

“Keep your knowledge with OWL!”

Installing a web-based knowledge base with Linux in 7 steps

How to install a web-based knowledge base server
with integrated document virus scanning on Suse 9.3 using
Apache, PHP4, MySQL and ClamAV?

By Frank Neugebauer

<http://www.linux-tip.net>

linux-tip@web.de

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0. Introduction

Owl is a multi user document repository (knowledgebase) system written in PHP4 for publishing files in different formats onto the web for a corporation, small business or group of people. Users are able to capture documents and assign attributes to them when the document is uploaded into the Owl system.

Network users are then able to locate the documents either by using the hierarchy folder structure or by using the built in search facility. A document can be any type of electronic document or file that the user can access from their computer. Typically these documents could be a word processing files, spreadsheets, or PDF files. But Owl is not just limited to common office file types. You can capture most graphic file types, audio or video files and display them within the system. Owl also has the possibility to integrate a virus scan engine and other tools to search files.

The following article is a step by step installation guide. It was written with the assumption that you understand how to install programs and have a basic understanding of Suse Linux. This includes installing Linux and RPM packages, editing files, making directories, compiling software and understanding general UNIX commands. This guide doesn't explain how to use or configure Owl but information on where to obtain this information can be found in the "Additional information" section.

Getting the software

To get the whole thing running we need the following software:

- Suse Linux 9.3 Professional
http://www.novell.com/products/linuxprofessional/downloads/ftp/germ_mirrors.html
- Webmin
<http://prdownloads.sourceforge.net/webadmin/webmin-1.220-1.noarch.rpm>
- Owl System
<http://owl.sourceforge.net/download.php>
- Anti-Virus ClamAV
<http://www.clamav.net/>

The software version used in this guide is always mentioned in the belonging chapter.

Step 1: Suse 9.3 Installation

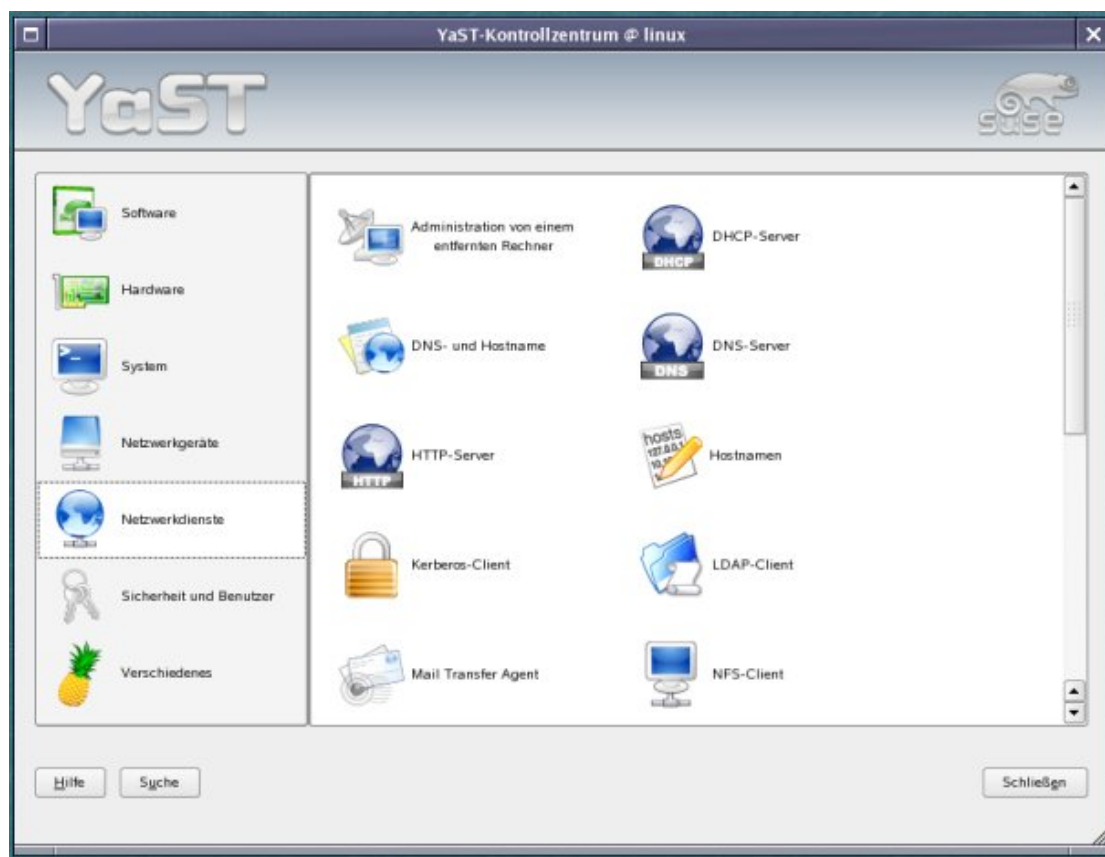
I don't want to explain how to install Suse. It is very easy these days. If you need help, please use the following link:

