

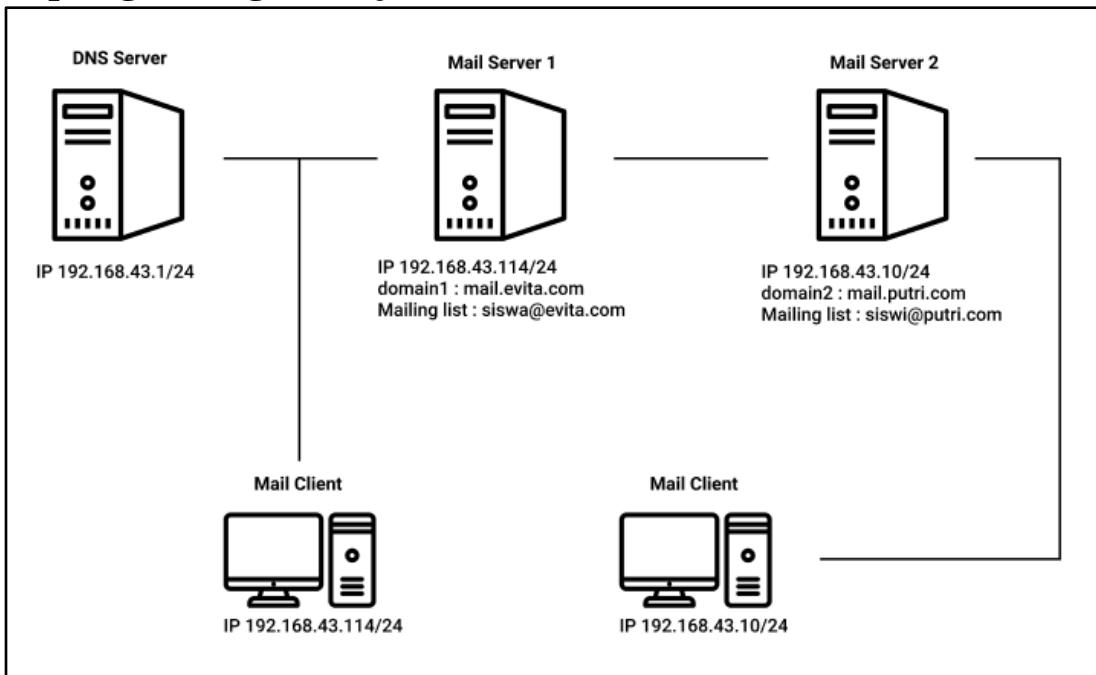
PENUGASAN MATA KULIAH
Workshop Administrasi dan Manajemen Jaringan
“Dokumentasi Project 2 (UAS)”



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A. Topologi Jaringan Project 2



B. Setting Squirrelmail di Server 1

1. Install bind9

```
root@evita-VirtualBox:/home/evita# apt-get install bind9
Reading package lists... Done
Building dependency tree
Reading state information... Done
bind9 is already the newest version (1:9.11.3+dfsg-1ubuntu1.15).
The following package was automatically installed and is no longer required:
  linux-hwe-5.4-headers-5.4.0-73
Use 'apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@evita-VirtualBox:/home/evita#
```

2. Edit file /etc/bind/named.conf.local

GNU nano 2.9.3	/etc/bind/named.conf.local	Modified
//		
// Do any local configuration here		
//		
// Consider adding the 1918 zones here, if they are not used in your		
// organization		
//include "/etc/bind/zones.rfc1918";		
zone "evita.com" { // zona domain		
type master; //tipe domain		
file "/var/cache/bind/evitadwiop";		
};		
zone "putri.com" {		
type master;		
file "/var/cache/bind/putri";		
};		
zone "43.168.192.in-addr.arpa" {		
type master;		
file "/var/cache/bind/reverse.evitadwiop";		
};		

Pada file tersebut, saya menggunakan domain **evita.com** sebagai domain utama di VM 1. Dikarenakan VM 1 menjadi DNS Server, saya menambahkan zona baru yaitu **putri.com** yang mana merupakan domain dari VM 2.

3. Buat file evitadwiop, putri, dan reverse.evitadwiop di var/cache/bind

GNU nano 2.9.3	/var/cache/bind/evitadwiop	Modified
;		
; BIND data file for local loopback interface		
;		
\$TTL 604800		
@ IN SOA evita.com. root.evita.com. (
2 ; Serial		
604800 ; Refresh		
86400 ; Retry		
2419200 ; Expire		
604800) ; Negative Cache TTL		
;		
@ IN NS evita.com.		
@ IN A 192.168.43.114		
@ IN MX 114 mail.evita.com		
www IN A 192.168.43.114		
mail IN A 192.168.43.114		
file IN A 192.168.43.114		
proxy IN A 192.168.43.114		

```

GNU nano 2.9.3          /var/cache/bind/putri
;

; BIND data file for local loopback interface
;

$TTL    604800
@       IN      SOA     putri.com.  root.putri.com. (
                      2           ; Serial
                      604800      ; Refresh
                      86400       ; Retry
                     2419200     ; Expire
                      604800 )    ; Negative Cache TTL
;
@       IN      NS      putri.com.
@       IN      A       192.168.43.10
@       IN      MX   10  mail.putri.com
www    IN      A       192.168.43.10
mail   IN      A       192.168.43.10
file   IN      A       192.168.43.10
proxy  IN      A       192.168.43.10

GNU nano 2.9.3          /var/cache/bind/reverse.evitadwiop
;

; BIND reverse data file for broadcast zone
;

$TTL 604800
@       IN      SOA     evita.com.  root.evita.com. (
                      1           ; Serial
                      604800      ; Refresh
                      86400       ; Retry
                     2419200     ; Expire
                      604800 )    ; Negative Cache TTL
;
@       IN      NS      evita.com.
10     IN      PTR     mail.putri.com
10     IN      MX 114  mail.putri.com
114    IN      PTR     mail.evita.com
@       IN      MX 114  mail.evita.com

114    IN      PTR     www.evita.com
114    IN      PTR     file.evita.com
114    IN      PTR     proxy.evita.com
114    IN      PTR     evita.org
114    IN      PTR     evita.edu

```

Pastikan disetiap file terdapat keyword MX yang merepresentasikan mail.domain.com

4. Edit file /etc/resolv.conf dengan menambahkan IP Linux Anda. Dalam hal ini, 192.168.43.114 merupakan IP dari Linux saya (VM 1)

GNU nano 2.9.3	/etc/resolv.conf	Modified
#	# See man:systemd-resolved.service(8) for details about the supported modes of	
# operation for /etc/resolv.conf.		
nameserver 192.168.43.114		
options edns0		

5. Restart bind9 dengan perintah **systemctl restart bind9**

6. Uji coba ping ke IP Linux kita dengan command nslookup dan pastikan melakukan nslookup ke domain yang sudah dibuat

```
root@evita-VirtualBox:~# nslookup
> mail.evita.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:   mail.evita.com
Address: 192.168.43.114
> evita.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:   evita.com
Address: 192.168.43.114
> mail.putri.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:   mail.putri.com
Address: 192.168.43.10
> putri.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:   putri.com
Address: 192.168.43.10
> 192.168.43.114
114.43.168.192.in-addr.arpa      name = www.evita.com.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = evita.org.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = mail.evita.com.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = evita.edu.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = proxy.evita.com.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = file.evita.com.43.168.192.in-addr.arpa.
>
```

7. Install postfix, apache2, protokol POP & IMAP, dan squirrelmail

```
root@evita-VirtualBox:~# apt-get install apache2 postfix courier-imap courier-pop
Reading package lists... Done
Building dependency tree
Reading state information... Done
courier-imap is already the newest version (4.18.1+0.78.0-2ubuntu2).
courier-pop is already the newest version (0.78.0-2ubuntu2).
apache2 is already the newest version (2.4.29-1ubuntu4.16).
postfix is already the newest version (3.3.0-1ubuntu0.3).
The following package was automatically installed and is no longer required:
  linux-hwe-5.4-headers-5.4.0-73
Use 'apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

Untuk instalasi squirrelmail tidak bisa dilakukan melalui package manager karena sudah tidak support sehingga harus mendownloadnya melalui zip. Untuk instalasi squirrelmail, saya mengikuti tutorial berikut: <https://hostadvice.com/how-to/how-to-install-squirrelmail-on-ubuntu-18-04-vps/>

- 1) Download versi terbaru dari SquirrelMail

```
root@evita-VirtualBox:/tmp# wget http://downloads.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail-1.4.22.zip
--2021-06-28 13:42:40-- http://downloads.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail-1.4.22.zip
Resolving downloads.sourceforge.net (downloads.sourceforge.net)... 204.68.111.105
Connecting to downloads.sourceforge.net (downloads.sourceforge.net)|204.68.111.105|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://telkomuniversity.dl.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail-1.4.22.zip [following]
--2021-06-28 13:42:41-- https://telkomuniversity.dl.sourceforge.net/project/squirrelmail/stable/1.4.22/squirrelmail-webmail-1.4.22.zip
Resolving telkomuniversity.dl.sourceforge.net (telkomuniversity.dl.sourceforge.net)... 103.233.100.83
Connecting to telkomuniversity.dl.sourceforge.net (telkomuniversity.dl.sourceforge.net)|103.233.100.83|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 977496 (955K) [application/octet-stream]
Saving to: 'squirrelmail-webmail-1.4.22.zip'

squirrelmail-webmai 100%[=====] 954,59K  923KB/s    in 1,0s

2021-06-28 13:42:43 (923 KB/s) - 'squirrelmail-webmail-1.4.22.zip' saved [977496/977496]
```

- 2) Unzip file hasil download tersebut dan copy ke direktori web (/var/www/html/mail/)

```
root@evita-VirtualBox:/tmp# apt-get install unzip
Reading package lists... Done
Building dependency tree
Reading state information... Done
unzip is already the newest version (6.0-21ubuntu1.1).
The following package was automatically installed and is no longer required:
  linux-hwe-5.4-headers-5.4.0-73
Use 'apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@evita-VirtualBox:/tmp# 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/
root@evita-VirtualBox:/tmp# mv squirrelmail-webmail-1.4.22/ /var/www/html/mail
```

- 3) Atur permission direktori berikut

```
root@evita-VirtualBox:/tmp# chown -R www-data:www-data /var/www/html/mail
```

- 4) Konfigurasikan SquirrelMail dengan mengikuti langkah berikut

```
root@evita-VirtualBox:/tmp# cp /var/www/html/mail/config/config_default.php /var/www/html/mail/config/config.php
root@evita-VirtualBox:/tmp# nano /var/www/html/mail/config/config.php
```

```

GNU nano 2.9.3          /var/www/html/mail/config/config.php      Modified
*
* The domain part of local email addresses.
* This is for all messages sent out from this server.
* Reply address is generated by $username@$domain
* Example: In bob@example.com, example.com is the domain.
* @global string $domain
*/
$domain = 'mail.evita.com';

$data_dir = '/var/www/html/mail/data';

$attachment_dir = '/var/www/html/mail/attach/';

```

Pada file config.php tersebut, saya mengonfigurasi 3 variabel dengan value seperti pada gambar tersebut.

