By Falko Timme
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Virtual Users And Domains With Postfix, Courier, MySQL And SquirrelMail (Ubuntu 8.04 LTS)

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Author: Falko Timme <ft [at] falkotimme [dot] com>
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This document describes how to install a mail server based on Postfix that is based on virtual users and domains, i.e. users and domains that are in a MySQL database. I'll also demonstrate the installation and configuration of Courier (Courier-POP3, Courier-IMAP), so that Courier can authenticate against the same MySQL database Postfix uses.

The resulting Postfix server is capable of ***SMTP-AUTH*** and ***TLS*** and ***quota*** (quota is not built into Postfix by default, I'll show how to patch your Postfix appropriately). Passwords are stored in ***encrypted*** form in the database (most documents I found were dealing with plain text passwords which is a security risk). In addition to that, this tutorial covers the installation of ***Amavisd***, ***SpamAssassin*** and ***ClamAV*** so that emails will be scanned for spam and viruses. I will also show how to install ***SquirrelMail*** as a webmail interface so that users can read and send emails and change their passwords.

The advantage of such a "virtual" setup (virtual users and domains in a MySQL database) is that it is far more performant than a setup that is based on "real" system users. With this virtual setup your mail server can handle thousands of domains and users. Besides, it is easier to administrate because you only have to deal with the MySQL database when you add new users/domains or edit existing ones. No more postmap commands to create db files, no more reloading of Postfix, etc. For the administration of the MySQL database you can use web based tools like phpMyAdmin which will also be installed in this howto. The third advantage is that users have an email address as user name (instead of a user name + an email address) which is easier to understand and keep in mind.

This howto is meant as a practical guide; it does not cover the theoretical backgrounds. They are treated in a lot of other documents in the web.

This document comes without warranty of any kind! I want to say that this is not the only way of setting up such a system. There are many ways of

achieving this goal but this is the way I take. I do not issue any guarantee that this will work for you!

1 Preliminary Note

This tutorial is based on Ubuntu 8.04 Server (Hardy Heron), so you should set up a basic Ubuntu 8.04 server installation before you continue with this tutorial (e.g. as shown on the pages 1 - 3 in this tutorial: ***The Perfect Server - Ubuntu Hardy Heron (Ubuntu 8.04 LTS Server)***). The system should have a static IP address. I use *192.168.0.100* as my IP address in this tutorial and *server1.example.com* as the hostname.

Make sure that you are logged in as root (type in

```
sudo su
```

to become root), because we must run all the steps from this tutorial as root user.

It is very important that you make */bin/sh* a symlink to */bin/bash*...

```
ln -sf /bin/bash /bin/sh
```

... and that you disable AppArmor:

```
/etc/init.d/apparmor stop

update-rc.d -f apparmor remove
```

2 Install Postfix, Courier, Saslauthd, MySQL, phpMyAdmin

To install Postfix, Courier, Saslauthd, MySQL, and phpMyAdmin, we simply run

```
apt-get install postfix postfix-mysql postfix-doc mysql-client mysql-server courier-authdaemon courier-authlib-mysql courier-pop courier-pop-ssl courier-imap courier-imap-ssl postfix-tls libsasl2-2 libsasl2-modules libsasl2-modules-sql sasl2-bin libpam-mysql openssl phpmyadmin apache2 libapache2-mod-php5 php5 php5-mysql libpam-smbpass
```

You will be asked a few questions:

```
New password for the MySQL "root" user: <-- yourrootsqlpassword
 Repeat password for the MySQL "root" user: <-- yourrootsqlpassword
 Create directories for web-based administration? <-- No
 General type of mail configuration: <-- Internet Site
 System mail name: <-- server1.example.com
 SSL certificate required <-- Ok
 Web server to reconfigure automatically: <-- apache2
```

3 Apply The Quota Patch To Postfix

We have to get the Postfix sources, patch it with the quota patch, build new Postfix *.deb* packages and install those *.deb* packages:

```
apt-get install build-essential dpkg-dev fakeroot debhelper libgdbm-dev libldap2-dev libpcre3-dev libssl-dev libsasl2-dev
postgresql-server-dev-8.2 po-debconf dpatch libmysqlclient15-dev lsb-release libcdb-dev libdb-dev
```

```
cd /usr/src

apt-get source postfix
```

(Make sure you use the correct Postfix version in the following commands. I have Postfix 2.5.1 installed. You can find out your Postfix version by running

```
postconf -d | grep mail_version
```

The output should look like this:

```
root@server1:/usr/src# postconf -d | grep mail_version
  mail_version = 2.5.1
  milter_macro_v = $mail_name $mail_version
```

root@server1:/usr/src#

)

```
wget http://vda.sourceforge.net/VDA/postfix-2.5.1-vda-ng.patch.gz

gunzip postfix-2.5.1-vda-ng.patch.gz

cd postfix-2.5.1

patch -p1 < ../postfix-2.5.1-vda-ng.patch

dpkg-buildpackage
```

You might see a warning like this at the end of the *dpkg-buildpackage* command:

dpkg-buildpackage: warning: Failed to sign .dsc and .changes file

You can ignore this message.

Now we go one directory up, that's where the new *.deb* packages have been created:

```
cd ..
```

The command

```
ls -l
```

shows you the available packages:

```
root@server1:/usr/src# ls -l
total 5804
drwxr-sr-x 19 root src    4096 2008-05-15 00:36 postfix-2.5.1
-rw-r--r--  1 root src  235739 2008-05-15 00:35 postfix_2.5.1-2ubuntu1.diff.gz
-rw-r--r--  1 root src     787 2008-05-15 00:35 postfix_2.5.1-2ubuntu1.dsc
-rw-r--r--  1 root src    2236 2008-05-15 00:37 postfix_2.5.1-2ubuntu1_i386.changes
-rw-r--r--  1 root src 1165838 2008-05-15 00:37 postfix_2.5.1-2ubuntu1_i386.deb
-rw-r--r--  1 root src 3153629 2008-02-26 03:04 postfix_2.5.1.orig.tar.gz
-rw-r--r--  1 root src   57952 2008-03-24 01:51 postfix-2.5.1-vda-ng.patch
-rw-r--r--  1 root src   39796 2008-05-15 00:37 postfix-cdb_2.5.1-2ubuntu1_i386.deb
-rw-r--r--  1 root src  139888 2008-05-15 00:37 postfix-dev_2.5.1-2ubuntu1_all.deb
-rw-r--r--  1 root src  916386 2008-05-15 00:37 postfix-doc_2.5.1-2ubuntu1_all.deb
-rw-r--r--  1 root src   46694 2008-05-15 00:37 postfix-ldap_2.5.1-2ubuntu1_i386.deb
-rw-r--r--  1 root src   41730 2008-05-15 00:37 postfix-mysql_2.5.1-2ubuntu1_i386.deb
-rw-r--r--  1 root src   41530 2008-05-15 00:37 postfix-pcre_2.5.1-2ubuntu1_i386.deb
-rw-r--r--  1 root src   41796 2008-05-15 00:37 postfix-pgsql_2.5.1-2ubuntu1_i386.deb
root@server1:/usr/src#
```

Pick the *postfix* and *postfix-mysql* packages and install them like this:

```
dpkg -i postfix_2.5.1-2ubuntu1_i386.deb

dpkg -i postfix-mysql_2.5.1-2ubuntu1_i386.deb
```

4 Create The MySQL Database For Postfix/Courier

Now we create a database called *mail*:

```
mysqladmin -u root -p create mail
```

Next, we go to the MySQL shell:

```
mysql -u root -p
```

On the MySQL shell, we create the user *mail_admin* with the passwort *mail_admin_password* (replace it with your own password) who has *SELECT, INSERT, UPDATE, DELETE* privileges on the *mail* database. This user will be used by Postfix and Courier to connect to the mail database:

```
GRANT SELECT, INSERT, UPDATE, DELETE ON mail.* TO 'mail_admin'@'localhost' IDENTIFIED BY 'mail_admin_password';

GRANT SELECT, INSERT, UPDATE, DELETE ON mail.* TO 'mail_admin'@'localhost.localdomain' IDENTIFIED BY 'mail_admin_password';

FLUSH PRIVILEGES;
```

Still on the MySQL shell, we create the tables needed by Postfix and Courier:

```
USE mail;
```

```
CREATE TABLE domains (

domain varchar(50) NOT NULL,

PRIMARY KEY (domain) )

TYPE=MyISAM;
```

```
CREATE TABLE forwardings (

source varchar(80) NOT NULL,

destination TEXT NOT NULL,
```

```
PRIMARY KEY (source) )

TYPE=MyISAM;
```

```
CREATE TABLE users (

email varchar(80) NOT NULL,

password varchar(20) NOT NULL,

quota INT(10) DEFAULT '10485760',

PRIMARY KEY (email)

) TYPE=MyISAM;
```

```
CREATE TABLE transport (

domain varchar(128) NOT NULL default '',

transport varchar(128) NOT NULL default '',

UNIQUE KEY domain (domain)

) TYPE=MyISAM;
```

```
quit;
```

As you may have noticed, with the `quit;` command we have left the MySQL shell and are back on the Linux shell.

The ***domains*** table will store each virtual domain that Postfix should receive emails for (e.g. ***example.com***).

domain
example.com

The ***forwardings*** table is for aliasing one email address to another, e.g. forward emails for ***info@example.com*** to ***sales@example.com***.

source	***destination***
info@example.com	sales@example.com

The ***users*** table stores all virtual users (i.e. email addresses, because the email address and user name is the same) and passwords (in ***encrypted*** form!) and a quota value for each mail box (in this example the default value is 10485760 bytes which means 10MB).

email	***password***	***quota***
sales@example.com	No9.E4skNvGa. ("secret" in encrypted form)	10485760

The ***transport*** table is optional, it is for advanced users. It allows to forward mails for single users, whole domains or all mails to another server. For example,

domain	***transport***
example.com	smtp:[1.2.3.4]

would forward all emails for ***example.com*** via the smtp protocol to the server with the IP address ***1.2.3.4*** (the square brackets ***[]*** mean "do not make a lookup of the MX DNS record" (which makes sense for IP addresses...). If you use a fully qualified domain name (FQDN) instead you would not use the square brackets.).

BTW, (I'm assuming that the IP address of your mail server system is `192.168.0.100`) you can access phpMyAdmin over `http://192.168.0.100/phpmyadmin/` in a browser and log in as `mail_admin`. Then you can have a look at the database. Later on you can use phpMyAdmin to administrate your mail server.

