

IREDMAIL SERVER IMPLEMENTATION ON UBUNTU

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ABSTRACT

In this digital era, not many people know the function of email. In fact, knowing the function of email can make the most of its presence. Email is an electronic letter that is used as a means to send and receive messages in a digital format. Today mail server web hosting and without hosting are increasingly used because they can facilitate the activity of exchanging information between employees and companies. Apart from that, the use of a mail server is also more or less able to improve the company's image because the email address uses the domain as the company's identity. Mail server makes it easy for us and interestingly this service can be used by using your own domain. If we usually only use email@gmail.com or email@yahoo.com for our services, then by using an email server, we can configure it to use email with our own domain name. One mail server that is quite popular is the iRedMail server, IRedmail is an open source Email server solution on the Linux Operating System. IRedmail itself is available for Ubuntu, Centos, RedHat and Debian. IRedmail offers a web-based admin panel, in which we can make several configurations for the operation of the Mail Server.

Keywords: Sistem Operasi, Iredmail, Linux, Ubuntu.

INTRODUCTION

Mail Server

A mail server is a cloud computing-based program in internet services that is used to serve sending or receiving emails via the same mail server network.

iRedMail

iRedMail is a free and open source mail server solution that automatically installs and configures all the necessary mail server components on the server. iRedMail allows us to create as many mailboxes as we want through its built-in web interface. iRedMail provides a web-based interface for managing emails, folders, email filters, and using OpenLDAP, MySQL, MariaDB, PostgreSQL to save letter data You. IRedMail Server is made up of several components including, Postfix, Dovecot, Nginx, OpenLdap, Amavised, SpamAssassin, ClamAV, Roundcube, SOGo, Netdata and Fail2ba.

Postfix

Postfix is an application for SMTP (Simple Mail Transfer Protocol) service. This SMTP service is a service that allows users to send emails to other people.

Dovecot

Dovecot Dovecot is an application for POP3 and IMAP services. POP3 and IMAP are services for retrieving emails. POP3 services are commonly used to read emails on laptops while IMAP services are widely used to read emails on smartphones. ClamAv

ClamAv is an application for antivirus. With this antivirus, viruses that infiltrate via email can be detected and prevented from spreading. Amavids-new

Amavisd-new merupakan aplikasi untuk content filtering.

METHODS

The method used to build a mail server using Iredmail is a qualitative method for building a mail server from various references. A mail server is a server that is responsible for sending and receiving email. Even though it looks simple, in reality the process of

sending email is quite complicated, the letter you send will go through a series of complicated processes on the mail server to arrive at the recipient.

