OpenEMR
INSTALLATION AND UPGRADE
Quick guide

September 2nd , 2009
Updated February 1st , 2010
Amended on July 13th, 2010
Amended September 22, 2010

Preliminary documentation

Preliminary notes

1. This guideline has been designed assuming you have some basic knowledge about Linux operating systems.
2. It also assumes that a reasonably current Debian or Ubuntu Linux distribution has been previously installed as OS.
3. The process followed by the package, in any case, New Installation or Upgrade an existing one, assumes OpenEMR will be/is installed in the /var/www/openemr directory.
4. For the reason above, for multiple installations in one single computer these instructions do not apply. Please contact the system consultants to guide you through, if this is the case

Installation of IPPF OpenEMR 3.2.0.x

(New installation)

1. Make sure you have the latest ".deb" package for openemr-ippf. You can find it at http://184.106.201.49/download As of this writing the recent release is openemr-ippf.3.2.0.2.deb. Please download the file with the higher release number, or the one you need to install.

   Then make sure the following dependent packages are installed. You can use the Synaptic package manager to check this:

   apache2-mpm-prefork

   cupsys

   cupsys-bsd

   cupsys-client

   cups-pdf

   imagemagick

   libapache2-mod-php5

   libdate-calc-perl

   libdbd-mysql-perl

   libdbi-perl

   libhtml-parser-perl

   libtiff-tools

   libwww-mechanize-perl

   libxml-parser-perl

   mysql-server

   php5-cli

   php5-mysql

   php-pear

   Make sure all the dependencies above are installed before installing or upgrading OpenEMR.

2. Now, once the previous step has been completed, you can proceed to install the OpenEMR package. To do this, open a terminal window and type the following command as the root user:

   ```
   dpkg  -i  <filename>
   ```

   where “<filename>” is the full /path/name of the package file.

   Or if you have any Ubuntu distributon, please add the “sudo” command at the beginning, as showed below:

   ```
   sudo dpkg –i  <filename>
   ```

   NOTE: “sudo” must be typed any time a command line is entered, when ubuntu is the linux distribution in use and the command must be run as root.

   After the install you will have a new directory /var/www/openemr.

3. You will probably need to fix the PHP configuration a bit. Enter this command to edit/modify the following file:

   ```
   nano /etc/php5/apache2/php.ini
   ```

   and change the following variables to the values indicated (remove the ";" from the start of the "error_log" line to uncomment it):

   ```
   allow_call_time_pass_reference = On
   max_execution_time = 60
   max_input_time = 90
   register_long_arrays = On
   register_argc_argv = On
   memory_limit = 128M
   display_errors = Off
   log_errors = On
   upload_max_filesize = 8M
   session.gc_maxlifetime = 14400
   ```

   And as before: Ctrl-X, Y, and hit Enter.

4. Now, restart the web server with this command as root:

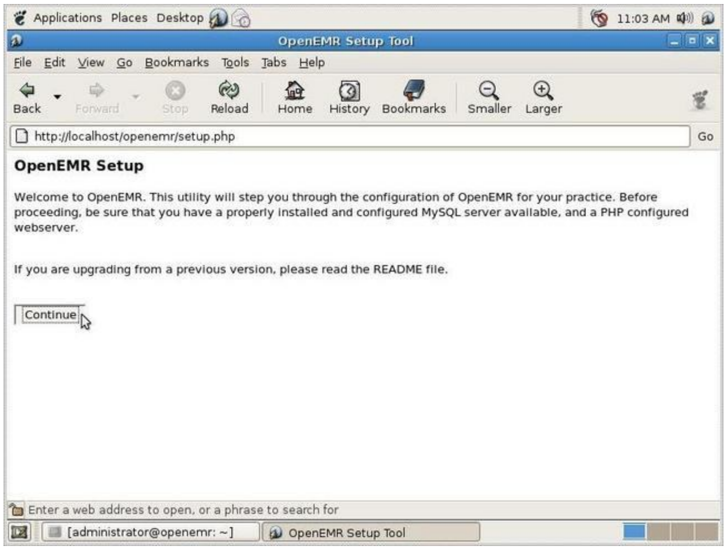
   ```
   /etc/init.d/apache2/restart
   ```

5. Creating the OpenEMR database

Now, we are ready to create the OpenEMR database.

Follow the instructions given in the next screens:
Step No. 6.1.

Browse to http://localhost/openemr/setup.php . Click on the “continue” button at the bottom of the screen.

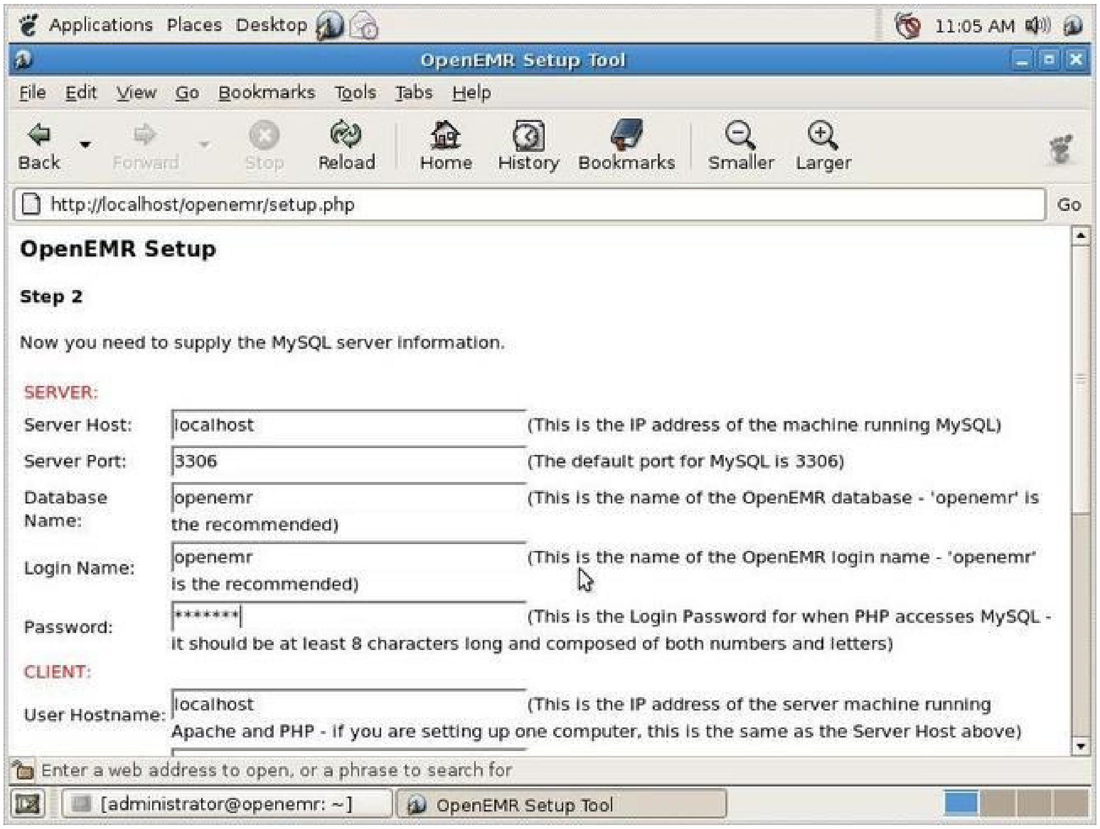

Applications Places Desktop
11:03 AM
OpenEMR Setup Tool
File Edit View Go Bookmarks Tools Tabs Help
Back Forward Stop Reload Home History Bookmarks Smaller Larger
http://localhost/openemr/setup.php
Go
Continue
Enter a web address to open, or a phrase to search for
[administrator@openemr: ~]
OpenEMR Setup Tool

OpenEMR Setup

Welcome to OpenEMR. This utility will step you through the configuration of OpenEMR for your practice. Before proceeding, be sure that you have a properly installed and configured MySQL server available, and a PHP configured webserver.

