

OpenEMR 2.8.2 Appliance Manual

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[LINK TO MANUAL IN PDF FORMAT](#)

Author: Brady Miller

Email: brady@sparmy.com

Discussion Board: <http://www.oemr.org/modules/newbb/>

SECURITY PATCHES: [here](#) (Appendix A.)

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Introduction

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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. Comprehensive open source medical practice management software suites consist of several independent software packages, which can make them more difficult to install/evaluate than their proprietary counterparts. This obstacle can easily be circumvented with a pre-installed Appliance.

The goal of this project was to build a comprehensive Open Source Medical Practice Management Software Appliance, which provides office scheduling, electronic medical records, prescriptions, insurance billing, accounting, inventory, and access controls. This appliance will have 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, along with FreeB, SQL-Ledger, and php-GACL. They are installed on the Mandriva2006 operating system. OpenEMR is the practice management software. FreeB is the insurance billing/printing software. SQL-Ledger is the accounting software. Php-GACL is the access control software.

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 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 set up a printer, an email server, and an automated backup scheme which

incorporates encryption.

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

Online Demo

[Main TOC Link](#)

Here are online demos of the OpenEMR 2.8.2 appliance:

With the new frames look:

<https://OpenSourceEMR.com:2084/openemr/> (Main OpenEMR program)

<https://OpenSourceEMR.com:2084/sql-ledger/> (Sql-Ledger accounting)

<https://OpenSourceEMR.com:2084/phpgacl/admin> (php-GACL access controls)

With the traditional look:

<https://OpenSourceEMR.com:2085/openemr/> (Main OpenEMR program)

<https://OpenSourceEMR.com:2085/sql-ledger/> (Sql-Ledger accounting)

<https://OpenSourceEMR.com:2085/phpgacl/admin> (php-GACL access controls)

These are fully functional demos, 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). Some simple configuration has been added for clearer demonstration of OpenEMR, Sql-Ledger, FreeB, and php-GACL. 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 2:00AM(new frames appliance) and 4:00AM(traditional look appliance) 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. The file is 1019.7 MB, and will extract to 3 GB.
 1. You can download Appliance via Direct Download or Torrent:
 1. Direct Download from Sourceforge:
http://sourceforge.net/project/showfiles.php?group_id=167832
 2. Torrent file link: <http://www.bradynd.com/OpenEMR-2-8-2-Appliance-1.torrent> (If you need a torrent software client, then try: <http://azureus.sourceforge.net/>)

Start the OpenEMR Appliance

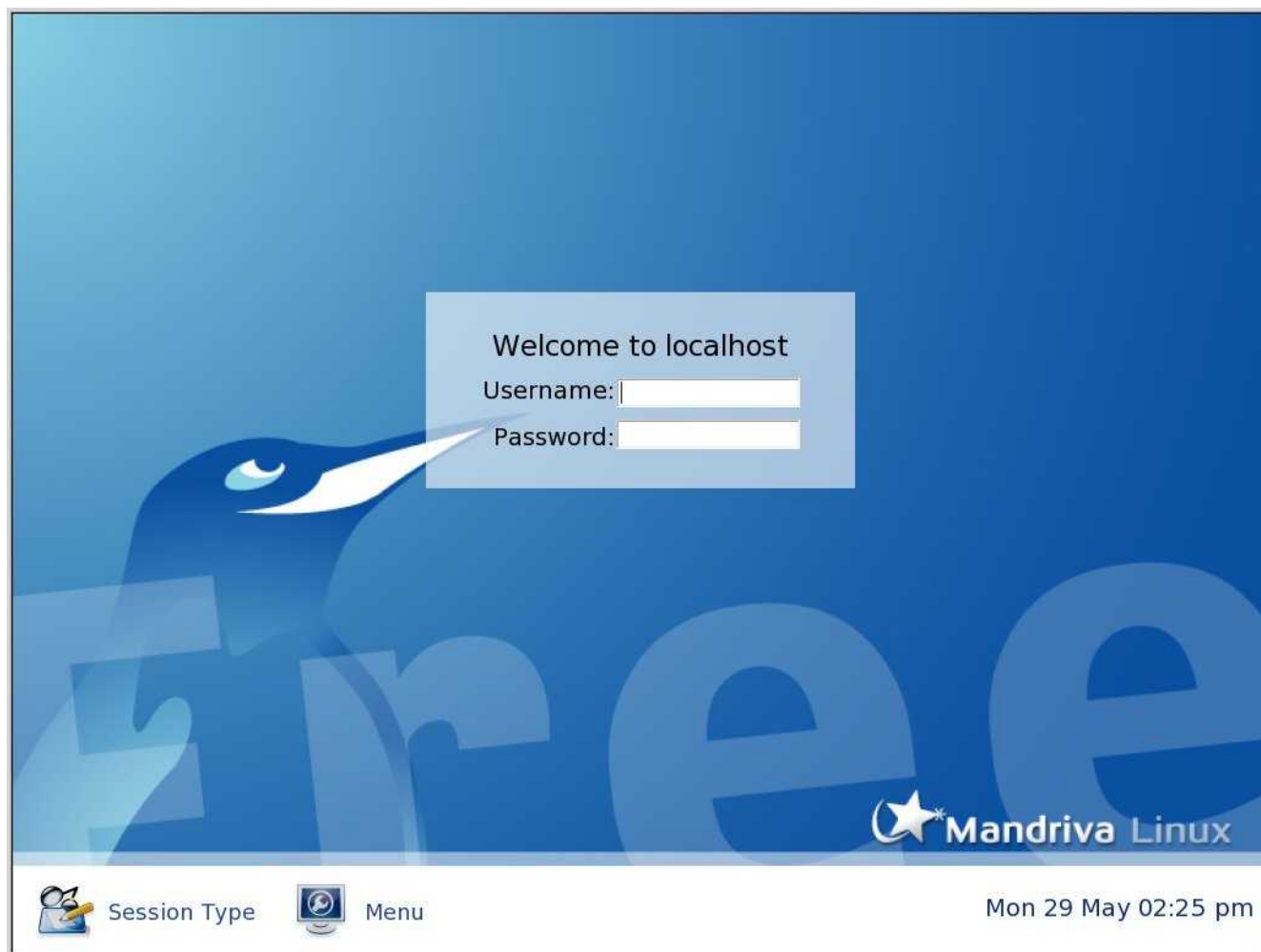
[Main TOC Link](#)

Windows

[Main TOC Link](#)

1. Unpackage the OpenEMR-2-8-2-Appliance-1.tgz file (Use WinZip, WinRAR, or 7-Zip).
2. Run VMware Player.
3. Start up the OpenEMR Appliance by opening the OpenEMR-2-8-2-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 explaining some nonsense about the changing location of a configuration file. Just click 'Create'.
5. Several windows will pop up explaining that /dev/hdc, /dev/hdd, and sound drivers are not gonna work. Just click 'ok' several times and continue.
6. Mandriva will now boot up, just give it some time. After boot up you

will see the following login screen:

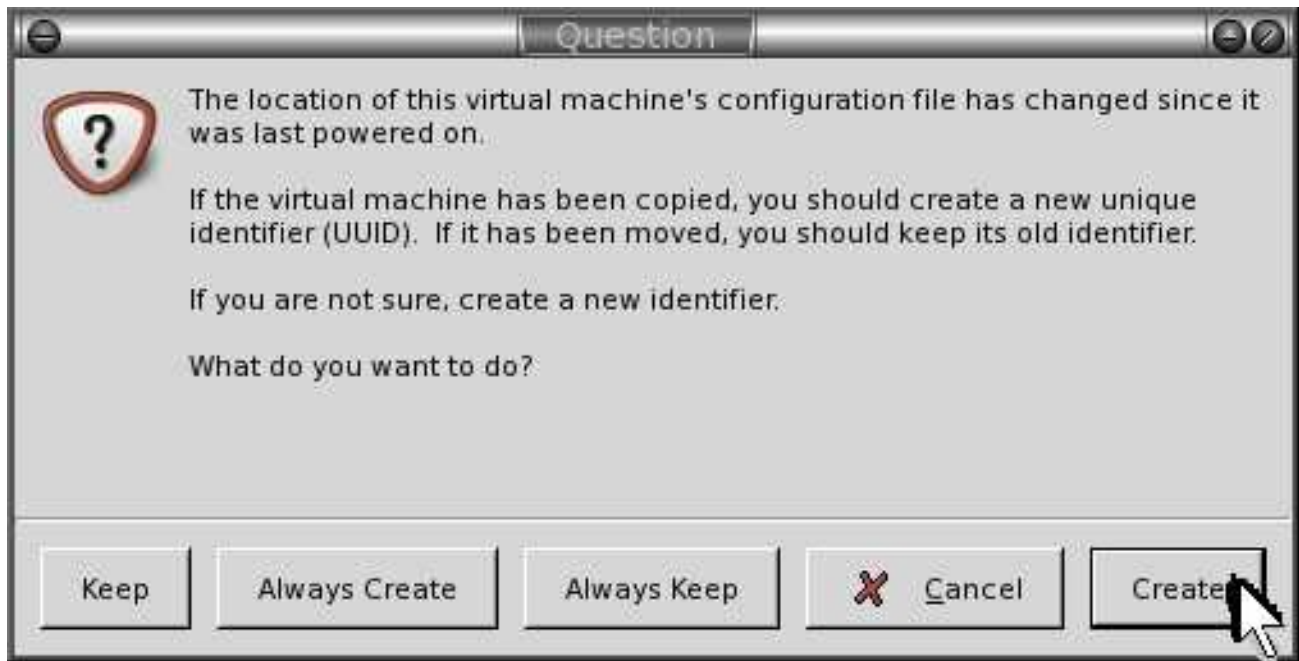


This is the login screen. To log in, proceed to the '[Log In to Appliance](#)' section below.

Linux

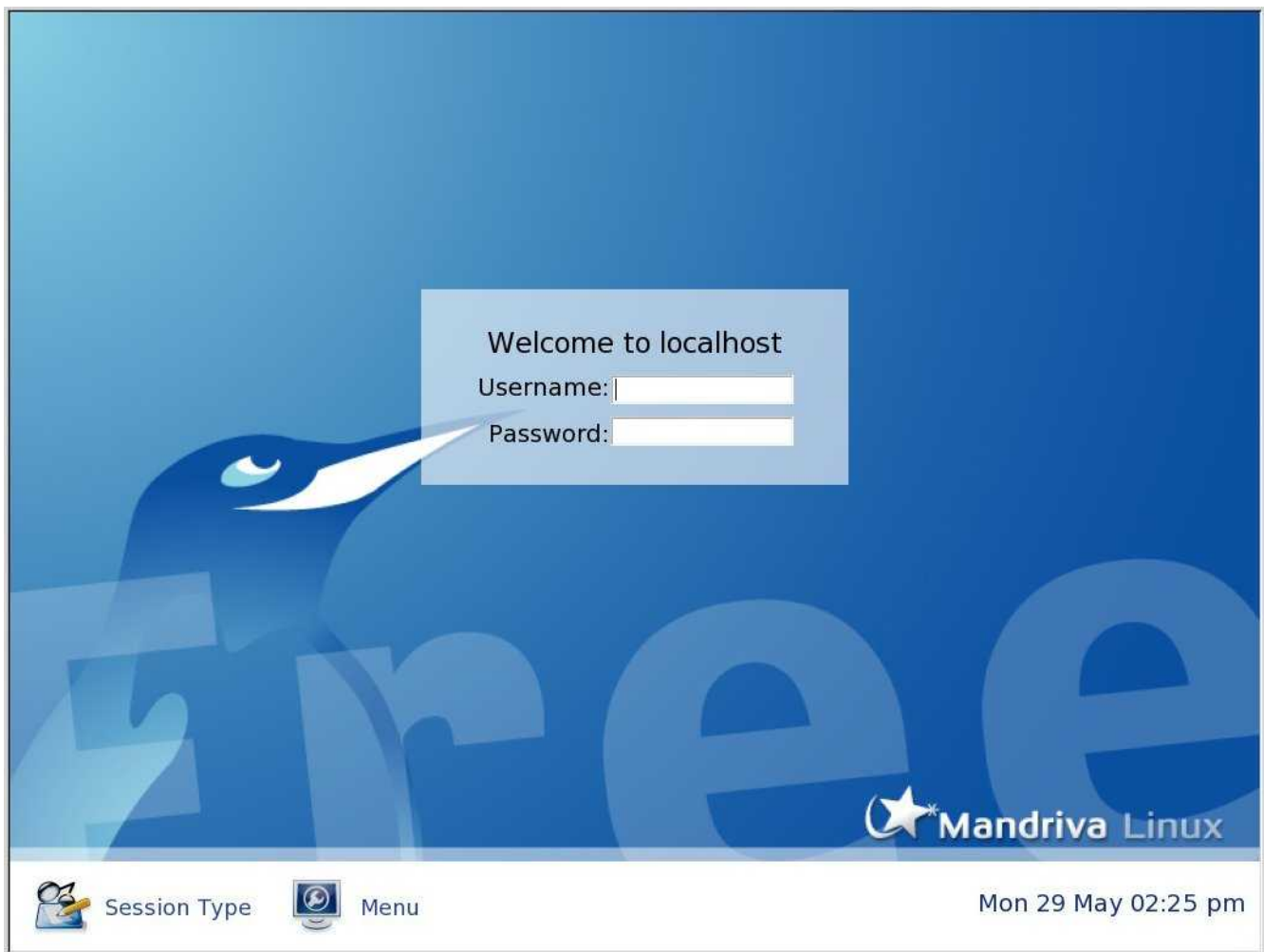
[Main TOC Link](#)

1. Unpackage the OpenEMR-2-8-2-Appliance-1.tgz file.
2. Run VMware Player.
3. Start the OpenEMR appliance by opening the OpenEMR-2-8-2-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 pop up explaining that `/dev/hdc`, `/dev/hdd`, and/or sound drivers are not gonna work. Just click 'ok' several times and continue.
6. Mandriva will now boot up, just give it some time. After boot up you will see the following login screen:



This is the login screen. To log in, proceed to the '[Log In to Appliance](#)' section below.

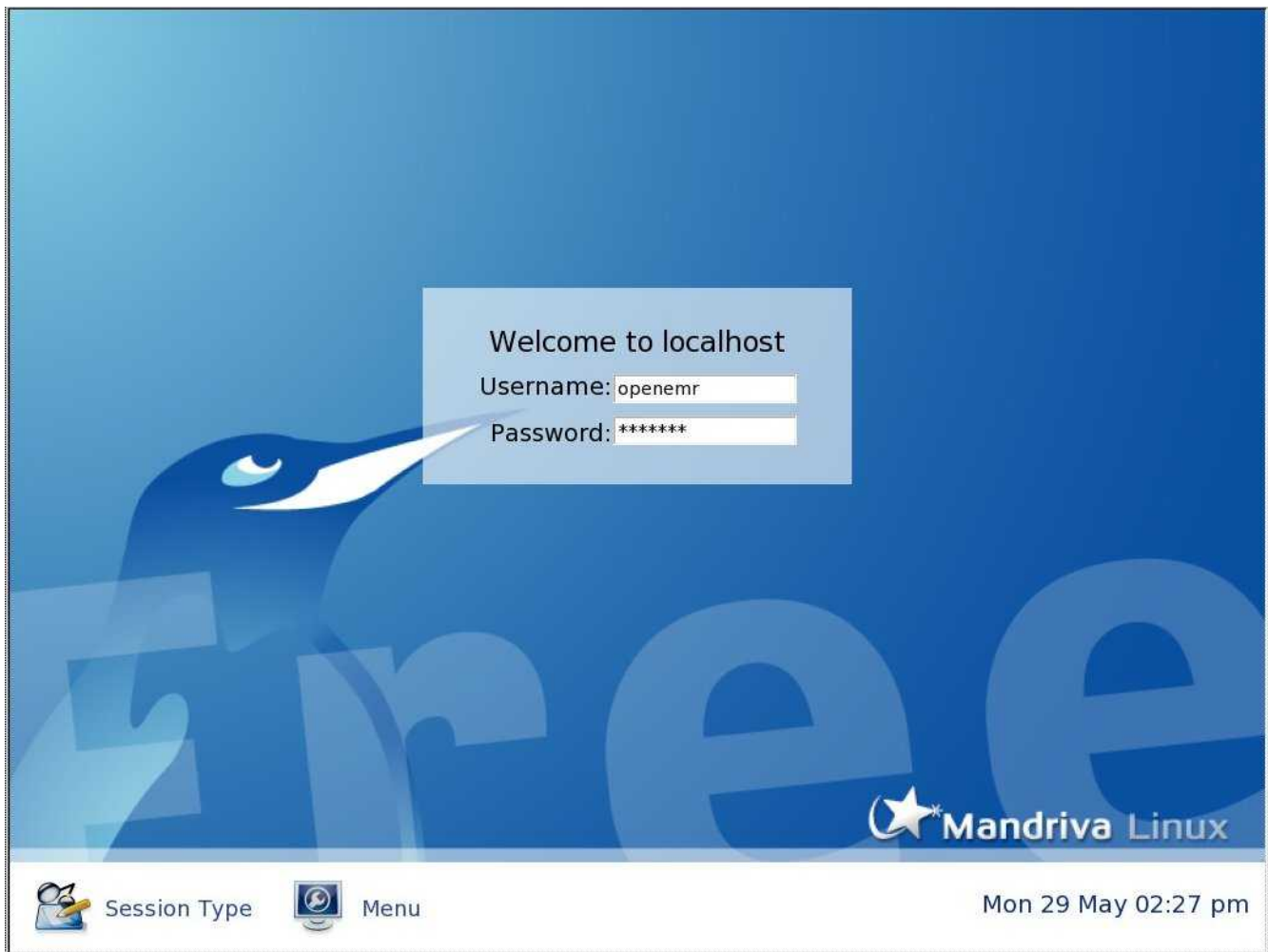
Using the OpenEMR Appliance

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Log In to Appliance

[Main TOC Link](#)

1. The first time you use the appliance, you will login with user 'openemr' and password 'openemrpassword'. You may be forced to change the password during your first login (detailed instructions below):



Enter 'Username' -> 'openemr'. Enter 'Password' -> 'openemrpassword'(NOTE that this password may be changed after your first login). When done, hit the ENTER key.

If this is your first login, then you may be prompted to change your password:



Click 'OK'.



Enter and confirm a new password. This will be your new 'openemr' user password. **REMEMBER** this password!



Congratulations. You successfully logged in.

Using OpenEMR in Appliance

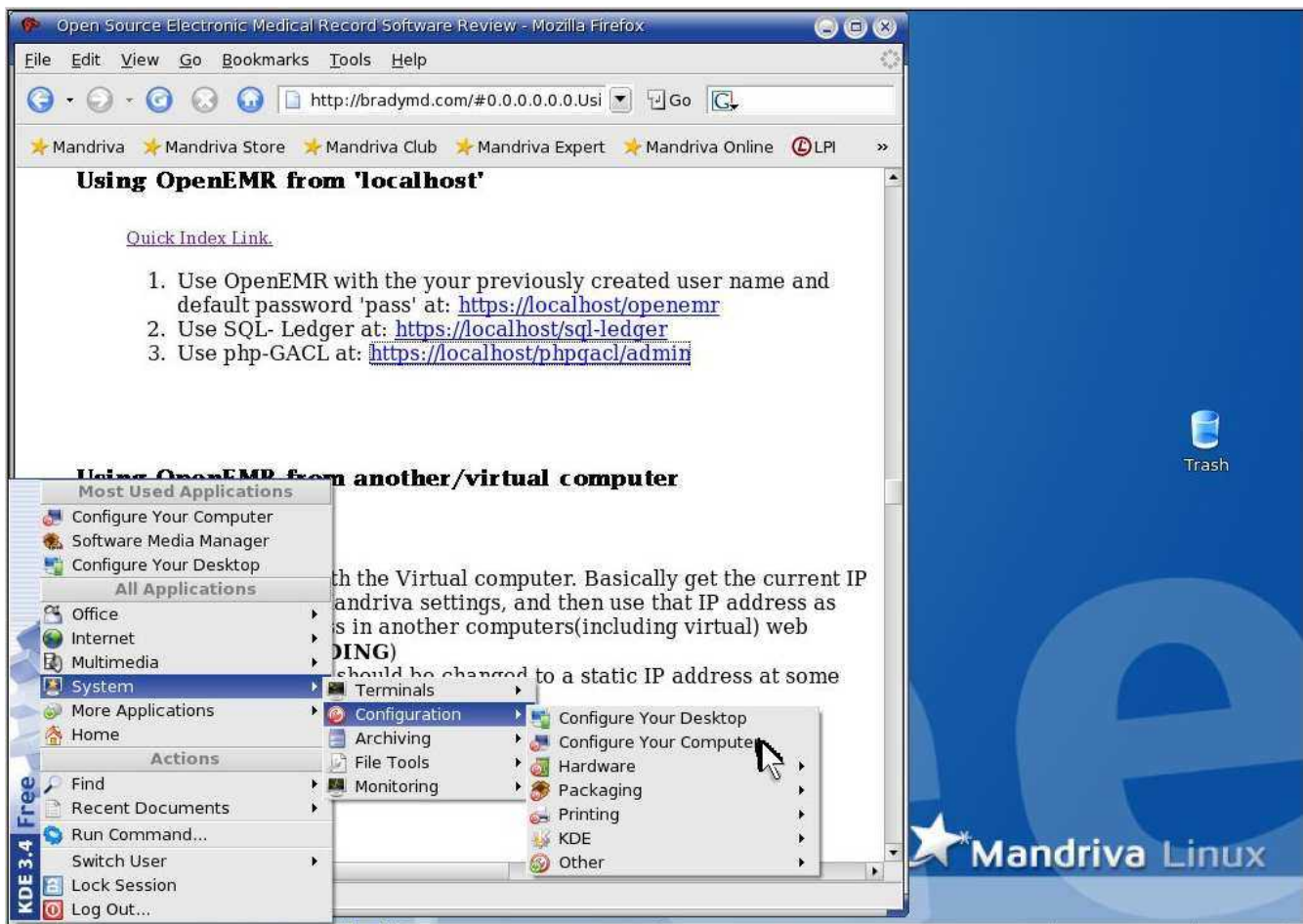
[Main TOC Link](#)

1. Use OpenEMR with the user name 'admin' and default password 'pass' via web browser at: <https://localhost/openemr>
2. Use SQL-Ledger with the user name 'openemr' and password 'openemr' via web browser at: <https://localhost/sql-ledger>
3. Use php-GACL with user name 'admin' and password 'admin' via web browser at: <https://localhost/phpgacl/admin>
4. Note that the full list of application login names and passwords can be found in the '[Login Name and Password](#)' section below.

Using OpenEMR from another/virtual computer

[Main TOC Link](#)

1. Networking with the Virtual computer over a LAN. You can get the current IP address thru Mandriva settings, and then use that IP address as the web address on another computers(including virtual) web browser.
 1. First, get your virtual server IP address:



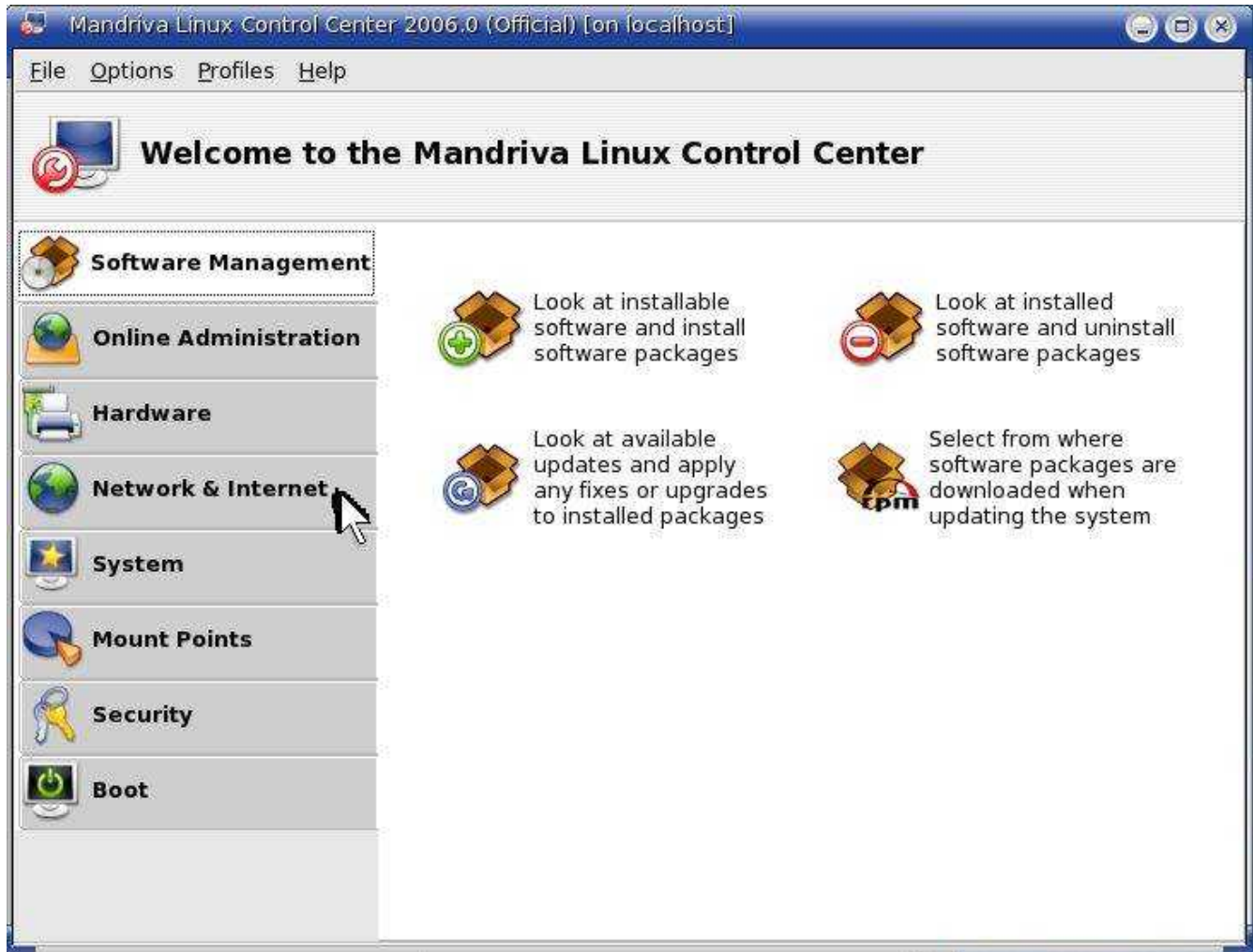
Click 'System' -> 'Configuration' -> 'Configure Your Computer'.



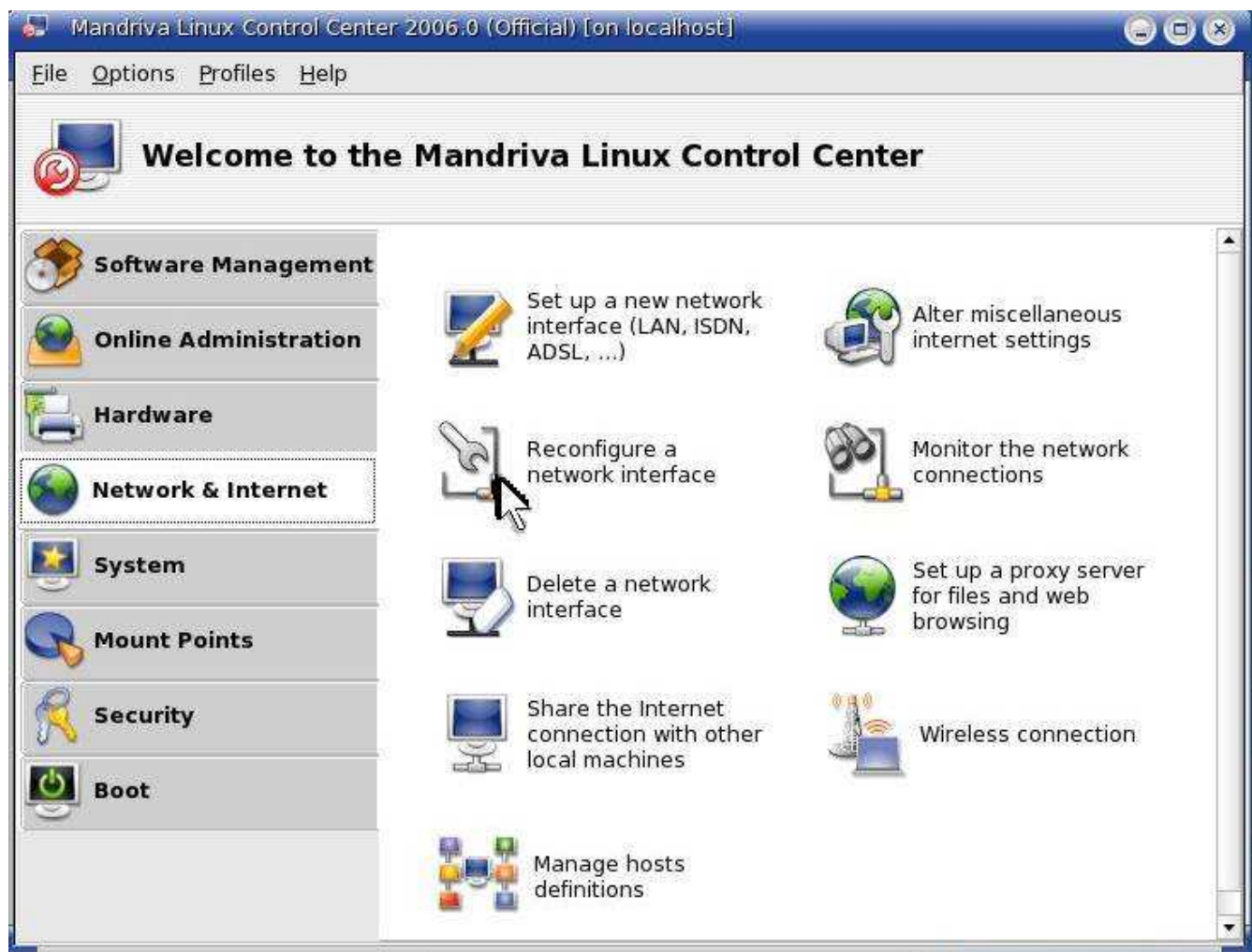
Enter 'root' user password. Then click 'OK'.

IMPORTANT, if you have not created a new 'root' user password, you need to proceed to Appendix B. '[Change Mandriva's expired 'root' user password](#)' **NOW**. (The default 'root' password will expire at some point and will no longer work) When your done updating the

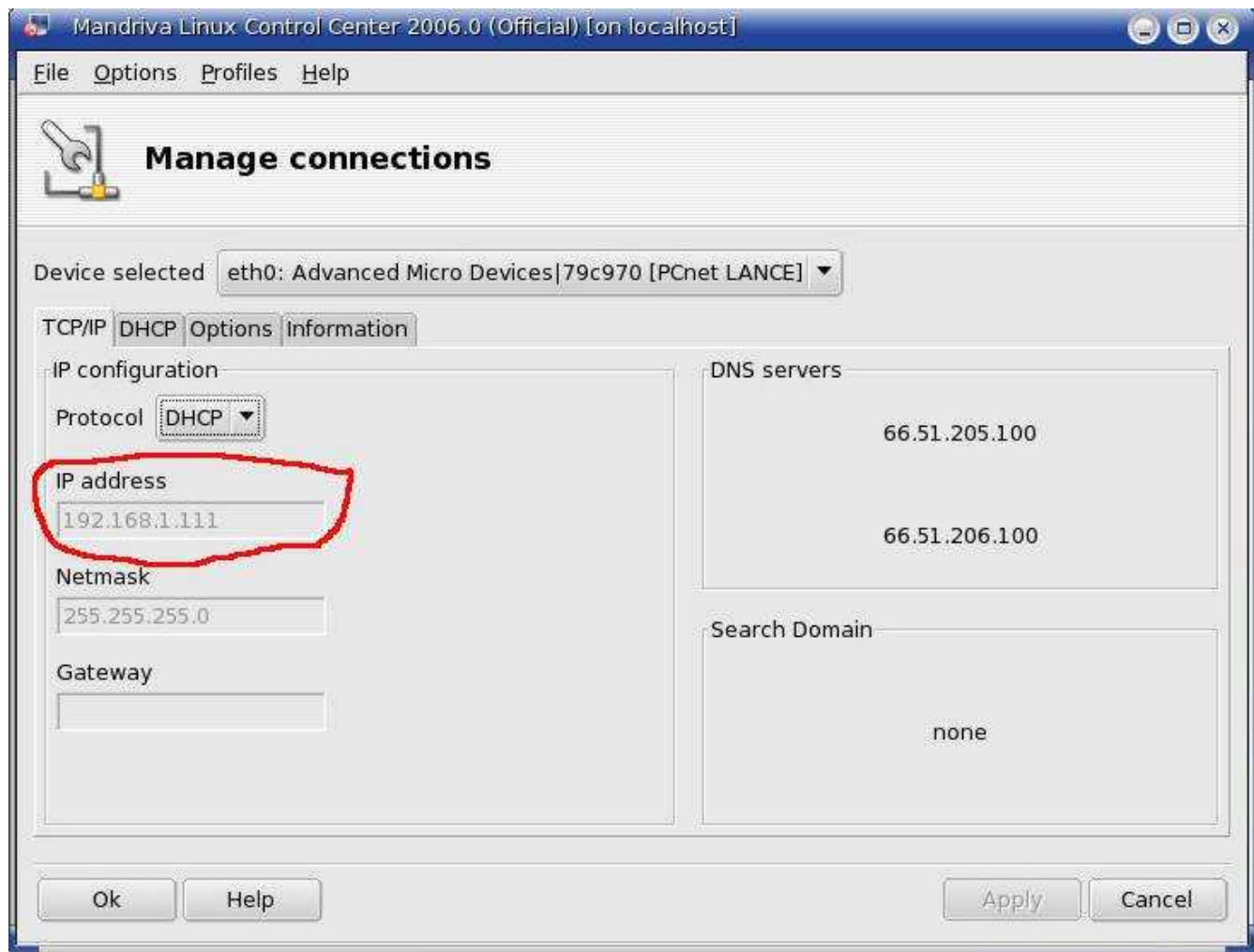
password, then type your new password here.



Click 'Network & Internet'.



Click 'Reconfigure a network interface'.



The circled number above is your *Your_Current_IP_address*.

2. Then you can use below links to connect to your virtual server
 1. OpenEMR at https://Your_Current_IP_address/openemr
 2. SQL-Ledger at https://Your_Current_IP_address/sql-ledger
 3. php-GACL at https://Your_Current_IP_address/phpgacl/admin
 4. 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. I'm out of time, so can't go thru it. You'll have to Google this one (Quickly, it can be changed in above window by clicking on the Protocol toggle and selecting static, then you can choose an IP address. However, you then need to type in DNS servers and you need to ensure your router does not assign any other computers your chosen static IP address)

OpenEMR User Training

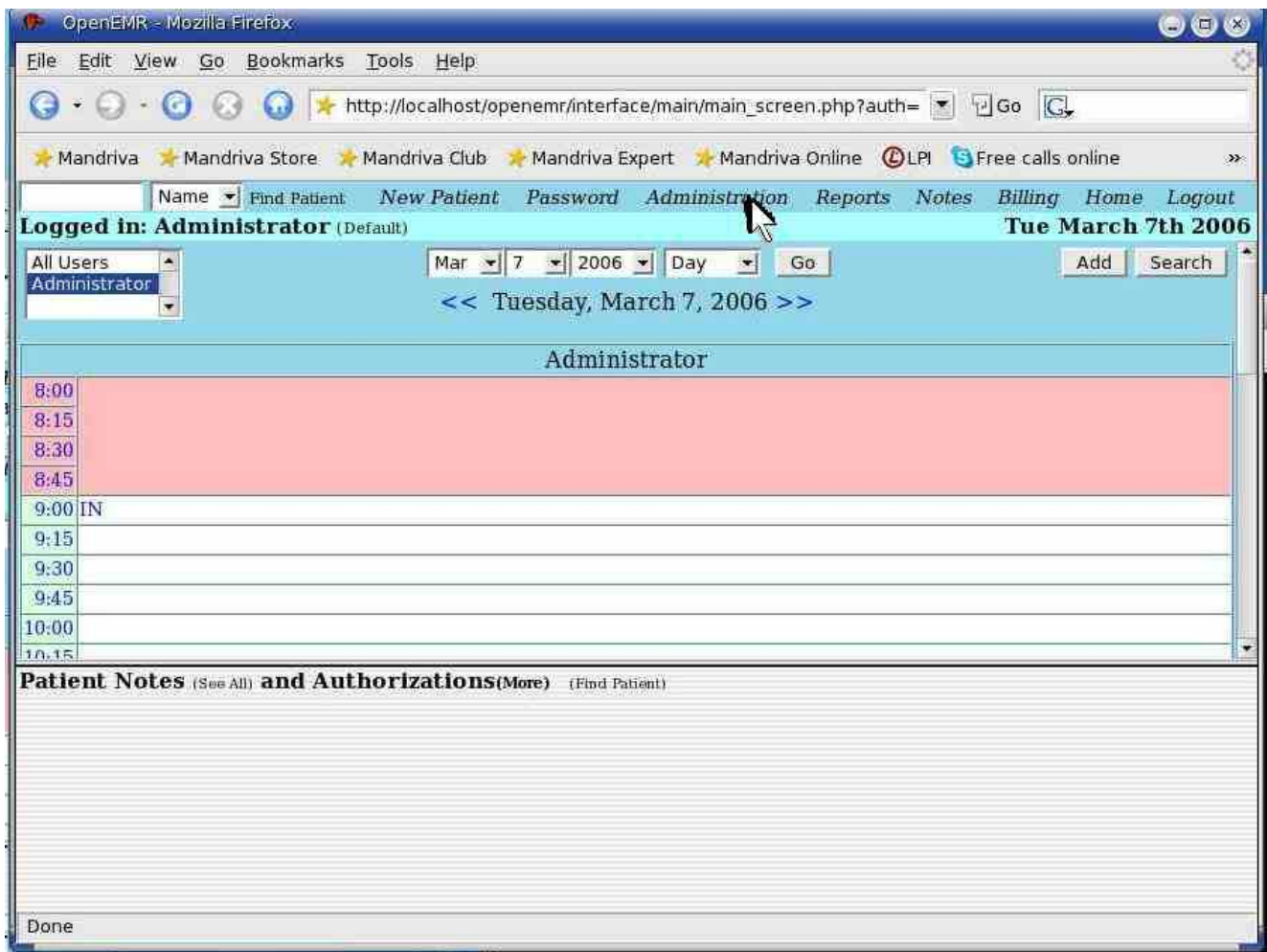
[Main TOC Link](#)

1. There is an excellent web site for learning how to use all of the components of OpenEMR at: <http://www.sunsetsystems.com/node/8>
2. The above link is also mirrored at the following wiki site, which means it could theoretically contain updates:
<http://www.oemr.org/modules/cjaycontent/index.php?id=2>
3. There is also an older user manual in the `/var/www/html/openemr/Documentation` directory which can be helpful.
4. You can ask question at the SourceForge OpenEMR forum at: http://sourceforge.net/forum/?group_id=60081
5. The OpenEMR home page is here with a wiki: <http://www.oemr.org/>
6. The most current version of this appliance user manual will hopefully always be available at: <http://www.bradynd.com/appliance>

Helpful Tips

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1. **NEED** to mark bills as 'cleared' (even after hfca processing) on the billing menu to send data to sql-ledger.
2. **NEED** to leave the the 'Prior Authorization Form' installed and **disabled** for the hfca form printing to work.
3. **NEED** to also create your new OpenEMR users in php-GACL or strange things will happen. (I refer you to above OpenEMR User Training section on how to do this.)
4. **NEED** to ensure clock is set correctly (Virtual computer time should not differ from the host computers, or there will be cron scheduling and sql-ledger problems)
5. **NEED** to ensure your provider is authorized or you won't be able to send bills to sql-ledger. It's confusing because there are two different separate authorization options. Screenshots below go thru the process:



Click 'Administration'.