5 Configure Postfix

Now we have to tell Postfix where it can find all the information in the database. Therefore we have to create six text files. You will notice that I tell Postfix to connect to MySQL on the IP address `127.0.0.1` instead of `localhost`. This is because Postfix is running in a chroot jail and does not have access to the MySQL socket which it would try to connect if I told Postfix to use `localhost`. If I use `127.0.0.1` Postfix uses TCP networking to connect to MySQL which is no problem even in a chroot jail (the alternative would be to move the MySQL socket into the chroot jail which causes some other problems).

Please make sure that */etc/mysql/my.cnf* contains the following line:

```
vi /etc/mysql/my.cnf
```

```
[...]
bind-address           = 127.0.0.1
[...]
```

If you had to modify */etc/mysql/my.cnf*, please restart MySQL now:

```
/etc/init.d/mysql restart
```

Run

```
netstat -tap | grep mysql
```

to make sure that MySQL is listening on *127.0.0.1* (*localhost.localdomain*):

```
root@server1:/usr/src# netstat -tap | grep mysql
tcp        0      0 localhost.localdo:mysql *:*                     LISTEN      6177/mysqld
root@server1:/usr/src#
```

Now let's create our six text files.

```
vi /etc/postfix/mysql-virtual_domains.cf
```

```
user = mail_admin
password = mail_admin_password
dbname = mail
query = SELECT domain AS virtual FROM domains WHERE domain='%s'
hosts = 127.0.0.1
```

```
vi /etc/postfix/mysql-virtual_forwardings.cf
```

```
user = mail_admin
password = mail_admin_password
dbname = mail
query = SELECT destination FROM forwardings WHERE source='%s'
hosts = 127.0.0.1
```

```
vi /etc/postfix/mysql-virtual_mailboxes.cf
```

```
user = mail_admin
password = mail_admin_password
dbname = mail
query = SELECT CONCAT(SUBSTRING_INDEX(email,'@',-1),'/',SUBSTRING_INDEX(email,'@',1),'/') FROM users WHERE email='%s'
hosts = 127.0.0.1
```

```
vi /etc/postfix/mysql-virtual_email2email.cf
```

```
user = mail_admin
password = mail_admin_password
dbname = mail
query = SELECT email FROM users WHERE email='%s'
hosts = 127.0.0.1
```

```
vi /etc/postfix/mysql-virtual_transports.cf
```

```
user = mail_admin
password = mail_admin_password
dbname = mail
query = SELECT transport FROM transport WHERE domain='%s'
hosts = 127.0.0.1
```

```
vi /etc/postfix/mysql-virtual_mailbox_limit_maps.cf
```

```
user = mail_admin
password = mail_admin_password
dbname = mail
query = SELECT quota FROM users WHERE email='%s'
hosts = 127.0.0.1
```

Then change the permissions and the group of these files:

```
chmod o= /etc/postfix/mysql-virtual_*.cf
```

```
chgrp postfix /etc/postfix/mysql-virtual_*.cf
```

Now we create a user and group called *vmail* with the home directory */home/vmail*. This is where all mail boxes will be stored.

```
groupadd -g 5000 vmail

useradd -g vmail -u 5000 vmail -d /home/vmail -m
```

Next we do some Postfix configuration. Go sure that you replace server1.example.com with a valid FQDN, otherwise your Postfix might not work properly!

```
postconf -e 'myhostname = server1.example.com'

postconf -e 'mydestination = server1.example.com, localhost, localhost.localdomain'

postconf -e 'mynetworks = 127.0.0.0/8'

postconf -e 'virtual_alias_domains ='

postconf -e 'virtual_alias_maps = proxy:mysql:/etc/postfix/mysql-virtual_forwardings.cf, mysql:/etc/postfix/mysql-virtual_email2email.cf'

postconf -e 'virtual_mailbox_domains = proxy:mysql:/etc/postfix/mysql-virtual_domains.cf'

postconf -e 'virtual_mailbox_maps = proxy:mysql:/etc/postfix/mysql-virtual_mailboxes.cf'

postconf -e 'virtual_mailbox_base = /home/vmail'

postconf -e 'virtual_uid_maps = static:5000'

postconf -e 'virtual_gid_maps = static:5000'

postconf -e 'smtpd_sasl_auth_enable = yes'
```

```
postconf -e 'broken_sasl_auth_clients = yes'

postconf -e 'smtpd_sasl_authenticated_header = yes'

postconf -e 'smtpd_recipient_restrictions = permit_mynetworks, permit_sasl_authenticated, reject_unauth_destination'

postconf -e 'smtpd_use_tls = yes'

postconf -e 'smtpd_tls_cert_file = /etc/postfix/smtpd.cert'

postconf -e 'smtpd_tls_key_file = /etc/postfix/smtpd.key'

postconf -e 'transport_maps = proxy:mysql:/etc/postfix/mysql-virtual_transports.cf'

postconf -e 'virtual_create_maildirsize = yes'

postconf -e 'virtual_mailbox_extended = yes'

postconf -e 'virtual_mailbox_limit_maps = proxy:mysql:/etc/postfix/mysql-virtual_mailbox_limit_maps.cf'

postconf -e 'virtual_mailbox_limit_override = yes'

postconf -e 'virtual_maildir_limit_message = "The user you are trying to reach is over quota."'

postconf -e 'virtual_overquota_bounce = yes'

postconf -e 'proxy_read_maps = $local_recipient_maps $mydestination $virtual_alias_maps $virtual_alias_domains $virtual_mailbox_maps
$virtual_mailbox_domains $relay_recipient_maps $relay_domains $canonical_maps $sender_canonical_maps $recipient_canonical_maps $relocated_maps
$transport_maps $mynetworks $virtual_mailbox_limit_maps'
```

Afterwards we create the SSL certificate that is needed for TLS:

```
cd /etc/postfix

openssl req -new -outform PEM -out smtpd.cert -newkey rsa:2048 -nodes -keyout smtpd.key -keyform PEM -days 365 -x509
```

```
Country Name (2 letter code) [AU]: <-- Enter your Country Name (e.g., "DE").
  State or Province Name (full name) [Some-State]: <-- Enter your State or Province Name.
  Locality Name (eg, city) []: <-- Enter your City.
  Organization Name (eg, company) [Internet Widgits Pty Ltd]: <-- Enter your Organization Name (e.g., the name of your company).
  Organizational Unit Name (eg, section) []: <-- Enter your Organizational Unit Name (e.g. "IT Department").
  Common Name (eg, YOUR name) []: <-- Enter the Fully Qualified Domain Name of the system (e.g. "server1.example.com").
  Email Address []: <-- Enter your Email Address.
```

Then change the permissions of the *smtpd.key*:

```
chmod o= /etc/postfix/smtpd.key
```

6 Configure Saslauthd

First run

```
mkdir -p /var/spool/postfix/var/run/saslauthd
```

Then edit */etc/default/saslauthd*. Set *START* to *yes* and change the line *OPTIONS="-c -m /var/run/saslauthd"* to *OPTIONS="-c -m /var/spool/postfix/var/run/saslauthd -r"*:

```
vi /etc/default/saslauthd
```

```
#
```

```
# Settings for saslauthd daemon
# Please read /usr/share/doc/sasl2-bin/README.Debian for details.
#

# Should saslauthd run automatically on startup? (default: no)
START=yes

# Description of this saslauthd instance. Recommended.
# (suggestion: SASL Authentication Daemon)
DESC="SASL Authentication Daemon"

# Short name of this saslauthd instance. Strongly recommended.
# (suggestion: saslauthd)
NAME="saslauthd"

# Which authentication mechanisms should saslauthd use? (default: pam)
#
# Available options in this Debian package:
# getpwent  -- use the getpwent() library function
# kerberos5 -- use Kerberos 5
# pam       -- use PAM
# rimap     -- use a remote IMAP server
# shadow    -- use the local shadow password file
# sasldb    -- use the local sasldb database file
# ldap      -- use LDAP (configuration is in /etc/saslauthd.conf)
#
# Only one option may be used at a time. See the saslauthd man page
# for more information.
#
# Example: MECHANISMS="pam"
MECHANISMS="pam"

# Additional options for this mechanism. (default: none)
```

```
# See the saslauthd man page for information about mech-specific options.
MECH_OPTIONS=""

# How many saslauthd processes should we run? (default: 5)
# A value of 0 will fork a new process for each connection.
THREADS=5

# Other options (default: -c -m /var/run/saslauthd)
# Note: You MUST specify the -m option or saslauthd won't run!
#
# See /usr/share/doc/sasl2-bin/README.Debian for Debian-specific information.
# See the saslauthd man page for general information about these options.
#
# Example for postfix users: "-c -m /var/spool/postfix/var/run/saslauthd"
#OPTIONS="-c -m /var/run/saslauthd"
OPTIONS="-c -m /var/spool/postfix/var/run/saslauthd -r"
```

Then create the file */etc/pam.d/smtp*. It should contain only the following two lines (go sure to fill in your correct database details):

```
vi /etc/pam.d/smtp
```

```
auth    required   pam_mysql.so user=mail_admin passwd=mail_admin_password host=127.0.0.1 db=mail table=users usercolumn=email passwdcolumn=password crypt=1
account sufficient pam_mysql.so user=mail_admin passwd=mail_admin_password host=127.0.0.1 db=mail table=users usercolumn=email passwdcolumn=password crypt=1
```

Next create the file */etc/postfix/sasl/smtpd.conf*. It should look like this:

```
vi /etc/postfix/sasl/smtpd.conf
```

```
pwcheck_method: saslauthd
mech_list: plain login
allow_plaintext: true
auxprop_plugin: mysql
sql_hostnames: 127.0.0.1
sql_user: mail_admin
sql_passwd: mail_admin_password
sql_database: mail
sql_select: select password from users where email = '%u'
```

Next add the *postfix* user to the *sasl* group (this makes sure that Postfix has the permission to access saslauthd):

```
adduser postfix sasl
```

Then restart Postfix and Saslauthd:

```
/etc/init.d/postfix restart

/etc/init.d/saslauthd restart
```

7 Configure Courier

Now we have to tell Courier that it should authenticate against our MySQL database. First, edit */etc/courier/authdaemonrc* and change the value of *authmodulelist* so that it reads:

```
vi /etc/courier/authdaemonrc
```

```
[...]
```

```
authmodulelist="authmysql"
[...]
```