```

root@evita-VirtualBox:/tmp# mkdir /var/www/html/mail/attach/
root@evita-VirtualBox:/tmp# chown -R www-data:www-data /var/www/html/mail

```

- Buat direktori Maildir pada /etc/skel dengan command **maildirmake**

```

root@evita-VirtualBox:~# maildirmake /etc/skel/Maildir
maildirmake: /etc/skel/Maildir: File exists

```

- Buat 4 user baru: agus (L), anton (L), ana (P), dan ani (P)

```

root@evita-VirtualBox:~# adduser agus
Adding user `agus' ...
Adding new group `agus' (1007) ...
Adding new user `agus' (1007) with group `agus' ...
Creating home directory `/home/agus' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for agus
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

```

```

root@evita-VirtualBox:~# adduser anton
Adding user `anton' ...
Adding new group `anton' (1008) ...
Adding new user `anton' (1008) with group `anton' ...
Creating home directory `/home/anton' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for anton
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
root@evita-VirtualBox:~# adduser ana
Adding user `ana' ...
Adding new group `ana' (1009) ...
Adding new user `ana' (1009) with group `ana' ...
Creating home directory `/home/ana' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for ana
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
root@evita-VirtualBox:~# adduser ani
Adding user `ani' ...
Adding new group `ani' (1010) ...
Adding new user `ani' (1010) with group `ani' ...
Creating home directory `/home/ani' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for ani
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

```

10. Edit file /etc/postfix/main.cf

GNU nano 2.9.3	/etc/postfix/main.cf	Modified
<pre> alias_database = hash:/etc/aliases mydestination = \$myhostname, mail.evita.com, evita.com, evita-VirtualBox, ev\$relayhost = mynetworks = 192.168.43.0/24, 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128 0.0\$mailto_size_limit = 0 recipient_delimiter = + inet_interfaces = all inet_protocols = ipv4 home_mailbox = Maildir/ </pre>		

11. Restart postfix dengan command **systemctl restart postfix**

12. Buat sebuah file .conf pada **/etc/apache2/sites-available** untuk membuat routing terhadap squirrelmail kita dan lakukan a2ensite terhadap file tersebut

```
GNU nano 2.9.3                               mailevita.conf                                Modified

<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port $ 
    # the server uses to identify itself. This is used when creating 
    # redirection URLs. In the context of virtual hosts, the ServerName 
    # specifies what hostname must appear in the request's Host: header to 
    # match this virtual host. For the default virtual host (this file) the 
    # value is not decisive as it is used as a last resort host regardless. 
    # However, you must set it for any further virtual host explicitly.
    #ServerName www.example.com

    ServerAdmin webmaster@evita.com
    ServerName mail.evita.com
    DocumentRoot /var/www/html/mail/
root@evita-VirtualBox:/etc/apache2/sites-available# a2ensite mailevita.conf
Enabling site mailevita.
To activate the new configuration, you need to run:
    systemctl reload apache2
root@evita-VirtualBox:/etc/apache2/sites-available# systemctl reload apache2
```

13. Restart apache2 dengan command **systemctl restart apache2**

14. Buka browser dan buka URL yang berisikan squirrelmail menggunakan domain yang didefinisikan MX sebelumnya



Selain itu, Anda juga sudah bisa login ke Mailserver tersebut menggunakan keempat username yang sudah dibuat sebelumnya. Pada kondisi saat ini seharusnya Anda bisa saling mengirim email dalam satu domain yang sama yaitu mail.evita.com.

C. Setting Squirrelmail di Server 2

1. Install bind9

```
root@evita-VirtualBox:/home/evita# apt-get install bind9 dnsutils
Reading package lists... Done
Building dependency tree
Reading state information... Done
bind9 is already the newest version (1:9.11.3+dfsg-1ubuntu1.15).
dnsutils is already the newest version (1:9.11.3+dfsg-1ubuntu1.15).
dnsutils set to manually installed.
The following packages were automatically installed and are no longer required:
  linux-headers-5.4.0-67-generic linux-hwe-5.4-headers-5.4.0-67
  linux-image-5.4.0-67-generic linux-modules-5.4.0-67-generic
  linux-modules-extra-5.4.0-67-generic
Use 'apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

2. Edit file /etc/bind/named.conf.local

GNU nano 2.9.3	/etc/bind/named.conf.local	Modified
<pre>// // Do any local configuration here // // Consider adding the 1918 zones here, if they are not used in your // organization //include "/etc/bind/zones.rfc1918"; zone "putri.com" { // zona domain type master; //tipe domain file "/var/cache/bind/putri"; }; zone "evita.com" { type master; file "/var/cache/bind/evitadwiop"; }; zone "43.168.192.in-addr.arpa" { type master; file "/var/cache/bind/reverse.evitadwiop"; };</pre>		

3. Buat file evitadwiop, putri, dan reverse.evitadwiop di var/cache/bind

GNU nano 2.9.3	/var/cache/bind/evitadwiop
<pre>; ; BIND data file for local loopback interface ; \$TTL 604800 @ IN SOA evita.com. root.evita.com. (2 ; Serial 604800 ; Refresh 86400 ; Retry 2419200 ; Expire 604800) ; Negative Cache TTL ; @ IN NS evita.com. @ IN A 192.168.43.114 @ IN MX 114 mail.evita.com www IN A 192.168.43.114 mail IN A 192.168.43.114 file IN A 192.168.43.114 proxy IN A 192.168.43.114</pre>	

GNU nano 2.9.3	/var/cache/bind/putri	Modified
;		
; BIND data file for local loopback interface		
;		
\$TTL 604800		
@ IN SOA putri.com. root.putri.com. (
2 ; Serial		
604800 ; Refresh		
86400 ; Retry		
2419200 ; Expire		
604800) ; Negative Cache TTL		
;		
@ IN NS putri.com.		
@ IN A 192.168.43.10		
@ IN MX 10 mail.putri.com		
www IN A 192.168.43.10		
mail IN A 192.168.43.10		
file IN A 192.168.43.10		
proxy IN A 192.168.43.10		

GNU nano 2.9.3	/var/cache/bind/reverse.evitadwiop	Modified
;		
; BIND reverse data file for broadcast zone		
;		
\$TTL 604800		
@ IN SOA putri.com. root.putri.com. (
1 ; Serial		
604800 ; Refresh		
86400 ; Retry		
2419200 ; Expire		
604800) ; Negative Cache TTL		
;		
@ IN NS putri.com.		
114 IN PTR mail.evita.com		
10 IN PTR mail.putri.com		
114 IN MX 114 mail.evita.com		
114 IN PTR evita.com		
@ IN MX 114 mail.putri.com		

4. Edit file /etc/resolv.conf dengan menambahkan DNS Server VM 1 dan IP Linux Anda

GNU nano 2.9.3	/etc/resolv.conf	Modified
#		
# See man:systemd-resolved.service(8) for details about the supported modes of		
# operation for /etc/resolv.conf.		
nameserver 192.168.43.114		
nameserver 192.168.43.10		
options edns0		

5. Restart bind9

6. Uji coba ping ke IP Linux kita dengan command nslookup dan pastikan melakukan nslookup ke domain yang sudah dibuat

```
root@evita-VirtualBox:/home/evita# nslookup
> mail.putri.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:  mail.putri.com
Address: 192.168.43.10
> putri.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:  putri.com
Address: 192.168.43.10
> mail.evita.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:  mail.evita.com
Address: 192.168.43.114
> evita.com
Server:      192.168.43.114
Address:     192.168.43.114#53

Name:  evita.com
Address: 192.168.43.114
> 192.168.43.114
114.43.168.192.in-addr.arpa      name = mail.evita.com.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = www.evita.com.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = file.evita.com.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = evita.org.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = proxy.evita.com.43.168.192.in-addr.arpa.
114.43.168.192.in-addr.arpa      name = evita.edu.43.168.192.in-addr.arpa.
> 192.168.43.10
10.43.168.192.in-addr.arpa      name = mail.putri.com.43.168.192.in-addr.arpa.
```

7. Install postfix, apache2, protokol POP & IMAP, dan squirrelmail

```
root@evita-VirtualBox:/home/evita# apt-get install apache2 postfix courier-imap
courier-pop
Reading package lists... Done
Building dependency tree
Reading state information... Done
apache2 is already the newest version (2.4.29-1ubuntu4.16).
postfix is already the newest version (3.3.0-1ubuntu0.3).
postfix set to manually installed.
The following packages were automatically installed and are no longer required:
  linux-headers-5.4.0-67-generic linux-hwe-5.4-headers-5.4.0-67
  linux-image-5.4.0-67-generic linux-modules-5.4.0-67-generic
  linux-modules-extra-5.4.0-67-generic
Use 'apt autoremove' to remove them.
```

Untuk instalasi squirrelmail, saya menyamakannya dengan instalasi squirrelmail di Server 1 dengan menyesuaikan beberapa hal.

```
GNU nano 2.9.3          /var/www/html/mail/config/config.php      Modified

/*
 * The domain part of local email addresses.
 * This is for all messages sent out from this server.
 * Reply address is generated by $username@$domain
 * Example: In bob@example.com, example.com is the domain.
 * @global string $domain
 */
$domain = 'mail.putri.com';

$data_dir = '/var/www/html/mail/data/';

$attachment_dir = '/var/www/html/mail/attach/';
/**
```

8. Buat direktori Maildir pada /etc/skel dengan command maildirmake

```
root@evita-VirtualBox:~# maildirmake /etc/skel/Maildir
root@evita-VirtualBox:~#
```

9. Buat 4 user baru: toni (L), tono (L), tini (P), dan tina (P)

```
root@evita-VirtualBox:~# adduser toni
Adding user `toni' ...
Adding new group `toni' (1006) ...
Adding new user `toni' (1006) with group `toni' ...
Creating home directory `/home/toni' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for toni
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
root@evita-VirtualBox:~# adduser tono
Adding user `tono' ...
Adding new group `tono' (1007) ...
Adding new user `tono' (1007) with group `tono' ...
Creating home directory `/home/tono' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for tono
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
```

```

root@evita-VirtualBox:~# adduser tini
Adding user 'tini' ...
Adding new group 'tini' (1008) ...
Adding new user 'tini' (1008) with group 'tini' ...
Creating home directory '/home/tini' ...
Copying files from '/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for tini
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
root@evita-VirtualBox:~# adduser tina
Adding user 'tina' ...
Adding new group 'tina' (1009) ...
Adding new user 'tina' (1009) with group 'tina' ...
Creating home directory '/home/tina' ...
Copying files from '/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for tina
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

```

10. Edit file /etc/postfix/main.cf

GNU nano 2.9.3	/etc/postfix/main.cf	Modified
<pre> alias_database = hash:/etc/aliases mydestination = putri.com, \$myhostname, mail.putri.com, evita-VirtualBox, loca\$relayhost = mynetworks = 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128 192.168.43.0/24 mailbox_size_limit = 0 recipient_delimiter = + inet_interfaces = all inet_protocols = all home_mailbox = Maildir/ </pre>		

11. Restart postfix dengan command **systemctl restart postfix**

12. Buat sebuah file .conf pada /etc/apache2/sites-available untuk membuat routing terhadap squirrelmail kita dan lakukan a2ensite terhadap file tersebut

```

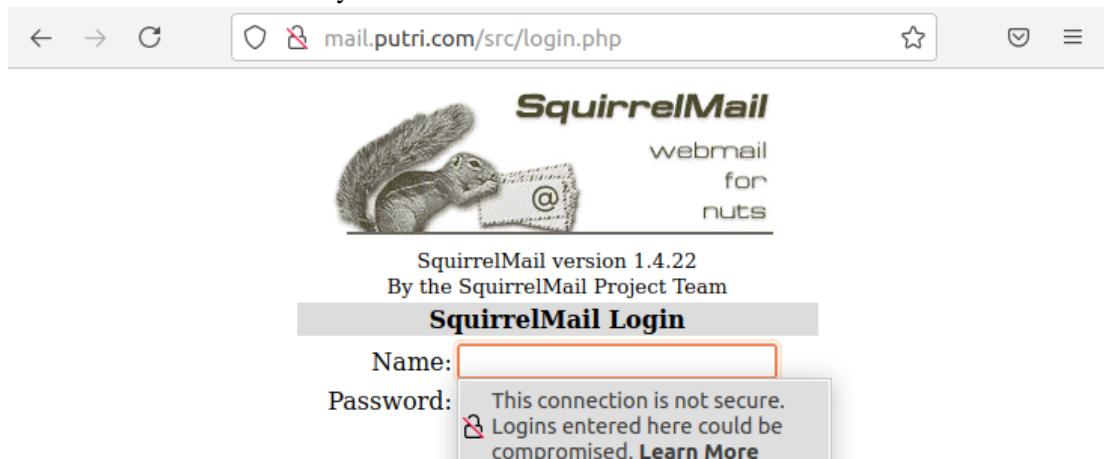
GNU nano 2.9.3                               mailputri.conf                                Modified
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port $ 
    # the server uses to identify itself. This is used when creating 
    # redirection URLs. In the context of virtual hosts, the ServerName 
    # specifies what hostname must appear in the request's Host: header to 
    # match this virtual host. For the default virtual host (this file) th$ 
    # value is not decisive as it is used as a last resort host regardless. 
    # However, you must set it for any further virtual host explicitly. 
#ServerName www.example.com

ServerAdmin webmaster@evita.com
ServerName mail.putri.com
DocumentRoot /var/www/html/mail/

