

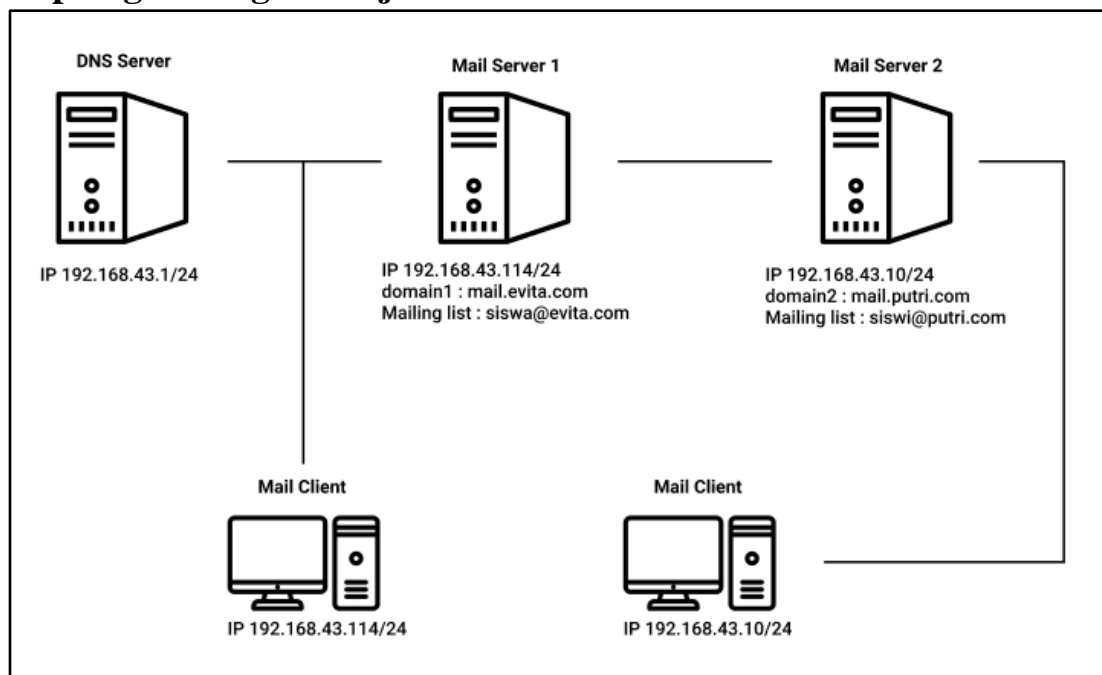
**PENUGASAN MATA KULIAH**  
Workshop Administrasi dan Manajemen Jaringan  
“Dokumentasi Project 2 (UAS)”



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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.evitaadwiop";
};

```

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.evitaadwiop** 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.evitaadwiop
;
; 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 eds0

```

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-toinstall-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-webmail 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) Konfigurasi 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

```

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

```

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

```

9. 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.\$ mailbox_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

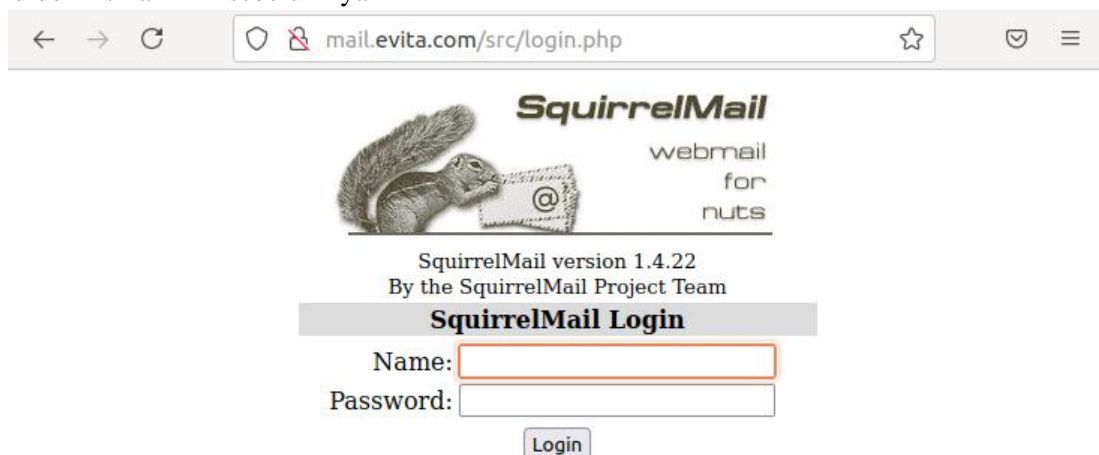
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port $
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) 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.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
//
// 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.evita.com";
};