Then make a backup of */etc/courier/authmysqlrc* and empty the old file:

```
cp /etc/courier/authmysqlrc /etc/courier/authmysqlrc_orig

cat /dev/null > /etc/courier/authmysqlrc
```

Then open */etc/courier/authmysqlrc* and put the following lines into it:

```
vi /etc/courier/authmysqlrc
```

```
MYSQL_SERVER localhost
MYSQL_USERNAME mail_admin
MYSQL_PASSWORD mail_admin_password
MYSQL_PORT 0
MYSQL_DATABASE mail
MYSQL_USER_TABLE users
MYSQL_CRYPT_PWFIELD password
#MYSQL_CLEAR_PWFIELD password
MYSQL_UID_FIELD 5000
MYSQL_GID_FIELD 5000
MYSQL_LOGIN_FIELD email
MYSQL_HOME_FIELD "/home/vmail"
MYSQL_MAILDIR_FIELD CONCAT(SUBSTRING_INDEX(email,'@',-1),'/',SUBSTRING_INDEX(email,'@',1),'/')
#MYSQL_NAME_FIELD
MYSQL_QUOTA_FIELD quota
```

Then restart Courier:

```
/etc/init.d/courier-authdaemon restart

/etc/init.d/courier-imap restart

/etc/init.d/courier-imap-ssl restart

/etc/init.d/courier-pop restart

/etc/init.d/courier-pop-ssl restart
```

By running

```
telnet localhost pop3
```

you can see if your POP3 server is working correctly. It should give back `+OK Hello there`. (Type `quit` to get back to the Linux shell.)

```
root@server1:/etc/postfix# telnet localhost pop3
  Trying 127.0.0.1...
  Connected to localhost.localdomain.
  Escape character is '^]'.
  +OK Hello there.
  quit
  +OK Better luck next time.
  Connection closed by foreign host.
root@server1:/etc/postfix#
```

8 Modify /etc/aliases

Now we should open `/etc/aliases`. Make sure that `postmaster` points to `root` and `root` to your own username or your email address, e.g. like this:

```
vi /etc/aliases
```

```
[...]
postmaster: root
root: postmaster@yourdomain.tld
[...]
```

or like this (if *administrator* is your own username):

```
[...]
postmaster: root
root:   administrator
[...]
```

Whenever you modify */etc/aliases*, you must run

```
newaliases
```

afterwards and restart Postfix:

```
/etc/init.d/postfix restart
```

9 Install amavisd-new, SpamAssassin, And ClamAV

To install amavisd-new, spamassassin and clamav, run the following command:

```
apt-get install amavisd-new spamassassin clamav clamav-daemon zoo unzip bzip2 unzoo libnet-ph-perl libnet-snpp-perl libnet-telnet-perl nomarch
lzop pax
```

Afterwards we must configure amavisd-new. The configuration is split up in various files which reside in the */etc/amavis/conf.d* directory. Take a look at each of them to become familiar with the configuration. Most settings are fine, however we must modify three files:

First we must enable ClamAV and SpamAssassin in */etc/amavis/conf.d/15-content_filter_mode* by uncommenting the *@bypass_virus_checks_maps* and the *@bypass_spam_checks_maps* lines:

```
vi /etc/amavis/conf.d/15-content_filter_mode
```

The file should look like this:

```
use strict;

# You can modify this file to re-enable SPAM checking through spamassassin
# and to re-enable antivirus checking.

#
# Default antivirus checking mode
# Uncomment the two lines below to enable it back
#

@bypass_virus_checks_maps = (
   \%bypass_virus_checks, \@bypass_virus_checks_acl, \$bypass_virus_checks_re);



#
# Default SPAM checking mode
# Uncomment the two lines below to enable it back
```

```
#

@bypass_spam_checks_maps = (
   \%bypass_spam_checks, \@bypass_spam_checks_acl, \$bypass_spam_checks_re);

1;  # ensure a defined return
```

And then you should take a look at the spam settings and the actions for spam-/virus-mails in */etc/amavis/conf.d/20-debian_defaults*. There's no need to change anything if the default settings are ok for you. The file contains many explanations so there's no need to explain the settings here:

```
vi /etc/amavis/conf.d/20-debian_defaults
```

```
[...]
$QUARANTINEDIR = "$MYHOME/virusmails";
$quarantine_subdir_levels = 1; # enable quarantine dir hashing

$log_recip_templ = undef;    # disable by-recipient level-0 log entries
$DO_SYSLOG = 1;              # log via syslogd (preferred)
$syslog_ident = 'amavis';    # syslog ident tag, prepended to all messages
$syslog_facility = 'mail';
$syslog_priority = 'debug';  # switch to info to drop debug output, etc

$enable_db = 1;              # enable use of BerkeleyDB/libdb (SNMP and nanny)
$enable_global_cache = 1;    # enable use of libdb-based cache if $enable_db=1

$inet_socket_port = 10024;   # default listening socket

$sa_spam_subject_tag = '***SPAM*** ';
$sa_tag_level_deflt  = 2.0;  # add spam info headers if at, or above that level
$sa_tag2_level_deflt = 6.31; # add 'spam detected' headers at that level
```

```
$sa_kill_level_deflt = 6.31; # triggers spam evasive actions
$sa_dsn_cutoff_level = 10;  # spam level beyond which a DSN is not sent

$sa_mail_body_size_limit = 200*1024; # don't waste time on SA if mail is larger
$sa_local_tests_only = 0;  # only tests which do not require internet access?

[...]
$final_virus_destiny      = D_DISCARD;  # (data not lost, see virus quarantine)
$final_banned_destiny     = D_BOUNCE;  # D_REJECT when front-end MTA
$final_spam_destiny       = D_BOUNCE;
$final_bad_header_destiny = D_PASS;     # False-positive prone (for spam)
[...]
```

Finally, edit */etc/amavis/conf.d/50-user* and add the line *$pax='pax';* in the middle:

```
vi /etc/amavis/conf.d/50-user
```

```
use strict;

#
# Place your configuration directives here.  They will override those in
# earlier files.
#
# See /usr/share/doc/amavisd-new/ for documentation and examples of
# the directives you can use in this file
#

$pax='pax';

#------------ Do not modify anything below this line -------------
```

```
1;  # ensure a defined return
```

Afterwards, run these commands to add the *clamav* user to the *amavis* group and to restart amavisd-new and ClamAV:

```
adduser clamav amavis

/etc/init.d/amavis restart

/etc/init.d/clamav-daemon restart

/etc/init.d/clamav-freshclam restart
```

Now we have to configure Postfix to pipe incoming email through amavisd-new:

```
postconf -e 'content_filter = amavis:[127.0.0.1]:10024'

postconf -e 'receive_override_options = no_address_mappings'
```

Afterwards append the following lines to */etc/postfix/master.cf*:

```
vi /etc/postfix/master.cf
```

```
[...]
amavis unix - - - - 2 smtp
      -o smtp_data_done_timeout=1200
      -o smtp_send_xforward_command=yes

127.0.0.1:10025 inet n - - - - smtpd
```

```
    -o content_filter=
    -o local_recipient_maps=
    -o relay_recipient_maps=
    -o smtpd_restriction_classes=
    -o smtpd_client_restrictions=
    -o smtpd_helo_restrictions=
    -o smtpd_sender_restrictions=
    -o smtpd_recipient_restrictions=permit_mynetworks,reject
    -o mynetworks=127.0.0.0/8
    -o strict_rfc821_envelopes=yes
    -o receive_override_options=no_unknown_recipient_checks,no_header_body_checks
    -o smtpd_bind_address=127.0.0.1
```

Then restart Postfix:

```
/etc/init.d/postfix restart
```

Now run

```
netstat -tap
```

and you should see Postfix (*master*) listening on port 25 (*smtp*) and 10025, and amavisd-new on port 10024:

```
root@server1:/etc/postfix# netstat -tap
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 localhost.localdo:10024 *:*                     LISTEN      15645/amavisd (mast
tcp        0      0 localhost.localdo:10025 *:*                     LISTEN      16677/master
tcp        0      0 localhost.localdo:mysql *:*                     LISTEN      6177/mysqld
tcp        0      0 *:www                   *:*                     LISTEN      5367/apache2
```

```
tcp        0      0 *:smtp                  *:*                     LISTEN      16677/master
tcp6       0      0 [::]:imaps              [::]:*                  LISTEN      14020/couriertcpd
tcp6       0      0 [::]:pop3s              [::]:*                  LISTEN      14088/couriertcpd
tcp6       0      0 [::]:pop3               [::]:*                  LISTEN      14051/couriertcpd
tcp6       0      0 [::]:imap2              [::]:*                  LISTEN      13983/couriertcpd
tcp6       0      0 [::]:ssh                [::]:*                  LISTEN      4006/sshd
tcp6       0     52 server1.example.com:ssh 192.168.0.210%8191:3340 ESTABLISHED 4059/0
root@server1:/etc/postfix#
```

10 Install Razor, Pyzor And DCC And Configure SpamAssassin

Razor, Pyzor and DCC are spamfilters that use a collaborative filtering network. To install Razor and Pyzor, run

```
apt-get install razor pyzor
```

DCC isn't available in the Ubuntu 8.04 repositories, so we install it as follows:

```
cd /tmp

wget http://launchpadlibrarian.net/11564361/dcc-server_1.3.42-5_i386.deb

wget http://launchpadlibrarian.net/11564359/dcc-common_1.3.42-5_i386.deb

dpkg -i dcc-common_1.3.42-5_i386.deb

dpkg -i dcc-server_1.3.42-5_i386.deb
```

Now we have to tell SpamAssassin to use these three programs. Edit `/etc/spamassassin/local.cf` and add the following lines to it:

```
vi /etc/spamassassin/local.cf
```

```
[...]
#dcc
use_dcc 1
dcc_path /usr/bin/dccproc

#pyzor
use_pyzor 1
pyzor_path /usr/bin/pyzor

#razor
use_razor2 1
razor_config /etc/razor/razor-agent.conf

#bayes
use_bayes 1
use_bayes_rules 1
bayes_auto_learn 1
```

Then we must enable the DCC plugin in SpamAssassin. Open */etc/spamassassin/v310.pre* and uncomment the *loadplugin Mail::SpamAssassin::Plugin::DCC* line:

```
vi /etc/spamassassin/v310.pre
```

```
[...]
# DCC - perform DCC message checks.
#
# DCC is disabled here because it is not open source.  See the DCC
# license for more details.
```

```
#
loadplugin Mail::SpamAssassin::Plugin::DCC
[...]
```

You can check your SpamAssassin configuration by executing:

```
spamassassin --lint
```

It shouldn't show any errors.

