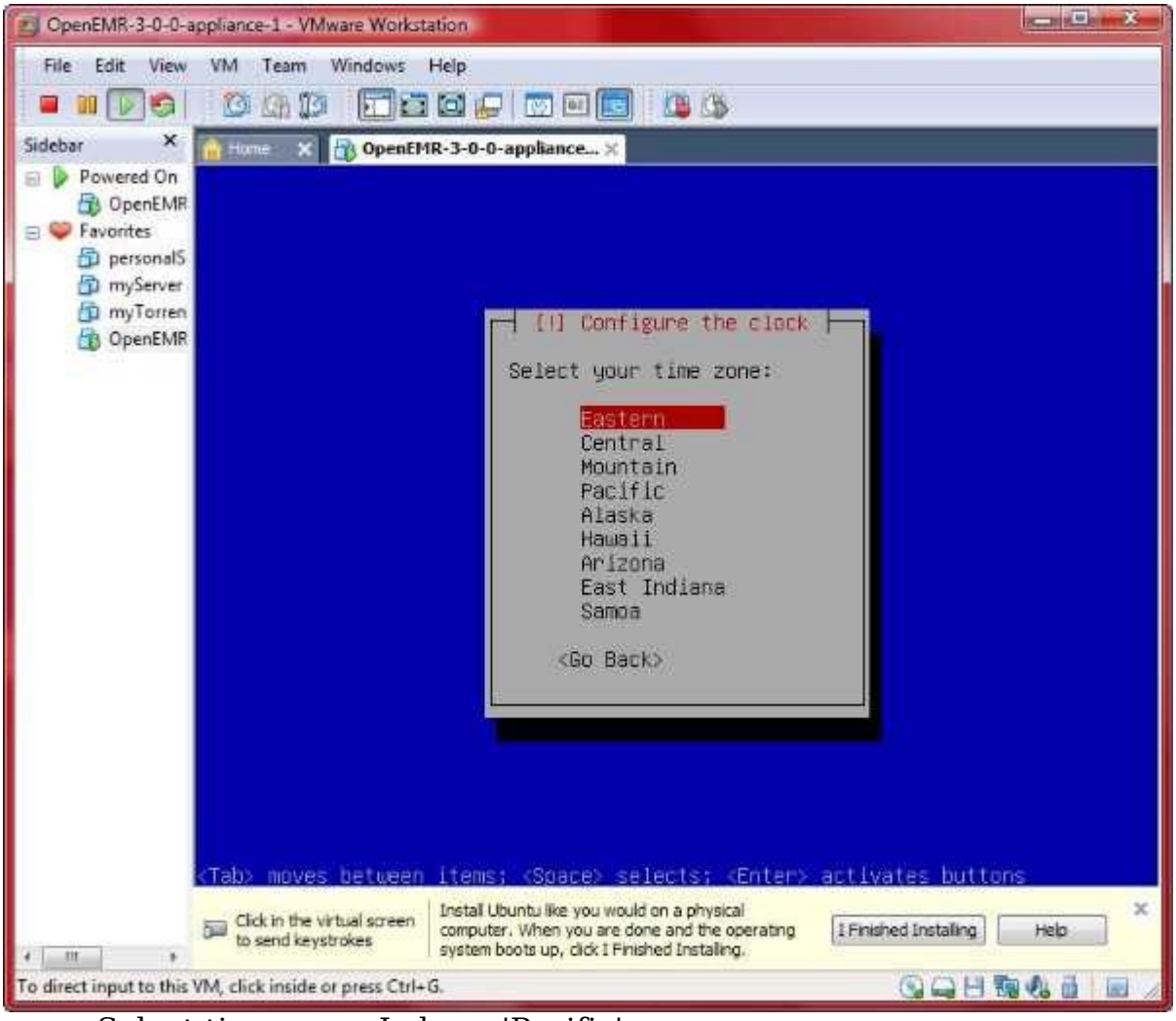
Go through bunch of screens like above to figure out keyboard.



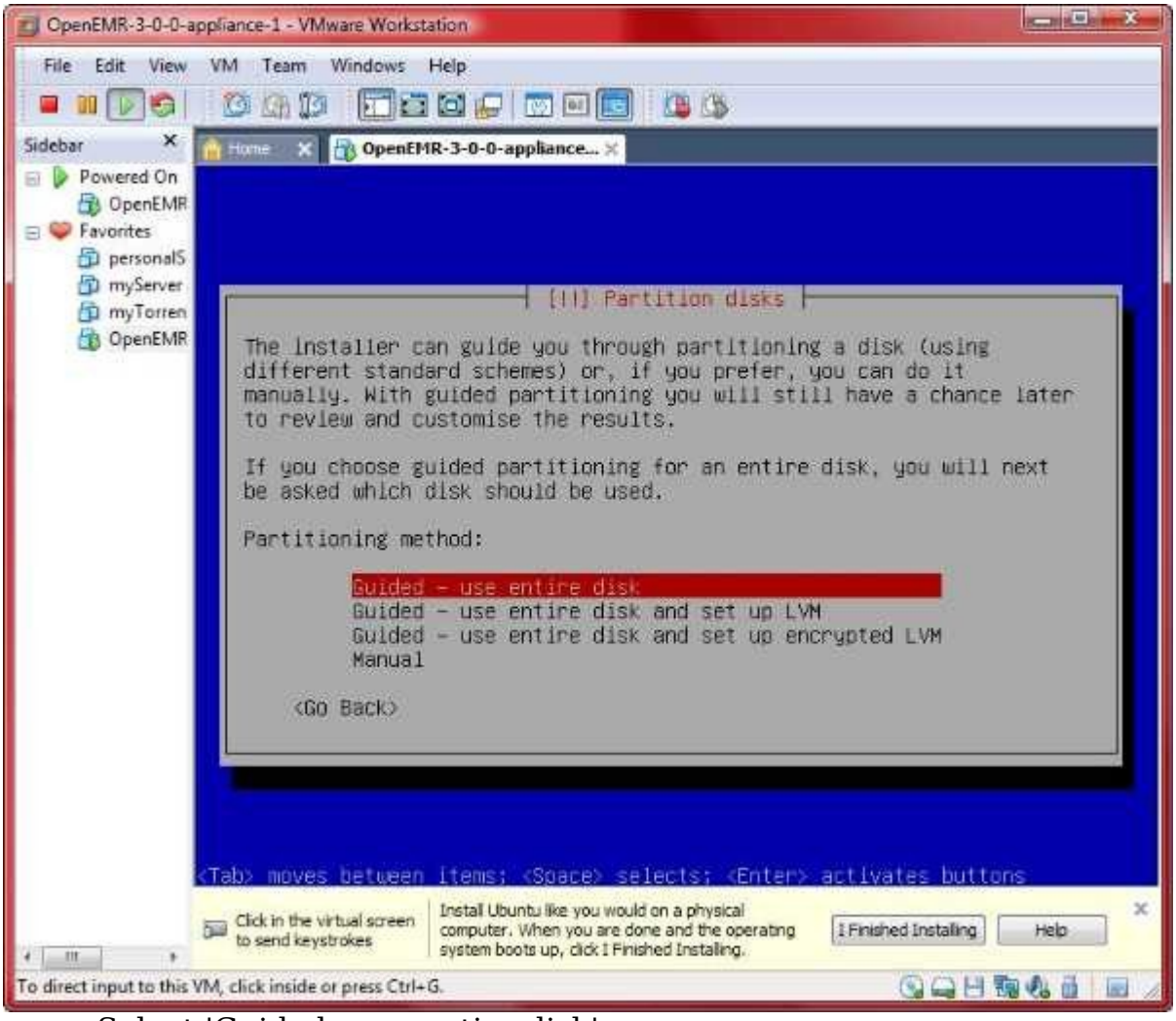
Select 'Continue' if detected correct keyboard.



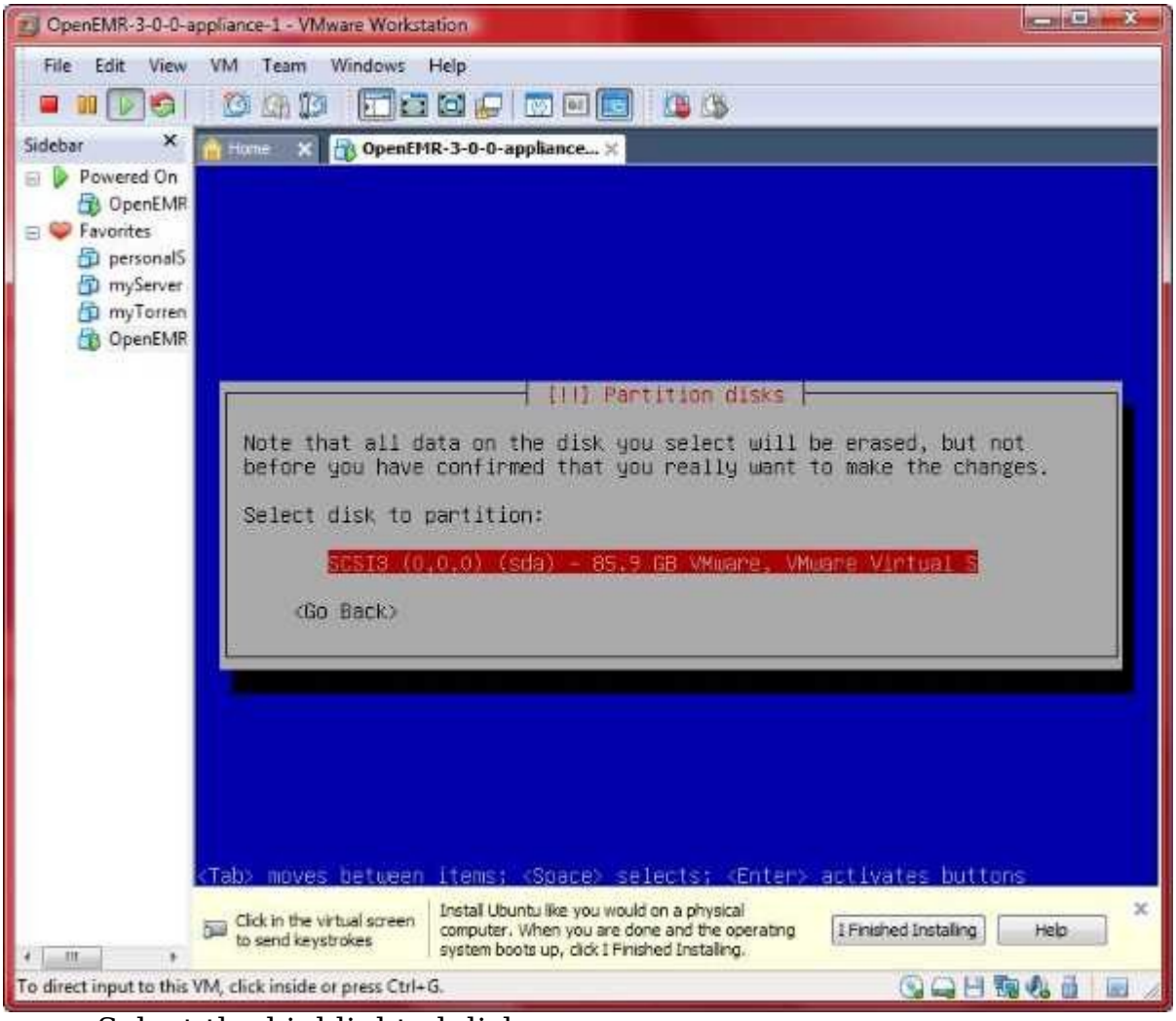
Type 'openemr' for Hostname, and then 'Continue'.



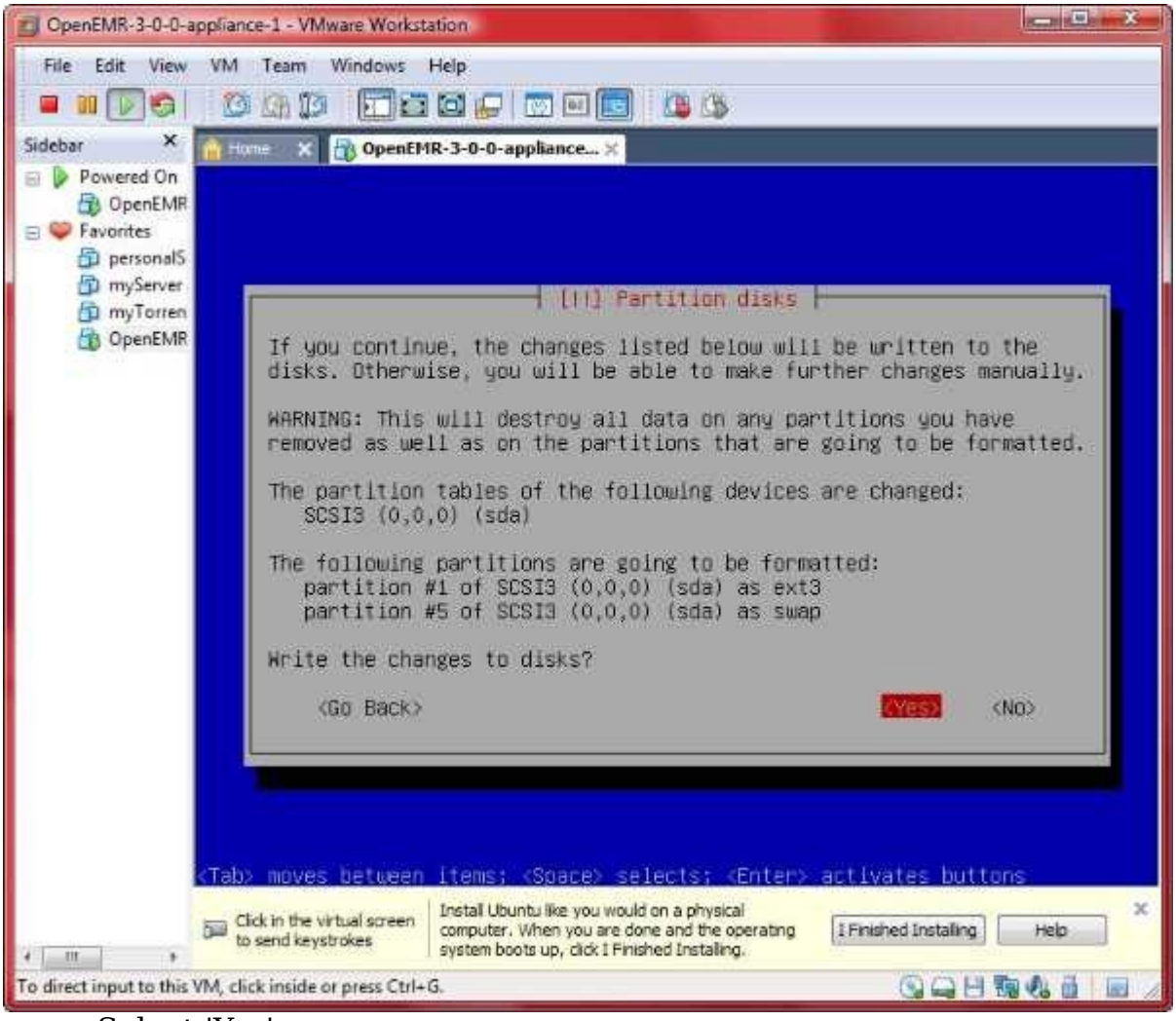
Select time zone, I chose 'Pacific'.



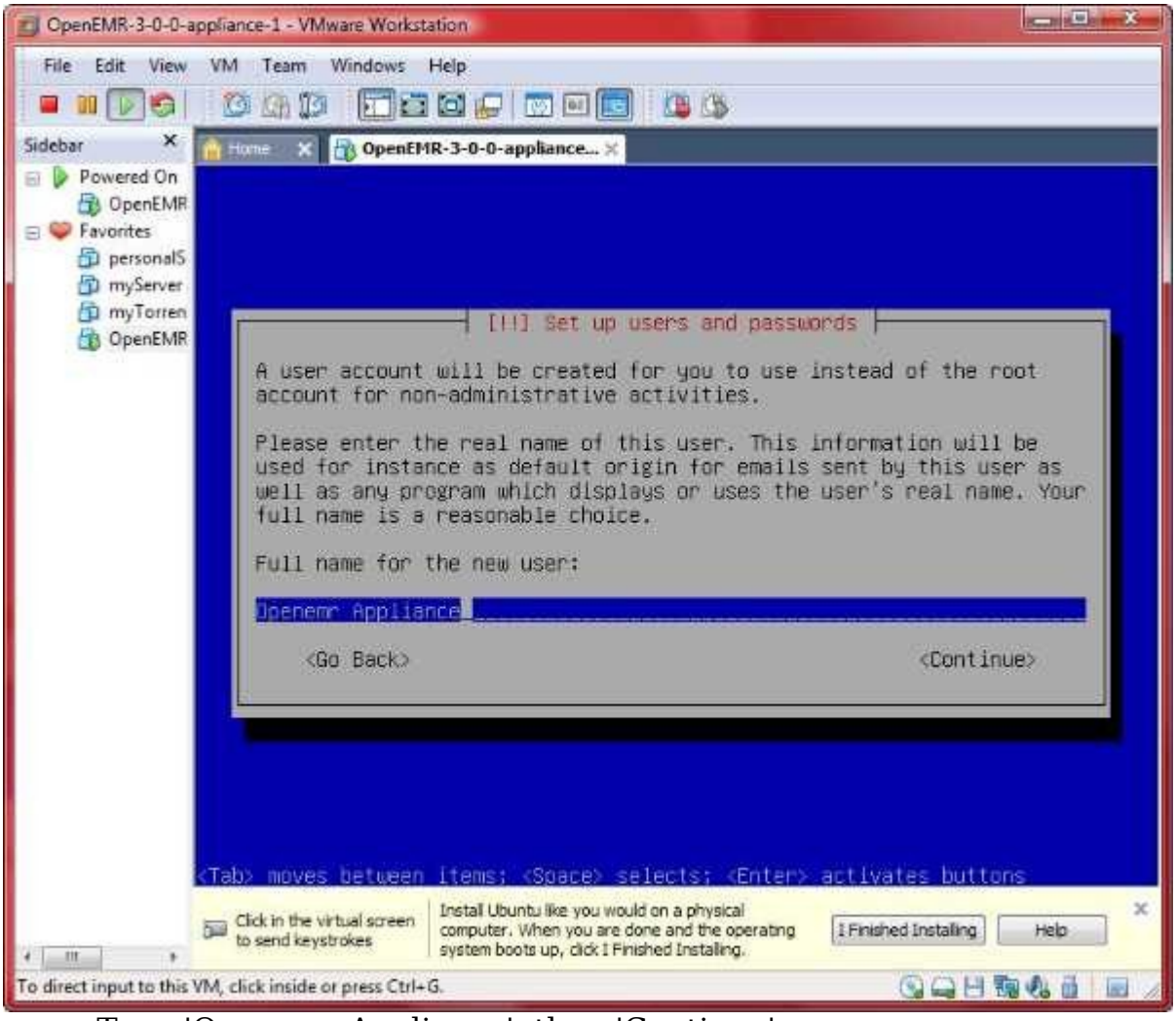
Select 'Guided - use entire disk'.



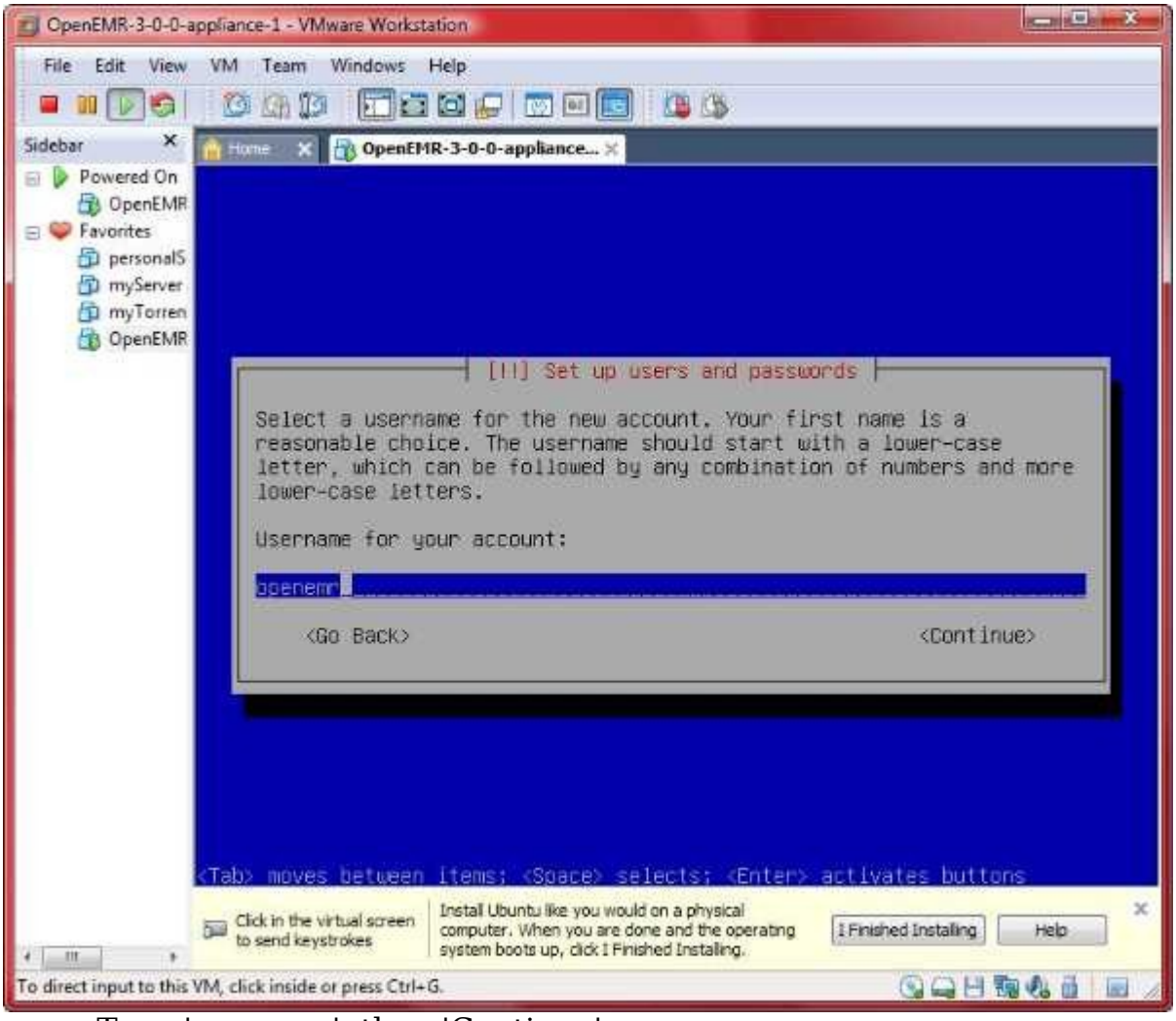
Select the highlighted disk.


OpenEMR-3-0-0-appliance-1 - VMware Workstation
File Edit View VM Team Windows Help
Sidebar
Powered On
OpenEMR
Favorites
personalS
myServer
myTorren
OpenEMR
Home
OpenEMR-3-0-0-appliance...
[!!] Partition disks
If you continue, the changes listed below will be written to the disks. Otherwise, you will be able to make further changes manually.
WARNING: This will destroy all data on any partitions you have removed as well as on the partitions that are going to be formatted.
The partition tables of the following devices are changed:
SCSI3 (0,0,0) (sda)
The following partitions are going to be formatted:
partition #1 of SCSI3 (0,0,0) (sda) as ext3
partition #5 of SCSI3 (0,0,0) (sda) as swap
Write the changes to disks?
<Go Back>
<Yes>
<No>
<Tab> moves between items; <Space> selects; <Enter> activates buttons
Click in the virtual screen to send keystrokes
Install Ubuntu like you would on a physical computer. When you are done and the operating system boots up, click I Finished Installing.
I Finished Installing
Help
To direct input to this VM, click inside or press Ctrl+G.

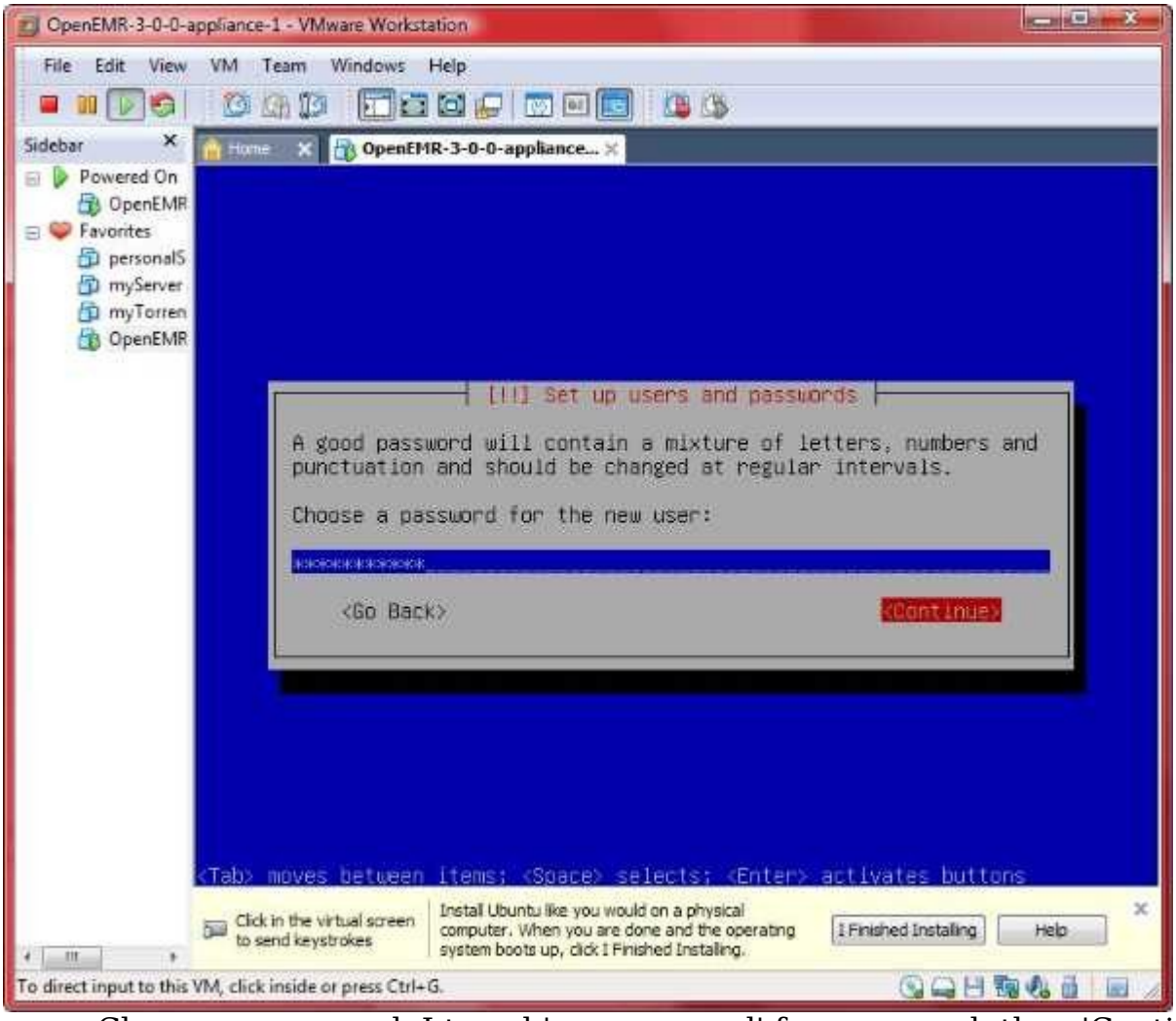
Select 'Yes'.



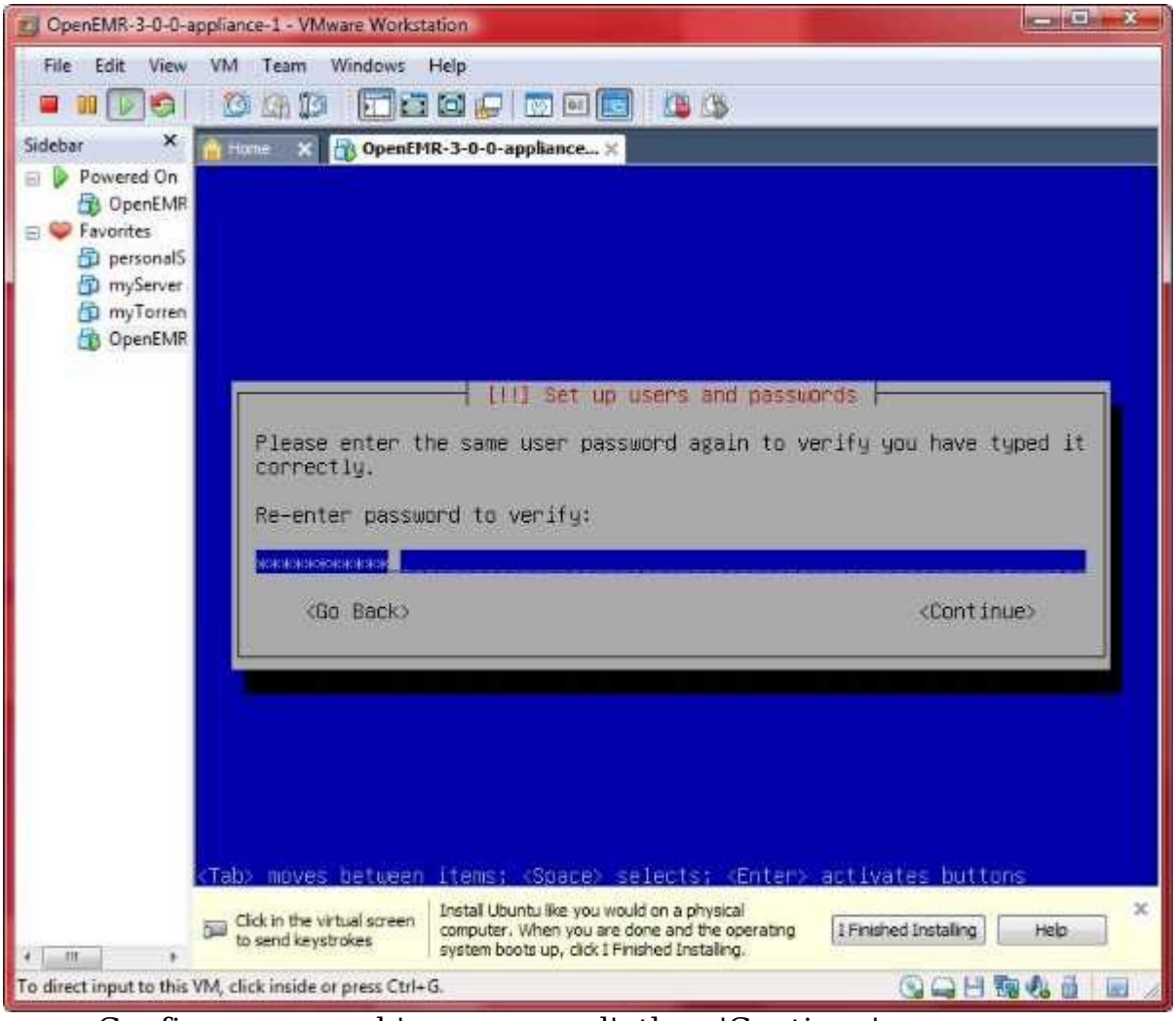
Type 'Openemr Appliance', then 'Continue'.