```

## 3. Buat file `evitadwiop`, `putri`, dan `reverse.evita.com` di `var/cache/bind`

```

GNU nano 2.9.3 /var/cache/bind/evitadwiop
;
; 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 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
;
; 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 comman 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
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/

```

#### 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.

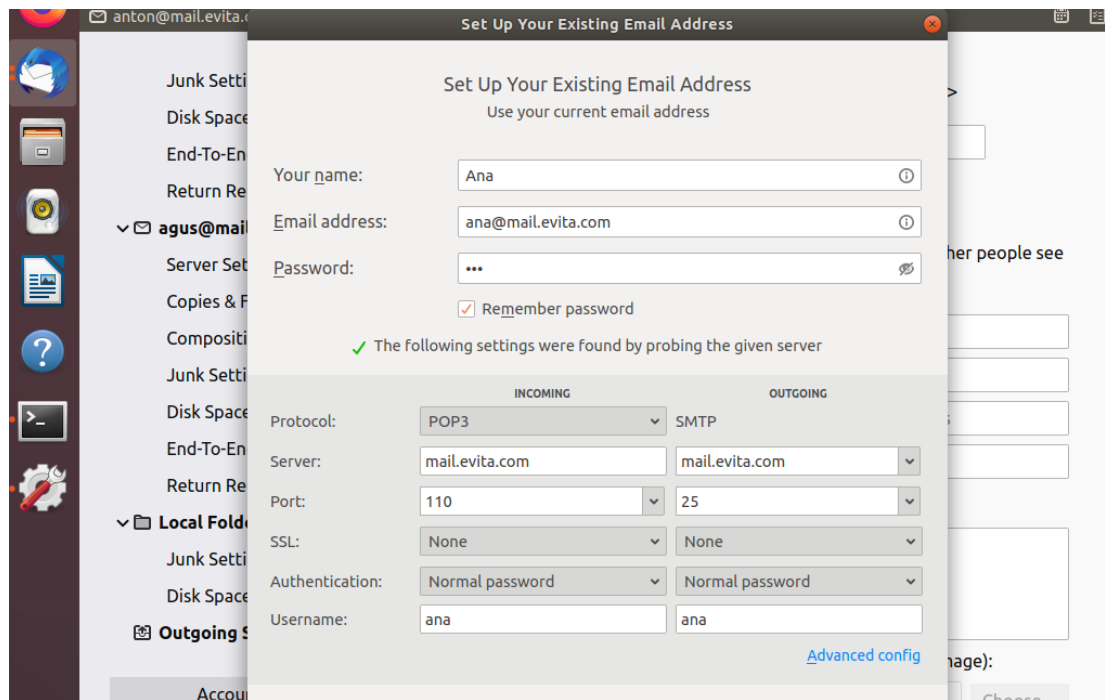
## D. Pengujian Protokol POP dan IMAP Menggunakan Mail Client