```

13. Restart apache2 dengan command systemctl restart apache2

14. Buka browser dan buka URL yang berisikan squirrelmail menggunakan domain yang didefinisikan MX sebelumnya



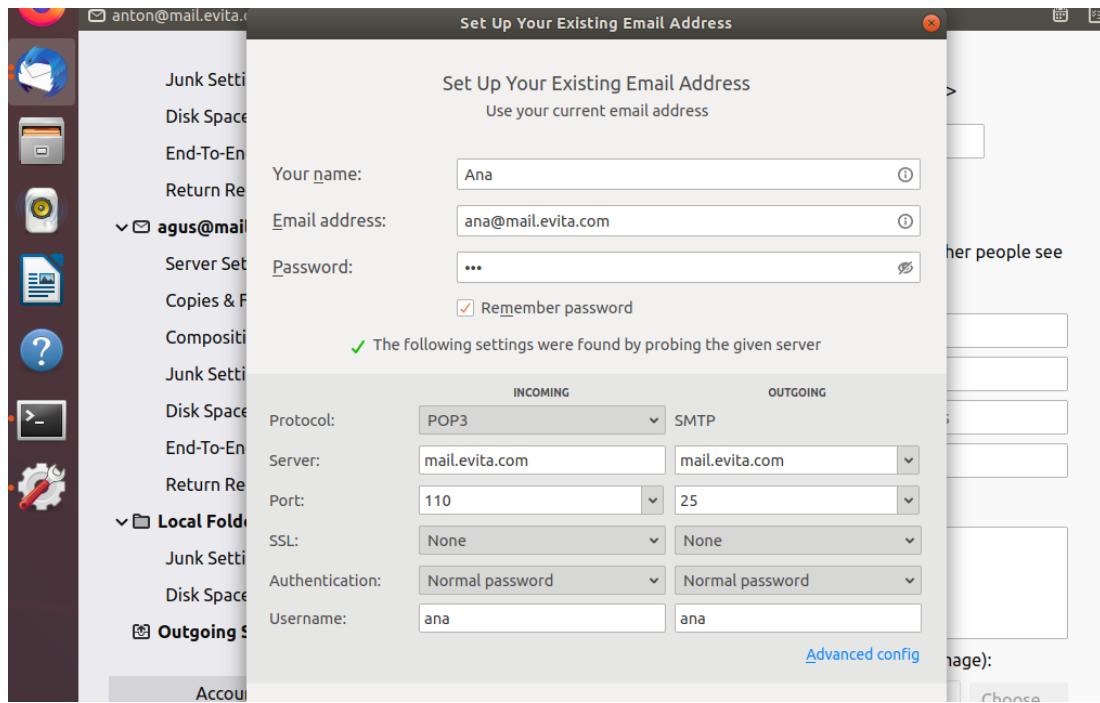
Anda juga bisa login menggunakan username dan password yang sebelumnya sudah dibuat. Pada tahap ini, seharusnya keempat username bisa saling mengirim email.

D. Pengujian Protokol POP dan IMAP Menggunakan Mail Client

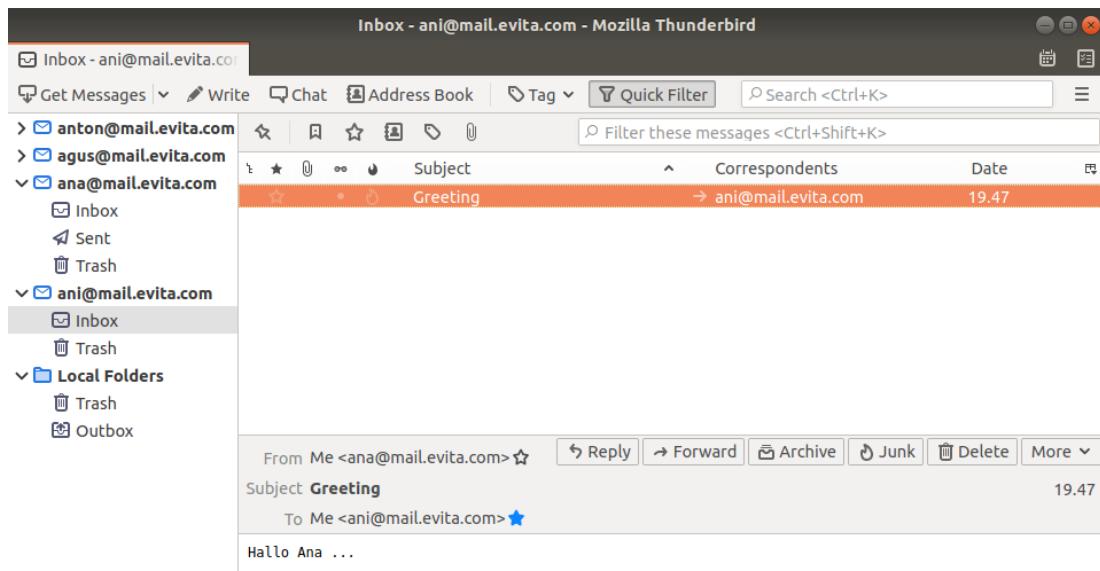
Pada percobaan ini, saya menggunakan MUA Thunderbird di kedua Mail Server saya.

Mail Server 1 (mail.evita.com)

1. Buat akun di Thunderbird dengan menggunakan username yang sudah dibuat sebelumnya. Klik Continue
2. Konfigurasikan akun sesuai gambar berikut dengan memilih salah satu protocol. Dalam kasus ini saya, memilih protocol POP3. Akibatnya adalah semua email dari web server akan didownload terlebih dahulu ke komputer client sebelum bisa dibaca dan jika akun tersebut login di device lain maka pesannya akan langsung hilang karena sudah di download ke device lain.

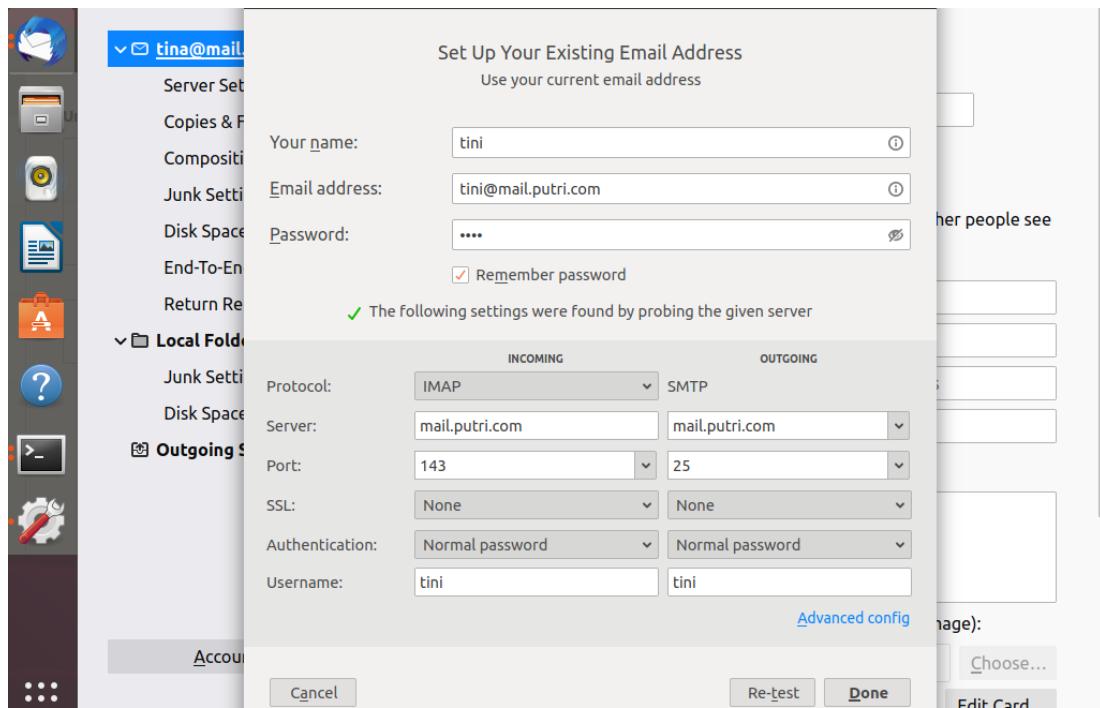


3. Dashboard MUA Thunderbird

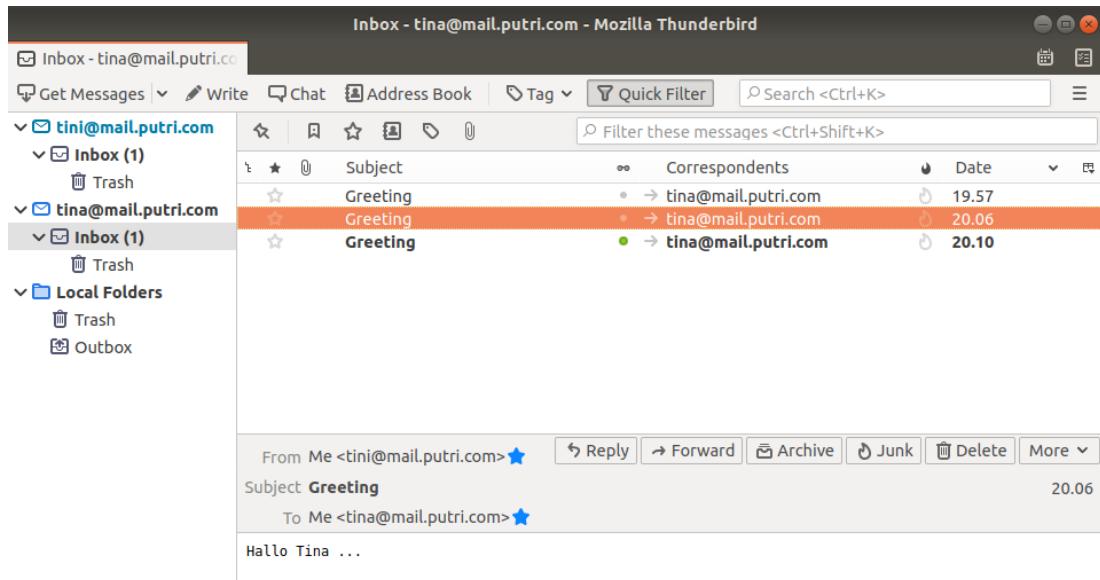


Mail Server 2 (mail.putri.com)

1. Buat akun di Thunderbird dengan menggunakan username yang sudah dibuat sebelumnya.
2. Konfigurasikan akun sesuai gambar berikut dengan memilih salah satu protocol. Dalam kasus ini saya, memilih protocol IMAP. Jenis protokol ini memiliki behavior seperti Gmail karena semua email dari mail server bisa secara langsung diakses oleh device manapun selama terhubung dengan internet dan juga tidak perlu mendownload emailnya jika ingin membacanya.



3. Dashboard MUA Thunderbird



E. Uji Coba Mail Server

Uji coba dikatakan berhasil apabila semua user dapat saling berkirim email walaupun berbeda domain.

Domain 1 ke Domain2 (mail.evita.com ke mail.putri.com) misal: Ana ke Tina

Sent - ana@mail.evita.com - Mozilla Thunderbird

Get Messages Write Chat Address Book Tag Quick Filter Search <Ctrl+K>

Filter these messages <Ctrl+Shift+K>

Subject	Correspondents	Date
Greeting	→ ani@mail.evita.com	19.47
Test	→ tina@mail.putri.com	20.25

From Me <ana@mail.evita.com>★
 Subject Test
 To tina@mail.putri.com★
 Dikirim oleh Ana (Mail Server 1)

Inbox - tina@mail.putri.com - Mozilla Thunderbird

Get Messages Write Chat Address Book Tag Quick Filter Search <Ctrl+K>

Filter these messages <Ctrl+Shift+K>

Subject	Correspondents	Date
Greeting	→ tina@mail.putri.com	19.57
Greeting	→ tina@mail.putri.com	20.06
Greeting	→ tina@mail.putri.com	20.10
Test	* ana	20.25

From ana <ana@mail.evita.com>★
 Subject Test
 To Me <tina@mail.putri.com>★
 Dikirim oleh Ana (Mail Server 1)

Domain 2 ke Domian 1 (mail.putri.com ke mail.evita.com) misal: Tini ke Ani

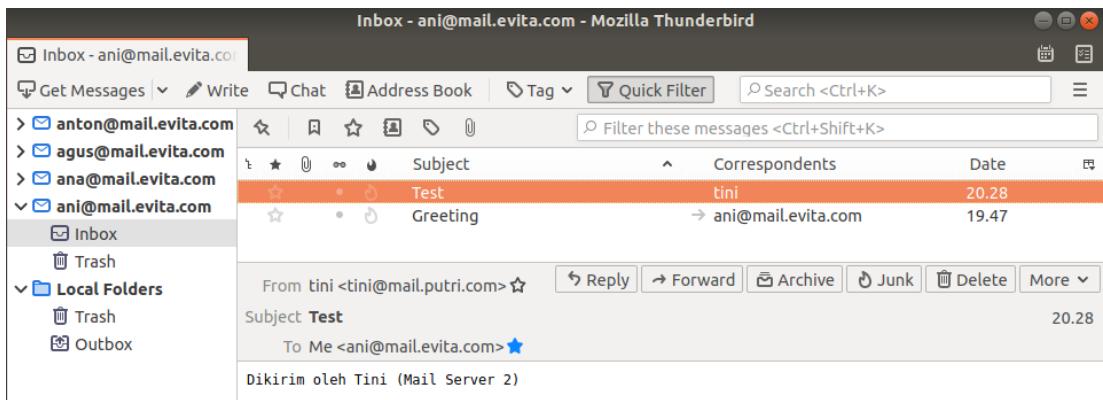
Sent - tini@mail.putri.com - Mozilla Thunderbird