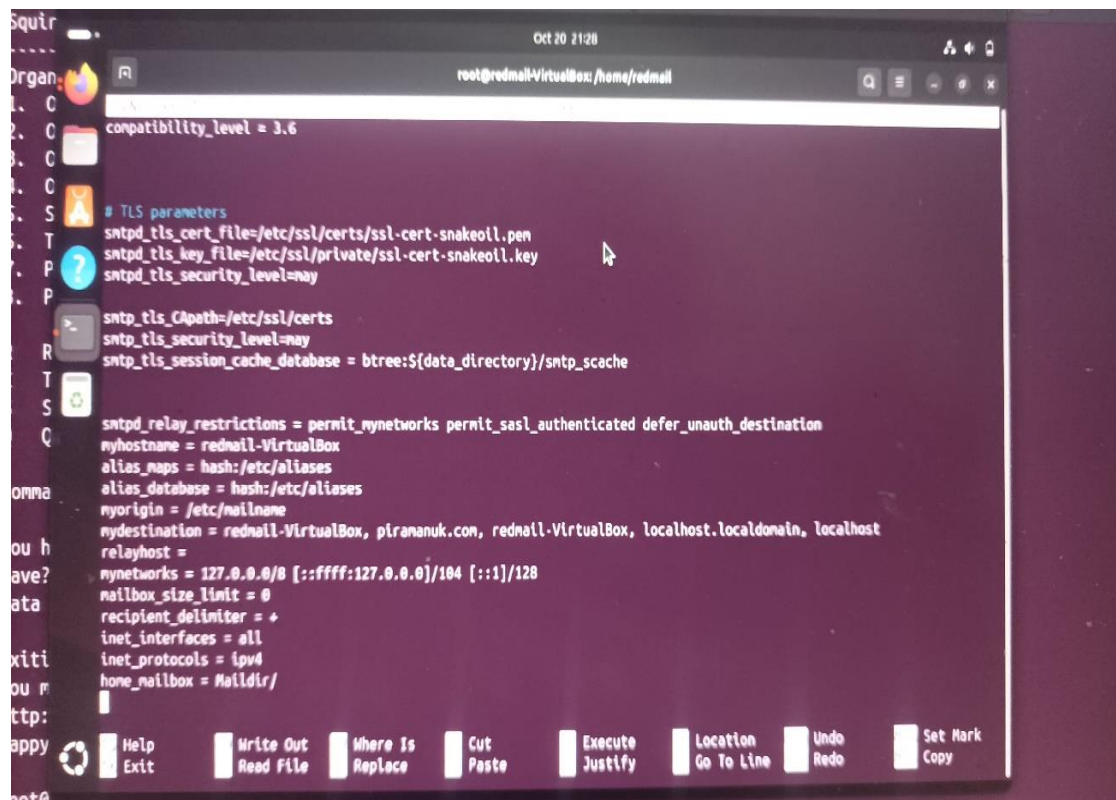
This email server constantly receives messages from the email protector used by the person, or perhaps from a different email server. As the call implies, the email server is the middle part that manipulates the email system. An email server typically includes a transmission area, a person configuration set, a person list, and a conversation sequence module.

There are many other options for people who don't need to waste time modifying endless configuration archives. iRedMail is an excellent shell script that mechanically installs and manages all the desired additives for a truly useful email server.

In making this mail server, we used the Open Source Mail Server, namely iRedMail. iRedmail was by far the best answer to almost every question we found that could be found in the existing iRedMail documentation or on the forum site. IRedMail creates a dream worthy of the email aspect. It is easy to install, easy to use, allows alternating letters to be created.

RESULT AND DISCUSSION

- Update Ubuntu in Terminal using command “apt-get update”
- Install Postfix using command “apt-get install postfix”
- Configure Postfix Using command “dpkg-reconfigure postfix”



```
root@redmail-VirtualBox: /home/redmail
compatibility_level = 3.6

# TLS parameters
smtpd_tls_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem
smtpd_tls_key_file=/etc/ssl/private/ssl-cert-snakeoil.key
smtpd_tls_security_level=may

smtpd_tls_Capath=/etc/ssl/certs
smtpd_tls_session_cache_database = btree:${data_directory}/smtp_scache

smtpd_relay_restrictions = permit_mynetworks permit_sasl_authenticated defer_unauth_destination
myhostname = redmail-VirtualBox
alias_maps = hash:/etc/aliases
alias_database = hash:/etc/aliases
myorigin = /etc/mailname
mydestination = redmail-VirtualBox, pirananuk.com, redmail-VirtualBox, localhost.localdomain, localhost
relayhost =
mynetworks = 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128
mailbox_size_limit = 0
recipient_delimiter = +
inet_interfaces = all
inet_protocols = ipv4
home_mailbox = Maildir/
```