If you are upgrading from a previous version, please read the README file.

Step No. 6.2. OpenEMR expects the following information. Please take note of all the parameters provided since they might be used later for maintenance or upgrade tasks


Applications Places Desktop
11:05 AM
OpenEMR Setup Tool
File Edit View Go Bookmarks Tools Tabs Help
Back Forward Stop Reload Home History Bookmarks Smaller Larger
http://localhost/openemr/setup.php
Go
Enter a web address to open, or a phrase to search for
[administrator@openemr: ~]
OpenEMR Setup Tool

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:

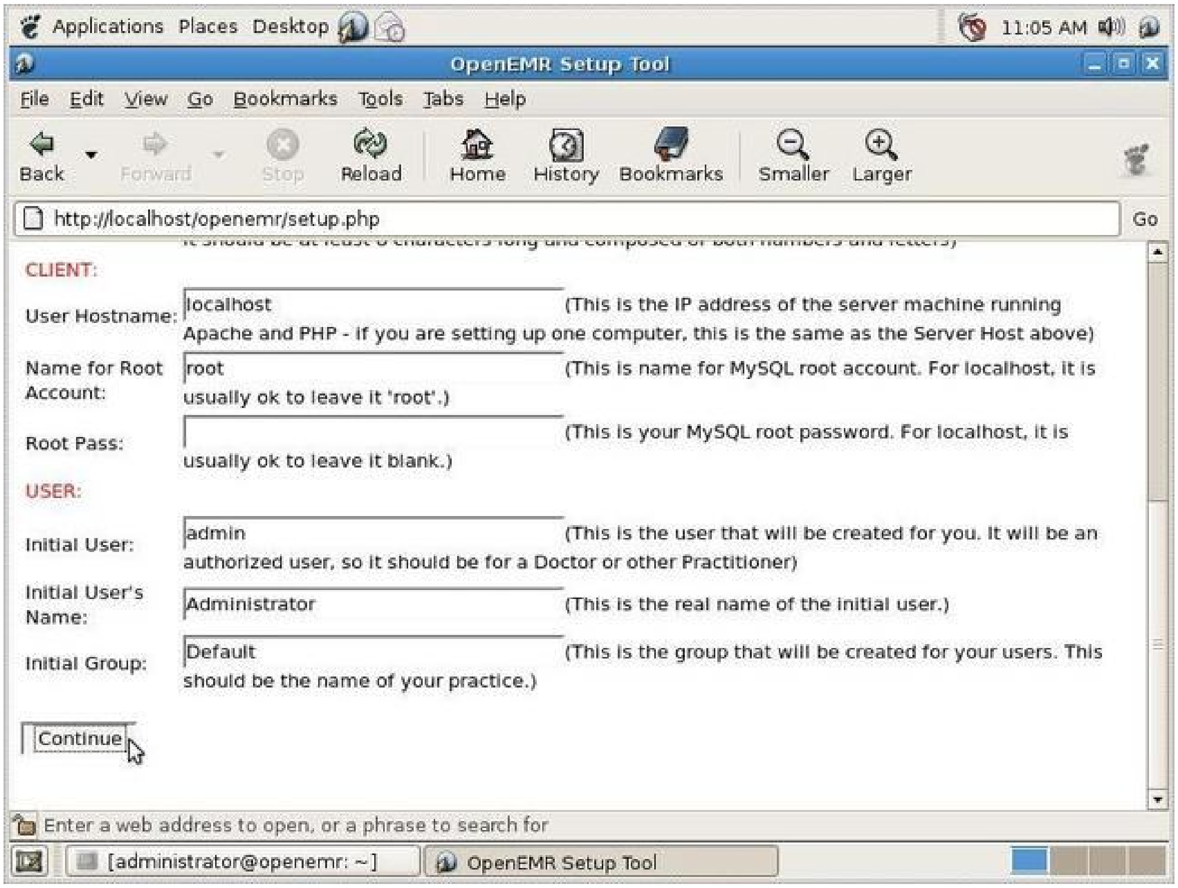
User Hostname: localhost (This is the IP address of the server machine running Apache and PHP - if you are setting up one computer, this is the same as the Server Host above)

In the SERVER section leave the default values as they are shown; only need to add the Password parameter.

Follow the recommended type of password the screen shows. Again take note of the password, since it can be required later for maintenance or upgrades.

Fill in the SERVER, CLIENT and USER sections as shown above. Click Continue.

Assuming everything works as shown, click Continue as illustrated.


Applications Places Desktop
11:05 AM
OpenEMR Setup Tool
File Edit View Go Bookmarks Tools Tabs Help
Back
Forward
Stop
Reload
Home
History
Bookmarks
Smaller
Larger
Go
Enter a web address to open, or a phrase to search for
[administrator@openemr: ~]
OpenEMR Setup Tool

http://localhost/openemr/setup.php

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)

Name for Root Account: root (This is name for MySQL root account. For localhost, it is usually ok to leave it 'root'.)

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)

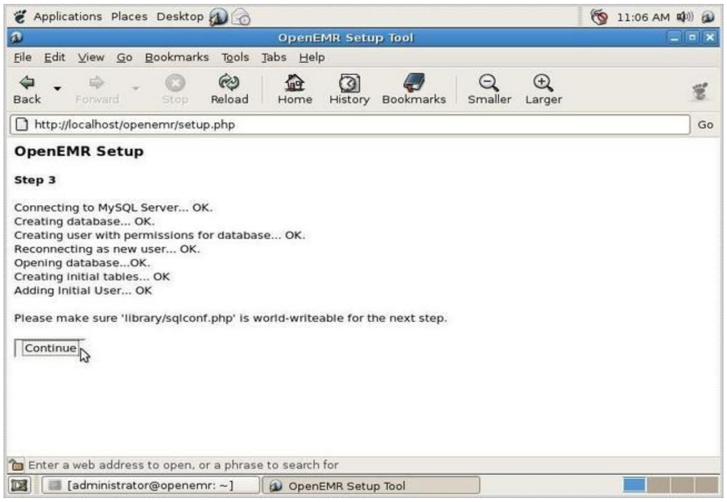
Initial User's Name: Administrator (This is the real name of the initial user.)