OpenEMR - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://192.168.1.113/openemr/interface/usergroup/usergroup.php

Users & Groups Forms Practice Calendar Database BatchCom Language Logs Back

Logged in: Administrator **Mon March 20th 2006**

User & Group Administration

New Facility Information:

Name: Phone:
 Address: City:
 State: Zip Code:
 Country: Federal EIN:

Edit Facilities: Your Clinic Name Here([Edit](#))

New User:

Username: Password:
 Groupname: Authorized:
 First Name: Middle Name:
 Last Name: Default Facility:
 Federal Tax ID: Federal Drug ID:
 UPIN: See Authorizations:

Additional Info:

New Group: Groupname: Initial User:

Add User To Group: User: Groupname:

Username	Real Name	Info	Authorized?
admin(Edit)	Administrator		yes

Healthy Choice
 admin([Remove](#))

Click 'edit' for the user.

OpenEMR – Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://192.168.1.113/openemr/interface/usergroup/usergro

Users & Groups Forms Practice Calendar Database BatchCom Language Logs Back

Logged in: Administrator **Mon March 20th 2006**

User Administration

Username: Password: * Leave blank to keep password unchanged.

Authorized:

First Name: Middle Name:

Last Name: Default Facility:

Federal Tax ID: Federal Drug ID:

UPIN: See Authorizations:

Additional Info:

Ensure the 'Authorized:' toggle is on. Ensure the 'See Authorizations:' is set to 'All' or 'only mine'. Then click 'Save Changes'.

List of Login Names and Passwords

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1. Mandriva2006 user -> user: 'openemr' password: 'openemrpassword' (this password may need to be changed during first login)
2. Mandriva2006 admin -> user: 'root' password: 'rootpassword' (this password may be changed by user also)
3. OpenEMR -> user: 'admin' password: 'pass'
4. SQL-Ledger user -> user: 'openemr' password: 'openemr'
5. SQL-Ledger admin -> password: 'admin'
6. php-GACL -> user: 'admin' password: 'admin'
7. PostgreSQL -> user: 'sql-ledger' password: 'sqlledger'
8. MySQL user -> user: 'openemr' password: 'openemr'
9. MySQL admin -> user: 'root' NO PASSWORD

Configuration of the OpenEMR Appliance

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Change Display to the New Frames Look

[Main TOC Link](#)

1. Decide which look you want by looking at the [online demos](#).
2. The default look is traditional, if you want to change to the new frames look, then enter below **bolded** instructions on command line as root user:

```
#log into root
su

#If you want to change to the new "frames look", then you will
need to edit the file
/var/www/html/openemr/interface/globals.php:
mcedit /var/www/html/openemr/interface/globals.php
#edit the below bolded variable :
$GLOBALS['concurrent_layout'] = true;
TEXT EDITOR SAVE AND EXIT
```

Enable Pharmacy Dispensary Module

[Main TOC Link](#)

1. The pharmacy dispensary module will allow you to dispense and keep track of your own med/herbs/supplement dispensary. It will also create bottle labels of the drugs you dispense.
2. Turn on the pharmacy dispensary module in the OpenEMR configuration file. Enter below **bolded** instructions on command line as root user:

```
#log into root
su

#edit file /var/www/html/openemr/interface/globals.php:
mcedit /var/www/html/openemr/interface/globals.php
#edit the following bolded variable :
$GLOBALS['inhouse_pharmacy'] = true;
TEXT EDITOR SAVE AND EXIT
```

3. Next, need to upgrade the php-GACL access controls to allow access to the Drug Dispensary Module. Download [acl_upgrade_1.txt](#) file, which is a php script. I wrote this script, and it seems to work alright. File can be found at: http://bradymd.com/acl_upgrade_1.txt (to

download file, you may need to Right-Click the link and select 'Save Link As...')

1. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

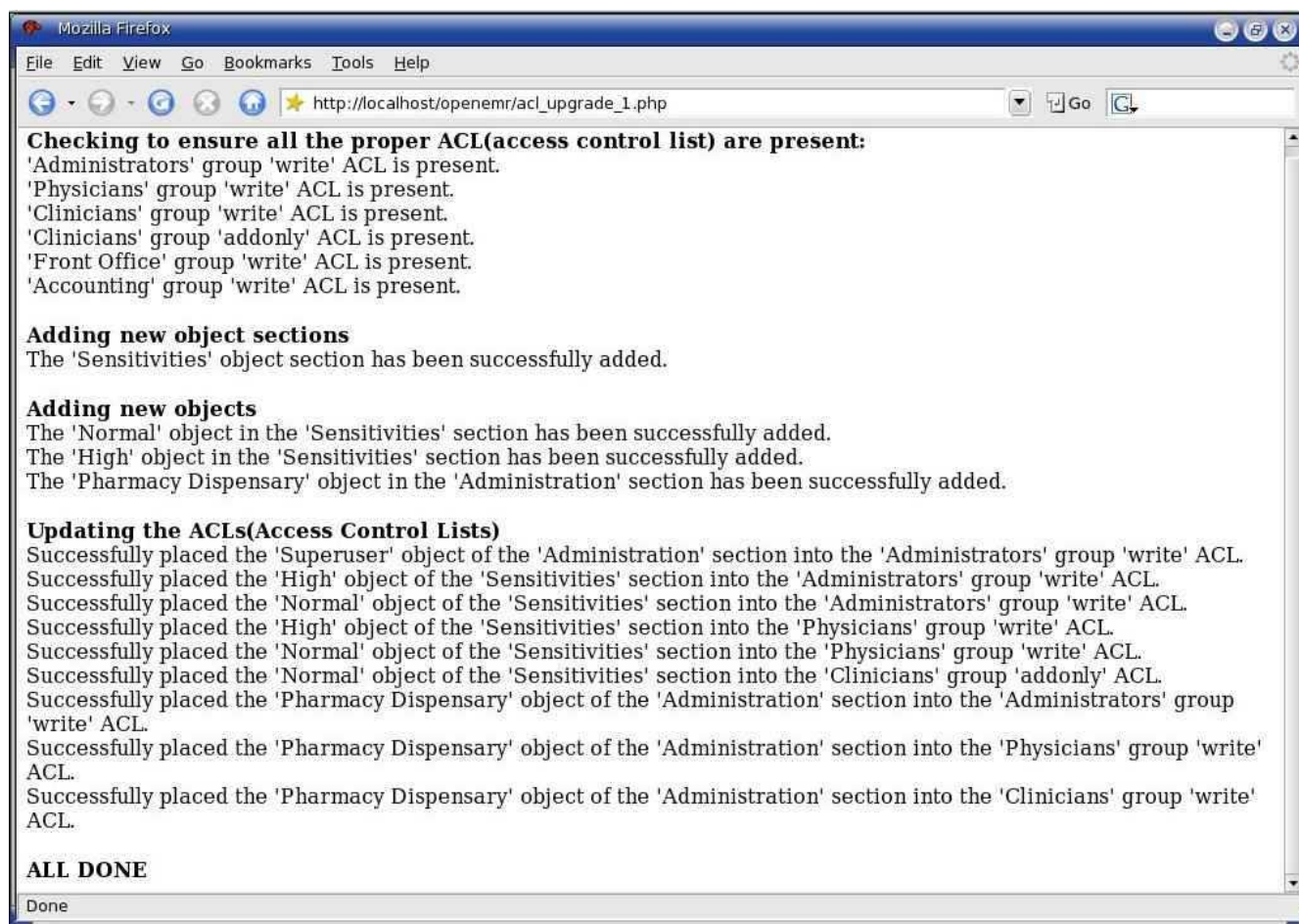
```
su
```

```
#copy upgrade script to openemr directory (note that the  
' .txt' is being changed to '.php')
```

```
mv /location/to/file/acl_upgrade_1.txt  
/var/www/html/openemr/acl_upgrade_1.php
```

2. Run php-gacl upgrade script via :

http://localhost/openemr/acl_upgrade_1.php



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

1. The Drug Dispensary Module should now work in OpenEMR. Here are some screenshots that show how to navigate to the pharmacy dispensary module for administrative purposes:

[Name](#) [Find Patient](#) [New Patient](#) [Password](#) [Administration](#) [Reports](#) [Notes](#) [AB](#) [Billing](#) [Home](#) [Logout](#)

Logged in: Clinical Director (Healthy Choice Clinic) **Sun September 9th 2007**

All Users | 2007-09-09 | Day View | Go | Today | Add | Search

<< Sunday, September 9, 2007 >>

C Director	T Sanders	B Bush
8:00	8:00	8:00

Patient Notes (See All) **and Authorizations(More)** (Find Patient)

Click 'Administration'

[Users & Groups](#) [Forms](#) [Practice](#) [Calendar](#) [Database](#) [BatchCom](#) [Drugs](#) [Language](#) [Logs](#) [Back](#)

Logged in: Clinical Director **Sun September 9th 2007**

User & Group Administration

New Facility Information:

Name: Phone:
 Address: City:
 State: Zip Code:
 Country: Federal EIN:

Edit Facilities: Main Clinic(Edit)

New User:

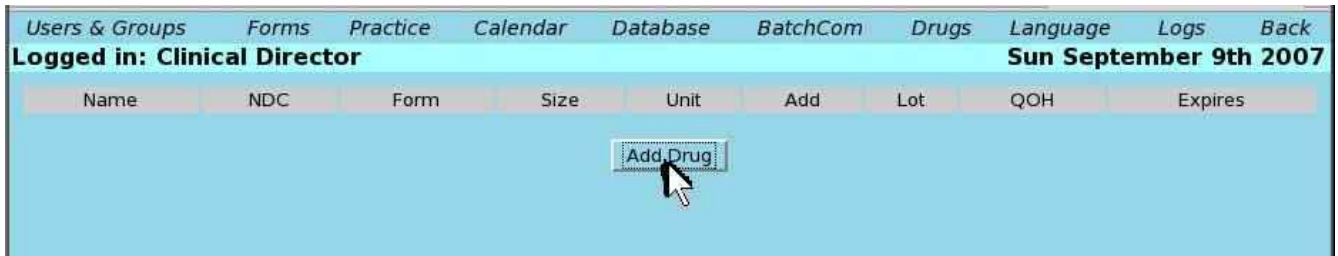
Username: Password:
 Groupname: Authorized:
 First Name: Middle Name:
 Last Name: Default Facility:
 Federal Tax ID: Federal Drug ID:
 UPIN: See Authorizations:

Additional Info:

New Group:

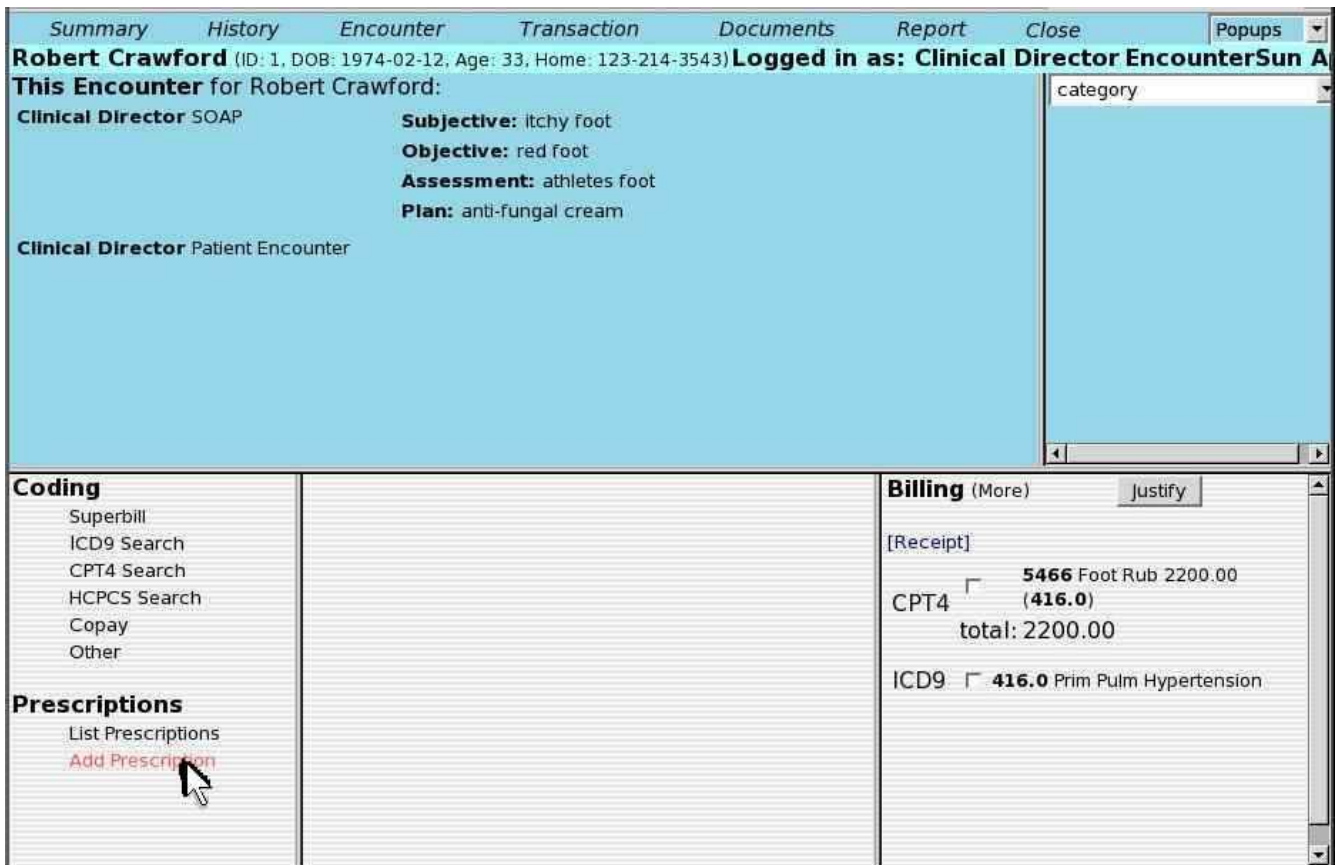
Groupname: Initial User:

Click 'Drugs'.

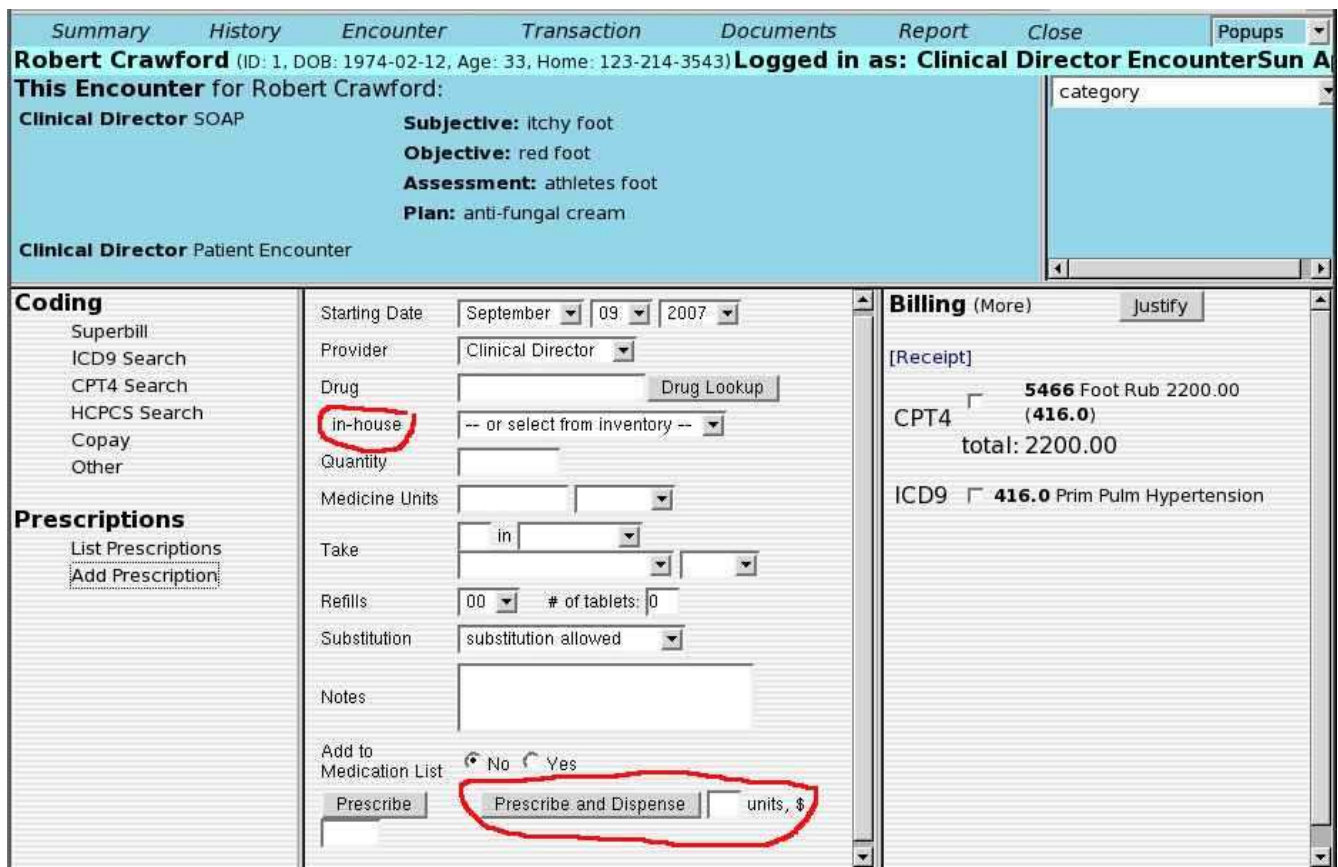


Click 'Add Drug', enter stuff and play around to figure out how to use.

Quick OpenEMR screenshots of prescribing drugs with the dispensary:



Click 'Add Prescription'.



Note the things circled in red, which are part of the pharmacy dispensary module.

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).

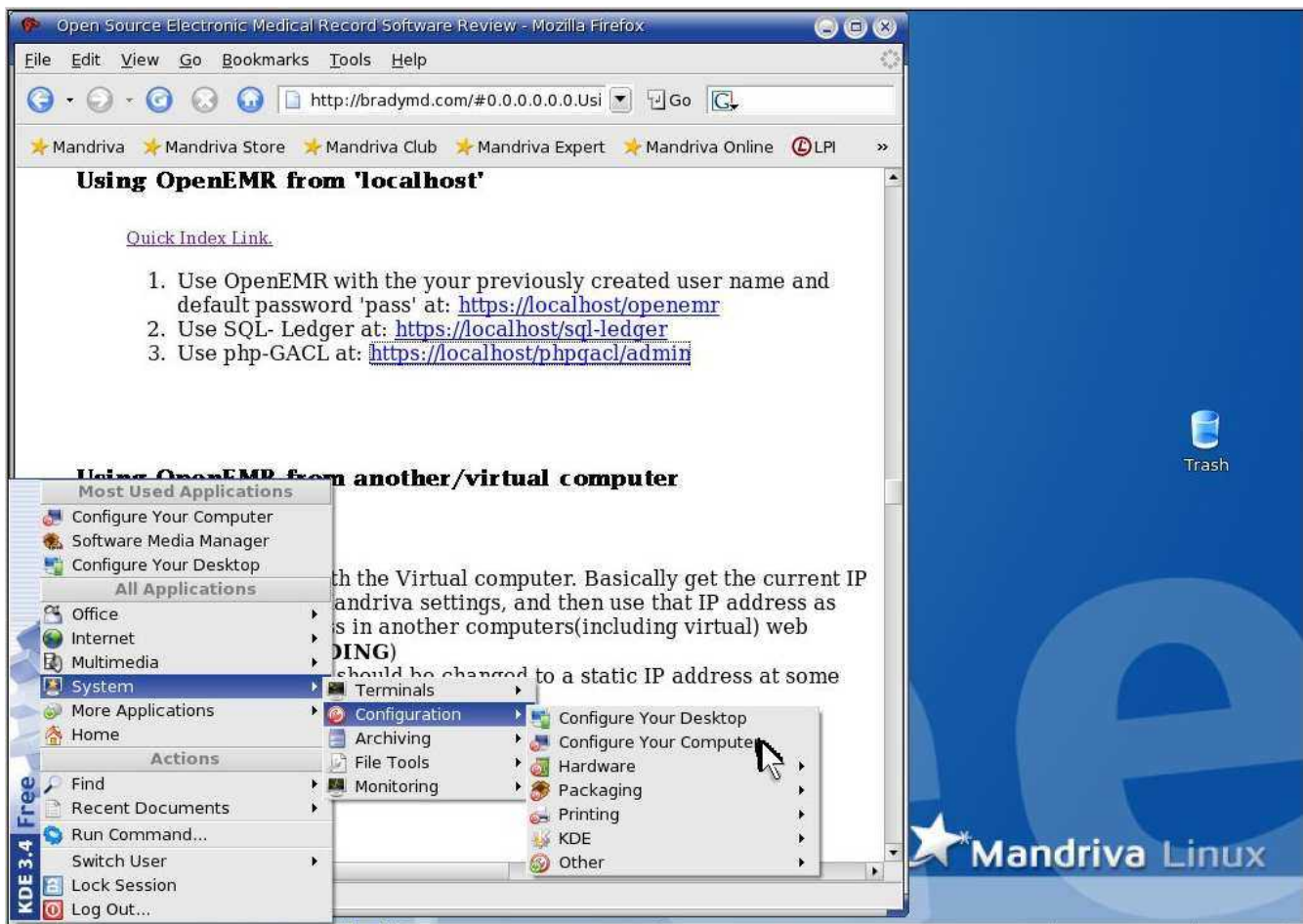


In my case I click on the 'Hewlett-Packard...' button at top of VMware window.



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

2. Then install software and printer via Mandriva Control Center, which will first install CUPS, and then look for printers. If your lucky, Mandriva will see your printer.



Click 'System' -> 'Configuration' -> 'Configure Your Computer'.



Enter 'root' user password. Then click 'OK'.

IMPORTANT, if you have not created a new 'root' user password, you need to proceed to Appendix A. '[Change Mandriva's expired 'root' user password](#)' **NOW**. (The default 'root' password is expired and will no longer work) When your done updating the password, then

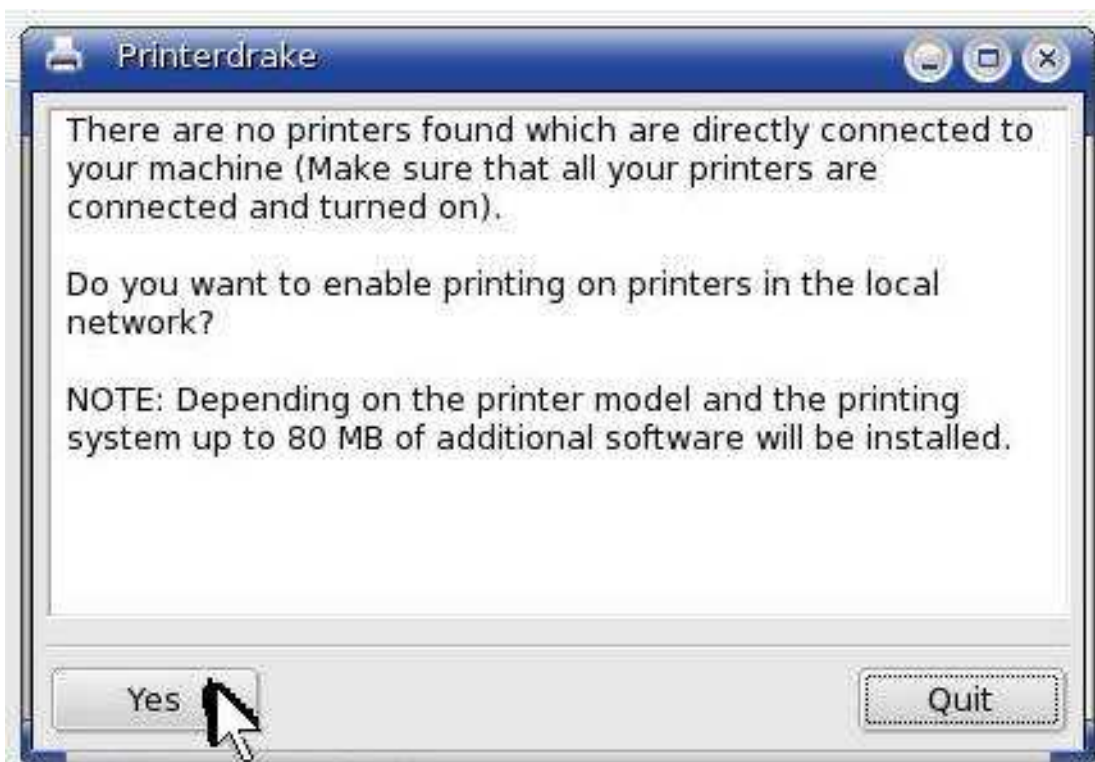
type your new password here.



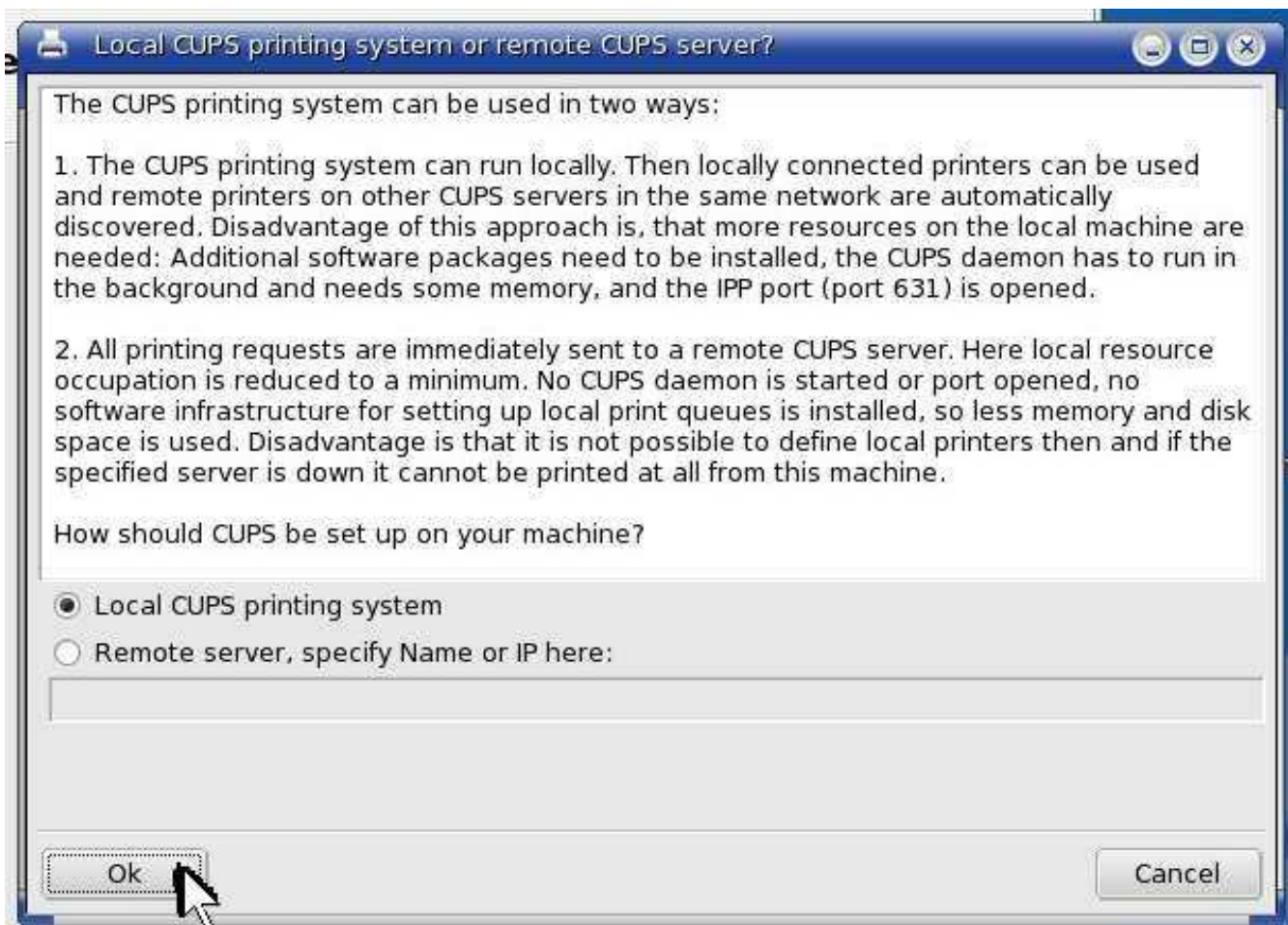
Click 'Hardware'



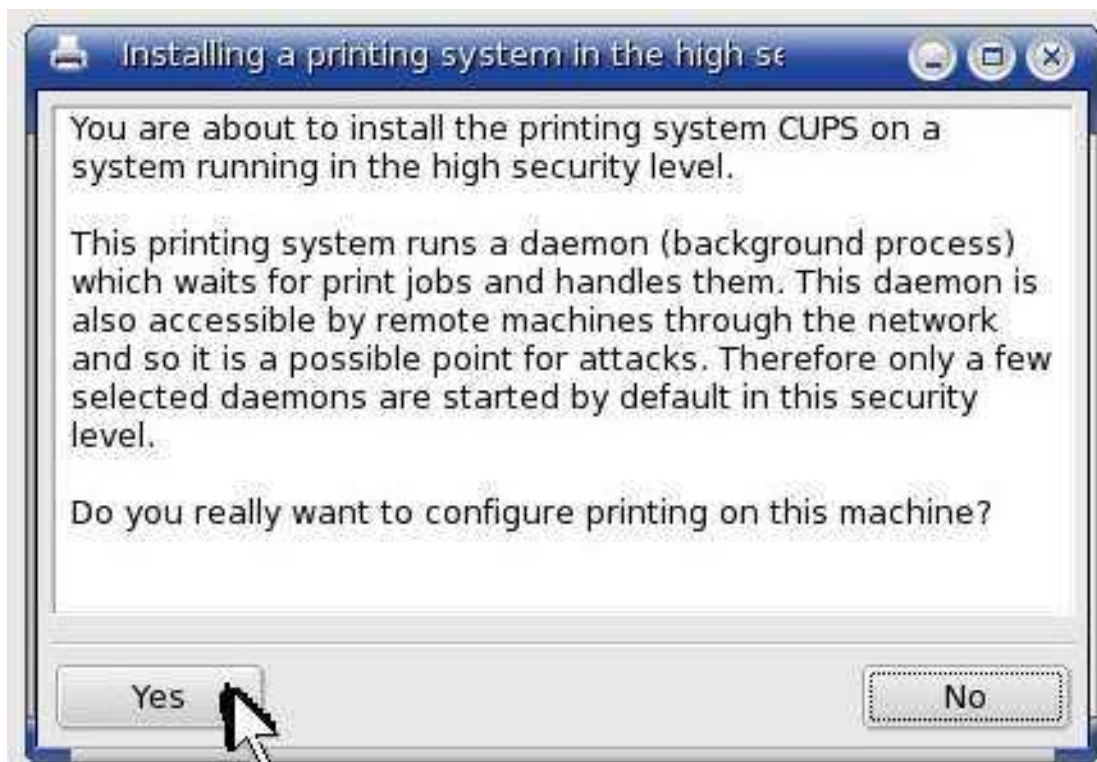
Click 'Set up the printer(s)...'.



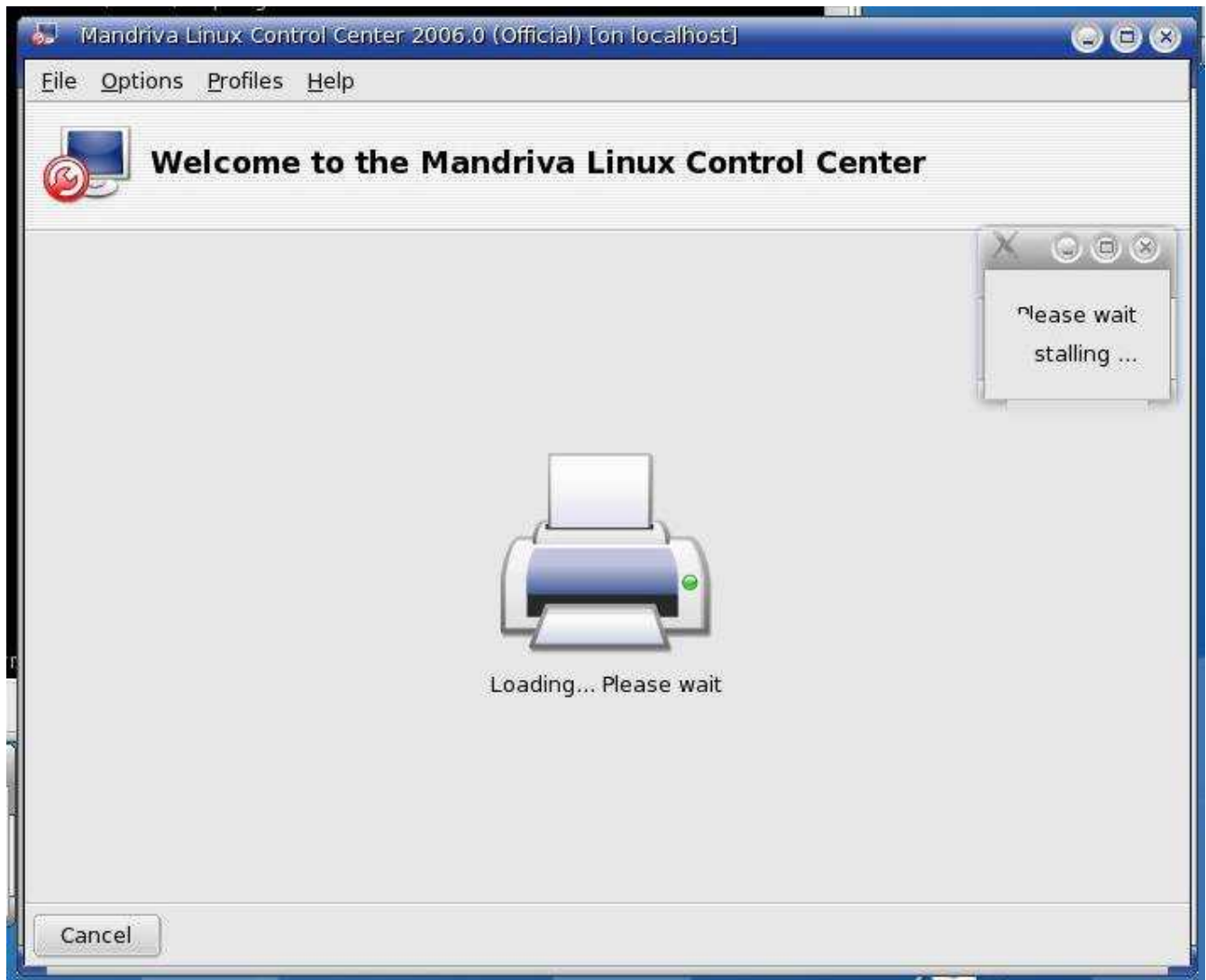
Click 'Yes'.



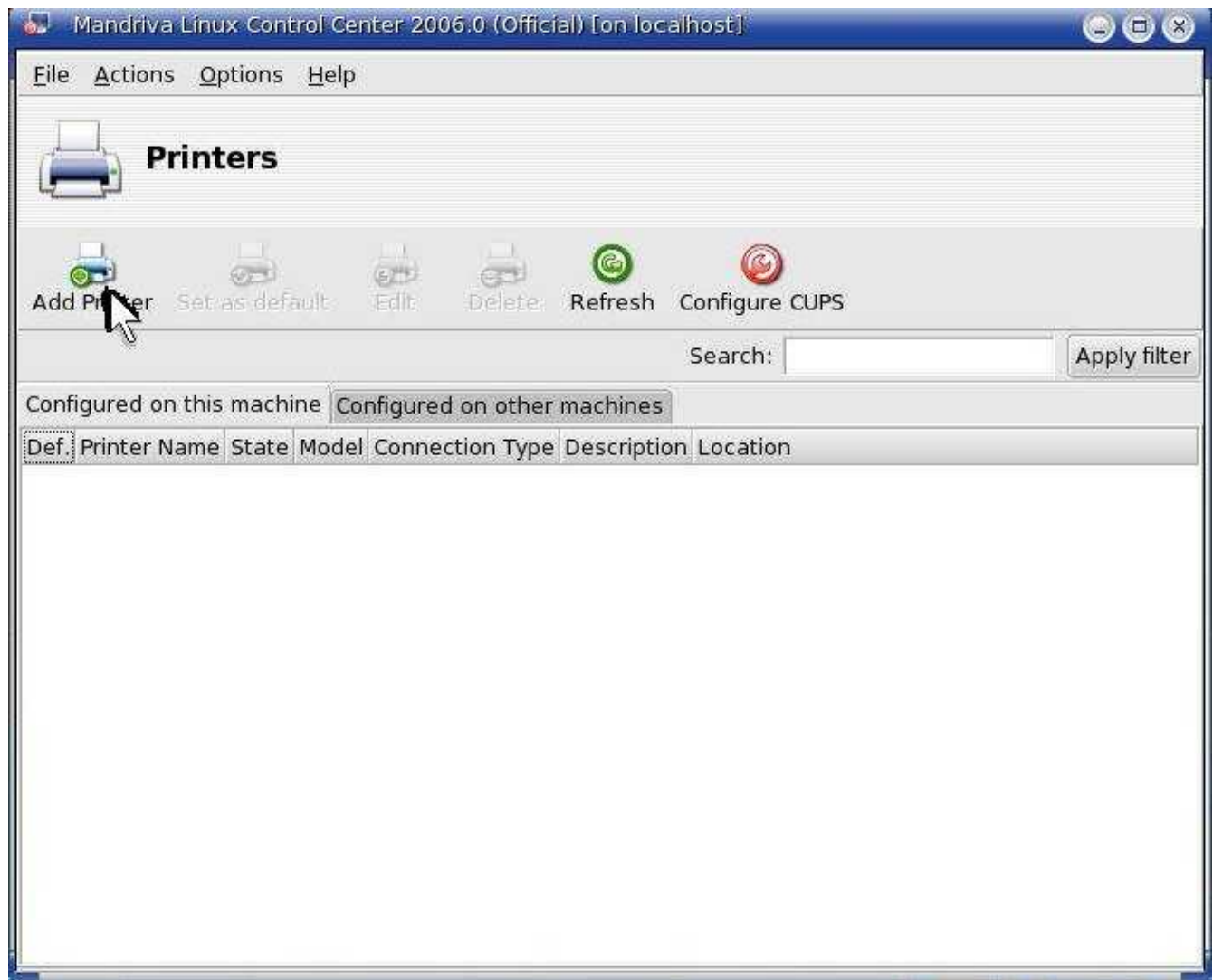
Select 'Local CUPS printing system'. Then click 'Ok'.



Click 'Yes'.



Just twiddle your thumbs and wait, it takes a while.



Click 'Add Printer'.