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

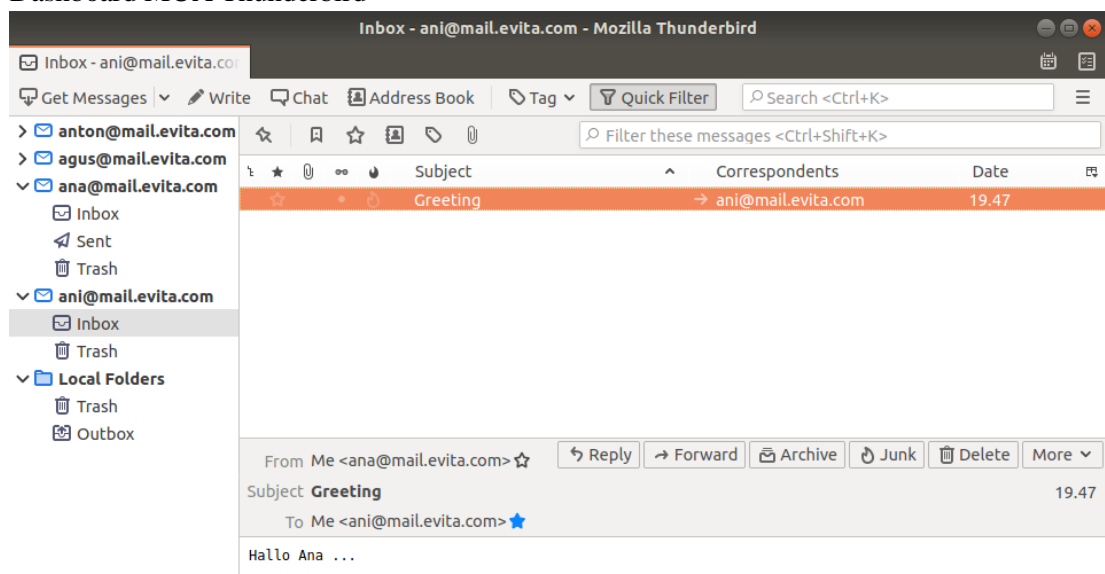
### Mail Server 1 (mail.evita.com)

1. Buat akun di Thunderbird dengan menggunakan username yang sudah dibuat sebelumnya. Klik Continue
2. Konfigurasi 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.