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

Continue

Again, follow the instructions provided in the screen above to set the CLIENT and USER section. Then click on the “continue” button

Step No. 6.3. If the previous information is OK, this step will run automatically, and the “continue button should be showed, as in the following screen


Applications Places Desktop
11:06 AM
OpenEMR Setup Tool
File Edit View Go Bookmarks Tools Tabs Help
Back Forward Stop Reload Home History Bookmarks Smaller Larger
http://localhost/openemr/setup.php
Go

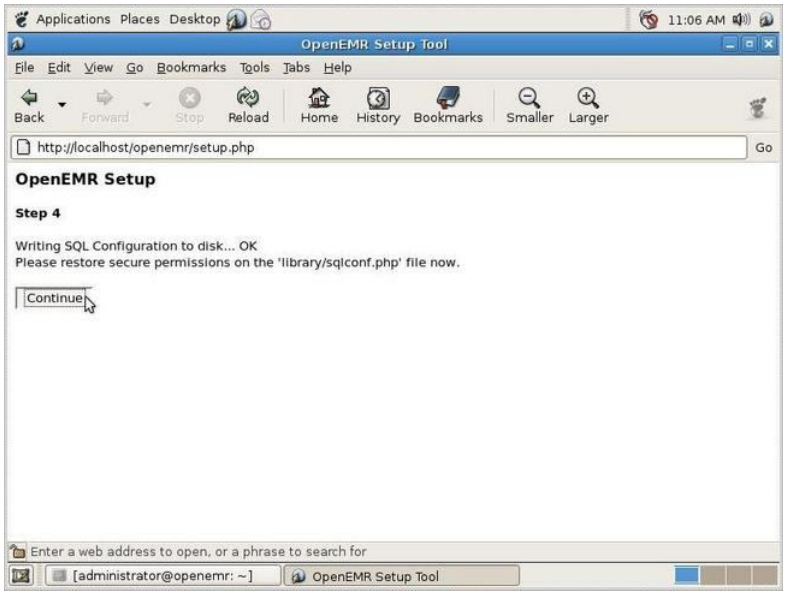
OpenEMR Setup

Step 3

```
Connecting to MySQL Server... OK.
Creating database... OK.
Creating user with permissions for database... OK.
Reconnecting as new user... OK.
Opening database...OK.
Creating initial tables... OK
Adding Initial User... OK

Please make sure 'library/sqlconf.php' is world-writeable for the next step.
```

Continue
Enter a web address to open, or a phrase to search for
[administrator@openemr: ~]
OpenEMR Setup Tool

Step No. 6.4 It will also run automatically if the setup does not find any previous error. The screen will look like the next one


Applications Places Desktop
11:06 AM
OpenEMR Setup Tool
File Edit View Go Bookmarks Tools Tabs Help
Back Forward Stop Reload Home History Bookmarks Smaller Larger
http://localhost/openemr/setup.php
Go

OpenEMR Setup

Step 4

```
Writing SQL Configuration to disk... OK
Please restore secure permissions on the 'library/sqlconf.php' file now.
```

Continue
Enter a web address to open, or a phrase to search for
[administrator@openemr: ~]
OpenEMR Setup Tool

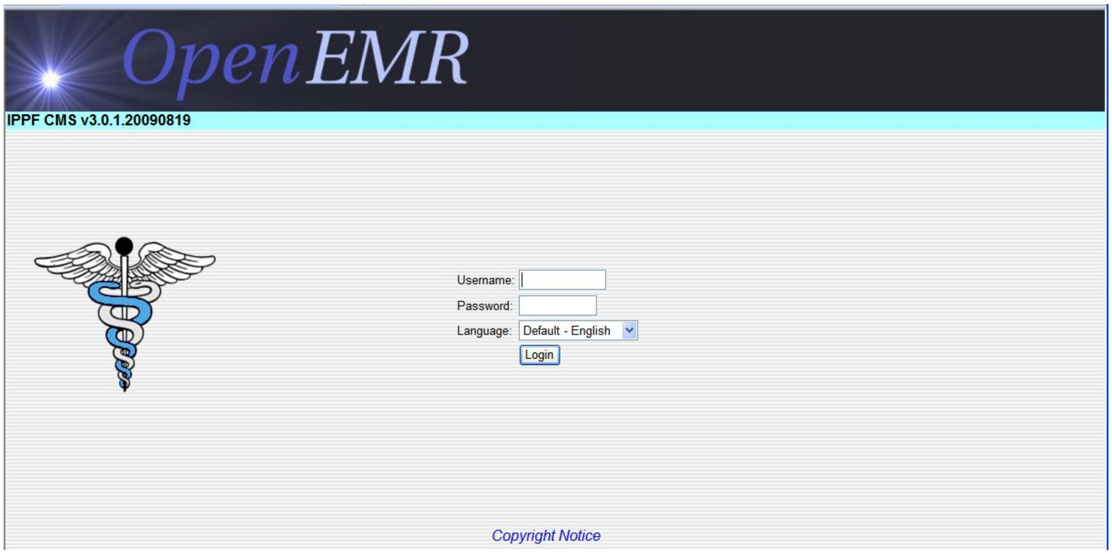
When click on the “continue” button, other scripts will be showed indicating that OpenEMR database has been properly created and it will be ready to test log into it browsing as follows:

http://localhost/openemr/

Note that the initial login name is "admin" with a password of "pass". It is recommended to change the Administrator password as soon as possible.

And of course you and others can access it via the network IP address, with something like http://192.168.8.95/openemr/ (the IP in this case in only an example, you should use the appropriate IP address)

At this point, OpenEMR system has been properly installed.



IPPF CMS v3.0.1.20090819

Upgrading an Existing IPPF OpenEMR Installation

Before upgrading, you should know if the existing installation is a “package” or not. If you are not sure, enter this command from the Terminal

```
dpkg –l | grep openemr
```

If the result is a line of information something like this:

```
ii  openemr-ippf        3.0.1.1         OpenEMR medical practice management system.
```

... then you know that it is installed as a “.deb” package. If there is no output, then it is not. Proceed accordingly with the following “Case A” or “Case B” as explained in the next pages

Case A: If the existing installation is a .deb package.

Step No. A.1: Back up the old installation using the Backup option in the Administration section in OpenEMR

Step No. A.2: Make sure you have the latest ".deb" package for openemr-ippf. You can find it at http://184.106.201.49/download. Current releases are openemr-ippf-3.2.0.x.deb ("x" is the release number)

Step No. A.3: As root, make a copy of the old web directory for possible later reference, like this:

```
cd  /var/www
cp  -a  openemr  openemr.old
```

Step No. A.4: To install the new package, open a terminal window and type

```
dpkg  -i  <filename>
```

where "<filename>" is the full /path/name of the package file.