Restart amavisd-new afterwards:

```
/etc/init.d/amavis restart
```

Now we update our SpamAssassin rulesets as follows:

```
sa-update --no-gpg
```

We create a cron job so that the rulesets will be updated regularly. Run

```
crontab -e
```

to open the cron job editor. Create the following cron job:

```
23 4 */2 * * /usr/bin/sa-update --no-gpg &> /dev/null
```

This will update the rulesets every second day at 4.23h.

11 Quota Exceedance Notifications

If you want to get notifications about all the email accounts that are over quota, then do this:

```
cd /usr/local/sbin/

wget http://puuhis.net/vhcs/quota.txt

mv quota.txt quota_notify

chmod 755 quota_notify
```

Open */usr/local/sbin/quota_notify* and edit the variables at the top. Further down in the file (towards the end) there are two lines where you should add a % sign:

```
vi /usr/local/sbin/quota_notify
```

```
[...]
my $POSTFIX_CF = "/etc/postfix/main.cf";
my $MAILPROG = "/usr/sbin/sendmail -t";
my $WARNPERCENT = 80;
my @POSTMASTERS = ('postmaster@yourdomain.tld');
my $CONAME = 'My Company';
my $COADDR = 'postmaster@yourdomain.tld';
my $SUADDR = 'postmaster@yourdomain.tld';
my $MAIL_REPORT = 1;
my $MAIL_WARNING = 1;
[...]
```

```
        print "Subject: WARNING: Your mailbox is $lusers{$luser}% full.\n";
[...]
        print "Your mailbox: $luser is $lusers{$luser}% full.\n\n";
[...]
```

Run

```
crontab -e
```

to create a cron job for that script:

```
0 0 * * * /usr/local/sbin/quota_notify &> /dev/null
```

12 Test Postfix

To see if Postfix is ready for SMTP-AUTH and TLS, run

```
telnet localhost 25
```

After you have established the connection to your Postfix mail server type

```
ehlo localhost
```

If you see the lines

```
250-STARTTLS
```

and

```
250-AUTH LOGIN PLAIN
```

everything is fine:

```
root@server1:/usr/local/sbin# telnet localhost 25
  Trying 127.0.0.1...
  Connected to localhost.localdomain.
  Escape character is '^]'.
  220 server1.example.com ESMTP Postfix (Ubuntu)
  ehlo localhost
  250-server1.example.com
  250-PIPELINING
  250-SIZE 10240000
  250-VRFY
  250-ETRN
  250-STARTTLS
  250-AUTH LOGIN PLAIN
  250-AUTH=LOGIN PLAIN
  250-ENHANCEDSTATUSCODES
  250-8BITMIME
  250 DSN
  quit
  221 2.0.0 Bye
  Connection closed by foreign host.
root@server1:/usr/local/sbin#
```

Type

```
quit
```

to return to the system shell.

13 Populate The Database And Test

To populate the database you can use the MySQL shell:

```
mysql -u root -p

USE mail;
```

At least you have to create entries in the tables ***domains*** and ***users***:

```
INSERT INTO `domains` (`domain`) VALUES ('example.com');

INSERT INTO `users` (`email`, `password`, `quota`) VALUES ('sales@example.com', ENCRYPT('secret'), 10485760);
```

(Please take care that you use the `ENCRYPT` syntax in the second `INSERT` statement in order to encrypt the password!)

If you want to make entries in the other two tables, that would look like this:

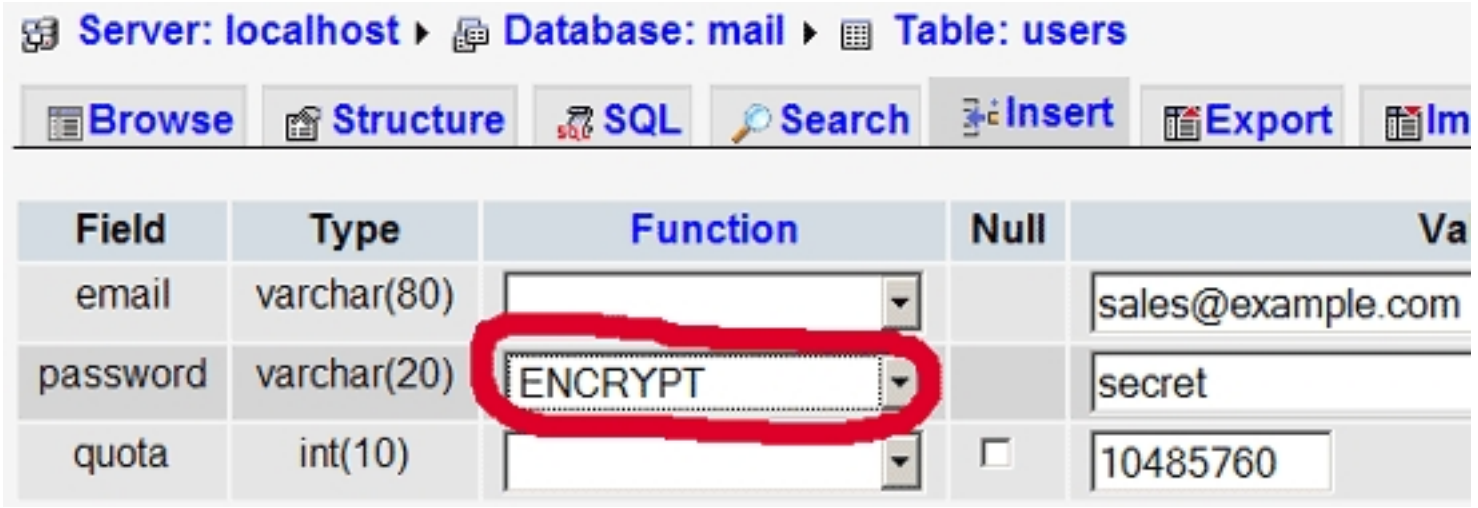
```
INSERT INTO `forwardings` (`source`, `destination`) VALUES ('info@example.com', 'sales@example.com');

INSERT INTO `transport` (`domain`, `transport`) VALUES ('example.com', 'smtp:mail.example.com');
```

To leave the MySQL shell, type

```
quit;
```

For most people it is easier if they have a graphical front-end to MySQL; therefore you can also use phpMyAdmin (in this example under

http://192.168.0.100/phpmyadmin/ or *http://server1.example.com/phpmyadmin/*) to administrate the ***mail*** database. Again, when you create a user, go sure that you use the *ENCRYPT* function to encrypt the password:



I do not think I have to explain the *domains* and *users* table further.

The *forwardings* table can have entries like the following:

source ***destination***

info@example.com sales@example.com Redirects emails for info@example.com to sales@example.com

@example.com thomas@example.com Creates a *Catch-All* account for thomas@example.com. All emails to example.com will arrive at thomas@example.com, except those that exist in the *users* table (i.e., if sales@example.com exists in the *users* table, mails to sales@example.com will still arrive at sales@example.com).

@example.com @anotherdomain.tld This redirects all emails to example.com to the same user at anotherdomain.tld. E.g., emails to thomas@example.com will be forwarded to thomas@anotherdomain.tld.

info@example.com sales@example.com, billing@anotherdomain.tld Forward emails for info@example.com to two or more email addresses. All listed email addresses under *destination* receive a copy of the email.

The *transport* table can have entries like these:

domain transport
example.com : Delivers emails for example.com locally. This is as if this record would not exist in this table at all.
example.com smtp:mail.anotherdomain.tld Delivers all emails for example.com via smtp to the server mail.anotherdomain.com.
example.com smtp:mail.anotherdomain.tld:2025 Delivers all emails for example.com via smtp to the server mail.anotherdomain.com, but on port 2025, not 25 which is the default port for smtp.
example.com

smtp:[1.2.3.4]
smtp:[1.2.3.4]:2025
smtp:[mail.anotherdomain.tld] The square brackets prevent Postfix from doing lookups of the MX DNS record for the address in square brackets. Makes sense for IP addresses.
.example.com smtp:mail.anotherdomain.tld Mail for any subdomain of example.com is delivered to mail.anotherdomain.tld.
* smtp:mail.anotherdomain.tld All emails are delivered to mail.anotherdomain.tld.
joe@example.com smtp:mail.anotherdomain.tld Emails for joe@example.com are delivered to mail.anotherdomain.tld.

See

```
man transport
```

for more details.

Please keep in mind that the order of entries in the `transport` table is important! The entries will be followed from the top to the bottom.

Important: Postfix uses a caching mechanism for the transports, therefore it might take a while until you changes in the `transport` table take effect. If you want them to take effect immediately, run

```
postfix reload
```

after you have made your changes in the `transport` table.

14 Send A Welcome Email For Creating Maildir

When you create a new email account and try to fetch emails from it (with POP3/IMAP) you will probably get error messages saying that the Maildir doesn't exist. The Maildir is created automatically when the first email arrives for the new account. Therefore it's a good idea to send a welcome email to a new account.

First, we install the *mailx* package:

```
apt-get install mailx
```

To send a welcome email to *sales@example.com*, we do this:

```
mailx sales@example.com
```

You will be prompted for the subject. Type in the subject (e.g. *Welcome*), then press *ENTER*, and in the next line type your message. When the message is finished, press *ENTER* again so that you are in a new line, then press *CTRL+D*; if you don't want to cc the mail, press *ENTER* again:

```
root@server1:/usr/local/sbin# mailx sales@example.com
  Subject: Welcome <-- ENTER
 Welcome! Have fun with your new mail account. <-- ENTER
 <-- CTRL+D
 Cc: <-- ENTER
 root@server1:/usr/local/sbin#
```

15 Installing SquirrelMail

SquirrelMail is a webmail interface that will let your users send and receive emails in a browser. This chapter shows how to install it and adjust it to our setup so that users can even change their email account password from the SquirrelMail interface.