http://www.howtoforge.com/perfect_setup_suse_9.3

It is now time to specify which programs you wish to install on your system. There are thousands of packages available for *SUSE Linux*, and to make it simpler to manage the packages have been placed into groups of similar applications. We just need a basis system. Save time and harddisk space and just install the necessary file. Additionally you need the following software:

- Apache2 with php4 modules
- MySQL Server with php-mysql module
- PHP4

Remark: You will later have the possibility to add and remove software packages using YAST.



Step 2: Webmin installation and configuration

It is time to get Webmin running. Webmin is a web-based interface for system administration for UNIX. Using any browser that supports tables and forms (and Java for the File Manager module), you can setup user accounts, Apache, DNS, MySQL, file sharing and so on.

Webmin consists of a simple web server, and a number of CGI programs which directly update system files like `/etc/inetd.conf` and `/etc/passwd`. The web server and all CGI programs are written in Perl version 5, and use no non-standard Perl modules. Please get more information about Webmin here:

<http://www.webmin.com/>

Honestly, we really do not need Webmin to get everything running, but it is a wonderful tool for a LINUX system administrator and it will help us to configure Apache and MySQL but also to administer the database.

Please download webmin from the URL mentioned above and store in your home directory. Get root permissions and install the rpm package like this:

```
su
rpm -i webmin-1.220-1.noarch.rpm
```

After the installation please check if webmin is already running:

```
/etc/init.d/webmin status
```

If not, please start it like this:

```
/etc/init.d/webmin start
```

You can now access the Webmin interface with your favourite browser using the following URLs:

```
http://localhost:10000 or https://IP-address:10000
```













Tip: If you are not able to use the secure connection via ssl, please check if you have the package `perl-Net_SSLeay` installed on your system.

Please login as root with a valid password.

Webmin

Webmin System Servers Networking Hardware Cluster Others

Servers

 <u>Apache Webserver</u>	 <u>BIND DNS Server</u>
 <u>Fetchmail Mail Retrieval</u>	 <u>Frox FTP Proxy</u>
 <u>MySQL Database Server</u>	 <u>OpenSLP Server</u>
 <u>ProFTPD Server</u>	 <u>Procmal Mail Filter</u>
 <u>SSH Server</u>	 <u>Samba Windows File Sharing</u>
 <u>Squid Analysis Report Generator</u>	 <u>Squid Proxy Server</u>

Version 1.220 on linux.site (SuSE Linux 9.3)

Step 3: Apache2 configuration

Apache has been the most popular web server on the Internet since April of 1996. The February 2005 Netcraft Web Server Survey found that more than 68% of the web sites on the Internet are using Apache; a good reason to use it for our project.



You have already found the “Apache Webserver icon”. After clicking on it, you will probably get the following error message:

“The Apache server executable `/usr/sbin/httpd2-worker` does not exist. If you have Apache installed, adjust the module configuration to use the correct path”.

To fix it, please open the module configuration and change the

Path to httpd executable: `/usr/sbin/httpd2`

After saving the configuration, you will see the “Global Configuration” and “Virtual Servers” sections in you browser.

Please notice the default document root path; in this case `/srv/www/htdocs`. We will later need it to store our documents and OWL program files in it.

Step 4: Installing OWL

Please download OWL from the URL mentioned above. I downloaded the Version 0.8.1.