Get Messages Write Chat Address Book Tag Quick Filter Search <Ctrl+K>

Filter these messages <Ctrl+Shift+K>

Subject	Correspondents	Date
Test	→ ani@mail.evita.com	20.28

From Me <tini@mail.putri.com>★
 Subject Test
 To ani@mail.evita.com★
 Dikirim oleh Tini (Mail Server 2)



F. Setting Mailing List di Server 1 & Server 2

1. Install mailman di kedua VM dengan command apt-get install mailman

VM 1

```
root@evita-VirtualBox:/home/evita# apt-get install mailman
Reading package lists... Done
Building dependency tree
Reading state information... Done
mailman is already the newest version (1:2.1.26-1ubuntu0.3).
The following package was automatically installed and is no longer required:
  linux-hwe-5.4-headers-5.4.0-73
Use 'apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@evita-VirtualBox:/home/evita# systemctl status mailman
● mailman.service - Mailman Master Queue Runner
  Loaded: loaded (/lib/systemd/system/mailman.service; enabled; vendor preset: enabled)
  Active: active (running) since Mon 2021-06-28 13:22:48 WIB; 7h ago
    Process: 979 ExecStart=/usr/lib/mailman/bin/mailmanctl -s start (code=exited, Main PID: 1228 (mailmanctl))
      Tasks: 9 (limit: 2326)
     CGroup: /system.slice/mailman.service
```

VM 2

```
root@evita-VirtualBox:/var/lib# systemctl status mailman
● mailman.service - Mailman Master Queue Runner
  Loaded: loaded (/lib/systemd/system/mailman.service; enabled; vendor preset: enabled)
  Active: active (running) since Tue 2021-06-29 11:14:04 WIB; 6min ago
    Process: 13768 ExecStart=/usr/lib/mailman/bin/mailmanctl -s start (code=exited, status=0/SUCCESS)
   Main PID: 13769 (mailmanctl)
     Tasks: 9 (limit: 2326)
    CGroup: /system.slice/mailman.service
            └─13769 /usr/bin/python /usr/lib/mailman/bin/mailmanctl -s start
              ├─13770 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=ArchRunner:0:1 -s
              ├─13771 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=BounceRunner:0:1 -s
              ├─13772 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=CommandRunner:0:1 -s
              ├─13773 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=IncomingRunner:0:1 -s
              ├─13774 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=NewsRunner:0:1 -s
              ├─13775 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=OutgoingRunner:0:1 -s
              ├─13776 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=VirginRunner:0:1 -s
              └─13777 /usr/bin/python /var/lib/mailman/bin/qrunner --runner=RetryRunner:0:1 -s
```

2. Konfigurasi file /etc/mailman/mm_cfg.py

```

GNU nano 2.9.3           /etc/mailman/mm_cfg.py          Modified
# MTA=None    # Misnomer, suppresses alias output on newlist
#-----
# Uncomment if you use Postfix virtual domains (but not
# postfix-to-mailman.py), but be sure to see
# /usr/share/doc/mailman/README.Debian first.
MTA='Postfix'

```

- Pada kedua VM, buat grup mailman untuk list awal, tuliskan nama user yang bertanggung jawab atas mailing list tersebut

VM1

```

root@evita-VirtualBox:/var/www/html/mail# newlist mailman1
Enter the email of the person running the list: evita@mail.evita.com
Initial mailman1 password:
Hit enter to notify mailman1 owner...

```

VM2

```

root@evita-VirtualBox:/var/www/html/mail# newlist mailman2
Enter the email of the person running the list: putri@mail.putri.com
Initial mailman2 password:
Hit enter to notify mailman2 owner...

```

- Start service mailman dengan command **service mailman start** dan aktifkan modul cgi

```

root@evita-VirtualBox:/var/www/html/mail# service mailman start
root@evita-VirtualBox:/var/www/html/mail# sudo a2enmod cgi
Enabling module cgi.
To activate the new configuration, you need to run:
  systemctl restart apache2
root@evita-VirtualBox:/var/www/html/mail# systemctl restart apache2

```

- Buka mailing list di web dengan format URL **namadomain/cgi-bin/mailman/listinfo**

VM1

The screenshot shows a web browser window with the URL evita.com/cgi-bin/mailman/listinfo in the address bar. The page title is "evita.com Mailing Lists". The main content area displays a "Welcome!" message and a note stating there are currently no publicly-advertised mailing lists. It also provides links for list administrators and users experiencing issues.

evita.com Mailing Lists

Welcome!

There currently are no publicly-advertised [Mailman](#) mailing lists on evita.com. To visit the general information page for an unadvertised list, open a URL similar to this one, but with a '/' and the list name appended.

List administrators, you can visit [the list admin overview page](#) to find the management interface for your list.

If you are having trouble using the lists, please contact mailman@evita.com.

 **version 2.1.26**

 **python powered**





VM 2



[Delivered by Mailman](#)
version 2.1.26

Python Powered

GNU's Not Unix

Debian Powered

6. Tambahkan mailing list baru di kedua VM

VM1 (siswa@evita.com)

```
root@evita-VirtualBox:/var/www/html/mail# newlist siswa@evita.com
Enter the email of the person running the list: evita@mail.evita.com
Initial siswa password:
Hit enter to notify siswa owner...
```

VM2 (siswi@putri.com)

```
root@evita-VirtualBox:/var/www/html/mail# newlist siswi@putri.com
Enter the email of the person running the list: putri@mail.putri.com
Initial siswi password:
Hit enter to notify siswi owner...
```

7. Integrasikan mailman di kedua VM dengan edit file postfix (/etc/postfix/main.cf)

GNU nano 2.9.3	/etc/postfix/main.cf	Modified
	<pre>smtpd_tls_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem smtpd_tls_key_file=/etc/ssl/private/ssl-cert-snakeoil.key smtpd_use_tls=yes smtpd_tls_session_cache_database = btree:\${data_directory}/smtpd_scache smtp_tls_session_cache_database = btree:\${data_directory}/smtp_scache # See /usr/share/doc/postfix/TLS_README.gz in the postfix-doc package for # information on enabling SSL in the smtp client. smtpd_relay_restrictions = permit_mynetworks permit_sasl_authenticated defer_unauth_destination myhostname = evita.com alias_maps = hash:/etc/aliases, hash:/var/lib/mailman/data/aliases alias_database = hash:/etc/aliases mydestination = \$myhostname, mail.evita.com, evita.com, evita-VirtualBox, evita relayhost = mynetworks = 192.168.43.0/24, 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128 0.0.0.0/0 mailbox_size_limit = 0 recipient_delimiter = + inet_interfaces = all inet_protocols = ipv4 home_mailbox = Maildir/</pre>	

8. Restart postfix

10. Buka mailman di browser dengan URL

(namadomain/cgibin/mailman/admin/namamailinglist) dan daftarkan user yang ingin join pada tiap mailing list. Ketika sudah masuk ke halaman admin untuk mailist yang dipilih, pada navigasi pilih Membership Management > Mass Subscription untuk menambahkan list semua email yang ingin ditambahkan pada mailist.

VM 1



Siswa Administrator Authentication

List Administrator Password:

Important: From this point on, you must have cookies enabled in your browser, otherwise no administrative changes will take effect.

Session cookies are used in Mailman's administrative interface so that you don't need to re-authenticate with every administrative operation. This cookie will expire automatically when you exit your browser, or you can explicitly expire the cookie by hitting the *Logout* link under *Other Administrative Activities* (which you'll see once you successfully log in).

[Siswa list run by siswa-owner at evita.com](#)

[Siswa administrative interface \(requires authorization\)](#)

[Overview of all evita.com mailing lists](#)



Siswa mailing list administration Membership Management... Section

Configuration Categories

- General Options
- Passwords
- Language options
- Membership Management...
 - [Membership List]
 - Mass Subscription
 - Mass Removal
 - Address Change
 - Non-digest options
 - Digest options

Other Administrative Activities

- [Tend to pending moderator requests](#)
- [Go to the general list information page](#)
- [Edit the public HTML pages and text files](#)
- [Go to list archives](#)

[Logout](#)

Make your changes in the following section, then submit them using the *Submit Your Changes* button below.

Membership List

Find member ([help](#)):

[Click here to include the legend for this table.](#)

4 members total										
unsub	member address member name	mod	hide	nomail [reason]	ack	not metoo	nodupes	digest	plain	language
<input type="checkbox"/>	agus@mail.evita.com	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾				
<input type="checkbox"/>	anton@mail.evita.com	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾				
<input type="checkbox"/>	toni@mail.putri.com	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾				
<input type="checkbox"/>	tono@mail.putri.com	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾				

VM2



Important: From this point on, you must have cookies enabled in your browser, otherwise no administrative changes will take effect.

Session cookies are used in Mailman's administrative interface so that you don't need to re-authenticate with every administrative operation. This cookie will expire automatically when you exit your browser, or you can explicitly expire the cookie by hitting the *Logout* link under *Other Administrative Activities* (which you'll see once you successfully log in).

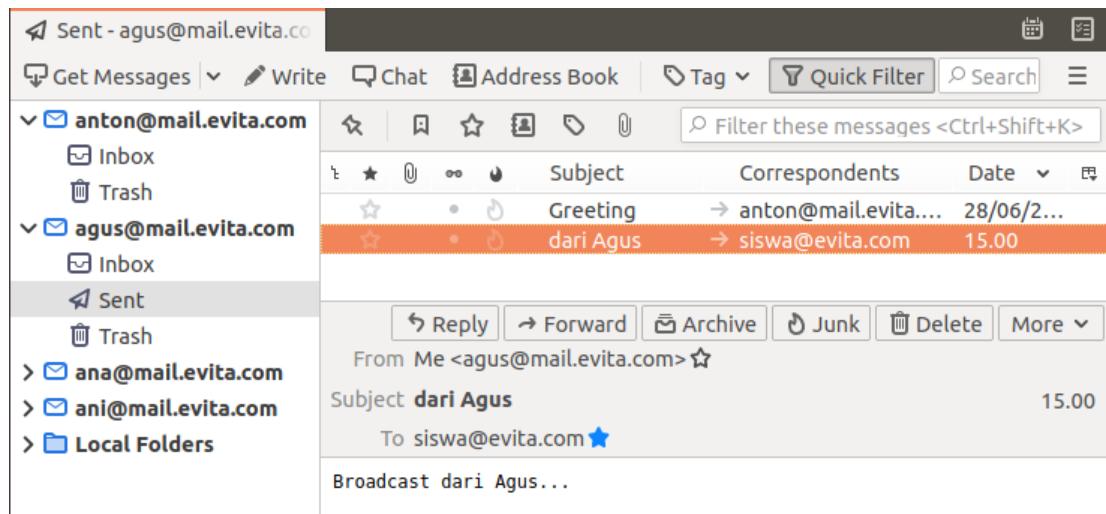
[Siswi list run by siswi-owner at putri.com](#)
[Siswi administrative interface \(requires authorization\)](#)
[Overview of all putri.com mailing lists](#)

[Delivered by Mailman](#)
version 2.1.26 [Python Powered](#) [GNU's Not Unix](#) [Debian Powered](#)