After the install you will have an updated directory /var/www/openemr. **No database changes have been applied yet.**

Step No. A.5: Examine the old globals.php file and take note of some parameters value, in order to use the same in the new installations. Use a command as follows:

```
less  /var/www/openemr.old/interface/globals.php
```

and make a note of any custom settings. These are likely to include the following, but there may be others, take note all of the relevant:

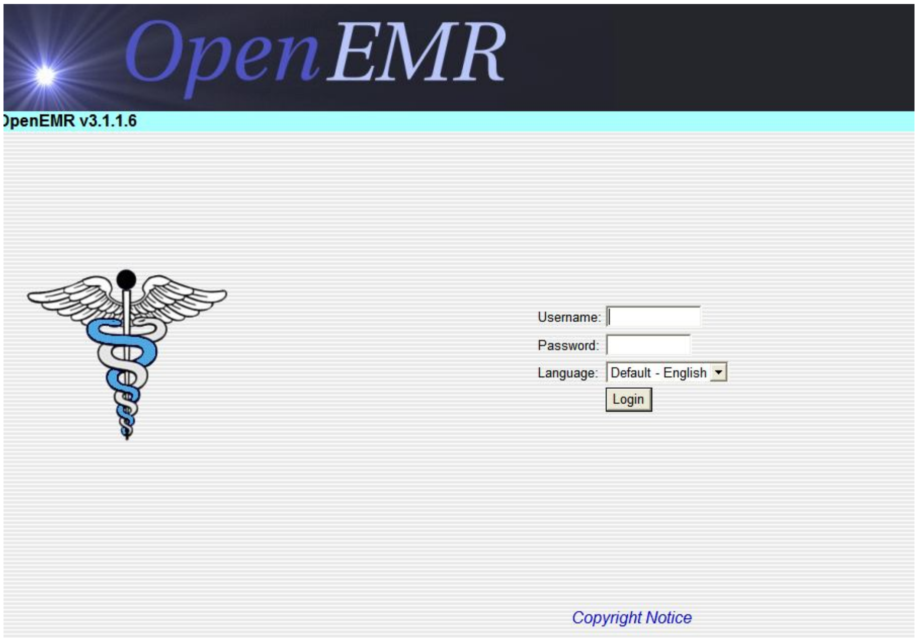
```
$GLOBALS['schedule_start']
$GLOBALS['schedule_end']
```

However you will not modify the new globals.php, instead the related customizations will be later applied via the "Globals" administrative interface after the database has been upgraded.

<u>Step No. A.6</u>: Because this is an upgrade, **do *not* run setup.php**. Instead, you need to run three upgrade scripts using the web browser:

http://localhost/openemr/sql_upgrade.php

This script will ask you for the previous version installed. This information is shown usually at the left top corner in the system login page, as showed in the example below.



Language: Default - English

In this example the version number is 3.1.1. The "6" in this case indicates the installation package consecutive number.

You can select from the drop-down list that the script will show, an older version that the one is currently installed, but never a later version.

Next, run the following script:

http://localhost/openemr/acl_upgrade.php

Finally, run the following script *only if upgrading from a 3.1.1.x release*. Not needed for 3.2.0.x and above:

http://localhost/openemr/ippf_upgrade.php

By running these three scripts we are assuring the database is being upgraded accordingly. Warning messages will be produced when runs those files. Please save them as a text file for later reference, especially if some troubles arise during the process

<u>Step No. A.7</u>: If the previous installation used SQL-Ledger ***(probably not if you are***

upgrading from 3.0.1.x), then you must convert the SQL-Ledger data to OpenEMR's internal A/R management. To do that, browse to:

http://localhost/openemr/sl_convert.php

This conversion may take some time to run and as in the previous script (step A.6) a list of warning could come up. Please save them as a txt file for later references.

HINT:
Please remember to clear de internet browser (firefox or IE) after you finishing upgrading the system. This step will avoid to keep in the temporary memory old elements.

Case B: If the existing installation is not a .deb package.

Step No.B.1: Back up the old installation, using the Administration option on OpenEMR

Step No. 2: Make sure you have the latest ".deb" package for openemr-ippf. You can find it at http://184.106.201.49/download As of this writing the current releases are openemr-ippf-3.2.0.x.deb. where ".x" is the latest system release.

Step No. B.3: Move your /var/www/openemr directory out of the way so it will not interfere with the new installation, for example:

```
cd  /var/www
mv  openemr  openemr.old
```

Step No. B.4: To install the new package, open a terminal window and type

```
dpkg  -i  <filename>
```

where "<filename>" is the full /path/name of the package file. After the install you will have a new directory /var/www/openemr.

Step No. B.5: Examine old openemr/library/sqlconf.php, in order to take note of some parameters value relevant for next steps. Use the following command (in the Terminal window)

```
cat  /var/www/openemr.old/library/sqlconf.php
```

Make a note of the database name, user and password in that file, and then edit /var/www/openemr/sites/default/sqlconf.php to contain those same values. Note that the new release has a different location for sqlconf.php!

```
nano  /var/www/openemr/sites/default/sqlconf.php
```

Step No. B.6: Review settings in globals.php. Examine the old globals.php like this:

```
less  /var/www/openemr.old/interface/globals.php
```

and make a note of any custom settings. These are likely to include the following, but there may be others:

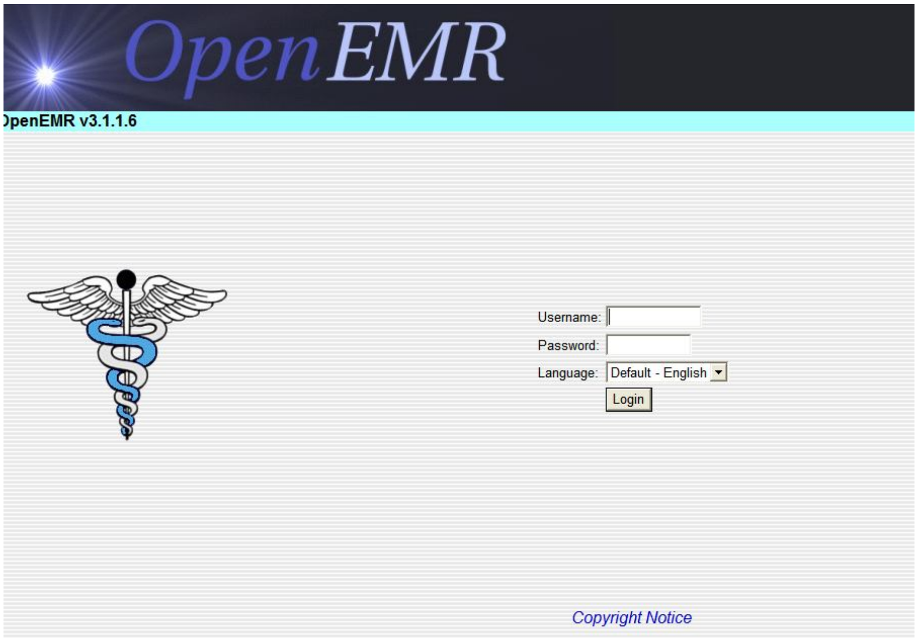
```
$openemr_name
$GLOBALS['schedule_start']
$GLOBALS['schedule_end']
```

Do not modify the new globals.php. Instead, make appropriate changes in the Globals administrative of the upgraded system after upgrading is complete.