To install SquirrelMail, we run:

```
apt-get install squirrelmail php-pear
```

Next we copy the Apache configuration that comes with the SquirrelMail package to the */etc/apache2/conf.d* directory and restart Apache:

```
cp /etc/squirrelmail/apache.conf /etc/apache2/conf.d/squirrelmail.conf

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

SquirrelMail comes with some pre-installed plugins, unfortunately none of them is capable of letting us change our email password in our MySQL database. But there's the ***Change SQL Password plugin*** which we can install manually:

The plugin depends on the Pear-DB package so we install it:

```
pear install DB
```

Then we install the *Change SQL Password* plugin itself:

```
cd /usr/share/squirrelmail/plugins

wget http://www.squirrelmail.org/countdl.php?fileurl=http%3A%2F%2Fwww.squirrelmail.org%2Fplugins%2Fchange_sqlpass-3.3-1.2.tar.gz

tar xvfz change_sqlpass-3.3-1.2.tar.gz

cd change_sqlpass

cp config.php.sample config.php
```

Now we must edit *config.php* and adjust it to our setup. Please adjust the *$csp_dsn*, *$lookup_password_query*, *$password_update_queries*, *$password_encryption*, *$csp_salt_static*, and *$csp_delimiter* variables as follows and comment out *$csp_salt_query*:

```
vi config.php
```

```
[...]
$csp_dsn = 'mysql://mail_admin:mail_admin_password@localhost/mail';
[...]
$lookup_password_query = 'SELECT count(*) FROM users WHERE email = "%1" AND password = %4';
[...]
$password_update_queries = array('UPDATE users SET password = %4 WHERE email = "%1"');
[...]
$password_encryption = 'MYSQLENCRYPT';
[...]
$csp_salt_static = 'LEFT(password, 2)';
[...]
//$csp_salt_query = 'SELECT salt FROM users WHERE username = "%1"';
[...]
$csp_delimiter = '@';
[...]
```

The complete file looks as follows:

```
<?php

/**
  * SquirrelMail Change SQL Password Plugin
  * Copyright (C) 2001-2002 Tyler Akins
  *               2002 Thijs Kinkhorst <kink@users.sourceforge.net>
  *               2002-2005 Paul Lesneiwski <paul@openguild.net>
  * This program is licensed under GPL. See COPYING for details
  *
  * @package plugins
  * @subpackage Change SQL Password
```

```
*
*/



// Global Variables, don't touch these unless you want to break the plugin
//
global $csp_dsn, $password_update_queries, $lookup_password_query,
       $force_change_password_check_query, $password_encryption,
       $csp_salt_query, $csp_salt_static, $csp_secure_port,
       $csp_non_standard_http_port, $csp_delimiter, $csp_debug,
       $min_password_length, $max_password_length, $include_digit_in_password,
       $include_uppercase_letter_in_password, $include_lowercase_letter_in_password,
       $include_nonalphanumeric_in_password;




// csp_dsn
//
// Theoretically, any SQL database supported by Pear should be supported
// here.  The DSN (data source name) must contain the information needed
// to connect to your database backend. A MySQL example is included below.
// For more details about DSN syntax and list of supported database types,
// please see:
//   http://pear.php.net/manual/en/package.database.db.intro-dsn.php
//
$csp_dsn = 'mysql://mail_admin:mail_admin_password@localhost/mail';



// lookup_password_query
//
// This plugin will always verify the user's old password
// against their login password, but an extra check can also
```

```
// be done against the database for more security if you
// desire.  If you do not need the extra password check,
// make sure this setting is empty.
//
// This is a query that returns a positive value if a user
// and password pair are found in the database.
//
// This query should return one value (one row, one column), the
// value being ideally a one or a zero, simply indicating that
// the user/password pair does in fact exist in the database.
//
//   %1 in this query will be replaced with the full username
//      (including domain), such as "jose@example.com"
//   %2 in this query will be replaced with the username (without
//      any domain portion), such as "jose"
//   %3 in this query will be replaced with the domain name,
//      such as "example.com"
//   %4 in this query will be replaced with the current (old)
//      password in whatever encryption format is needed per other
//      plugin configuration settings (Note that the syntax of
//      the password will be provided depending on your encryption
//      choices, so you NEVER need to provide quotes around this
//      value in the query here.)
//   %5 in this query will be replaced with the current (old)
//      password in unencrypted plain text.  If you do not use any
//      password encryption, %4 and %5 will be the same values,
//      except %4 will have double quotes around it and %5 will not.
//
//$lookup_password_query = '';
// TERRIBLE SECURITY: $lookup_password_query = 'SELECT count(*) FROM users WHERE username = "%1" AND plain_password = "%5"';
//$lookup_password_query = 'SELECT count(*) FROM users WHERE username = "%1" AND crypt_password = %4';
$lookup_password_query = 'SELECT count(*) FROM users WHERE email = "%1" AND password = %4';
```

```
  // password_update_queries
  //
  // An array of SQL queries that will all be executed
  // whenever a password change attempt is made.
  //
  // Any number of queries may be included here.
  // The queries will be executed in the order given here.
  //
  //   %1 in all queries will be replaced with the full username
  //      (including domain), such as "jose@example.com"
  //   %2 in all queries will be replaced with the username (without
  //      any domain portion), such as "jose"
  //   %3 in all queries will be replaced with the domain name,
  //      such as "example.com"
  //   %4 in all queries will be replaced with the new password
  //      in whatever encryption format is needed per other
  //      plugin configuration settings (Note that the syntax of
  //      the password will be provided depending on your
  //      encryption choices, so you NEVER need to provide quotes
  //      around this value in the queries here.)
  //   %5 in all queries will be replaced with the new password
  //      in unencrypted plain text - BEWARE!  If you do not use
  //      any password encryption, %4 and %5 will be the same
  //      values, except %4 will have double quotes around it
  //      and %5 will not.
  //
//   $password_update_queries = array(
//           'UPDATE users SET crypt_password = %4 WHERE username = "%1"',
//           'UPDATE user_flags SET force_change_pwd = 0 WHERE username = "%1"',
//           'UPDATE users SET crypt_password = %4, force_change_pwd = 0 WHERE username = "%1"',
//                                   );
  $password_update_queries = array('UPDATE users SET password = %4 WHERE email = "%1"');
```

```
// force_change_password_check_query
//
// A query that checks for a flag that indicates if a user
// should be forced to change their password.  This query
// should return one value (one row, one column) which is
// zero if the user does NOT need to change their password,
// or one if the user should be forced to change it now.
//
// This setting should be an empty string if you do not wish
// to enable this functionality.
//
//   %1 in this query will be replaced with the full username
//      (including domain), such as "jose@example.com"
//   %2 in this query will be replaced with the username (without
//      any domain portion), such as "jose"
//   %3 in this query will be replaced with the domain name,
//      such as "example.com"
//
//$force_change_password_check_query = 'SELECT IF(force_change_pwd = "yes", 1, 0) FROM users WHERE username = "%1"';
//$force_change_password_check_query = 'SELECT force_change_pwd FROM users WHERE username = "%1"';
$force_change_password_check_query = '';



// password_encryption
//
// What encryption method do you use to store passwords
// in your database?  Please use one of the following,
// exactly as you see it:
//
//   NONE         Passwords are stored as plain text only
```

```
//   MYSQLPWD      Passwords are stored using the MySQL password() function
//   MYSQLENCRYPT  Passwords are stored using the MySQL encrypt() function
//   PHPCRYPT      Passwords are stored using the PHP crypt() function
//   MD5CRYPT      Passwords are stored using encrypted MD5 algorithm
//   MD5           Passwords are stored as MD5 hash
//
//$password_encryption = 'MYSQLPWD';
$password_encryption = 'MYSQLENCRYPT';



// csp_salt_query
// csp_salt_static
//
// Encryption types that need a salt need to know where to get
// that salt.  If you have a constant, known salt value, you
// should define it in $csp_salt_static.  Otherwise, leave that
// value empty and define a value for the $csp_salt_query.
//
// Leave both values empty if you do not need (or use) salts
// to encrypt your passwords.
//
// The query should return one value (one row, one column) which
// is the salt value for the current user's password.  This
// query is ignored if $csp_salt_static is anything but empty.
//
//   %1 in this query will be replaced with the full username
//      (including domain), such as "jose@example.com"
//   %2 in this query will be replaced with the username (without
//      any domain portion), such as "jose"
//   %3 in this query will be replaced with the domain name,
//      such as "example.com"
//
//$csp_salt_static = 'LEFT(crypt_password, 2)';
```

```
//$csp_salt_static = "'a4'";  // use this format with MYSQLENCRYPT
//$csp_salt_static = '$2$blowsomefish$';  // use this format with PHPCRYPT
//$csp_salt_static = '';
$csp_salt_static = 'LEFT(password, 2)';

//$csp_salt_query = 'SELECT SUBSTRING_INDEX(crypt_password, '$', 1) FROM users WHERE username = "%1"';
//$csp_salt_query = 'SELECT SUBSTRING(crypt_password, (LENGTH(SUBSTRING_INDEX(crypt_password, '$', 2)) + 2)) FROM users WHERE username = "%1"';
//$csp_salt_query = 'SELECT salt FROM users WHERE username = "%1"';
//$csp_salt_query = '';



// csp_secure_port
//
// You may ensure that SSL encryption is used during password
// change by setting this to the port that your HTTPS is served
// on (443 is typical).  Set to zero if you do not wish to force
// an HTTPS connection when users are changing their passwords.
//
// You may override this value for certain domains, users, or
// service levels through the Virtual Host Login (vlogin) plugin
// by setting a value(s) for $vlogin_csp_secure_port in the vlogin
// configuration.
//
$csp_secure_port = 0;
//$csp_secure_port = 443;



// csp_non_standard_http_port
//
// If you serve standard HTTP web requests on a non-standard
// port (anything other than port 80), you should specify that
```

```
// port number here.  Set to zero otherwise.
//
// You may override this value for certain domains, users, or
// service levels through the Virtual Host Login (vlogin) plugin
// by setting a value(s) for $vlogin_csp_non_standard_http_port
// in the vlogin configuration.
//
//$csp_non_standard_http_port = 8080;
$csp_non_standard_http_port = 0;



// min_password_length
// max_password_length
// include_digit_in_password
// include_uppercase_letter_in_password
// include_lowercase_letter_in_password
// include_nonalphanumeric_in_password
//
// You can set the minimum and maximum password lengths that
// you accept or leave those settings as zero to indicate that
// no limit should be applied.
//
// Turn on any of the other settings here to check that the
// new password contains at least one digit, upper case letter,
// lower case letter and/or one non-alphanumeric character.
//
$min_password_length = 6;
$max_password_length = 0;
$include_digit_in_password = 0;
$include_uppercase_letter_in_password = 0;
$include_lowercase_letter_in_password = 0;
$include_nonalphanumeric_in_password = 0;
```

```
  // csp_delimiter
  //
  // if your system has usernames with something other than
  // an "@" sign separating the user and domain portion,
  // specify that character here
  //
  //$csp_delimiter = '|';
  $csp_delimiter = '@';



  // debug mode
  //
  $csp_debug = 0;



?>
```

The *Change SQL Password* plugin also depends on the ***Compatibility plugin*** which we install as follows:

```
cd /usr/share/squirrelmail/plugins

wget http://www.squirrelmail.org/countdl.php?fileurl=http%3A%2F%2Fwww.squirrelmail.org%2Fplugins%2Fcompatibility-2.0.11-1.0.tar.gz

tar xvfz compatibility-2.0.11-1.0.tar.gz
```

Now we must go into the SquirrelMail configuration and tell SquirrelMail that we use Courier as our POP3 and IMAP server and enable the *Change SQL*

Password and the *Compatibility* plugins:

```
/usr/sbin/squirrelmail-configure
```

You'll see the following menu. Navigate through it as indicated:

```
SquirrelMail Configuration : Read: config.php (1.4.0)
---------------------------------------------------------
Main Menu --
1.  Organization Preferences
2.  Server Settings
3.  Folder Defaults
4.  General Options
5.  Themes
6.  Address Books
7.  Message of the Day (MOTD)
8.  Plugins
9.  Database
10. Languages

D.  Set pre-defined settings for specific IMAP servers

C   Turn color on
S   Save data
Q   Quit

Command >> <-- D


SquirrelMail Configuration : Read: config.php
---------------------------------------------------------
While we have been building SquirrelMail, we have discovered some
```

```
preferences that work better with some servers that don't work so
well with others.  If you select your IMAP server, this option will
set some pre-defined settings for that server.