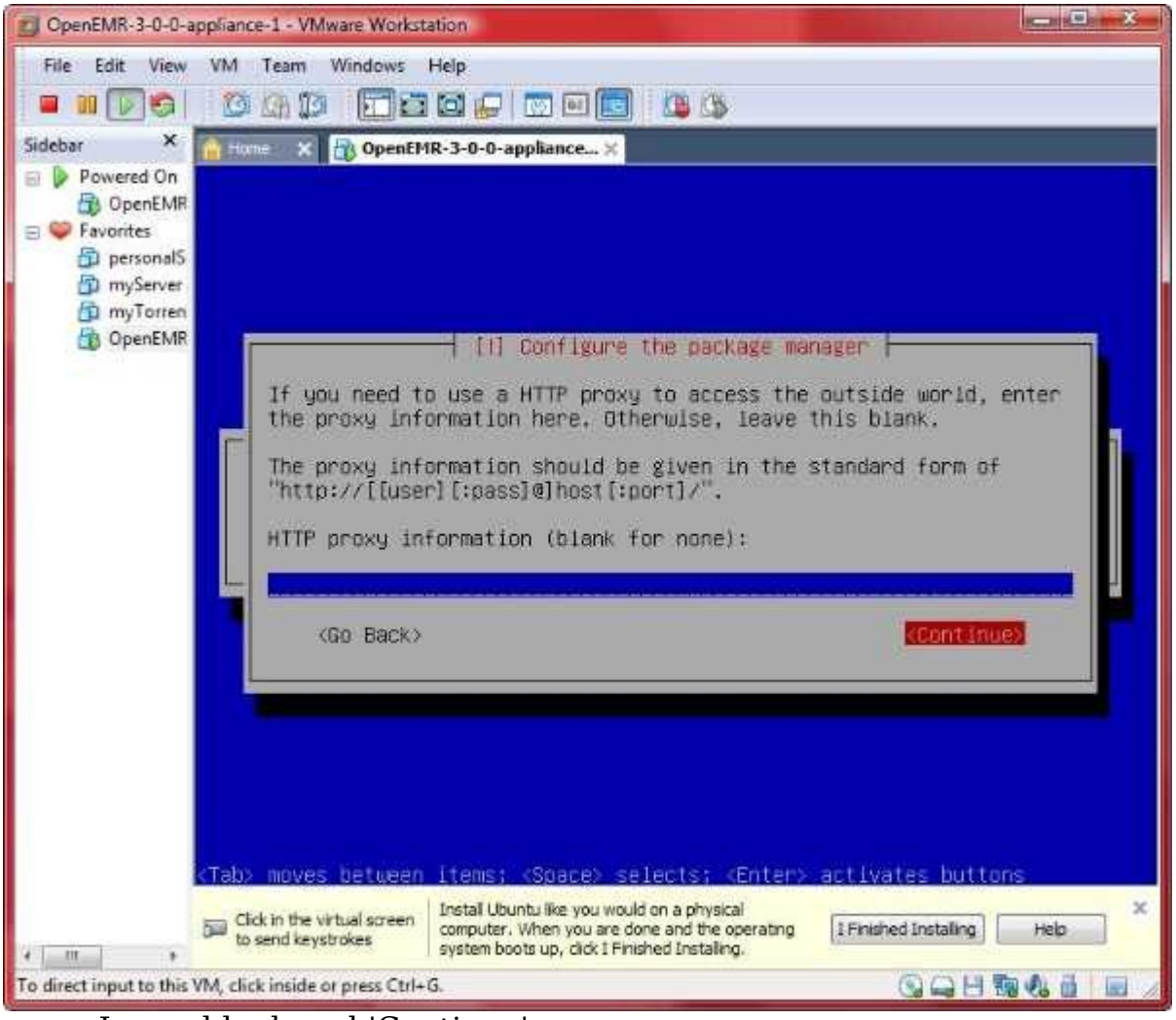
Type 'openemr', then 'Continue'.



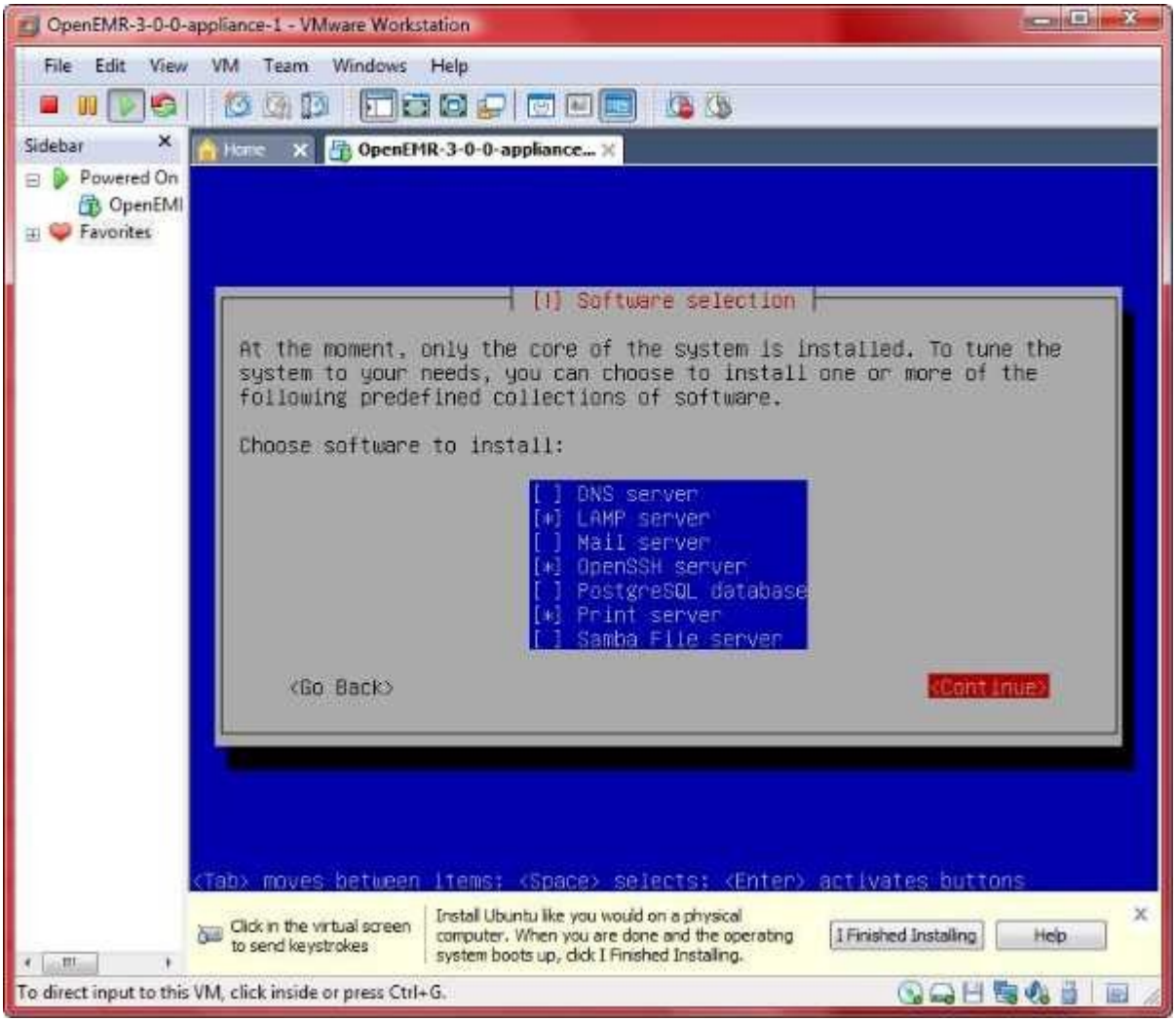
Choose a password. I typed 'openemrcool' for password, then 'Continue'.



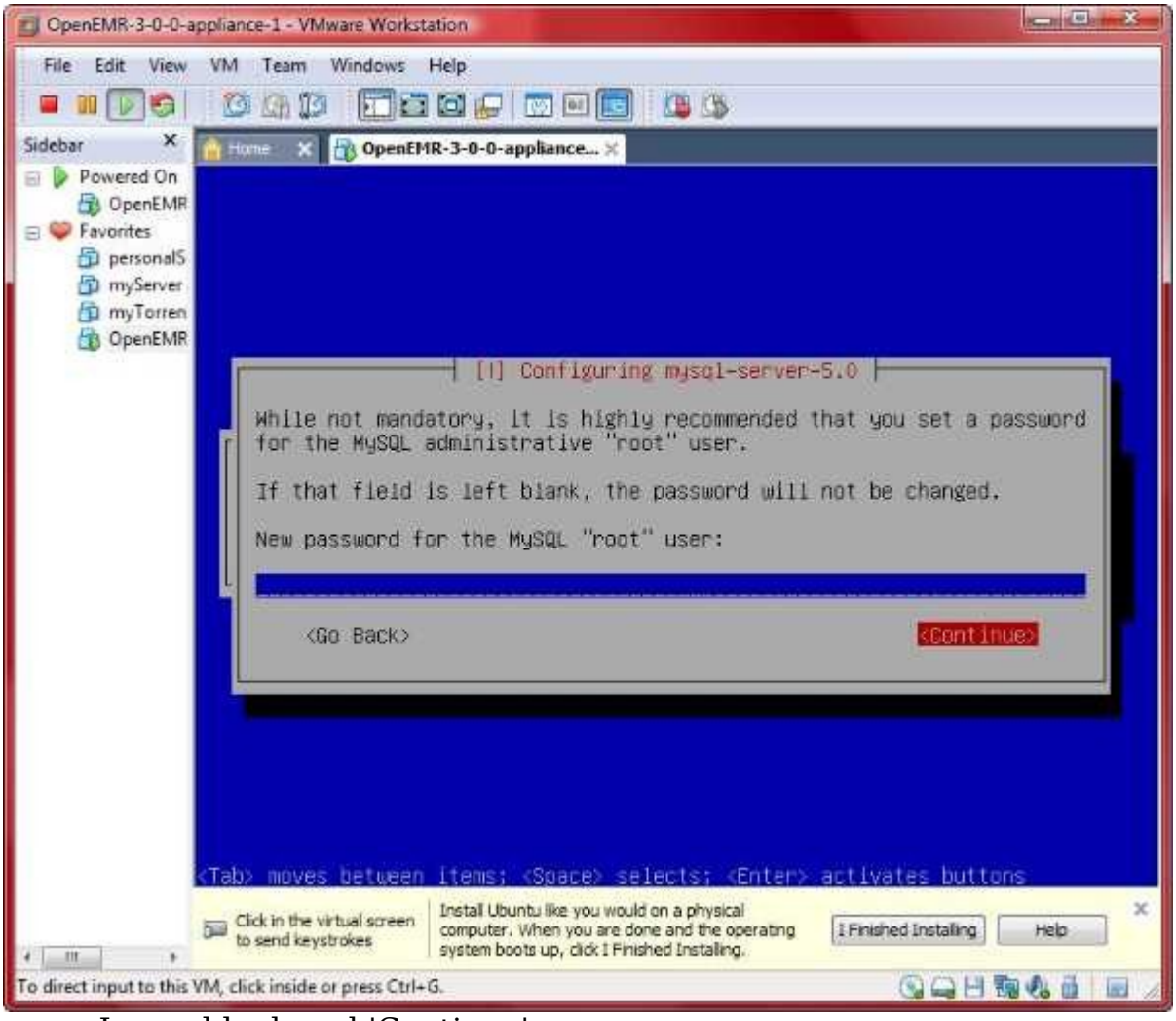
Confirm password 'openemrcool', then 'Continue'.



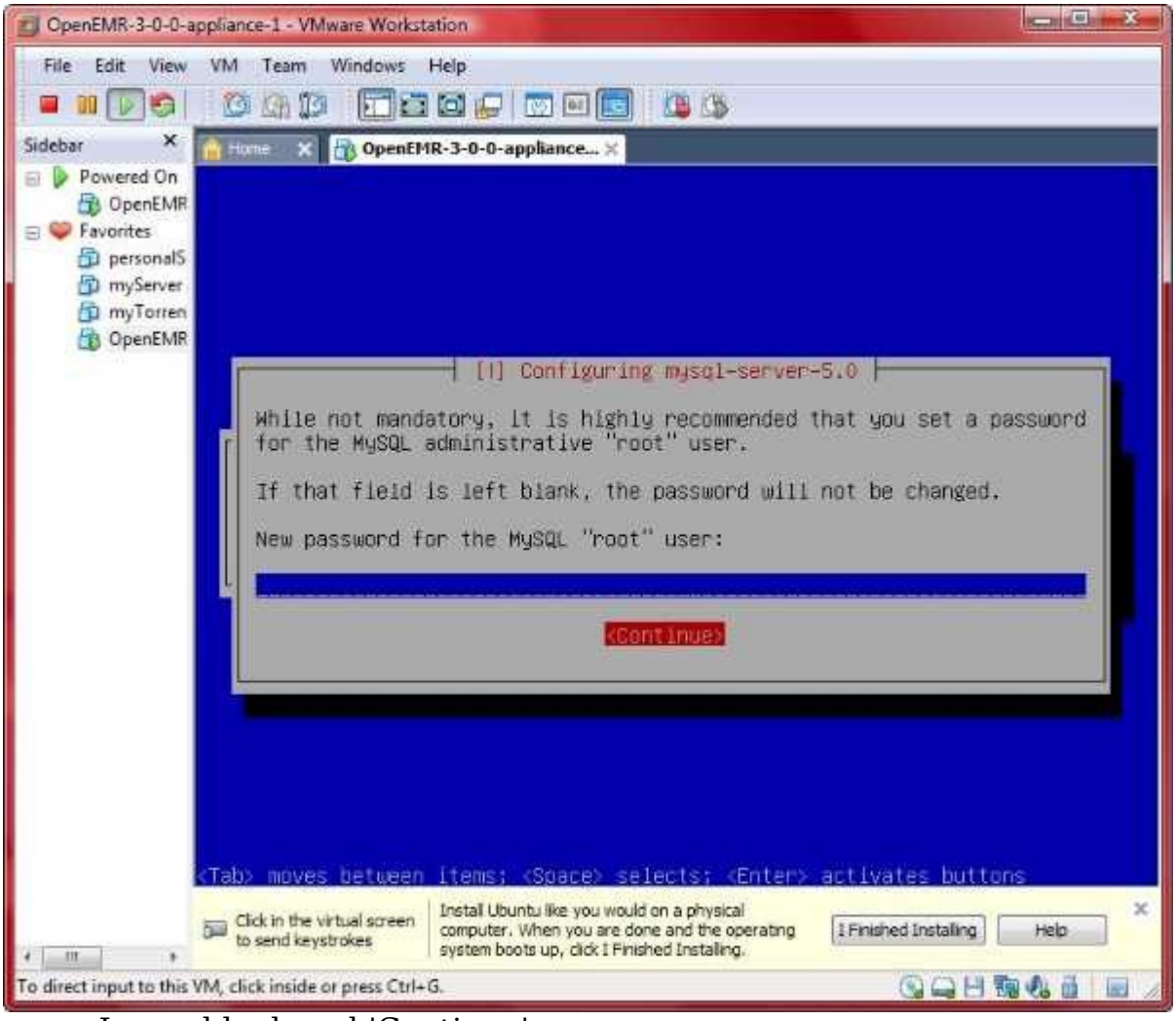
Leave blank and 'Continue'.



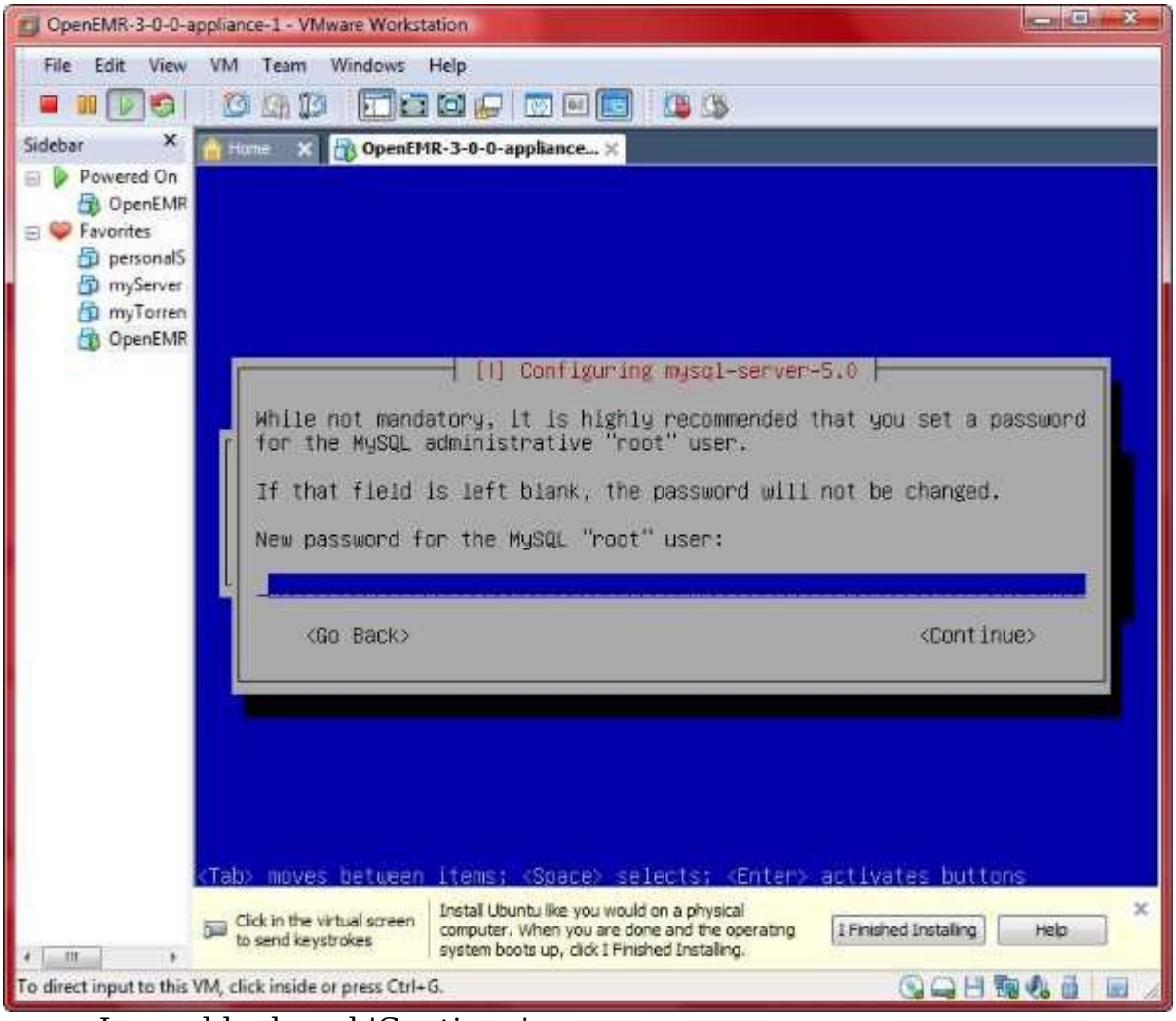
Select 'LAMP server', 'OpenSSH server', and 'Print Server'; then click 'Continue'.



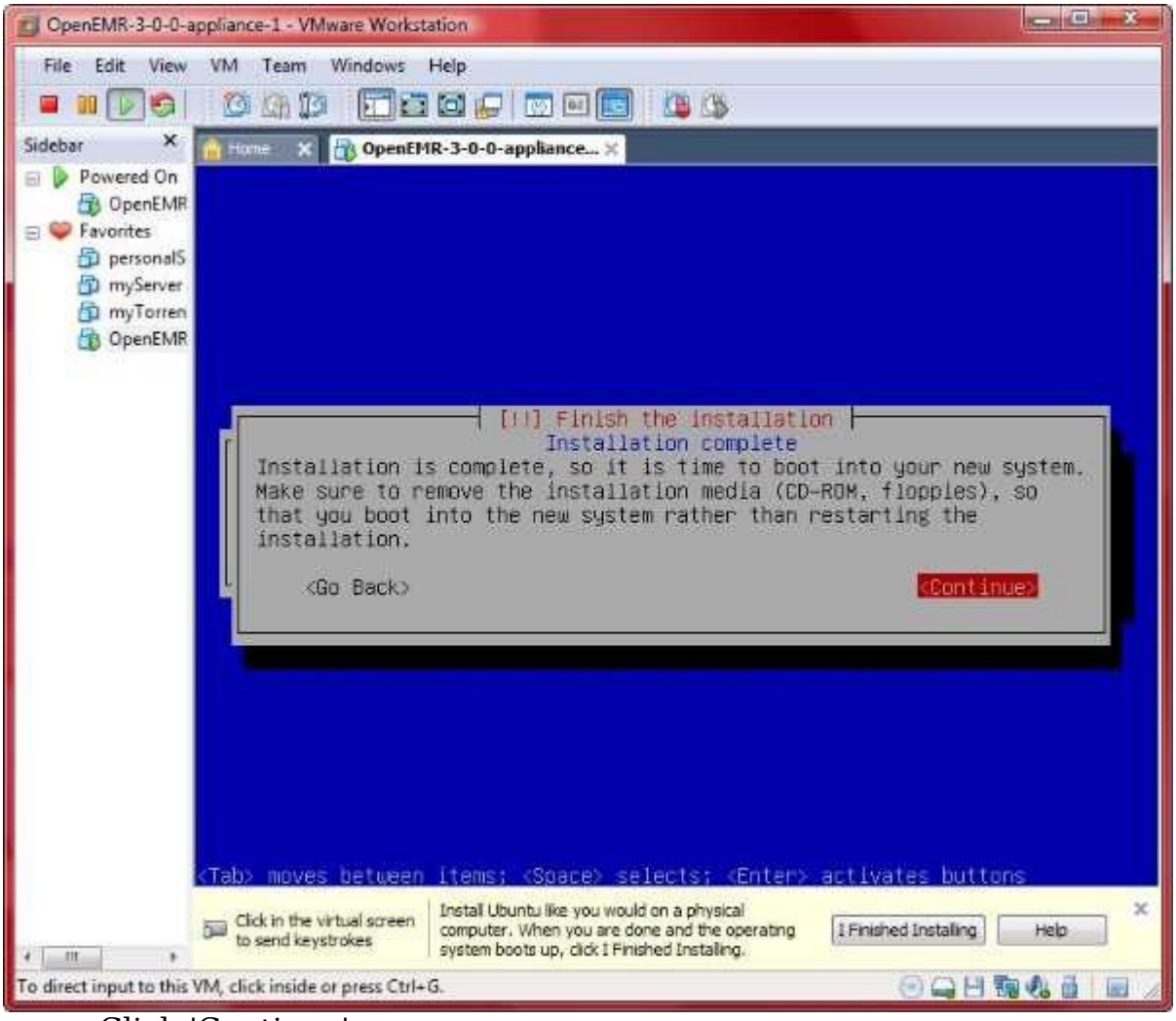
Leave blank and 'Continue'.



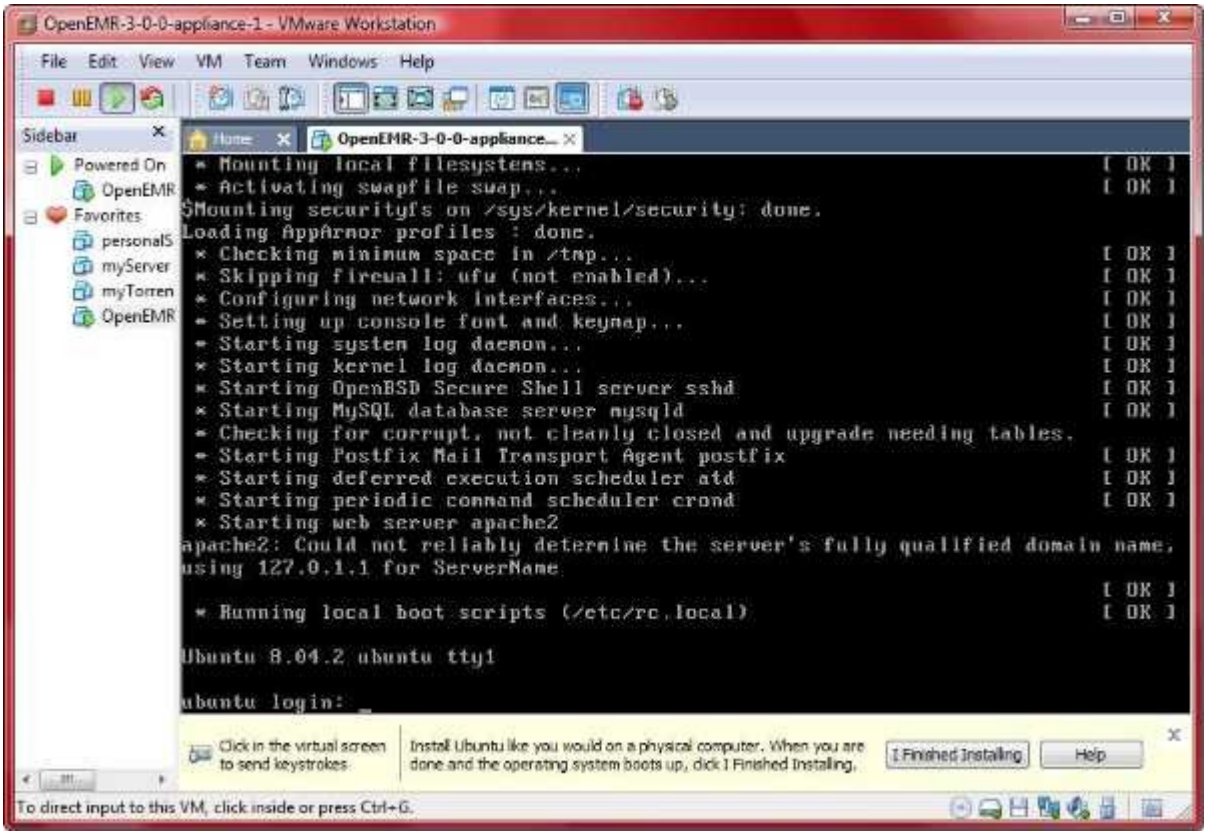
Leave blank and 'Continue'.



Leave blank and 'Continue'.



Click 'Continue'.



login with user:openemr pass:openemrcool

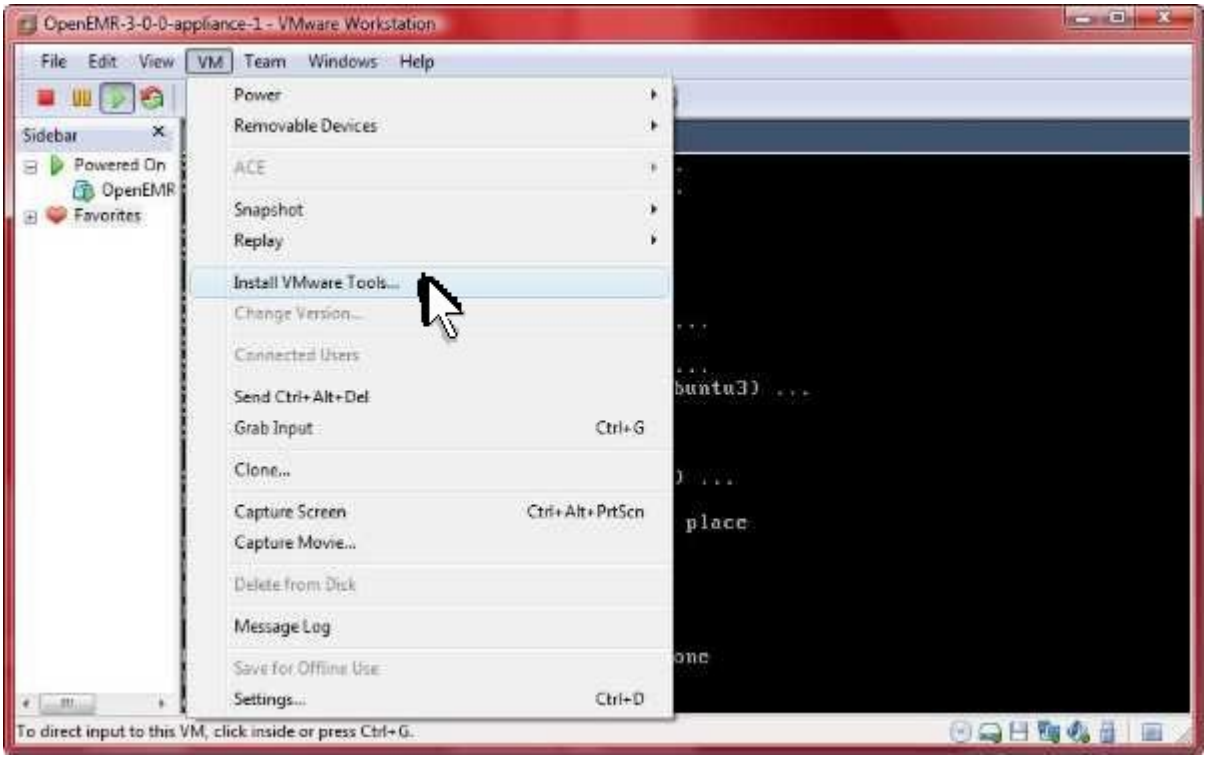
4. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

   #update and upgrade ubuntu
   sudo apt-get update
   sudo apt-get upgrade
   -enter Y to continue

   #Install the php command line, imagemagick, lynx client browser, and jed text editor.
   sudo aptitude install jed lynx php5-cli imagemagick
   -enter Y to continue

   #get packages required by Vmware Tools
   sudo aptitude install build-essential linux-headers-$(uname -r)
   -enter Y to continue

5. Prepare to install Vmware Tools:



Click 'VM' in top menu, and select 'Install VMware Tools...'.

6. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

    #mount the vmware drive
    sudo mkdir /mnt/temp
    sudo mount /dev/cdrom /mnt/temp

    #get and unpackage vmware tools
    cp /mnt/temp/VMwareTools-*.tar.gz .
    tar -zxpf VMwareTools-*.tar.gz

    #install Vmware Tools
    cd vmware-tools-distrib
    sudo ./vmware-install.pl
    -hit 'enter' to select default for all questions

    #clean up files
    cd ..
    rm -f VMwareTools-*.tar.gz
    rm -fr vmware-tools-distrib

    #unmount the vmware drive
    sudo umount /dev/cdrom
    sudo rm -fr /mnt/temp

Configure PHP and Apache (with SSL)

Main TOC Link
Chapter Index Link

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#edit the php config file /etc/php5/apache2/php.ini
sudo jed /etc/php5/apache2/php.ini
#**edit** following variables:
short_open_tag = **On**
max_execution_time = **60**
max_input_time = **90**
memory_limit = **128M**
display_errors = **Off**
log_errors = **On**
register_globals = **Off**
post_max_size = **30M**
magic_quotes_gpc = **On**
file_uploads = **On**
upload_max_filesize = **30M**
TEXT EDITOR SAVE AND EXIT

#edit apache2 config file /etc/apache2/apache2.conf
sudo jed /etc/apache2/apache2.conf
#**Paste** below to end of file:
<Directory "/var/www/openemr/documents">
order deny,allow
Deny from all
</Directory>
<Directory "/var/www/openemr/edi">
order deny,allow
Deny from all
</Directory>
<Directory "/var/www/openemr/era">
order deny,allow
Deny from all
</Directory>
TEXT EDITOR SAVE AND EXIT

#create an SSL certificate
sudo openssl req $@ -new -x509 -days 1825 -nodes -out /etc/apache2/apache.pem -keyout /etc/apache2/apache.pem
-ok to just select all defaults

#configure SSL in apache2
sudo a2enmod ssl
sudo cp /etc/apache2/sites-available/default
/etc/apache2/sites-available/ssl
sudo ln -s /etc/apache2/sites-available/ssl
/etc/apache2/sites-enabled/

#edit file /etc/apache2/sites-available/default
sudo jed /etc/apache2/sites-available/default
#Edit first two lines of file:
NameVirtualHost ***:80**
<VirtualHost ***:80**>
TEXT EDITOR SAVE AND EXIT

#edit file /etc/apache2/sites-available/default
sudo jed /etc/apache2/sites-available/ssl
#Edit first two lines of file:
NameVirtualHost ***:443**
<VirtualHost ***:443**>

#Insert the below code right above the 'Loglevel warn' line:
SSLEngine on
SSLCertificateFile /etc/apache2/apache.pem
TEXT EDITOR SAVE AND EXIT

#edit file /etc/apache2/mods-available/ssl.conf
sudo jed /etc/apache2/mods-available/ssl.conf
#Uncomment the following lines (near end of file):
SSLCipherSuite HIGH:MEDIUM:!ADH
SSLProtocol all -SSLv2
TEXT EDITOR SAVE AND EXIT

#restart apache
sudo /etc/init.d/apache2 restart
-do not worry about the domain name messages

Install OpenEMR 3.0.1

Main TOC Link
Chapter Index Link

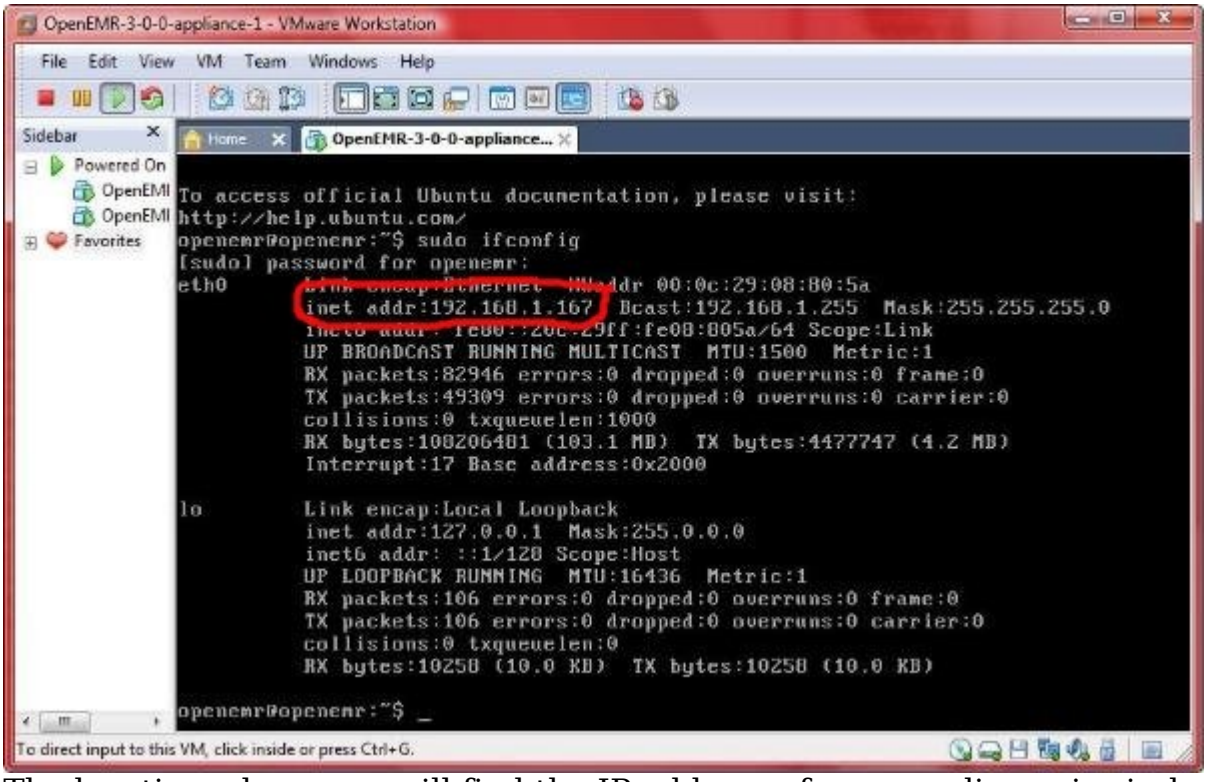
1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