Step No. B.7: Because this is an upgrade, **do *not* run setup.php**. Instead you need to run three upgrade scripts using the web browser:

http://localhost/openemr/sql_upgrade.php

This script will ask you for the previous version installed. This information is showed usually at the left top corner in the system login page, as showed in the example below



)penEMR v3.1.1.6

Language: Default - English

In this example the version number is 3.1.1. – The“6” in this case indicates the installation package consecutive number

You can select from the drop-down list that the script will show, an older version that the one is currently installed, but never a later version.

Next, run the following script:

http://localhost/openemr/acl_upgrade.php

Finally, run the following script *only if upgrading from a 3.1.1.x release*. Not needed for 3.2.0.x and above:

http://localhost/openemr/ippf_upgrade.php

By running these three scripts we are assuring the database is being upgraded accordingly. Warning messages will be produced when running those files. Please save them as a text file for later reference, especially if some troubles arise during the process

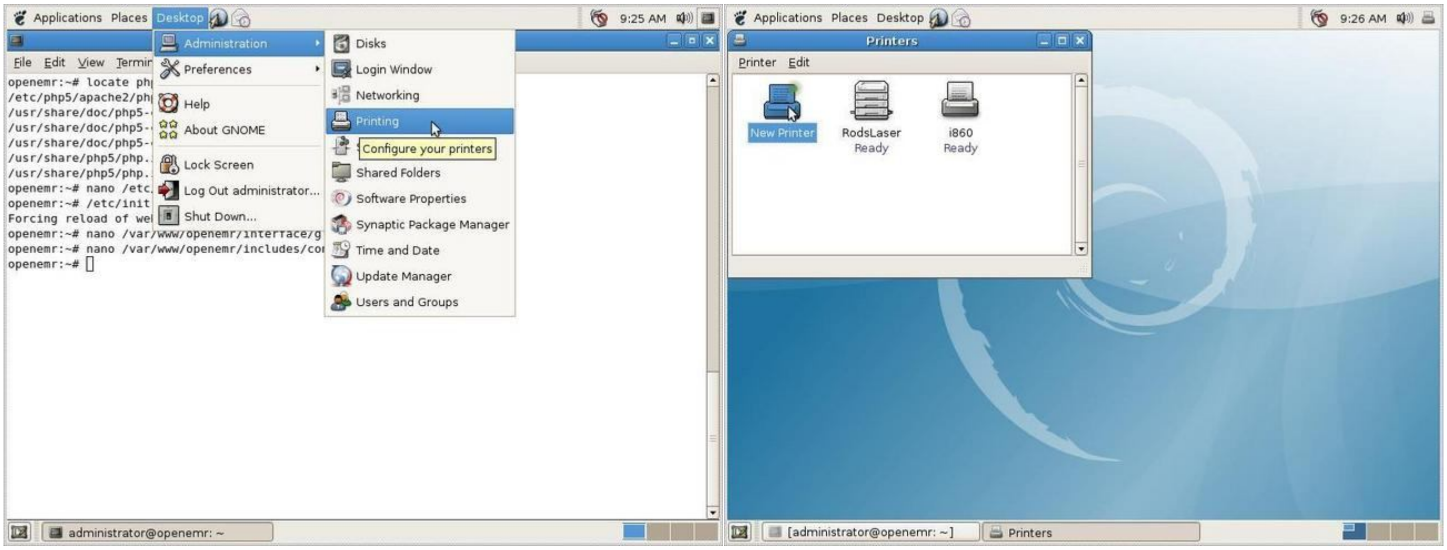
Step No B.8: If the previous installation used SQL-***Ledger (probably not if you are upgrading from 3.0.1.x)***, then you must convert the SQL-Ledger data to OpenEMR's internal A/R management. To do that, browse to:

http://localhost/openemr/sl_convert.php

This conversion may take some time to run.

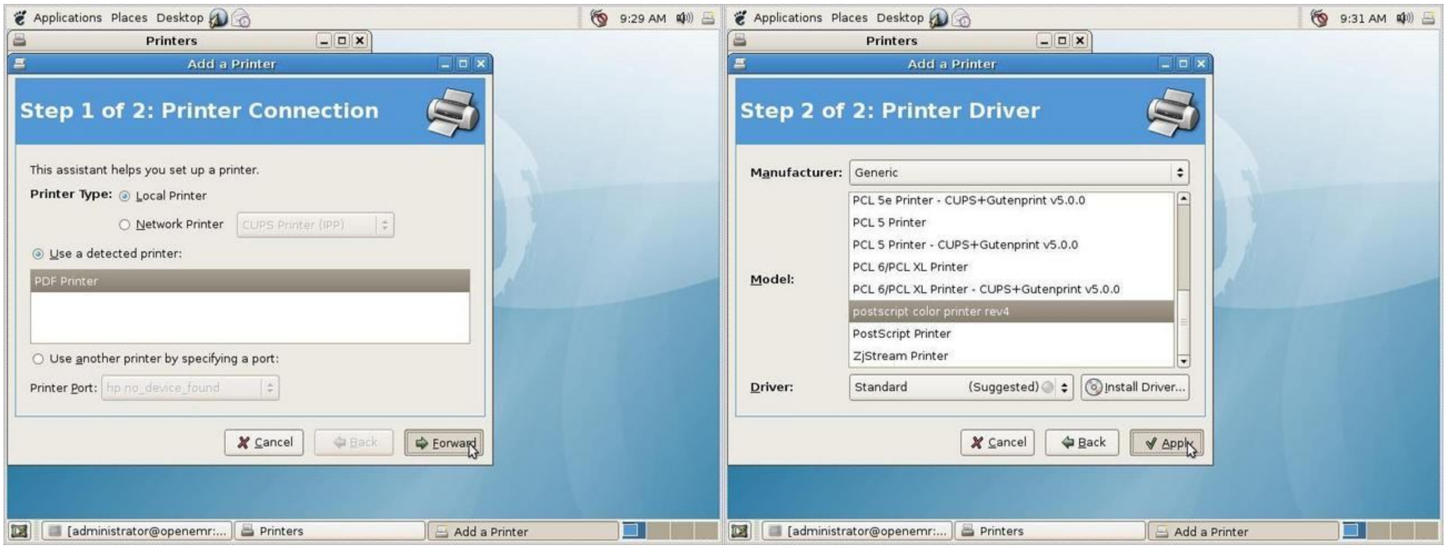
Installing a Virtual Printer

The remainder of these instructions is for creating a “virtual printer”. This is optional, and most sites will probably not need it.



```
openemr:~# locate ph
/etc/php5/apache2/ph
/usr/share/doc/php5-
/usr/share/doc/php5-
/usr/share/doc/php5-
/usr/share/php5/php.
/usr/share/php5/php.
openemr:~# nano /etc.
openemr:~# /etc/init
Forcing reload of we
openemr:~# nano /var/www/openemr/interface/g
openemr:~# nano /var/www/openemr/includes/co
openemr:~# 
```

Next we'll create a "virtual" PDF printer. This is possible because we installed the cups-pdf package. Select Desktop/Administration/Printing and then double-click the "New Printer" icon.