Please note that you will still need to go through and make sure
everything is correct.  This does not change everything.  There are
only a few settings that this will change.

Please select your IMAP server:
    bincimap    = Binc IMAP server
    courier     = Courier IMAP server
    cyrus       = Cyrus IMAP server
    dovecot     = Dovecot Secure IMAP server
    exchange    = Microsoft Exchange IMAP server
    hmailserver = hMailServer
    macosx      = Mac OS X Mailserver
    mercury32   = Mercury/32
    uw          = University of Washington's IMAP server

    quit        = Do not change anything
Command >> <-- courier


             imap_server_type = courier
         default_folder_prefix = INBOX.
                  trash_folder = Trash
                   sent_folder = Sent
                  draft_folder = Drafts
            show_prefix_option = false
           default_sub_of_inbox = false
show_contain_subfolders_option = false
            optional_delimiter = .
                 delete_folder = true
```

```
Press any key to continue... <-- press some key


SquirrelMail Configuration : Read: config.php (1.4.0)
---------------------------------------------------------
Main Menu --
1.  Organization Preferences
2.  Server Settings
3.  Folder Defaults
4.  General Options
5.  Themes
6.  Address Books
7.  Message of the Day (MOTD)
8.  Plugins
9.  Database
10. Languages

D.  Set pre-defined settings for specific IMAP servers

C   Turn color on
S   Save data
Q   Quit

Command >> <-- 8


SquirrelMail Configuration : Read: config.php (1.4.0)
---------------------------------------------------------
Plugins
  Installed Plugins

  Available Plugins:
    1. abook_take
```

```
    2. administrator
    3. bug_report
    4. calendar
    5. change_sqlpass
    6. compatibility
    7. delete_move_next
    8. demo
    9. filters
    10. fortune
    11. info
    12. listcommands
    13. mail_fetch
    14. message_details
    15. newmail
    16. sent_subfolders
    17. spamcop
    18. squirrelspell
    19. test
    20. translate

R   Return to Main Menu
C   Turn color on
S   Save data
Q   Quit

Command >> <-- 6 (or whatever number the compatibility plugin has - it's needed by the change_sqlpass plugin)


SquirrelMail Configuration : Read: config.php (1.4.0)
---------------------------------------------------------
Plugins
  Installed Plugins
    1. compatibility
```

```
  Available Plugins:
    2. abook_take
    3. administrator
    4. bug_report
    5. calendar
    6. change_sqlpass
    7. delete_move_next
    8. demo
    9. filters
    10. fortune
    11. info
    12. listcommands
    13. mail_fetch
    14. message_details
    15. newmail
    16. sent_subfolders
    17. spamcop
    18. squirrelspell
    19. test
    20. translate

R   Return to Main Menu
C   Turn color on
S   Save data
Q   Quit

Command >> <-- 6 (the number of the change_sqlpass plugin)


SquirrelMail Configuration : Read: config.php (1.4.0)
---------------------------------------------------------
Plugins
  Installed Plugins
```

```
    1. compatibility
    2. change_sqlpass

  Available Plugins:
    3. abook_take
    4. administrator
    5. bug_report
    6. calendar
    7. delete_move_next
    8. demo
    9. filters
    10. fortune
    11. info
    12. listcommands
    13. mail_fetch
    14. message_details
    15. newmail
    16. sent_subfolders
    17. spamcop
    18. squirrelspell
    19. test
    20. translate

R   Return to Main Menu
C   Turn color on
S   Save data
Q   Quit

Command >> <-- S


SquirrelMail Configuration : Read: config.php (1.4.0)
---------------------------------------------------------
```

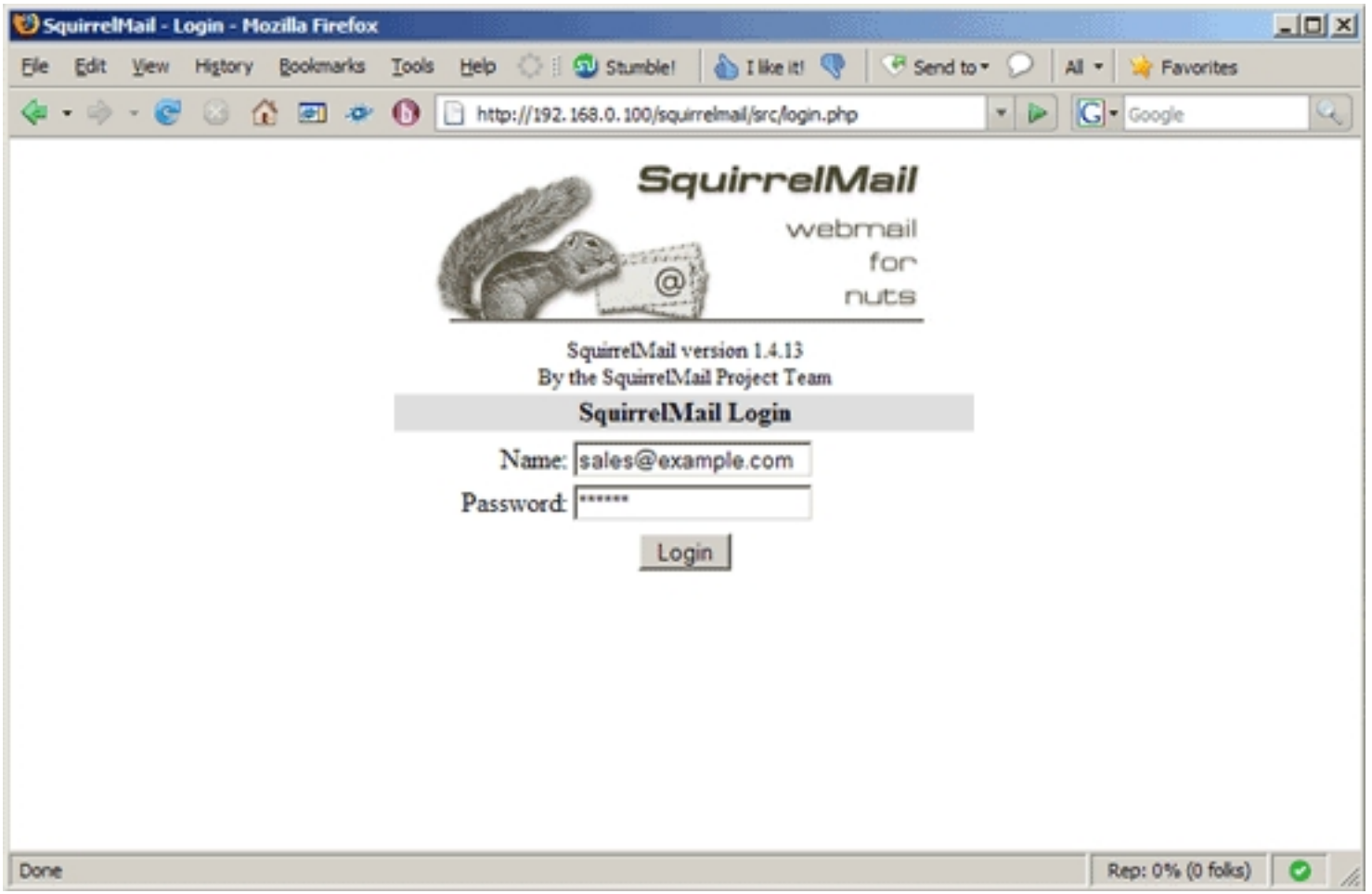
```
Plugins
  Installed Plugins
    1. compatibility
    2. change_sqlpass

  Available Plugins:
    3. abook_take
    4. administrator
    5. bug_report
    6. calendar
    7. delete_move_next
    8. demo
    9. filters
    10. fortune
    11. info
    12. listcommands
    13. mail_fetch
    14. message_details
    15. newmail
    16. sent_subfolders
    17. spamcop
    18. squirrelspell
    19. test
    20. translate

R   Return to Main Menu
C   Turn color on
S   Save data
Q   Quit

Command >> S

Data saved in config.php
```

```
Press enter to continue... <-- press some key


SquirrelMail Configuration : Read: config.php (1.4.0)
---------------------------------------------------------
Plugins
  Installed Plugins
    1. compatibility
    2. change_sqlpass

  Available Plugins:
    3. abook_take
    4. administrator
    5. bug_report
    6. calendar
    7. delete_move_next
    8. demo
    9. filters
    10. fortune
    11. info
    12. listcommands
    13. mail_fetch
    14. message_details
    15. newmail
    16. sent_subfolders
    17. spamcop
    18. squirrelspell
    19. test
    20. translate