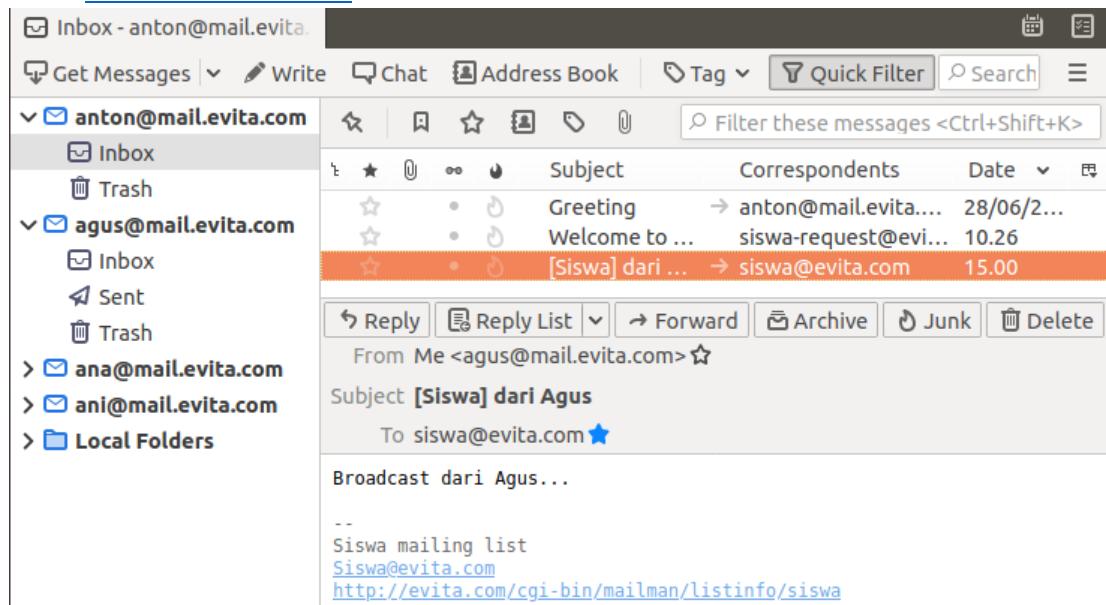
The screenshot shows a web browser window with the URL putri.com/cgi-bin/mailman/admin/siswi/members/list. The page title is "Siswi mailing list administration" and the subtitle is "Membership Management... Section". The main content area is divided into three columns: "Configuration Categories" (with links like General Options, Passwords, Language options, Membership Management..., etc.), "Other Administrative Activities" (with links like Tend to pending moderator requests, Go to the general list information page, Edit the public HTML pages and text files, Go to list archives, and Logout), and a central column containing a table titled "Membership List". The table has 11 columns: unsub, member address, member name, mod, hide, nomail [reason], ack, not metoo, nodupes, digest, plain, and language. There are four rows in the table, each corresponding to a member with email addresses: ana@mail.evita.com, anji@mail.evita.com, tina@mail.putri.com, and tini@mail.putri.com. Each row contains checkboxes for the first seven columns and dropdown menus for the last four. A "Submit Your Changes" button is located at the bottom of the table. Above the table, there is a note: "Make your changes in the following section, then submit them using the *Submit Your Changes* button below."

11. Pembuktian Mailing List user agus mengirim email ke mailing list siswa@evita.com

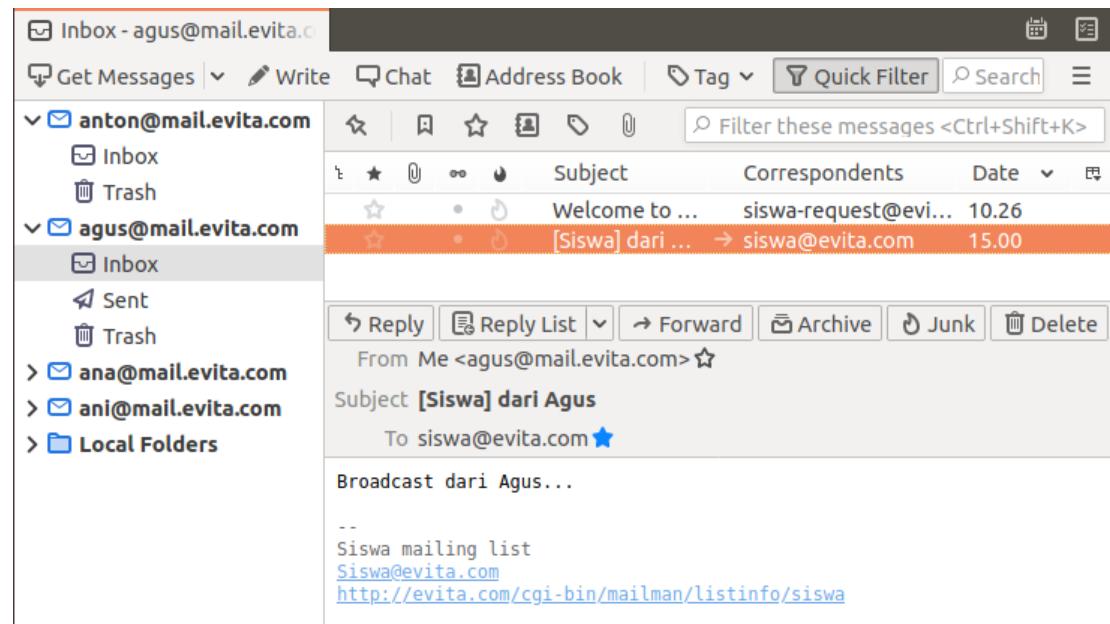
a) Isi pesan email dari agus



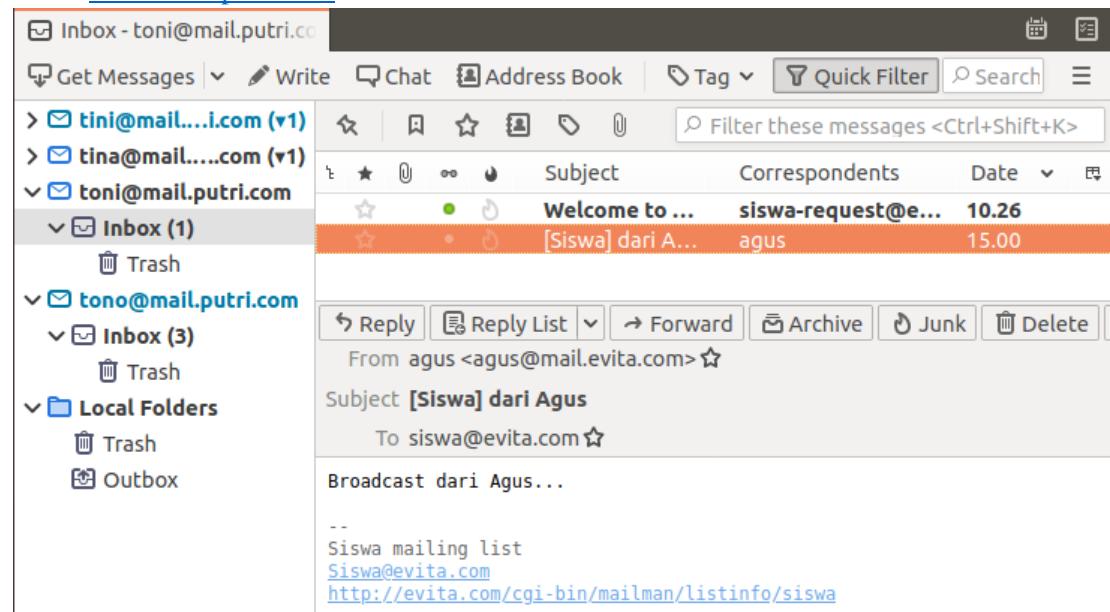
b) Inbox [anton@mail.evita.com](#)



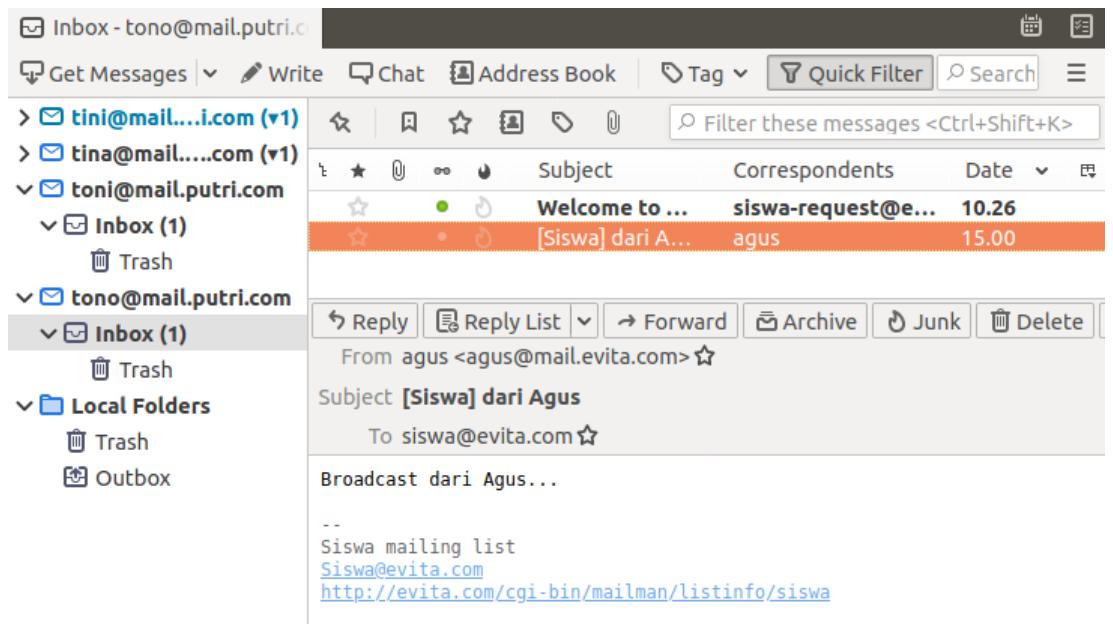
c) Inbox [agus@mail.evita.com](#)



d) Inbox toni@mail.putri.com



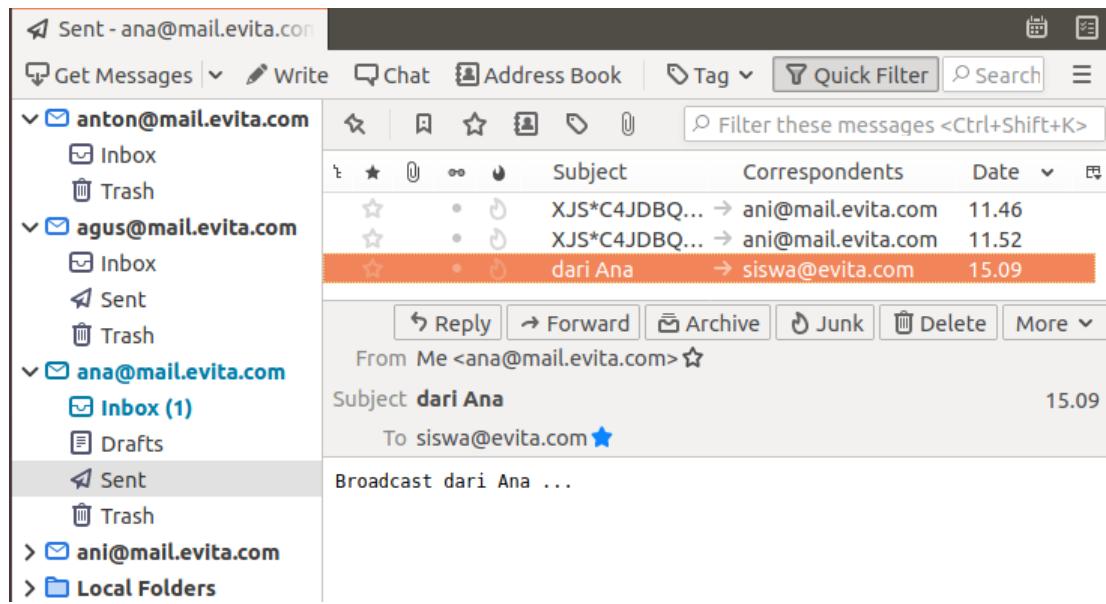
e) Inbox tono@mail.putri.com



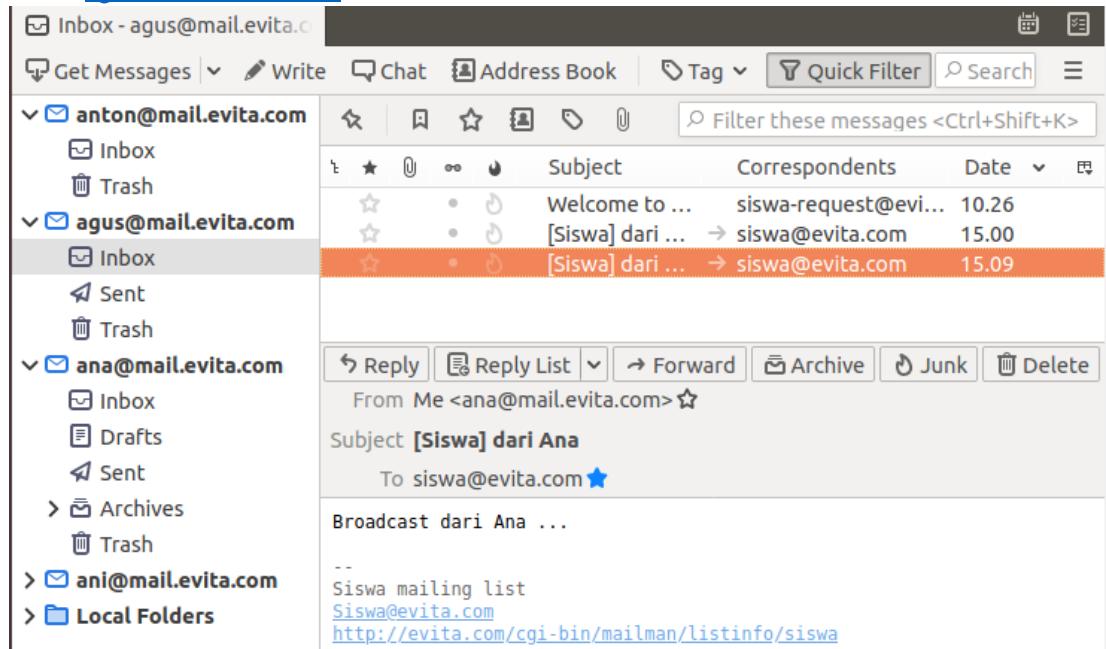
Pesan dari agus diterima oleh semua user yang terdaftar di mailing list siswa@evita.com [SUKSES].