- Modify the file named main.cf by entering the command "nano /etc/postfix/main.cf" then add at the bottom "home_mailbox = Maildir/"
- Restart Postfix using command “systemctl restart postfix”

```

root@redmail-VirtualBox: /home/redmail
Postfix configuration values, see postconf(1).
After modifying main.cf, be sure to run 'systemctl reload postfix'.
Running newaliases
Created symlink /etc/systemd/system/multi-user.target.wants/postfix.service → /usr/lib/systemd/system/postfix.service.
Processing triggers for rsyslog (8.2312.0-3ubuntu9) ...
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for nan-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
root@redmail-VirtualBox: /home/redmail# dpkg-reconfigure postfix
setting synchronous mail queue updates: false
setting myorigin
setting destinations: redmail-VirtualBox, plrnanuk.com, redmail-VirtualBox, localhost.localdomain, localhost
setting relayhost:
setting mynetworks: 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128
setting mailbox_size limit: 0
setting recipient_delimiter: +
setting inet_interfaces: all
setting inet_protocols: ipv4
WARNING: /etc/aliases exists, but does not have a root alias.
Postfix (main.cf) is now set up with the changes above. If you need to make
changes, edit /etc/postfix/main.cf (and others) as needed. To view Postfix
configuration values, see postconf(1).
After modifying main.cf, be sure to run 'systemctl reload postfix'.
Running newaliases
root@redmail-VirtualBox: /home/redmail# nano /etc/postfix/main.cf
root@redmail-VirtualBox: /home/redmail# nano /etc/postfix/main.cf
root@redmail-VirtualBox: /home/redmail# systemctl restart postfix
root@redmail-VirtualBox: /home/redmail#

```

- Install Dovecot using command “apt-get install dovecot-imapd dovecot-pop3d -y”

```

root@redmail-VirtualBox: /home/redmail
WARNING: /etc/aliases exists, but does not have a root alias.
Postfix (main.cf) is now set up with the changes above. If you need to make
changes, edit /etc/postfix/main.cf (and others) as needed. To view Postfix
configuration values, see postconf(1).
After modifying main.cf, be sure to run 'systemctl reload postfix'.
Running newaliases
root@redmail-VirtualBox: /home/redmail# nano /etc/postfix/main.cf
root@redmail-VirtualBox: /home/redmail# nano /etc/postfix/main.cf
root@redmail-VirtualBox: /home/redmail# systemctl restart postfix
root@redmail-VirtualBox: /home/redmail# systemctl restart postfix
root@redmail-VirtualBox: /home/redmail# apt-get install dovecot-imapd dovecot-pop3d -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
dovecot-core libexttextcat-2.0-0 libexttextcat-data libsodium23
Suggested packages:
dovecot-gssapi dovecot-ldap dovecot-lmtpd dovecot-managesieved dovecot-mysql dovecot-pgsql dovecot-sieve
dovecot-solr dovecot-sqlite dovecot-submissiond ntp
The following NEW packages will be installed:
dovecot-core dovecot-imapd dovecot-pop3d libexttextcat-2.0-0 libexttextcat-data libsodium23
0 upgraded, 6 newly installed, 0 to remove and 50 not upgraded.
Need to get 3,950 kB of archives.
After this operation, 12.5 MB of additional disk space will be used.
Get:1 http://fd.archive.ubuntu.com/ubuntu noble/main amd64 libexttextcat-data all 3.4.7-1build1 [193 kB]
Get:2 http://fd.archive.ubuntu.com/ubuntu noble/main amd64 libexttextcat-2.0-0 amd64 3.4.7-1build1 [13.3 kB]
Get:3 http://fd.archive.ubuntu.com/ubuntu noble/main amd64 libsodium23 amd64 1.0.18-1build3 [161 kB]
Get:4 http://fd.archive.ubuntu.com/ubuntu noble-updates/main amd64 dovecot-core amd64 1:2.3.21-dfs1-2ubuntu6 [3,354 kB]
31% [4 dovecot-core 670 kB/3,354 kB 20%]