   #Download OpenEMR
   wget http://downloads.sourceforge.net/openemr/openemr-3.0.1.tar.gz

#Put the OpenEMR program in its place
sudo tar -pxzvf openemr-3.0.1.tar.gz
sudo rm -f openemr-3.0.1.tar.gz
sudo mv openemr-3.0.1 /var/www/openemr
sudo chown -R root:root /var/www/openemr

#Deal with file permissions
sudo chmod 666 /var/www/openemr/library/sqlconf.php
sudo chmod 666 /var/www/openemr/interface/globals.php
sudo chmod 666 /var/www/openemr/gacl/gacl.ini.php
sudo chmod 666 /var/www/openemr/gacl/gacl.class.php
sudo chown -R www-data:www-data
/var/www/openemr/documents
sudo chown -R www-data:www-data /var/www/openemr/edi
sudo chown -R www-data:www-data /var/www/openemr/era
sudo chown -R www-data:www-data
/var/www/openemr/custom/letter_templates
sudo chown -R www-data:www-data
/var/www/openemr/gacl/admin/templates_c
sudo chown -R www-data:www-data
/var/www/openemr/library/freeb
sudo chown -R www-data:www-data
/var/www/openemr/interface/main/calendar/modules/PostCa
lendar/pntemplates/cache
sudo chown -R www-data:www-data
/var/www/openemr/interface/main/calendar/modules/PostCa
lendar/pntemplates/compiled

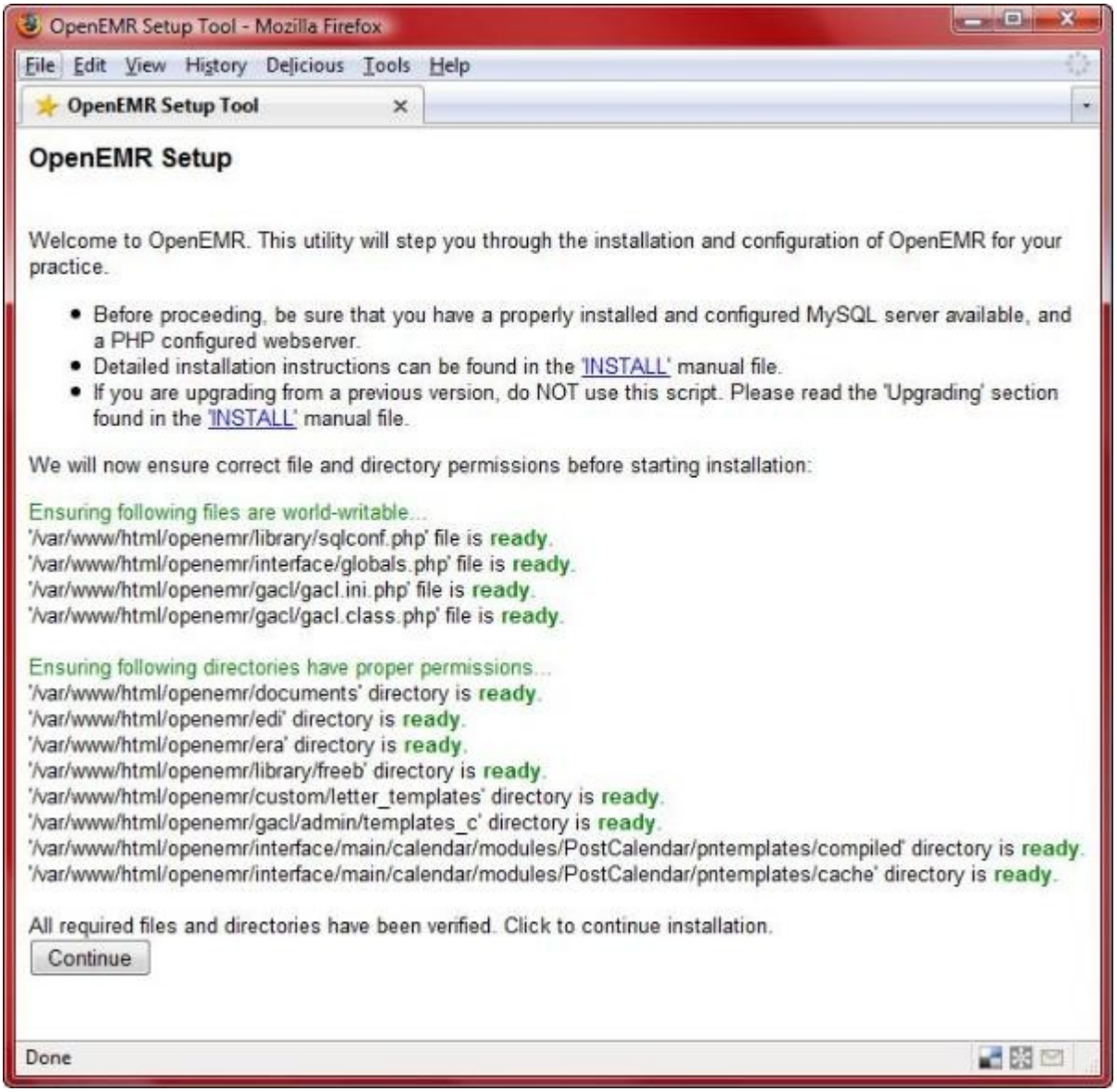
#Get IP address of appliance
sudo ifconfig
-Look at screenshot below to get IP address



The location where you will find the IP address of your appliance is circled in red above.

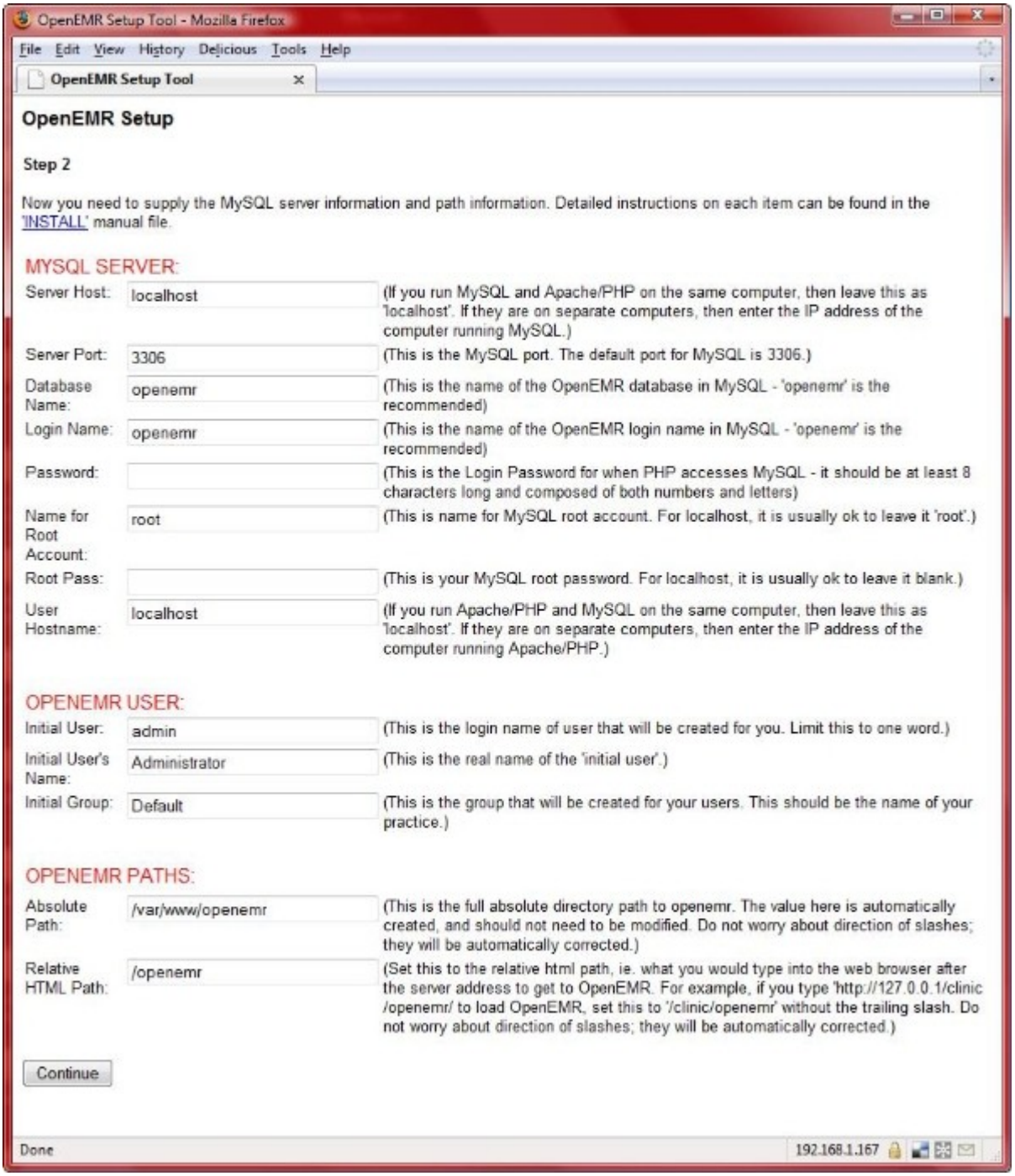
3. Now, open a webbrowser outside the appliance and point to (the APPLIANCE_IP_ADDRESS was found by above ifconfig command): https://APPLIANCE_IP_ADDRESS/openemr/setup.php

(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

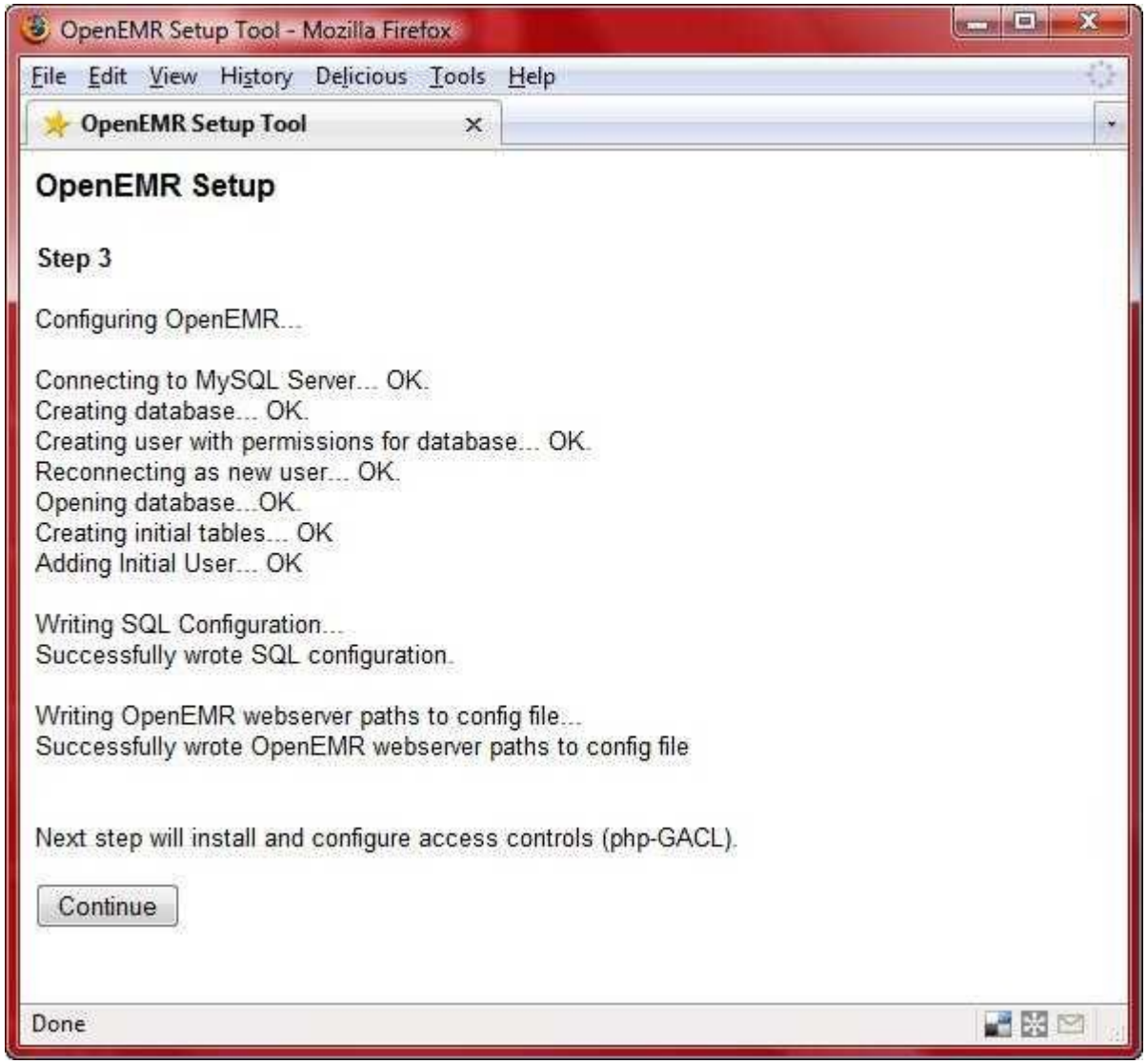


Click 'Continue'.

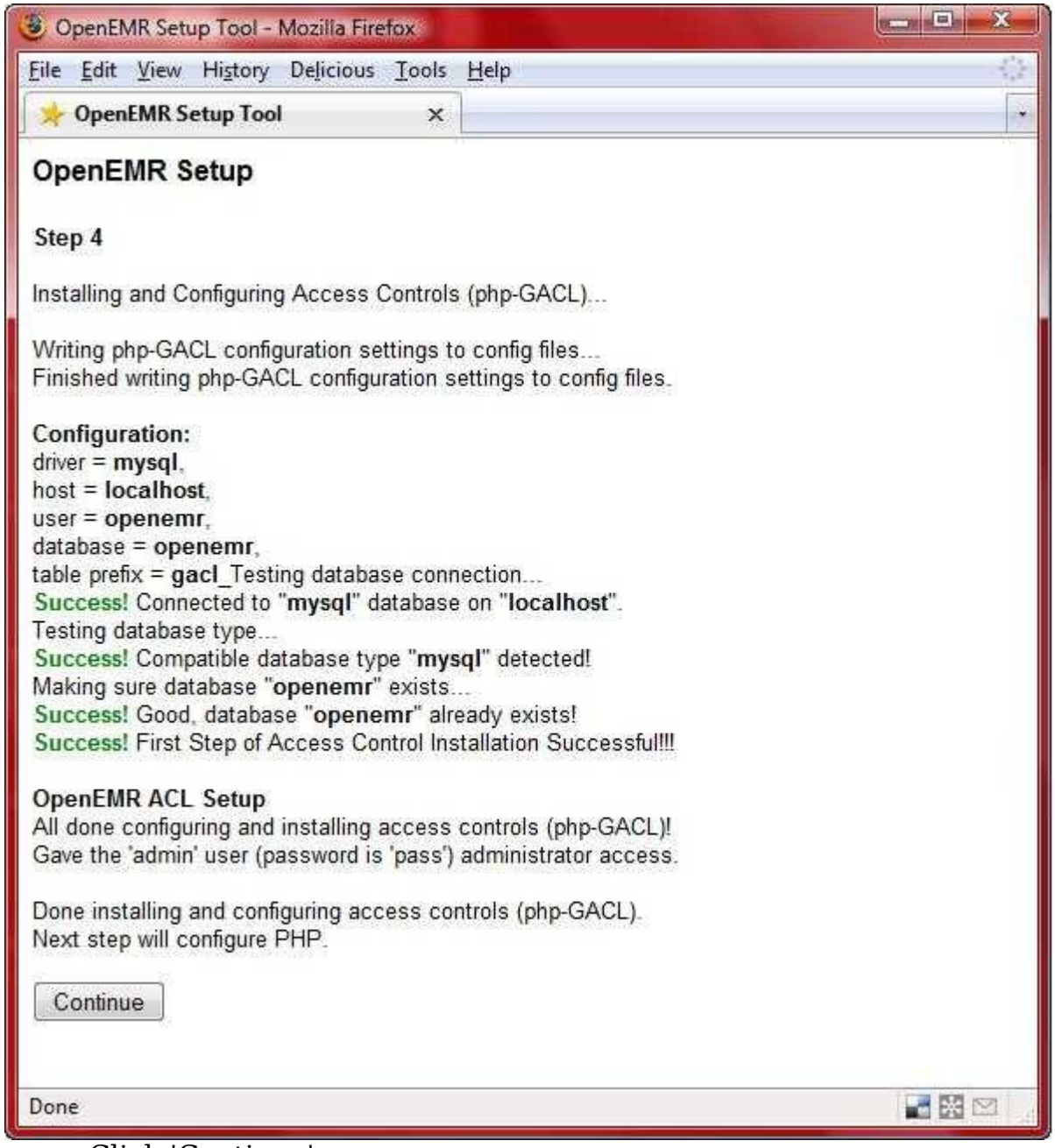
Select 'Have setup create the database', then click 'Continue'.



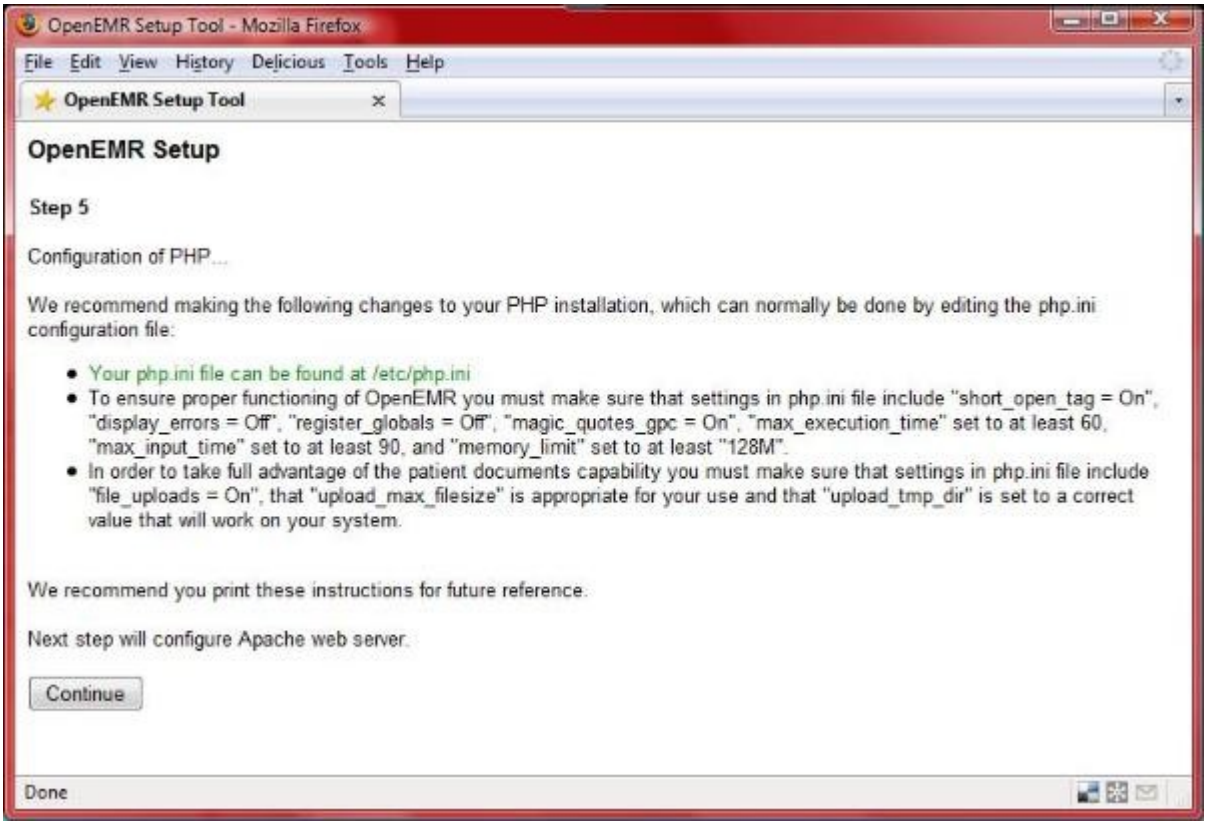
For my appliance I typed 'openemr' into 'Password' field, and otherwise kept defaults. Click 'Continue'.



Click 'Continue'.

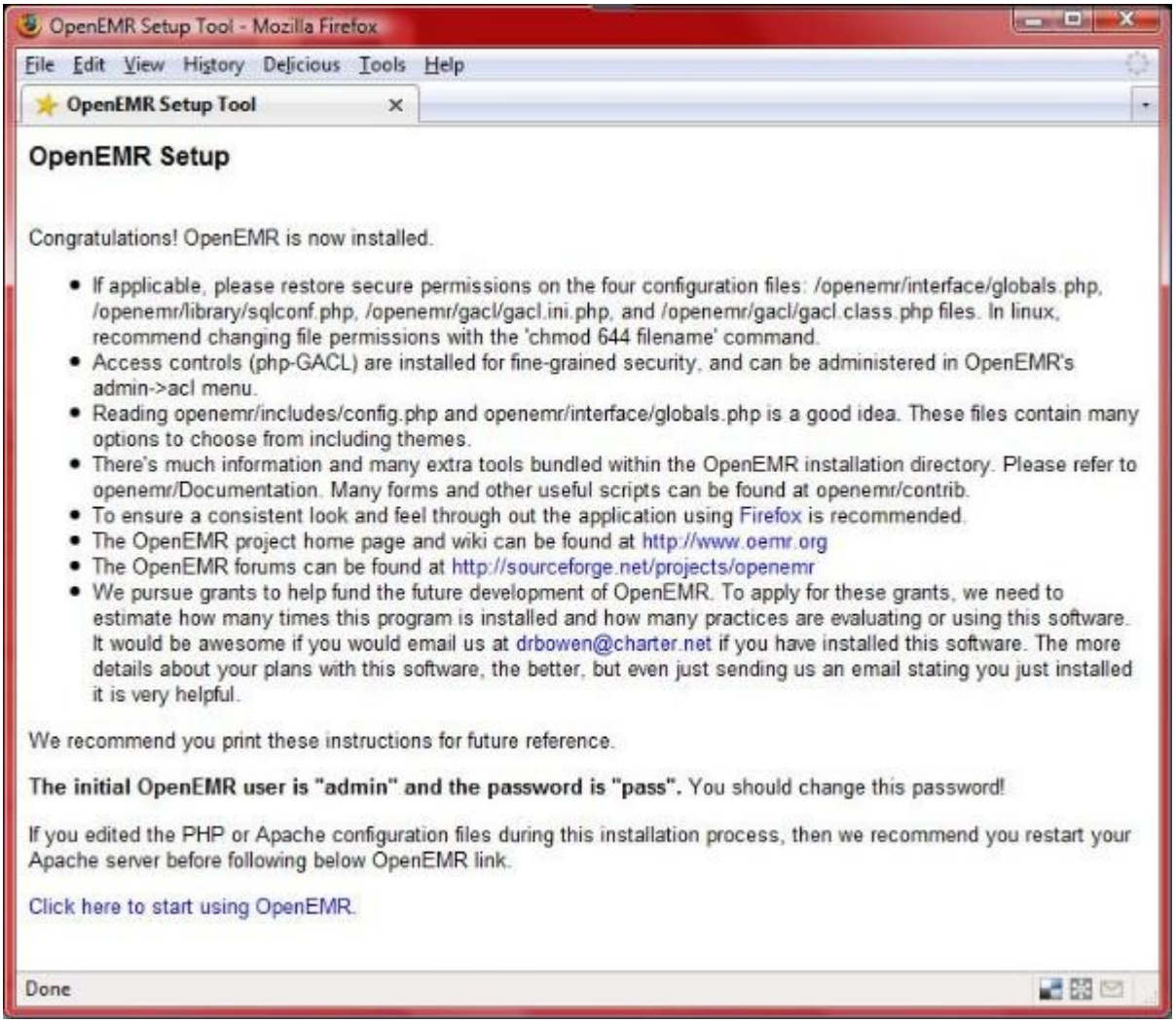


Click 'Continue'.

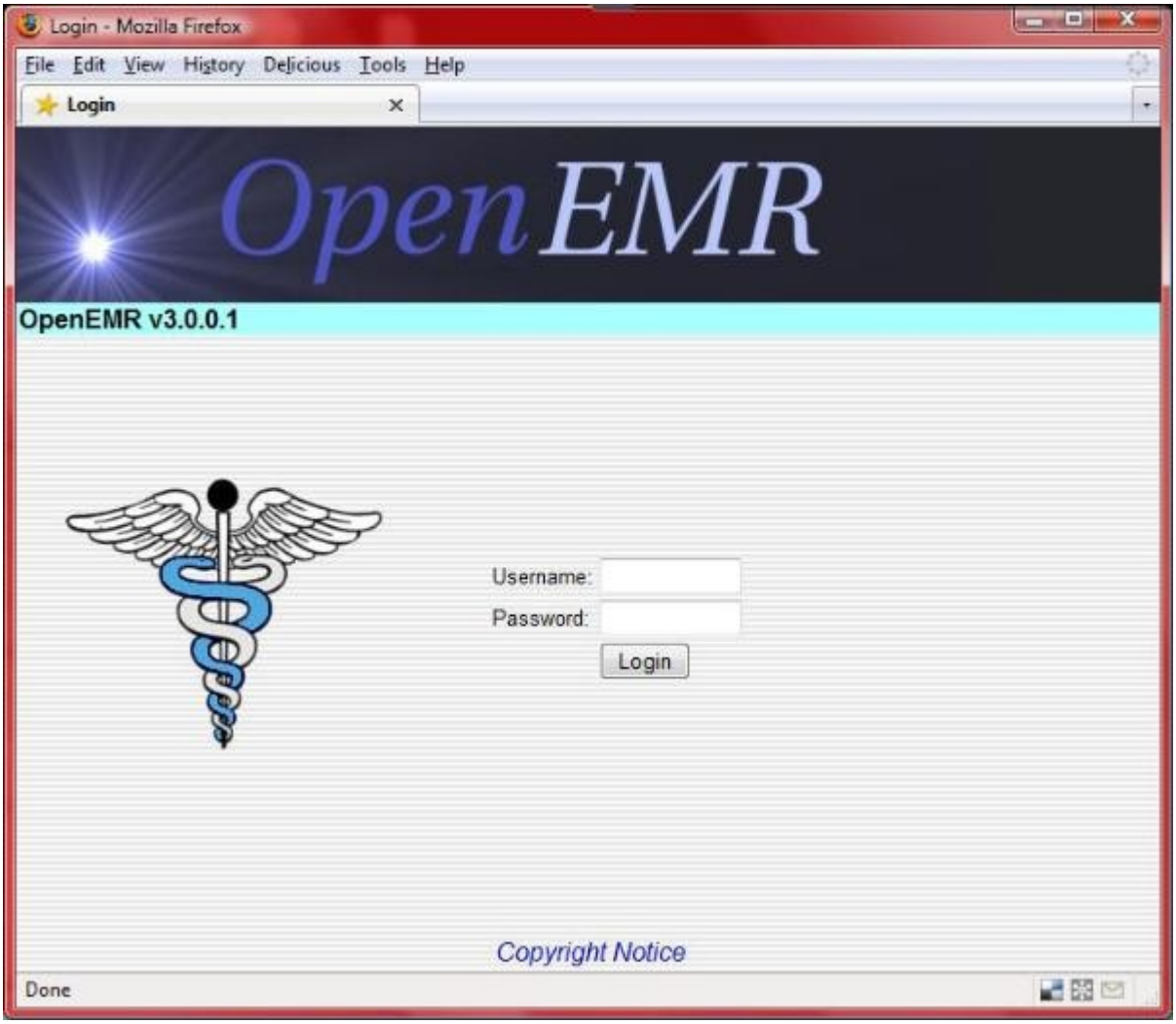


We have already configured this in the above '[Configure PHP and Apache (with SSL)]' section. Click 'Continue'.

We have already configured this in the above '[Configure PHP and Apache (with SSL)]' section. Click 'Continue'.



Click 'Click here to start using OpenEMR' to go to OpenEMR.



Continue to below instructions.

4. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

   #Re-secure files
   sudo chmod 644 /var/www/openemr/library/sqlconf.php
   sudo chmod 644 /var/www/openemr/interface/globals.php
   sudo chmod 644 /var/www/openemr/gacl/gacl.ini.php
   sudo chmod 644 /var/www/openemr/gacl/gacl.class.php

Install and Configure Webmin

Main TOC Link
Chapter Index Link

1. Webmin is an awesome way to administer a ubuntu server with a graphical interface remotely.

2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

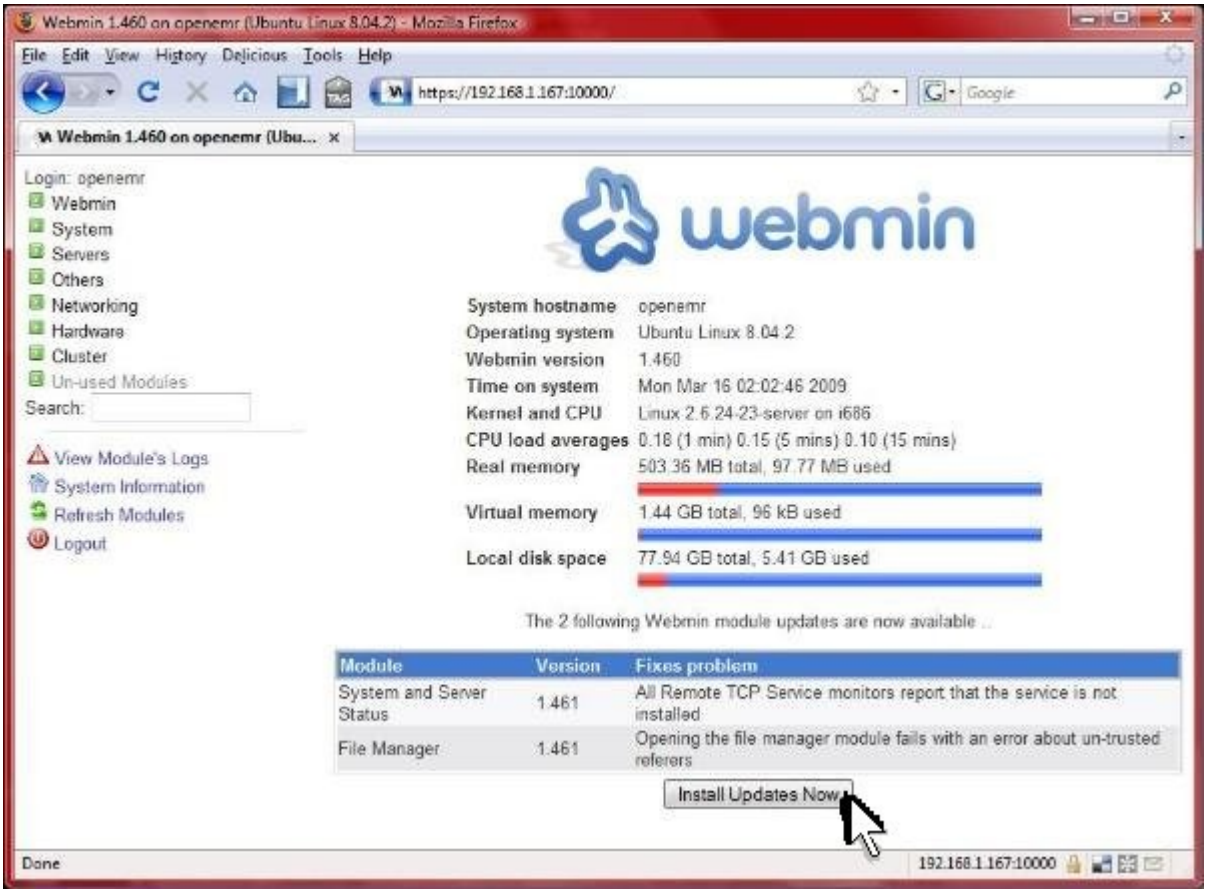
   #download Webmin
   wget http://prdownloads.sourceforge.net/webadmin/webmin_1.470_all.deb

   #install Webmin
   sudo dpkg -i webmin_1.470_all.deb
   -IGNORE the dependency errors (below command will install)
   sudo apt-get install -f
   -enter 'Y' to continue
   rm -f webmin_1.470_all.deb

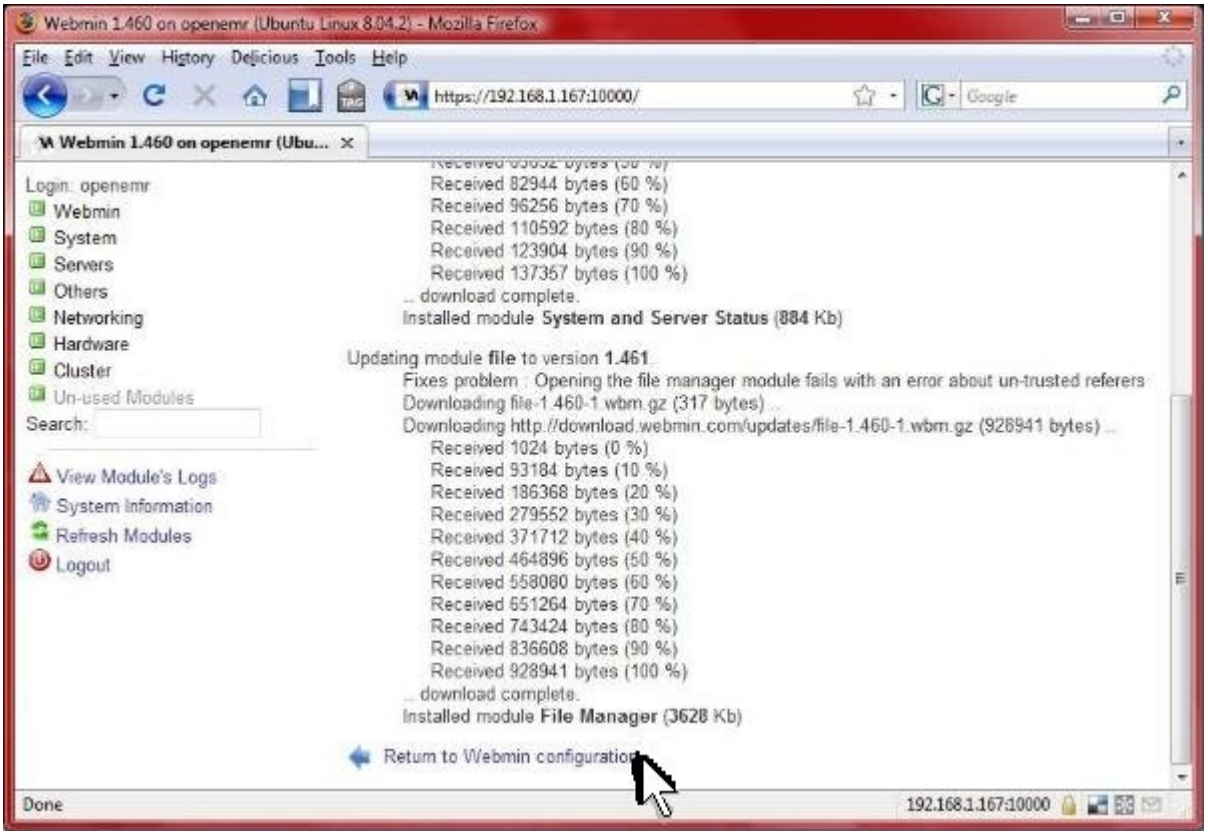
1. Now, open a webbrowser outside the appliance and point to (the APPLIANCE_IP_ADDRESS was found by above ifconfig command): https://APPLIANCE_IP_ADDRESS:10000/

(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

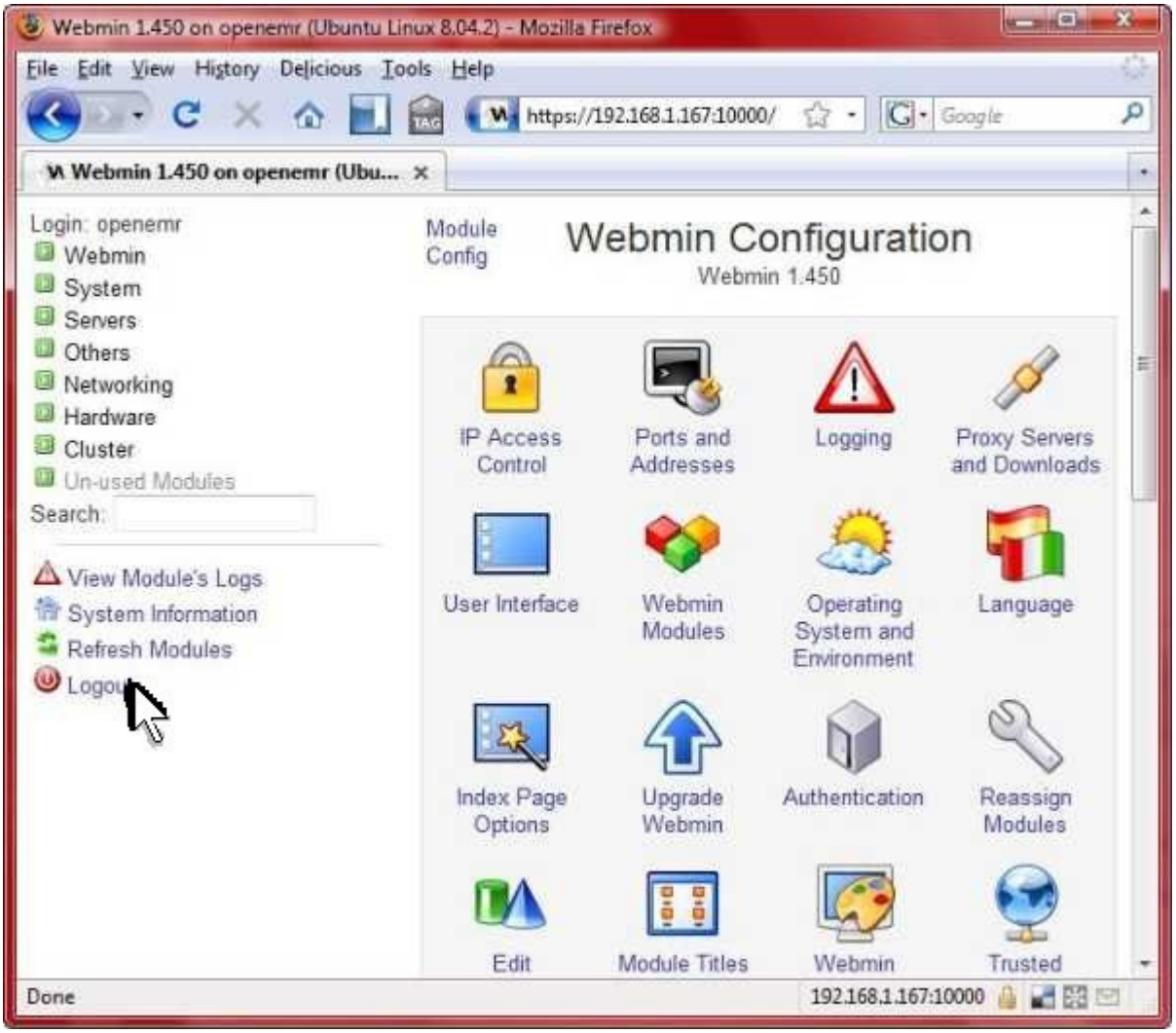
Login with user:'openemr' and pass:'openemrcool'.



Click 'Install Updates Now' button.



Scroll to bottom of window and click 'Return to Webmin configuration'.



Click 'Logout'.

Configure Firewall

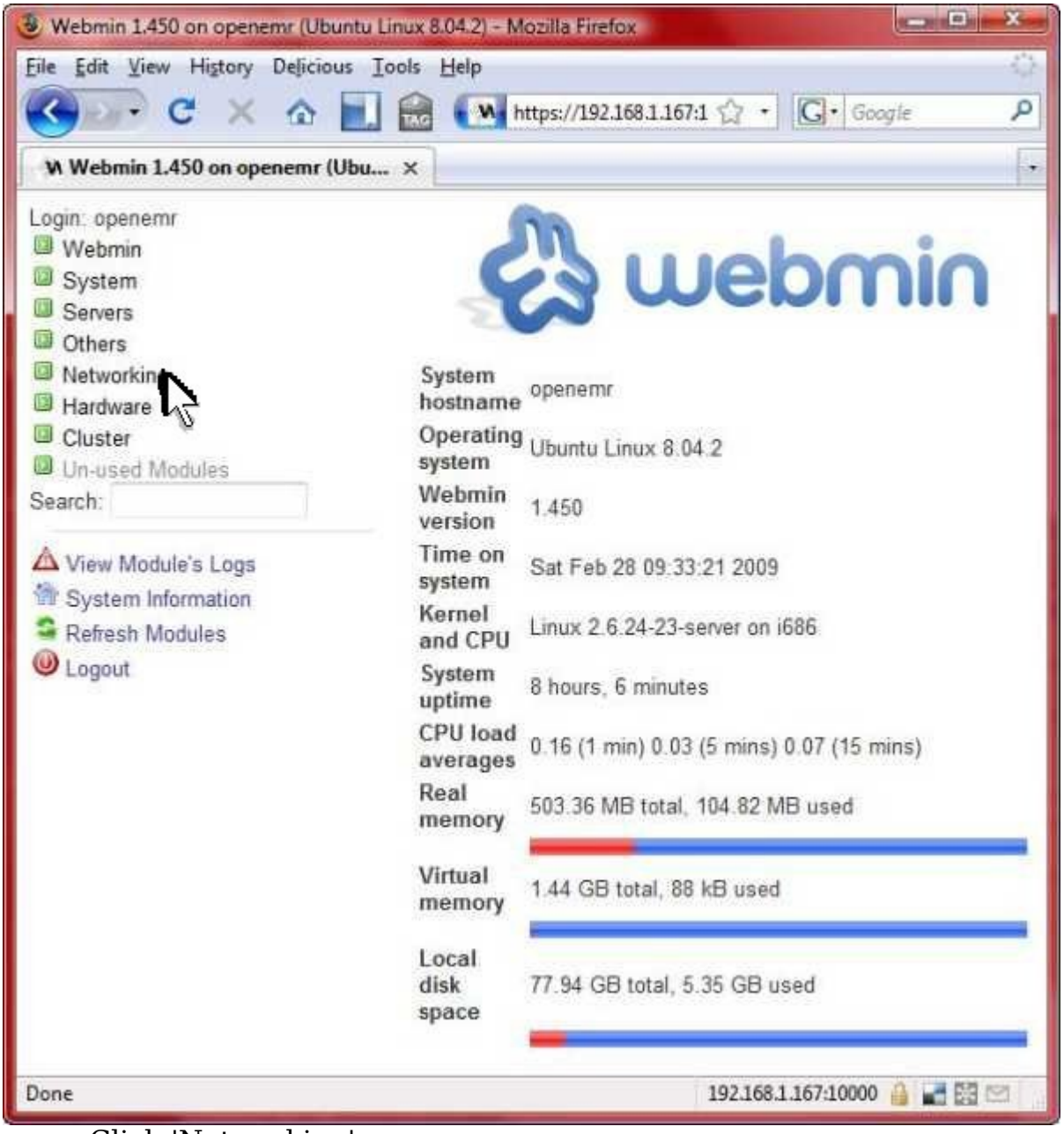
Main TOC Link
Chapter Index Link

1. We will only allow access to the appliance through ports 22 (SSH), 443 (OpenEMR via https), and 10000 (Webmin via https). Note that we are blocking the http port (80) to force users to use https (encrypted) when connecting to OpenEMR.

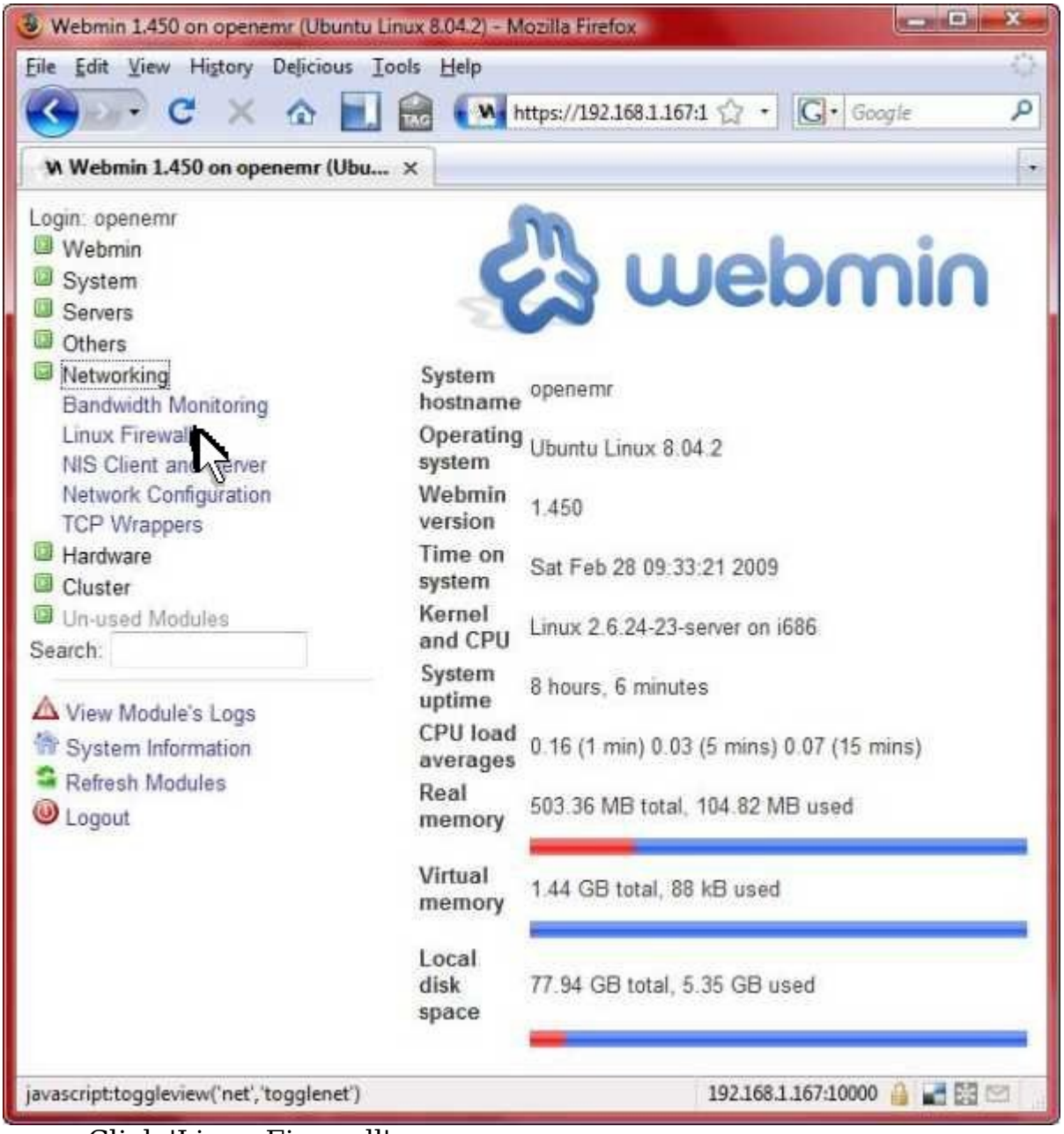
2. Open a webbrowser outside the appliance and point to (the APPLIANCE_IP_ADDRESS was found by above ifconfig command): https://APPLIANCE_IP_ADDRESS:10000/

(If you are getting a certificate security error, then first follow the instructions in below appendix section 'Configuring client web browser for https' to configure your web browser.)

Login with user:'openemr' and pass:'openemrcool'.

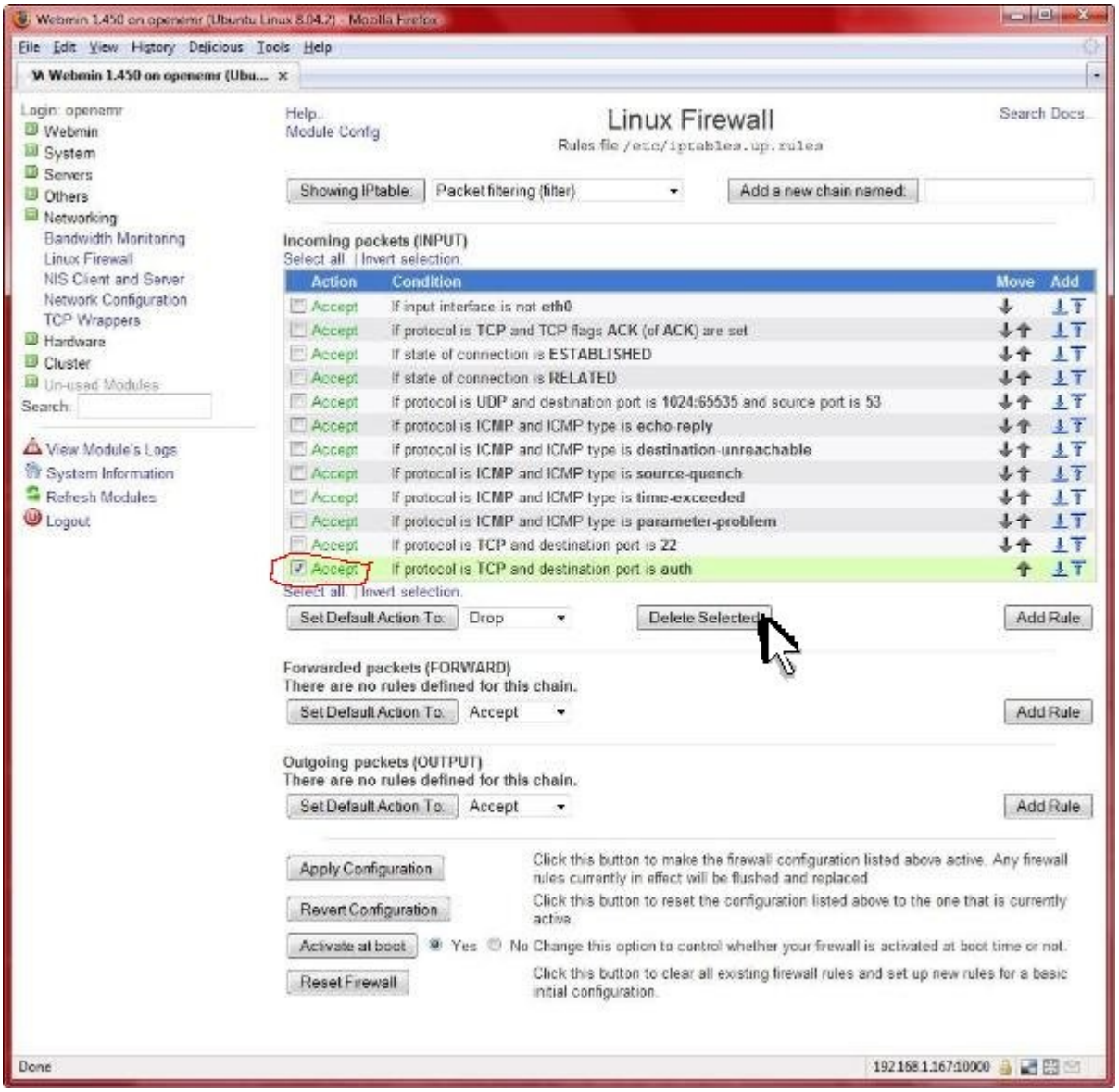


Click 'Networking'.

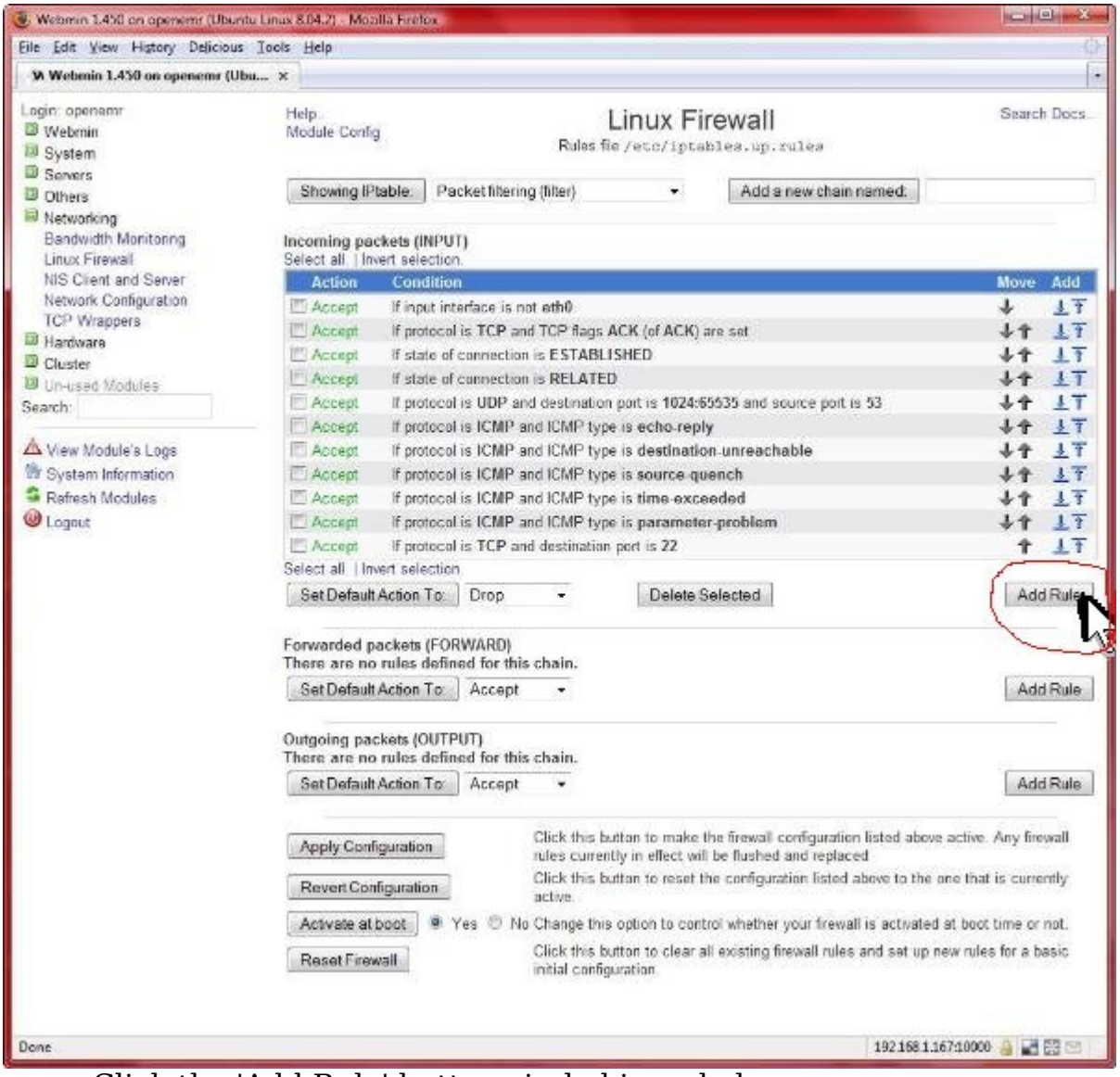


Click 'Linux Firewall'.

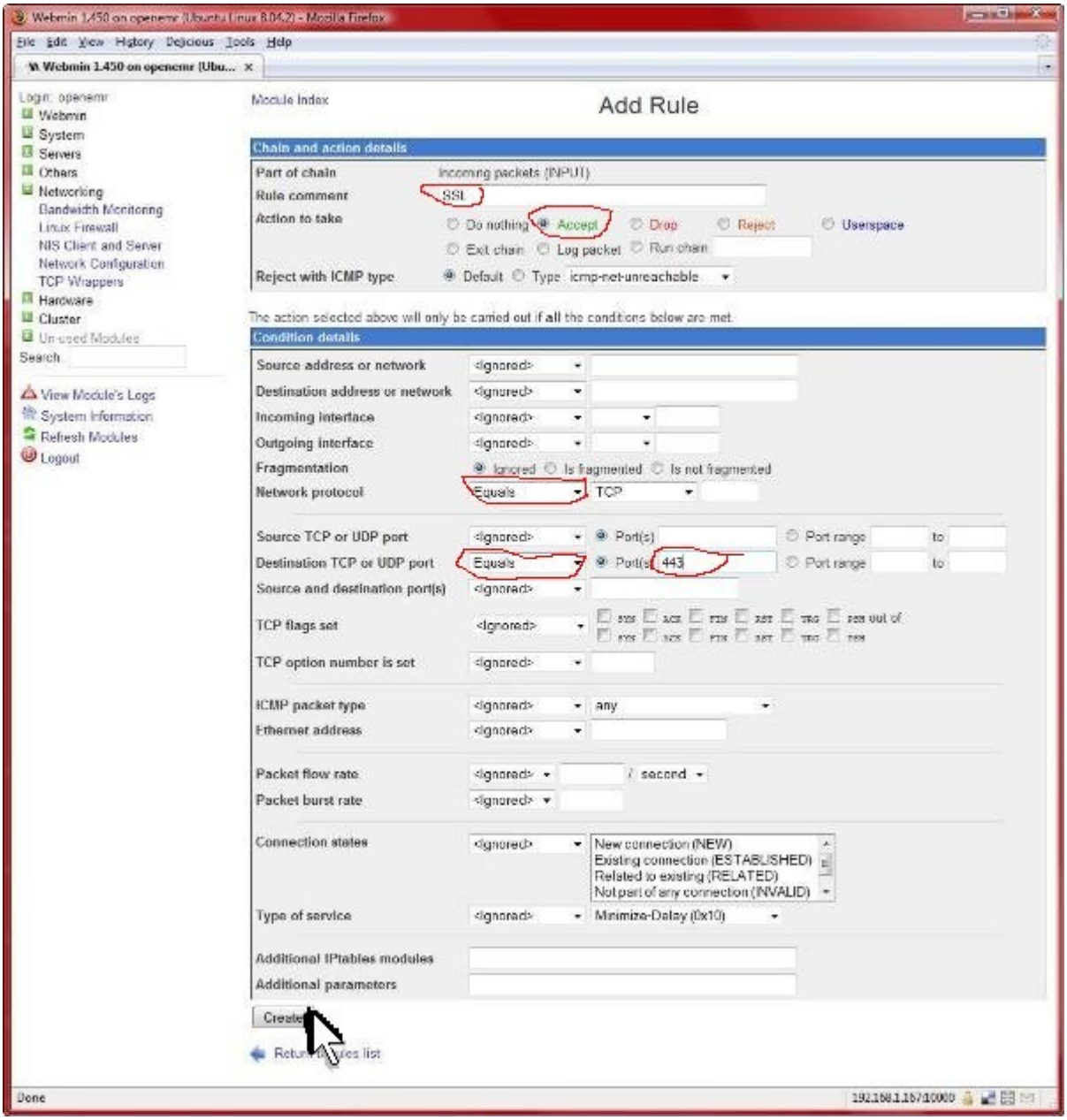
Select 'Block all except SSH and IDENT on external interface'. Select the 'eth0' interface from the menu next to this. Toggle on the 'Enable firewall at boot time?'. Then click the 'Setup Firewall' button.



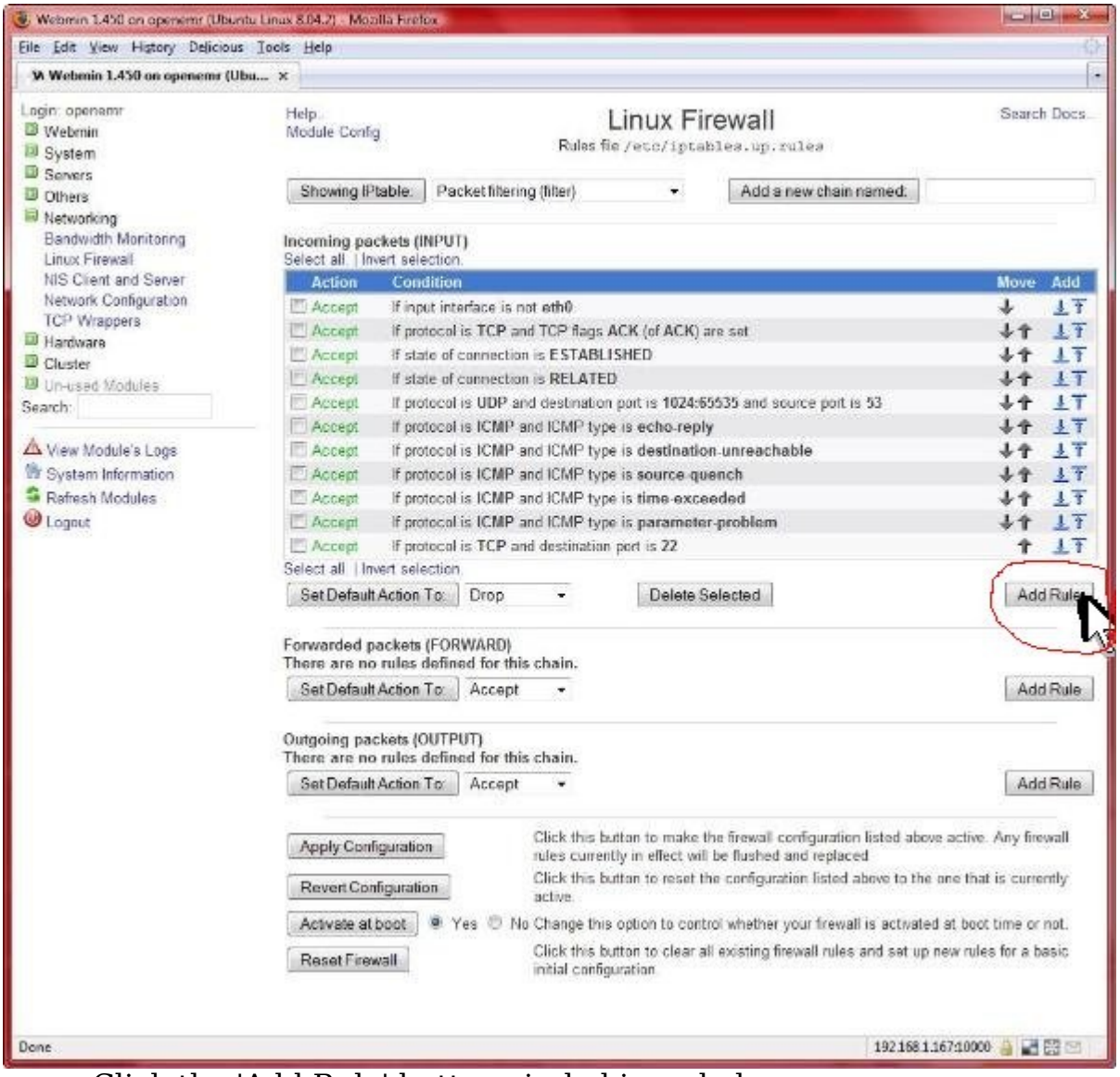
Select the line circled in red above. Then click the 'Delete Selected button.



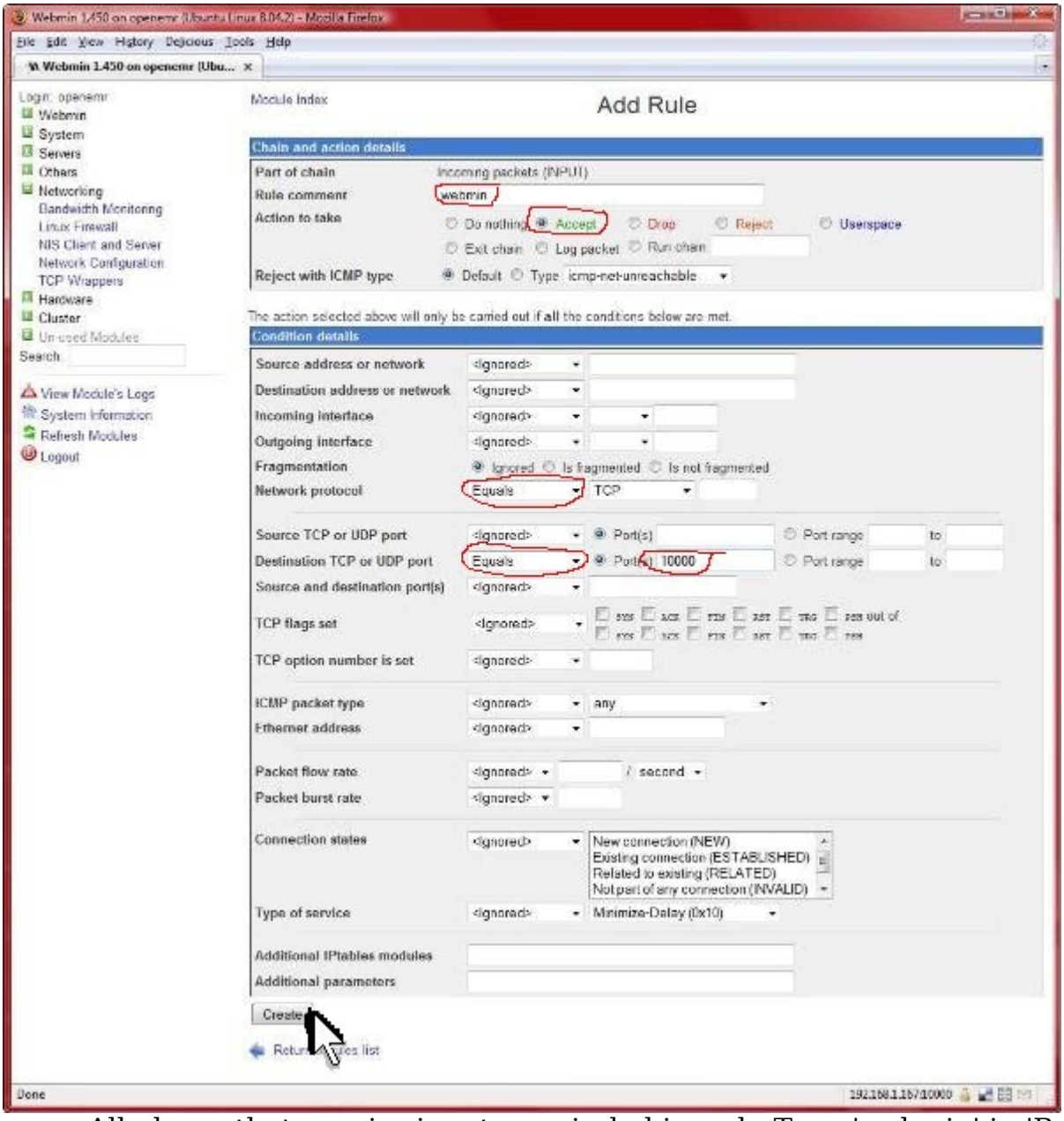
Click the 'Add Rule' button circled in red above.