Step 1 of 2: Printer Connection

This assistant helps you set up a printer.

Printer Type: ● Local Printer

○ Network Printer CUPS Printer (IPP)

● Use a detected printer:

PDF Printer

○ Use another printer by specifying a port:

Printer Port: hp no_device_found

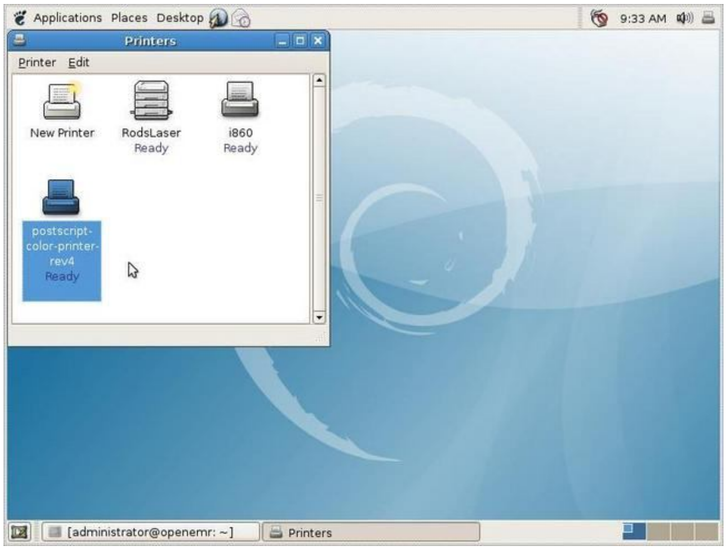
Step 2 of 2: Printer Driver

Manufacturer: Generic

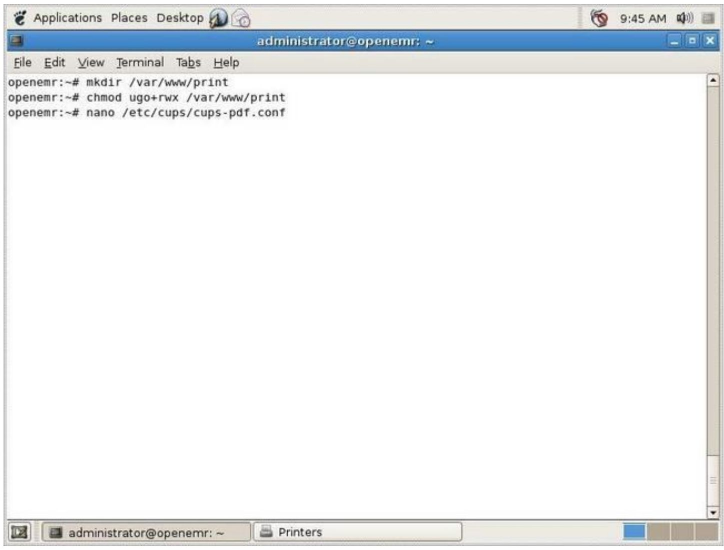
Model: PCL 5e Printer - CUPS+Gutenprint v5.0.0; PCL 5 Printer; PCL 5 Printer - CUPS+Gutenprint v5.0.0; PCL 6/PCL XL Printer; PCL 6/PCL XL Printer - CUPS+Gutenprint v5.0.0; postscript color printer rev4; PostScript Printer; ZjStream Printer

Driver: Standard (Suggested)

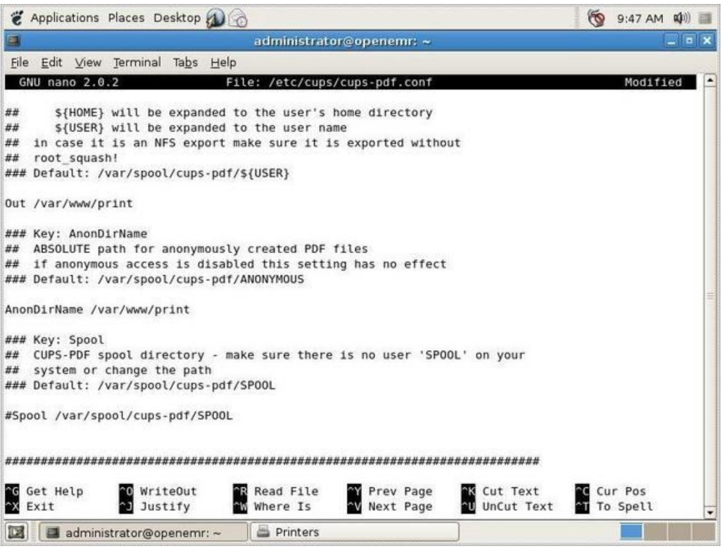
Select "PDF Printer" and click Forward. Select "Generic" as the manufacturer, and "postscript color printer rev4" as the model. Click Apply.


Applications Places Desktop
9:33 AM
Printers
Printer Edit
New Printer
RodsLaser
Ready
i860
Ready
postscript-color-printer-rev4
Ready
[administrator@openemr: ~]
Printers

The new printer appears.



```
openemr:~# mkdir /var/www/print
openemr:~# chmod ugo+rwx /var/www/print
openemr:~# nano /etc/cups/cups-pdf.conf
```



```
  GNU nano 2.0.2              File: /etc/cups/cups-pdf.conf                 Modified

##     ${HOME} will be expanded to the user's home directory
##     ${USER} will be expanded to the user name
##  in case it is an NFS export make sure it is exported without
##  root_squash!
### Default: /var/spool/cups-pdf/${USER}

Out /var/www/print

### Key: AnonDirName
##  ABSOLUTE path for anonymously created PDF files
##  if anonymous access is disabled this setting has no effect
### Default: /var/spool/cups-pdf/ANONYMOUS

AnonDirName /var/www/print

### Key: Spool
##  CUPS-PDF spool directory - make sure there is no user 'SPOOL' on your
##  system or change the path
### Default: /var/spool/cups-pdf/SPOOL

#Spool /var/spool/cups-pdf/SPOOL


###########################################################################

^G Get Help    ^O WriteOut    ^R Read File   ^Y Prev Page   ^K Cut Text    ^C Cur Pos
^X Exit        ^J Justify     ^W Where Is    ^V Next Page   ^U UnCut Text  ^T To Spell
```