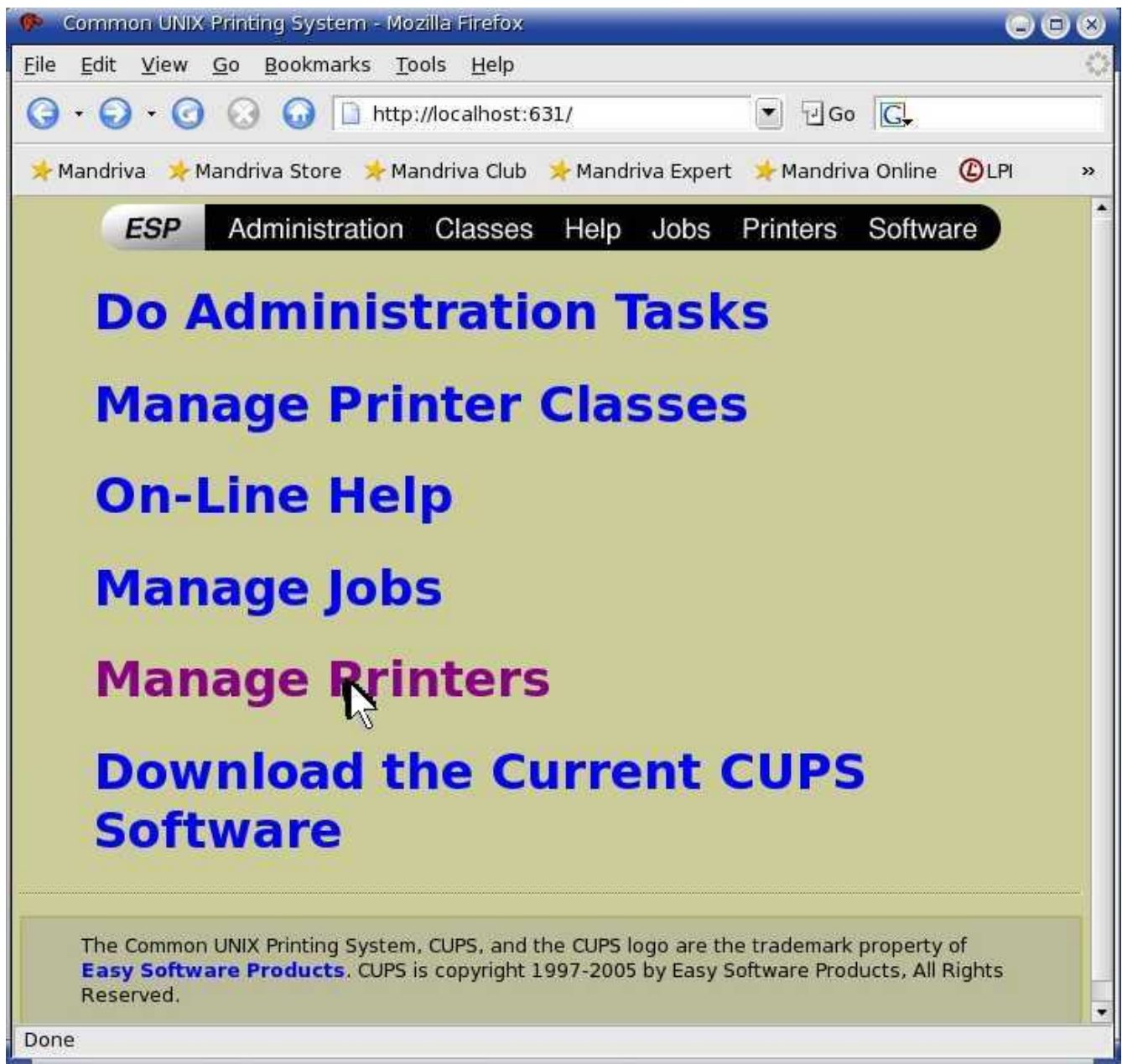


Select both auto-detect options. Then Click 'Next'.

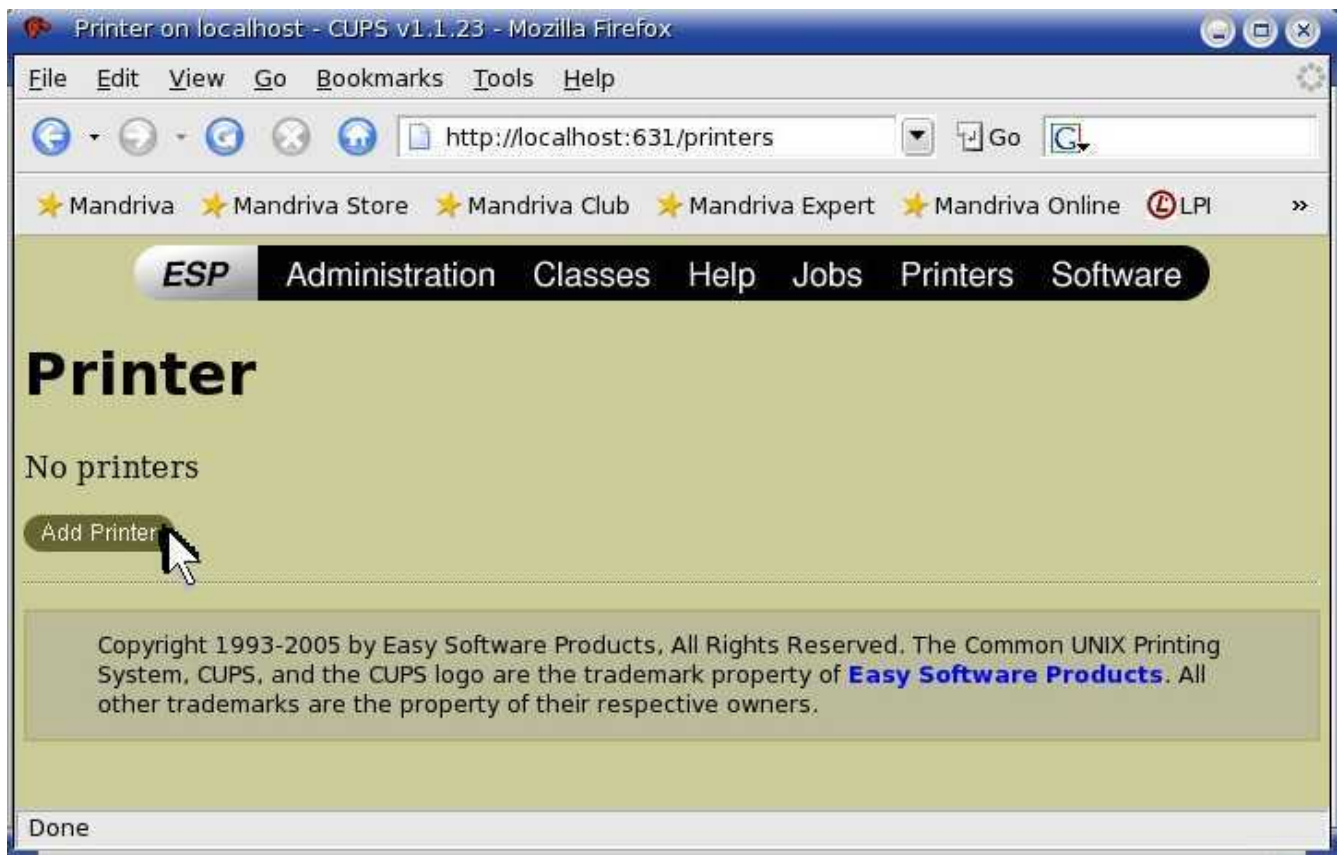


No big deal. Close the windows and we will install the printer below thru CUPS.

3. If the above step found your printer, then you can skip to the section below which will have you place the name of the printer into the openemr config file (this will allow printing while creating billing forms via freeb). If Mandriva can't find the printer, don't worry, we will install it via CUPS directly at: <http://localhost:631/>



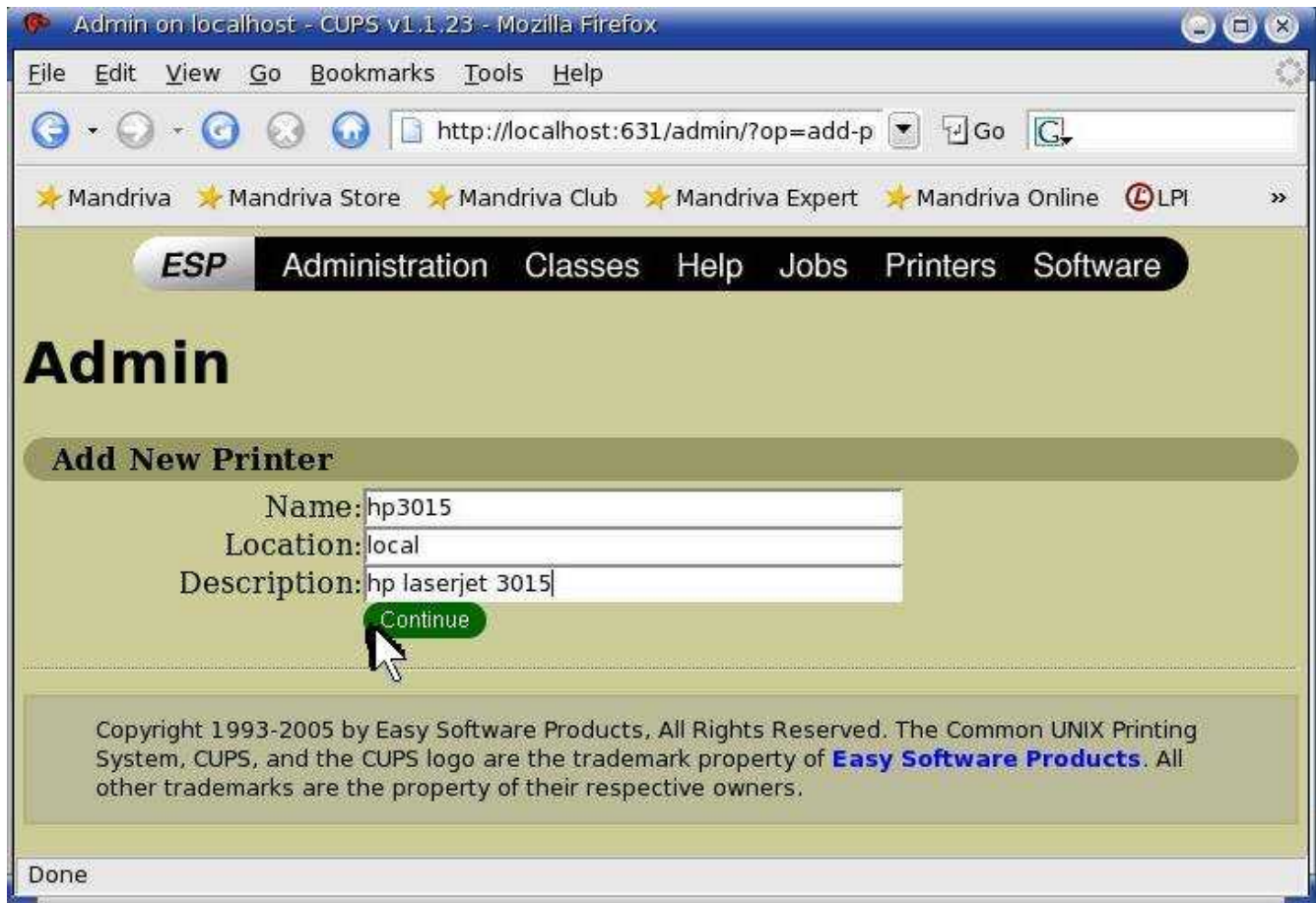
Click 'Manage Printers'.



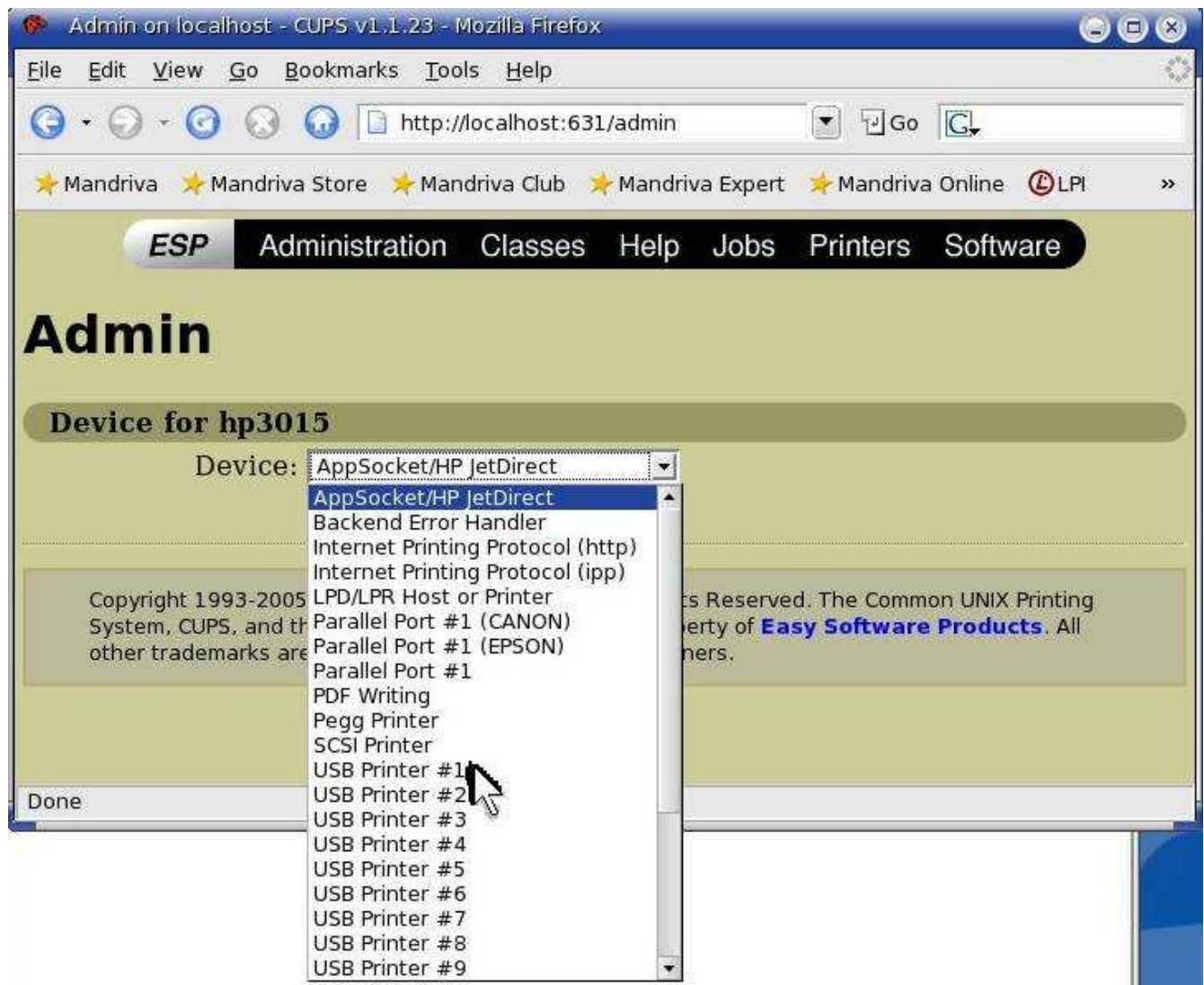
Click 'Add Printer'.



Enter 'User Name' -> 'root'. Enter the root password. Then click 'OK'.



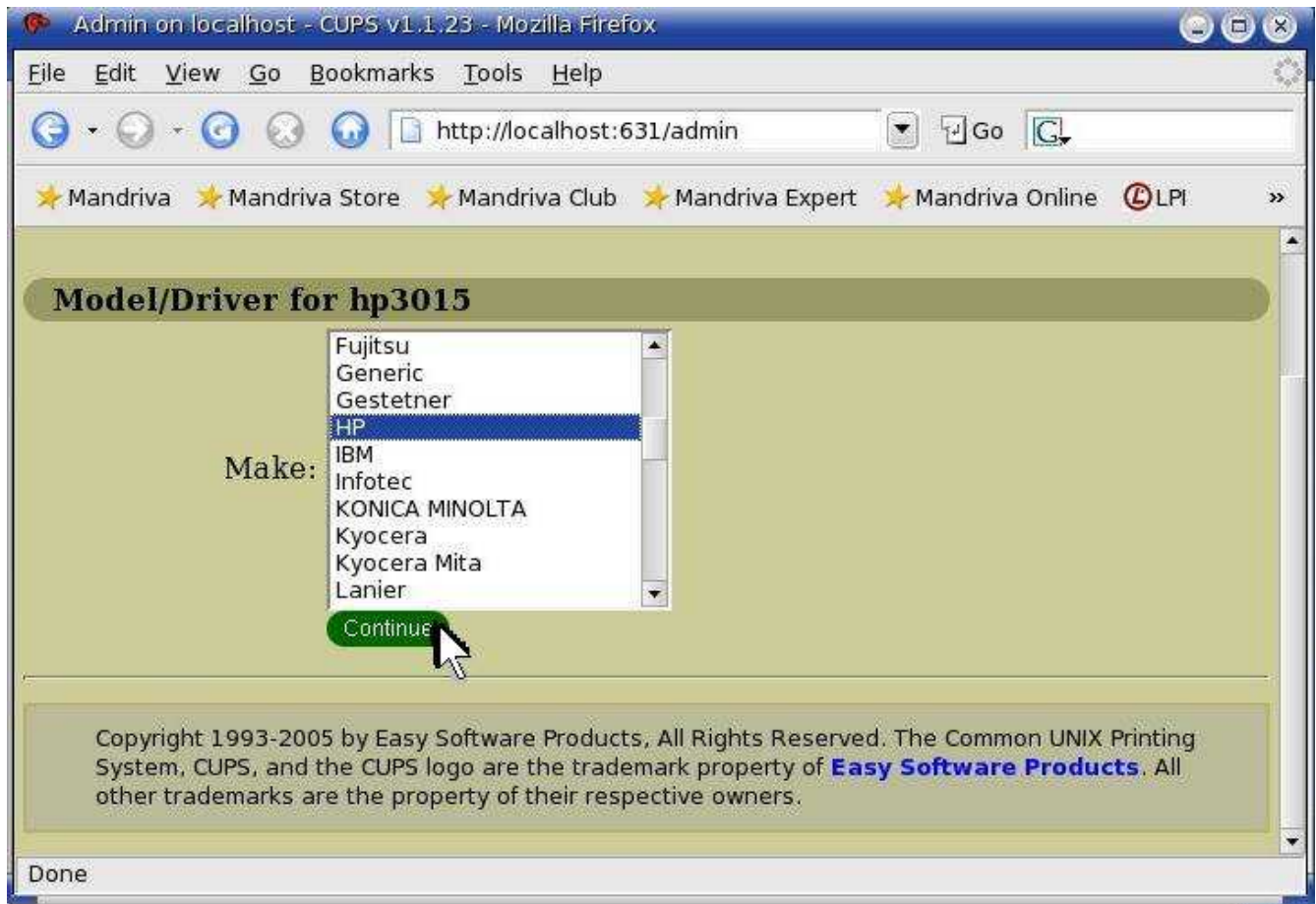
Fill in form, and then click 'Continue'. The only important field is the 'Name'. This will be used later when configuring printer for freeb/openemr.



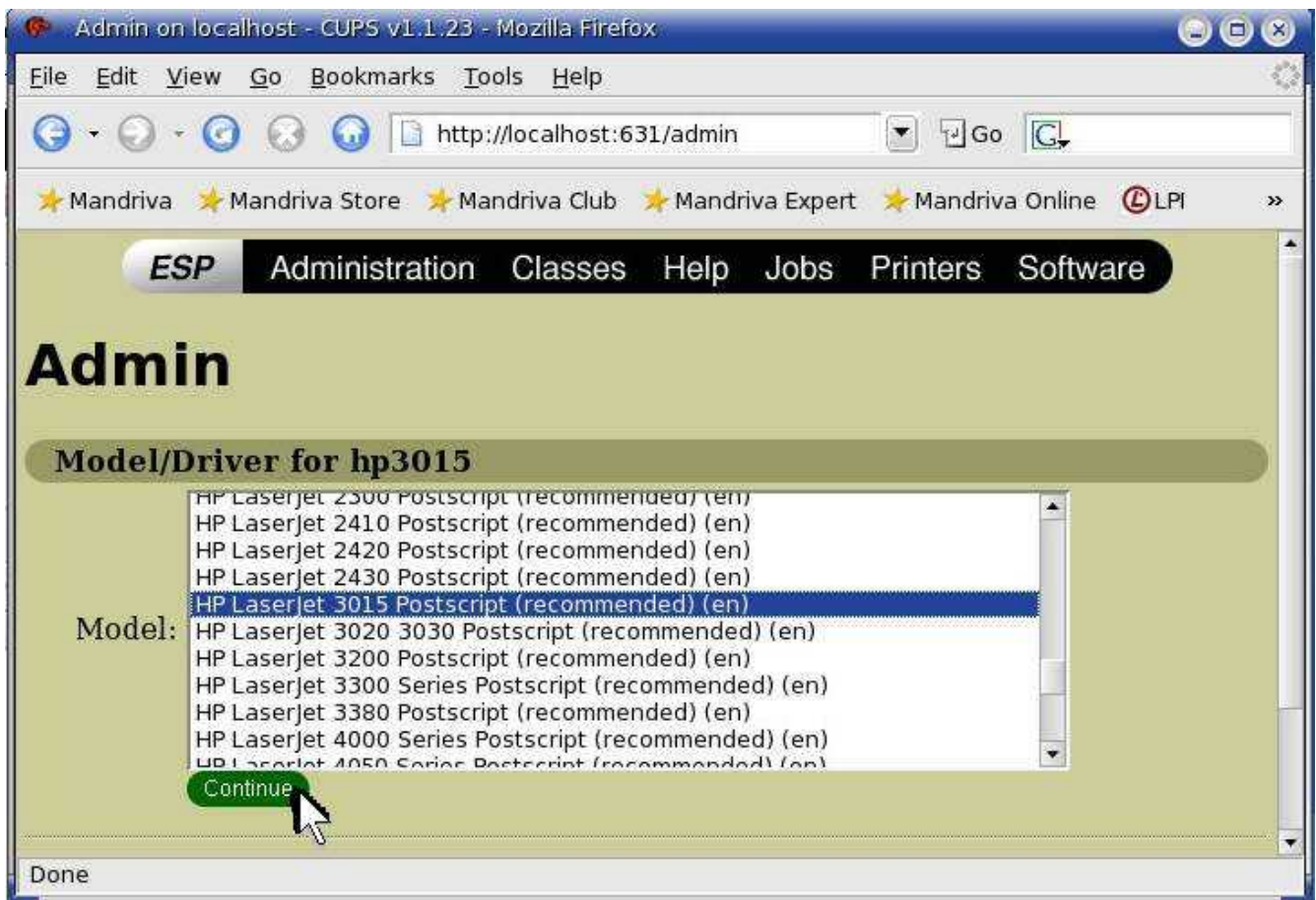
In my case I am selecting the 'USB Printer #1'. If your using a USB printer, this will likely work.



Click 'Continue'.



Select the make of your printer. Then click 'Continue'.



Select the model of your printer. Then click 'Continue'.

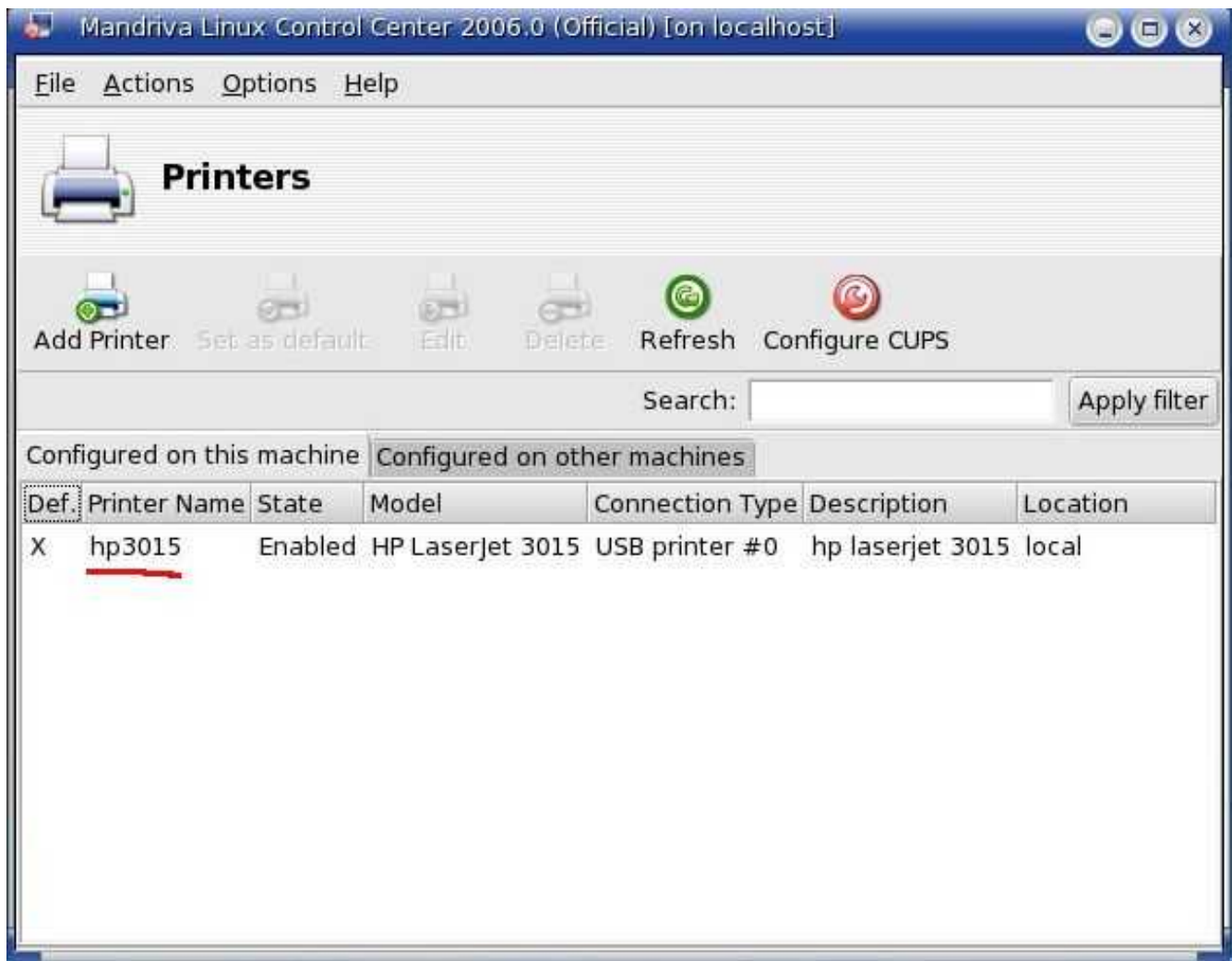


It Worked!! Click printer name to see more specifics on your newly added printer.



Done installing printer. I'd rec. testing it with 'Print Test Page'.

4. Confirm that your printer is seen by Mandriva and get your printer name:



Your printer name is underlined with red line. This will be typed into the below freeb/openemr configuration file.

5. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#edit file /var/www/html/openemr/includes/config.php:
```

```
mcedit /var/www/html/openemr/includes/config.php
```

```
#change bolded variable to the name of your printer
```

```
$GLOBALS['oer_config']['freeb']['printer_name'] =
```

```
"YourPrinterName";
```

```
TEXT EDITOR SAVE AND EXIT
```

Email Server Setup

[Main TOC Link](#)

1. This will allow only locally produced emails (such as "status" emails during the below 'backup script', or emails originating from OpenEMR) to be sent over the internet.
2. Need to update a package called 'msec' if you want to avoid an error email every minute(not exaggerating)
 1. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

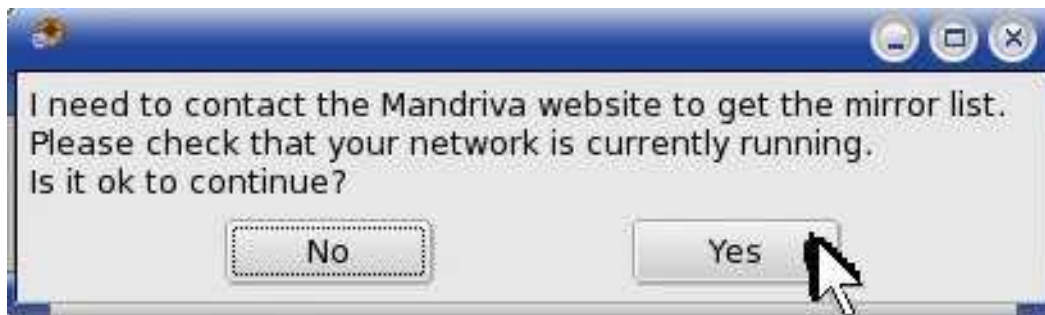
```
su
```

```
#Start MandrivaUpdate
```

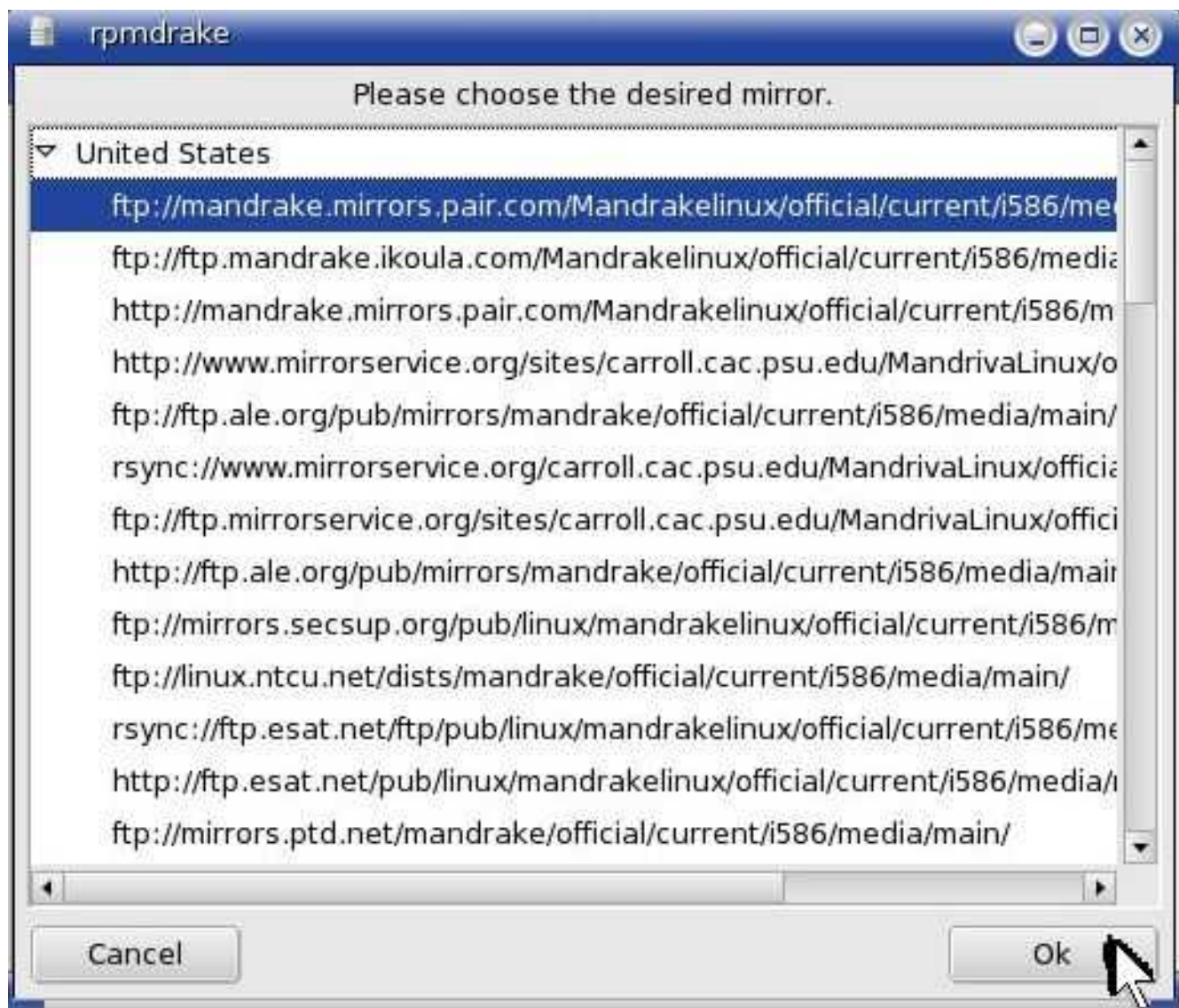
```
MandrivaUpdate
```



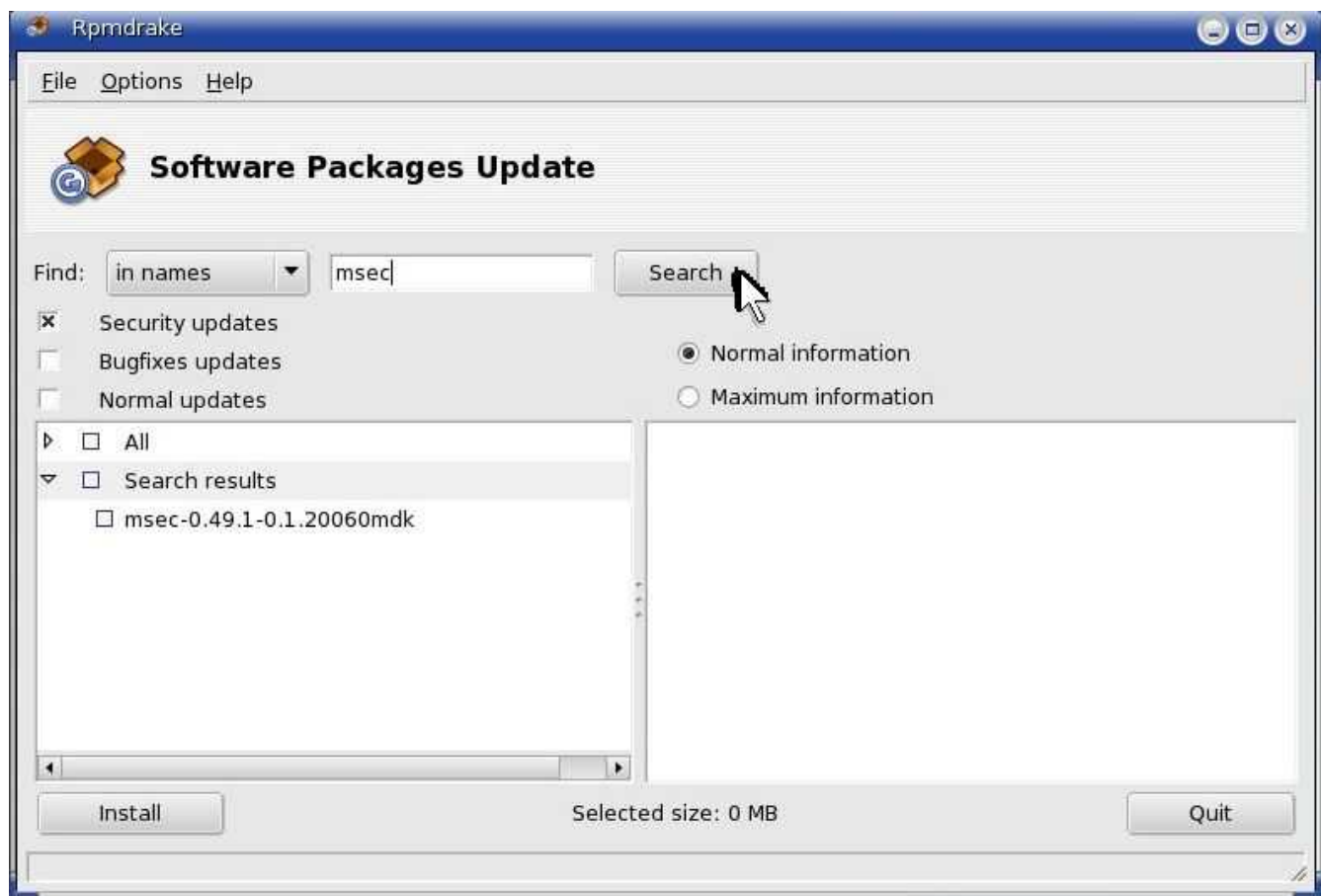
Click 'Yes'.



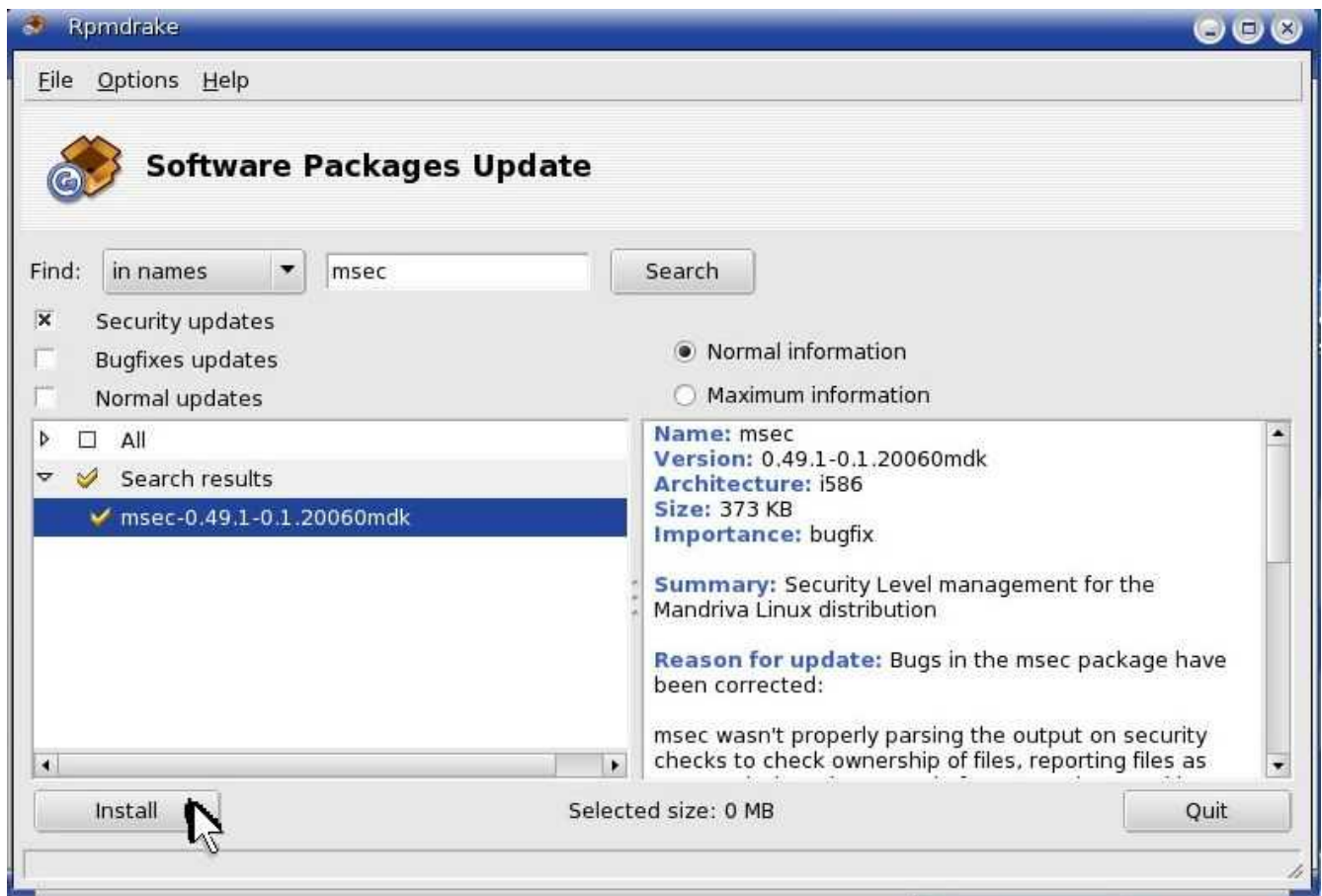
Click 'Yes'.



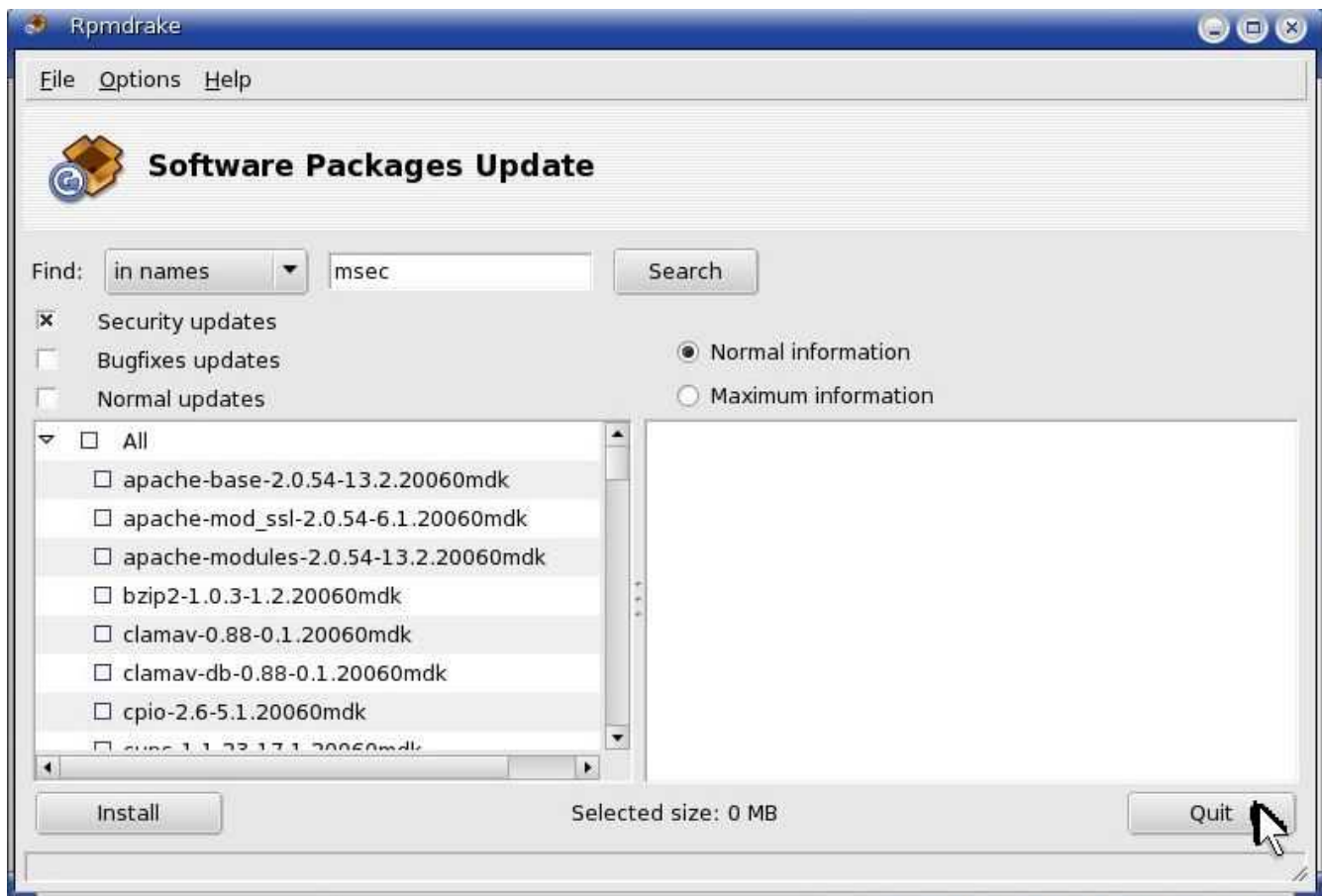
Click 'Ok'. (just select the default mirror)



Type 'msec' and click 'Search'.



Select 'msec-0.49.1-...'. Then click 'Install'.



Your done. Close the window.

3. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#This will allow outgoing mail from server.
```

```
# Just made up virtual.org, this can be  
# anything since this is only an outgoing  
# email server. (It does not need to match  
# your domain or server name.)
```

```
#edit config file /etc/postfix/main.cf:
```

```
mcedit /etc/postfix/main.cf
```

```
#add to end of file
```

```
mydomain = virtual.org
```

```
myhostname = $mydomain
```

```
myorigin = $mydomain
```

```
relayhost = YourOutgoingSMTPMailServerHere
```

```
#This will forward the root's email to
```

```
# the below email address (needed to
# monitor server emails such as below
# backup script status)
#edit aliases file /etc/postfix/aliases:
mcedit /etc/postfix/aliases
    #edit near end of file:
    root:      YourFullEmailAddressHere

#start postfix service and configure to start on computer boot up
service postfix start
chkconfig --add postfix
```

Automatic Backup Setup

[Main TOC Link](#)

1. This will enable a full daily backup of the MySQL server, PostGreSQL server, OpenEMR patient documents directory, and FreeB billing documents directory. The script will place a non-encrypted backup in the local hard drive secured /backup 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. The local /backup directory will have to be manually cleaned up occasionally. I'd recommend deleting old backup sub-directories on a monthly basis or so. (of course, a script could be written for this)
 2. There is no restore script yet, will have to be done manually.
 3. The MySQL and PostGreSQL are gzipped. The ...openemr/documents and .../freeb/public backups are compressed via DAR (NOT tar).
2. Download the script file [fullbackup.sh](http://bradymd.com/fullbackup.sh). File can be found at: <http://bradymd.com/fullbackup.sh> (to download file, you may need to Right-Click the link and select 'Save Link As...')
3. Configure file encryption package:
 1. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#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.