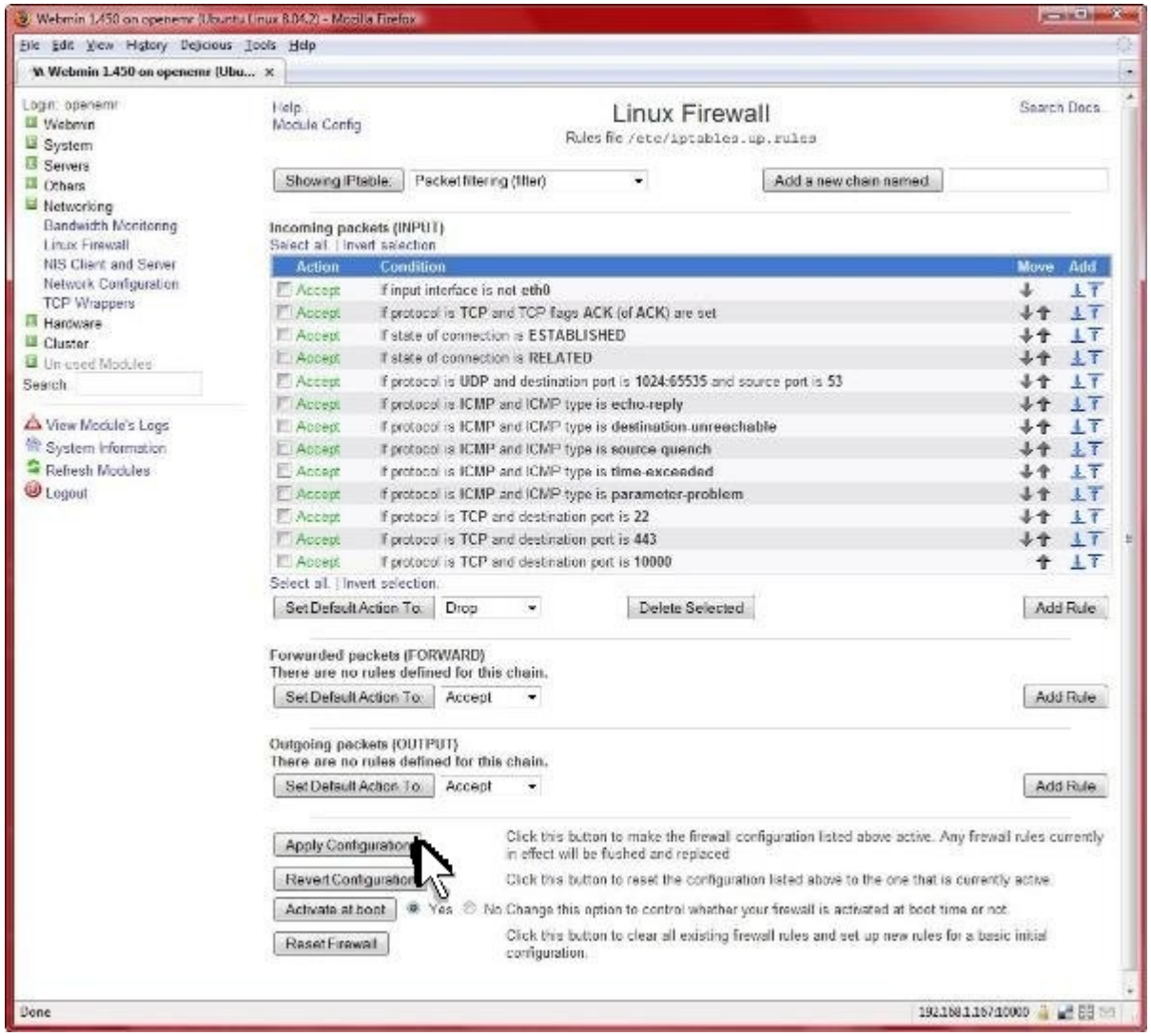
All places that require input are circled in red. Type 'SSL' in 'Rule comment'. Toggle on the 'Accept' in 'Action to take'. In 'Network protocol', select 'Equals'. In 'Destination TCP or UDP port', select 'Equals' and type '443' for 'Port(s). Then click the 'Create' button.



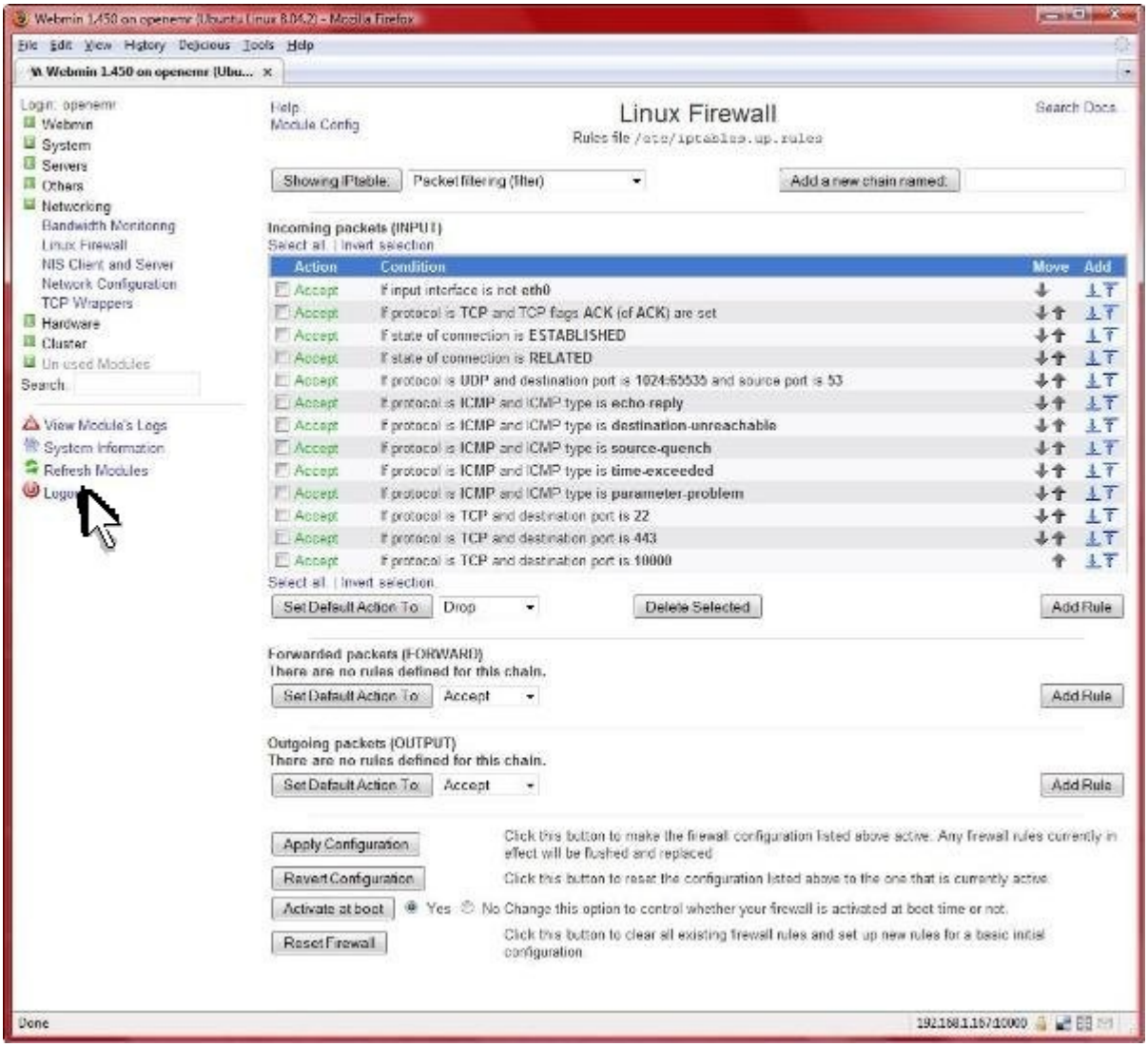
Click the 'Add Rule' button circled in red above.



All places that require input are circled in red. Type 'webmin' in 'Rule comment'. Toggle on the 'Accept' in 'Action to take'. In 'Network protocol', select 'Equals'. In 'Destination TCP or UDP port', select 'Equals' and type '10000' for 'Port(s). Then click the 'Create' button.



Click the 'Apply Configuration' button.



Click 'Logout'.

Finishing Touches On Appliance

Main TOC Link
Chapter Index Link

1. We will install a startup/shutdown script. On startup it will configure the introductory screen to give the user required information (IP address, login names/passwords, etc.). On shutdown it will reset the network card to ensure mobility of the virtual appliance.

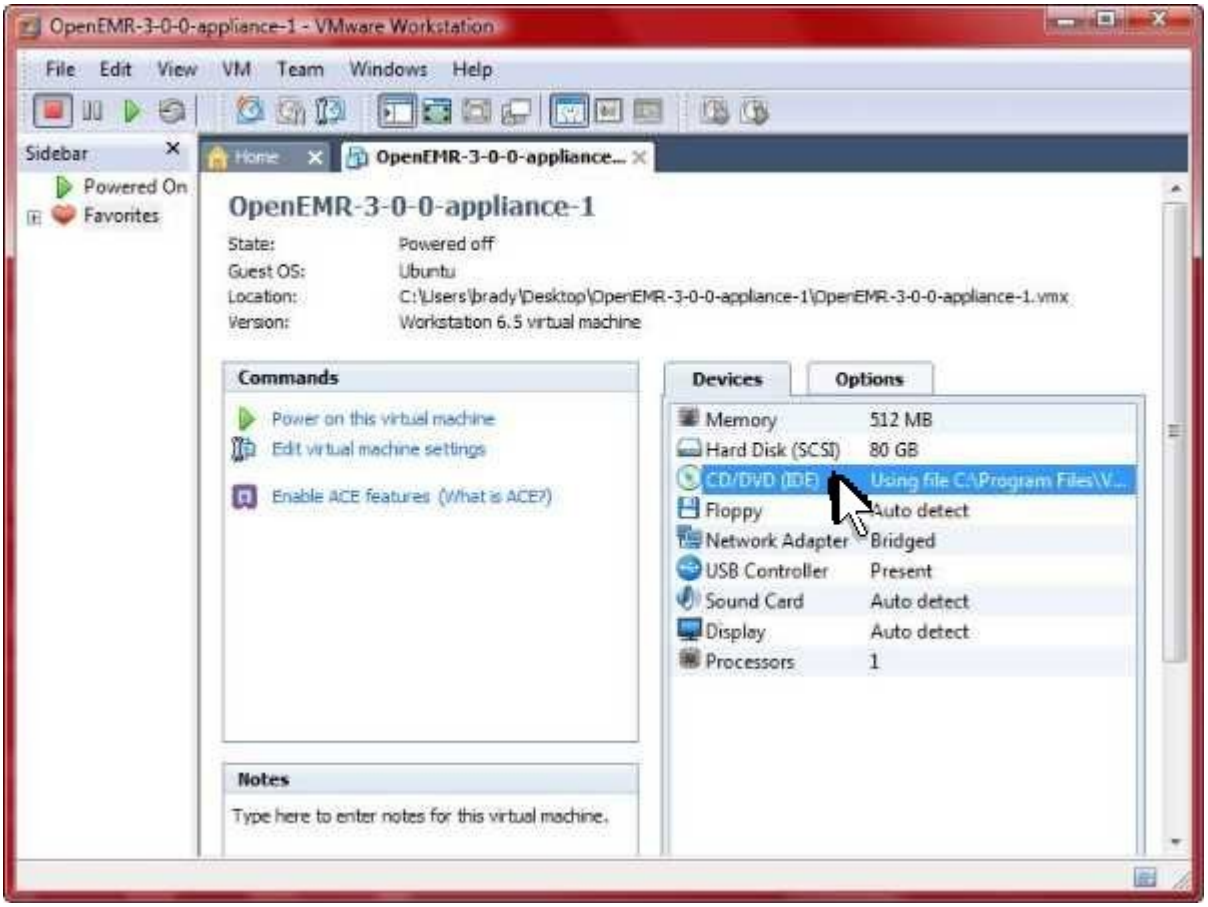
2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

   #download the script
   sudo wget http://www.bradymd.com/openemrApplianceScript

#install the script
sudo mv openemrApplianceScript /etc/init.d/
sudo chown root:root /etc/init.d/openemrApplianceScript
sudo chmod +x /etc/init.d/openemrApplianceScript
sudo update-rc.d openemrApplianceScript defaults 99

#shutdown the appliance
sudo shutdown -h now

1. In Vmware, need to set the CD/DVD drive to autoset.



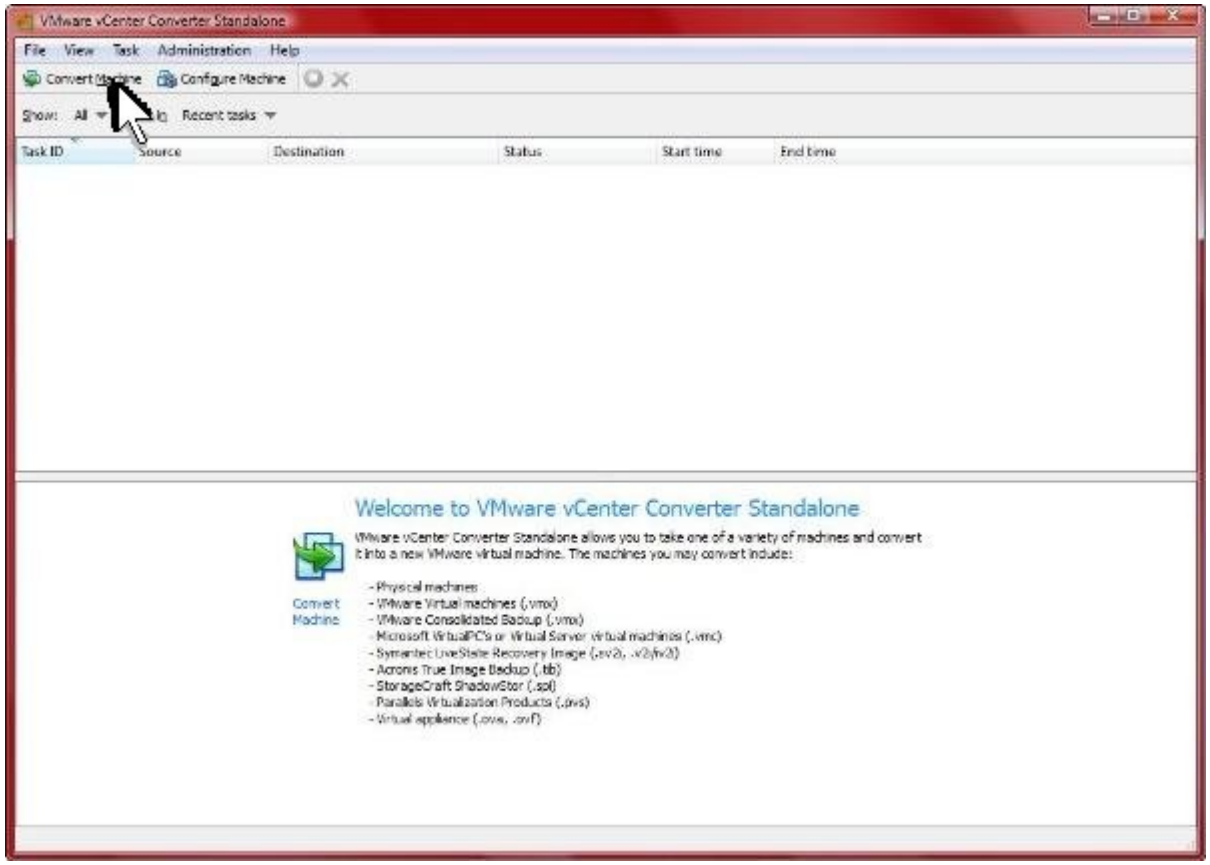
Double-click 'CD/DVD (IDE)'.

Select 'Use physical drive' and select 'Auto Detect' from menu. Then click 'OK'.

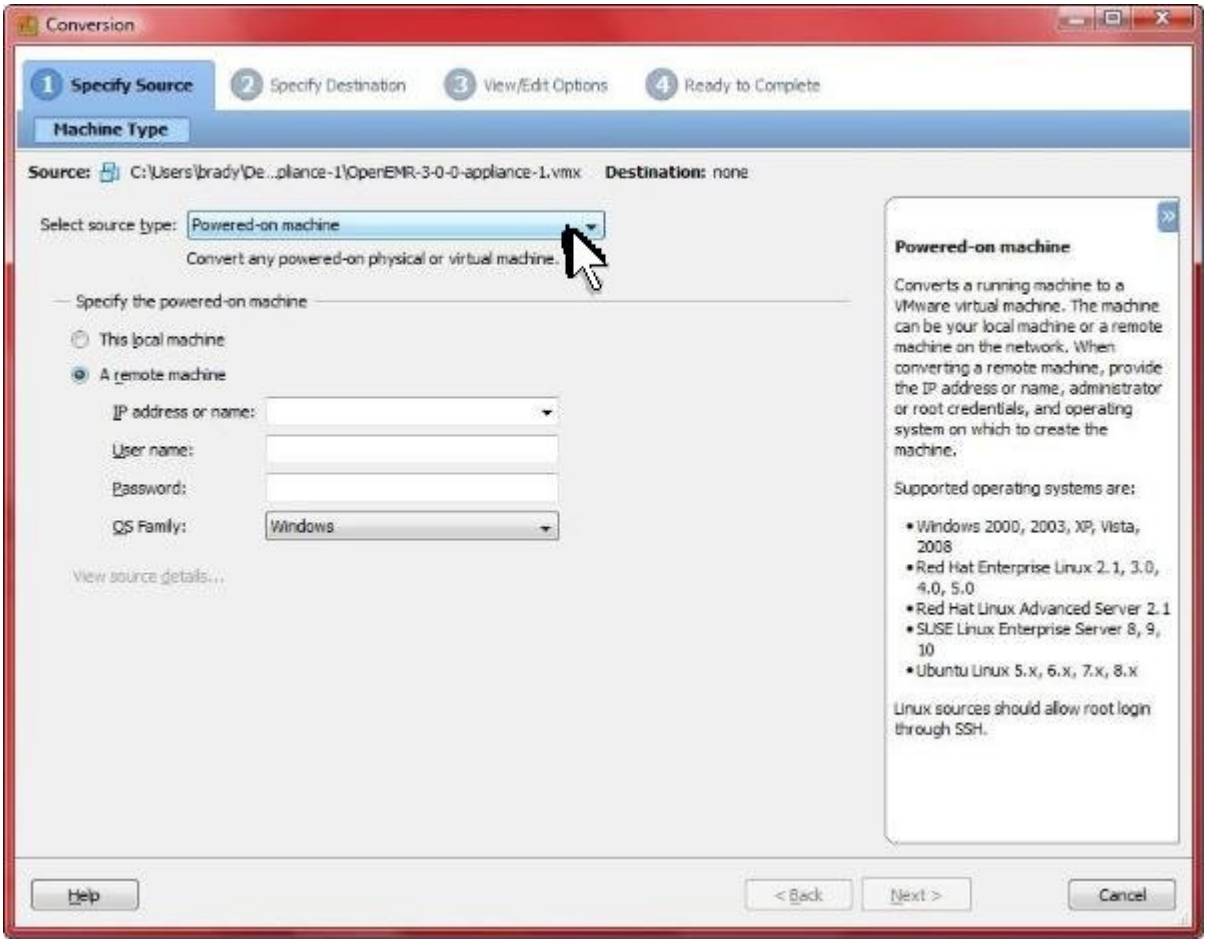
1. Because this appliance was built with Vmware Workstation 6.5, we now need to convert the appliance to an earlier version to ensure compatibility with all Vmware Player and Vmware Server versions. This is done with free software by Vmware, called 'VMware vCenter Converter Standalone Client'.

    1. Ensure Vmware Workstation is closed.

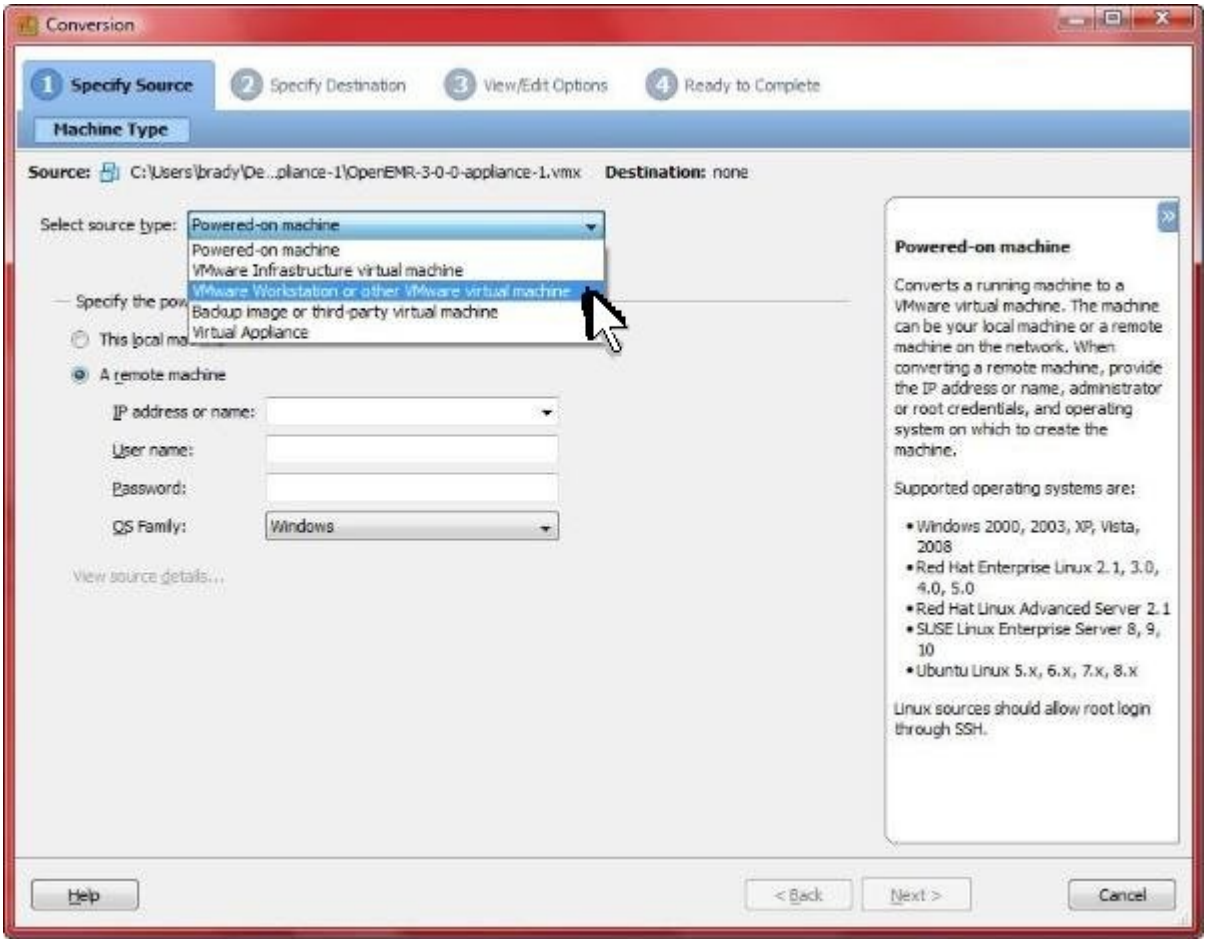
    2. Download, install, and start the 'Vmware vCenter Converter Standalone Client' from vmware.com (it is free).



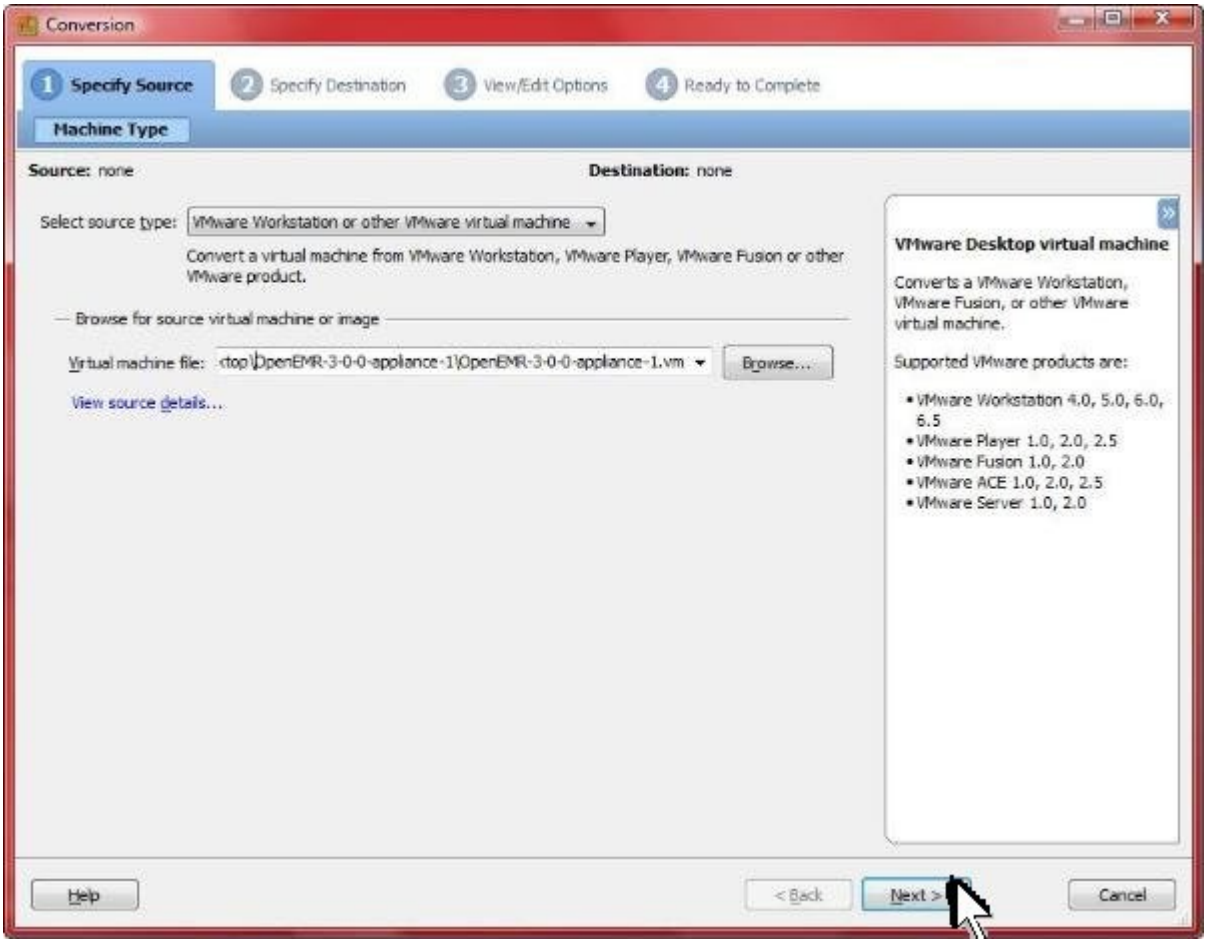
Click 'Convert Machine'.



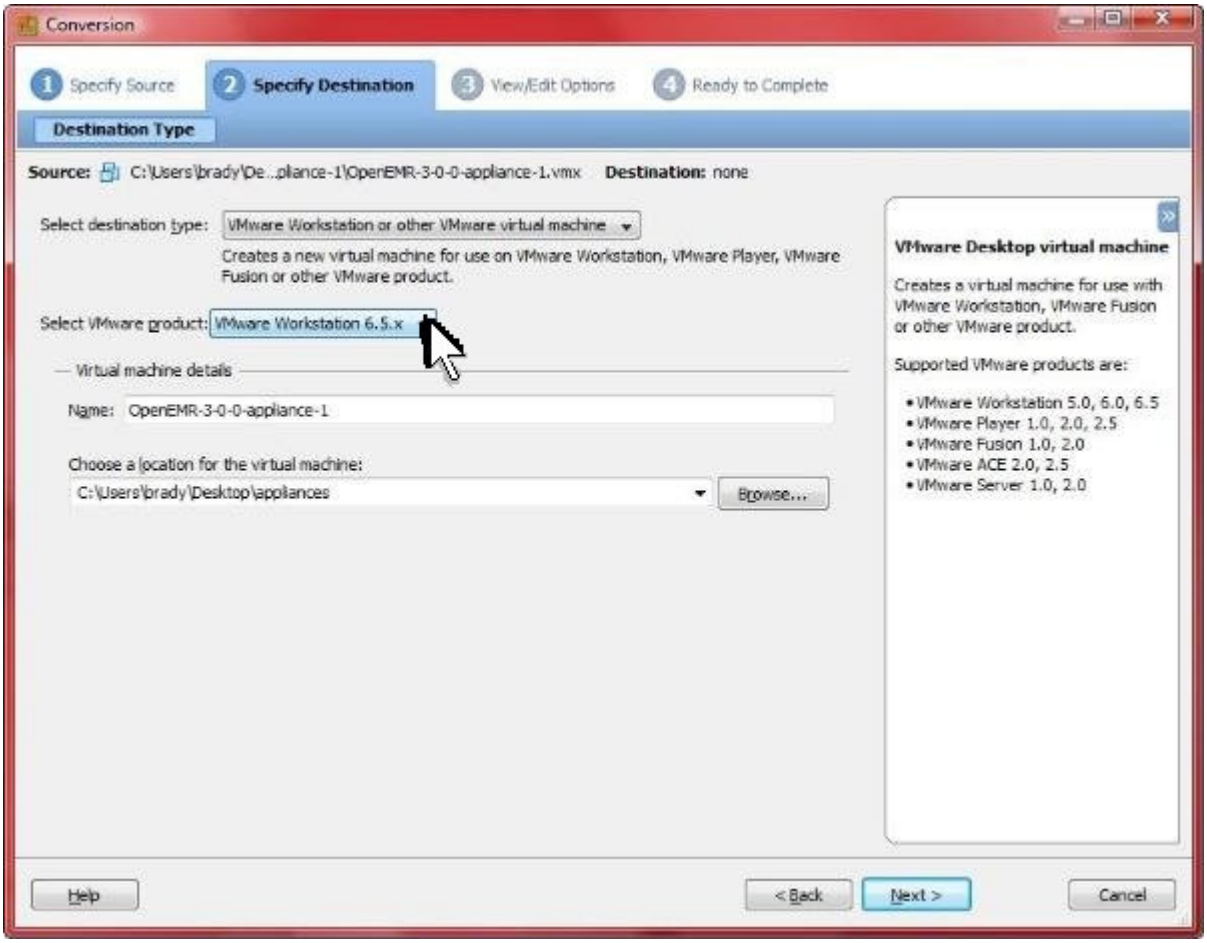
Click 'Select source type:' field.