Please unzip it and copy the directory /intranet in your Webserver root directory like this:

```
su
cd /home/user
tar xzf Owl-0.81.tar.gz
cp -R intranet/ /srv/www/htdocs
cd /srv/www/htdocs/intranet
chown nobody:nobody *
```

Next we have to adapt the owl configuration file located in /srv/www/htdocs/intranet/config

Please open **owl.php** in your favorite editor and change the following lines to you needs like this:

```
$default->owl_fs_root      = "/srv/www/htdocs/intranet ";
$default->owl_db_id[0]     = "0";
$default->owl_db_user[0]   = "owl";
$default->owl_db_pass[0]   = "mypassword";
$default->owl_db_host[0]   = "172.16.2.5";
$default->owl_db_name[0]   = "owl";
$default->owl_db_display_name[0] = "Intranet";
$default->owl_db_FileDir[0] = "/srv/www/htdocs/intranet";
```

Note: Please use your password and your host IP address.

Step 5: MySQL configuration and OWL database installation

The MySQL database has become the world's most popular open source database because of its consistent fast performance, high reliability and ease of use.

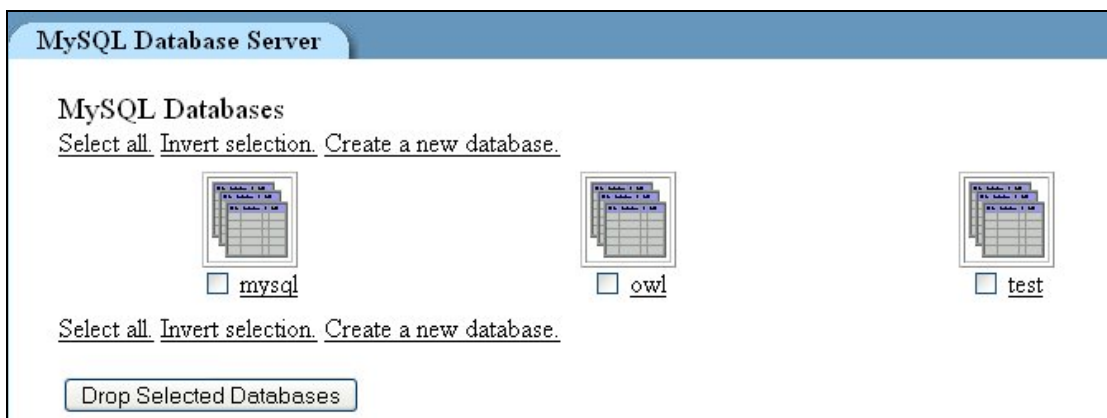


You have already found the “MySQL Databas Server icon”. After clicking on it, you will probably get the following error message:

MySQL is not running on your system - database list could not be retrieved.

Please start the MySQLServer. Now you should see the two default databases installed (mysql and test) and the “Global Options”.

It is time to create the new owl database. Click on the MySQL databases area to “Create a new database” and add the database name owl. Next click on the “Create” button. You’ll find the new created empty database called owl in the overview like the picture bellow:



To create tables we will use the script **mysql-tables.sql** located in the directory **/srv/www/htdocs/intranet/DOCS/sql** .

Please click on the owl database icon to edit the database. Now use the “Execute SQL” button and add the file name in the “Select an SQL command ... From local tile to execute” area. Please search for the following file on the local file system:

`/srv/www/htdocs/intranet/DOCS/sql/mysql-tables.sql`

Select an SQL commands file to execute on database owl ..

From local file ...

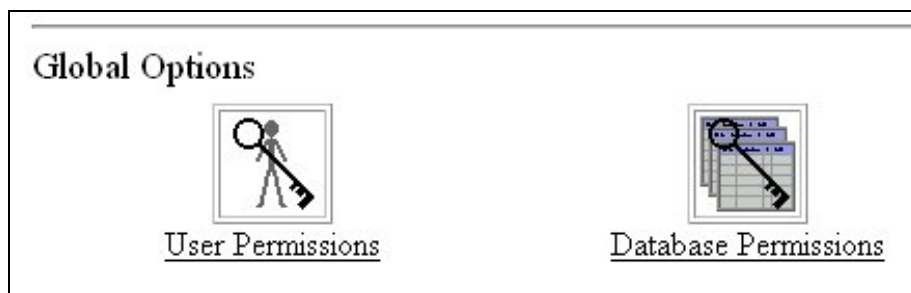
From uploaded file

After successfully executing the command, you should get the following message:

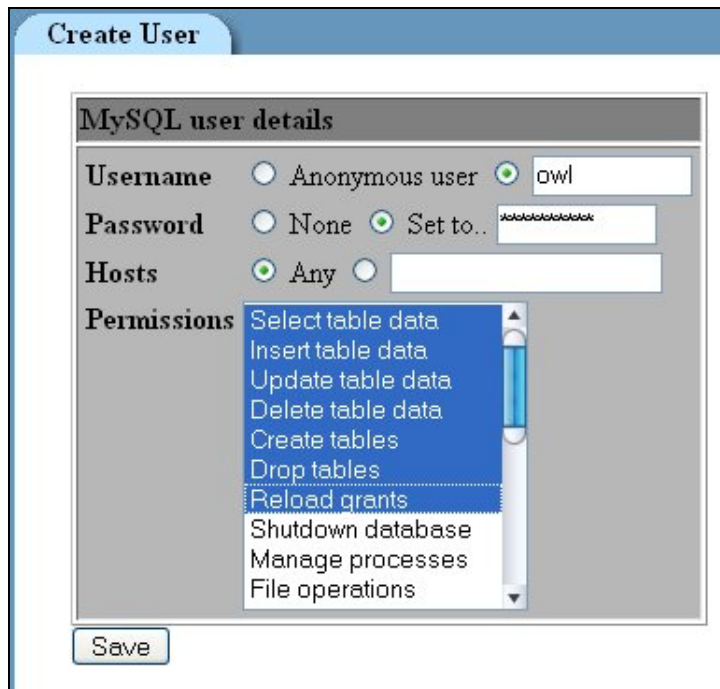
Output from SQL commands in file `/srv/www/htdocs/intranet/DOCS/sql/mysql-tables.sql` ..
No output generated

This means everything is correct. You should now be able to see the new 23 tables in the database area after clicking on the owl database icon.

Next we have to create a database user and to add the necessary permissions. Please click on "Global Options" - "User Permissions" - "Create a new user"...



... and the following information:



After saving the new user you should double check the information in the user table and note the password you have used. Please use this password in the in “Step 3” mentioned configuration file owl.php. (in our example “mypassword”).

To make sure that everything works fine restart the MySQL Server using the “Stop” and the “Start” buttons.

Please use your favorite browser and access the login page like this:

<http://localhost/intranet> or <http://yourIP/intranet>



Login as “Administrator” using the default username and password (admin, admin)

Step 6: Installing and configuring anti-virus software ClamAV

Clam AntiVirus is an anti-virus toolkit for UNIX. The main purpose of this software is integration with mail servers (attachment scanning). The package provides a flexible and scalable multi-threaded daemon, a command line scanner, and a tool for automatic updating via Internet.

We will later use the software to automatically check documents for viruses. ClamAV needs the user **clamav** installed.

Additionally you will need the **zlib** and **zlib-devel** package installed. If you didn't do this during the installation process, please complete it now using the **rpm** command or **YAST**.

Please download the anti virus software here:

<http://www.clamav.net/>

Create user and group clamav as root:

```
groupadd clamav
useradd -g clamav -s /bin/false -c "Clam AntiVirus" clamav
```

The current stable version is 0.87. Compile the downloaded software:

```
tar -zxvf clamav-0.87.tar.gz
cd clamav-0.87
./configure --sysconfdir=/etc
make
su
make install
```

I didn't bother changing anything in /etc/clamav.conf. I ran **freshclam** to update the virus database and created a root cron entry with **crontab -e**

```
0 * * * * /usr/local/bin/freshclam --quiet -l /var/log/clam-
update.log
```

That's it. To test our installation, please try to scan your home directory were you copied clamav after the download:

```
/usr/local/bin/clamscan -r -l scan.txt /home/user/clamav-0.87
```

This is the result I got:

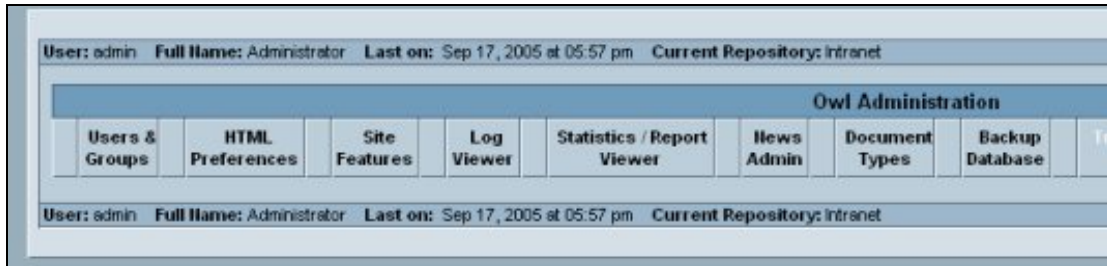
```
----- SCAN SUMMARY -----
Known viruses: 40192
Engine version: 0.87
Scanned directories: 44
Scanned files: 740
Infected files: 5
Data scanned: 11.48 MB
Time: 33.754 sec (0 m 33 s)
```

It has found some test viruses in the clamav-0.87/test directory. The scan result is saved in the scan.txt log file.

You also need to add the following line into **/etc/clamav.conf**
TemporaryDirectory /var/tmp

Step 7: Get OWL ready to work

Please login as Administrator to OWL with admin, admin. To secure your OWL server, change the password immediately using the "Users & Groups" button.



Configure the necessary tools like this:

pod2html is a Perl module that converts .pod files to html. It should be installed on your system. Please double check it or install the PERL rpm. You should find it here:

`/usr/bin/pod2html`

pdftotext converts .pdf files to text in order to maintain a searchable index for finding .pdf documents and the information in them within Owl search function. It is part of the xpdf library. You can find it along with installation instructions at:

<http://www.foolabs.com/xpdf/>

To use pdftotext, please install the rpm package **xpdf** on your system using YAST.

antiword comes with OWL. You will find it here:

`/srv/www/htdocs/intranet/DOCS/tools/`

Please untar it and compile it like this:

```
tar xzf antiword-0.35.tar.gz
cd antiword-0.35
make
make install
cd /root/bin/
chown root:root *
chmod 755 *
cp * /usr/bin
```

You will later find the binary here:

`/usr/bin/antiword`

Please configure the OWL "Site features" using the web interface described below:

Virus Checking Software Path: /usr/local/bin/clamscan --quiet
DB Dump Tool Path: /usr/bin/mysqldump
gzip Path: /bin/gzip
tar Path: /bin/tar
unzip Path: /usr/bin/unzip
Path to pod2html: /usr/bin/pod2html
Maintain Search Index for PDF: /usr/bin/pdftotext
MS-WORD Files: /usr/bin/antiword

Virus Checking Software Path Example: '/usr/bin/clamscan --quiet' -- Blank for Disabled:	<input type="text" value="/usr/local/bin/clamscan --quiet"/>
 DB Dump Tool Path:	<input type="text" value="/usr/bin/mysqldump"/>
 gzip Path:	<input type="text" value="/bin/gzip"/>
 tar Path:	<input type="text" value="/bin/tar"/>
 unzip Path:	<input type="text" value="/usr/bin/unzip"/>
Perl 5.8.0 or Greater required Path to pod2html:	<input type="text" value="/usr/bin/pod2html"/>
 Maintain Search Index for PDF and text Files -- Blank for Disabled:	<input type="text" value="/usr/bin/pdftotext"/>
 MS-WORD Files -- Blank for Disabled:	<input type="text" value="/usr/bin/antiword"/>
Default File Creation Policy:	<input type="text" value="Only you can read/download/write"/>
Default Folder Creation Policy:	<input type="text" value="Only you can upload files and delete this folder"/>

Troubleshooting and additional help

Documentation Quick Start Guide User Manual Installation Instructions FAQ	http://owl.sourceforge.net/docs/index.php
Online demo	http://owl.sourceforge.net/demo.php
User Forum	http://sourceforge.net/forum/?group_id=9444
Feature List	http://owl.sourceforge.net/features.php
Downloads	http://owl.sourceforge.net/download.php