R   Return to Main Menu
C   Turn color on
S   Save data
```

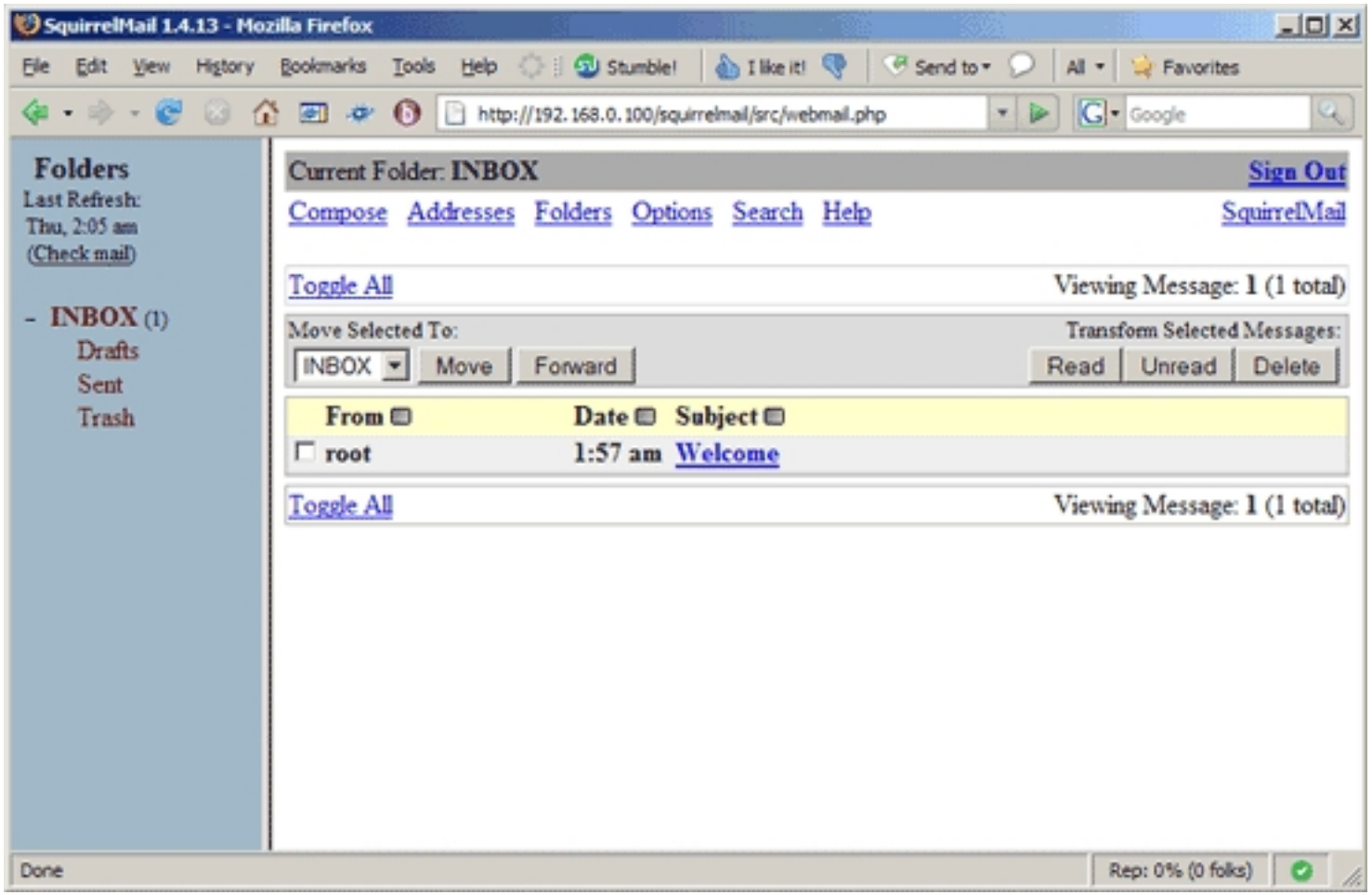
```
Q   Quit