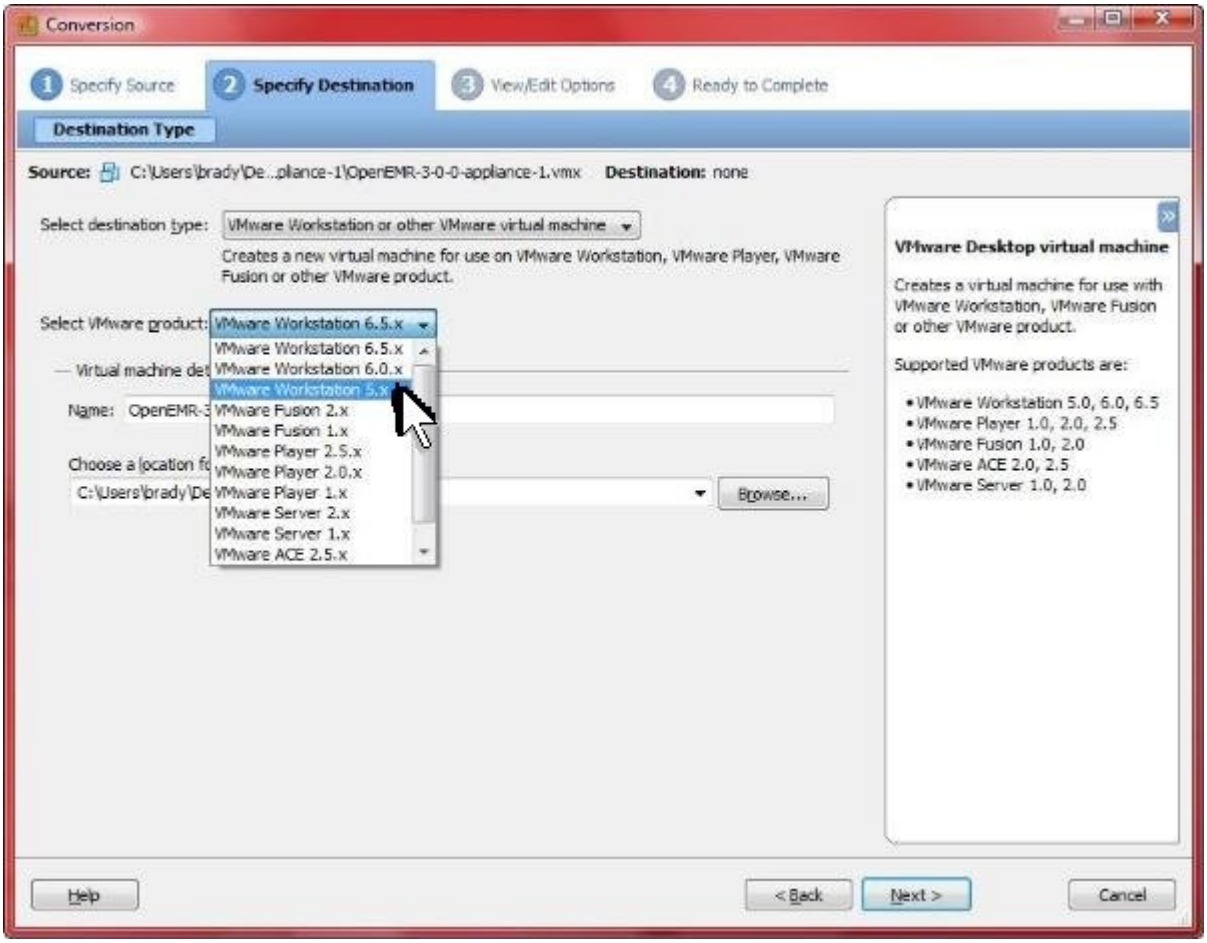
Select 'VMware workstation or other VMware virtual machine'.



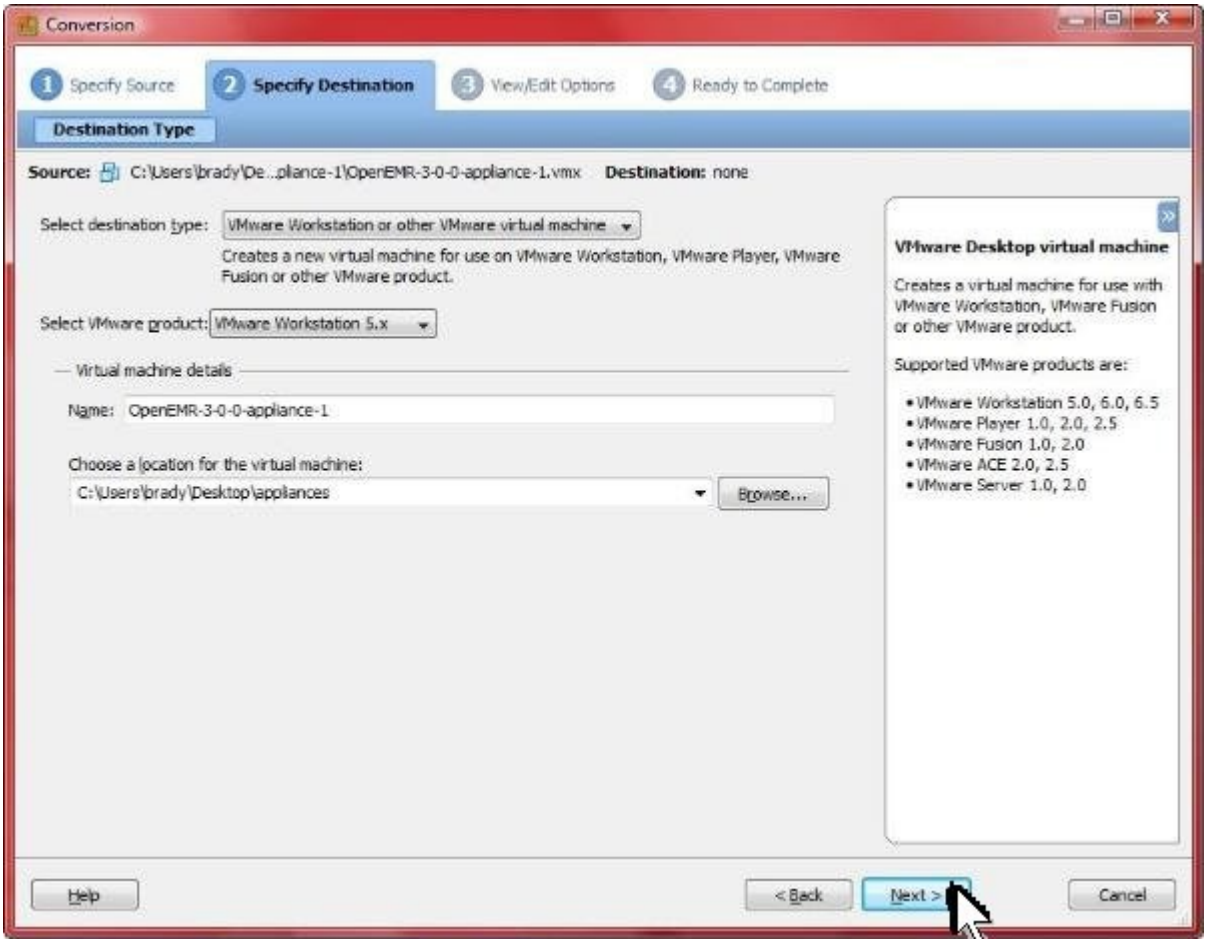
Select the 'virtual machine file:', then click 'Next'.



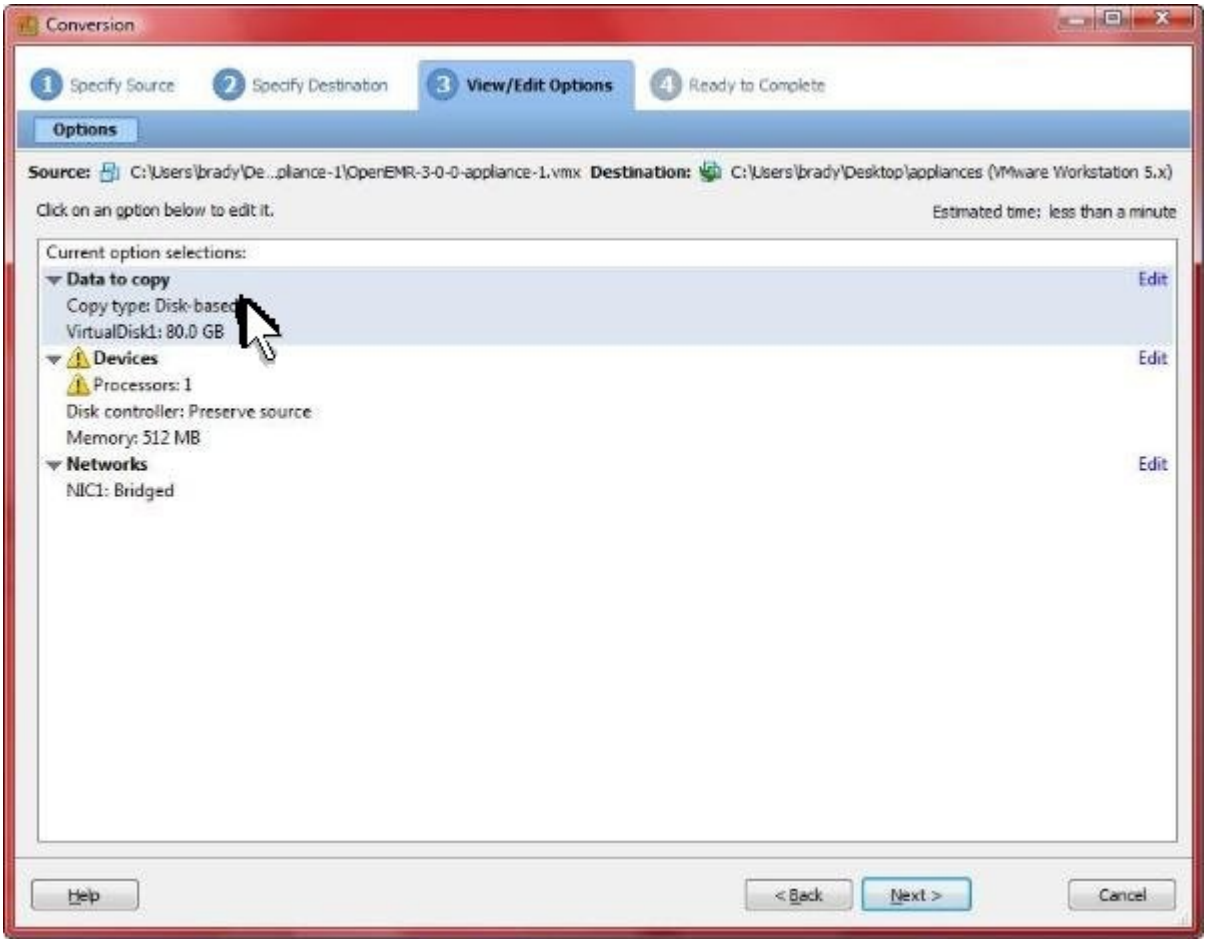
Click 'Select VMware product:' field.



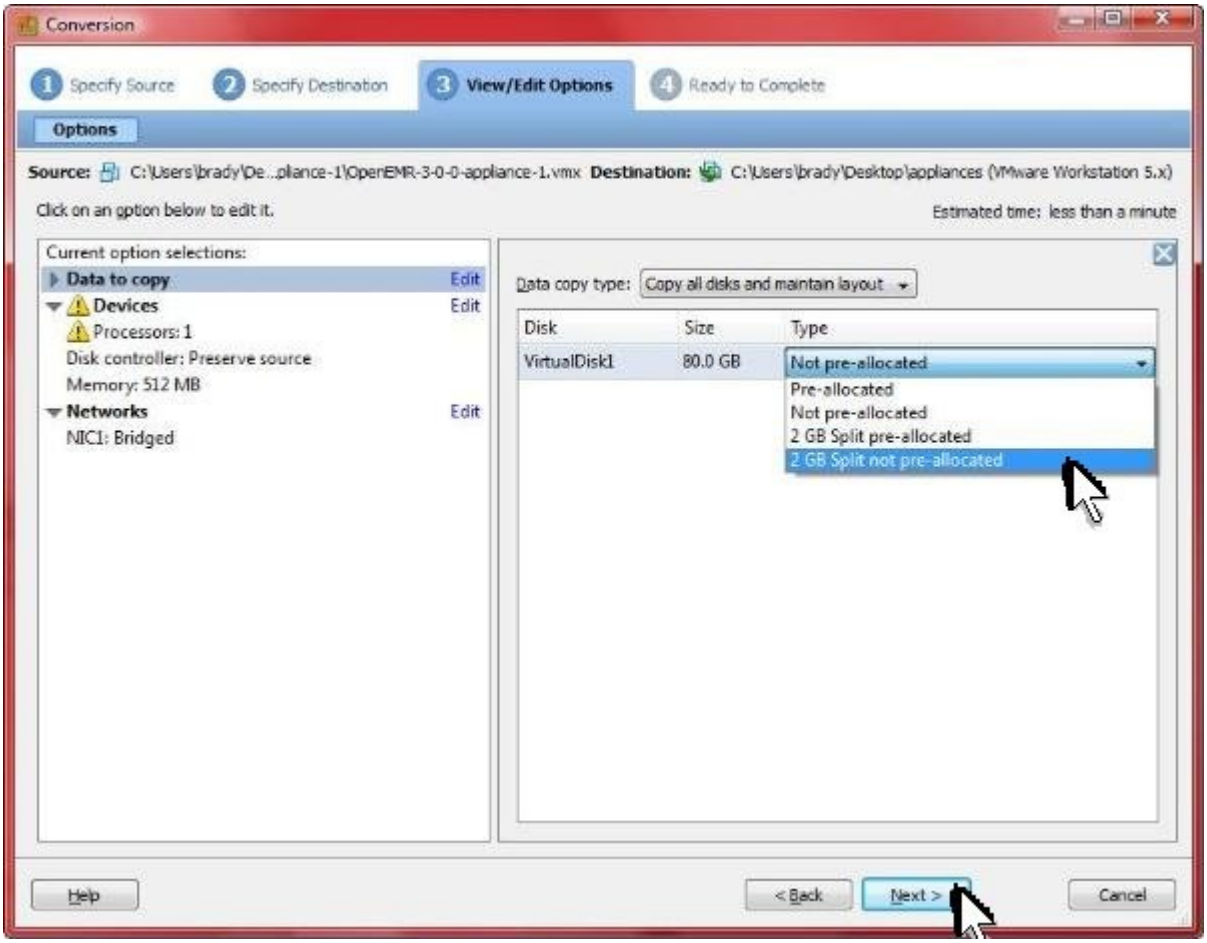
Select 'VMware Workstation 5.x'.


Conversion
1 Specify Source
2 Specify Destination
3 View/Edit Options
4 Ready to Complete
Destination Type
Source: C:\Users\brady\De...pliance-1\OpenEMR-3-0-0-appliance-1.vmx
Destination: none
Select destination type: VMware Workstation or other VMware virtual machine
Creates a new virtual machine for use on VMware Workstation, VMware Player, VMware Fusion or other VMware product.
Select VMware product: VMware Workstation 5.x
Virtual machine details
Name: OpenEMR-3-0-0-appliance-1
Choose a location for the virtual machine:
C:\Users\brady\Desktop\appliances
Browse...
VMware Desktop virtual machine
Creates a virtual machine for use with VMware Workstation, VMware Fusion or other VMware product.
Supported VMware products are:
• VMware Workstation 5.0, 6.0, 6.5
• VMware Player 1.0, 2.0, 2.5
• VMware Fusion 1.0, 2.0
• VMware ACE 2.0, 2.5
• VMware Server 1.0, 2.0
Help
< Back
Next >
Cancel

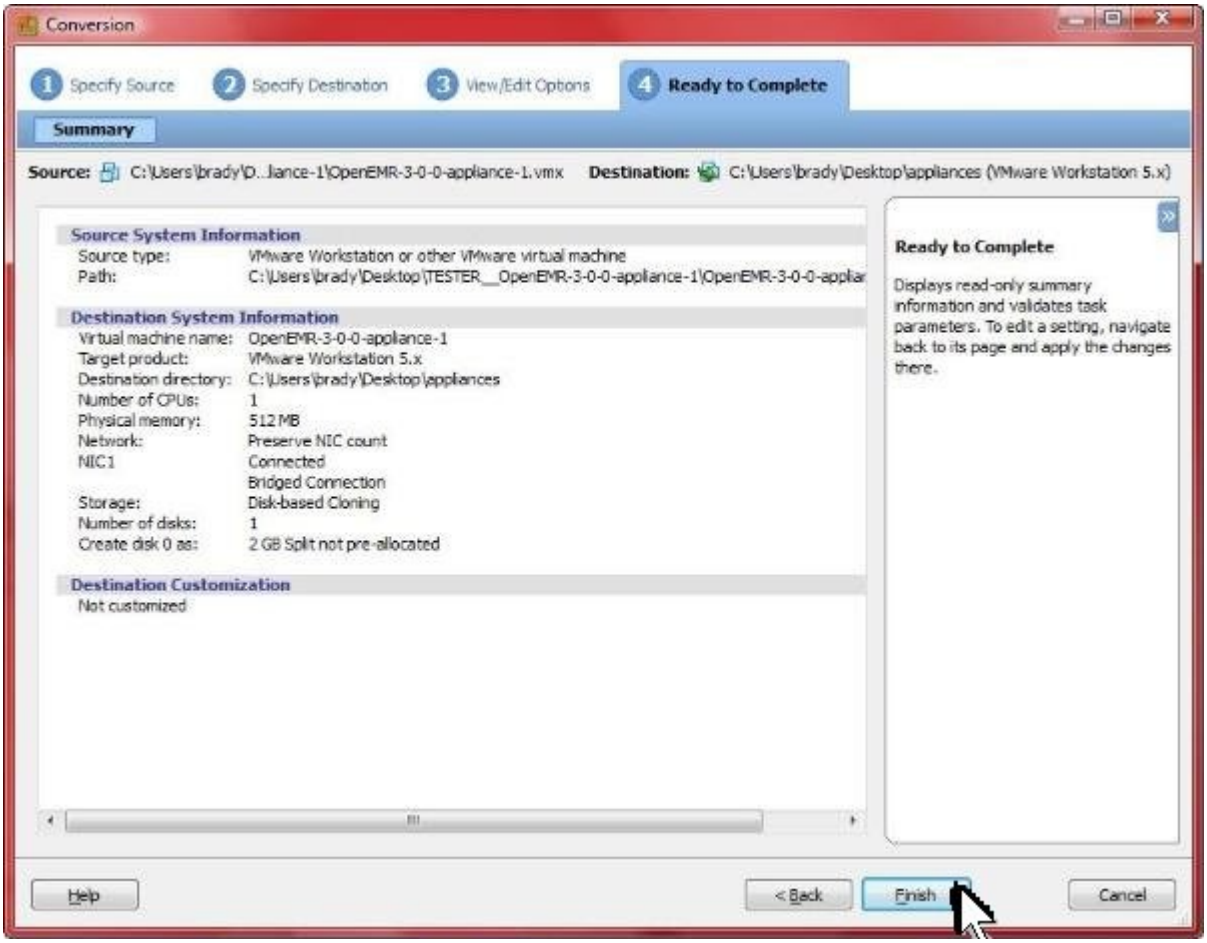
Click 'Next'.



Click the 'Data to copy' field.



Select '2 GB split not pre-allocated', then click 'Next'.



Click 'Finish'.

Upgrading to OpenEMR 3.1.0

Main TOC Link
Chapter Index Link

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

   #Download openemr-3.1.0.tar.gz (version 3.1.0)
   wget downloads.sourceforge.net/openemr/openemr-3.1.0.tar.gz

   #install php5-gd package
   sudo aptitude update
   sudo aptitude install php5-gd
   -enter '*Y*'
   -enter '*Y*'

   #make backup directories
   sudo mkdir /backupopenemr
   sudo mkdir /backupopenemr/3_0_1

#Backup the mysql openemr database into backup directory.
sudo mkdir /backupopenemr/3_0_1/mysqldatabase
sudo sh -c 'mysqldump openemr >
/backupopenemr/3_0_1/mysqldatabase/mysql_backup.sql'

#move old OpenEMR 3.0.1 to the backup directory
sudo mv /var/www/openemr /backupopenemr/3_0_1/openemr

#put the new OpenEMR 3.1.0 program in its place
cd /var/www
sudo tar pxzvf /location/to/tar/openemr-3.1.0.tar.gz
sudo mv openemr-3.1.0 /var/www/openemr

#secure OpenEMR
sudo chown -Rf root:root openemr

Restore some original directories
sudo cp -fr /backupopenemr/3_0_1/openemr/documents
/var/www/openemr/
sudo cp -fr /backupopenemr/3_0_1/openemr/era
/var/www/openemr/
sudo cp -fr /backupopenemr/3_0_1/openemr/edi
/var/www/openemr/
sudo cp -fr
/backupopenemr/3_0_1/openemr/custom/letter_templates
/var/www/openemr/custom

#Need to change some file/folder permissions
sudo chown -R www-data:www-data
/var/www/openemr/documents
sudo chown -R www-data:www-data /var/www/openemr/edi
sudo chown -R www-data:www-data /var/www/openemr/era
sudo chown -R www-data:www-data
/var/www/openemr/custom/letter_templates
sudo chown -R www-data:www-data
/var/www/openemr/gacl/admin/templates_c
sudo chown -R www-data:www-data
/var/www/openemr/library/freeb
sudo chown -R www-data:www-data
/var/www/openemr/interface/main/calendar/modules/PostCal
endar/pntemplates/cache
sudo chown -R www-data:www-data
/var/www/openemr/interface/main/calendar/modules/PostCal
endar/pntemplates/compiled

#Now for the hardest part of the upgrade; editing the new config
files. There are three files that need to be compared to your old

config files:

openemr/library/sqlconf.php: Ensure the variables ($host, $port, $login, $pass, $dbase) at top of file are the same as the variables from previous 3.0.1 version. Also, change the $config variable (found near bottom of file within all the slashes) to $config = 1;

openemr/interface/globals.php: Ensure the variables ($webserver_root, $web_root) at top of file are the same as the variables from previous 3.0.1 version. Also ensure optional settings are configured like previous 3.0.1 version.

openemr/includes/config.php: Ensure optional settings are configured like previous 3.0.1 version.

For the openemr 3.0.1/3.1.0 appliance, luckily, only one change is required in /var/www/openemr/library/sqlconf.php .

#edit file /var/www/openemr/library/sqlconf.php:

sudo jed /var/www/openemr/library/sqlconf.php

#edit the following **bolded** $config variable:

//////DO NOT TOUCH THIS///

$config = **1**; //////////////

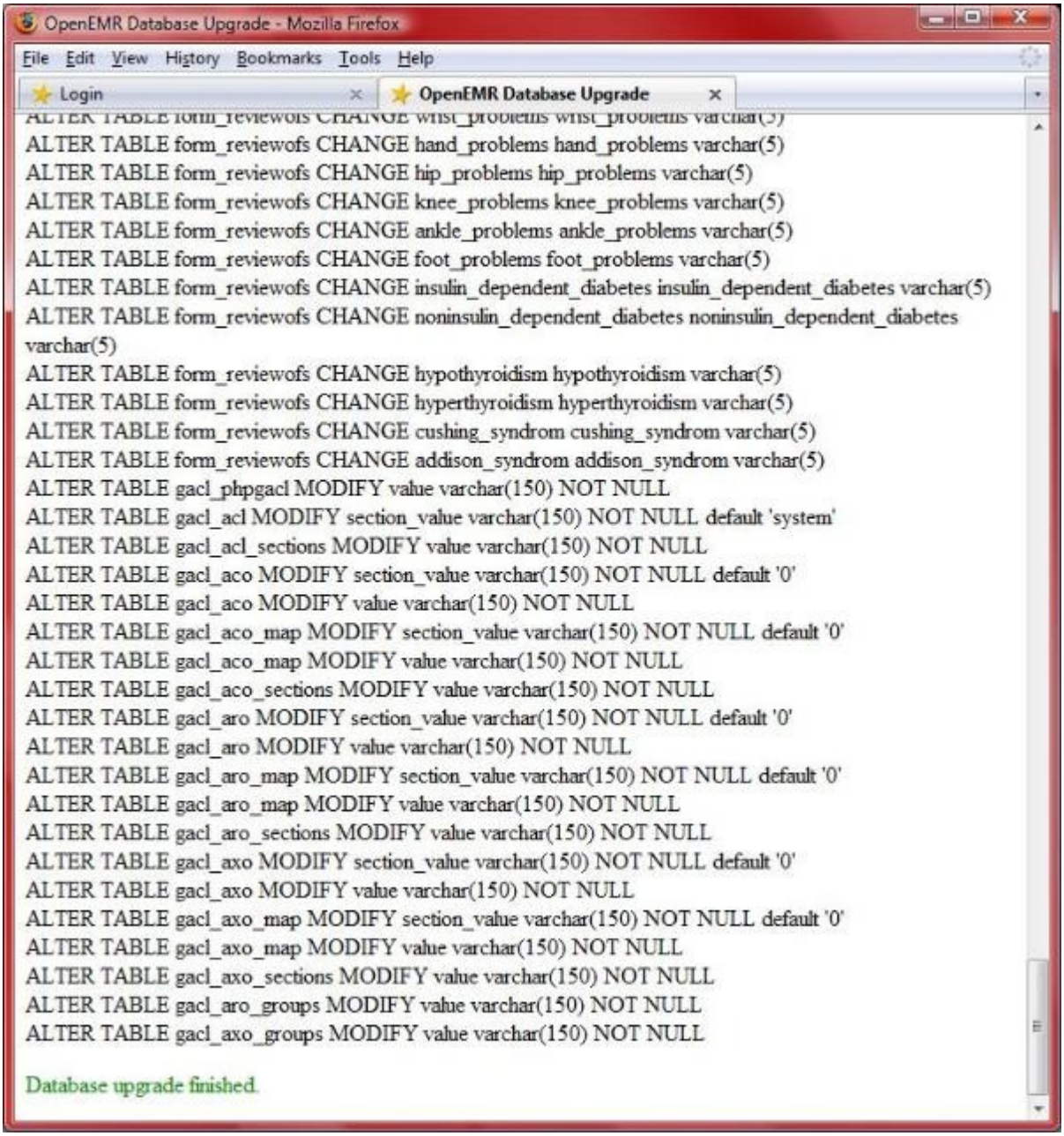
//////////////////////////

TEXT EDITOR SAVE AND EXIT

3. Next, need to upgrade the mysql database. Now, open a webbrowser outside the appliance and point to (the APPLIANCE_IP_ADDRESS was found by above ifconfig command):

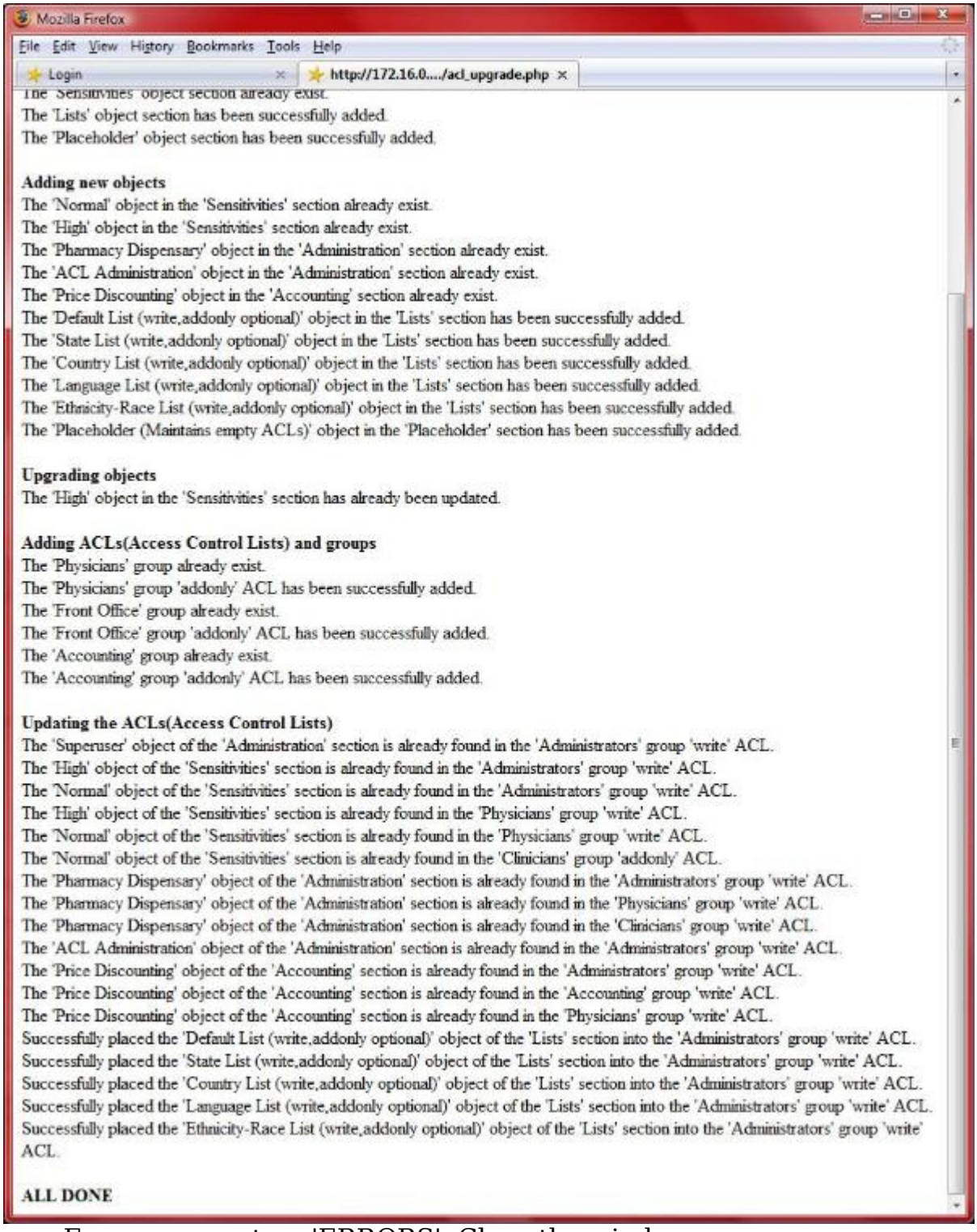
https://APPLIANCE_IP_ADDRESS/openemr/sql_upgrade.php

Select '3.0.1' and click 'Upgrade Database'.



Ensure you got no errors. Close the window.

4. Next, need to upgrade the php-GACL access controls. Open a webbrowser outside the appliance and point to (the APPLIANCE_IP_ADDRESS was found by above ifconfig command): https://APPLIANCE_IP_ADDRESS/openemr/acl_upgrade.php



Ensure you got no 'ERRORS'. Close the window.

5. Secure openemr . Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

sudo chmod 600 /var/www/openemr/acl_setup.php
sudo chmod 600 /var/www/openemr/acl_upgrade.php
sudo chmod 600 /var/www/openemr/sl_convert.php
sudo chmod 600 /var/www/openemr/setup.php
sudo chmod 600 /var/www/openemr/sql_upgrade.php
sudo chmod 600 /var/www/openemr/gacl/setup.php

Upgrade Database to UTF-8

Main TOC Link
Chapter Index Link

OpenEMR 3.1.0 is 100% UTF-8 compliant to allow special character languages (such as chinese, greek, etc.), however users that are upgrading from a previous version of OpenEMR will continue to have a hybrid UTF-8/latin1 database and thus won't have 100% UTF-8 compliance. Several ways to go for upgraders:

(If decide to convert to UTF8, ensure you backup the database before conversion.)

1) If your only using english characters currently and plan on only using English characters in the future, then doing a simple OpenEMR upgrade will suffice (no need to convert to database to 100% UTF-8).

2) If your only using english characters, however, plan to use a language with any special non-english characters in the future, then you should consider converting your database to 100% UTF-8. In this special case (since you were only using english characters previously) then a simple conversion will work. So, you would do the simple OpenEMR upgrade discussed elsewhere and then do following two command line commands on your upgraded database (assuming database name is openemr):
Step1) mysql --database=openemr -B -N -e "SHOW TABLES" | awk '{print "ALTER TABLE", $1, "CONVERT TO CHARACTER SET utf8;"}' | mysql --database=openemr &
Step2) mysql -e "ALTER DATABASE openemr CHARACTER SET utf8;"
(NOTE that above will alter your database and could possibly screw it up, so BACK IT UP first)

3) If your currently using non-english characters, and want to continue supporting non-english characters. This is the hard one, because OpenEMR's previous releases did not do a very good job maintaining consistent encoding in the database (a very common problem in other software also). You could try above strategy in number 2, however you have a possibility of getting garbage. If 2) doesn't work, then you will likely need to go a strategy like the following linked below:
http://codex.wordpress.org/Converting_Database_Character_Sets

To repeat:
---This only pertains to users that are upgrading (users that are installing 3.1.0 new do not need to worry about this stuff)
---Upgraders that are only planning to use english characters do not need to worry about this stuff. (unless you want to be cool, and say your using OpenEMR with 100% compliance...)

For the appliance upgrade, I will convert via step 2 (since there is no data in the blank appliance, it is straighforward). Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

sudo mysql --database=openemr -B -N -e "SHOW TABLES" | awk '{print "ALTER TABLE", $1, "CONVERT TO CHARACTER SET utf8;"}' | sudo mysql --database=openemr &

sudo mysql -e "ALTER DATABASE openemr CHARACTER SET utf8;"

Upgrading to OpenEMR 3.2.0

Main TOC Link
Chapter Index Link

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#Download OpenEMR 3.2.0
wget downloads.sourceforge.net/openemr/openemr_3.2.0-1_all.deb

#Upgrade to OpenEMR 3.2.0
sudo aptitude update
sudo dpkg -i openemr_3.2.0-1_all.deb
-enter 'Y'
(If there was an error(s), then issue the following command (type 'Y' after): **sudo apt-get install -f**)

#Note backups of your previous OpenEMR version are stored at /tmp/openemt-tmp/ . Ensure these files are secure(move to secure area or remove them), since they contain confidential patient information.