12. Pembuktian Mailing List user ana mengirim email ke mailing list siswa@evita.com

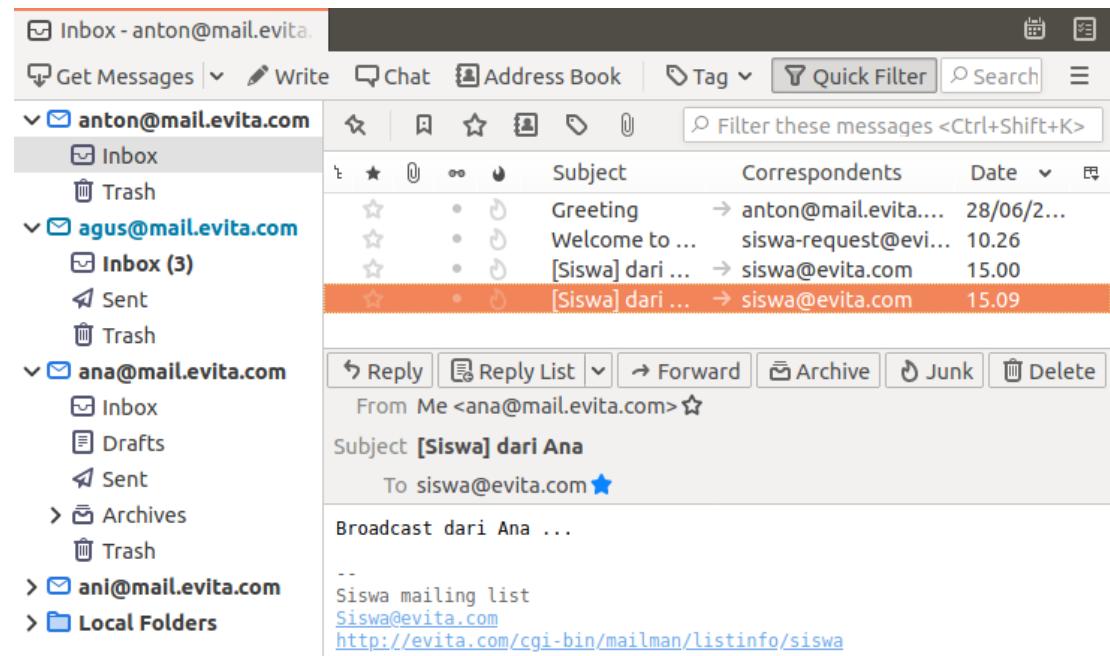
- Isi pesan email dari ana



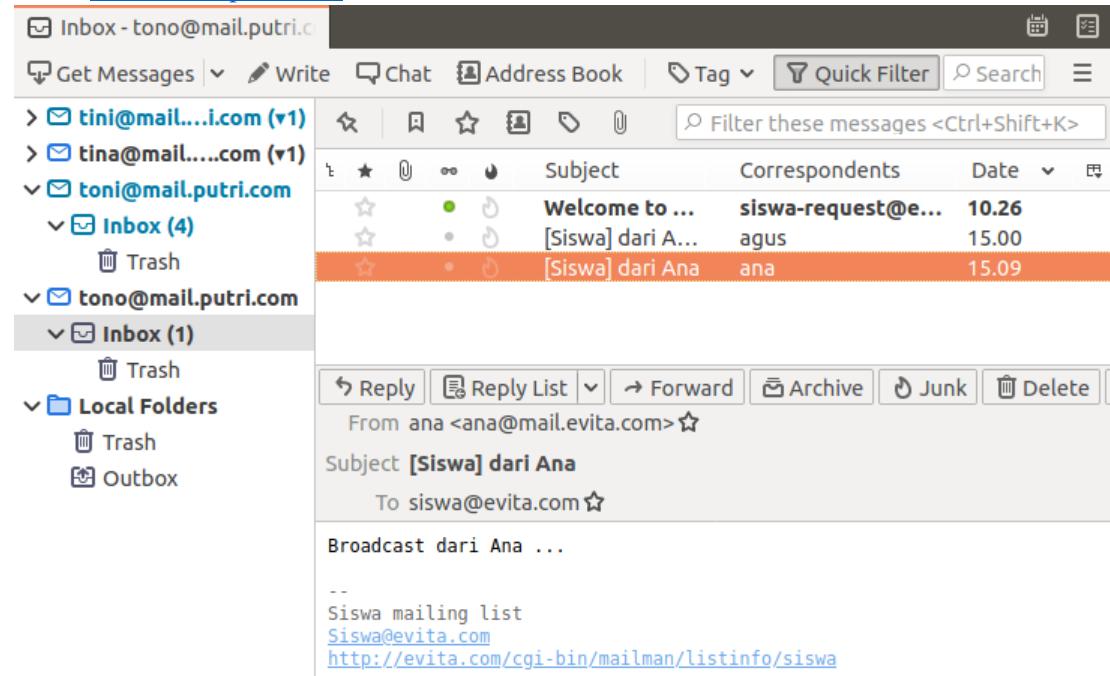
b) Inbox [agus@mail.evita.com](#)



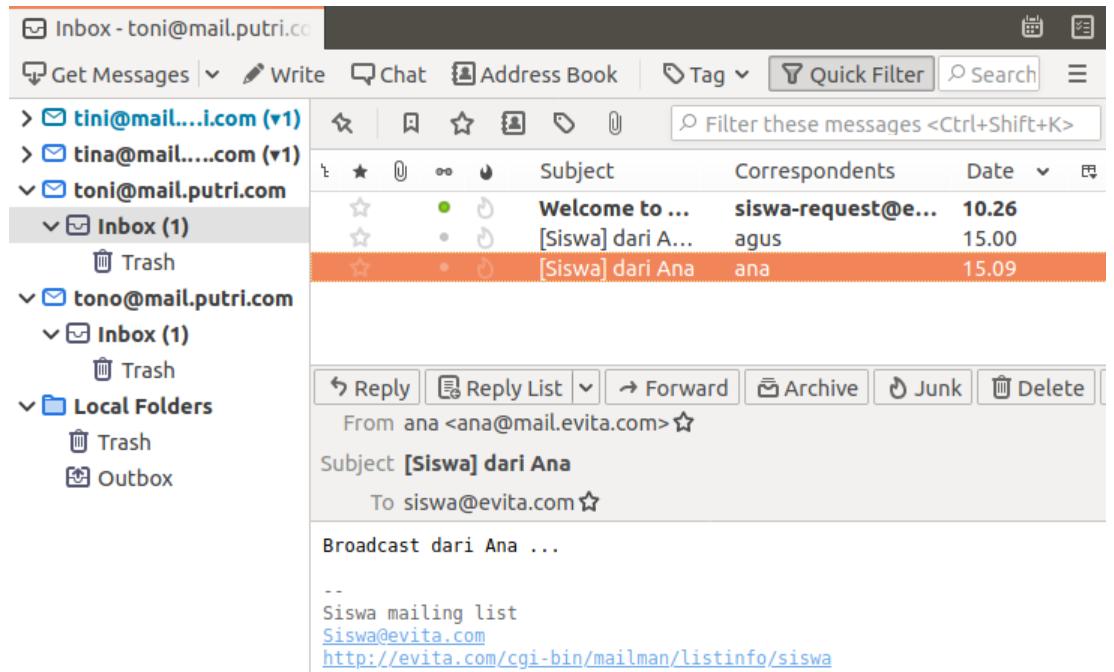
c) Inbox [anton@mail.evita](#)



d) Inbox tono@mail.putri.com



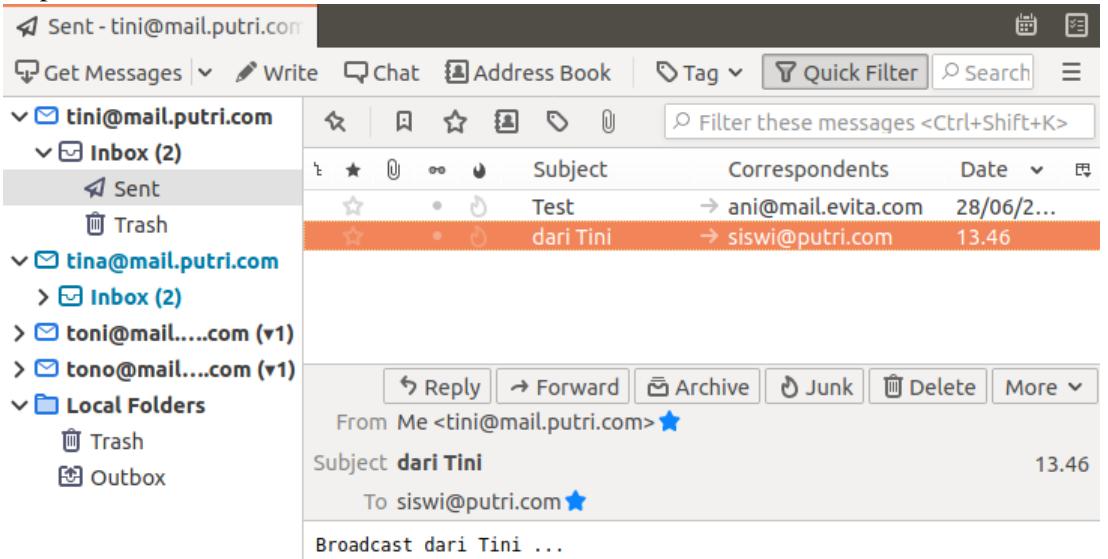
e) Inbox toni@mail.putri.com



Dari percobaan tersebut dapat disimpulkan bahwa user yang tidak terdaftar dalam mailing list, bisa mengirim pesan ke mailing list tersebut (siswa@evita.com) dengan syarat moderator mailing list harus meng-approve request dari user yang ingin mengirim email tersebut.

13. Pembuktian Mailing List user tini mengirim email ke mailing list siswi@putri.com

- a) Isi pesan email dari tini



- b) Inbox tini@mail.putri.com

Inbox - tini@mail.putri.co

Get Messages Write Chat Address Book Tag Quick Filter Search

tini@mail.putri.com

Inbox (1)

- Sent
- Trash

tina@mail.putri.com

> **Inbox (2)**

> **toni@mail....com (v1)**

> **tono@mail....com (v1)**

Local Folders

- Trash
- Outbox

Filter these messages <Ctrl+Shift+K>

	Subject	Correspondents	Date
★	Greeting	→ tini@mail.putri.com	28/06/2...
★	Welcome to ...	siswi-request@pu...	11.39
★	[Siswi] dari Tini	→ siswi@putri.com	13.46

From Me <tini@mail.putri.com> ★

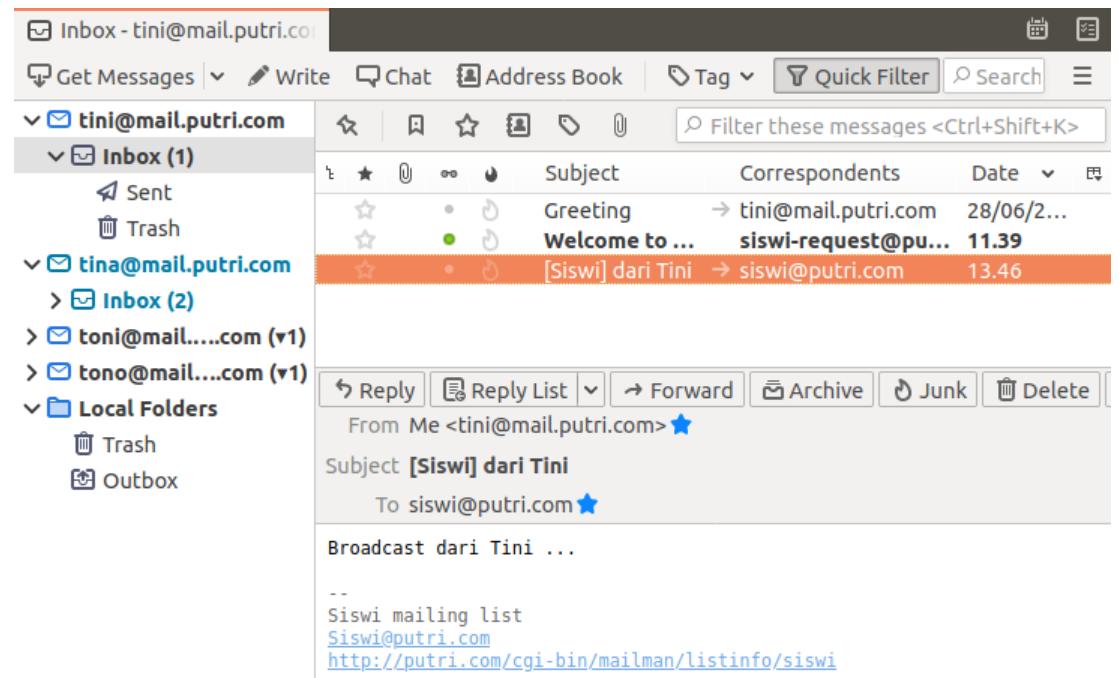
Subject [Siswi] dari Tini

To siswi@putri.com ★

Broadcast dari Tini ...