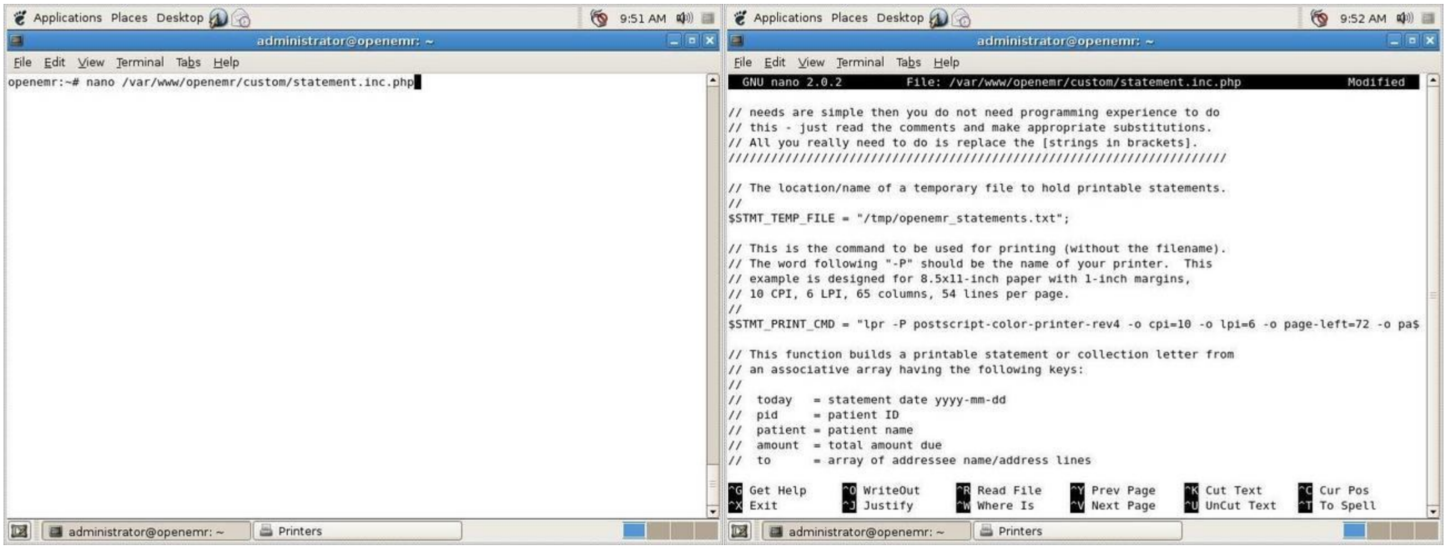
We want the virtual printer's PDF output to go to a place that is easily accessed by users. A web server directory is a good place for that. So, back in the terminal window, enter these commands:

```
mkdir /var/www/print
chmod ugo+rwx /var/www/print
nano /etc/cups/cups-pdf.conf
```

Uncomment and change the following values in cups-pdf.conf as indicated:

```
Out /var/www/print
AnonDirName /var/www/print
TitlePref 1
UserUMask 0000
```

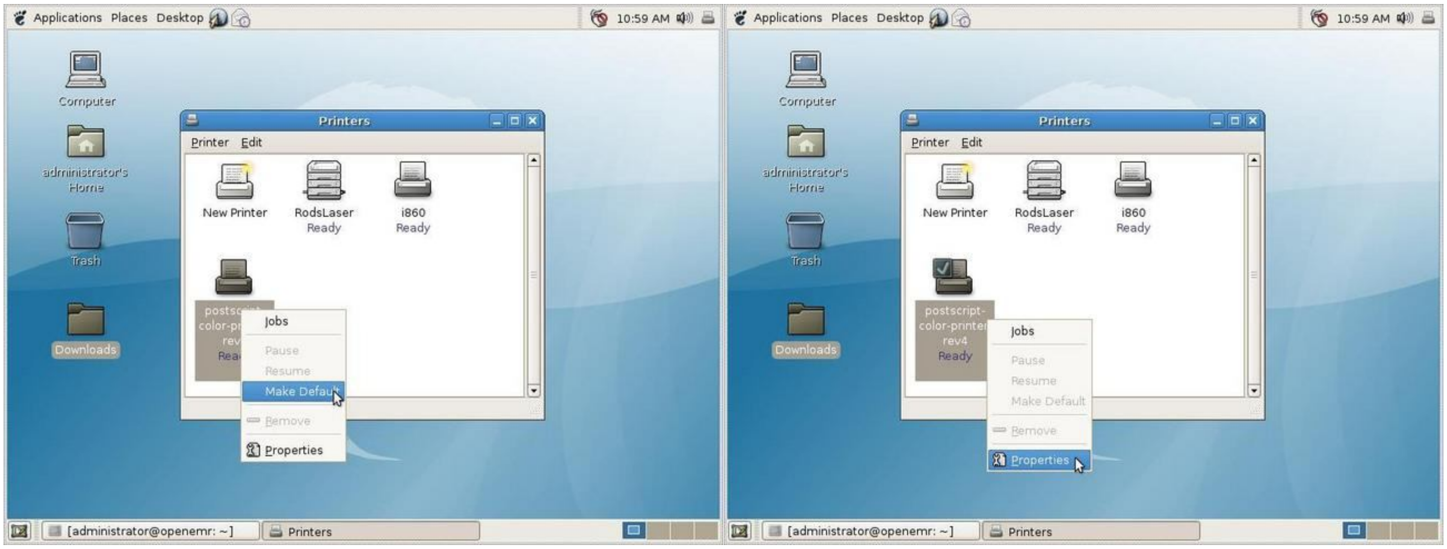
The TitlePref setting will give us more meaningful PDF file names. The UserUMask setting relaxes permissions of the generated files for more flexibility.