```

- see if the dovecot file exists by using the command "cd /etc/dovecot/conf.d" and then see using the command "ls" and go to the configuration using the command "nano 10 - mail.conf"
- change mail location to "maildir:~/Maildir"


```

root@redmail-VirtualBox: /etc/dovecot/conf.d
# There are a few special variables you can use, eg.:
# %u - username
# %n - user part in user@domain, same as %u if there's no domain
# %d - domain part in user@domain, empty if there's no domain
# %h - home directory
# See doc/wiki/Variables.txt for full list. Some examples:
# mail_location = maildir:~/Maildir
# mail_location = mbox:~/mail:INBOX=/var/mail/%u
# mail_location = mbox:/var/mail/%d/%n:INDEX=/var/lib/indexes/%d/%n/%n
# <doc/wiki/MailLocation.txt>
# mail_location = maildir:~/Maildir
# If you need to set multiple mailbox locations or want to change default
# namespace settings, you can do it by defining namespace sections.
# You can have private, shared and public namespaces. Private namespaces
# are for user's personal mails. Shared namespaces are for accessing other
# users' mailboxes that have been shared. Public namespaces are for shared
# mailboxes that are managed by sysadmin. If you create any shared or public
# namespaces you'll typically want to enable ACL plugin also, otherwise all
# users can access all the shared mailboxes, assuming they have permissions
# on filesystem level to do so.

```

- Restart Dovecot using “systemctl restart dovecot”
- Enter the main menu using the “cd” command and then add a user using the “adduser name” command

```

root@redmail-VirtualBox: ~
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group 'ldirs' (1003) ...
info: Adding new user 'ldirs' (1003) with group 'ldirs' (1003) ...
info: Creating home directory '/home/ldirs' ...
info: Copying files from '/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for ldirs
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] y
info: Adding new user 'ldirs' to supplemental / extra groups 'users' ...
info: Adding user 'ldirs' to group 'users' ...
root@redmail-VirtualBox: /home/redmail# cd
root@redmail-VirtualBox: ~# nano /etc/group
root@redmail-VirtualBox: ~# nano /etc/hosts
root@redmail-VirtualBox: ~# telnet piramanuk.com smtp
Trying 127.0.0.1...
Connected to piramanuk.com.
Escape character is '^]'.
220 redmail-VirtualBox ESMTP Postfix (Ubuntu)