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 **/root/.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 as root user:

#log into root
su

#install the DAR backup package
urpmi dar
-yes to packages

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

#move the backup script to /root , secure it, and allow execution
mv /location/to/file/fullbackup.sh /root
chown root:root /root/fullbackup.sh
chmod 700 /root/fullbackup.sh

#edit file /root/dailybackup.sh:
mcedit /root/fullbackup.sh

```
#edit the below DVDDEVICE line to what the
#device for the DVD writer is. It is likely going to
#be /dev/hda , /dev/hdb , /dev/hdc ... A very
#non-scientific way to figure this out is to put
#a DVD with files in the DVD writer, go to root
#command line and then use the
#'mount /dev/hda /mnt/cdrom1'
#command then 'ls /mnt/cdrom1', and continue
#this until you get the right device,
#don't forgot to 'umount /mnt/cdrom1':
DVDDEVICE=/dev/hdb
```

```
#edit full name you entered above for encryption key:
YOURFULLNAME='Brady Miller'
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/mcedit
crontab -e
```

```
#paste below into empty file:
02 1 * * * . /root/fullbackup.sh
TEXT EDITOR SAVE AND EXIT
```

Instructions for Building the OpenEMR Appliance

[Main TOC Link](#)

[LINK TO MANUAL IN PDF FORMAT](#)

Instructions for Building the OpenEMR Appliance Chapter Index

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Required Software

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[Chapter Index Link](#)

1. Apache (2.0.54), MySQL (4.1.12), and PHP (4.4.0)
2. OpenEMR (2.8.1) and OpenEMR (2.8.2)
3. FreeB (0.11) and FreeB (0.12) – Insurance billing software
4. PostgreSQL (8.0.3) – Database program required by SQL-ledger
5. SQL-Ledger (2.6.3) – Billing, Accounting, and Inventory software
6. php-GACL (3.3.6) – Access Control software

Important Issues Before Installation

[Main TOC Link](#)

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- 1. These instructions are exact instructions for building this appliance. If you are using these instructions, you have two options:**
 - 1. You can follow the instructions exactly, which means installing OpenEMR 2.8.1(with FreeB 0.11) first and then upgrading to 2.8.2(with FreeB 0.12). This will guarantee getting a working version, which is identical to the Appliance.**
 - 2. Or you can try to install OpenEMR 2.8.2(with FreeB 0.12) using the 2.8.1 instructions(it should work in theory) to avoid having to go thru the upgrade sections. Please note I have not tested this.**
2. Complete all of the steps before entering any data into OpenEMR. The SQL-Ledger and OpenEMR software may communicate in strange ways if you enter data into OpenEMR before installing SQL-Ledger.
3. Passwords can be confusing during the SQL-Ledger installation. To avoid any confusion it is helpful to know that during the installation you will create a PostGreSQL user called 'sql-ledger' with a password. This user/password combination will be used frequently, and the password will be referred to as '*sql-ledger-password*'

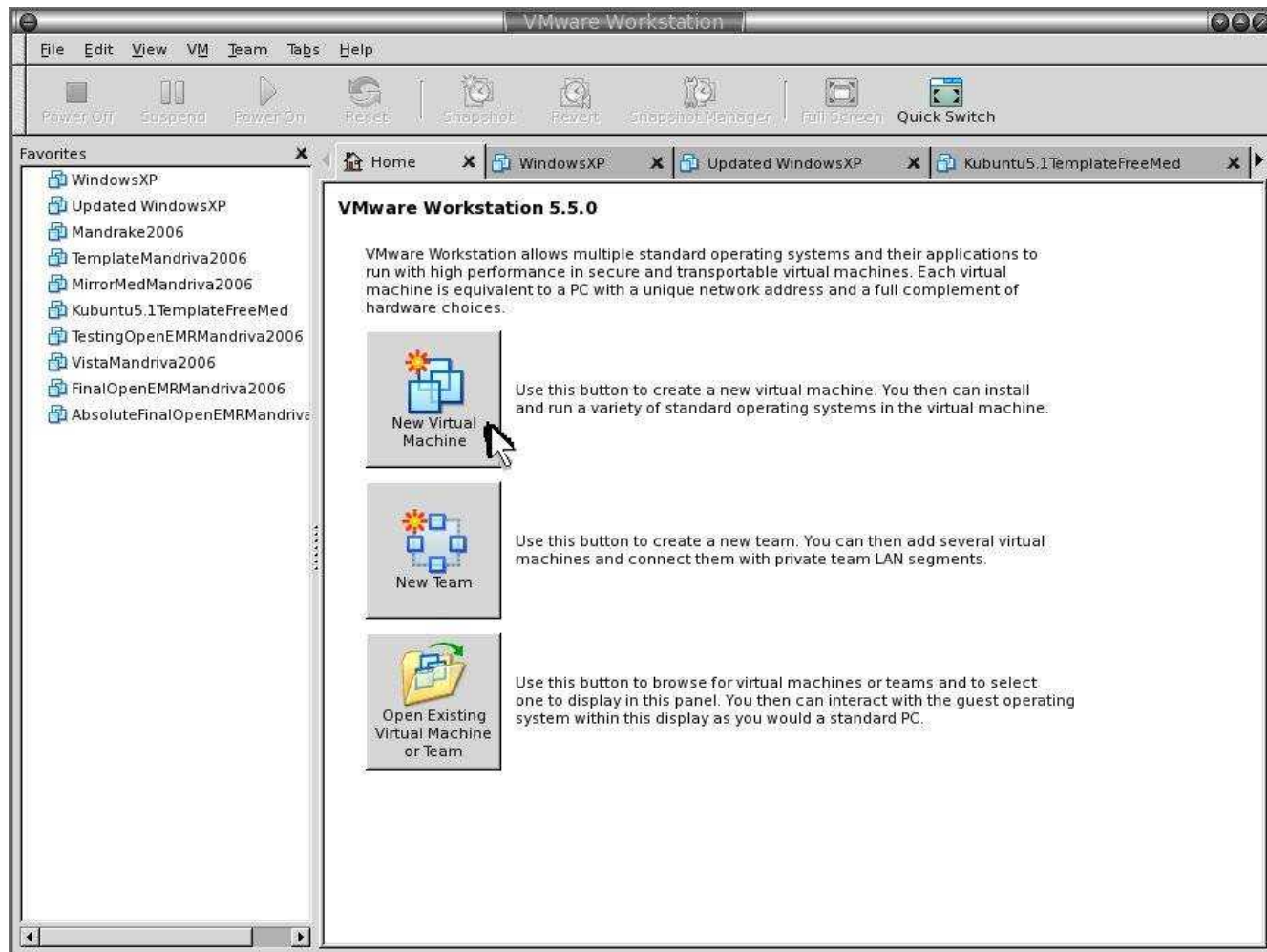
throughout this document to avoid confusion.

Install the Mandriva 2006 Virtual Computer

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[Chapter Index Link](#)

1. You can use either VMware Workstation or VMware Server to build the Mandriva 2006 Virtual Computer.
2. VMware Workstation Configuration:



Click 'New Virtual Machine'.



Select 'typical'. Then click 'Next'.



Select 'Linux' and 'Mandrake Linux'. Then click 'Next'.



Select 'Use bridged networking'. Then click 'Next'.



Enter 'Disk Size'->'20 GB'. Select 'Split disk into 2GB files'. Then click 'Finish'.

3. Insert the Mandriva2006 DVD/CD.
4. Click 'Power On' via Vmware.
5. Install Mandriva2006:

System installation

- Language
- License
- **Security**
- Partitioning
- Install system

System configuration

- Administrator password
- Add a user
- Install bootloader
- Summary
- Install updates
- Exit install

Security

Please choose the desired security level

Standard: This is the standard security recommended for a computer that will be used to connect to the Internet as a client.

High: There are already some restrictions, and more automatic checks are run every night.

Higher: With this security level, the use of this system as a server becomes possible. The security is now high enough to use the system as a server which can accept connections from many clients. Note: if your machine is only a client on the Internet, you should choose a lower level.

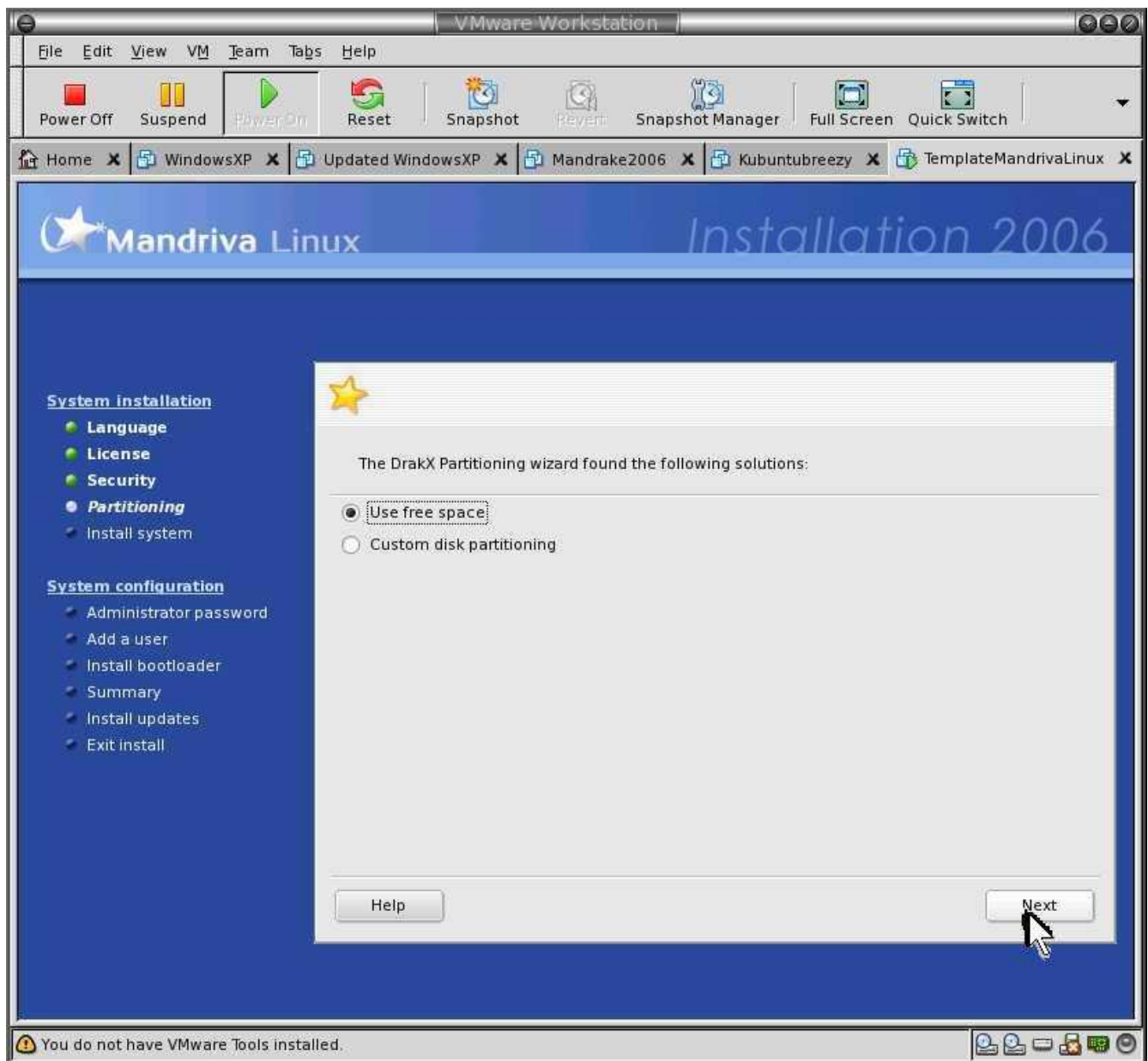
Paranoid: This is similar to the previous level, but the system is entirely closed and security features are at their maximum.

Security level: Higher

Security Administrator (login or email): root

Help Next

Change 'Security Level' -> 'Higher'. Type in an administrator log in name. Then click 'Next'.



Select 'Use free space'. Then click 'Next'.

System installation

- Language
- License
- Security
- **Partitioning**
- Install system

System configuration

- Administrator password
- Add a user
- Install bootloader
- Summary
- Install updates
- Exit install

Please wait

The following installation media have been found.
If you want to skip some of them, you can unselect them now.

Installation Free DVD

You have the option to copy the contents of the CDs onto the hard drive before installation.
It will then continue from the hard drive and the packages will remain available once the system is fully installed.

Copy whole CDs

Next

Click 'Next'.

System installation

- Language
- License
- Security
- **Partitioning**
- Install system

System configuration

- Administrator password
- Add a user
- Install bootloader
- Summary
- Install updates
- Exit install

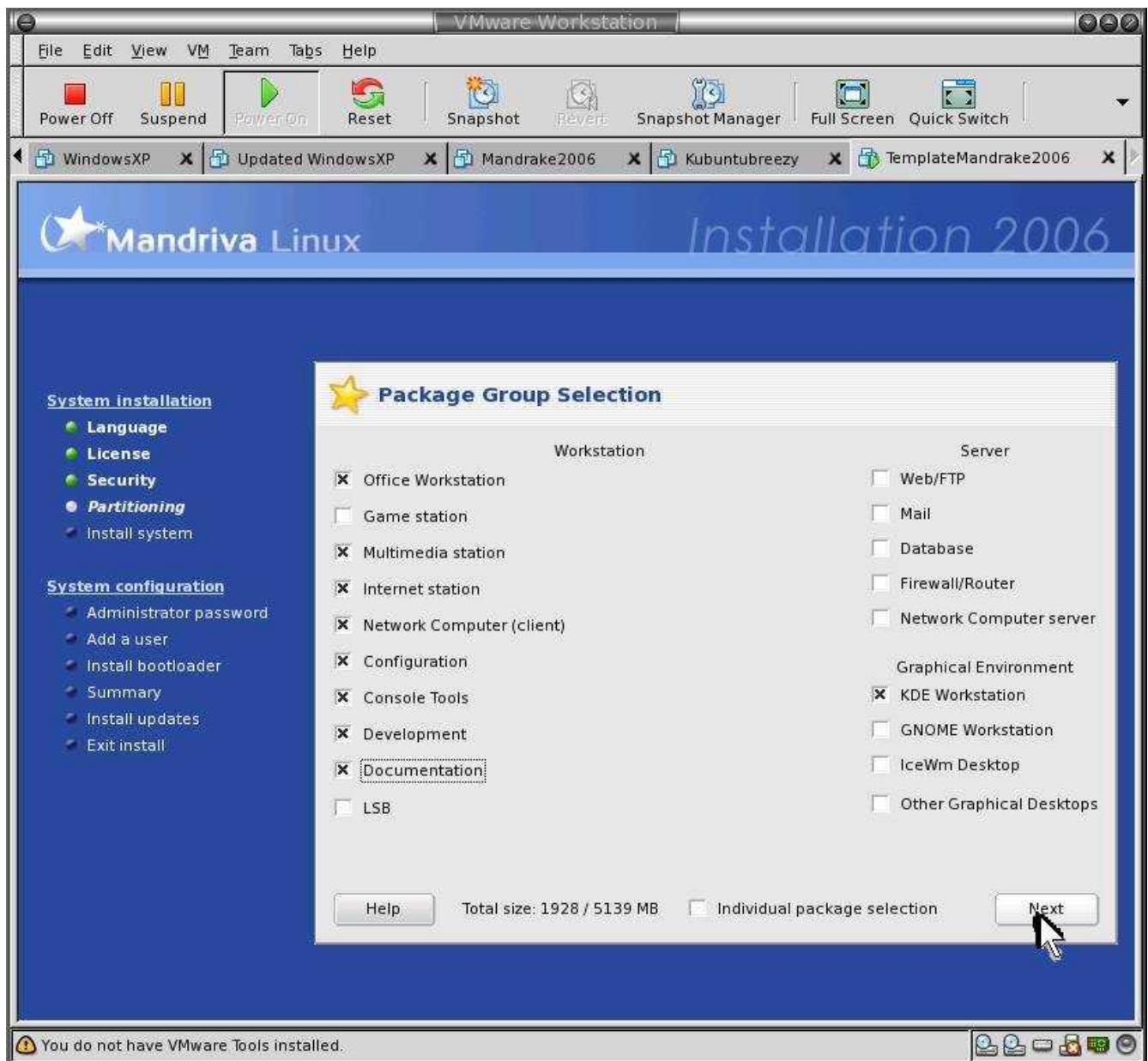
The following media have been found and will be used during install: Installation Free DVD.

Do you have a supplementary installation media to configure?

- None
- CD-ROM
- Network (HTTP)
- Network (FTP)
- Network (NFS)

Ok

Click 'Ok'.



Select 'Office Workstation', 'Multimedia Station', 'Internet Station', 'Network Computer(client)', 'Configuration', 'Console Tools', 'Development', 'Documentation', 'KDE Workstation'. Do NOT select any Server selections. Then click 'Next'.

System installation

- Language
- License
- Security
- Partitioning
- Install system

System configuration

- **Administrator password**
- Add a user
- Install bootloader
- Summary
- Install updates
- Exit install

★ Set administrator (root) password and network authentication method

Set administrator (root) password

Password

Password (again)

Help Authentication method Next

Enter a secure password. Then click 'Next'.

System installation

- Language
- License
- Security
- Partitioning
- Install system

System configuration

- Administrator password
- **Add a user**
- Install bootloader
- Summary
- Install updates
- Exit install

Add user

Enter a user

Real name	openemr
Login name	openemr
Password	*****
Password (again)	*****

ctools	<input type="checkbox"/> access to compilation tools
rpm	<input type="checkbox"/> access to rpm tools
xgrp	<input checked="" type="checkbox"/> access to X programs
ntools	<input checked="" type="checkbox"/> access to network tools
adm	<input type="checkbox"/> access to administrative files
wheel	<input checked="" type="checkbox"/> allow "su"

Help Advanced **Accept user** Next

Type in a 'Name', 'Login name', and 'Password'. Toggle ON 'xgrp', 'ntools', and 'wheel'. Then click 'Accept user'.

System Installation

- Language
- License
- Security
- Partitioning
- Install system

System configuration

- Administrator password
- **Add a user**
- Install bootloader
- Summary
- Install updates
- Exit install

Add user

Enter a user
(already added openemr)

Real name

Login name

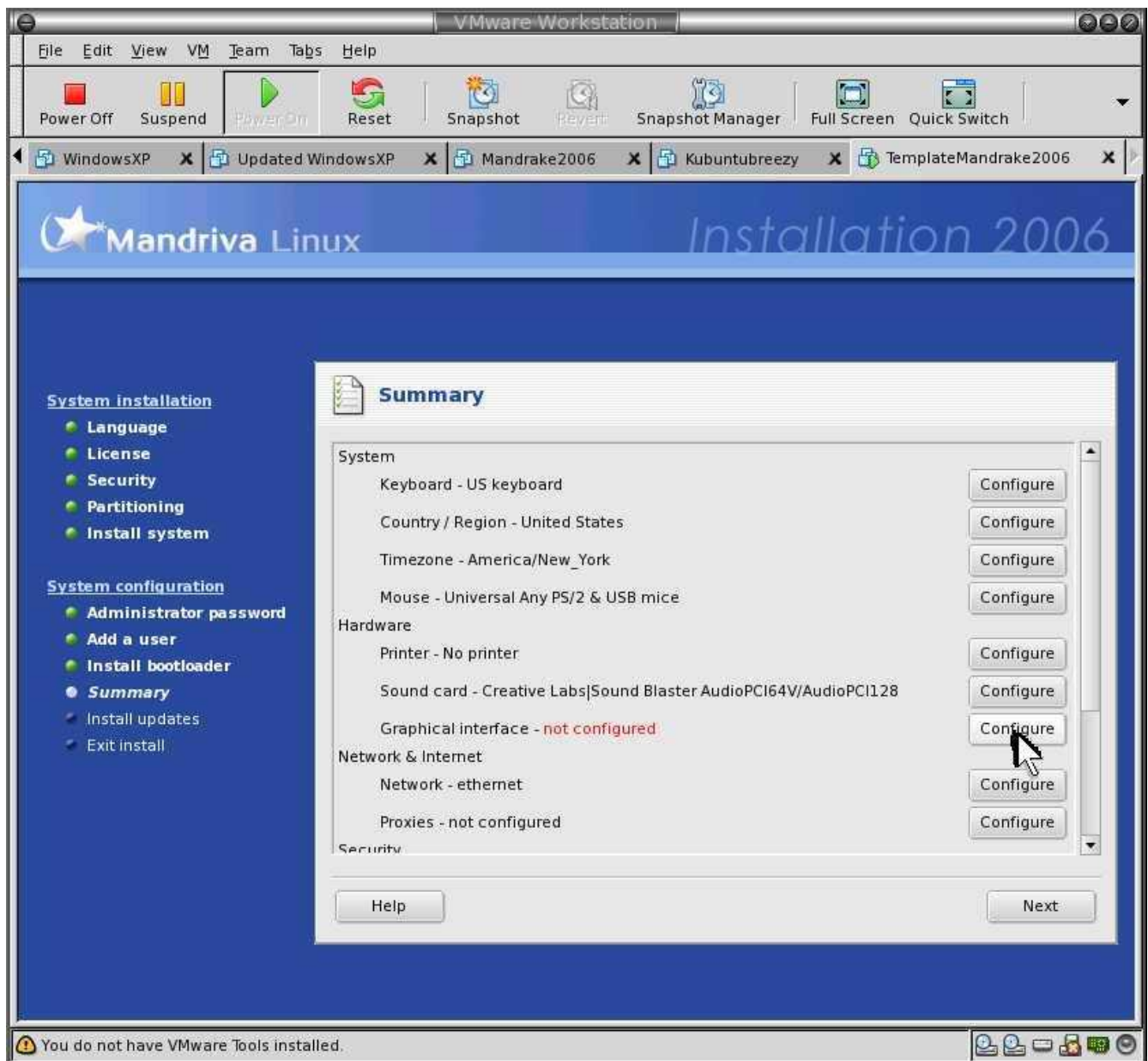
Password

Password (again)

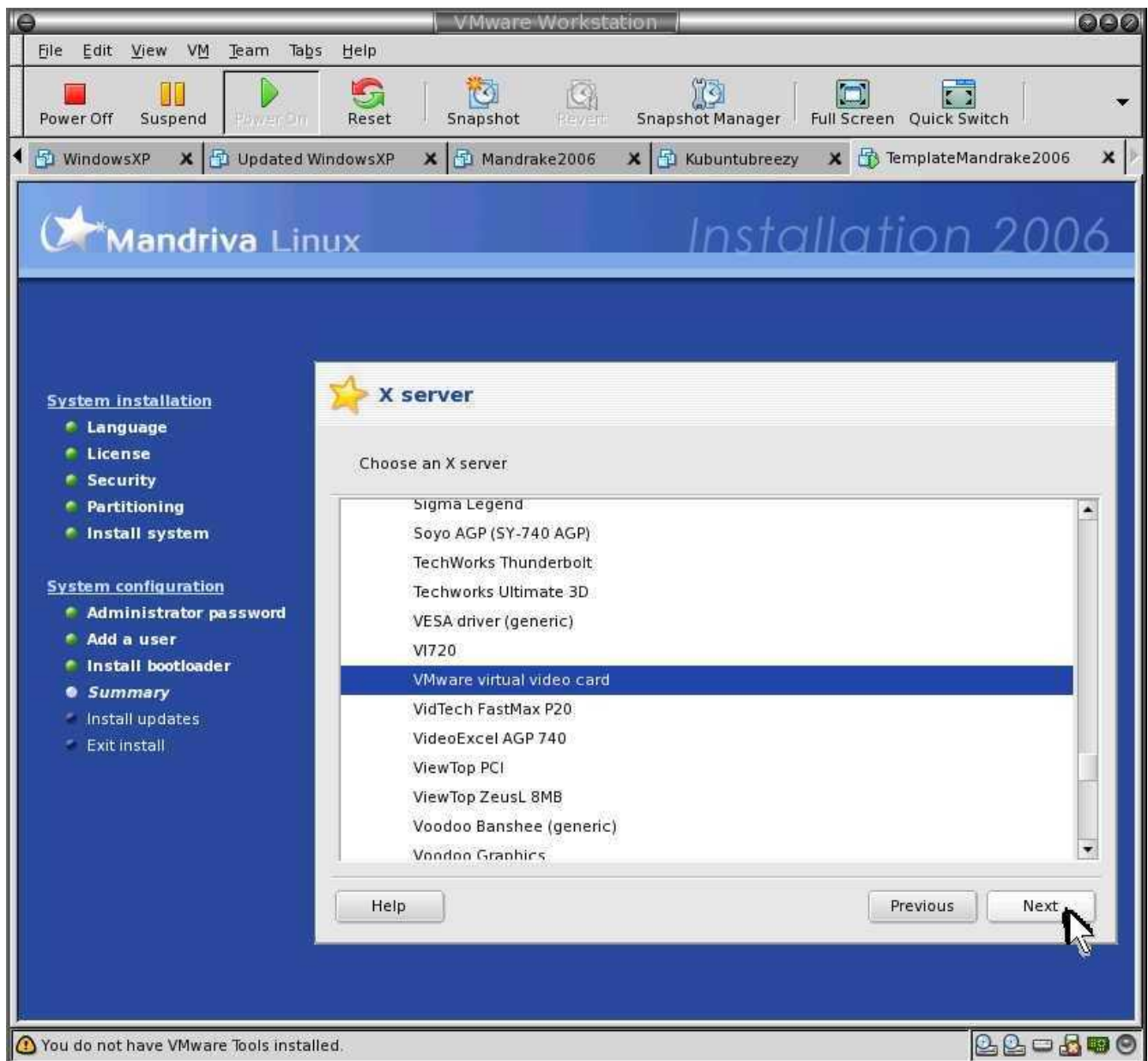
ctools	<input type="checkbox"/>	access to compilation tools
rpm	<input type="checkbox"/>	access to rpm tools
xgrp	<input type="checkbox"/>	access to X programs
ntools	<input type="checkbox"/>	access to network tools
adm	<input type="checkbox"/>	access to administrative files
wheel	<input type="checkbox"/>	allow "su"

Buttons: Help, Advanced, Accept user, Next

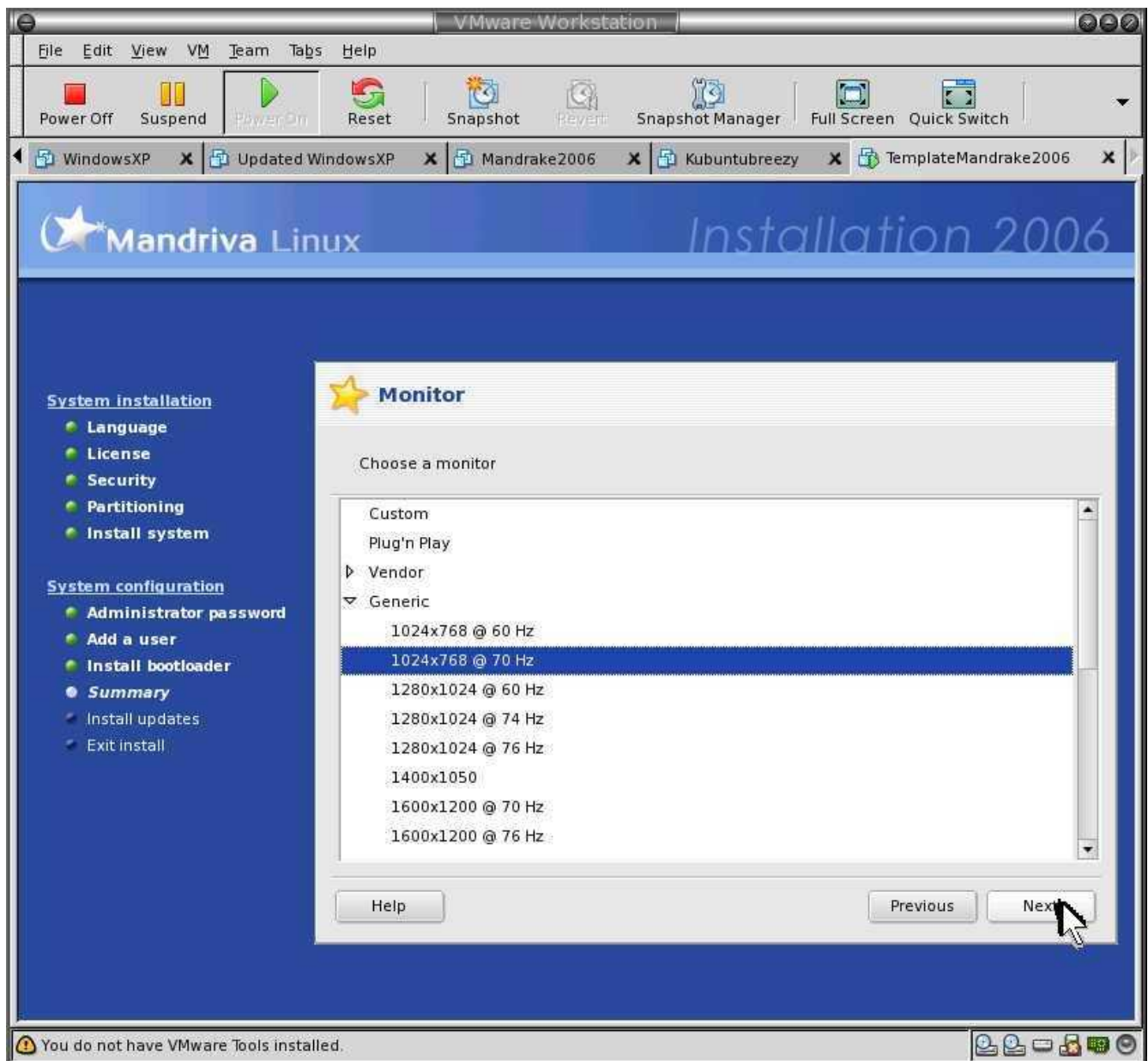
Click 'Next'.



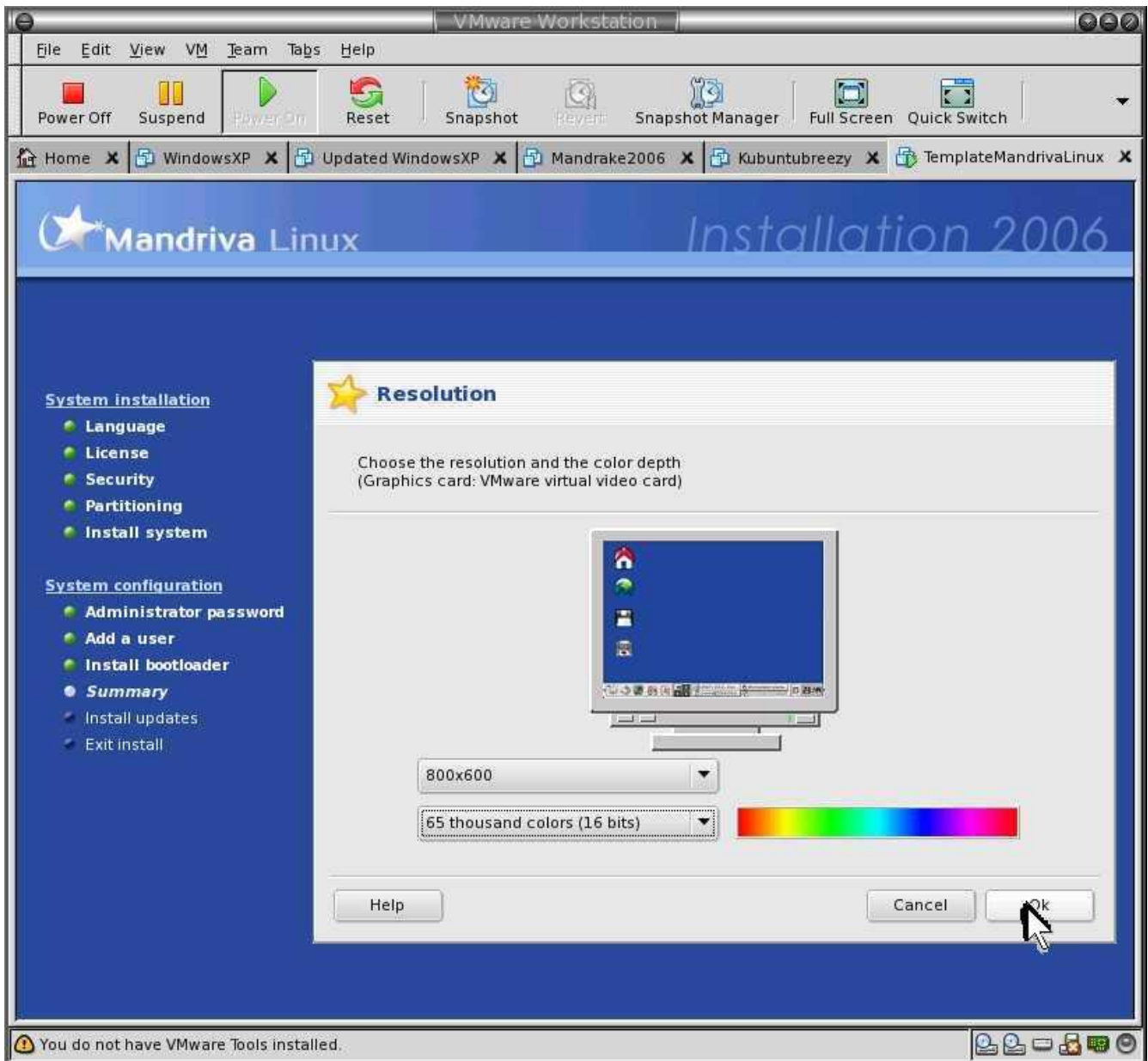
At 'Graphical Interface', click 'Configure'.