Upgrading Webmin

Main TOC Link

Chapter Index Link

2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#Download Webmin 1.500
wget downloads.sourceforge.net/webadmin/webmin_1.500_all.deb

#Upgrade to Webmin 1.500
sudo aptitude update
sudo dpkg -i webmin_1.500_all.deb
(If there was an error(s), then issue the following command (type 'Y' after): **sudo apt-get install -f**)
-enter 'N'

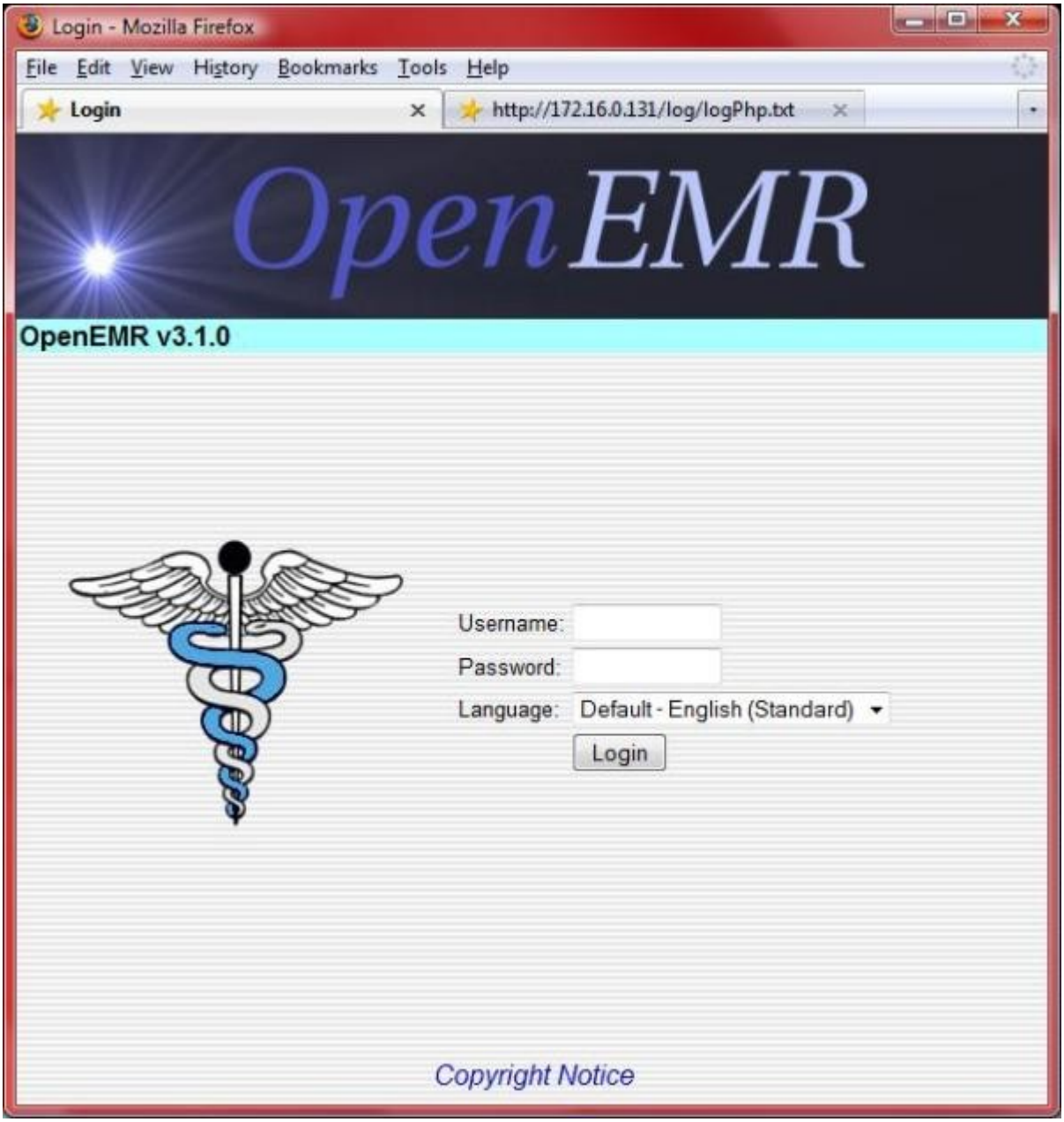
Upgrade Language Translation Tables (3.2.0)

Main TOC Link
Chapter Index Link

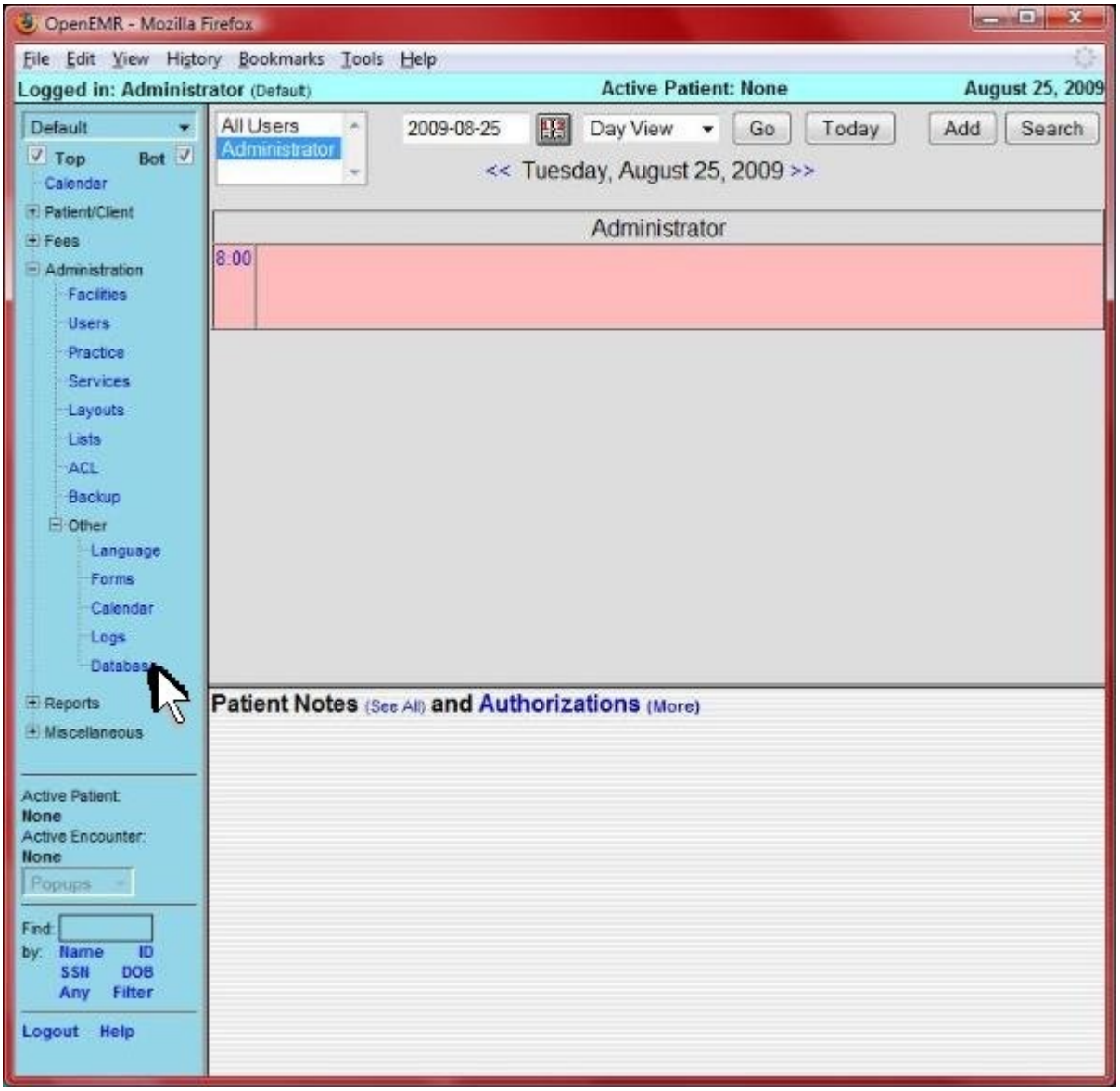
Here we will upgrade to the language translation tables published with OpenEMR 3.2.0 . This is very simple to do. **Note, however, that this will delete all current local language translation tables.**

1. Download translation sql tables from sourceforge to desktop (via 'File'->'Save Page as'): http://openemr.cvs.sourceforge.net/viewvc/openemr/openemr/contrib/util/language_translations/currentLanguage_utf8.sql?revision=1.19.2.3

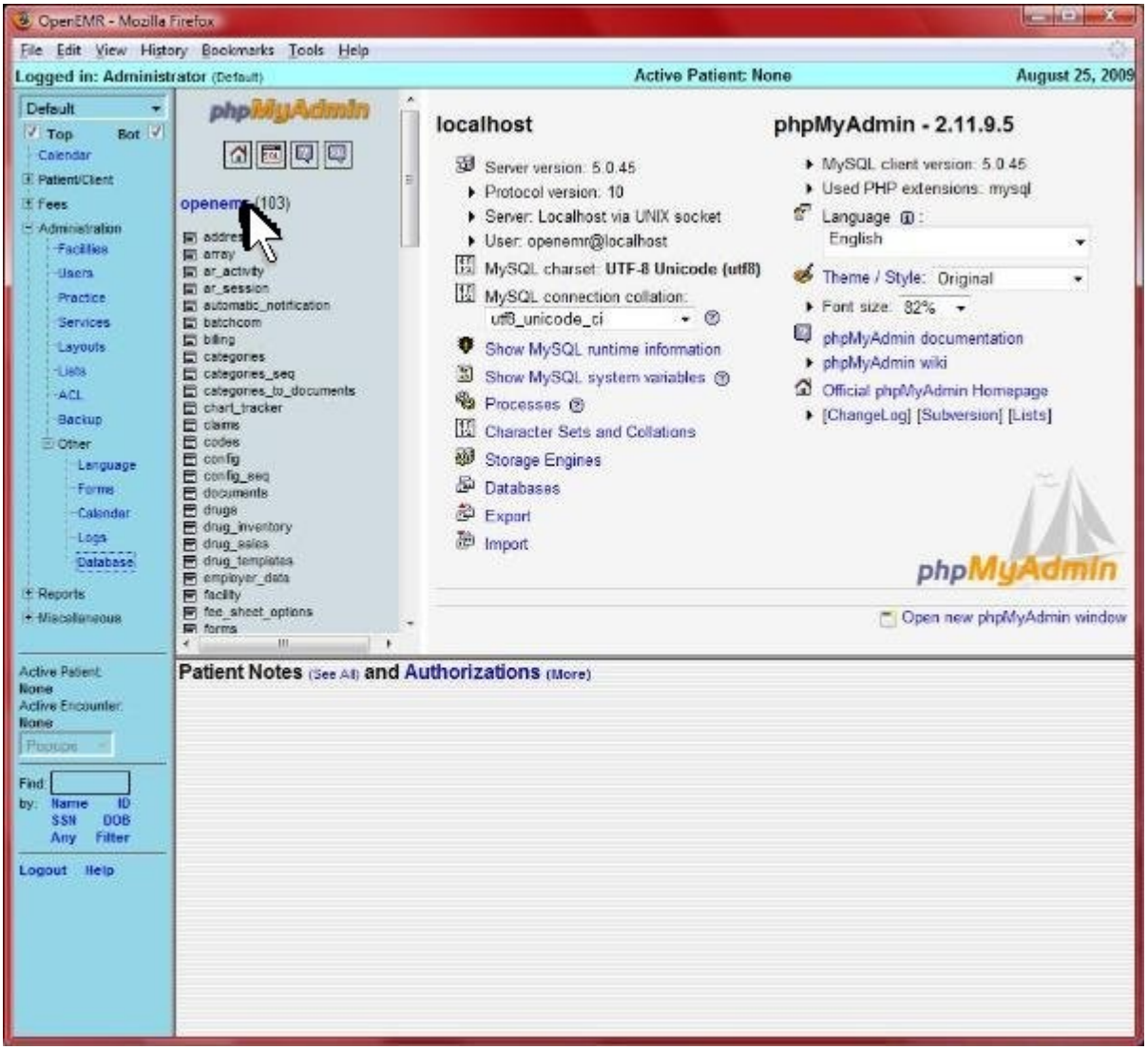
1. Login to OpenEMR:


Login - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Login
http://172.16.0.131/log/logPhp.txt
OpenEMR
OpenEMR v3.1.0
Username:
Password:
Language:
Default - English (Standard)
Login
Copyright Notice

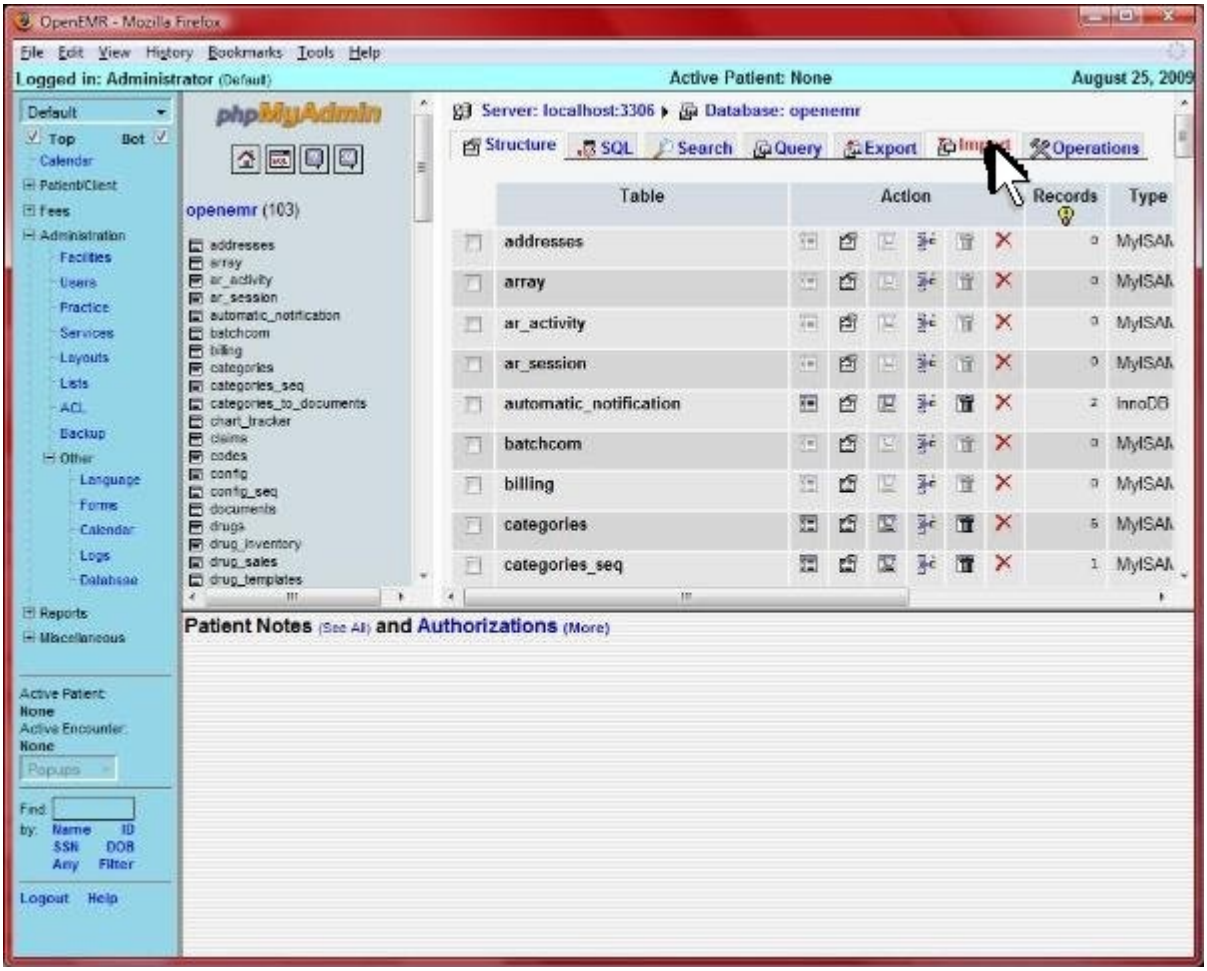
Login.



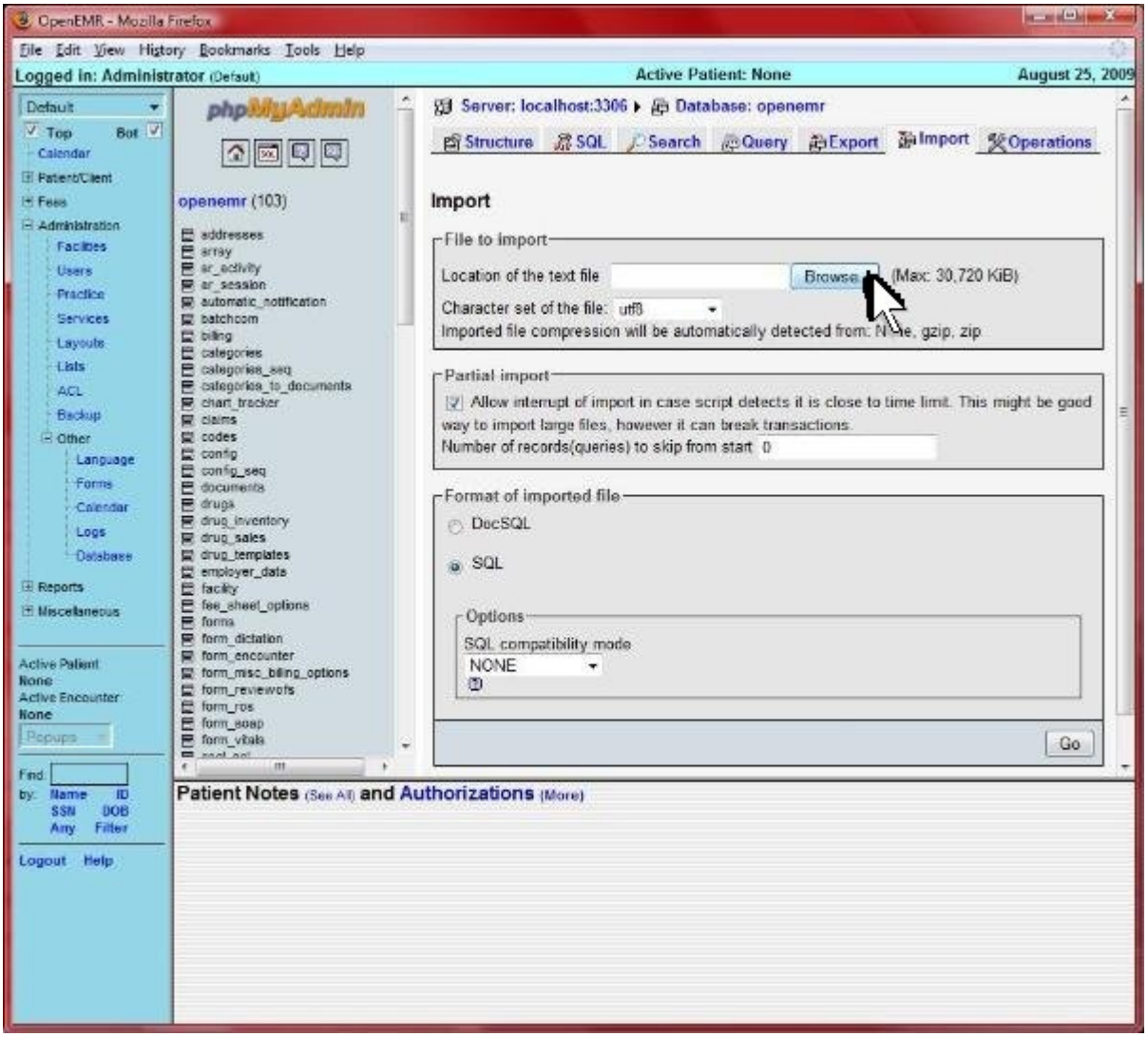
Click 'Administration'->'Other'->'Database' from left tree menu.



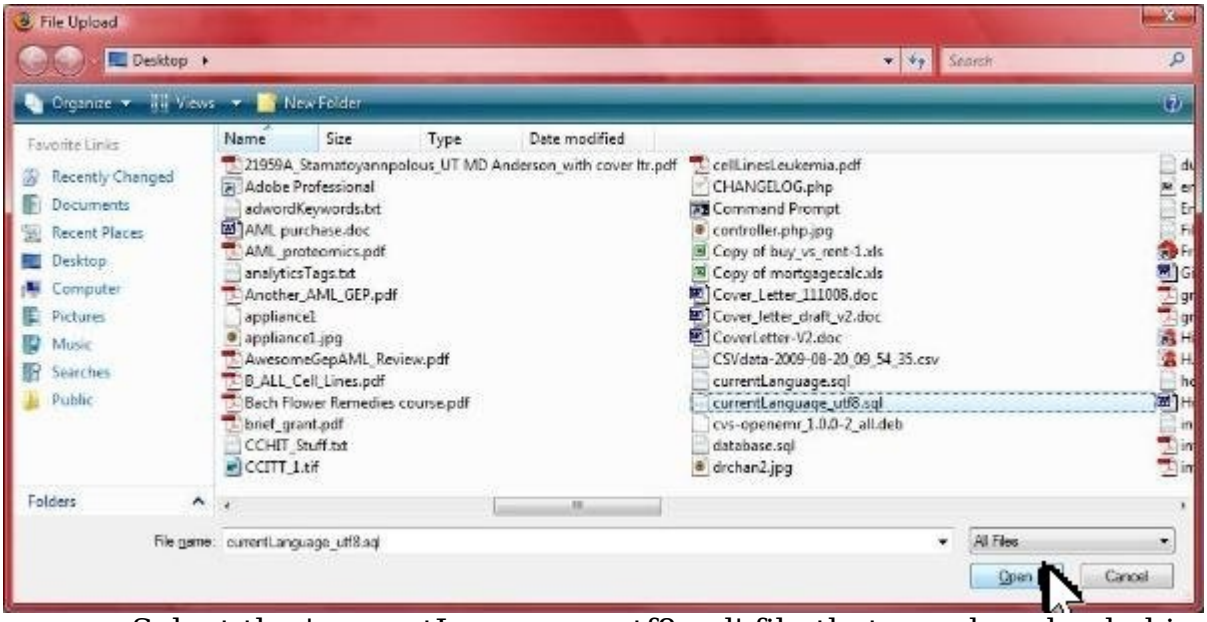
Click 'openemr' database link near top left (highlighted by arrow).



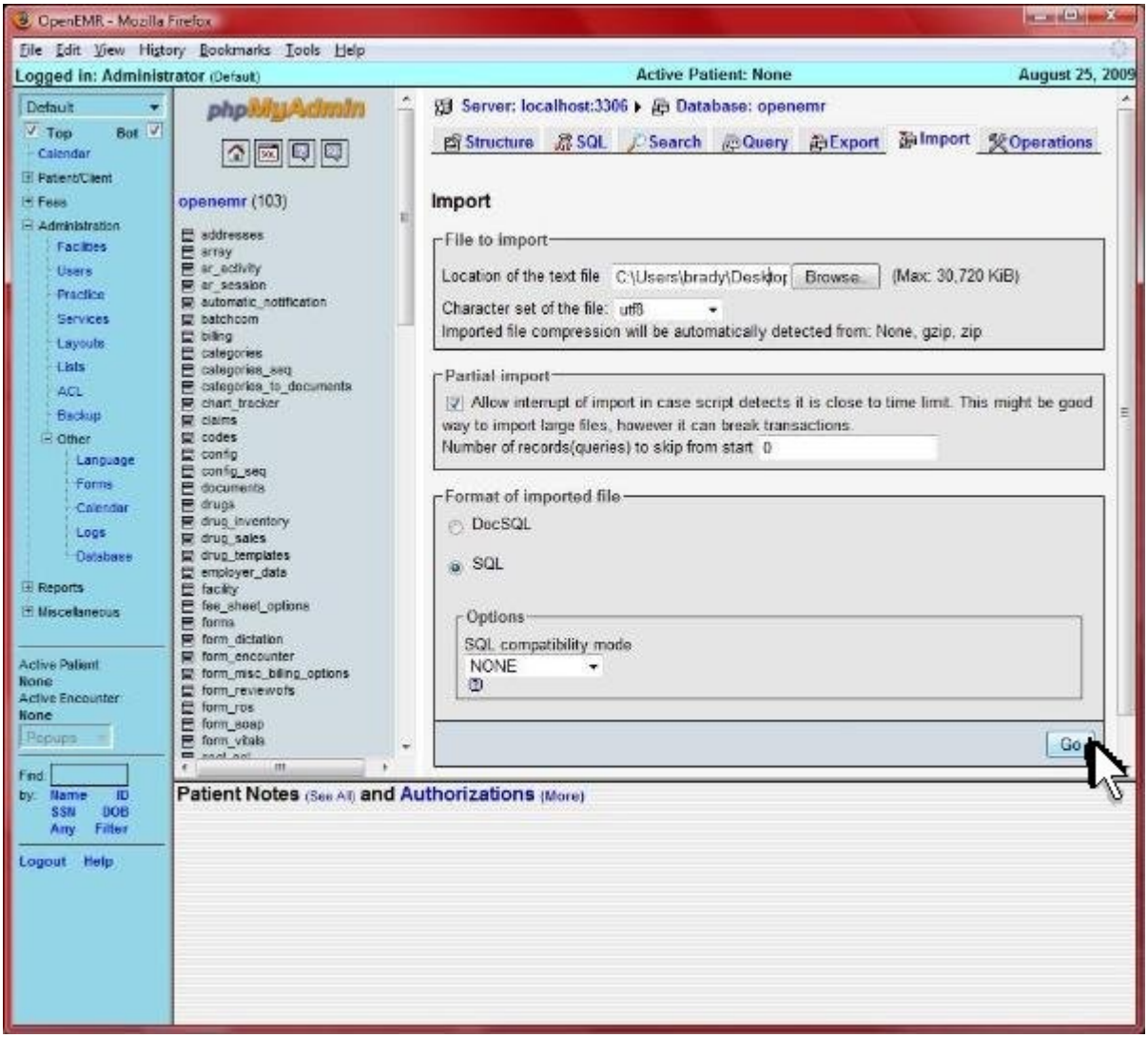
Click 'Import' near top right (highlighted by arrow).



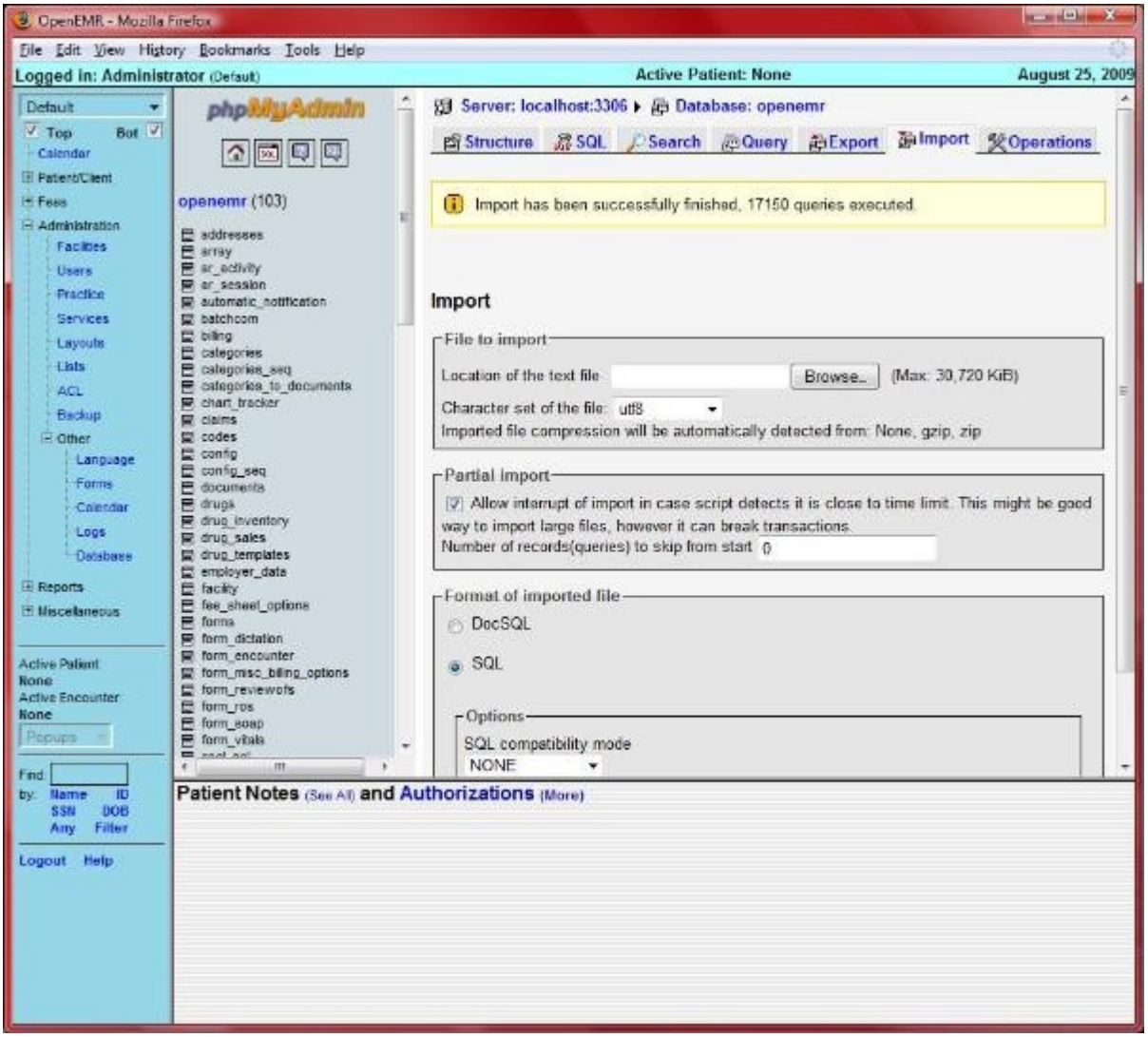
Click 'Browse' (highlighted by arrow).



Select the 'currentLanguage_utf8.sql' file that you downloaded in above first step, and click 'Open'.



Click 'Go' at bottom right (highlighted by arrow). After click, the import can take up to a minute or so.



After import is done, you should see the above yellow banner stating the import has been successfully finished.

Upgrading to OpenEMR 4.0.0

Main TOC Link

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#Download OpenEMR 4.0.0
wget downloads.sourceforge.net/openemr/openemr_4.0.0-1_all.deb

#Upgrade to OpenEMR 4.0.0
sudo aptitude update
sudo dpkg -i openemr_4.0.0-1_all.deb

-enter 'Y'
(If there was an error(s), then issue the following command (type 'Y' after): **sudo apt-get install -f**)

#Note backups of your previous OpenEMR version are stored at /tmp/openemr-tmp/ . Ensure these files are secure(move to secure area or remove them), since they contain confidential patient information.

Secure the New Documents Directory

Main TOC Link

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#edit apache2 config file /etc/apache2/apache2.conf
sudo jed /etc/apache2/apache2.conf
#Modify below **bolded** entries near end of file:
<Directory "/var/www/openemr/**sites/default/**documents">
order deny,allow
Deny from all
</Directory>
<Directory "/var/www/openemr/**sites/default/**edi">
order deny,allow
Deny from all
</Directory>
<Directory "/var/www/openemr/**sites/default**/era">
order deny,allow
Deny from all
</Directory>
TEXT EDITOR SAVE AND EXIT

#restart apache
sudo /etc/init.d/apache2 restart

Install a 4.0.0 Patch

Main TOC Link

Will install the first 4.0.0 patch which fixes a very annoying facilities administration bug.