```

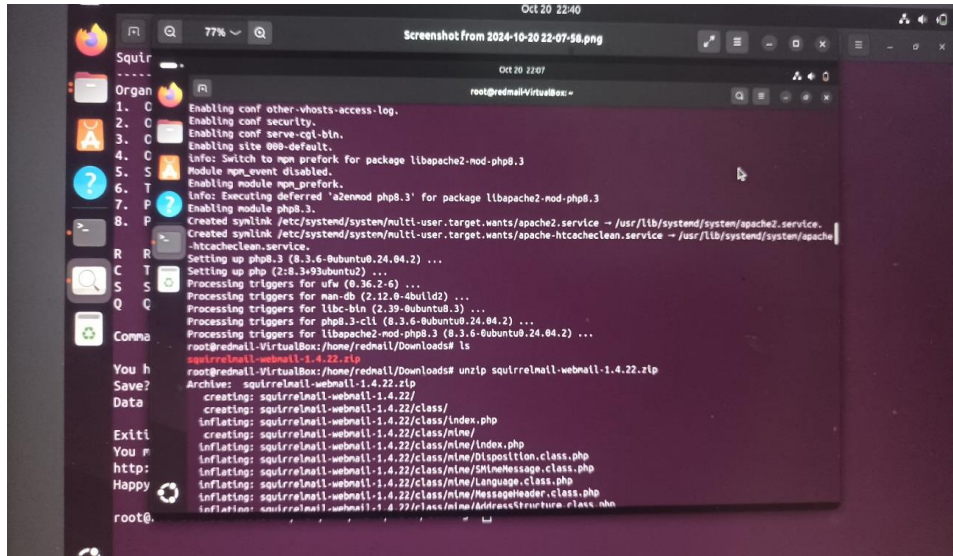
- Check whether the user already exists by entering the command “nano /etc/group”
- then change the host by entering “nano /etc/hosts” then change the host by entering “nano /etc/hosts” and enter host 127.0.0.1 and enter the desired host “for example piramanuk.com”
- try sending an email with the command “telnet domain name (eg piramanuk.com) smtp”
- then we install squirrelmail by entering the command “cd /home/folder name in ubuntu/downloads” then we install squirellmail by entering the command cd /home/foldername onubuntu/downloads and enter the command “wget <https://sourceforge.net/projects/squirrelmail/files/stable/1.4.22/squirrelmail-webmail-1.4.22.zip>”

```
Squirrelmail
-----
1. C root@redmail-VirtualBox:~# sudo su
2. C root@redmail-VirtualBox:/home/redmail# cd /home/redmail/Downloads
3. C root@redmail-VirtualBox:/home/redmail/Downloads# wget https://sourceforge.net/projects/squirrelmail/files/stable/1.4.22/
4. C squirrelmail-webmail-1.4.22.zip
5. S --2024-10-20 22:01:05-- https://sourceforge.net/projects/squirrelmail/files/stable/1.4.22/squirrelmail-webmail-1.4.22.z
6. T ip
7. P Resolving sourceforge.net (sourceforge.net)... 104.18.37.111, 172.64.159.145, 2606:4700:4400::6812:256f, ...
8. P Connecting to sourceforge.net (sourceforge.net)|104.18.37.111|:443... connected.
P HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://sourceforge.net/projects/squirrelmail/files/stable/1.4.22/squirrelmail-webmail-1.4.22.zip/ [following]
--2024-10-20 22:01:06-- https://sourceforge.net/projects/squirrelmail/files/stable/1.4.22/squirrelmail-webmail-1.4.22.z
ip/
R Reusing existing connection to sourceforge.net:443.
S HTTP request sent, awaiting response... 301 Moved Permanently
S Location: https://sourceforge.net/projects/squirrelmail/files/stable/1.4.22/squirrelmail-webmail-1.4.22.zip/download [fo
llowing]
Q --2024-10-20 22:01:06-- https://sourceforge.net/projects/squirrelmail/files/stable/1.4.22/squirrelmail-webmail-1.4.22.z
ip/download
R Reusing existing connection to sourceforge.net:443.
S HTTP request sent, awaiting response... 302 Found
S Location: https://downloads.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail-1.4.22.zip?ts=AAAAA
BnFRsz6IuHb-3kKF-GX_Z0YU8B7oH6I3I6euj6Ns5JUT9cWZ3rxjiw60SmbFvhuogcz_SRNqFfCXt1431-Su7IAK30N30duse_mirror=onboardcloud&r=
[following]
C --2024-10-20 22:01:07-- https://downloads.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail-1.4.2
2.zip?ts=AAAAABnFRsz6IuHb-3kKF-GX_Z0YU8B7oH6I3I6euj6Ns5JUT9cWZ3rxjiw60SmbFvhuogcz_SRNqFfCXt1431-Su7IAK30N30duse_mi
rror=onboardcloud&r=
T Resolving downloads.sourceforge.net (downloads.sourceforge.net)... 204.68.111.105
C Connecting to downloads.sourceforge.net (downloads.sourceforge.net)|204.68.111.105|:443... connected.
S HTTP request sent, awaiting response... 302 Found
S Location: https://onboardcloud.dl.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail-1.4.22.zip/via
sf=1 [following]
--2024-10-20 22:01:07-- https://onboardcloud.dl.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail
```

- Install unzip using “apt-get install unzip”
- Install apache and php using “apt-get apache2 php -y”