Command >> <-- Q
```

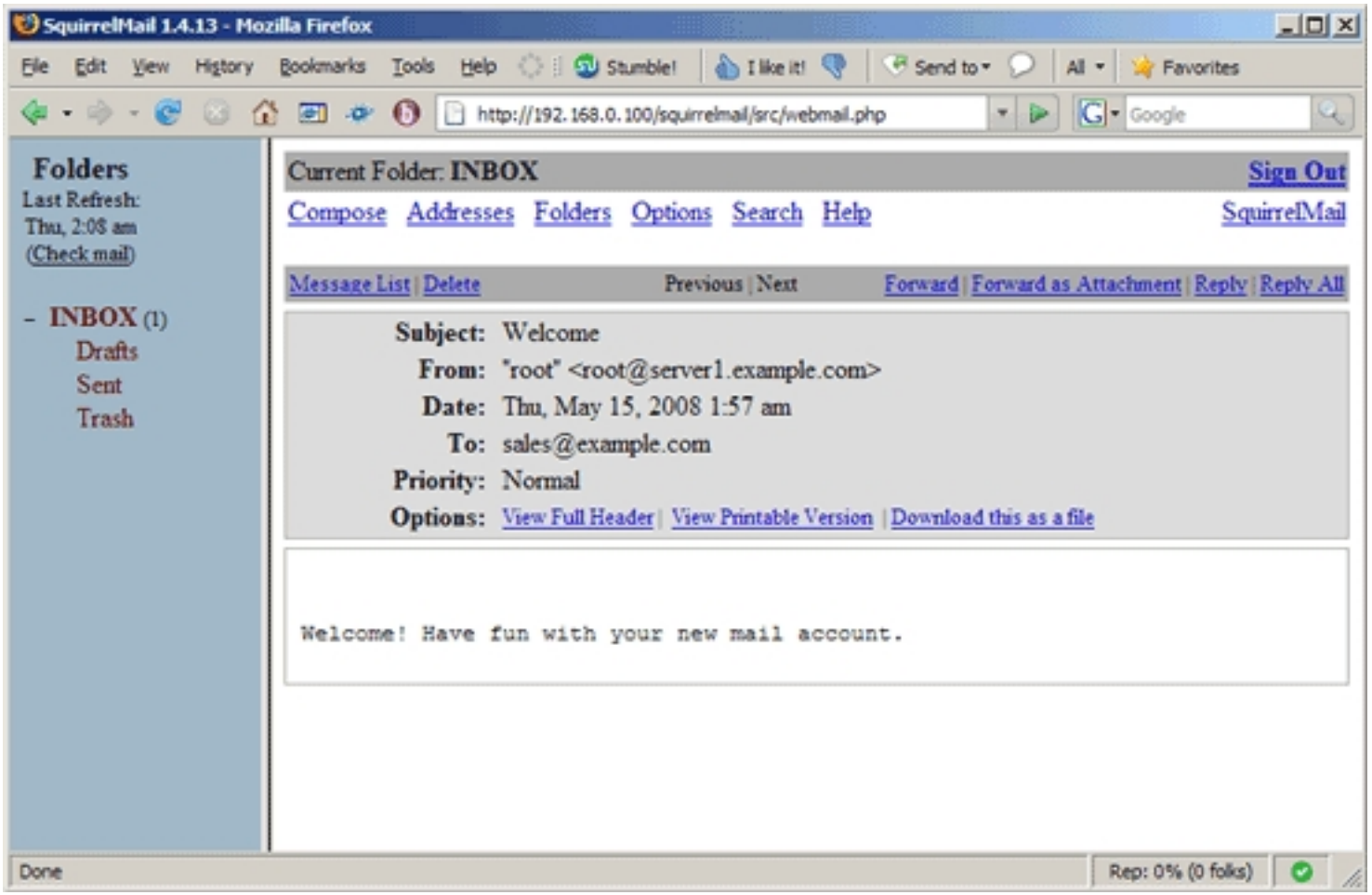
Now you can type in *http://server1.example.com/squirrelmail* or *http://192.168.0.100/squirrelmail* in your browser to access SquirrelMail.

Log in with your email address (e.g. *sales@example.com*) and your password:

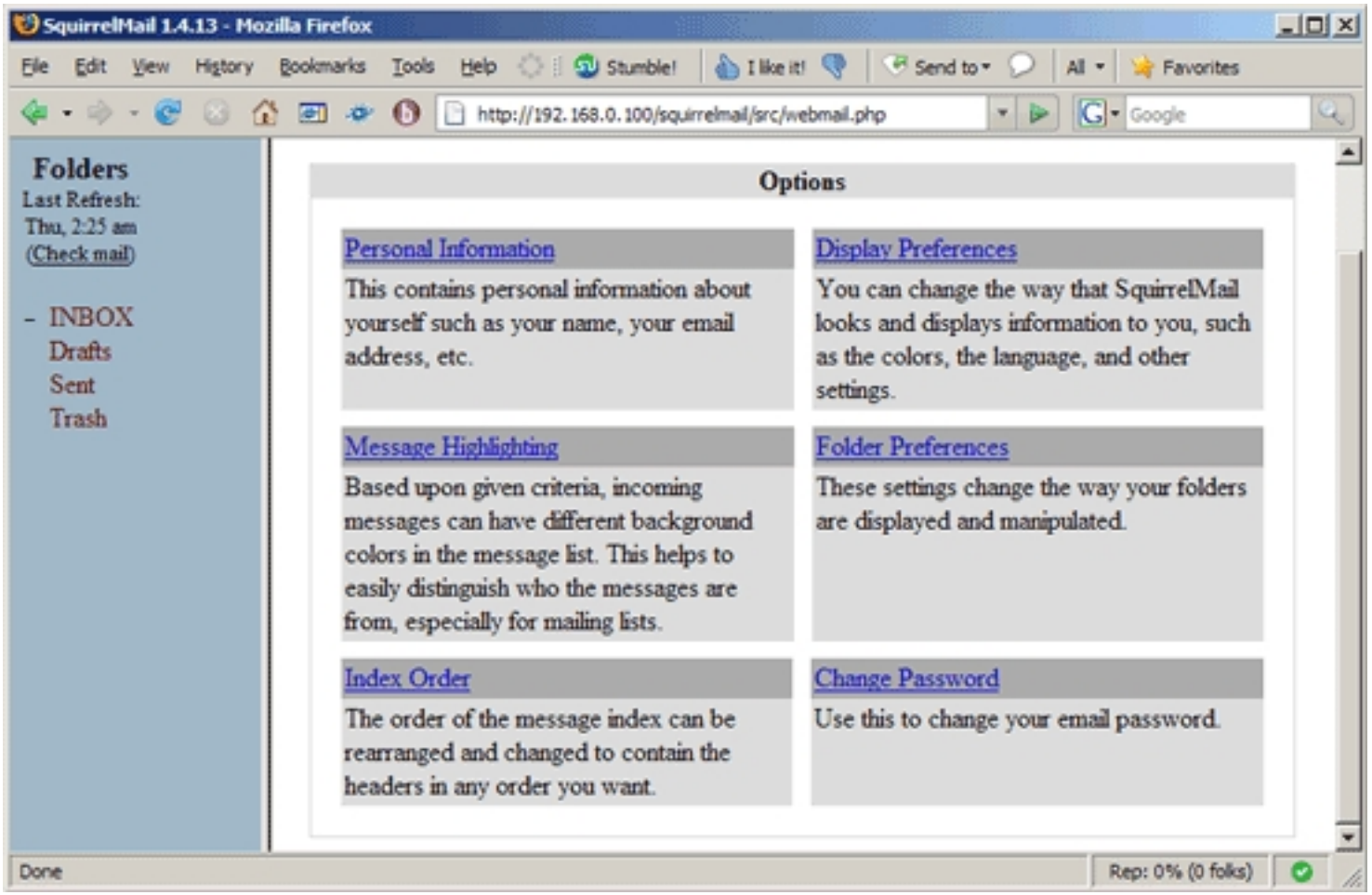


You should find the welcome email in your inbox:

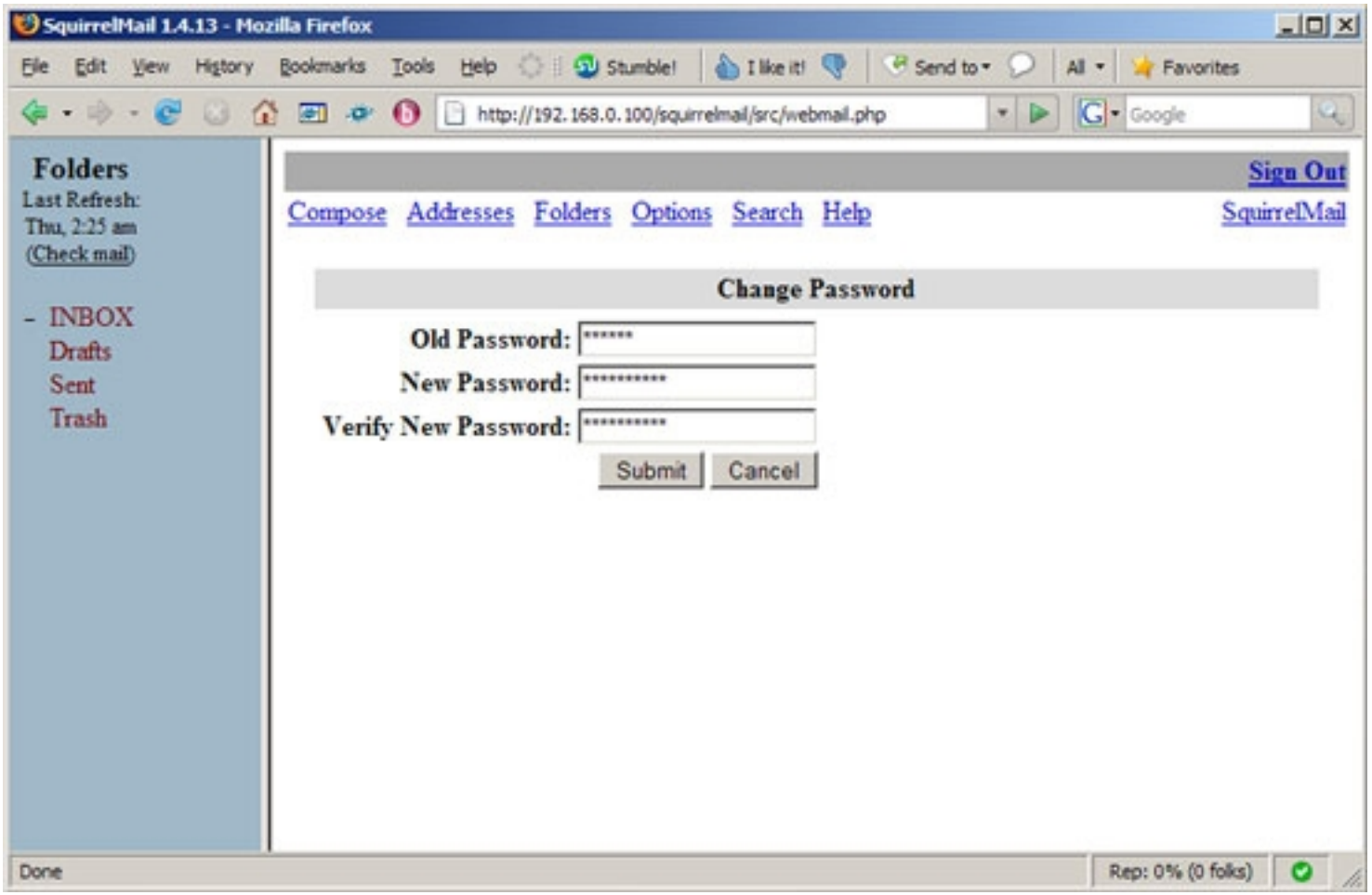

SquirrelMail 1.4.13 - Mozilla Firefox
File Edit View History Bookmarks Tools Help Stumble! I like it! Send to All Favorites
http://192.168.0.100/squirrelmail/src/webmail.php
Google
Folders
Last Refresh:
Thu, 2:05 am
(Check mail)
- INBOX (1)
Drafts
Sent
Trash
Current Folder: INBOX
Sign Out
Compose Addresses Folders Options Search Help
SquirrelMail
Toggle All
Viewing Message: 1 (1 total)
Move Selected To:
INBOX
Move
Forward
Transform Selected Messages:
Read
Unread
Delete
From
Date
Subject
root
1:57 am
Welcome
Toggle All
Viewing Message: 1 (1 total)
Done
Rep: 0% (0 folks)



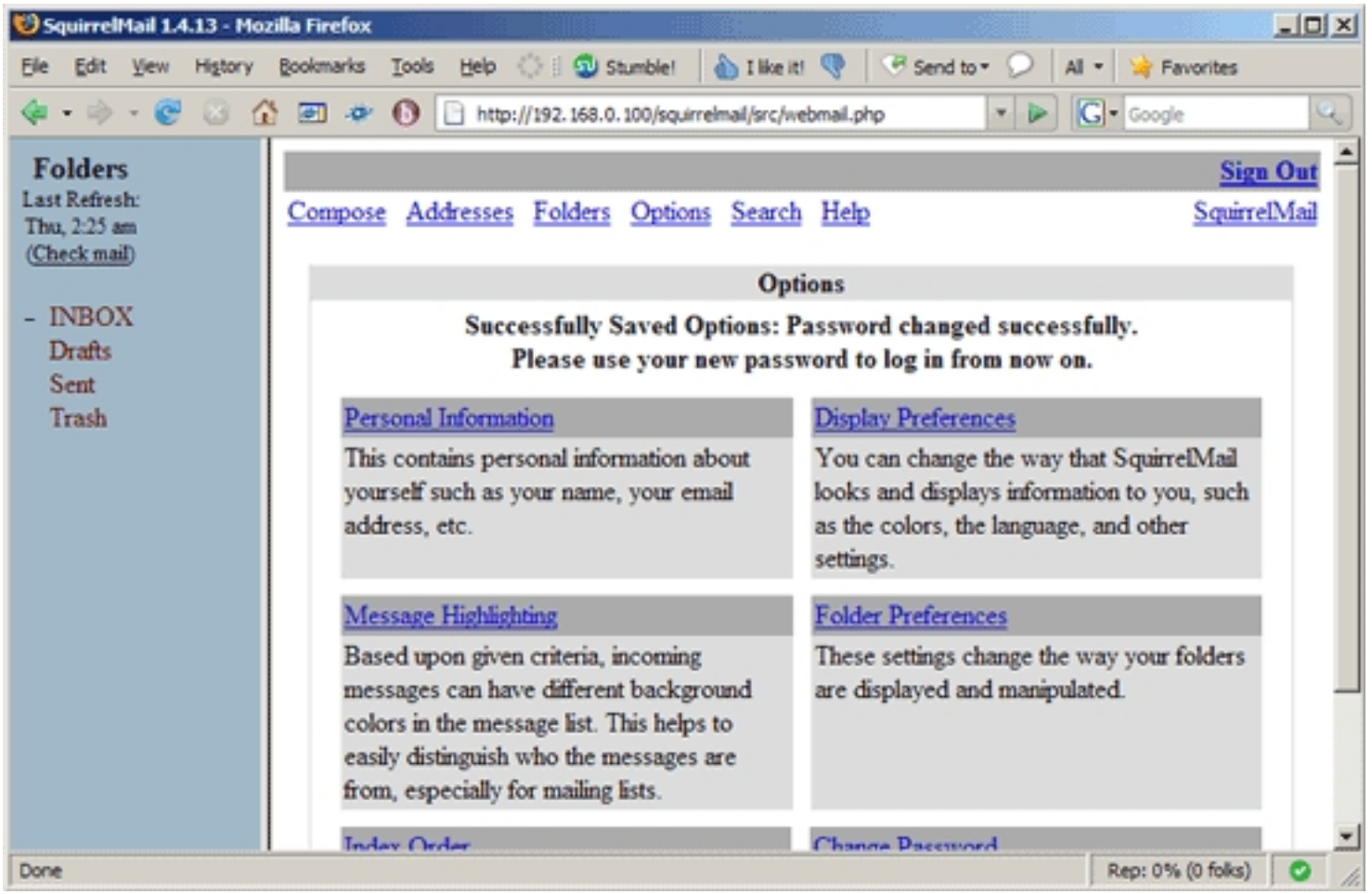
To change your password, go to *`Options`* and then select *`Change Password`*:



Type in your current password and then your new password twice:



SquirrelMail will tell you if the password has been changed successfully:



16 References

- Tutorial: ISP-style Email Service with Debian-Sarge and Postfix 2.1: ***http://workaround.org/articles/ispmail-sarge/***
- Postfix + Quota: ***http://vhcs.net/new/modules/newbb/viewtopic.php?topic_id=3496&forum=17***
- Mail Passwords Encrypted using saslauthd: ***http://www.syscp.de/docs/public/contrib/cryptedmailpws***

17 Links

- Postfix MTA: http://www.postfix.org/
- Postfix Quota Patch: http://web.onda.com.br/nadal/
- phpMyAdmin: http://www.phpmyadmin.net/
- SquirrelMail: http://www.squirrelmail.org/
- Ubuntu: http://www.ubuntu.com/