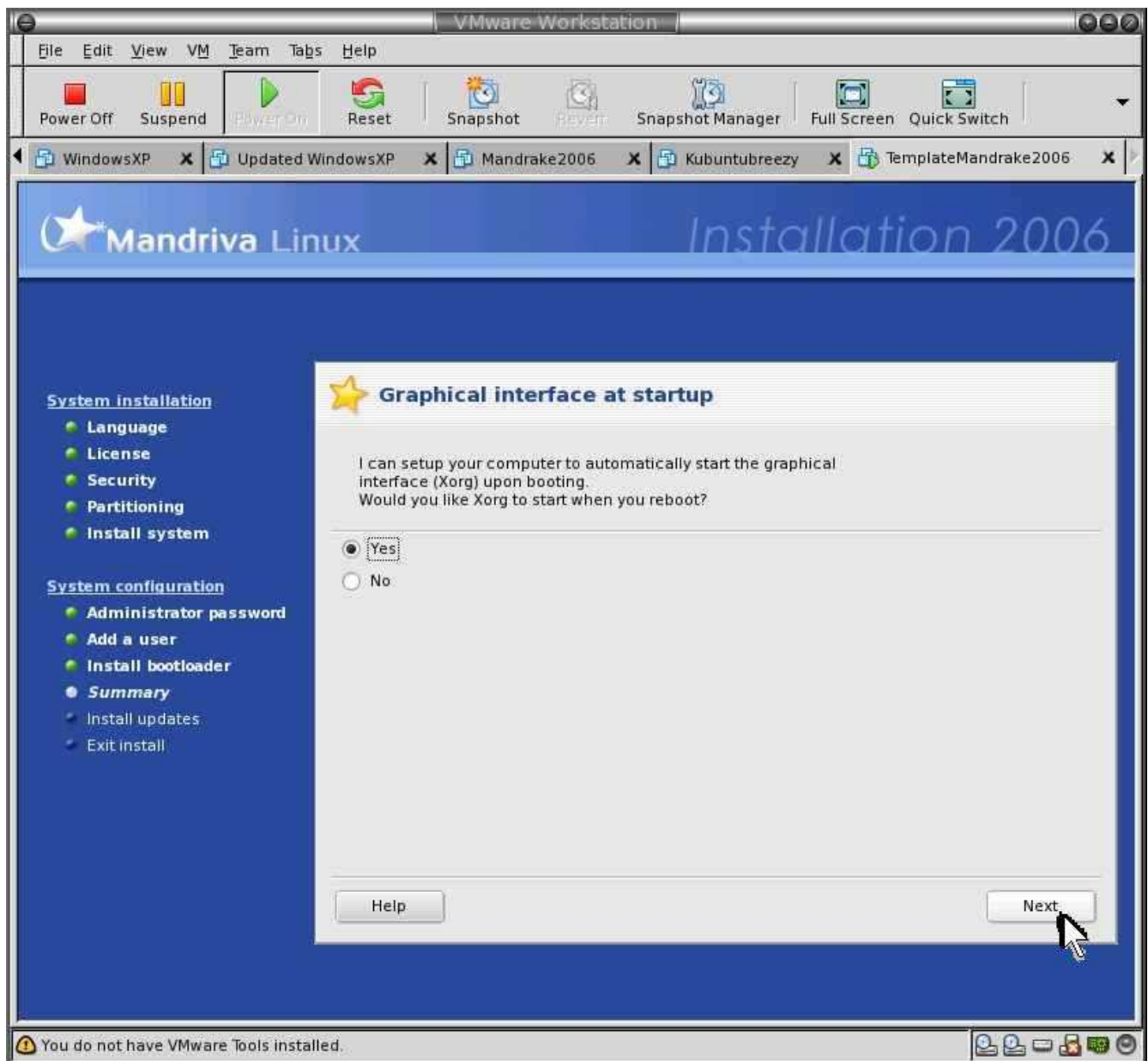
Select 'VMware virtual video card'. Then click 'Next'.



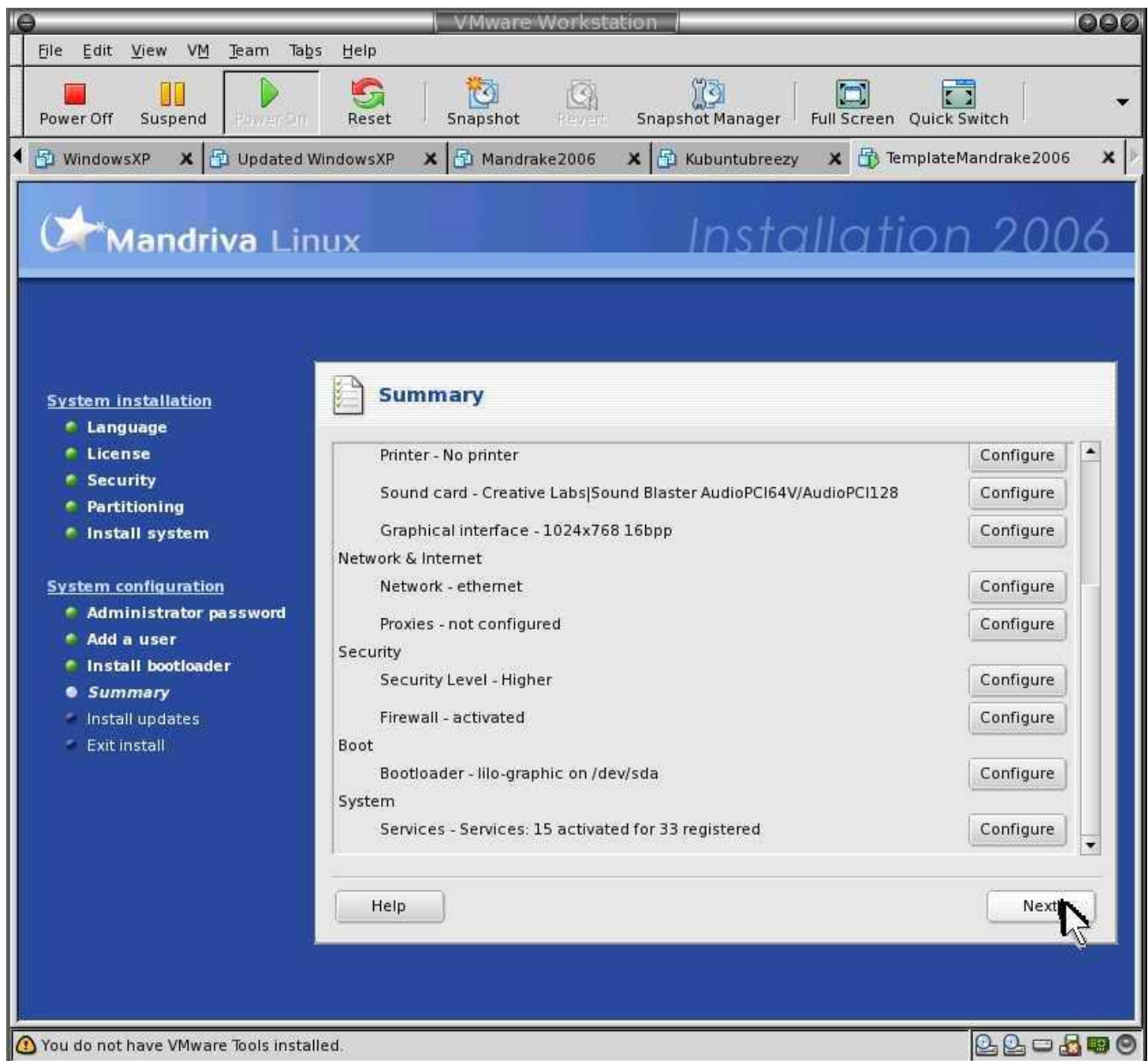
Select '1024x768'. Then click 'Next'.



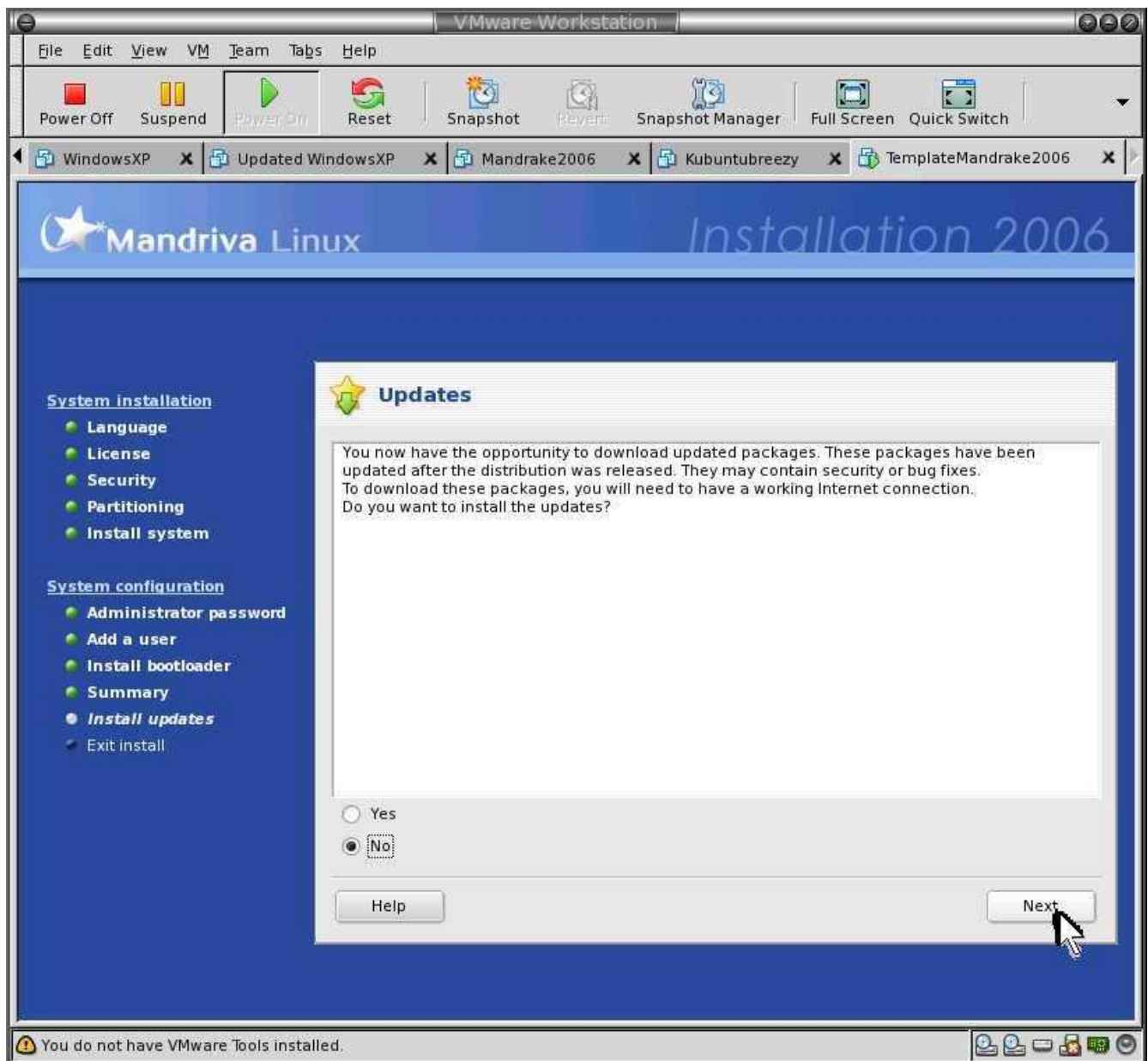
Select '800x600'. Then click 'OK'.



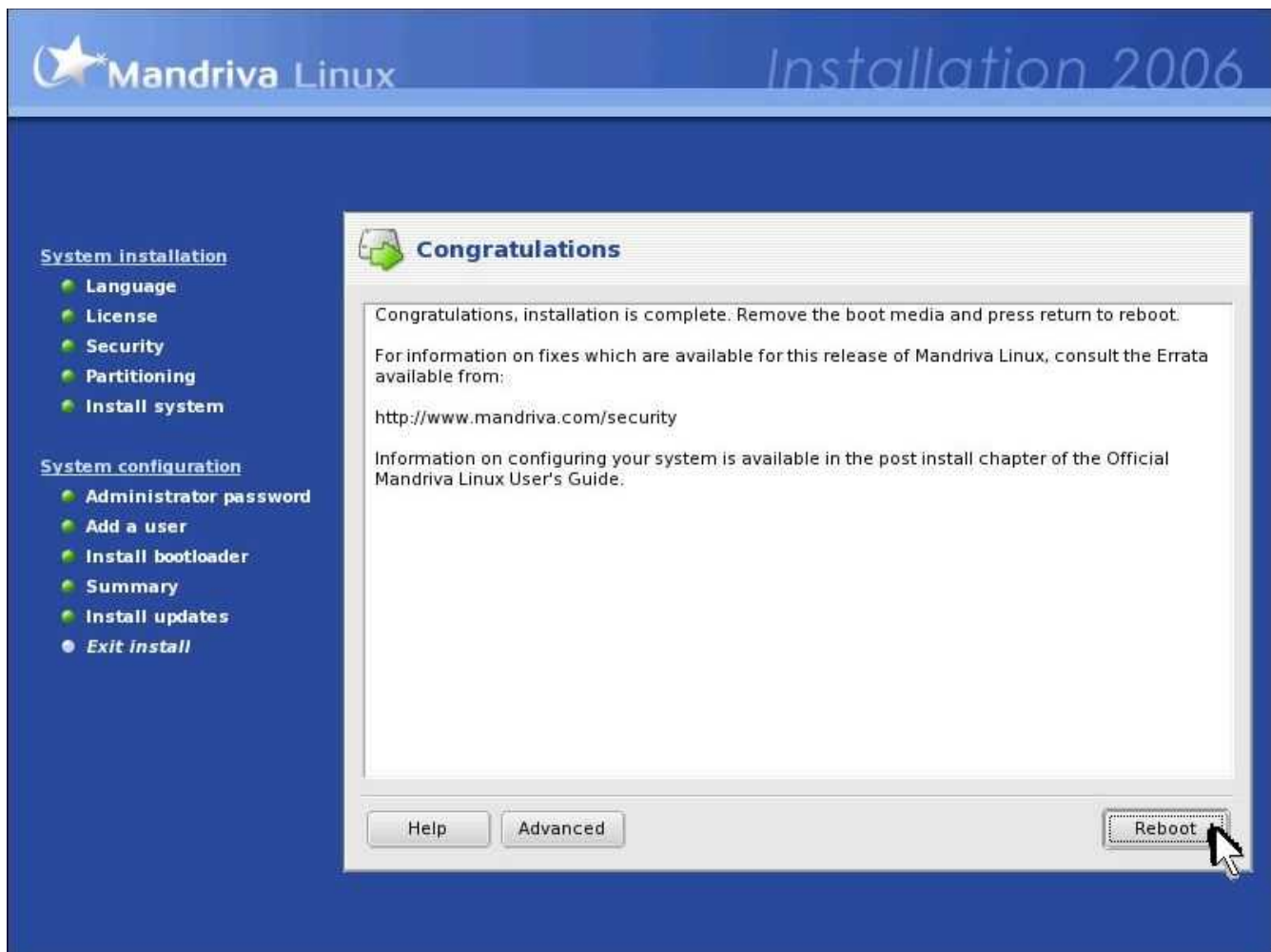
Select 'Yes'. Then click 'Next'.



Click 'Next'.



Select 'No'. Then click 'Next'.



Click 'Reboot'.

6. Install VMtools (Required by VMware software)
 1. This will require installation of kernel source/headers files
 2. Re-insert the Mandriva2006 CD/DVD
 3. Install kernel source/headers files:
 1. Enter below **bolded** instructions on command line as root user

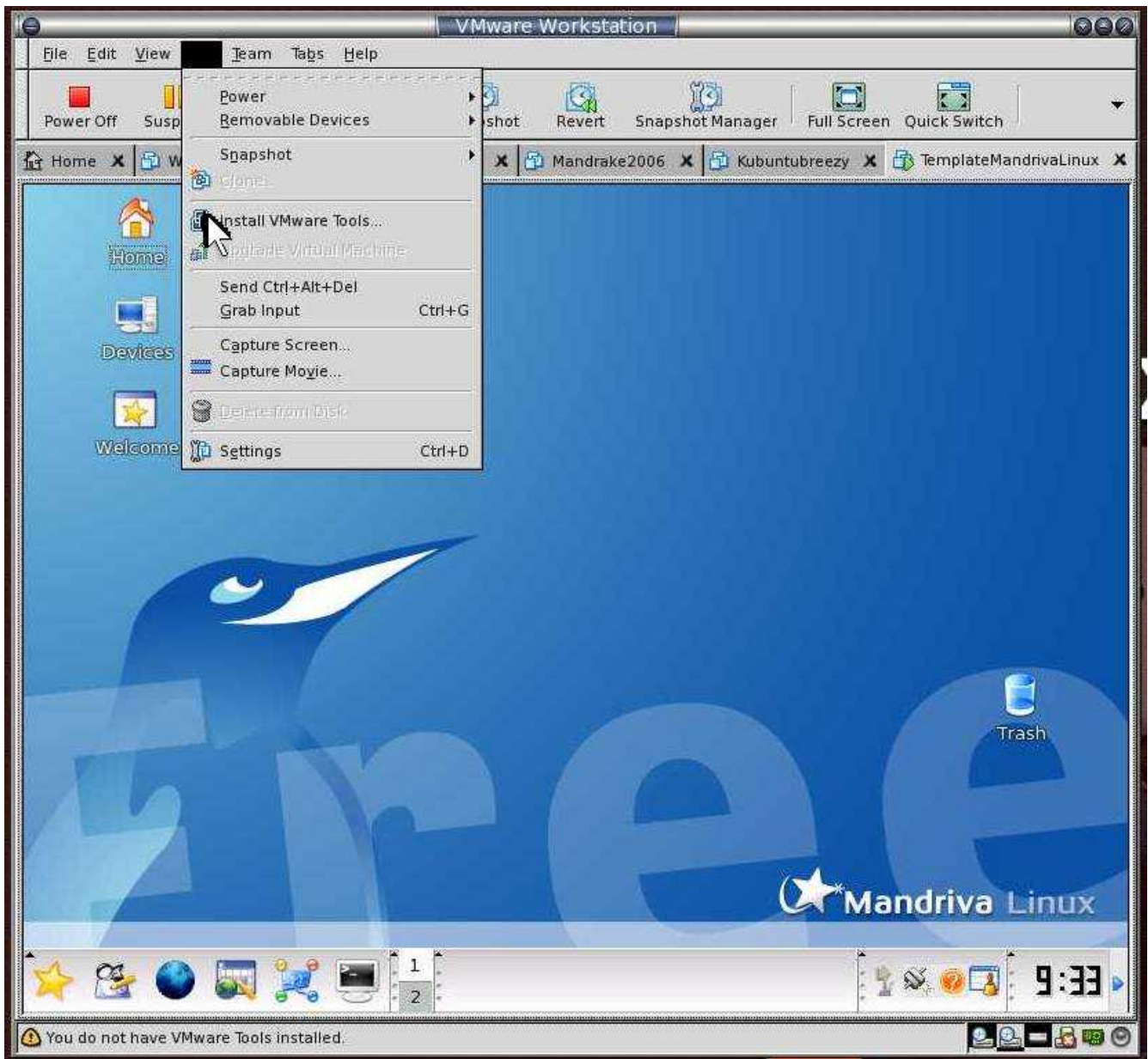
```
#log into root
```

```
su
```

```
#install the kernel header/source files
```

```
urpmi kernel-source
```

4. Set up VMware:



Click above 'Install Vmware Tools'.



Click 'Install'.

5. Install the VMTools on Mandriva
6. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#if below doesn't work, try replacing /dev/hda with /dev/cdrom,  
/dev/hdb, /dev/hdc etc.
```

```
mount /dev/hda /mnt/cdrom
```

```
#unpack and move file
```

```
cd /tmp
```

```
tar xzpf /mnt/cdrom/VMwareTools-5.5.0-*.tar.gz
```

```
umount /mnt/cdrom
```

```
cd vmware-tools-distrib
```

```
#install the software
```

```
./vmware-install.pl
```

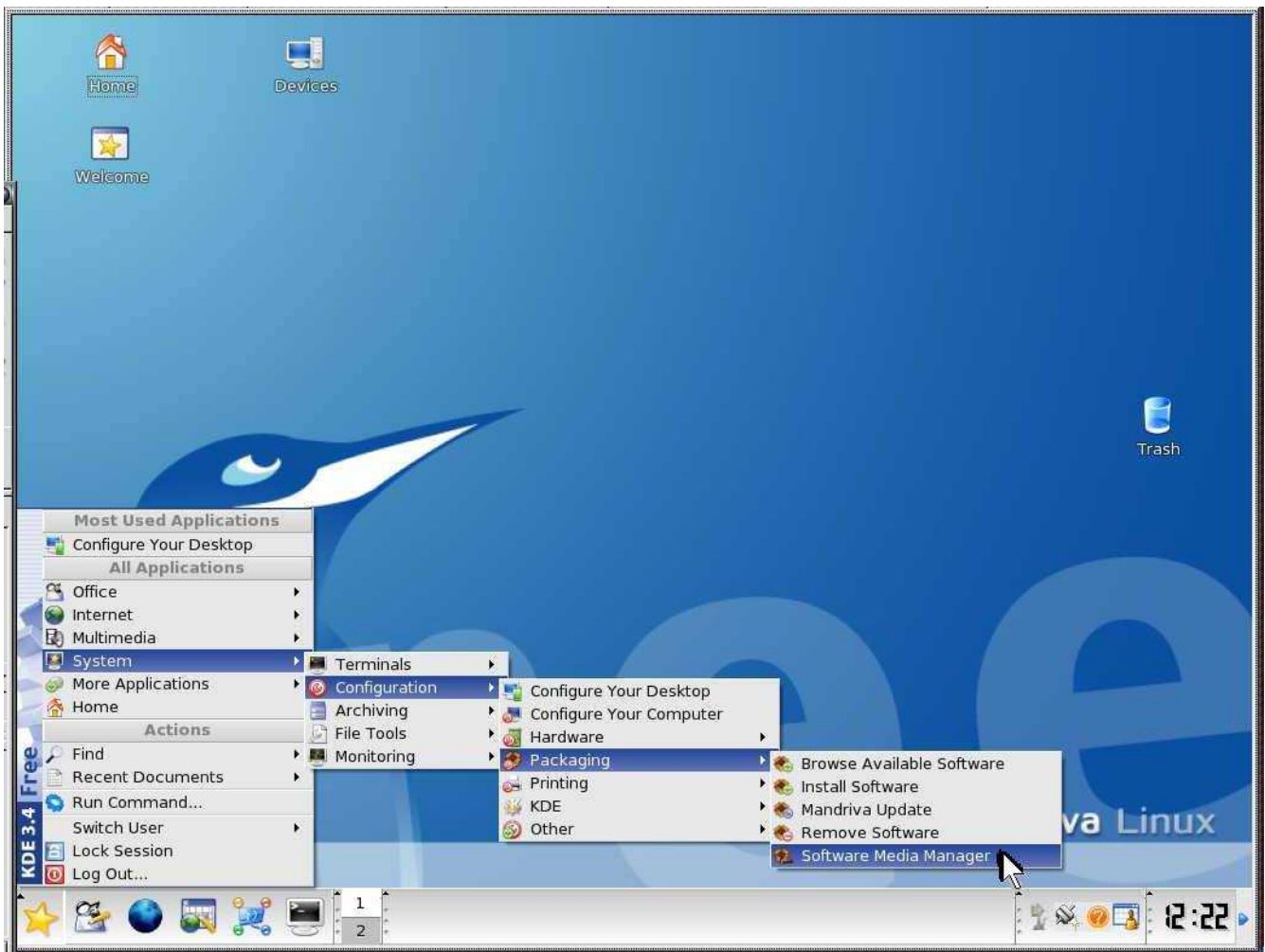
```
-answered all questions with defaults
```

```
-answered 3 for video mode("1024x768")
```

```
#need to re-boot or else weird stuff happens
```

```
shutdown -r now
```

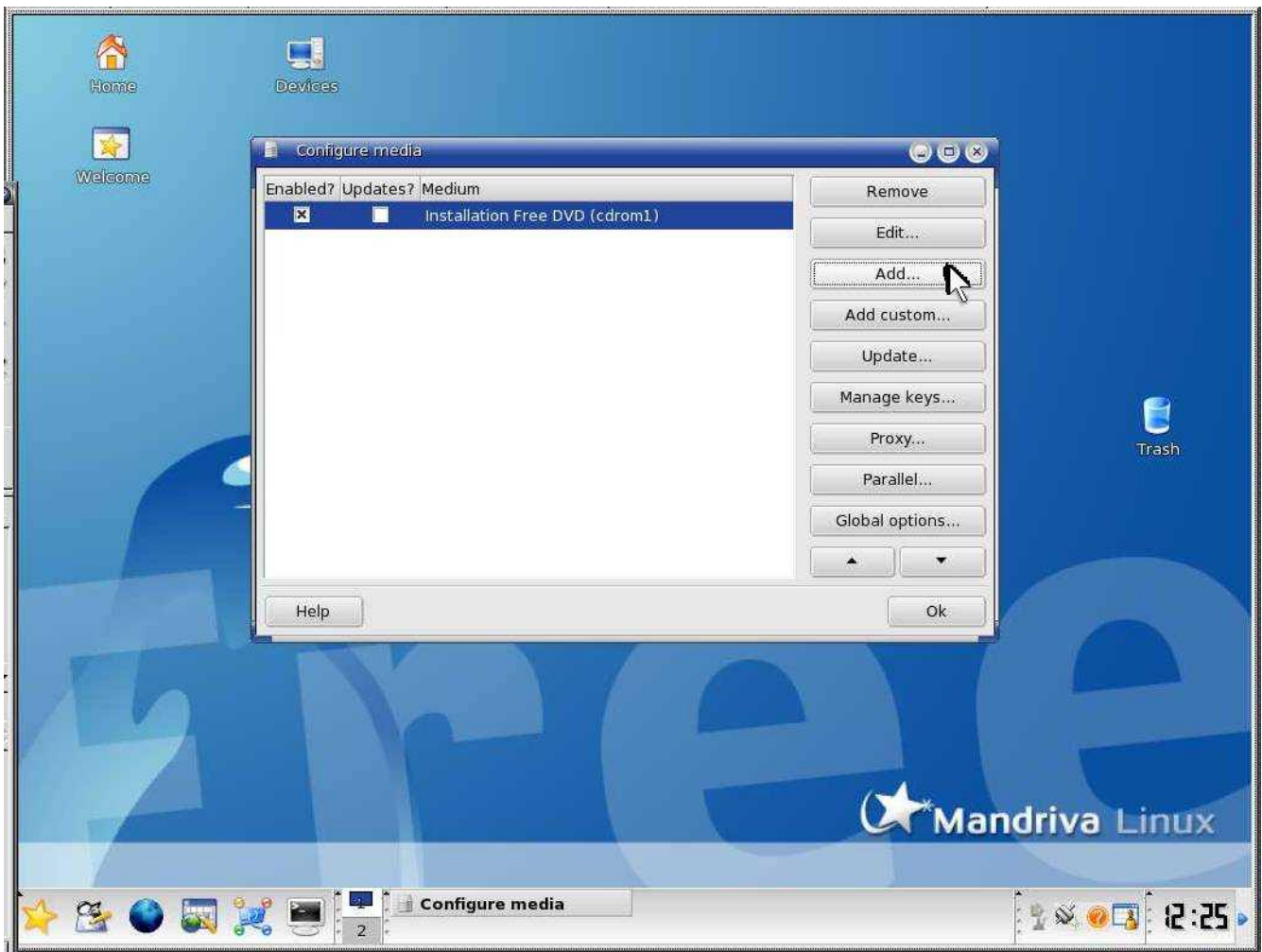
8. Enable software package installation over internet:



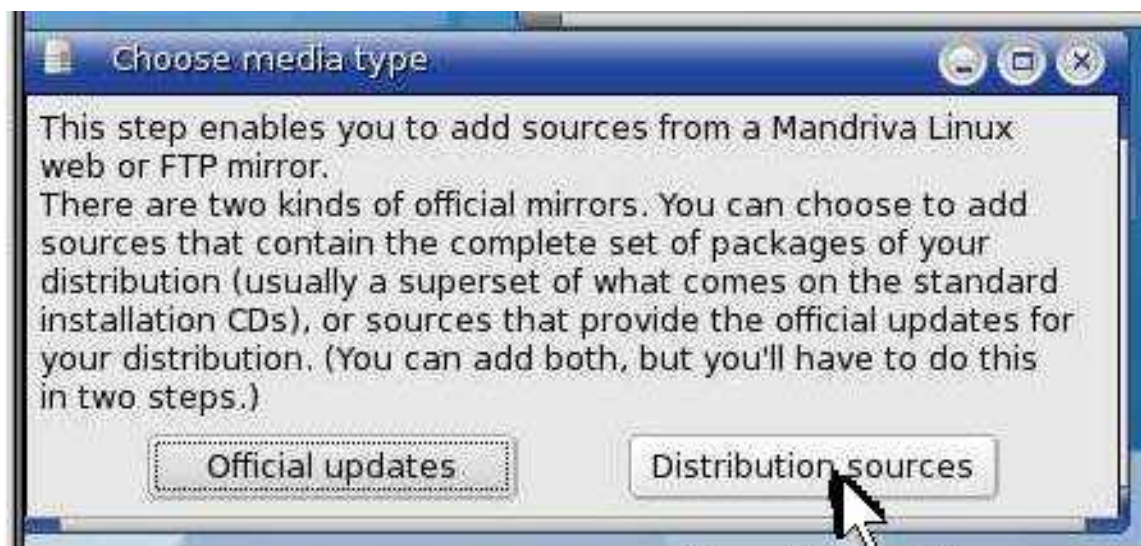
Click 'System' -> 'Configuration' -> 'Packaging' -> 'Software Media Manager'.



Enter 'root' user password. Then click 'OK'.



Click 'Add...!.



Click 'Distribution sources'.



Select as above. Then click 'Ok'.

9. Disable the screensaver(it's annoying).

Install Apache, MySQL, and PHP4

[Main TOC Link](#)
[Chapter Index Link](#)

1. OpenMed requires PHP4. You shouldn't of installed PHP5, since you should not of selected any server packages during the Mandriva install(then you can disregard this, and skip to step 2). However if you have PHP5 on your system, then remove it using below **bolded** instructions on command line as root user:

```
#log into root  
su
```

```
#list all the php5 packages  
urpme php
```

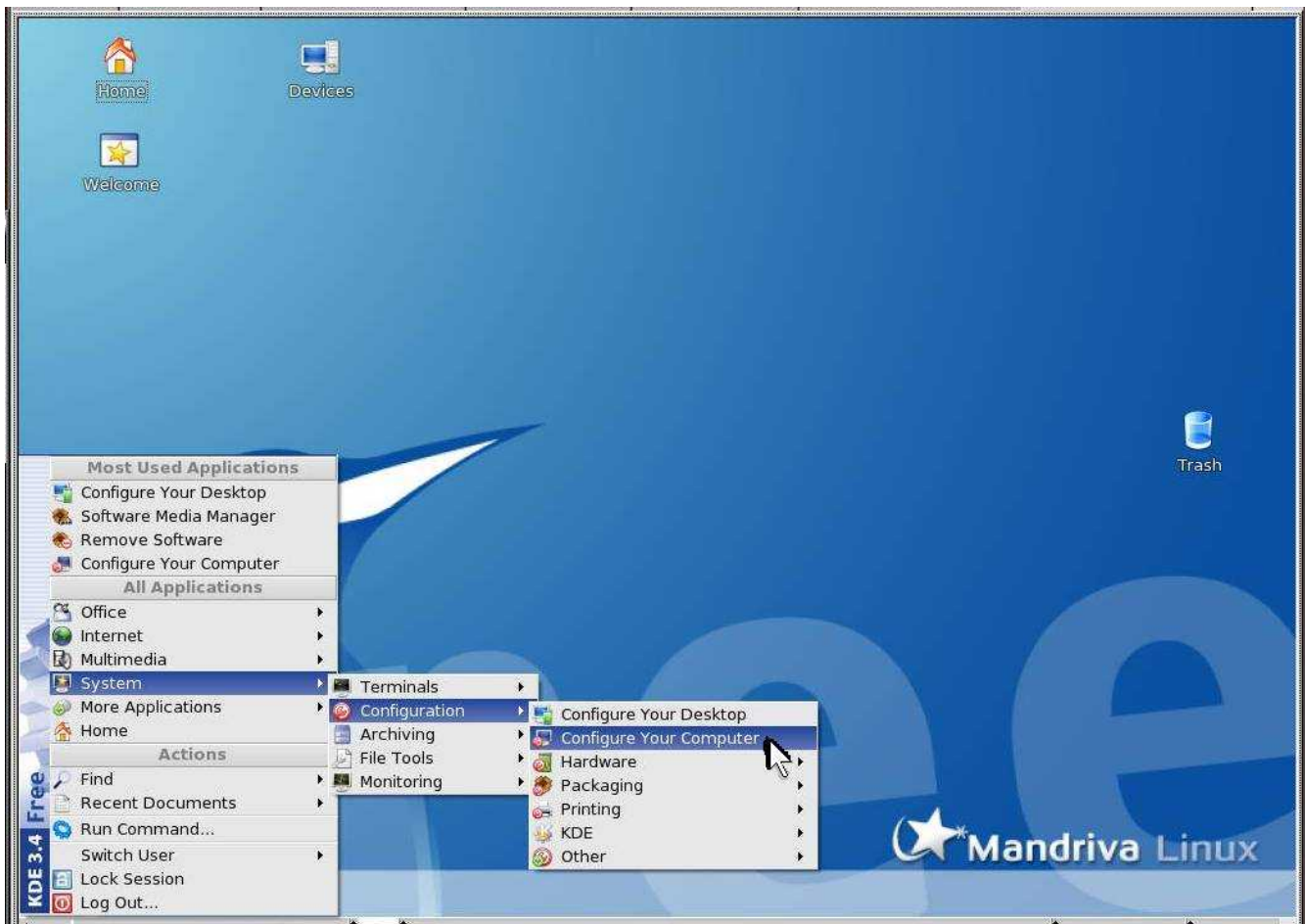


```
#remove them all by pasting in all of the php5 packages  
below  
urpme (paste)
```

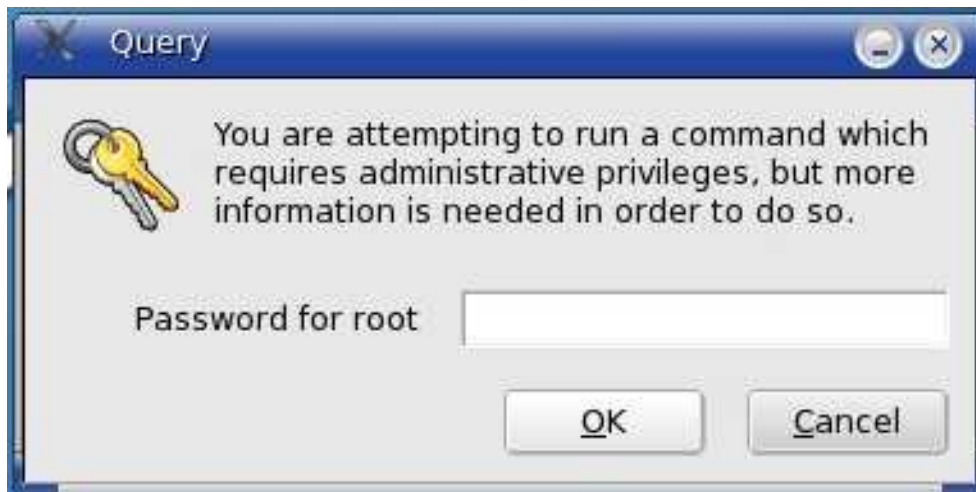
2. Enter below **bolded** instructions on command line as root user :

```
#log into root  
su  
  
#Install apache, php, mysql  
urpmi apache php4-cli apache-mod_php4 apache-  
mod_ssl php4-mysql php4-xml php4-xmlrpc htmldoc  
mysql  
-I chose 1- apache-mpm-prefork-2.0.54-13mdk.i586  
-I chose 1- MySQL-4.1.12-3mdk.i586  
-choose Yes to packages  
  
#start apache and mysql  
service httpd start  
service mysqld start  
  
#enables apache and mysql to start during boot-up  
chkconfig --add httpd  
chkconfig --add mysqld
```

3. Open the firewall for the web server:



Click 'System' -> 'Configuration' -> 'Configure Your Computer'.



Enter 'root' user password. Then click 'OK'.



Click 'Security'.



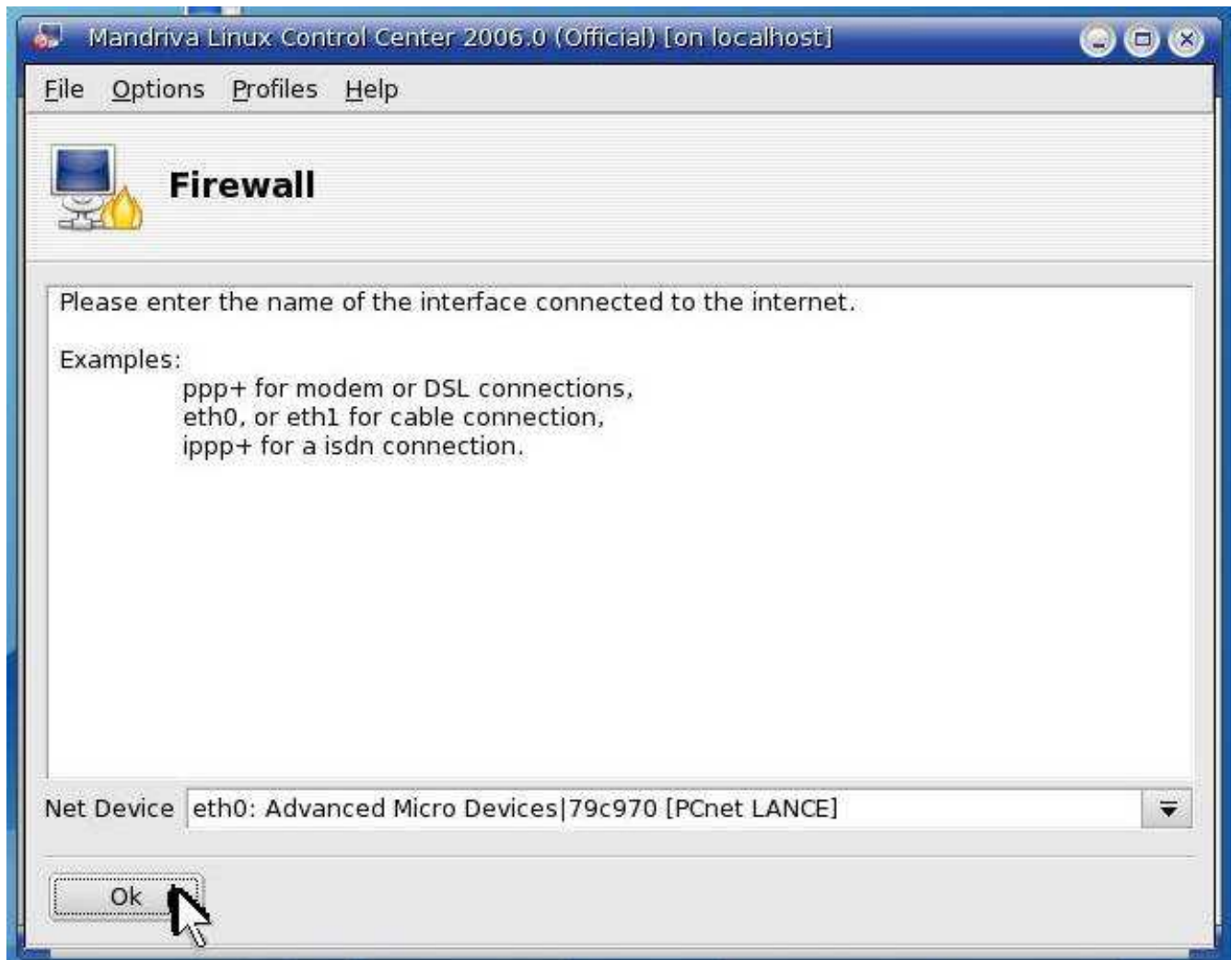
Click 'Set up a personal firewall...!'.



Select 'Web Server'. Then click 'OK'.



Click 'OK'.



Click 'Ok'. Keep defaults.



You are done. Close the window.

Install OpenEMR 2.8.1

[Main TOC Link](#)

[Chapter Index Link](#)

1. Download openemr-2.8.1.tar.gz (version 2.8.1) from sourceforge at :
http://sourceforge.net/project/showfiles.php?group_id=60081
2. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#edit file /etc/php4.ini:
```

```
mcedit /etc/php4.ini
```

```
#edit following variables:
```

```
post_max_size = 30M
```



```
upload_max_filesize = 30M
memory_limit = 128M
max_execution_time = 45
magic_quotes_gpc = off
register_globals = off
TEXT EDITOR SAVE AND EXIT
```

#Ensure the following lines are included at the end of the /etc/httpd/conf/httpd.conf file (This was not in original OpenEMR Appliance and has been listed as a security patch; it is required to not allow unauthorized access to confidential patient medical records).

```
mcedit /etc/httpd/conf/httpd.conf
```

```
#Ensure below is included at end of file (if not found, then paste below into end of file)
```

```
<Directory "/var/www/html/openemr/documents">
```

```
order deny,allow
```

```
Deny from all
```

```
</Directory>
```

```
<Directory "/var/www/html/openemr/edi">
```

```
order deny,allow
```

```
Deny from all
```

```
</Directory>
```

```
TEXT EDITOR SAVE AND EXIT
```

```
#restart httpd
```

```
service httpd restart
```

```
#put the OpenEMR program in its place
```

```
cd /var/www/html
```

```
tar pxzvf /location/to/tar/openemr-*.tar.gz
```

```
mv openemr-* /var/www/html/openemr
```

```
chown -Rf root:root openemr
```

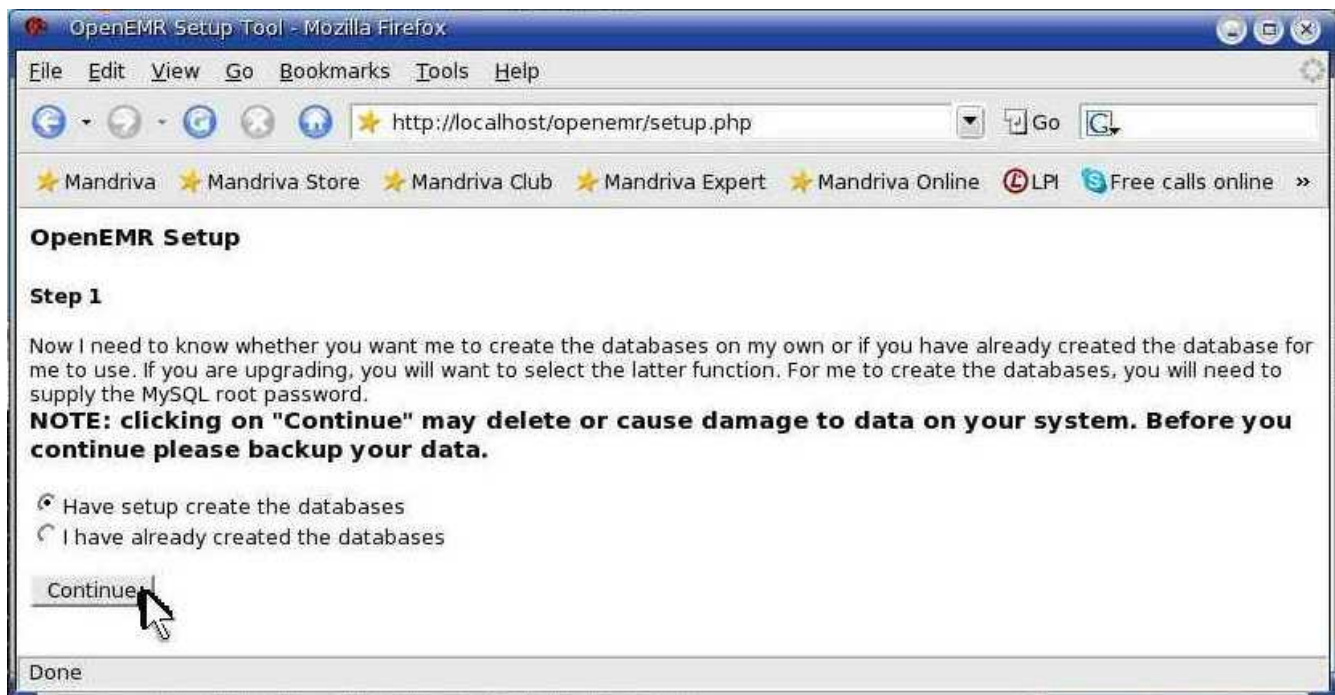
```
#Prepare for install
```

```
chmod 666 /var/www/html/openemr/library/sqlconf.php
```

3. Then use Auto-installer at: <http://localhost/openemr/setup.php>



Click 'Continue'.