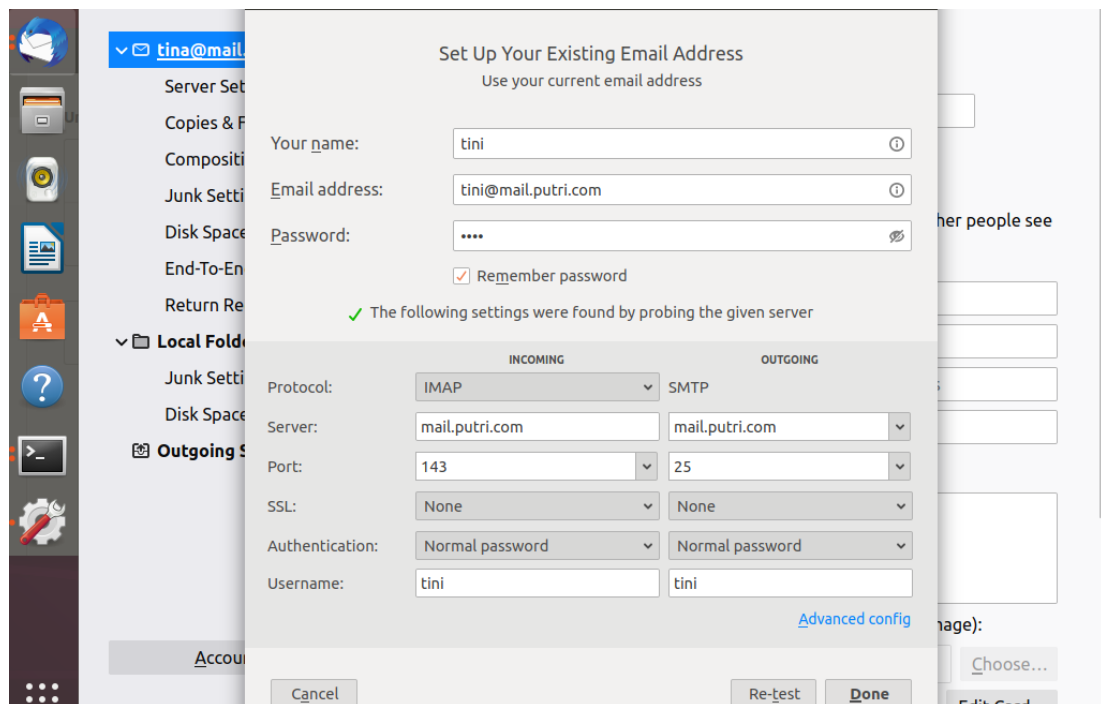
### 3. Dashboard MUA Thunderbird



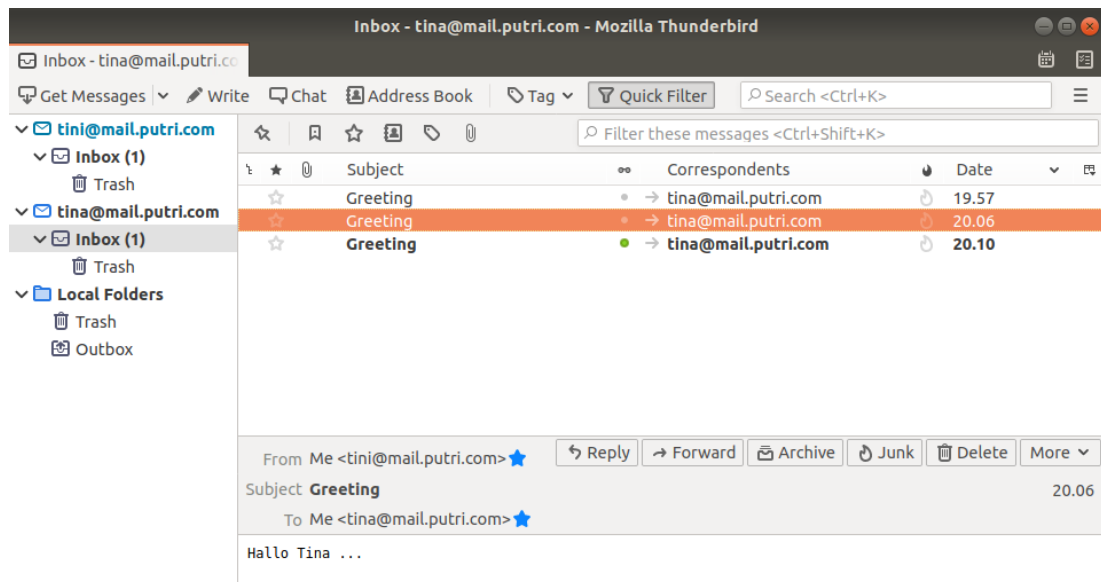
### Mail Server 2 (mail.putri.com)

1. Buat akun di Thunderbird dengan menggunakan username yang sudah dibuat sebelumnya.
2. Konfigurasi 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.