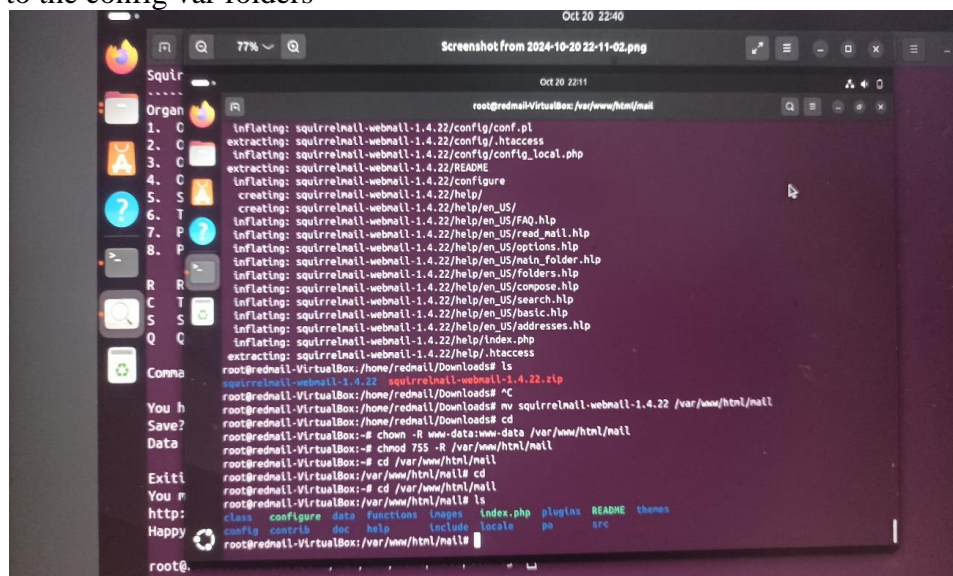
```
Squirrelmail
-----
1. C root@redmail-VirtualBox:/home/redmail/Downloads# ls
2. C squirrelmail-webmail-1.4.22.zip
3. C root@redmail-VirtualBox:/home/redmail/Downloads# systemctl restart
4. C root@redmail-VirtualBox:/home/redmail/Downloads# apt-get install unzip
5. S Reading package lists... Done
6. S Building dependency tree... Done
7. S Reading state information... Done
8. P unzip is already the newest version (6.0-28ubuntu4.1).
P unzip set to manually installed.
P 0 upgraded, 0 newly installed, 0 to remove and 50 not upgraded.
root@redmail-VirtualBox:/home/redmail/Downloads# apt-get install apache2 php -y
root@redmail-VirtualBox:/home/redmail/Downloads#
```