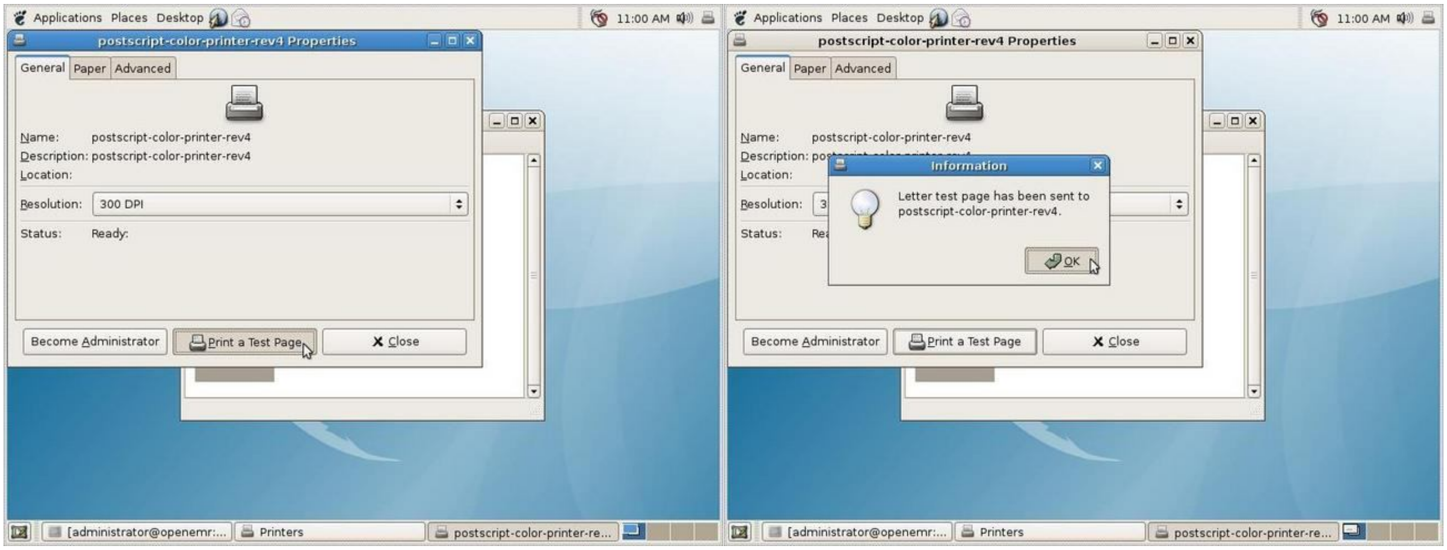
```
openemr:~# nano /var/www/openemr/custom/statement.inc.php
```

```
  GNU nano 2.0.2         File: /var/www/openemr/custom/statement.inc.php            Modified

// needs are simple then you do not need programming experience to do
// this - just read the comments and make appropriate substitutions.
// All you really need to do is replace the [strings in brackets].
//////////////////////////////////////////////////////////////////////

// The location/name of a temporary file to hold printable statements.
//
$STMT_TEMP_FILE = "/tmp/openemr_statements.txt";

// This is the command to be used for printing (without the filename).
// The word following "-P" should be the name of your printer.  This
// example is designed for 8.5x11-inch paper with 1-inch margins,
// 10 CPI, 6 LPI, 65 columns, 54 lines per page.
//
$STMT_PRINT_CMD = "lpr -P postscript-color-printer-rev4 -o cpi=10 -o lpi=6 -o page-left=72 -o pa$

// This function builds a printable statement or collection letter from
// an associative array having the following keys:
//
//  today   = statement date yyyy-mm-dd
//  pid     = patient ID
//  patient = patient name
//  amount  = total amount due
//  to      = array of addressee name/address lines

^G Get Help    ^O WriteOut    ^R Read File   ^Y Prev Page   ^K Cut Text    ^C Cur Pos
^X Exit        ^J Justify     ^W Where Is    ^V Next Page   ^U UnCut Text  ^T To Spell
```

Edit /var/www/openemr/custom/statement.inc.php so that it references the new printer name (postscript-color-printer-rev4) as indicated above. This will allow us to use the PDF printer for printing patient statements.



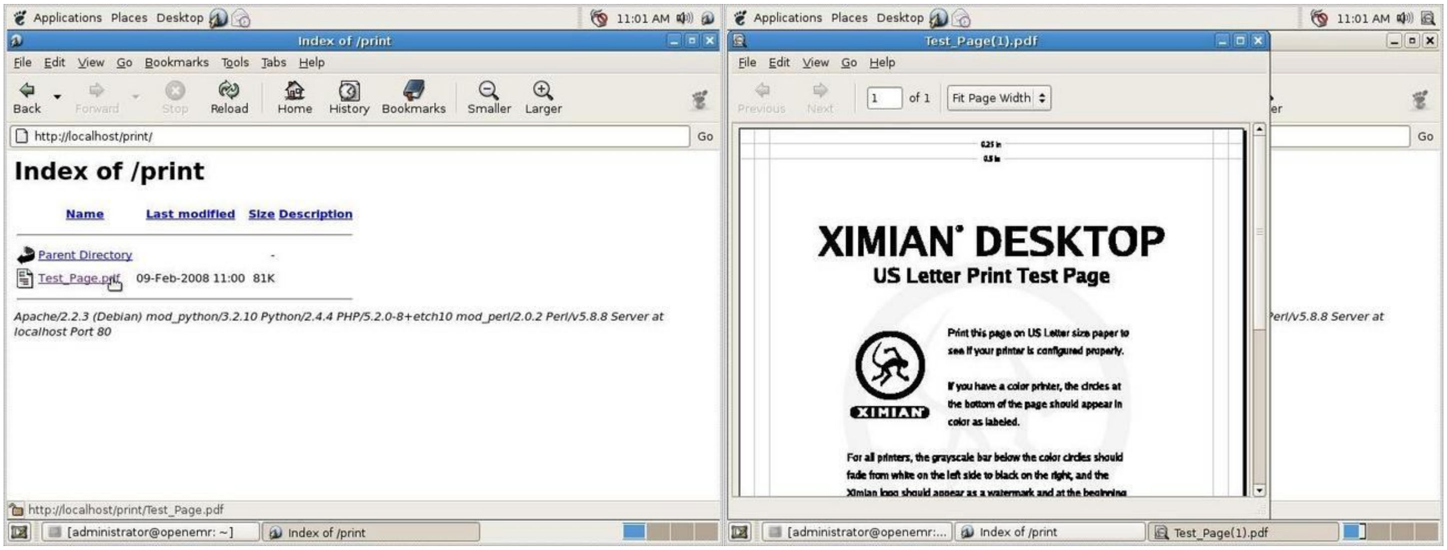
Select Desktop/Administration/Printing again to bring up the Printers window. Right-click on the new printer and select "Make Default". Then right-click again and select Properties.


Applications Places Desktop
11:00 AM
postscript-color-printer-rev4 Properties
General
Paper
Advanced
Become Administrator
Print a Test Page
Close
Information
OK
[administrator@openemr:...
Printers
postscript-color-printer-re...

Name: postscript-color-printer-rev4
Description: postscript-color-printer-rev4
Location:
Resolution: 300 DPI
Status: Ready.

Letter test page has been sent to postscript-color-printer-rev4.

Let's test it! Click "Print a Test Page".



http://localhost/print/

Index of /print

Name	Last modified	Size	Description
Parent Directory		-	
Test_Page.pdf	09-Feb-2008 11:00	81K	

Apache/2.2.3 (Debian) mod_python/3.2.10 Python/2.4.4 PHP/5.2.0-8+etch10 mod_perl/2.0.2 Perl/v5.8.8 Server at localhost Port 80

http://localhost/print/Test_Page.pdf

XIMIAN® DESKTOP
US Letter Print Test Page

Print this page on US Letter size paper to see if your printer is configured properly.

If you have a color printer, the circles at the bottom of the page should appear in color as labeled.

For all printers, the grayscale bar below the color circles should fade from white on the left side to black on the right, and the Ximian logo should appear as a watermark and at the beginning

Browse to http://localhost/print/. If everything worked, you'll see the generated file and can click on it to view its contents.