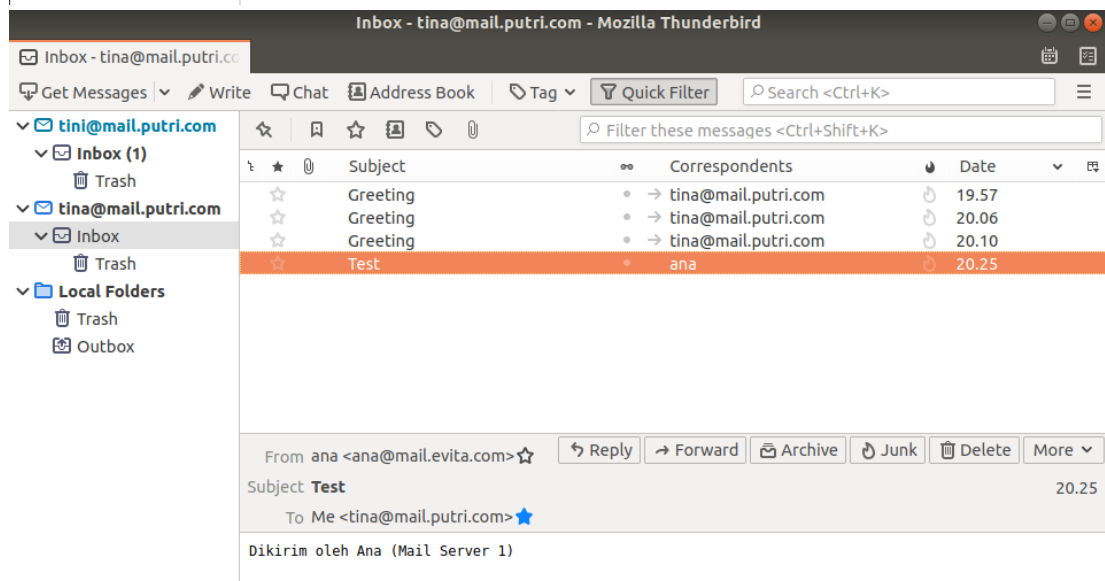
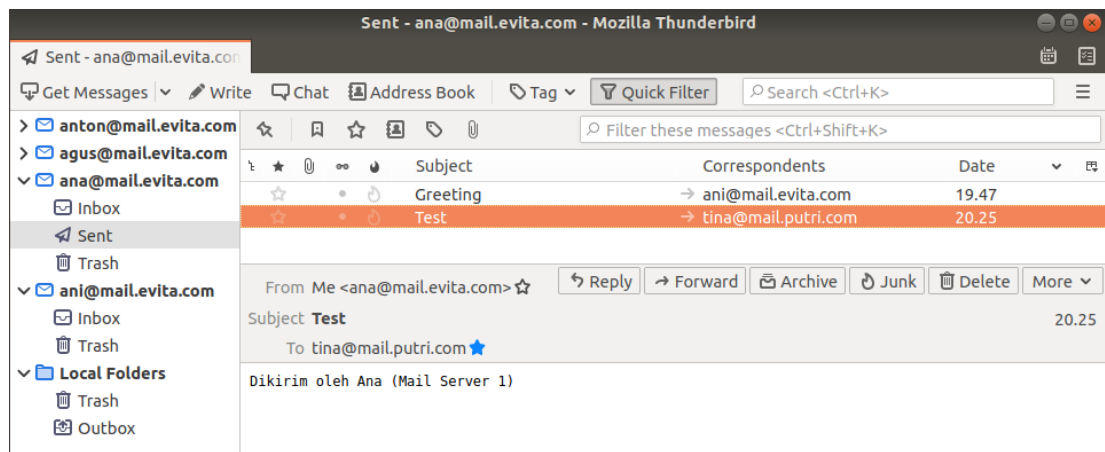
### 3. Dashboard MUA Thunderbird