2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#Download 4.0.0 patch-1
wget -O 4-0-0-Patch-1.zip
"http://sourceforge.net/tracker/download.php?group_id=60081&atid=493003&file_id=405913&aid=3259577"

#Ensure the zip package is installed
sudo aptitude update
sudo aptitude install zip
-enter 'Y'
*(If there was an error(s), then issue the following command (type 'Y' after): **sudo apt-get install -f**)*

Install the 4.0.0 patch-1
sudo cp 4-0-0-Patch-1.zip /var/www/openemr
cd /var/www/openemr
sudo unzip 4-0-0-Patch-1.zip
-enter 'A'
sudo rm 4-0-0-Patch-1.zip

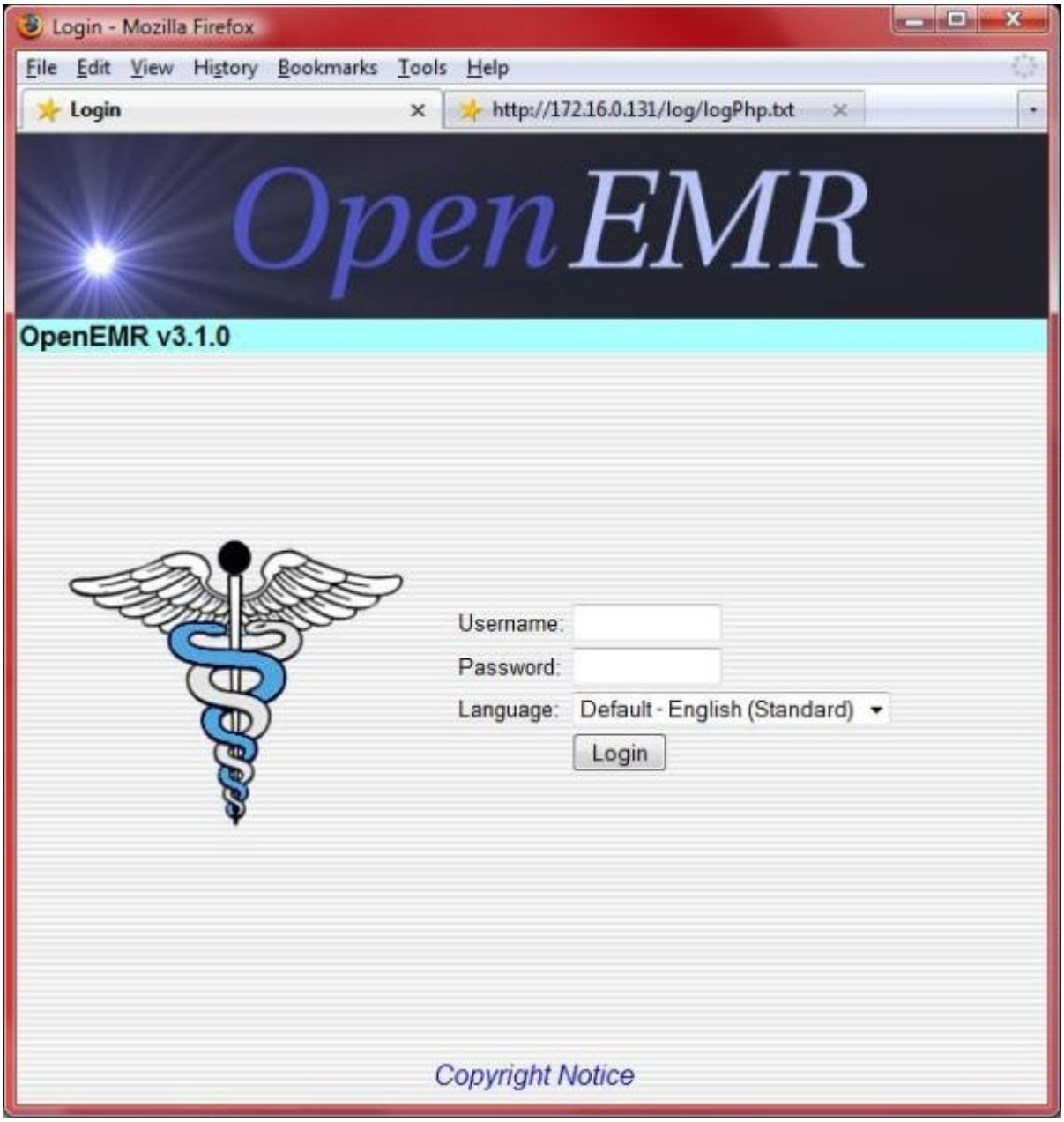
Upgrade Language Translation Tables (4.0.0)

Main TOC Link

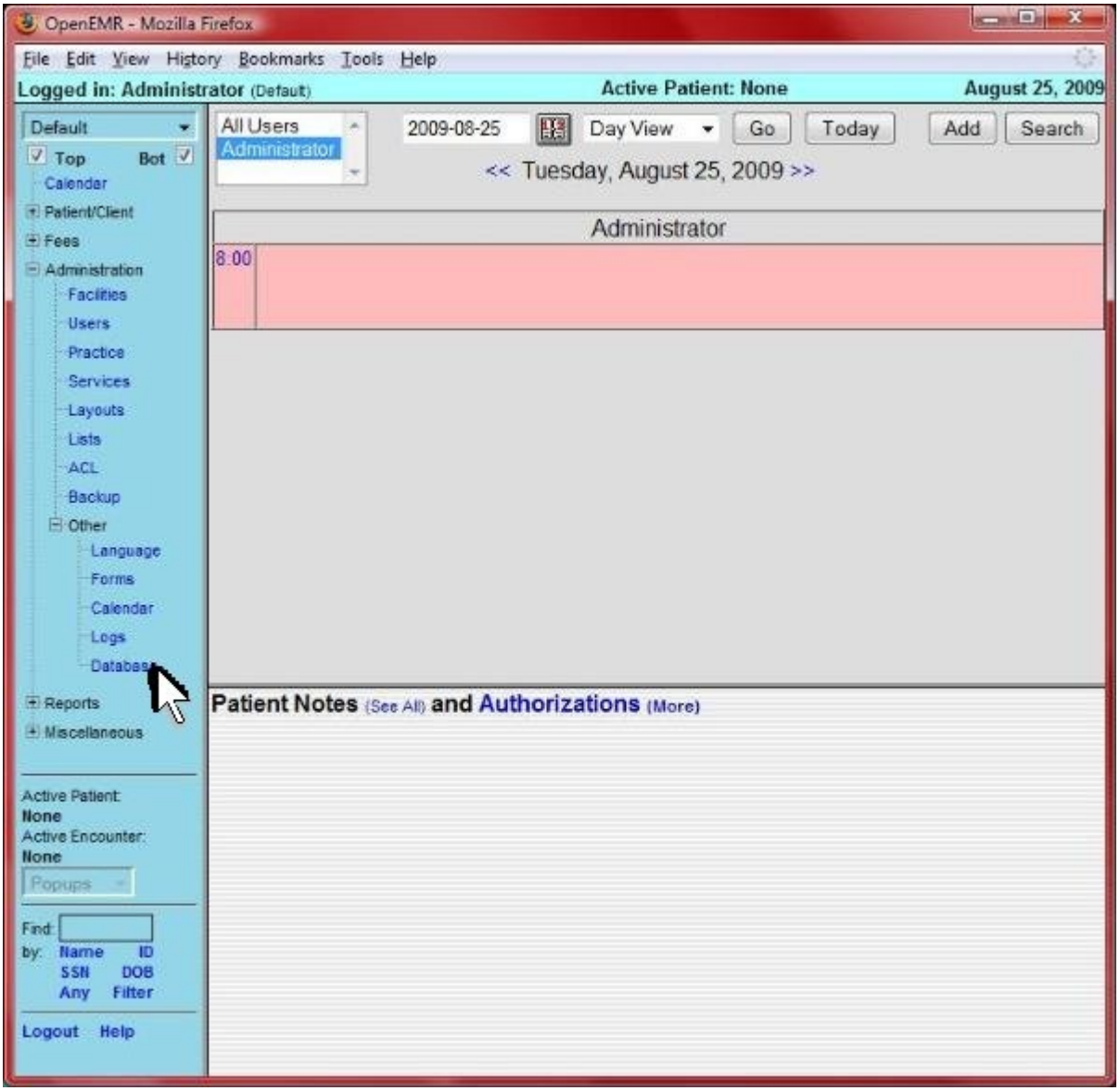
Here we will upgrade to the language translation tables published with OpenEMR 4.0.0 . This is very simple to do. **Note, however, that this will delete all current local language translation tables.**

1. Download translation sql tables from sourceforge to desktop (via 'File'->'Save Page as' 'currentLanguage_utf8.sql'): http://openemr.git.sourceforge.net/git/gitweb.cgi?p=openemr/openemr;a=blob_plain;f=contrib/util/language_translations/currentLanguage_utf8.sql;hb=5bb4c7beab1fe274147df9ccf3b989adcb0ae04b

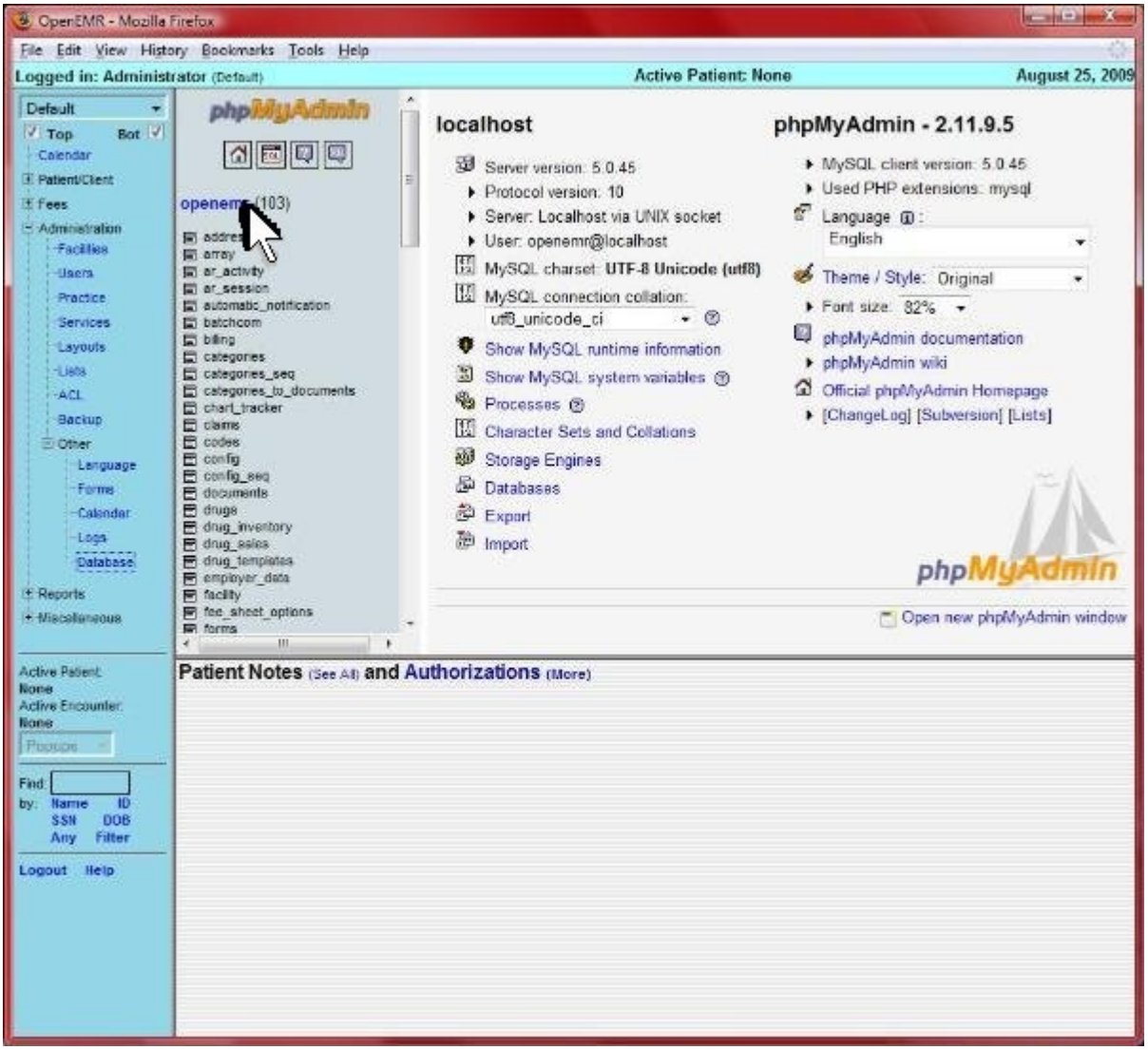
1. Login to OpenEMR:


Login - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Login
http://172.16.0.131/log/logPhp.txt
OpenEMR
OpenEMR v3.1.0
Username:
Password:
Language:
Default - English (Standard)
Login
Copyright Notice

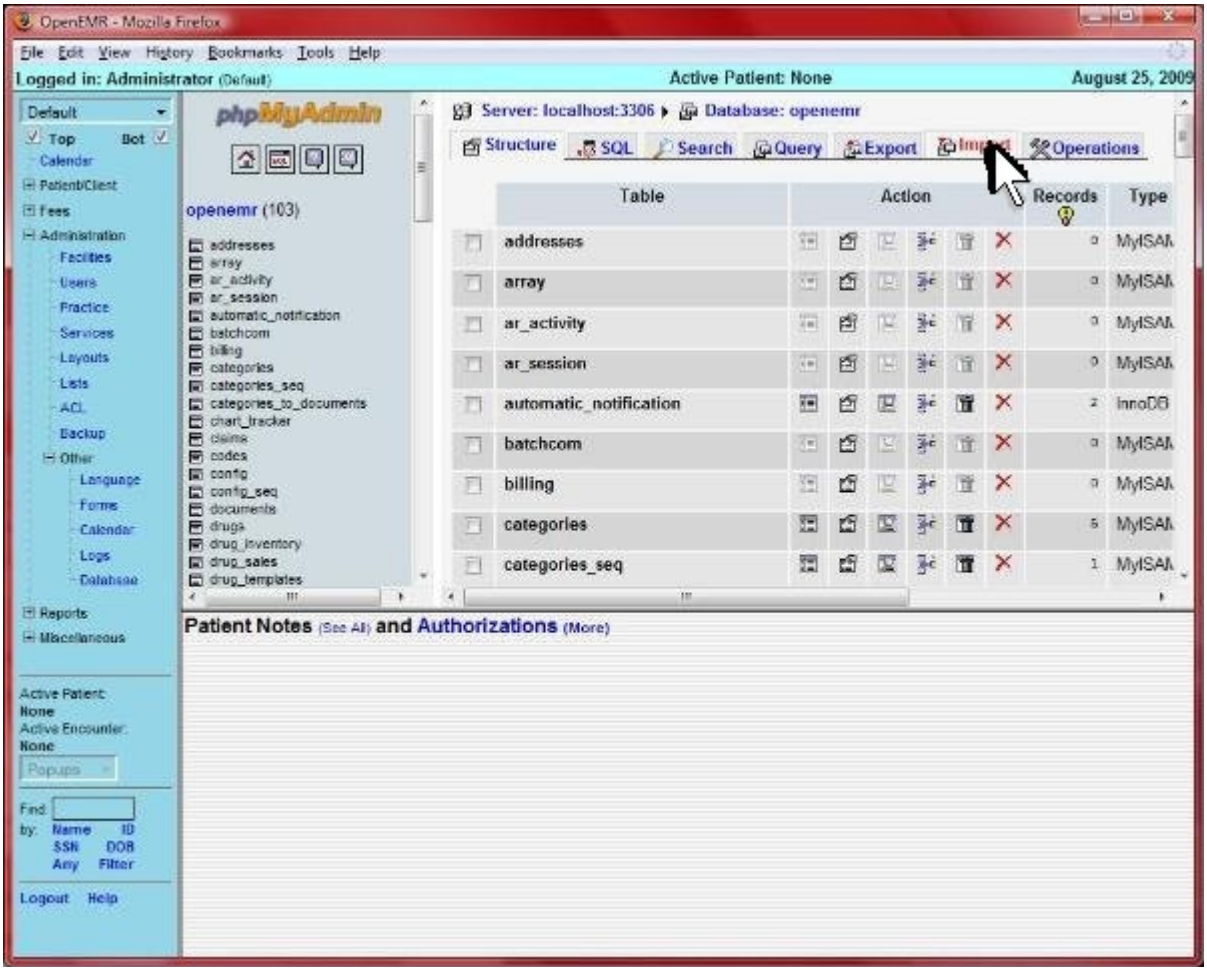
Login.



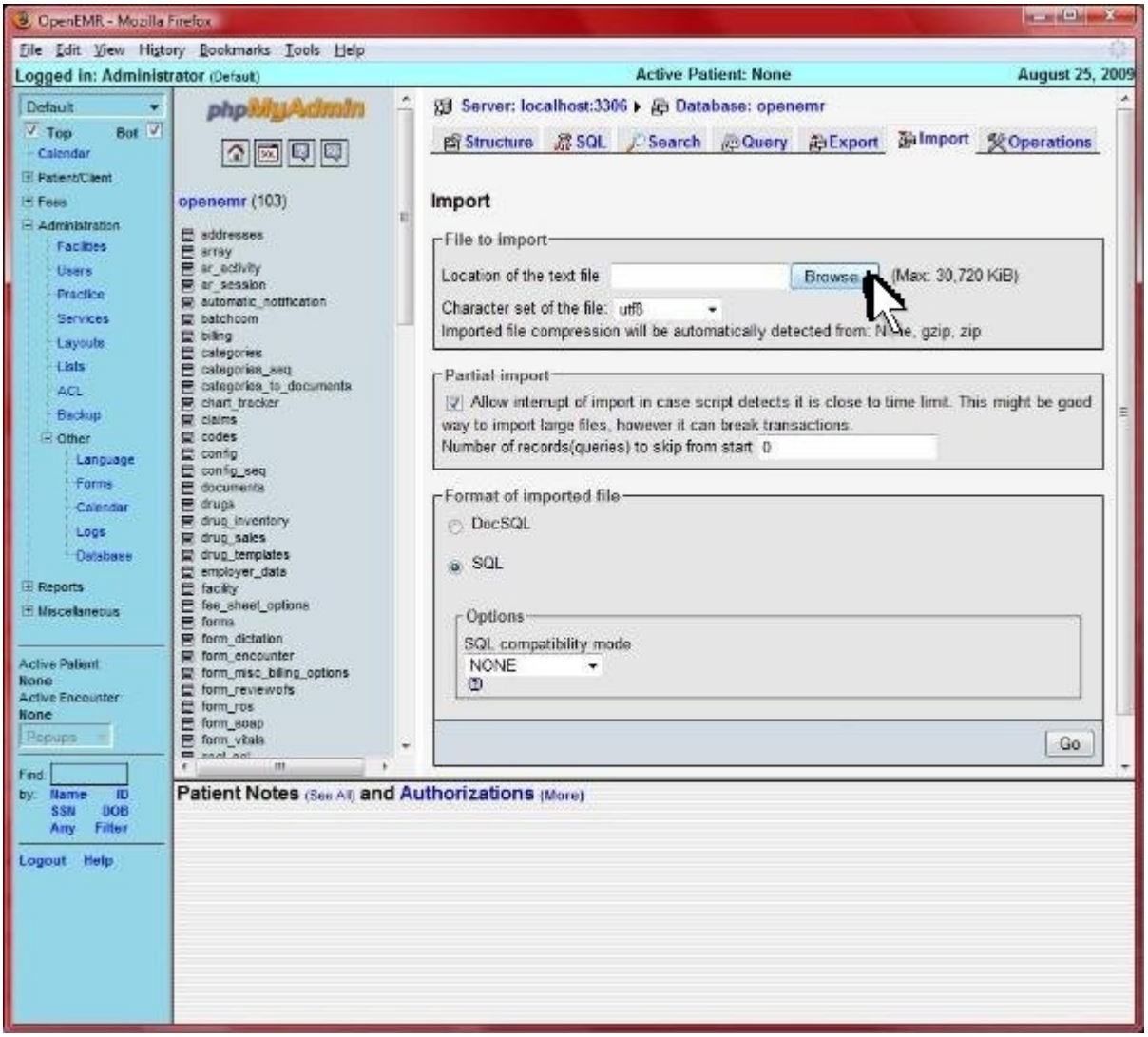
Click 'Administration'->'Other'->'Database' from left tree menu.



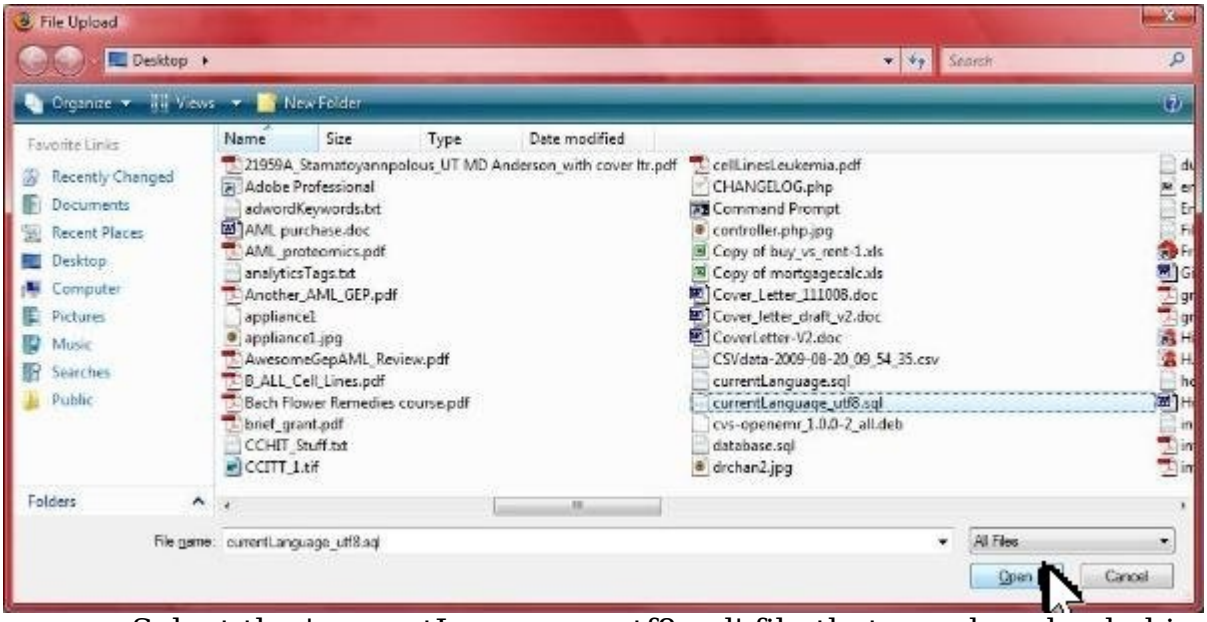
Click 'openemr' database link near top left (highlighted by arrow).



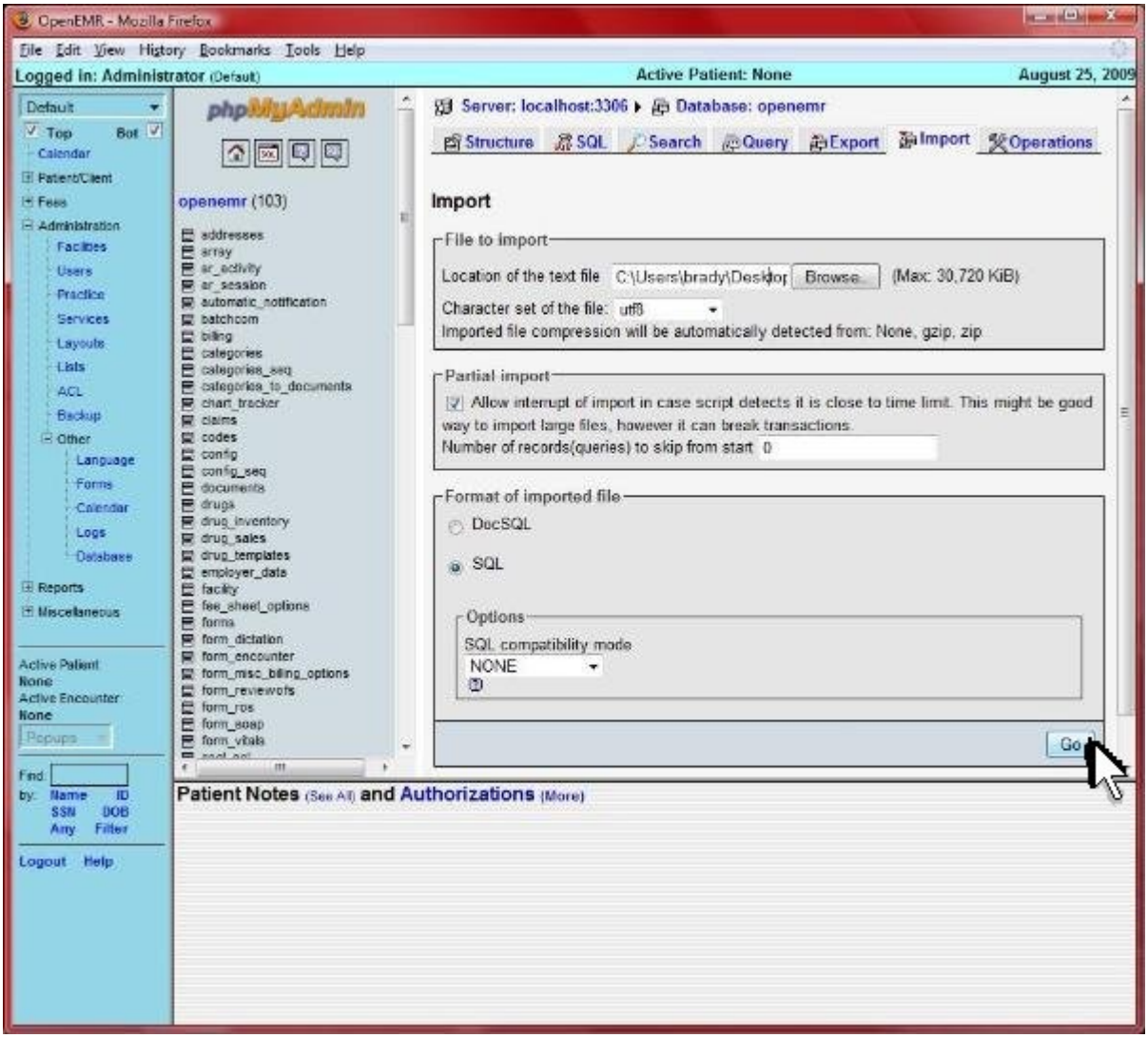
Click 'Import' near top right (highlighted by arrow).



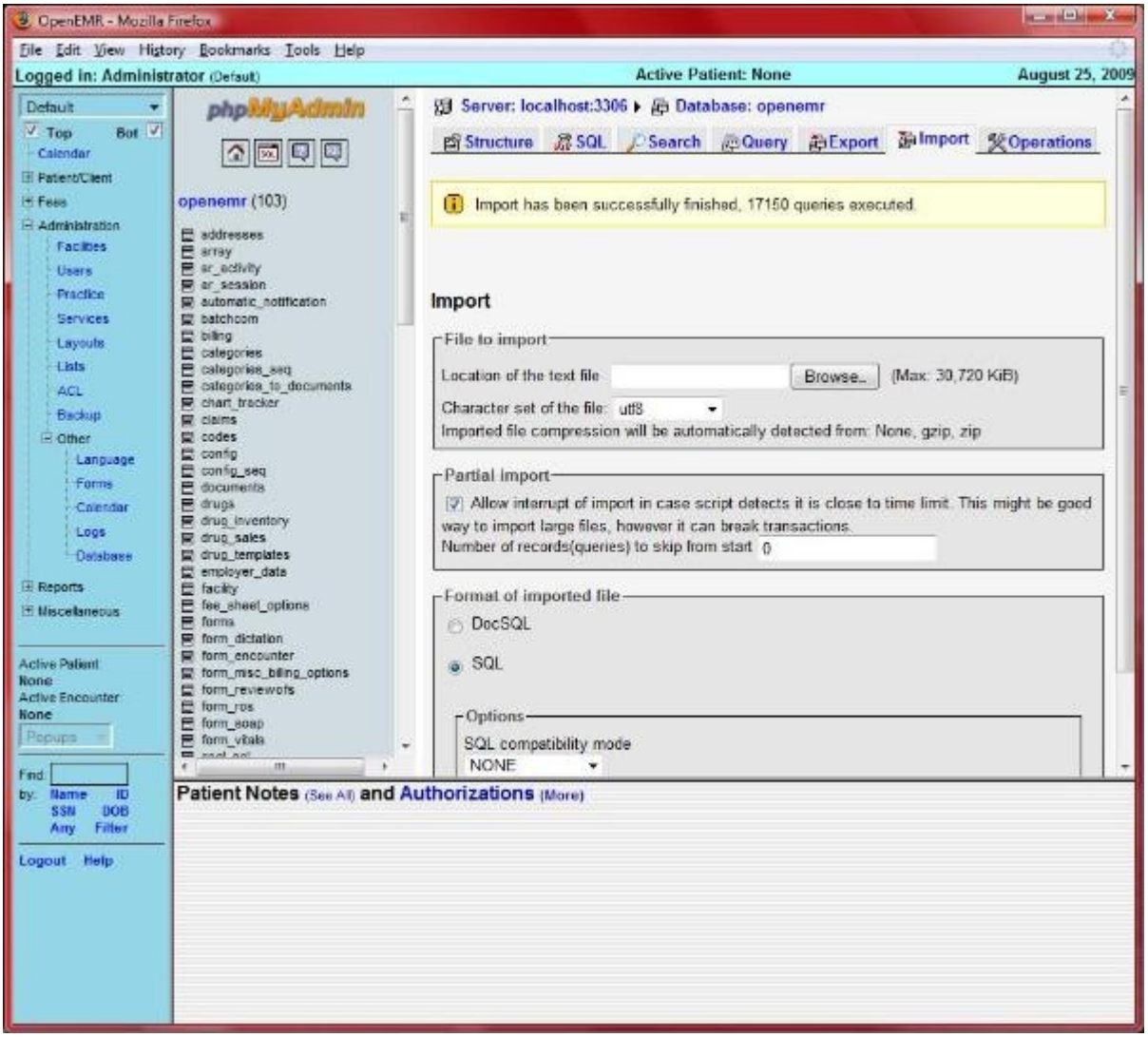
Click 'Browse' (highlighted by arrow).



Select the 'currentLanguage_utf8.sql' file that you downloaded in above first step, and click 'Open'.



Click 'Go' at bottom right (highlighted by arrow). After click, the import can take up to a minute or so.



After import is done, you should see the above yellow banner stating the import has been successfully finished.

Upgrading to OpenEMR 4.1.0

Main TOC Link

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#Download OpenEMR 4.1.0
wget downloads.sourceforge.net/openemr/openemr_4.1.0-1_all.deb

#Update ubuntu
sudo aptitude update
sudo aptitude upgrade

-enter 'Y'
-if asked to over-write your /etc/issue file, then enter 'N'

#Upgrade to OpenEMR 4.1.0
sudo dpkg -i openemr_4.1.0-1_all.deb
-enter 'Y'
(If there was an error(s), then issue the following command (type 'Y' after): **sudo apt-get install -f**)

#Note backups of your previous OpenEMR version are stored at /tmp/openemr-tmp/ . Ensure these files are secure(move to secure area or remove them), since they contain confidential patient information.

ALL DONE

Appendix

Main TOC Link

A. Configuring client web browser for https

Main TOC Link

1. For security, this appliance forces users to use https (encrypted) over a web browser. Because we are using a homemade security certificate (real certificates cost money), most new web browsers will give a security error. This can easily be dealt with by following the browser instructions to create an exception. I have posted steps for both Firefox and Internet Explorer.

2. Firefox:

Click 'Or you can add an exception...'.

Click the 'Add Exception...' button.

Click the 'Get Certificate' button. (DO NOT edit the 'Location:')

Click 'Confirm Security Exception'. Ensure 'Permanently store this exception' is checked, so you don't have to go through this every time. Also, DO NOT change 'Location:'.

ALL DONE, go back and continue your previous instructions.

3. Internet Explorer:

Click 'Continue to this website'.

ALL DONE, go back and continue your previous instructions.

B. Run Appliance on VirtualBox

Main TOC Link

1. install virtualbox from http://www.virtualbox.org/wiki/Downloads
2. Set up the machine description file
    1. start virtualbox, it should start at the virtual machine manager window
    2. create the file
        1. in the virtualbox manager window, select 'New' (looks like a blue sun)
        2. click Next to get past the 'Welcome to the New Virtual machine wizard' intro window
        3. enter a name for the VM in the name box. This is how the machine will be listed in the virtual machine manager list of VMs
        4. change the Operating System to 'Linux' with the dropdown box, Version defaults to Ubuntu, leave that as is.
        5. click 'Next'
        6. click 'Next' again to use the default ram size for the VM of 512MB
        7. click the 'Use existing hard disk' radio button
        8. click the folder icon to the right of the dropdown box to open up a file navigation window
        9. navigate to the directory where the openemr appliance files were unpacked earlier
        10. select the 'base' vmdk file - for the openemr-4-1-0-appliance-1 version I used for this, that file is called 'OpenEMR-3-0-1-appliance-1-cl3.vmdk'. (no -sxxx on the end)
        11. click 'Open' in the 'choose a virtual hard disk file' selection window
        12. click 'Next' to get to the summary window

13. check over the settings, then click 'Finish'.

3. adjust the setting of the file
    1. make sure the machine description you just made is highlighted in the manager window, then click settings (gold gear icon)
    2. click on 'system' in the left window pane
    3. you should be on the 'motherboard' tab, click on 'extended features: enable IO APIC checkbox'
    4. select the 'processor' tab, click on Enable PAE/NX
    5. click on 'storage' in the left window pane
    6. under 'IDE contoller' in the storage tree there should be an image of a CDROM labelled 'Empty'. Click to select it
    7. in the other half of the window under 'Attributes' there is a small disc icon next the CD/DVD Drive field. Click on it
    8. select the name of the DVD drive under the host OS, for me it was 'host drive E:'
    9. under attributes, there should now be a checkbox called 'passthrough', click to select it
    10. click on the 'network' in the left window pane
    11. in the 'adapter 1' tab, where it says Attached to: change it to 'Bridged Adapter' using the dropdown menu
    12. change the name to the name of the network adapter to be used. On my laptop it shows two entries, one for wifi and one for ethernet. I used the wifi
    13. click on 'OK' at the bottom of the window to save the settings.
4. click 'start' to run the virtual machine
5. To use appliance, proceed to the 'Using the OpenEMR Appliance' section.

C. Useful Websites

Main TOC Link

OpenEMR links:

1. http://www.open-emr.org/ (Main OpenEMR website)

2. http://sourceforge.net/projects/openemr/ (Main OpenEMR sourceforge page)

3. http://www.bradymd.com/appliance/ (OpenEMR Virtual Appliance Homepage)

Virtual Machine links:

1. http://www.vmware.com/ (VMware website)

2. http://www.vmware.com/appliances/ (VMware virtual appliance explanation)

3. http://www.vmware.com/vmtn/appliances/overview.html (Another VMware virtual appliance explanation)

D. Author/Contributors and License/Disclaimer

Main TOC Link

Primary Author: Brady Miller

Email:brady@sparmy.com

www.bradymd.com

Contributor: Andrew Dyer <amdyer@gmail.com>

1) Instructions to install on VirtualBox
2) New improved introduction screen
3) New backup script
4) Other manual improvements.

have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you

conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable

source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties to
this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals

of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.