- Unzip Squirrelmail



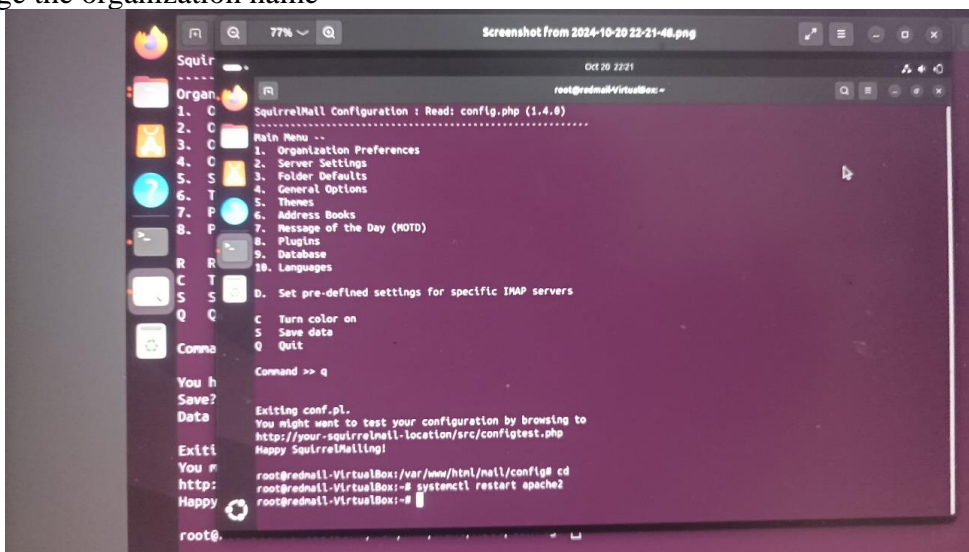
```
Oct 20 22:40
Screenshot from 2024-10-20 22-07-58.png
Oct 20 22:07
root@redmail-VirtualBox:~#
1. C Enabling conf other-vhosts-access-log.
2. C Enabling conf security.
3. C Enabling conf serve-cgi-bin.
4. C Enabling site 000-default.
5. S info: Switch to mpm prefork for package libapache2-mod-php8.3
6. T Module mpm_event disabled.
7. P Enabling module mpm_prefork.
8. P info: Executing deferred 'a2enmod php8.3' for package libapache2-mod-php8.3
9. P Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /usr/lib/systemd/system/apache2.service.
10. P Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /usr/lib/systemd/system/apache-htcacheclean.service.
11. P Setting up php8.3 (8.3.6-0ubuntu0.24.04.2) ...
12. P Processing triggers for ufw (0.36.2-6) ...
13. P Processing triggers for man-db (2.12.0-4build2) ...
14. P Processing triggers for libe-bln (2.39-0ubuntu0.3) ...
15. P Processing triggers for php8.3-cgi (8.3.6-0ubuntu0.24.04.2) ...
16. P Processing triggers for libapache2-mod-php8.3 (8.3.6-0ubuntu0.24.04.2) ...
root@redmail-VirtualBox:/home/redmail/Downloads# ls
squirrelmail-webmail-1.4.22.zip
root@redmail-VirtualBox:/home/redmail/Downloads# unzip squirrelmail-webmail-1.4.22.zip
Archive: squirrelmail-webmail-1.4.22.zip
  creating: squirrelmail-webmail-1.4.22/
    creating: squirrelmail-webmail-1.4.22/class/
    inflating: squirrelmail-webmail-1.4.22/class/index.php
    creating: squirrelmail-webmail-1.4.22/class/mime/
    inflating: squirrelmail-webmail-1.4.22/class/mime/index.php
    inflating: squirrelmail-webmail-1.4.22/class/mime/Disposition.class.php
    inflating: squirrelmail-webmail-1.4.22/class/mime/Message.class.php
    inflating: squirrelmail-webmail-1.4.22/class/mime/MessageHeader.class.php
    inflating: squirrelmail-webmail-1.4.22/class/mime/AddressStructure.class.php
root@redmail-VirtualBox:~#
```