--

Siswi mailing list
Siswi@putri.com
<http://putri.com/cgi-bin/mailman/listinfo/siswi>



c) Inbox [tina@mail.putri.com](#)

Inbox - tina@mail.putri.co

Get Messages Write Chat Address Book Tag Quick Filter Search

tina@mail.putri.com

Inbox (1)

> **tini@mail....i.com (v1)**

> **toni@mail....com (v1)**

> **tono@mail....com (v1)**

Local Folders

- Trash
- Outbox

Filter these messages <Ctrl+Shift+K>

	Subject	Correspondents	Date
★	Greeting	→ tina@mail.putri.com	28/06/2...
★	Greeting	→ tina@mail.putri.com	28/06/2...
★	Test	ana	28/06/2...
★	Welcome to ...	siswi-request@pu...	11.39
★	[Siswi] dari Tini	→ siswi@putri.com	13.46

From Me <tini@mail.putri.com> ★

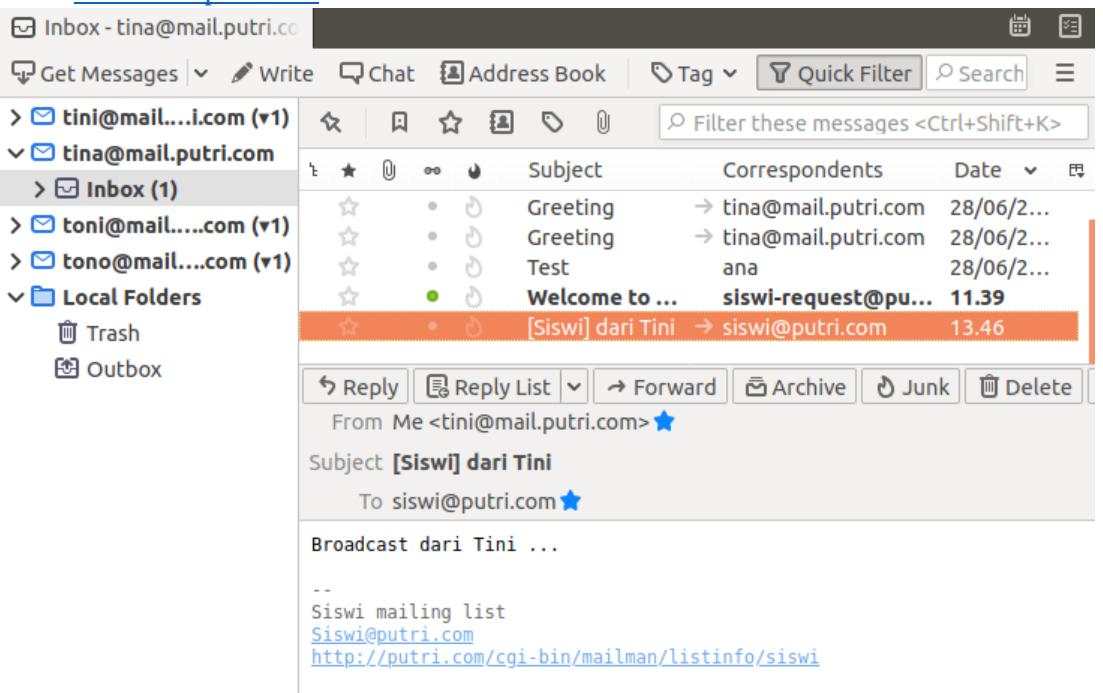
Subject [Siswi] dari Tini

To siswi@putri.com ★

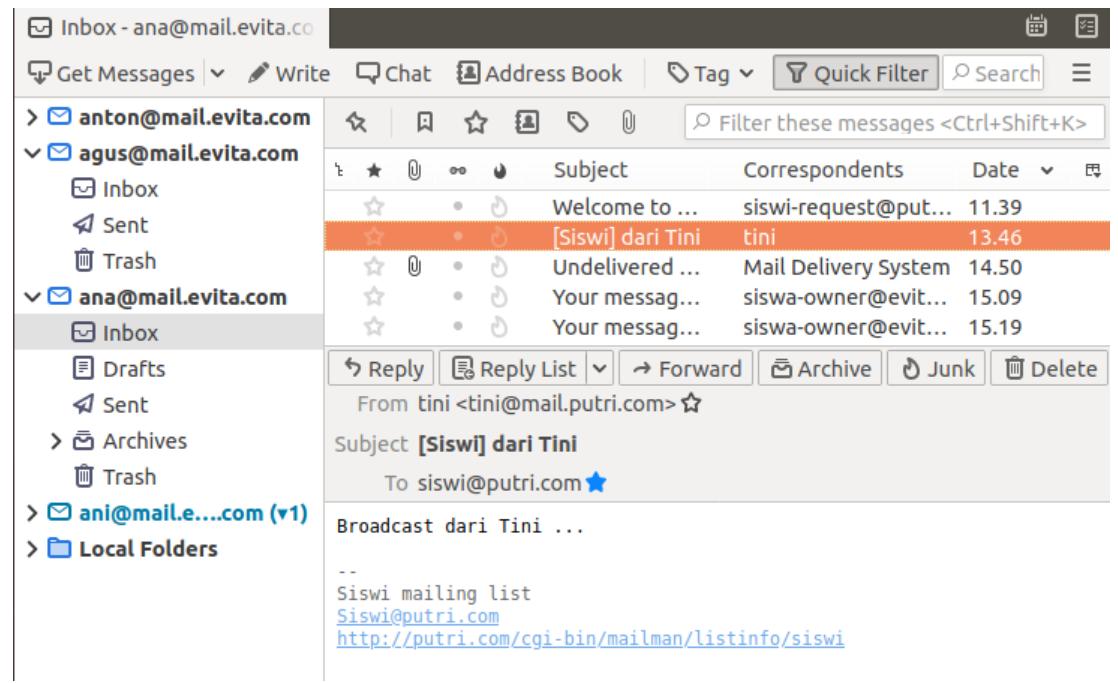
Broadcast dari Tini ...

--

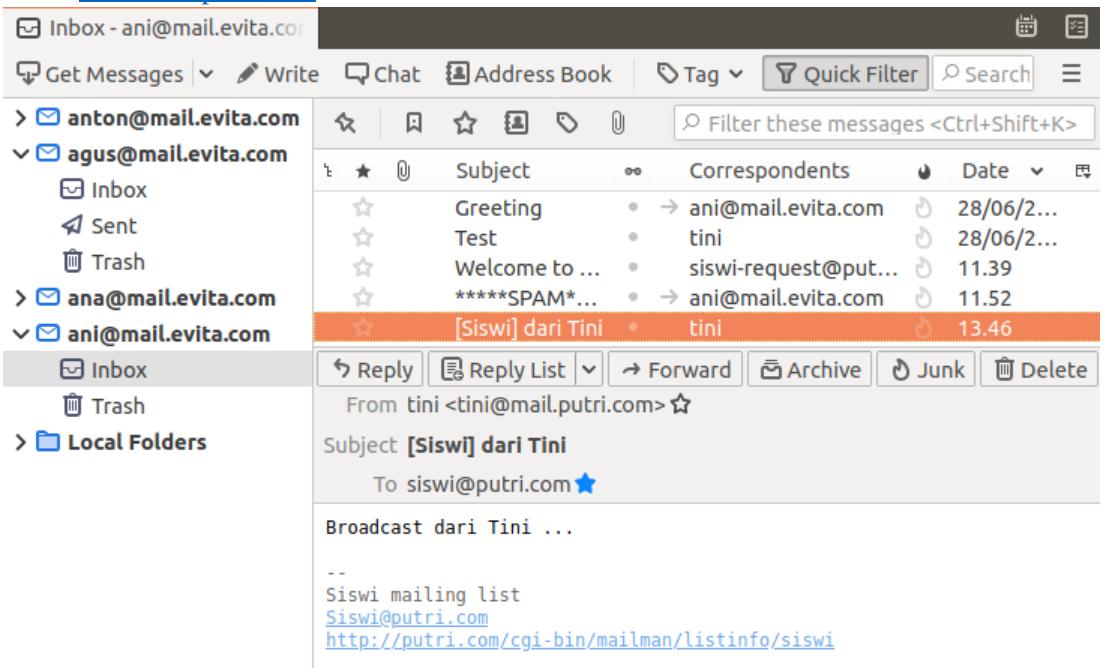
Siswi mailing list
Siswi@putri.com
<http://putri.com/cgi-bin/mailman/listinfo/siswi>



d) Inbox [ana@mail.putri.com](#)



e) Inbox [ani@mail.putri.com](#)



Pesan dari tini diterima oleh semua user yang terdaftar di mailing list siswi@putri.com [SUKSES].

14. Pembuktian Mailing List user toni mengirim email ke mailing list siswi@putri.com

- a) Isi pesan email dari toni

Inbox - toni@mail.putri.co

Get Messages | Write | Chat | Address Book | Tag | Quick Filter | Search |

Filter these messages <Ctrl+Shift+K>

	Subject	Correspondents	Date
star	Welcome to ...	siswa-request@e...	10.26
star	Your messag...	siswi-owner@putri...	13.56
star	[Siswa] dari A...	agus	15.00
star	[Siswa] dari Ana	ana	15.09

From siswi-owner@putri.com ☆

Subject Your message to Siswi awaits moderator approval 13.56

To Me <toni@mail.putri.com> ☆

Your mail to 'Siswi' with the subject
dari Toni

Is being held until the list moderator can review it for approval.

The reason it is being held:

Post by non-member to a members-only list

Either the message will get posted to the list, or you will receive

- b) Inbox ana@mail.evita.com

Inbox - ana@mail.evita.co

Get Messages | Write | Chat | Address Book | Tag | Quick Filter | Search |

Filter these messages <Ctrl+Shift+K>

	Subject	Correspondents	Date
star	Welcome to ...	siswi-request@put...	11.39
star	[Siswa] dari Tini	tini	13.46
star	[Siswa] dari T...	toni	13.56
star	Undelivered ...	Mail Delivery System	14.50
star	Your messag...	siswa-owner@evit...	15.09
star	Your messag...	siswa-owner@evit...	15.19

From toni <toni@mail.putri.com> ☆

Subject [Siswi] dari Toni

To siswi@putri.com ☆

Broadcast dari Toni ...