Select 'Have setup create the databases'. Then click 'Continue'.

OpenEMR Setup Tool - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://localhost/openemr/setup.php

Mandriva Mandriva Store Mandriva Club Mandriva Expert Mandriva Online LPI Free calls online Intel® Compilers

OpenEMR Setup

Step 2

Now you need to supply the MySQL server information.

SERVER:

Server Host: localhost (This is the IP address of the machine running MySQL)

Server Port: 3306 (The default port for MySQL is 3306)

Database Name: openemr (This is the name of the OpenEMR database - 'openemr' is the recommended)

Login Name: openemr (This is the name of the OpenEMR login name - 'openemr' is the recommended)

Password: ***** (This is the Login Password for when PHP accesses MySQL - it should be at least 8 characters long and composed of both numbers and letters)

CLIENT:

User Hostname: localhost (This is the IP address of the server machine running Apache and PHP - if you are setting up one computer, this is the same as the Server Host above)

Root Pass: (This is your MySQL root password. For localhost, it is usually ok to leave it blank.)

USER:

Initial User: admin (This is the user that will be created for you. It will be an authorized user, so it should be for a Doctor or other Practitioner)

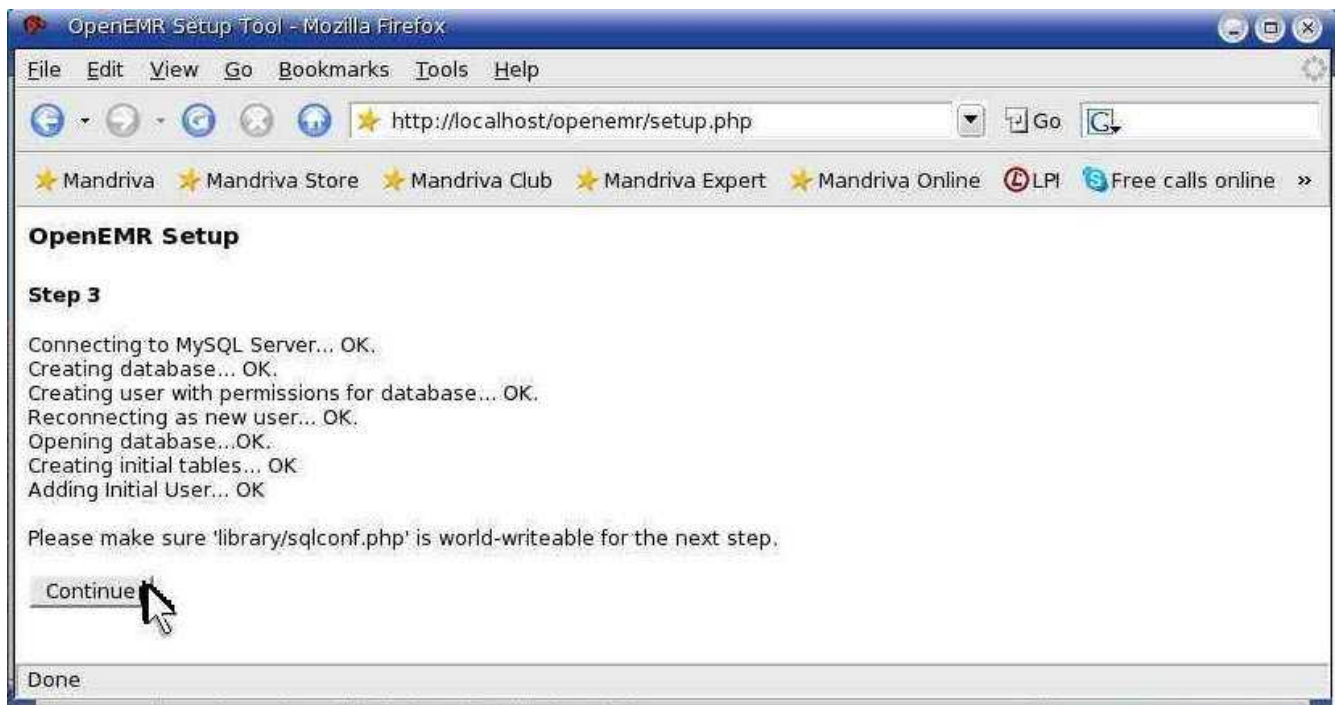
Initial User's Name: Administrator (This is the real name of the initial user.)

Initial Group: The Cool Practice (This is the group that will be created for your users. This should be the name of your practice.)

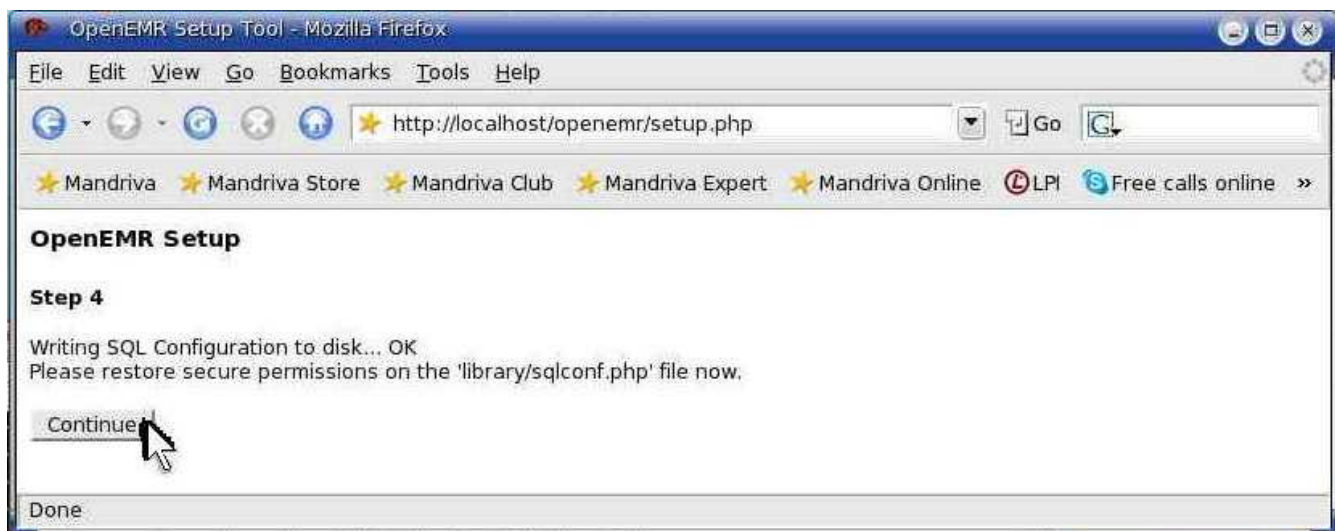
Continue

Done

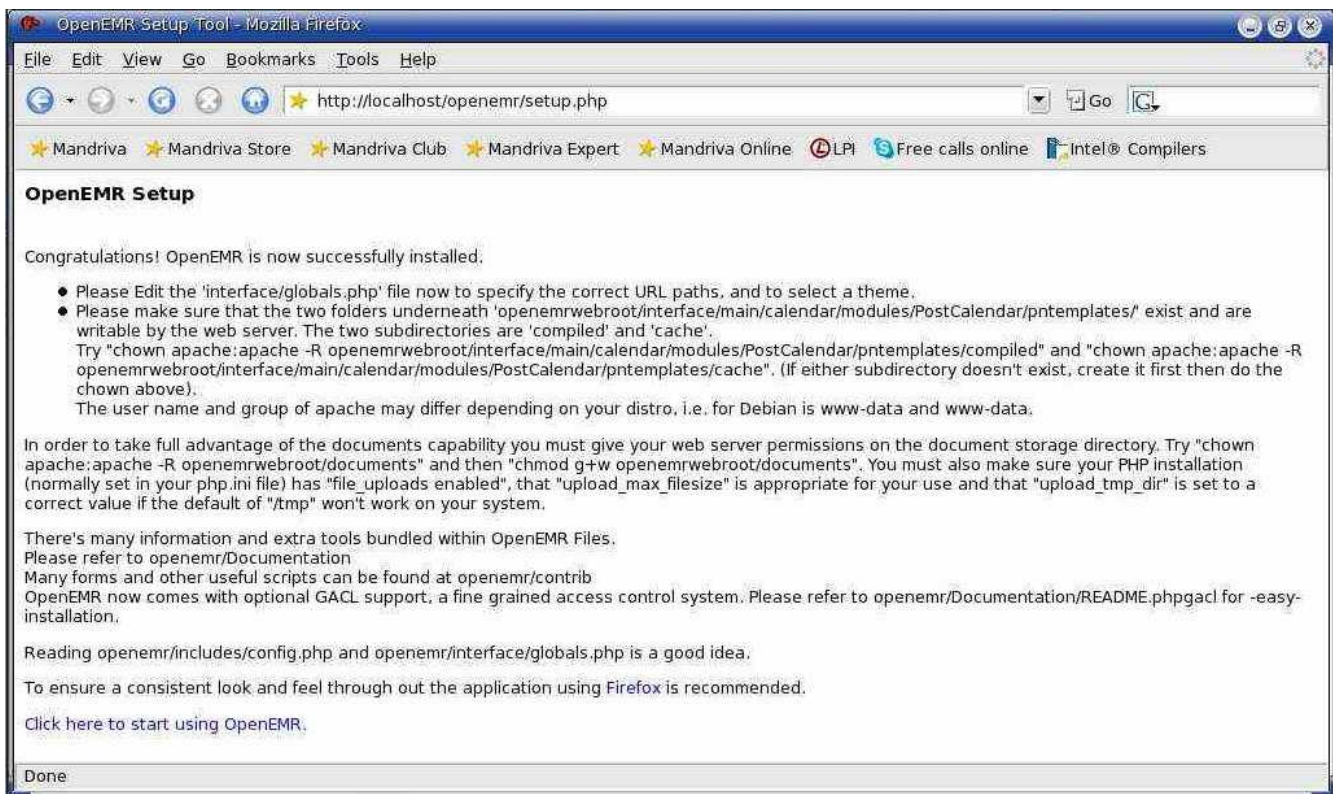
In SERVER section: enter 'Password' -> secure password, otherwise keep defaults. In CLIENT section: keep defaults. In USER section: enter 'Initial User' -> new user login name, Enter 'Initial User's Name' -> new user name, enter 'Initial Group' -> name of practice. (I would recommend keeping the 'Initial User' -> 'admin' and the 'Initial User's Name' -> 'Administrator' to ensure easy installation of the php-GACL software.) Then Click 'Continue'.



Click 'Continue'. (Don't worry, we have already made the mentioned file world-writeable)



Click 'Continue'. (Don't worry, we will 'restore secure permissions' of file later)



This page list some additional instructions. Again, don't worry, we will do all of this stuff in next section below. You can close your browser window now and move onto the next section.

4. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#Re-secure the sqlconf.php file
```

```
chmod 644 /var/www/html/openemr/library/sqlconf.php
```

```
#Need to change some file/folder ownerships
```

```
chown apache:apache -R
```

```
    /var/www/html/openemr/interface/main/calendar/modules/PostCalendar/pntemplates/cache
```

```
chown apache:apache -R
```

```
    /var/www/html/openemr/interface/main/calendar/modules/PostCalendar/pntemplates/compiled
```

```
chown apache:apache -R
```

```
    /var/www/html/openemr/documents
```

Install FreeB 0.11

[Main TOC Link](#)

[Chapter Index Link](#)

1. Download freeb-0.11.tar.gz (version 0.11) from sourceforge:
http://sourceforge.net/project/showfiles.php?group_id=60081
2. Enter below **bolded** instructions on command line as root user :

```
#log into root
```

```
su
```

```
#put the program in its place
```

```
cd /usr/share
```

```
tar xzvf /location/to/tar/freeb-*.tar.gz
```

```
mv freeb-* /usr/share/freeb
```

```
#secure it
```

```
chown root:root -R /usr/share/freeb
```

```
#install the necessary packages
```

```
urpmi perl-Config-General perl-Date-Calc
```

```
-choose yes to packages
```

```
#need to install several PERL modules
```

```
perl -MCPAN -e shell
```

```
-Answer NO to first question, and then it will be auto-configured.
```

```
At cpan> prompt type:
```

```
install PDF::Create
```

```
install ConfigFile
```

```
install Frontier::Daemon
```

```
exit
```

```
#create a directory that apache can write to
```

```
mkdir /usr/share/freeb/public
```

```
chown apache:apache -R /usr/share/freeb/public
```

```
#change ownership of following directory
```

```
chown apache:apache -R
```

```
/var/www/html/openemr/library/freeb
```

```
#this will allow the user to use freeb while in openemr
```

```
cp /usr/bin/php4 /usr/bin/php
```

3. Configure FreeB as a service
 1. Download [freeb](#) file, which is an init.d script. I wrote this file, and it seems to work alright. But I have to say, please use at your own risk. File can be found at: <http://bradymd.com/freeb> (to download file, you may need to Right-Click the link and

select 'Save Link As...')

2. Enter below **bolded** instructions on command line as root user :

```
#log into root
```

```
su
```

```
#move file and change ownership/permissions
```

```
mv /location/to/file/freeb /etc/init.d/
```

```
chown root:adm /etc/init.d/freeb
```

```
chmod 740 /etc/init.d/freeb
```

```
#start service
```

```
service freeb start
```

```
-After 'before server setup', just hit 'enter' key once to get  
back to the prompt. If you saw 'before server setup', then it  
worked.
```

```
#configure freeb to start automatically during computer  
startup
```

```
chkconfig --add freeb
```

```
#You are done installing service, it will now start
```

```
#up automatically during computer start up.
```

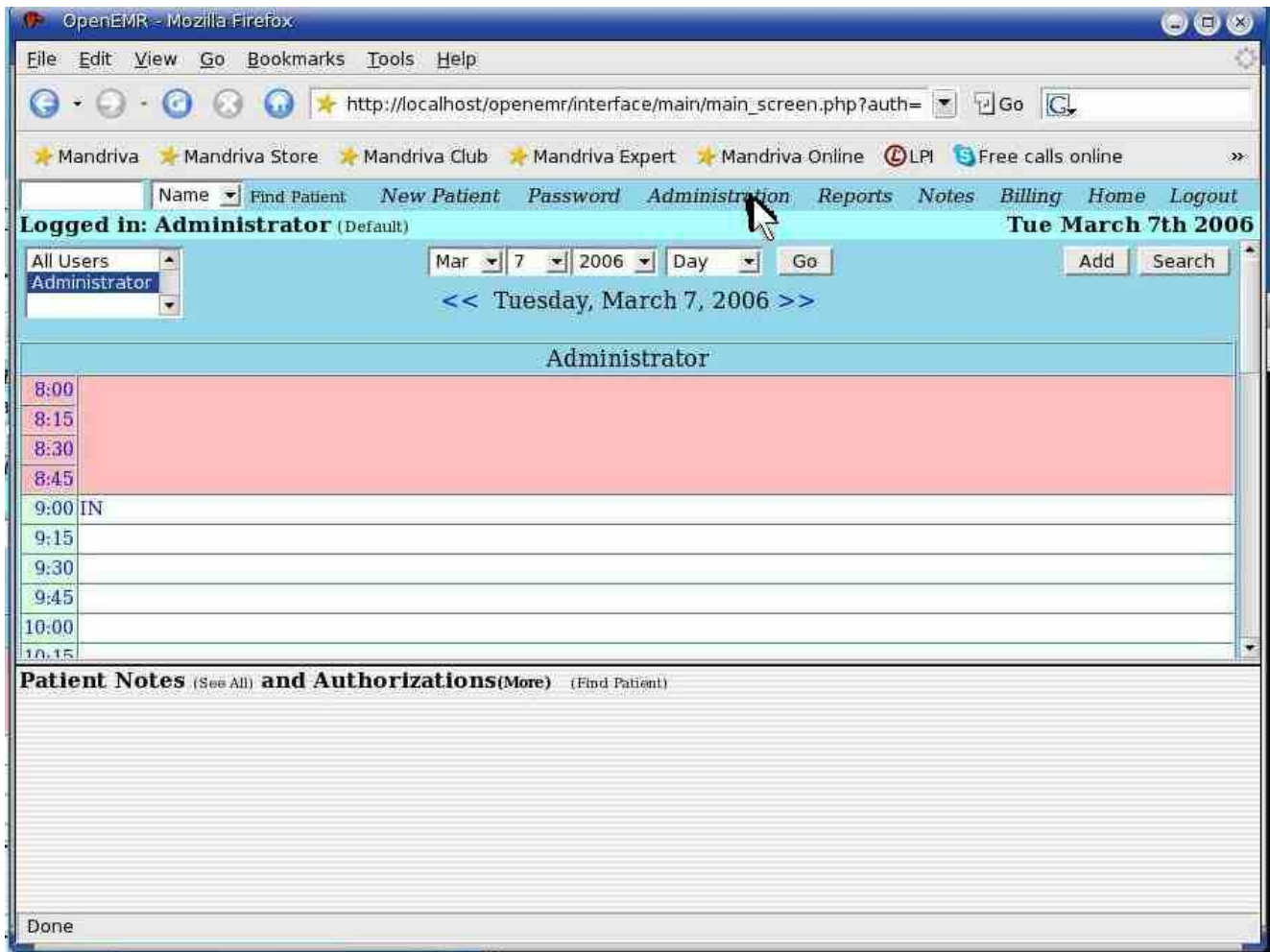
```
#If the above service is not working, you can
```

```
#manually start the FreeB server by typing:
```

```
#!/usr/share/freeb/bin/FreeB_Server.pl &
```

4. Next, need to do below “work-around”(Bug in OpenEMR) in order for HCFA billing to work.

Log in to OpenEMR with previously created username and default password 'pass' at <http://localhost/openemr>:



Click 'Administration'.

OpenEMR - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://localhost/openemr/interface/usergroup/usergroup.php

Mandriva Mandriva Store Mandriva Club Mandriva Expert Mandriva Online LPI Free calls online

Users & Groups **Forms** Practice Calendar Database BatchCom Language Logs Back

Logged in: Administrator Tue March 7th 2006

User & Group Administration

New Facility Information:

Name:	<input type="text"/>	Phone:	<input type="text"/>
Address:	<input type="text"/>	City:	<input type="text"/>
State:	<input type="text"/>	Zip Code:	<input type="text"/>
Country:	<input type="text"/>	Federal EIN:	<input type="text"/>

Edit Facilities: Your Clinic Name Here(Edit)

New User:

Username:	<input type="text"/>	Password:	<input type="text"/>
Groupname:	Default ▾	Authorized:	<input type="checkbox"/>
First Name:	<input type="text"/>	Middle Name:	<input type="text"/>
Last Name:	<input type="text"/>	Default Facility:	Your Clinic Name Here ▾
Federal Tax ID:	<input type="text"/>	Federal Drug ID:	<input type="text"/>
UPIN:	<input type="text"/>	See Authorizations:	None ▾

Additional Info:

New Group: Groupname: Initial User: admin ▾

Done

Click 'Forms'.

OpenEMR - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://localhost/openemr/interface/usergroup/usergroup.php

Mandriva Mandriva Store Mandriva Club Mandriva Expert Mandriva Online LPI Free calls online

Users & Groups **Forms** Practice Calendar Database BatchCom Language Logs Back

Logged in: Administrator Tue March 7th 2006

Forms Administration

Registered

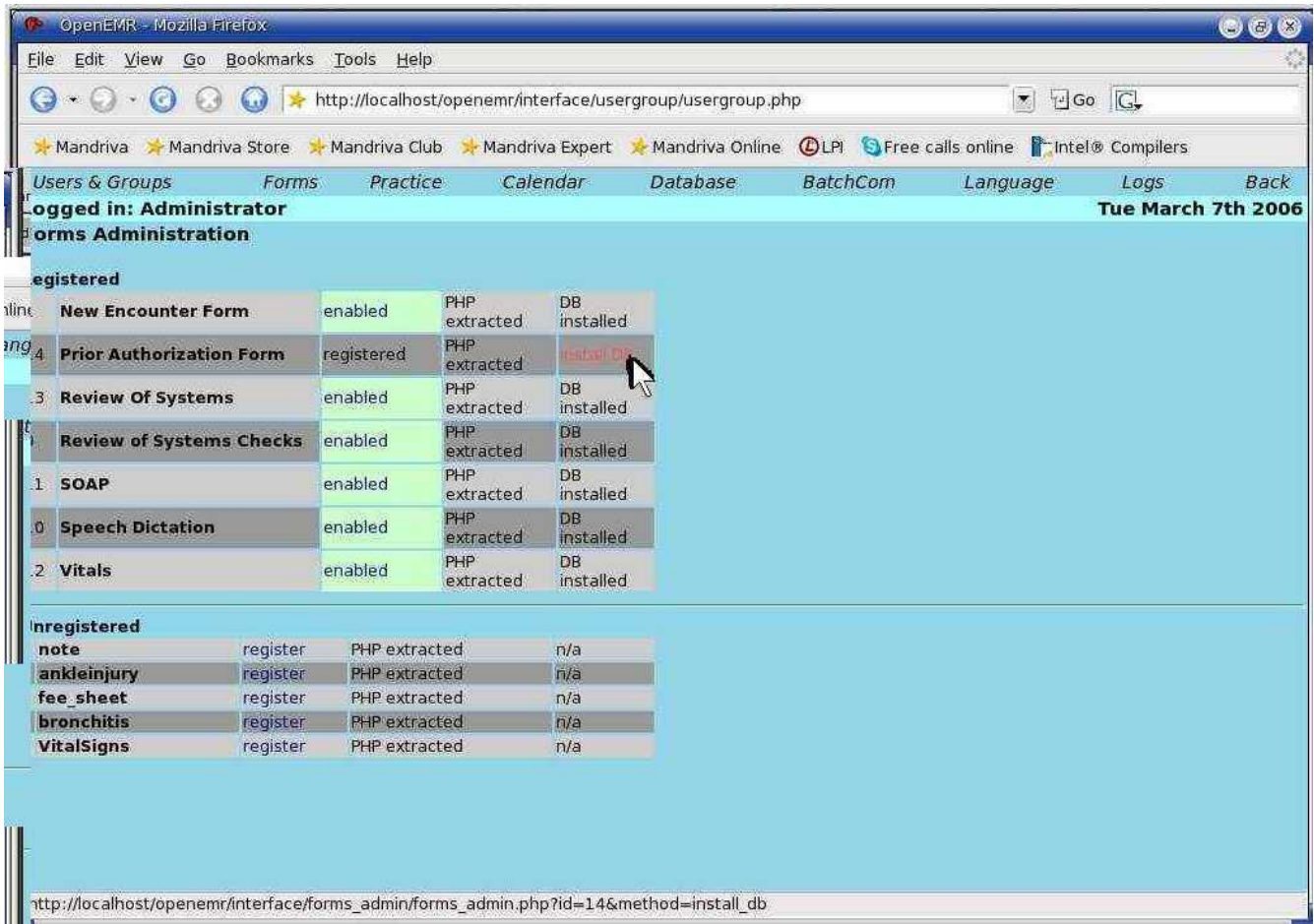
1	New Encounter Form	enabled	PHP extracted	DB installed
13	Review Of Systems	enabled	PHP extracted	DB installed
9	Review of Systems Checks	enabled	PHP extracted	DB installed
11	SOAP	enabled	PHP extracted	DB installed
10	Speech Dictation	enabled	PHP extracted	DB installed
12	Vitals	enabled	PHP extracted	DB installed

Unregistered

note	register	PHP extracted	n/a
ankleinjury	register	PHP extracted	n/a
fee_sheet	register	PHP extracted	n/a
bronchitis	register	PHP extracted	n/a
VitalSigns	register	PHP extracted	n/a
prior_auth	register	PHP extracted	n/a

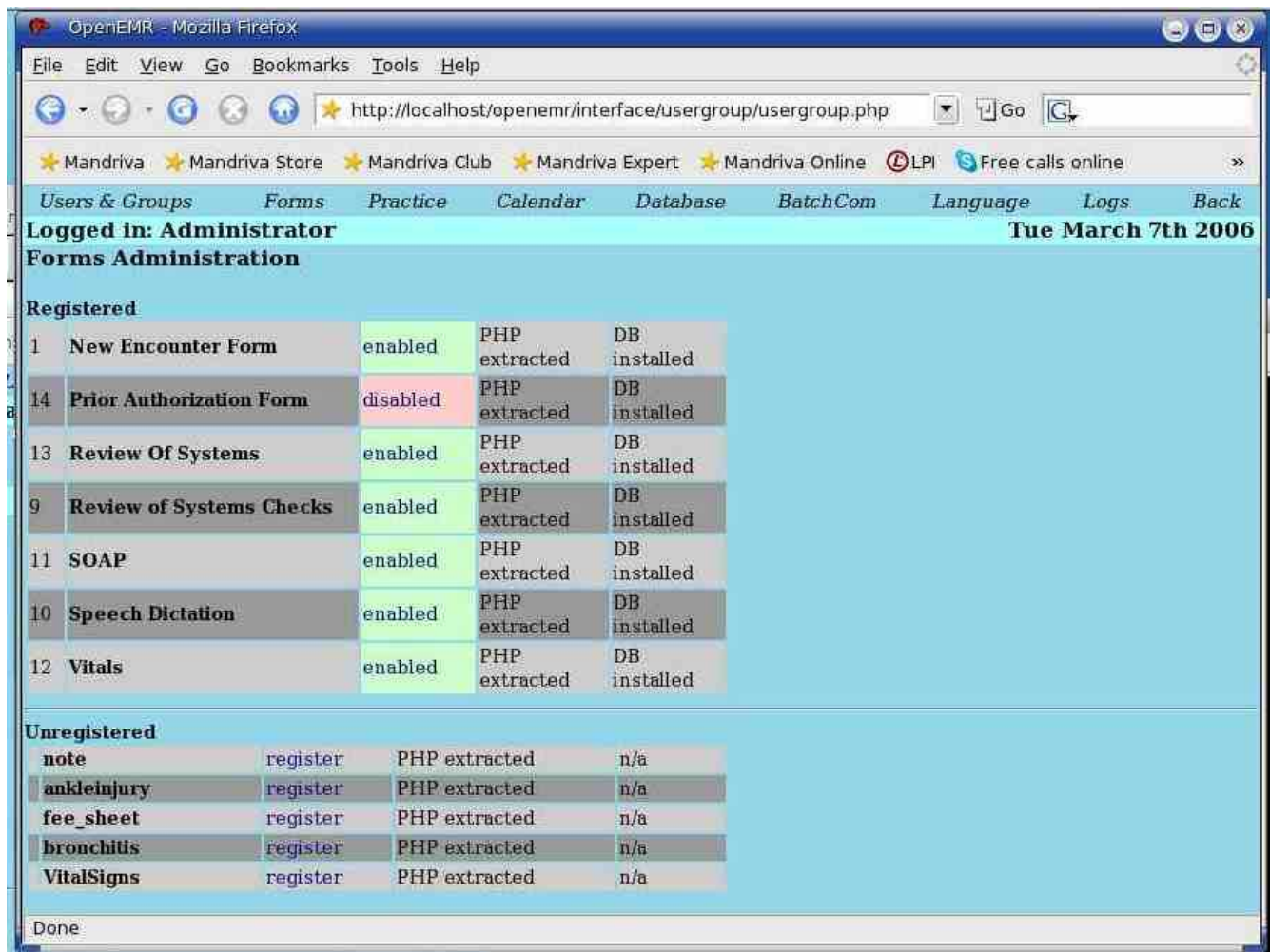
Done

Click 'register' at 'prior_auth' entry.



Click 'Install DB' at 'Prior Authorization Form' entry.

WARNING!! Do NOT click anything on screen below, read below the screenshot first.



Do **NOT** click the disabled button. You are done with OpenEMR for now. Basically this 'prior_auth' form has to be in the database and **disabled** for program to function normally. Log out and move on to the next section.(continue to research)

Install PostgreSQL

[Main TOC Link](#)

[Chapter Index Link](#)

1. Enter below **bolded** instructions on command line as root user :

```
#log into root
```

```
su
```

```
#install postgresql and needed packages
```

```
urpmi postgresql postgresql-devel postgresql-server  
postgresql-docs postgresql-pl php4-pg
```

```
-yes to packages
```

```
#start service and also have it start at computer boot-up
service postgresql start
chkconfig --add postgresql
```

Install SQL-Ledger

[Main TOC Link](#)

[Chapter Index Link](#)

1. We will do a manual install with version 2.6.3. I'd recommend installing this version also, since we know it works.
2. Download sql-ledger-2.6.3.tar.gz file from:
http://sourceforge.net/project/showfiles.php?group_id=4320
3. Enter below **bolded** instructions on command line as root user :

```
#log into root
```

```
su
```

```
#install the needed dependencies
```

```
urpmi perl-DBD-Pg LaTeX perl-DBI
```

```
-yes to packages
```

```
#put the SQL-Ledger program in its place
```

```
cd /usr/local
```

```
tar xzvf /location/to/file/sql-ledger-2.6.3.tar.gz
```

```
mv sql-ledger/sql-ledger.conf.default sql-ledger/sql-  
ledger.conf
```

```
#edit file /usr/local/sql-ledger/sql-ledger.conf:
```

```
mcedit /usr/local/sql-ledger/sql-ledger.conf
```

```
#add the following to the vars section on first line of file  
(you must place this within the first line) For example:  
'use vars qw($oemr_ar_acc ...)':
```

```
$oemr_ar_acc $oemr_cash_acc $oemr_due_days  
$oemr_username $oemr_services_partnumber
```

```
#Paste the entire section below into file:
```

```
#Some constants relevant to OpenEMR import.
```

```
#sql-ledger user
```

```
$oemr_username = 'openemr';
```

```
#acc num for acc receivable
```

```
$oemr_ar_acc = '1200';
```

```
# acc num for check/copay
```

```
$oemr_cash_acc = '1060';
```

```
# creating a services item for medical services
# OpenEMR billing "part number" here:
$oemr_services_partnumber = 'MS';

# Num of days added to OpenEMR transaction date to
# create the invoice due date when insurance. This affects
the
# pat. portion of outstanding balance shown in OpenEMR
# summary, and also SQL-Ledger reports and statements.
$oemr_due_days = 40;
TEXT EDITOR SAVE AND EXIT
```

```
#create and edit file /etc/httpd/conf/sql-ledger-httpd.conf:
mcedit /etc/httpd/conf/sql-ledger-httpd.conf
```

#Paste the entire section below into empty file:

```
Alias /sql-ledger /usr/local/sql-ledger/
<Directory /usr/local/sql-ledger>
AllowOverride All
AddHandler cgi-script .pl
AddDefaultCharset On
Options ExecCGI Includes FollowSymlinks
Order Allow,Deny
Allow from All
</Directory>

<Directory /usr/local/sql-ledger/users>
Order Deny,Allow
Deny from All
</Directory>
TEXT EDITOR SAVE AND EXIT
```

```
#edit file /etc/httpd/conf/httpd.conf:
mcedit /etc/httpd/conf/httpd.conf
#add following line to bottom of file
include /etc/httpd/conf/sql-ledger-httpd.conf
TEXT EDITOR SAVE AND EXIT
```

```
#change permissions
cd /usr/local/sql-ledger
chown -hR apache:apache users templates css pool
```

```
#restart httpd service
service httpd restart
```

```
#Set up PostgreSQL user( use 'sql-ledger'), password, and
```

database

su postgres

createuser -d -P sql-ledger

*-type a good password for the sql-ledger user on PostgreSQL (this password is IMPORTANT and to avoid any severe confusion it will be referred to as the '**sql-ledger-password**' during the rest of the install documentation. I mean it, this is important to remember. This password will be typed in many times during instructions below.)*

-type y to allow user to make more users

createlang plpgsql template1

exit

1. Load your web browser and connect to: <http://localhost/sql-ledger/admin.pl>



There is no default password. Just click 'Login'.



Click 'Change Admin Password'.



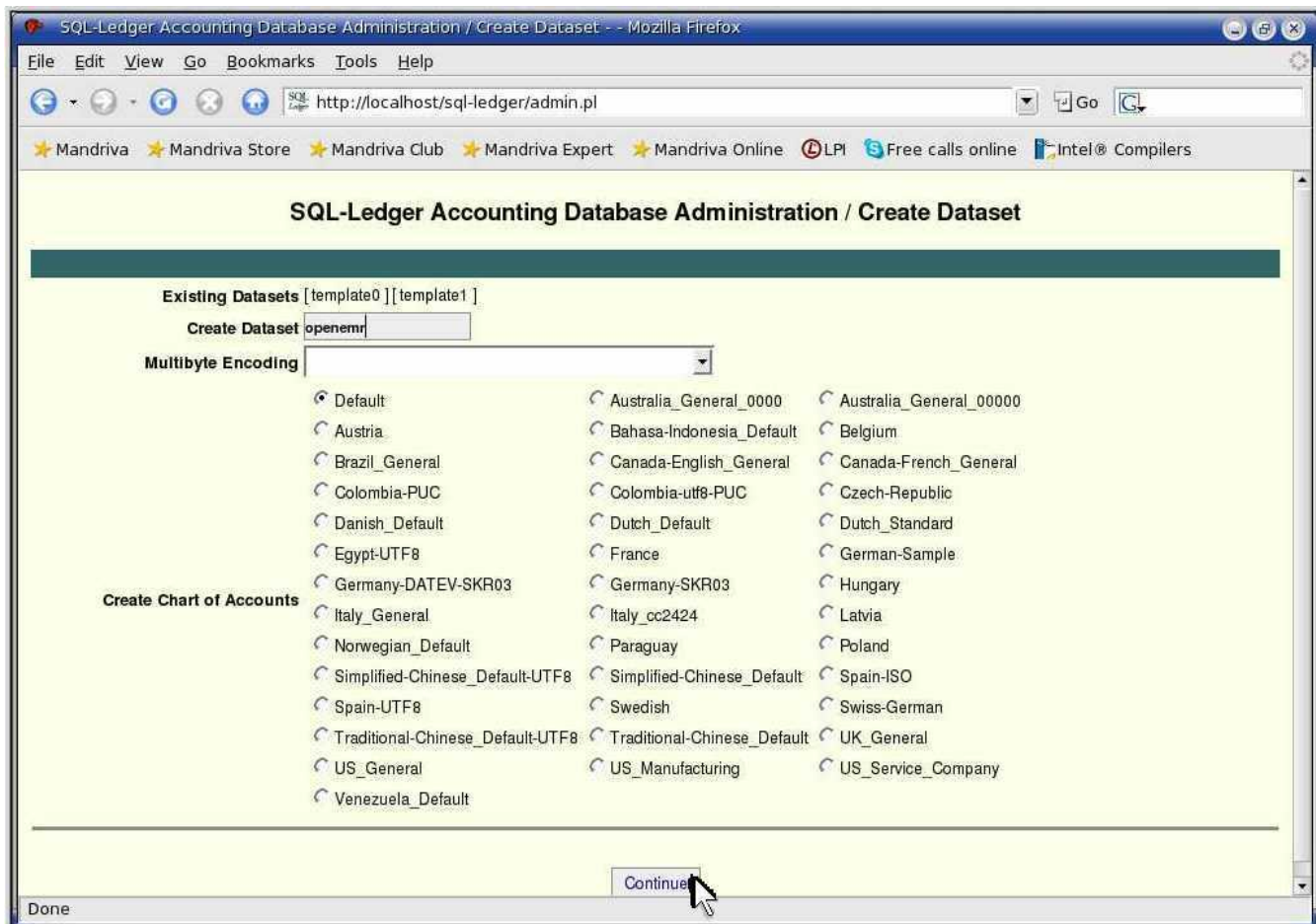
Enter a secure password. Then click 'Change Password'.



Click 'Pg Database Administration'.



Enter 'User' -> 'sql-ledger'. Enter 'Password' -> '**sql-ledger-password**'.
Otherwise keep above defaults. Then click 'Create Dataset'.



Enter 'Create Dataset' -> 'openemr'. Toggle 'Create Chart of Accounts' -> 'Default'. Then click 'Continue'.



Click 'Continue'.



Click 'Add User'.

SQL-Ledger Accounting Administration / Add User

Login: openemr
 Password: *****
 Name: openemr
 E-mail:
 Signature:
 Phone:
 Fax:
 Company:
 Address:

Date Format: mm-dd-yy
 Number Format: 1,000.00
 Dropdown Limit: 1000
 Menu Width: 155
 Language: English
 Session Timeout: 3600
 Stylesheet: sql-ledger.css
 Printer:
 Use Templates:
 New Templates:
 Setup Templates: Default

Database

Driver: Pg
 Host:
 Dataset: openemr
 Port:
 User: sql-ledger
 Password: *****

Access Control

User:

Done

Enter 'Login' ->'openemr'. Enter a secure 'Password'->'openemrpassword'. Enter 'Name'-> 'openemr'. At the 'Database' section: ensure the 'Driver Pg' is toggled to ON , set 'Dataset'->'openemr', set 'User'->'sql-ledger', set 'Password'->'**sql-ledger-password**'. Keep above defaults for other above entries. Scroll to bottom of page and click 'Save'.

SQL-Ledger Accounting Administration

Login	Name	Company	Driver	Host	Dataset	Templates
openemr	openemr		Pg	localhost	openemr	openemr

Add User | Change Admin Password | Pg Database Administration | Lock System | Logout

Click on login name to edit!
 To add a user to a group edit a name, change the login name and save. A new user with the same variables will then be saved under the new login name.

Done

Click 'Logout' and continue below.

1. Enter below **bolded** instructions on command line as root user:

```
#log into root  
su
```

```
#Copy and rename openemr perl script to sql-ledger directory  
cp /var/www/html/openemr/accounting/ws_server_26.pl  
    /usr/local/sql-ledger/ws_server.pl
```

```
#edit file /usr/local/sql-ledger/ws_server.pl:  
mcedit /usr/local/sql-ledger/ws_server.pl
```

```
    #edit the following bolded path:  
    use lib qw (/usr/local/sql-ledger);  
    TEXT EDITOR SAVE AND EXIT
```

```
#edit file /var/www/html/openemr/interface/globals.php  
mcedit /var/www/html/openemr/interface/globals.php
```

```
    #edit the following bolded variables :  
    $sl_income_acc = '4320';  
    $sl_services_id = 'MS';  
    $sl_dbname = 'openemr';  
    $sl_dbuser = 'sql-ledger';  
    $sl_dbpass = 'sql-ledger-password';  
    TEXT EDITOR SAVE AND EXIT
```

```
#edit file /var/www/html/openemr/includes/config.php:  
mcedit /var/www/html/openemr/includes/config.php
```

```
    #edit the following bolded variables:
```

```
    $GLOBALS['oer_config']['ws_accounting']['enabled'] =  
        true;
```

```
    $GLOBALS['oer_config']['ws_accounting']['username'] =  
        "openemr";
```

```
    $GLOBALS['oer_config']['ws_accounting']['password'] =  
        "openemrpassword";
```

```
    $GLOBALS['oer_config']['ws_accounting']['income_acct']  
        = "4320";
```

```
    TEXT EDITOR SAVE AND EXIT
```

1. Finish up SQL-Ledger install, go to: <http://localhost/sql-ledger/>




Enter 'Name' -> 'openemr'. Enter password then click 'Login'.

SQL-Ledger Version 2.6.3 - openemr - openemr - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

https://www.bradynd.com:808

AR
POS
AP
Cash
HR
Order Entry
Shipping
Quotations
General Ledger
Goods & Services
Projects
Reports
Recurring Transactions
Batch Printing
System
Stylesheet
Preferences
Version
New Window
Logout



Version 2.6.3

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User openemr
Dataset openemr
Database Host localhost

Click 'Goods & Services'.

SQL-Ledger Version 2.6.3 - openemr - openemr - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

https://www.brady.md.com:8081



Version 2.6.3

Licensed to

User openemr
Dataset openemr
Database Host localhost

- AR
- POS
- AP
- Cash
- HR
- Order Entry
- Shipping
- Quotations
- General Ledger
- Goods & Services
 - Add Part
 - Add Service
 - Add Assem
 - Add
 - Labor/Overhead
 - Add Group
 - Add Pricegroup
 - Stock Assembly
- Reports
- Translations
- Projects
- Reports
- Recurring
- Transactions
- Batch Printing

Click 'Add Services'.

The screenshot shows the 'Add Service' form in the SQL-Ledger application. The form is titled 'Add Service' and is located in a web browser window. The browser's address bar shows 'https://www.bradynd.com:8081/sql-ledger/login.pl'. The form has a left sidebar with a menu of options including AR, POS, AP, Cash, HR, Order Entry, Shipping, Quotations, General Ledger, Goods & Services, Reports, Translations, Projects, Reports, Recurring Transactions, Batch Printing, System, Stylesheet, and Preferences. The main form area contains the following fields and sections:

- Number:** MS
- Description:** Medical Service
- Link Accounts:**
 - Income: 4320--Consulting
 - Expense: 5010--Purchases
 - Tax:
 - 2310--VAT (10%)
 - 2320--VAT (14%)
 - 2330--VAT (30%)
- Updated:** 03-25-2006
- Price/Cost Fields:** Sell Price, List Price, Last Cost, Markup %, Unit
- Notes:** A text area for notes.
- Vendor Table:**

Vendor	Number	Cost	Curr	Leadtime
			USD	days
- Customer Table:**

Customer	Break	Sell Price	Curr	From	To
			USD		
- Buttons:** Update, Save

Enter 'Number' -> 'MS'. Enter 'Description' -> 'Medical Service'. Choose 'Income' -> '4320—Consulting'. Remove checks on the three tax toggles. Otherwise, keep defaults. Then click 'Save'. Your done with SQL-Ledger install, you can log-out now.

Install php-GACL

[Main TOC Link](#)
[Chapter Index Link](#)

1. Download phpgacl-3.3.6.tar.gz file from:
http://sourceforge.net/project/showfiles.php?group_id=57103
2. Enter below **bolded** instructions on command line as root user:

```
#log into root
su
```

```
#unpack and place program in its proper place
cd /var/www/html
tar xvzf /location/to/file/phpgacl-3.3.6.tar.gz
```



```
mv phpgacl-* phpgacl
```

```
#create the mySQL database
```

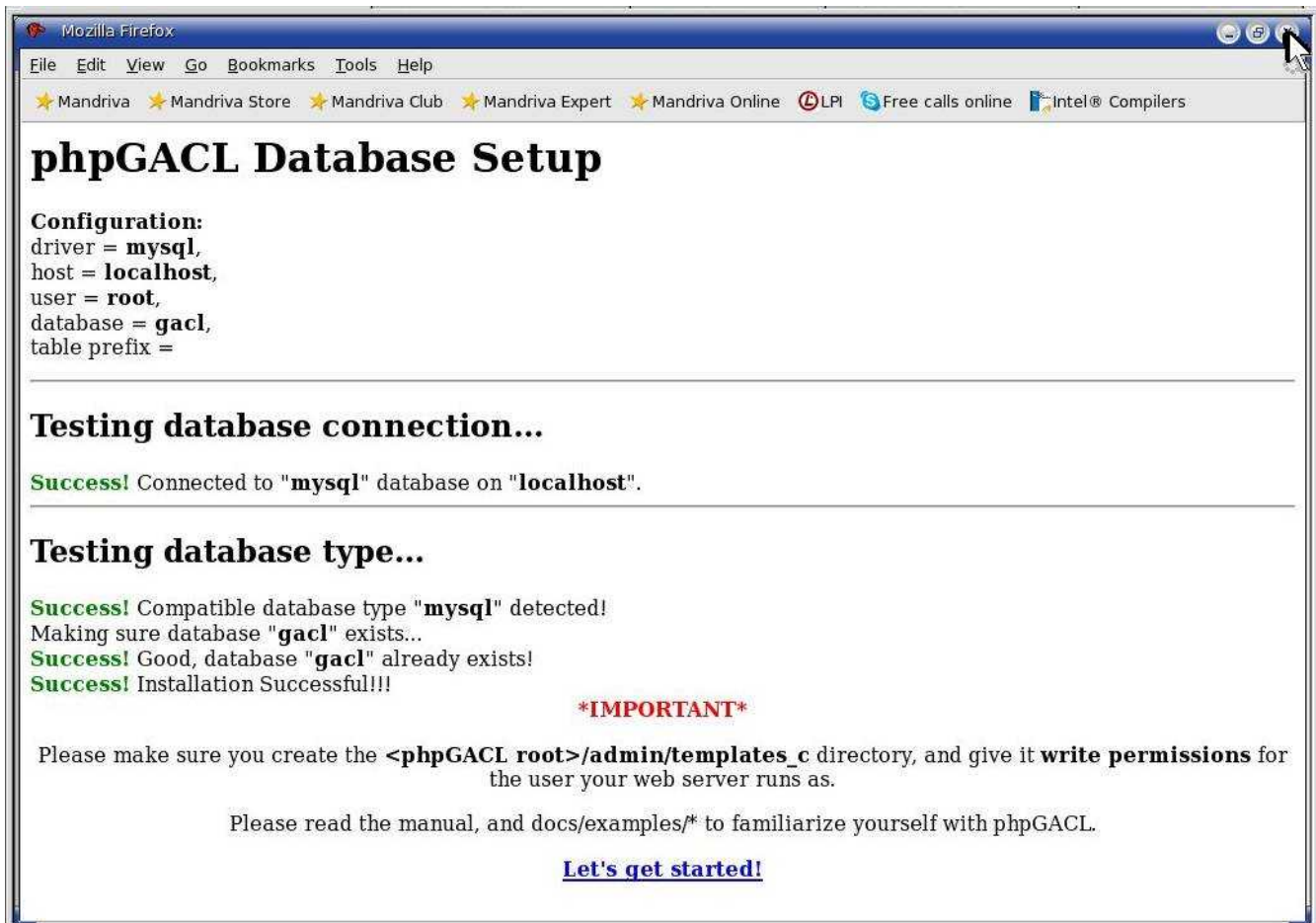
```
mysql
```

```
At mysql> prompt type:
```

```
CREATE DATABASE gacl;
```

```
exit
```

3. Start phpGACL Installer via : <http://localhost/phpgacl/setup.php>



Close the window. (Don't worry, we will make the 'Important' directory below.)

4. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#make a phpgacl/admin/templates_c directory, and change  
owner
```

```
mkdir /var/www/html/phpgacl/admin/templates_c
```

```
chown -R apache:apache  
/var/www/html/phpgac1/admin/templates_c
```

```
#edit file /var/www/html/openemr/library/acl.inc:  
mcedit /var/www/html/openemr/library/acl.inc  
#uncomment and edit following line:  
$phpgac1_location = "/var/www/html/phpgac1";  
TEXT EDITOR SAVE AND EXIT
```

```
#Password protect the /var/www/html/phpgac1/admin directory.  
Will need to: FIRST add entry to apache2 config file,  
SECOND create a password file, and THIRD re-start  
apache.
```

```
#FIRST, edit file /etc/httpd/conf/httpd.conf:  
mcedit /etc/httpd/conf/httpd.conf  
#paste following section at end of file:  
<Directory "/var/www/html/phpgac1/admin">  
AuthType Basic  
AuthName "ACL Administrators"  
AuthUserFile  
    /var/www/html/phpgac1/admin/.htpasswd  
Require valid-user  
</Directory>  
TEXT EDITOR SAVE AND EXIT
```

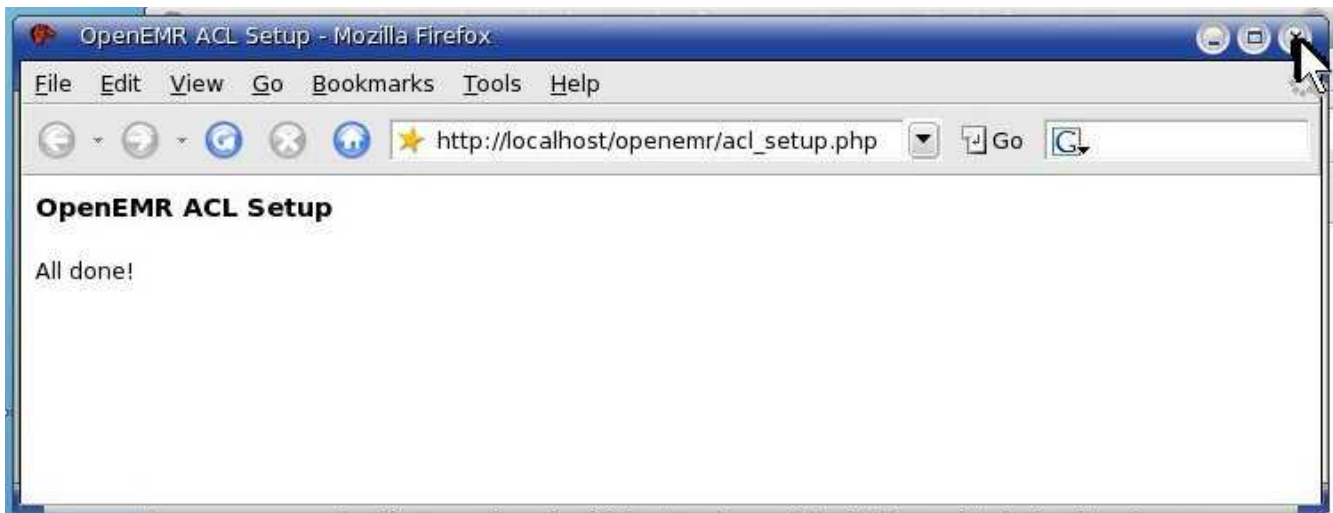
```
#SECOND, create the password file(file is .htpasswd and user  
is admin)
```

```
cd /var/www/html/phpgac1/admin  
htpasswd -c /var/www/html/phpgac1/admin/.htpasswd  
admin
```

```
-Type in a secure password
```

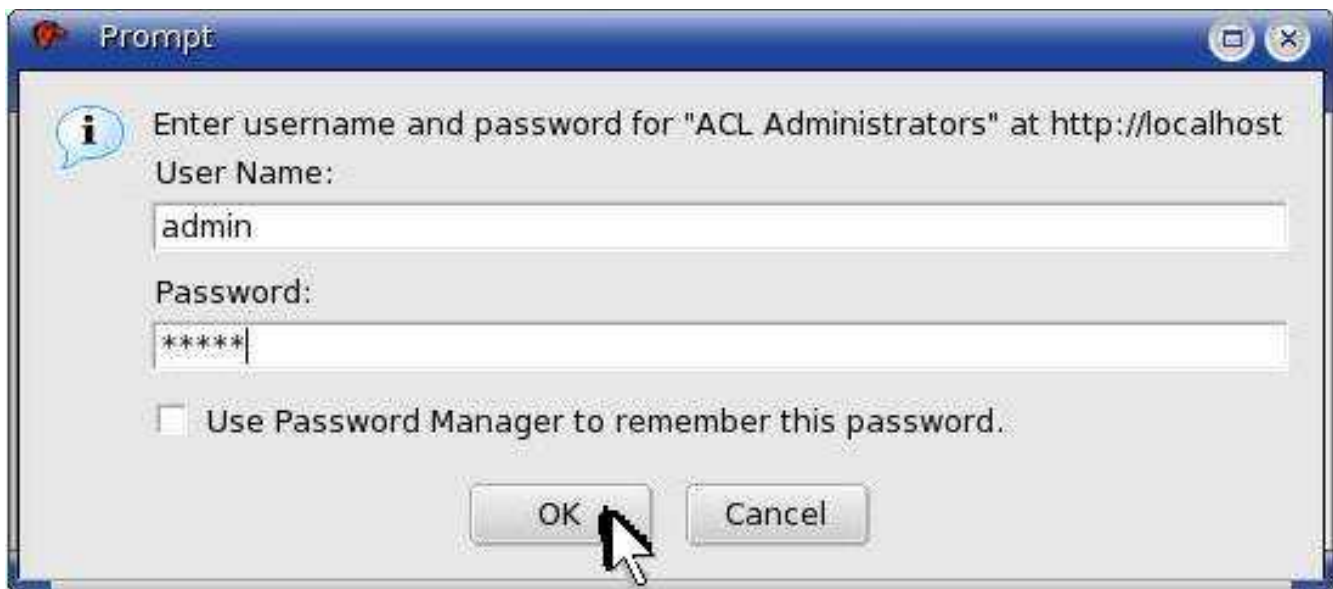
```
#THIRD, Re-start apache  
service httpd restart
```

5. Configure phpGACL to use OpenEMR via:
http://localhost/openemr/acl_setup.php

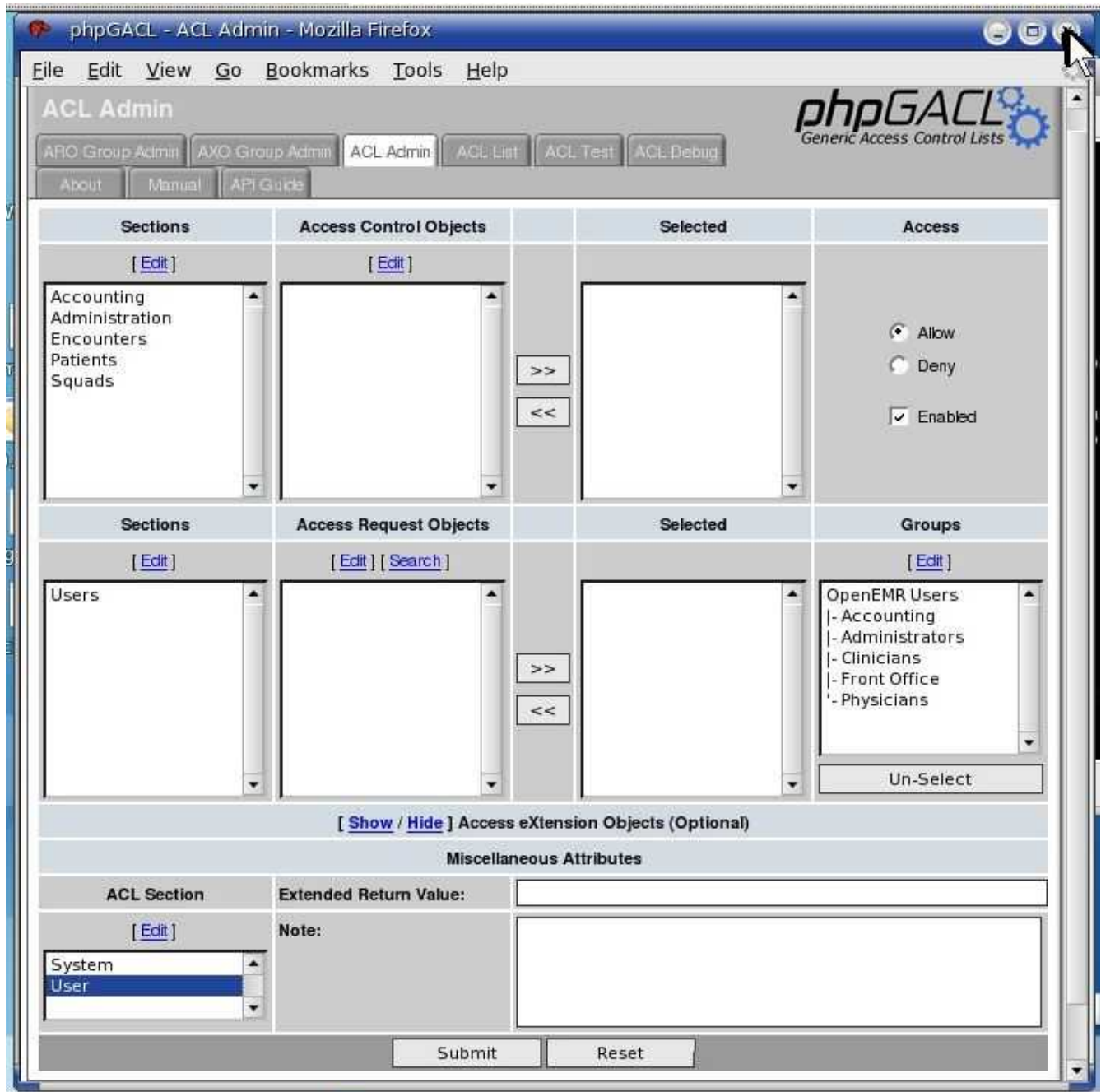


Close window.

6. Start phpGACL via: http://localhost/phpgacl/admin/acl_admin.php



Log in as 'admin', and with password created by the above *htpasswd* command.



Close window. Learn how to use later. (Your OpenEMR 'admin' user is already configured as an administrator).

Configure SSL

[Main TOC Link](#)
[Chapter Index Link](#)

1. SSL is very important, and will ensure encryption of all network traffic. This will allow safe use of a laptop over a wireless network. The protocol uses https instead of http and utilizes port 443 instead

of 80. Only two configuration files will need changing. We will also firewall port 80 to ensure that the only available option will be an encrypted connection.

2. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#Edit file /var/www/html/openemr/includes/config.php. This will  
fix the SQL-Ledger link in the OpenEMR billing page.
```

```
mcedit /var/www/html/openemr/includes/config.php
```

```
#edit following line (yes, you're just adding an 's'):
```

```
$GLOBALS['oer_config']['ws_accounting']['url_path'] =  
"https://"
```

```
$_SERVER["SERVER_NAME"] . "/sql-ledger/login.pl";
```

```
TEXT EDITOR SAVE AND EXIT
```

```
#Edit file /etc/httpd/modules.d/41_mod_ssl.default-vhost.conf.
```

```
This will ensure only high level secure encryption is used.
```

```
mcedit /etc/httpd/modules.d/41_mod_ssl.default-  
vhost.conf
```

```
#REMOVE the entire line below:
```

```
SSLCipherSuite
```

```
ALL:!ADH:!EXPORT56:RC4+RSA:+HIGH:+MEDIUM:  
+LOW:+SSLv2:+EXP
```

```
#PASTE all of below in place of the above removed line:
```

```
SSLOptions +StrictRequire
```

```
<Directory />
```

```
SSLRequireSSL
```

```
</Directory>
```

```
SSLProtocol -all +TLSv1 +SSLv3
```

```
SSLCipherSuite
```

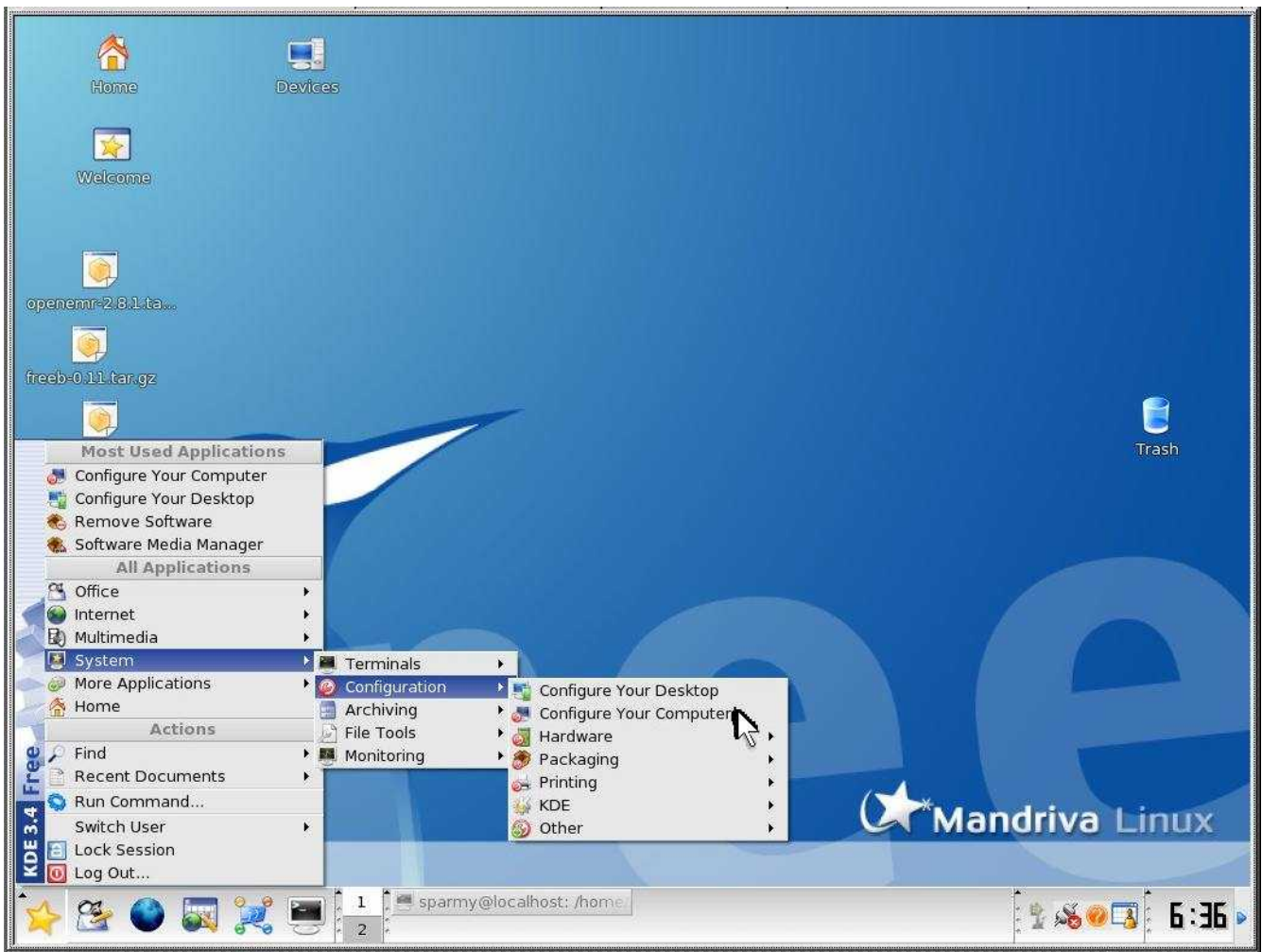
```
HIGH:MEDIUM:!aNULL:+SHA1:+MD5:+HIGH:+MED  
IUM
```

```
TEXT EDITOR SAVE AND EXIT
```

```
#Re-start apache
```

```
service httpd restart
```

1. Firewall port 80



Click 'System' -> 'Configuration' -> 'Configure Your Computer'.



Enter 'root' user password. Then click 'OK'.



Click 'Security'.



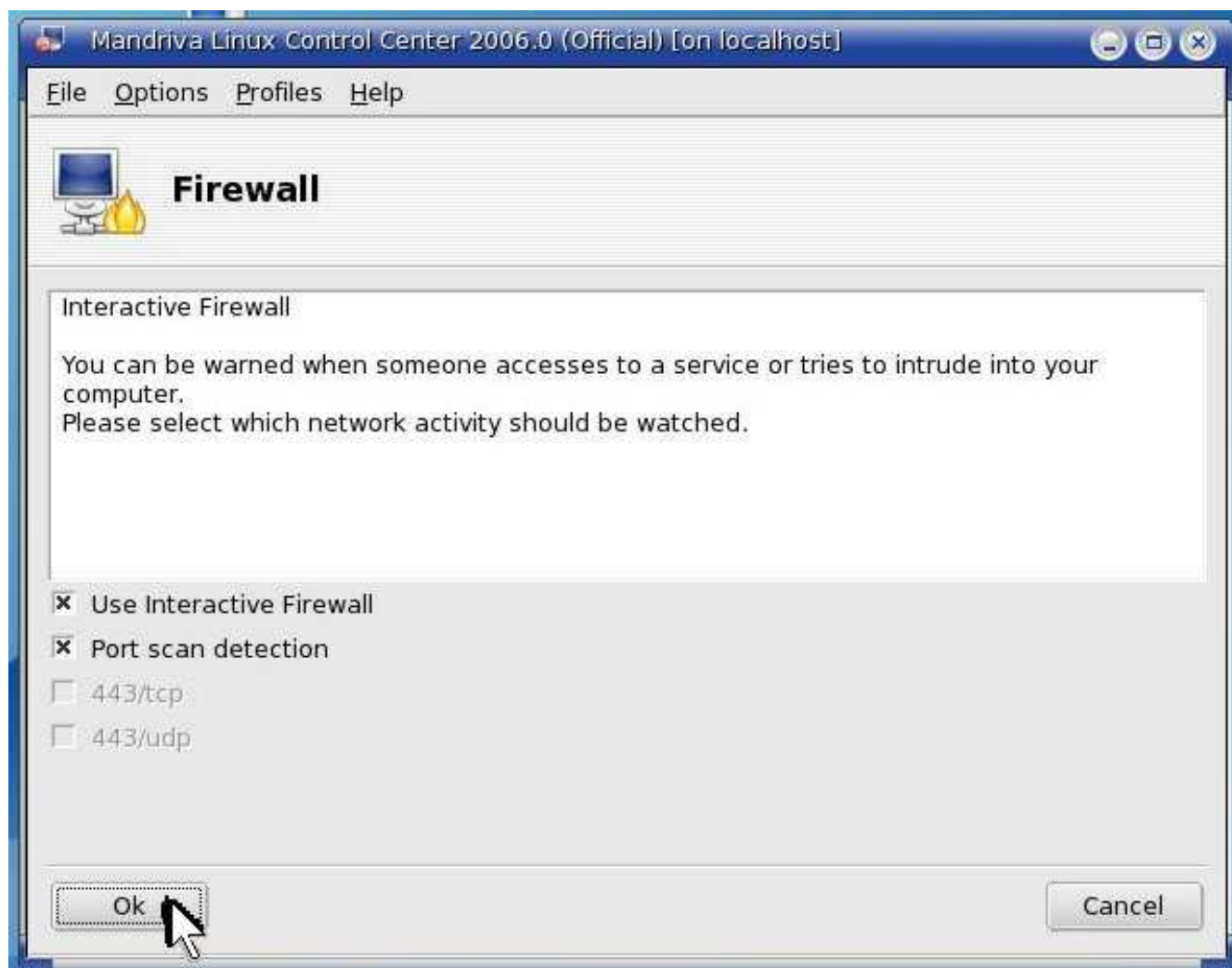
Click 'Set up a personal...'



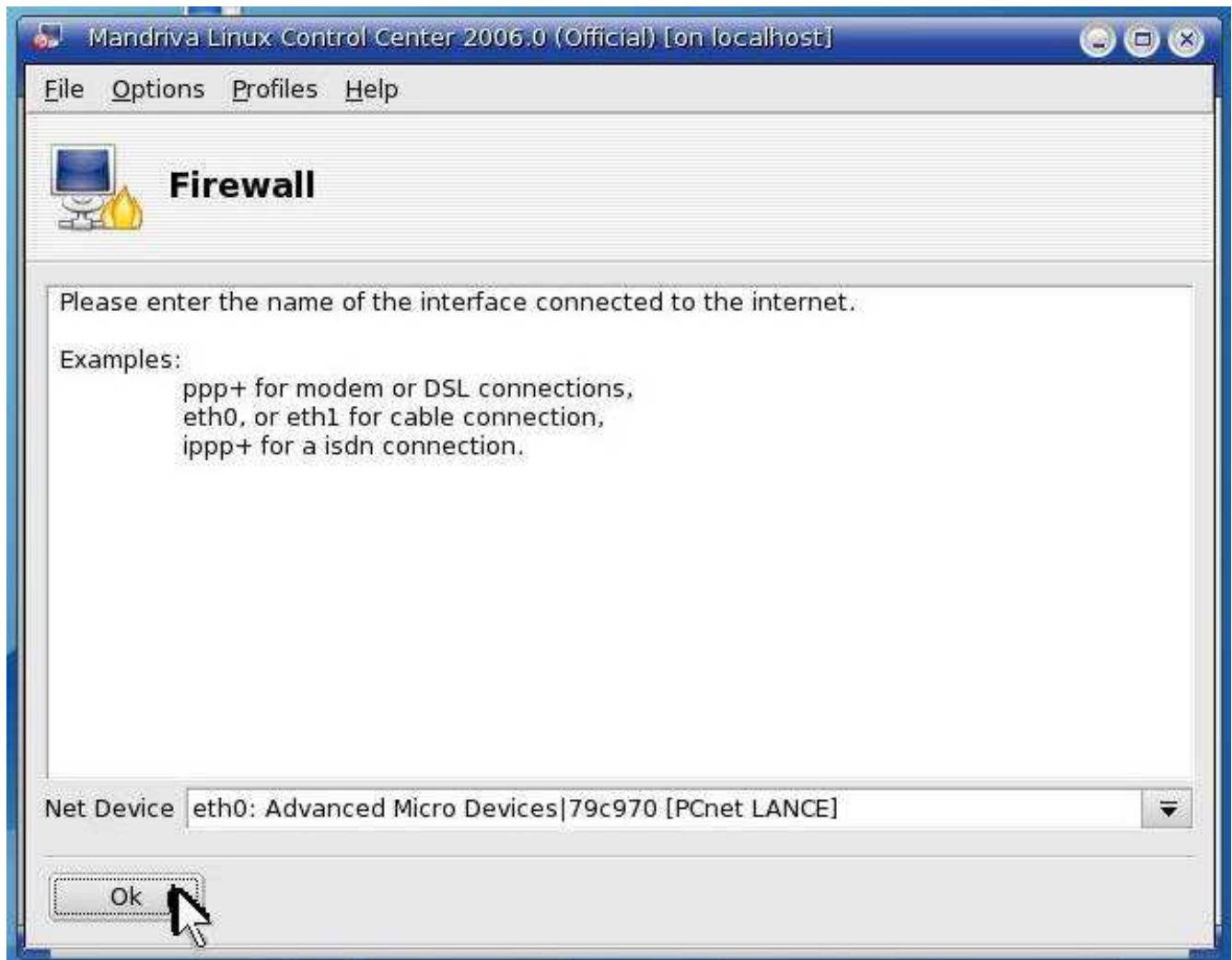
Ensure 'Web Server' is NOT selected. Then Click on 'Advanced'.



Enter 'Other ports' -> '**443/tcp 443/udp**'. Then click 'Ok'.



Click 'Ok'. Keep defaults.



Click 'Ok'. Keep defaults.



You are done. Close the window.

Upgrade to OpenEMR 2.8.2

[Main TOC Link](#)
[Chapter Index Link](#)

1. Download openemr-2.8.2.tar.gz (version 2.8.2) from sourceforge at:
http://sourceforge.net/project/showfiles.php?group_id=60081
2. Enter below **bolded** instructions on command line as root user:

```
#log into root  
su
```

```
#Ensure register globals in php is turned off.  
#edit file /etc/php4.ini:  
mcedit /etc/php4.ini
```

```
#EDIT the following variable:  
register_globals = off  
TEXT EDITOR SAVE AND EXIT
```

```
#restart httpd  
service httpd restart
```

```
#make backup directories  
mkdir /backupopenemrandfreeb  
mkdir /backupopenemrandfreeb/2_8_1
```

```
#move old OpenEMR 2.8.1 to the backup directory  
mv /var/www/html/openemr  
    /backupopenemrandfreeb/2_8_1/openemr
```

```
#put the new OpenEMR 2.8.2 program in its place  
cd /var/www/html  
tar pxzvf /location/to/tar/openemr-2.8.2.tar.gz  
mv openemr-2.8.2 /var/www/html/openemr
```

```
#secure OpenEMR  
chown -Rf root:root openemr
```

```
#Need to change some file/folder permissions  
chown apache:apache -R  
    /var/www/html/openemr/interface/main/calendar/mod  
    ules/PostCalendar/pntemplates/cache  
chown apache:apache -R  
    /var/www/html/openemr/interface/main/calendar/mod  
    ules/PostCalendar/pntemplates/compiled  
chown apache:apache -R  
    /var/www/html/openemr/library/freeb
```

```
#Restore the original scanned documents directory  
cp -fr  
    /backupopenemrandfreeb/2_8_1/openemr/documents  
    /var/www/html/openemr/
```

```
#Change file-folder permissions of documents directory  
chown apache:apache -R  
    /var/www/html/openemr/documents
```

```
#Now for the hardest part of the upgrade; editing the new  
config files. There are five files that need to be compared to  
your old config files: openemr/interface/globals.php,  
openemr/library/sqlconf.php, openemr/library/sql-  
ledger.inc, openemr/includes/config.php, and  
openemr/library/acl.inc . The below instructions are
```

specific for the openemr 2.8.1 appliance(only the **bolded** files above require changing or copying). If you have made your own changes to the config files, then I'd recommend comparing them to ensure no other changes are needed. We will replace one file with the previous 2.8.1 config file and will edit three of the new 2.8.2 config files.

```
#replace new /var/www/html/openemr/library/sqlconf.php file
with the old 2.8.1 file
```

```
cp
/backupopenemrandfreeb/2_8_1/openemr/library/sqlconf.php
/var/www/html/openemr/library/sqlconf.php
```

```
#edit file /var/www/html/openemr/interface/globals.php:
```

```
mcedit /var/www/html/openemr/interface/globals.php
```

```
#edit the following bolded variables :
```

```
$sl_dbname = 'openemr'; // sql-ledger database
name
```

```
$sl_dbpass = 'sql-ledger-password'; // sql-ledger
database login password (click link for default
above password, which is the PostgreSQL
database password, and should be 'sqlledger' )
```

```
TEXT EDITOR SAVE AND EXIT
```

```
#edit file /var/www/html/openemr/includes/config.php:
```

```
mcedit /var/www/html/openemr/includes/config.php
```

```
#edit the following bolded variables :
```

```
$GLOBALS['oer_config']['ws_accounting']['enabled']
= true;
```

```
$GLOBALS['oer_config']['ws_accounting']['username']
= "openemr";
```

```
$GLOBALS['oer_config']['ws_accounting']['password']
= "openemrpassword"; (click link for default
above password, which is sql-ledger 'openemr'
user password, and should be "openemr")
```

```
$GLOBALS['oer_config']['ws_accounting']['url_path']
= "https://".
```

```
$_SERVER["SERVER_NAME"] . "/sql-
ledger/login.pl";
```

```
TEXT EDITOR SAVE AND EXIT
```

```
#edit file /var/www/html/openemr/library/acl.inc:
```

```
mcedit /var/www/html/openemr/library/acl.inc
```

```
#uncomment below line and edit the bolded variable:
```

```
$phpgacl_location = "/var/www/html/phpgacl";
```

```
TEXT EDITOR SAVE AND EXIT
```

```
#Backup the mysql database into backup directory.
```

```
mkdir /backupopenemrandfreeb/2_8_1/mysqldatabase  
mysqldump --opt --all-databases | gzip >  
    /backupopenemrandfreeb/2_8_1/mysqldatabase/mysql  
    _backup.gz
```

```
#Upgrade the mysql database  
mysql openemr < /var/www/html/openemr/sql/2_8_1-to-  
    2_8_2_upgrade.sql
```

```
#OPTIONAL In the appliance, I left the traditional look of  
OpenEMR as the default. If you want to change to the new  
frames look(check out the demos to decide), then you will  
need to edit the file
```

```
/var/www/html/openemr/interface/globals.php:  
mcedit /var/www/html/openemr/interface/globals.php
```

```
    #edit the below bolded variable :  
    $GLOBALS['concurrent_layout'] = true;
```

```
TEXT EDITOR SAVE AND EXIT
```

Upgrade to FreeB 0.12

[Main TOC Link](#)
[Chapter Index Link](#)

1. Download freeb-0.12.tar.gz (version 0.12) from sourceforge:
http://sourceforge.net/project/showfiles.php?group_id=60081
2. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#move old FreeB 0.11 to the backup directory
```

```
mv /usr/share/freeb  
    /backupopenemrandfreeb/2_8_1/freeb
```

```
#put the new FreeB 0.12 program in its place
```

```
cd /usr/share  
tar xzvf /location/to/tar/freeb-0.12.tar.gz  
mv freeb-* /usr/share/freeb
```

```
#secure FreeB directory
```

```
chown root:root -R /usr/share/freeb
```

```
#create a directory that apache can write to
```



```
mkdir /usr/share/freeb/public
```

```
#restore original billing files(if they exist)
```

```
cp -fr /backupopenemrandfreeb/2_8_1/freeb/public  
/usr/share/freeb/
```

```
#Allow apache access to public directory
```

```
chown apache:apache -R /usr/share/freeb/public
```

```
#restart the freeb service
```

```
service freeb stop  
service freeb start
```

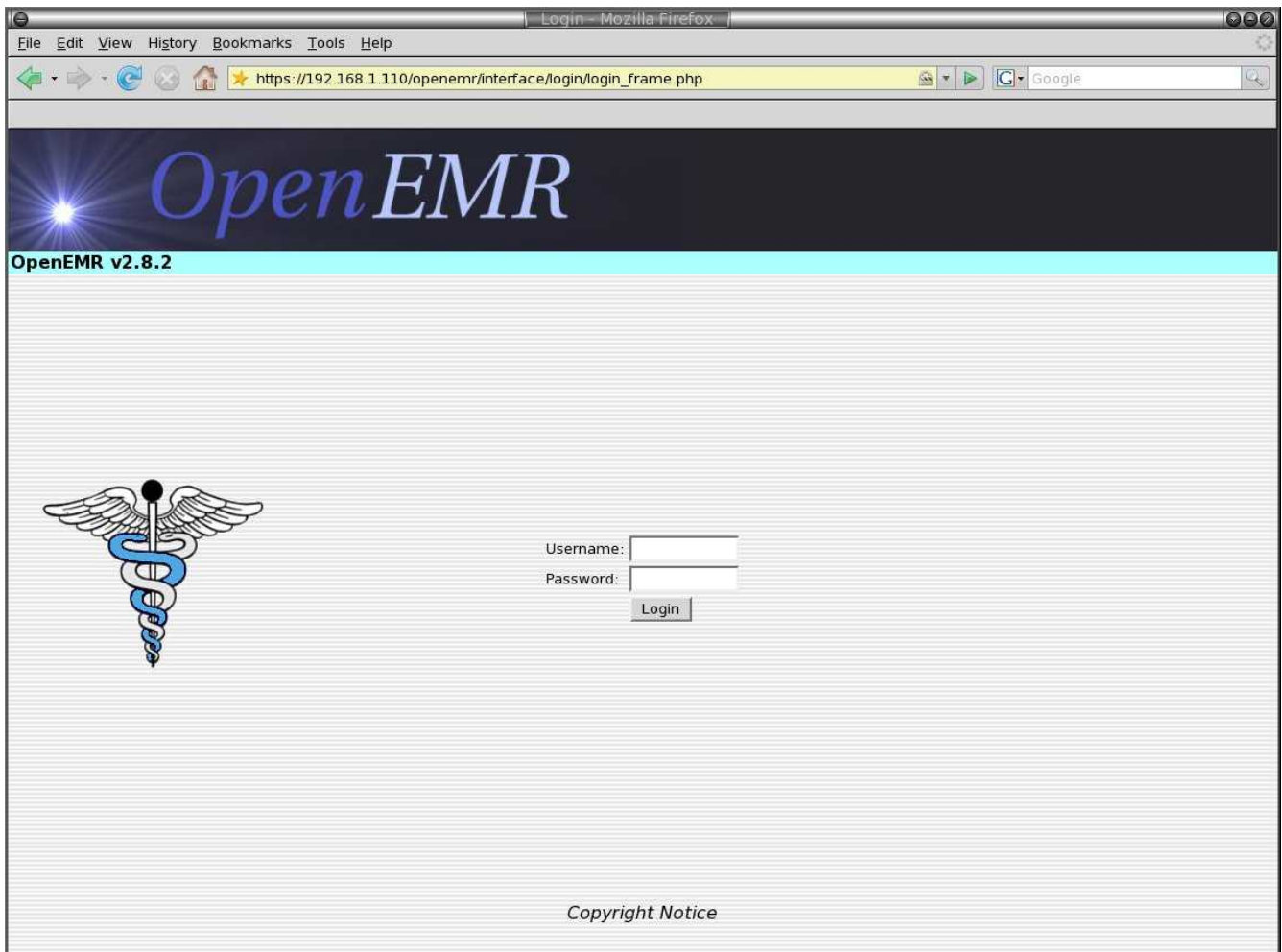
Admin Authorization

[Main TOC Link](#)

[Chapter Index Link](#)

1. This is to correct an annoying bug, which doesn't allow 'admin' to send bills to sql-ledger. It's easily corrected by below changes.