- Enter to the config var folders

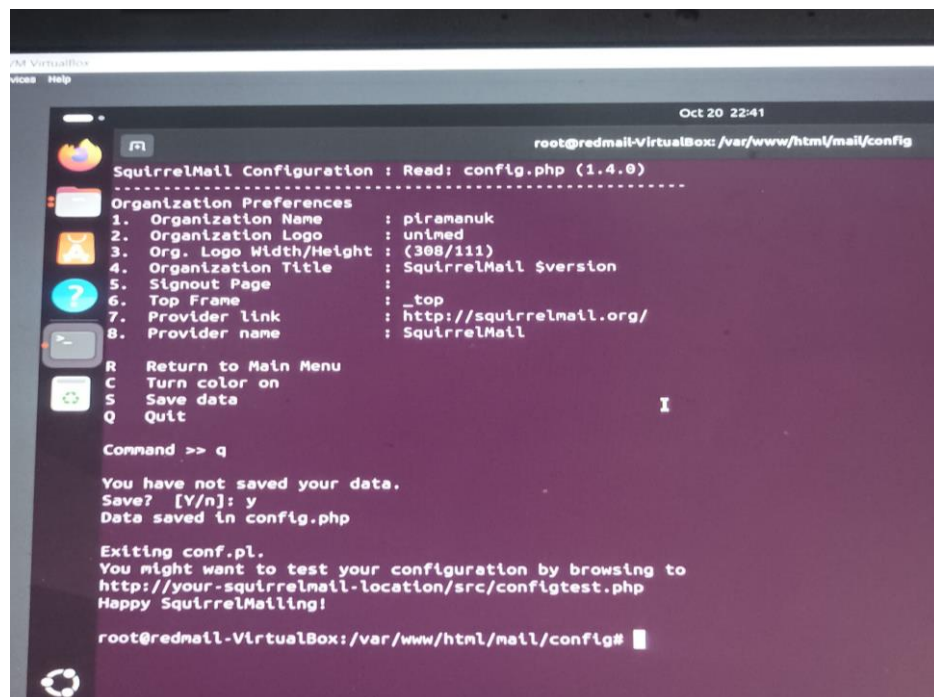


```
Oct 20 22:11
Screenshot from 2024-10-20 22-11-02.png
Oct 20 22:11
root@redmail-VirtualBox:/var/www/html/mail#
Inflating: squirrelmail-webmail-1.4.22/config/conf.pl
extracting: squirrelmail-webmail-1.4.22/config/htaccess
extracting: squirrelmail-webmail-1.4.22/config/conf_local.php
extracting: squirrelmail-webmail-1.4.22/README
Inflating: squirrelmail-webmail-1.4.22/configure
creating: squirrelmail-webmail-1.4.22/help/
creating: squirrelmail-webmail-1.4.22/help/en_US/
Inflating: squirrelmail-webmail-1.4.22/help/en_US/FAQ.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/read_mail.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/options.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/main_folder.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/folders.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/compose.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/search.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/basic.hlp
Inflating: squirrelmail-webmail-1.4.22/help/en_US/addresses.hlp
Inflating: squirrelmail-webmail-1.4.22/help/index.php
extracting: squirrelmail-webmail-1.4.22/help/htaccess
root@redmail-VirtualBox:/home/redmail/Downloads# ls
squirrelmail-webmail-1.4.22 squirrelmail-webmail-1.4.22.zip
root@redmail-VirtualBox:/home/redmail/Downloads# mv squirrelmail-webmail-1.4.22 /var/www/html/mail
root@redmail-VirtualBox:/home/redmail/Downloads# cd
root@redmail-VirtualBox:~# chown -R www-data:www-data /var/www/html/mail
root@redmail-VirtualBox:~# chmod 755 -R /var/www/html/mail
root@redmail-VirtualBox:~# cd /var/www/html/mail
root@redmail-VirtualBox:/var/www/html/mail# ls
class configure data functions images index.php plugins README themes
config contrib doc help include locale po src
root@redmail-VirtualBox:/var/www/html/mail#
```

- Change the organization name



```
Oct 20 22:21
Screenshot from 2024-10-20 22-21-48.png
Oct 20 22:21
root@redmail-VirtualBox:~#
SquirrelMail Configuration : Read: config.php (1.4.0)
-----
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 >> q
Exiting conf.pl.
You might want to test your configuration by browsing to
http://your-squirrelmail-location/src/configtest.php
Happy SquirrelMailing!
root@redmail-VirtualBox:/var/www/html/mail/config# cd
root@redmail-VirtualBox:~# systemctl restart apache2
root@redmail-VirtualBox:~#
```



- And change the organization logo

CONCLUSION

RedMail is an efficient solution for managing email services on servers with the Ubuntu operating system. With a user-friendly interface and a relatively easy installation process, RedMail allows users to comprehensively configure the email server. Features such as domain settings, user management, and support for IMAP and SMTP protocols make it a flexible choice for both personal and business purposes.

In addition, RedMail offers strong security with SSL/TLS support and spam filtering features. The available documentation also makes it easy for users to troubleshoot various issues and customize the configuration as needed.

However, it is important to consider server resources and regular maintenance to ensure optimal performance. Overall, RedMail is a solid choice for those who want to manage their own email services in the Ubuntu Linux environment.

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- Zaenul Arif, PENERAPAN SQUIRRELMAIL PADA MAIL SERVER BERBASIS LINUX UBUNTU, IJIR - VOL. 3 NO. 1