--
Siswi mailing list
Siswi@putri.com
<http://putri.com/cgi-bin/mailman/listinfo/siswi>

c) Inbox ani@mail.evita.com

Inbox - ani@mail.evita.com

Get Messages | Write | Chat | Address Book | Tag | Quick Filter | Search |

Filter these messages <Ctrl+Shift+K>

Subject	Correspondents	Date
Greeting	ani@mail.evita.com	28/06/2...
Test	tini	28/06/2...
Welcome to ...	siswi-request@put...	11.39
*****SPAM*...	ani@mail.evita.com	11.52
[Siswi] dari Tini	tini	13.46
[Siswi] dari Toni	toni	13.56

Reply | Reply List | Forward | Archive | Junk | Delete

From toni <toni@mail.putri.com> ☆

Subject [Siswi] dari Toni

To siswi@putri.com ☆

Broadcast dari Toni ...

d) Inbox tina@mail.putri.com

Inbox - tina@mail.putri.com

Get Messages | Write | Chat | Address Book | Tag | Quick Filter | Search |

Filter these messages <Ctrl+Shift+K>

Subject	Correspondents	Date
Greeting	tina@mail.putri.com	28/06/2...
Test	ana	28/06/2...
Welcome to ...	siswi-request@pu...	11.39
[Siswi] dari Tini	siswi@putri.com	13.46
[Siswi] dari Toni	siswi@putri.com	13.56

Reply | Reply List | Forward | Archive | Junk | Delete

From Me <toni@mail.putri.com> ☆

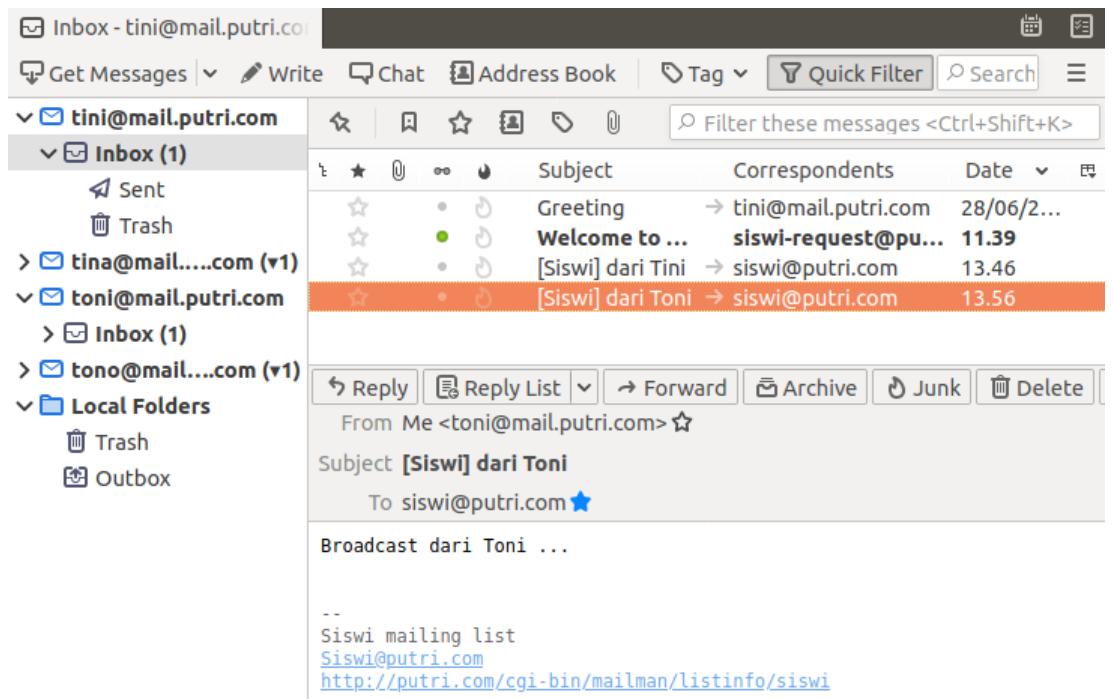
Subject [Siswi] dari Toni

To siswi@putri.com ☆

Broadcast dari Toni ...

--
Siswi mailing list
Siswi@putri.com
<http://putri.com/cgi-bin/mailman/listinfo/siswi>

e) Inbox tini@putri.com



Dari percobaan tersebut dapat disimpulkan bahwa user yang tidak terdaftar dalam mailing list, bisa mengirim pesan ke mailing list tersebut (siswi@putri.com) dengan syarat moderator mailing list harus meng-approve request dari user yang ingin mengirim email tersebut.

G. Instalasi Apache SpamAssassin

1. Install SpamAssassin

```
root@evita-VirtualBox:/home/evita# apt-get install spamassassin spamc -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  linux-hwe-5.4-headers-5.4.0-73
Use 'apt autoremove' to remove it.
The following additional packages will be installed:
  libcrypt-openssl-bignum-perl libcrypt-openssl-rsa-perl liberror-perl
  libmail-dkim-perl libmail-spf-perl libnetaddr-ip-perl
  libsys-hostname-long-perl re2c sa-compile
Suggested packages:
  razor pyzor libencode-detect-perl libgeo-ip-perl libnet-patricia-perl
```

2. Buat user baru khusus untuk SpamAssassin

```
root@evita-VirtualBox:/usr/lib/mailman# adduser spamd --disabled-login
Adding user `spamd' ...
Adding new group `spamd' (1011) ...
Adding new user `spamd' (1011) with group `spamd' ...
Creating home directory `/home/spamd' ...
Copying files from `/etc/skel' ...
Changing the user information for spamd
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
```

3. Konfigurasi SpamAssassin dengan mengedit file /etc/default/spamassassin

```
GNU nano 2.9.3          /etc/default/spamassassin          Modified

# Options
# See man spamd for possible options. The -d option is automatically added.

# SpamAssassin uses a preforking model, so be careful! You need to
# make sure --max-children is not set to anything higher than 5,
# unless you know what you're doing.

OPTIONS="--create-prefs --max-children 5 --helper-home-dir --username spamd -s $

# Pid file
# Where should spamd write its PID to file? If you use the -u or
# --username option above, this needs to be writable by that user.
# Otherwise, the init script will not be able to shut spamd down.
PIDFILE="/var/run/spamd.pid"

# Set nice level of spamd
#NICE="--nicelevel 15"

# Cronjob
# Set to anything but 0 to enable the cron job to automatically update
# spamassassin's rules on a nightly basis
CRON=1
```

4. Tambahkan rules ke SpamAssassin dengan mengedit file /etc/spamassassin/local.cf, uncomment pada 5 baris berikut ini.

```

GNU nano 2.9.3          /etc/spamassassin/local.cf      Modified

# This is the right place to customize your installation of SpamAssassin.
#
# See 'perldoc Mail::SpamAssassin::Conf' for details of what can be
# tweaked.
#
# Only a small subset of options are listed below
#
#####
#
# Add *****SPAM***** to the Subject header of spam e-mails
#
rewrite_header Subject *****SPAM****

#
# Save spam messages as a message/rfc822 MIME attachment instead of
# modifying the original message (0: off, 2: use text/plain instead)
#
report_safe 1

GNU nano 2.9.3          /etc/spamassassin/local.cf      Modified

#
# Set file-locking method (flock is not safe over NFS, but is faster)
#
# lock_method flock

#
# Set the threshold at which a message is considered spam (default: 5.0)
#
required_score 5.0

#
# Use Bayesian classifier (default: 1)
#
use_bayes 1

#
# Bayesian classifier auto-learning (default: 1)
#
bayes_auto_learn 1

```

5. Konfigurasi postfix untuk menggunakan SpamAssassin sebagai Email Filter dengan mengedit file /etc/postfix/master.cf

```

GNU nano 2.9.3          /etc/postfix/master.cf      Modified

#
# Postfix master process configuration file. For details on the format
# of the file, see the master(5) manual page (command: "man 5 master" or
# on-line: http://www.postfix.org/master.5.html).
#
# Do not forget to execute "postfix reload" after editing this file.
#
# =====
# service type  private unpriv  chroot  wakeup  maxproc command + args
#           (yes)   (yes)   (no)    (never) (100)
# =====
smtp      inet  n - y - - - smtpd
-o content_filter=spamassassin

```

```

GNU nano 2.9.3          /etc/postfix/master.cf          Modified
flags=Fq. user=bsmtp argv=/usr/lib/bsmtp/bsmtp -t${nexthop} -f${sender} ${recipient}
scalemail-backend unix - n n - 2 pipe
  flags=R user=scalemail argv=/usr/lib/scalemail/bin/scalemail-store ${nexthop}
mailman unix - n n - - pipe
  flags=FR user=list argv=/usr/lib/mailman/bin/postfix-to-mailman.py
  ${nexthop} ${user}

spamassassin unix - n n - - pipe
  user=spamd argv=/usr/bin/spamc -f -e
  /usr/sbin/sendmail -oi -f ${sender} ${recipient}

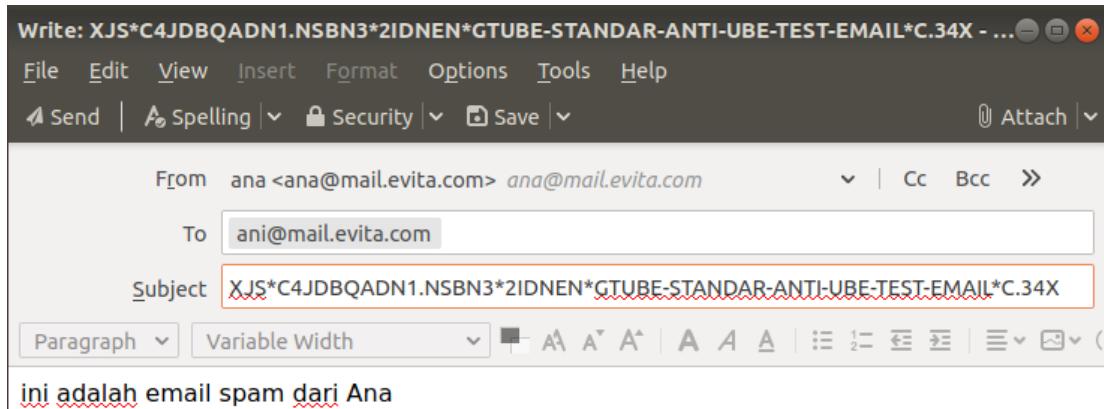
```

6. Restart postfix dan SpamAssassin

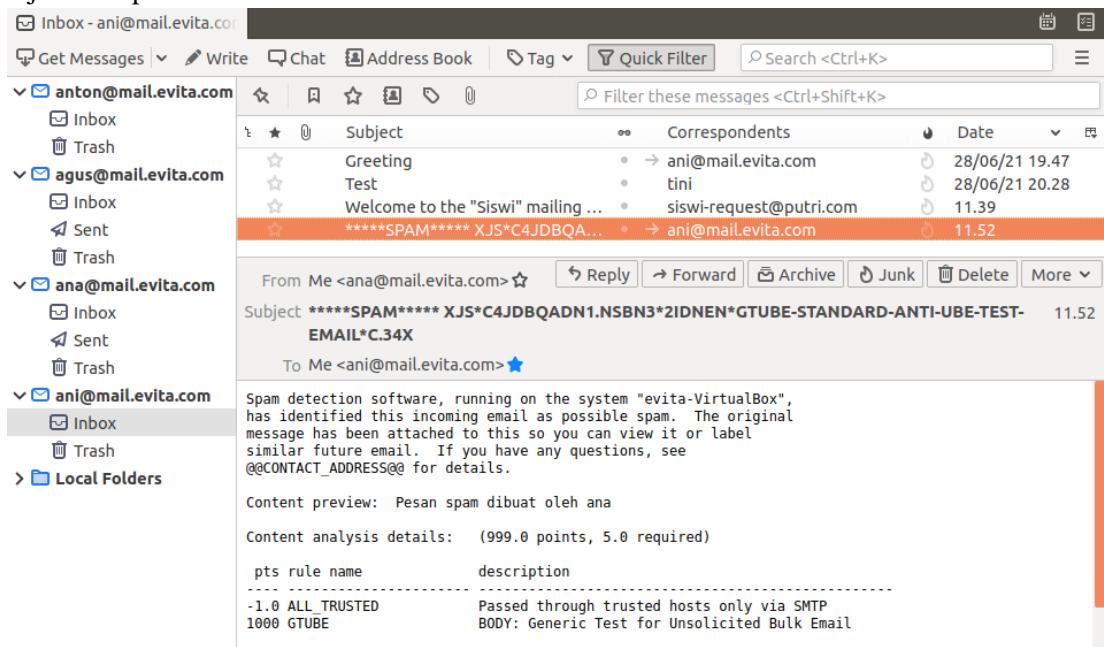
```

root@evita-VirtualBox:/usr/lib/mailman# /etc/init.d/postfix restart
[ ok ] Restarting postfix (via systemctl): postfix.service.
root@evita-VirtualBox:/usr/lib/mailman# /etc/init.d/spamassassin restart
[ ok ] Restarting spamassassin (via systemctl): spamassassin.service.

```



7. Uji coba SpamAssassin



Gambar tersebut menunjukkan bahwa email yang dikirim oleh tina dikenali sebagai SPAM di inbox tini yang menandakan bahwa SpamAssassin bekerja dengan baik.