Log in to OpenEMR with 'admin' username and default password 'pass' at <http://localhost/openemr>:



Log in with 'admin' user and default password 'pass'.

OpenEMR - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://192.168.1.110/openemr/interface/main/main_screen.php?auth=login

Name Find Patient New Patient Password Administration Reports Notes AB Billing Home Logout

Logged in: Administrator (Healthy Choice Clinic) Sat April 28th 2007

All Users Administrator

2007-04-28 Day View Go Today Add Search

<< Saturday, April 28, 2007 >>

Administrator

8:00

Patient Notes (See All) and Authorizations(More) (Find Patient)

Click 'Administration'.

OpenEMR - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://192.168.1.113/openemr/interface/usergroup/usergroup.php

Users & Groups Forms Practice Calendar Database BatchCom Language Logs Back

Logged in: Administrator **Mon March 20th 2006**

User & Group Administration

New Facility Information:

Name: Phone:
 Address: City:
 State: Zip Code:
 Country: Federal EIN:

Edit Facilities: Your Clinic Name Here([Edit](#))

New User:

Username: Password:
 Groupname: Authorized:
 First Name: Middle Name:
 Last Name: Default Facility:
 Federal Tax ID: Federal Drug ID:
 UPIN: See Authorizations:

Additional Info:

New Group: Groupname: Initial User:

Add User To Group: User: Groupname:

Username	Real Name	Info	Authorized?
admin(Edit)	Administrator		yes

Healthy Choice
 admin([Remove](#))

Click 'edit' for the 'admin' user.

OpenEMR - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://192.168.1.110/openemr/interface/usergroup/usergroup.php

Users & Groups Forms Practice Calendar Database BatchCom Language Logs Back

Logged in: Administrator Sat April 28th 2007

User Administration

Username: admin Password: * Leave blank to keep password unchanged.

Authorized: Active:

First Name: Middle Name:

Last Name: Administrator Default Facility: Your Clinic Name Here

Federal Tax ID: Federal Drug ID:

UPIN: See Authorizations: All

Additional Info:

Save [Back]

Set the 'Authorized:' and 'Active:' toggles to on. Set the 'See Authorizations:' to 'All'.

OpenEMR - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://192.168.1.110/openemr/interface/usergroup/usergroup.php

Users & Groups Forms Practice Calendar Database BatchCom Language Logs Back

Logged in: Administrator Sat April 28th 2007

User Administration

Username: admin Password: * Leave blank to keep password unchanged.

Authorized: Active:

First Name: Middle Name:

Last Name: Administrator Default Facility: Your Clinic Name Here

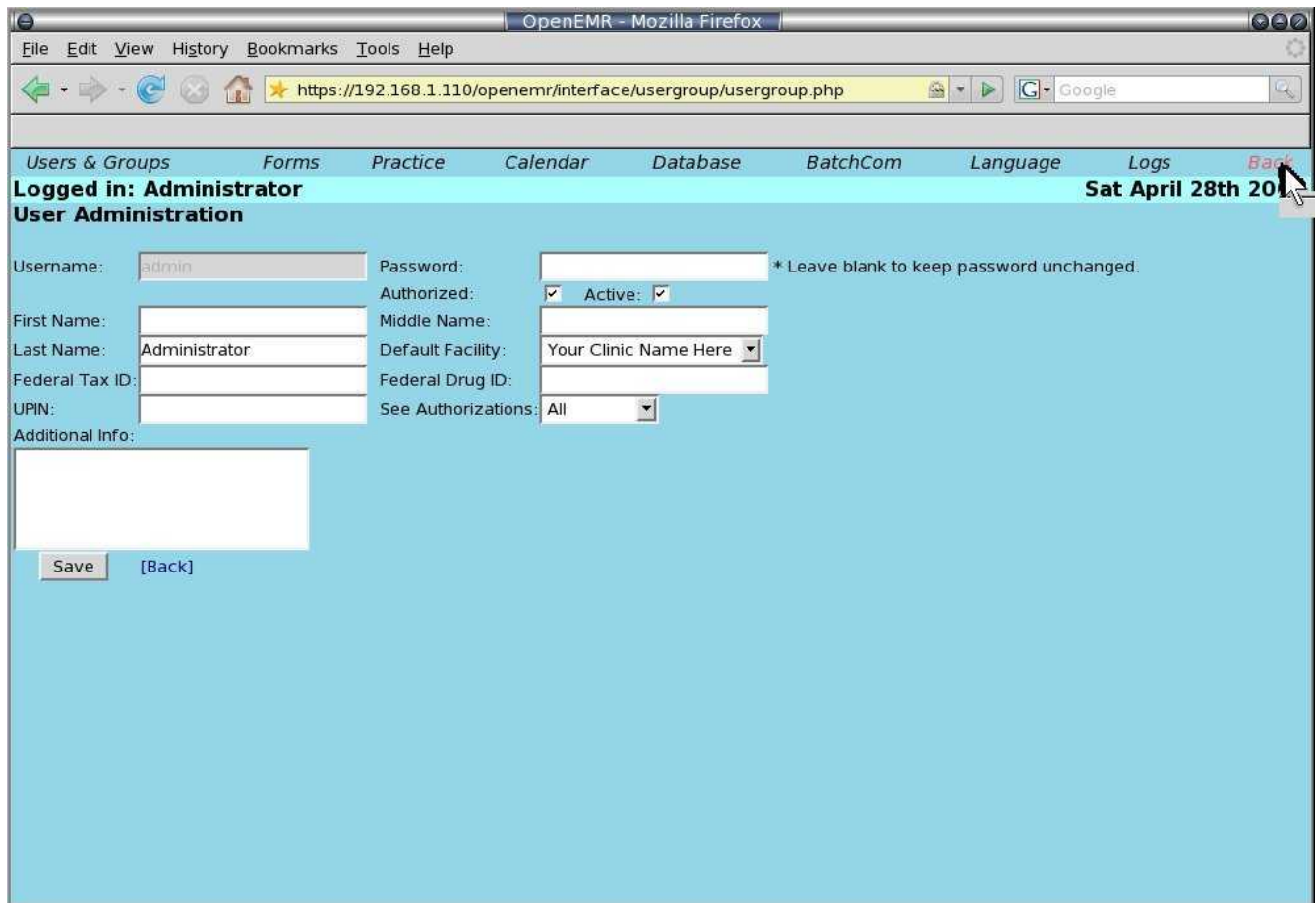
Federal Tax ID: Federal Drug ID:

UPIN: See Authorizations: All

Additional Info:

Save [Back]

Then click 'Save'.



Then click 'Back'.

ALL DONE

Appendix

[Main TOC Link](#)

A. SECURITY PATCHES

[Main TOC Link](#)

2. **FIX patient medical information directory security**

1. The OpenEMR Appliance contains two directories, which contain confidential patient medical information. The below fix is to not allow unauthorized entry to these directories.
2. Enter below **bolded** instructions on command line as root user:

```
#log into root
```

```
su
```

```
#Ensure the following lines are included at the end of the  
/etc/httpd/conf/httpd.conf file.
```

```
mcedit /etc/httpd/conf/httpd.conf
```

```
#Ensure below is included at end of file (if not  
found, then paste below into end of file)
```

```
<Directory "/var/www/html/openemr/documents">
```

```
order deny,allow
```

```
Deny from all
```

```
</Directory>
```

```
<Directory "/var/www/html/openemr/edi">
```

```
order deny,allow
```

```
Deny from all
```

```
</Directory>
```

```
TEXT EDITOR SAVE AND EXIT
```

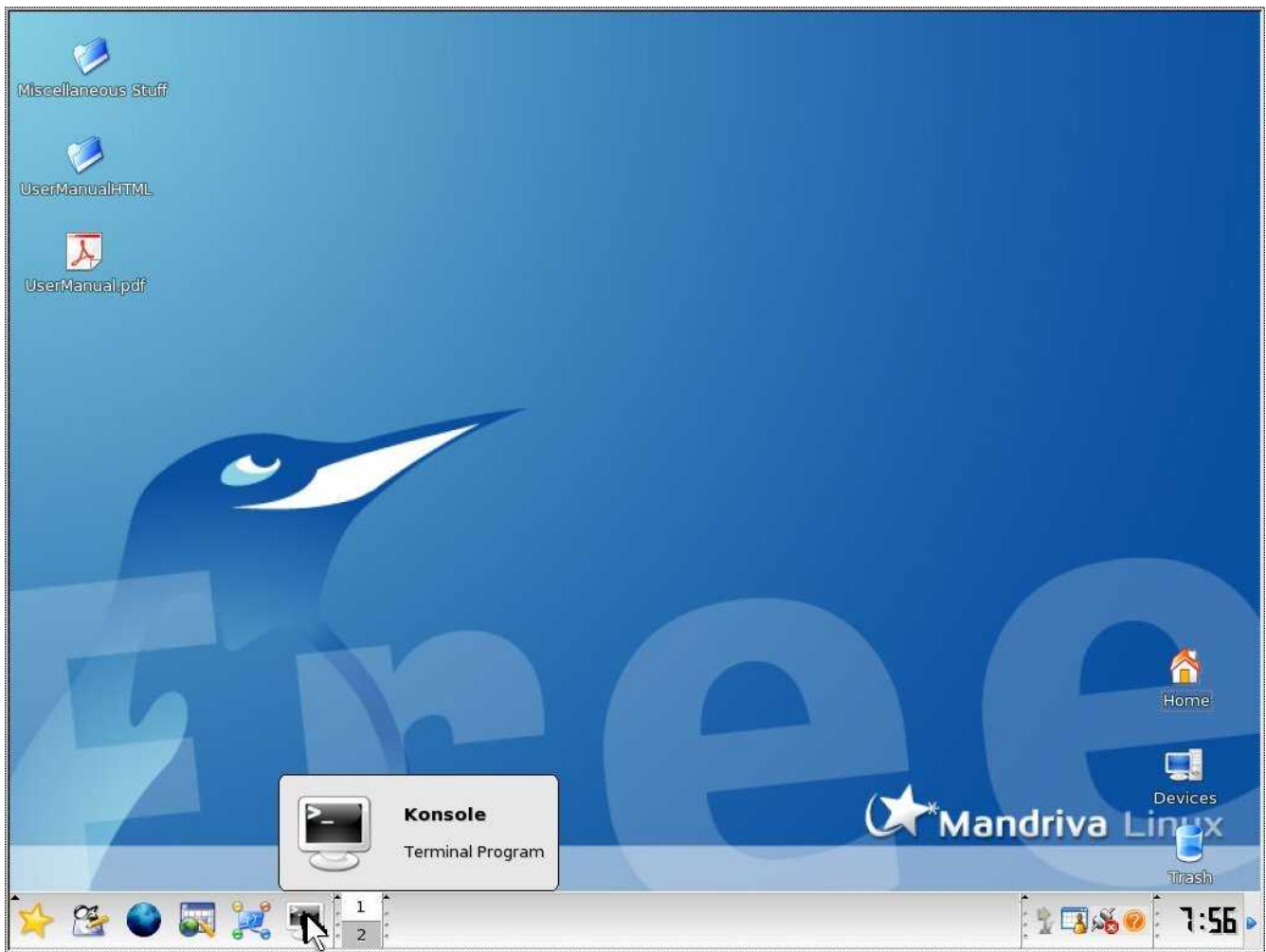
```
#restart apache
```

```
service httpd restart
```

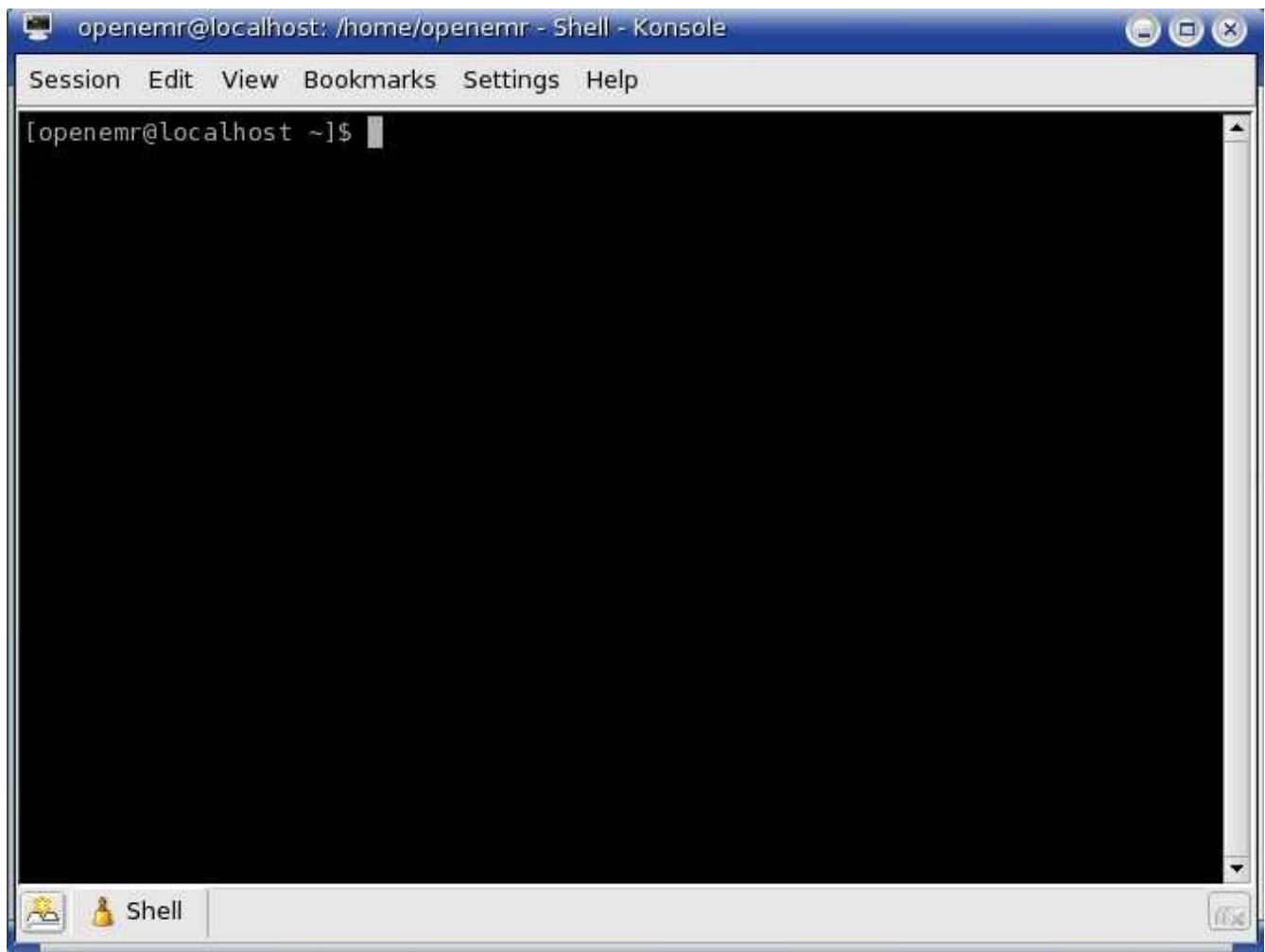
B. Change Mandriva's 'root' user password

[Main TOC Link](#)

1. This section describes how to change the 'root' user's password. The default password is 'rootpassword'. Don't worry, this is very quick and easy.
2. We will begin by opening a console window:



Click on the Konsole icon at bottom left of Desktop.



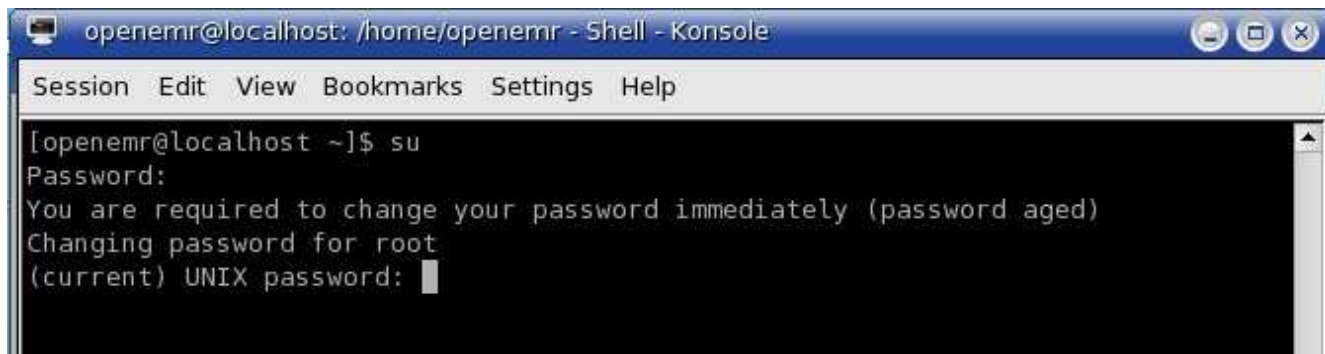
This is the console window, and where you type command line instructions. Move on to the next step.



First, login to 'root' user. At command line type: **su**

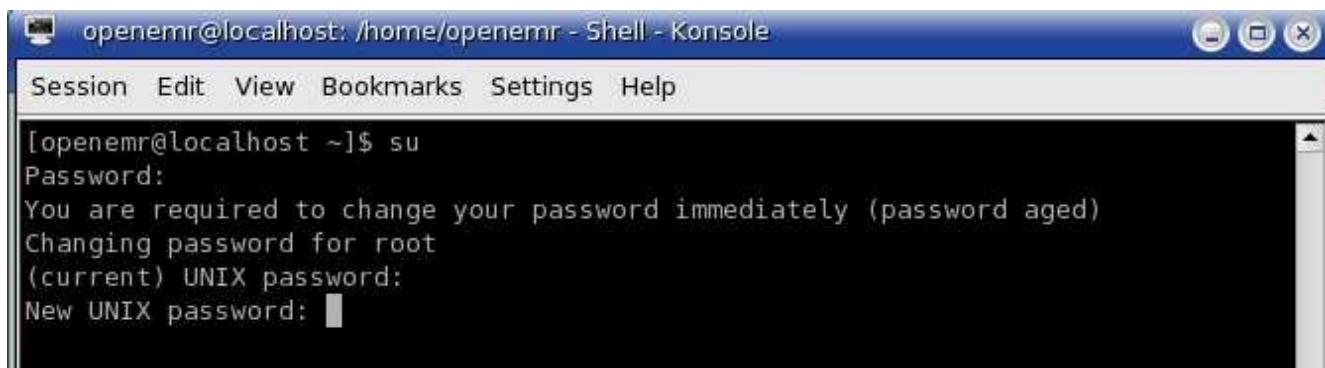


Enter in the default 'root' password. At command line type: **rootpassword**

A terminal window titled 'openemr@localhost: /home/openemr - Shell - Konsole'. The menu bar includes 'Session', 'Edit', 'View', 'Bookmarks', 'Settings', and 'Help'. The terminal content shows the user running 'su' and being prompted for a password. A message states: 'You are required to change your password immediately (password aged)'. The user is prompted to change the password for 'root', and the current UNIX password is being entered.


```
openemr@localhost: /home/openemr - Shell - Konsole
Session Edit View Bookmarks Settings Help
[openemr@localhost ~]$ su
Password:
You are required to change your password immediately (password aged)
Changing password for root
(current) UNIX password: █
```

When password is expired, it will mandate a password change. At command line type: **rootpassword**

A terminal window titled 'openemr@localhost: /home/openemr - Shell - Konsole'. The menu bar includes 'Session', 'Edit', 'View', 'Bookmarks', 'Settings', and 'Help'. The terminal content shows the user running 'su' and being prompted for a password. A message states: 'You are required to change your password immediately (password aged)'. The user is prompted to change the password for 'root', and the current UNIX password is being entered. The prompt for the new UNIX password is shown.

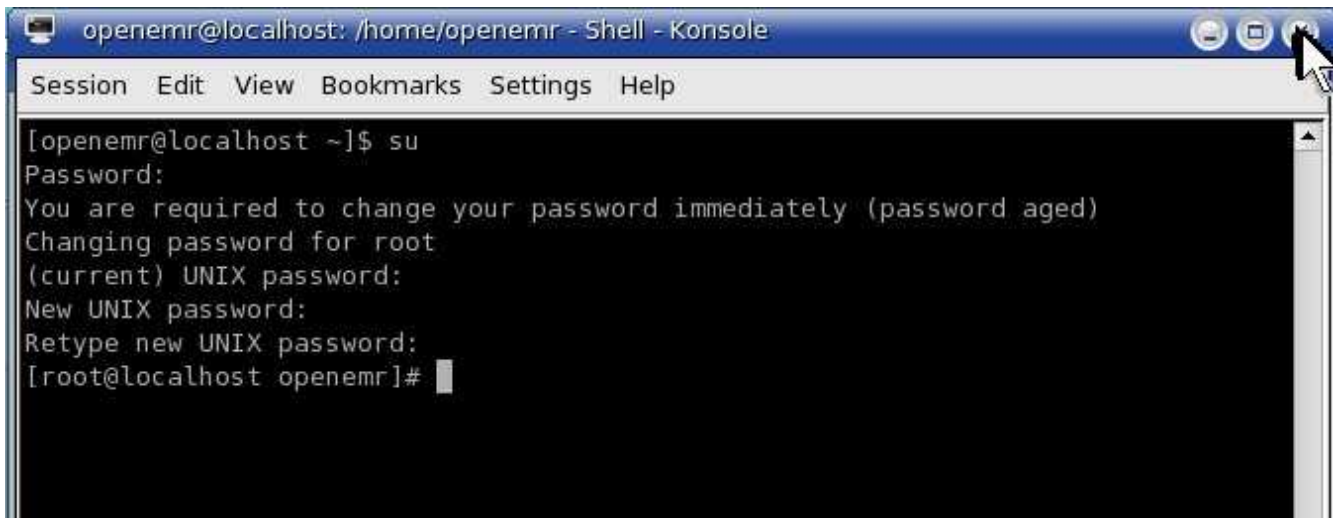
```
openemr@localhost: /home/openemr - Shell - Konsole
Session Edit View Bookmarks Settings Help
[openemr@localhost ~]$ su
Password:
You are required to change your password immediately (password aged)
Changing password for root
(current) UNIX password:
New UNIX password: █
```

Enter a new 'root' password. At command line type: *A New Root Password*

A terminal window titled 'openemr@localhost: /home/openemr - Shell - Konsole'. The menu bar includes 'Session', 'Edit', 'View', 'Bookmarks', 'Settings', and 'Help'. The terminal content shows the user running 'su' and being prompted for a password. A message states: 'You are required to change your password immediately (password aged)'. The user is prompted to change the password for 'root', and the current UNIX password is being entered. The prompt for the new UNIX password is shown, followed by a re-prompt to retype the new password.

```
openemr@localhost: /home/openemr - Shell - Konsole
Session Edit View Bookmarks Settings Help
[openemr@localhost ~]$ su
Password:
You are required to change your password immediately (password aged)
Changing password for root
(current) UNIX password:
New UNIX password:
Retype new UNIX password: █
```

Re-enter new password. At command line type: *A New Root Password*



```
openemr@localhost: /home/openemr - Shell - Konsole
Session Edit View Bookmarks Settings Help
[openemr@localhost ~]$ su
Password:
You are required to change your password immediately (password aged)
Changing password for root
(current) UNIX password:
New UNIX password:
Retype new UNIX password:
[root@localhost openemr]#
```

Congratulations, you now have your own, secure 'root' password. This is a very important password, **DO NOT FORGET IT**. You can close the console window now.

C. Upgrade to OpenEMR Version 2.8.3

[Main TOC Link](#)

Please, back up all of your data, and use these instructions at your own risk.

First, upgrade OpenEMR:

1. Download openemr-2.8.3.tar.gz (version 2.8.3) from sourceforge at: http://sourceforge.net/project/showfiles.php?group_id=60081
2. Enter below **bolded** instructions on command line as root user:

```
#log into root
su
```

```
#Ensure the following lines are included at the end of the
/etc/httpd/conf/httpd.conf file (this has been listed as a
security patch in previous versions, and is required to not
allow unauthorized viewing of patient's medical records).
```

```
mcedit /etc/httpd/conf/httpd.conf
```

```
#Ensure below is included at end of file (if not
found, then paste below into end of file)
<Directory "/var/www/html/openemr/documents">
```

```
order deny,allow
Deny from all
</Directory>
<Directory "/var/www/html/openemr/edi">
order deny,allow
Deny from all
</Directory>
```

TEXT EDITOR SAVE AND EXIT

```
#restart apache
```

```
service httpd restart
```

```
#make backup directories
```

```
mkdir /backupopenemrandfreeb/2_8_2
```

```
#move old OpenEMR 2.8.2 to the backup directory
```

```
mv /var/www/html/openemr  
    /backupopenemrandfreeb/2_8_2/openemr
```

```
#put the new OpenEMR 2.8.3 program in its place
```

```
cd /var/www/html  
tar pxzvf /location/to/tar/openemr-2.8.3.tar.gz  
mv openemr-2.8.3 /var/www/html/openemr
```

```
#secure OpenEMR
```

```
chown -Rf root:root openemr
```

```
#Need to change some file/folder permissions
```

```
chown apache:apache -R  
    /var/www/html/openemr/interface/main/calendar/mod  
    ules/PostCalendar/pntemplates/cache
```

```
chown apache:apache -R  
    /var/www/html/openemr/interface/main/calendar/mod  
    ules/PostCalendar/pntemplates/compiled
```

```
chown apache:apache -R  
    /var/www/html/openemr/library/freeb  
chown apache:apache -R /var/www/html/openemr/edi
```

```
#secure the /var/www/html/openemr/edi directory
```

```
chmod -R 700 /var/www/html/openemr/edi
```

```
#Restore the original scanned documents directory
```

```
cp -fr  
    /backupopenemrandfreeb/2_8_2/openemr/documents  
    /var/www/html/openemr/
```

```
#Change file-folder permissions of documents directory
```

```
chown apache:apache -R
```

`/var/www/html/openemr/documents`

#Now for the hardest part of the upgrade; editing the new config files. There are five files that need to be compared to your old config files: **openemr/interface/globals.php**, **openemr/library/sqlconf.php**, openemr/library/sql-ledger.inc, **openemr/includes/config.php**, and **openemr/library/acl.inc** . The below instructions are specific for the openemr 2.8.2 appliance(only the **bolded** files above require changing or copying). If you have made your own changes to the config files, then I'd recommend comparing them to ensure no other changes are needed. We will replace one file with the previous 2.8.2 config file and will edit three of the new 2.8.3 config files.

#replace new /var/www/html/openemr/library/sqlconf.php file with the old 2.8.2 file

```
cp -f  
/backupopenemrandfreeb/2_8_2/openemr/library/sqlconf.php /var/www/html/openemr/library/sqlconf.php
```

#edit file /var/www/html/openemr/interface/globals.php:

```
mcedit /var/www/html/openemr/interface/globals.php
```

```
#edit the following bolded variables :
```

```
$webserver_root = "/var/www/html/openemr";
```

```
$GLOBALS['concurrent_layout'] = false;
```

```
$sl_dbname      = 'openemr'; // sql-ledger database  
name
```

```
$sl_dbpass     = 'sql-ledger-password'; // sql-ledger  
database login password (click link for default  
above password, which is the PostgreSQL  
database password, and should be 'sqlledger' )
```

TEXT EDITOR SAVE AND EXIT

#edit file /var/www/html/openemr/includes/config.php:

```
mcedit /var/www/html/openemr/includes/config.php
```

```
#edit the following bolded variables :
```

```
$GLOBALS['oer_config']['ws_accounting']['enabled']  
= true;
```

```
$GLOBALS['oer_config']['ws_accounting']['username']  
= "openemr";
```

```
$GLOBALS['oer_config']['ws_accounting']['password']  
= "openemrpassword"; (click link for default  
above password, which is sql-ledger 'openemr'  
user password, and should be "openemr")
```

```
$GLOBALS['oer_config']['ws_accounting']['url_path']  
= "https://" .
```

```
$_SERVER["SERVER_NAME"] . "/sql-
```

```
ledger/login.pl";  
TEXT EDITOR SAVE AND EXIT
```

```
#edit file /var/www/html/openemr/library/acl.inc:  
mcedit /var/www/html/openemr/library/acl.inc  
#uncomment below line and edit the bolded variable:  
$phpgacl_location = "/var/www/html/phpgacl";  
TEXT EDITOR SAVE AND EXIT
```

```
#Backup the mysql database into backup directory.  
mkdir /backupopenemrandfreeb/2_8_2/mysqldatabase  
mysqldump --opt --all-databases | gzip >  
/backupopenemrandfreeb/2_8_2/mysqldatabase/mysql  
_backup.gz
```

```
#Fix a bug in the mysql upgrade script  
mcedit /var/www/html/openemr/sql/2_8_2-to-  
2_8_3_upgrade.sql  
#Delete below two lines  
ALTER TABLE form_football_injury_audit  
ADD `fismatchtype` int(11) NOT NULL DEFAULT 0;  
TEXT EDITOR SAVE AND EXIT
```

```
#Upgrade the mysql database  
mysql openemr < /var/www/html/openemr/sql/2_8_2-to-  
2_8_3_upgrade.sql
```

3. Next, need to fix the calendar bug with a patch. Download [CalendarPatchMonth283.txt](http://www.bradymd.com/CalendarPatchMonth283.txt) file, which can be found at: <http://www.bradymd.com/CalendarPatchMonth283.txt> (to download file, you may need to Right-Click the link and select 'Save Link As...')

1. Enter below **bolded** instructions on command line as root user:

```
#log into root  
su
```

```
#apply the patch (note that the 'CalendarPatchMonth283.txt'  
file is being copied to file named 'default.html')  
cp -f /location/to/file/CalendarPatchMonth283.txt  
/var/www/html/openemr/interface/main/calendar/mo  
dules/PostCalendar/pntemplates/default/views/mont  
h/default.html
```

3. Next, need to upgrade the php-GACL access controls. Download [acl_upgrade_1.txt](http://bradymd.com/acl_upgrade_1.txt) file, which is a php script. I wrote this script, and it seems to work alright. File can be found at: http://bradymd.com/acl_upgrade_1.txt (to download file, you may need to

Right-Click the link and select 'Save Link As...')

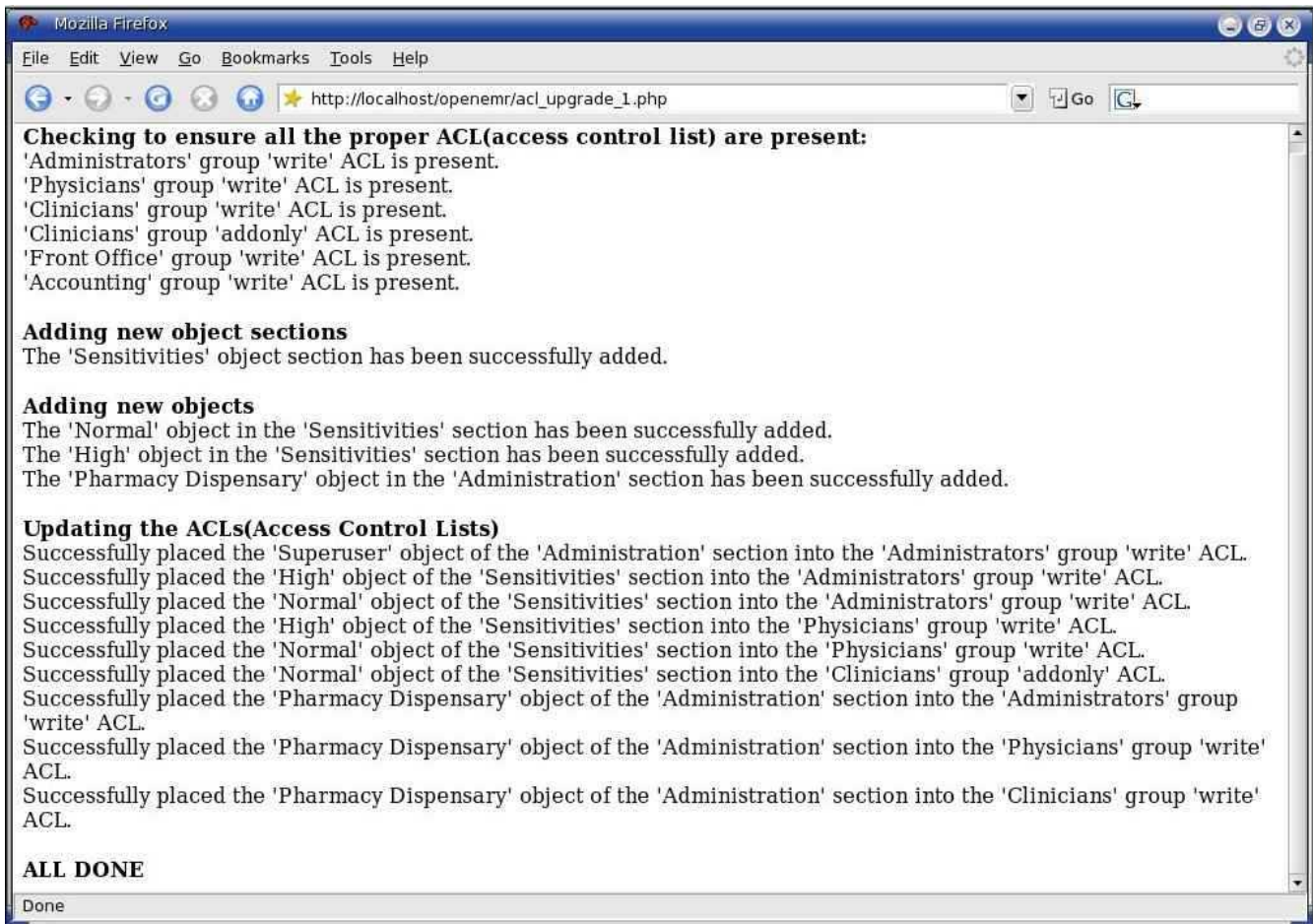
1. Enter below **bolded** instructions on command line as root user:

```
#log into root  
su
```

```
#copy upgrade script to openemr directory (note that the  
' .txt' is being changed to '.php')  
mv /location/to/file/acl_upgrade_1.txt  
/var/www/html/openemr/acl_upgrade_1.php
```

2. Run php-gacl upgrade script via :

http://localhost/openemr/acl_upgrade_1.php



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

3. **OPTIONAL** In the appliance, I left the traditional look of OpenEMR as the default. If you want to change to the new frames look(check out the [demos](#) to decide), then you will need to follow below instructions.

```
#log into root
su
```

```
#OPTIONAL If you want to change to the new frames
look(check out the demos to decide), then you will need to
edit the file /var/www/html/openemr/interface/globals.php:
mcedit /var/www/html/openemr/interface/globals.php
#edit the below bolded variable :
$GLOBALS['concurrent_layout'] = true;
TEXT EDITOR SAVE AND EXIT
```

Second, upgrade FreeB:

3. Download freeb-0.13.tar.gz (version 0.13) from sourceforge:
http://sourceforge.net/project/showfiles.php?group_id=60081
4. Enter below **bolded** instructions on command line as root user:

```
#log into root
su
```

```
#move old FreeB 0.12 to the backup directory
mv /usr/share/freeb
/backupopenemrandfreeb/2_8_2/freeb
```

```
#put the new FreeB 0.13 program in its place
cd /usr/share
tar xzvf /location/to/tar/freeb-0.13.tar.gz
mv freeb-* /usr/share/freeb
```

```
#secure FreeB directory
chown root:root -R /usr/share/freeb
```

```
#fix a bug with Freeb permissions, and allow execution of the
/usr/share/freeb/formatbin/ub92.pl file
chmod +x /usr/share/freeb/formatbin/ub92.pl
```

```
#create a directory that apache can write to
mkdir /usr/share/freeb/public
```

```
#restore original billing files(if they exist)
cp -fr /backupopenemrandfreeb/2_8_2/freeb/public
/usr/share/freeb/
```

```
#Allow apache access to public directory
```


chown apache:apache -R /usr/share/freeb/public

#restart the freeb service

service freeb stop

service freeb start

YOU ARE DONE

D. Useful Websites

[Main TOC Link](#)

OpenEMR links:

1. <http://www.oemr.org/> (Main OpenEMR website with a good Wiki and a new forum)
2. <http://sourceforge.net/projects/openemr/> (Main OpenEMR forums are here)
3. <http://www.bradynd.com/appliance/> (OpenEMR 2.8.1 Virtual Machine Manual)

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)

General EMR links:

1. <http://www.linuxmednews.com/> (Open Source EMR news)
2. <http://www.emrupdate.com/> (Great site and forums which discusses proprietary and open source EMRs. It also has a great actively updated price comparison for most proprietary EMR's)
3. <http://ehr.gplmedicine.org/> (Great detailed reviews of OpenEMR, MirrorMed, and FreeMed)
4. <http://www.bradynd.com/> (Installation instructions and quick reviews of OpenEMR, MirrorMed, FreeMed, and Vista.)

C. Author Email and License/Disclaimer

[Main TOC Link](#)

Author: Brady Miller

Email:brady@sparmy.com

www.brady.md.com

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