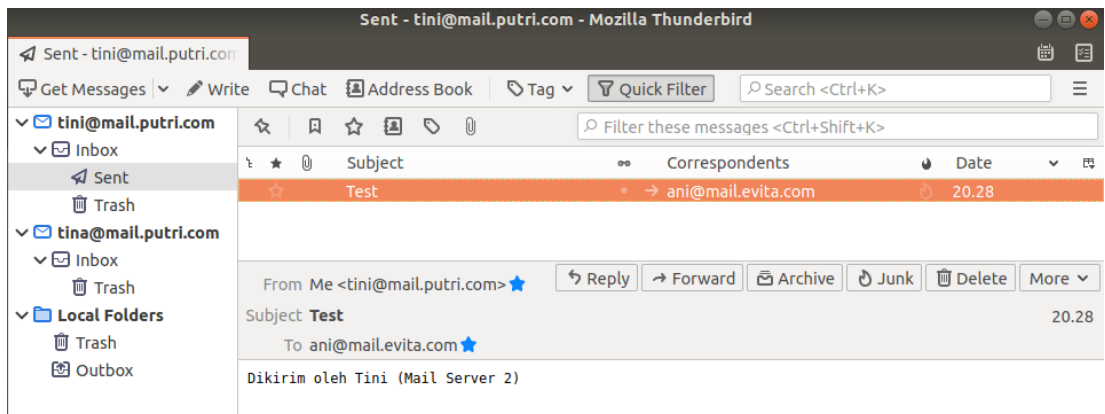
## E. Uji Coba Mail Server

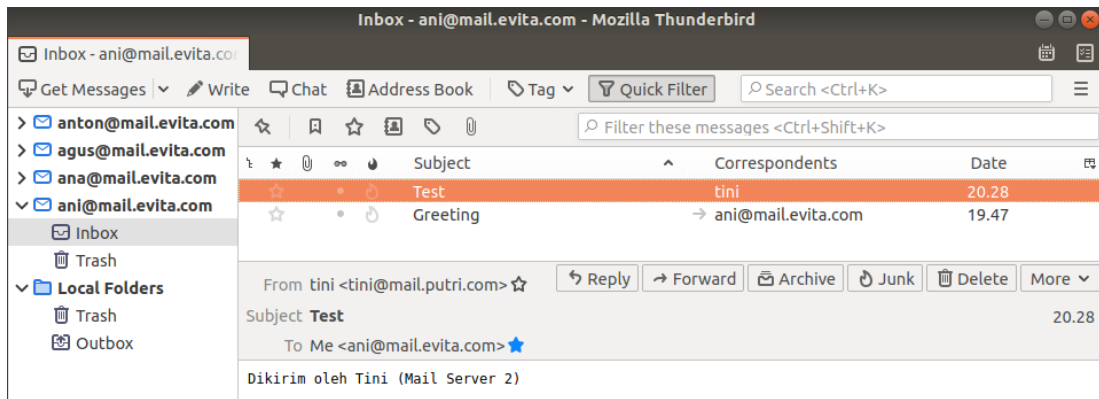
Uji coba dikatakan berhasil apabila semua user dapat saling berkirim email walaupun berbeda domain.

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



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





## 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:
   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'

```

3. 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...

```

4. Start service mailman dengan command **service mailman start** dan ktifkan 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

```

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

VM1



← → ↻ evita.com/cgi-bin/mailman/listinfo ☆ ☑ ☰

## 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](mailto:mailman@evita.com).

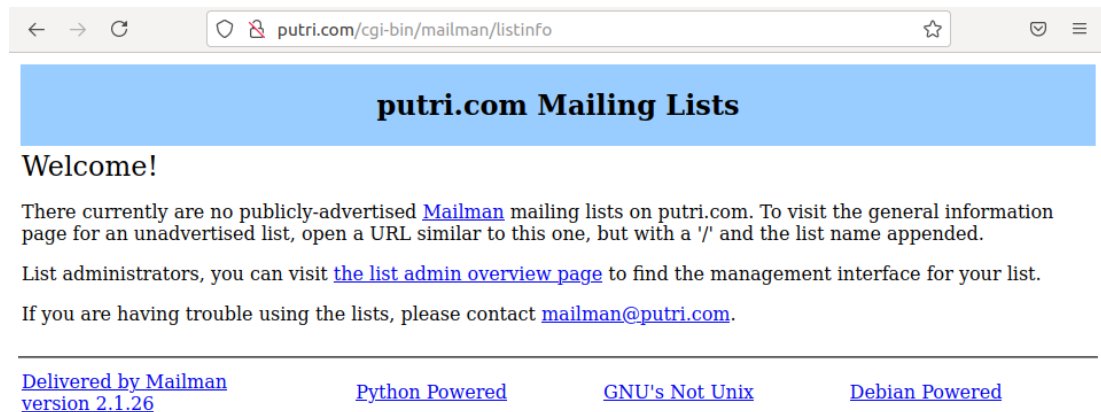
---






version 2.1.26

## VM 2



### 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

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_u$
myhostname = evita.com
alias_maps = hash:/etc/aliases, hash:/var/lib/mailman/data/aliases
alias_database = hash:/etc/aliases
mydestination = $myhostname, mail.evita.com, evita.com, evita-VirtualBox, ev$
relayhost =
mynetworks = 192.168.43.0/24, 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128 0.0$
mailbox_size_limit = 0
recipient_delimiter = +
inet_interfaces = all
inet_protocols = ipv4
home_mailbox = Maildir/
```

### 8. Restart postfix

10. Buka mailman di browser dengan URL (namadomain/cgi-bin/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



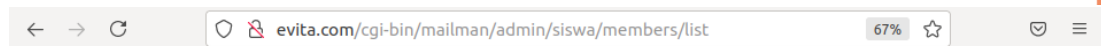
### Siswa Administrator Authentication

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

- [General Options](#)
  - [Passwords](#)
  - [Language options](#)
  - **Membership Management...**
    - [\[Membership List\]](#)
    - [Mass Subscription](#)
    - [Mass Removal](#)
    - [Address Change](#)
  - [Non-digest options](#)
  - [Digest options](#)
- Configuration Categories**

  - [Privacy options...](#)
  - [Bounce processing](#)
  - [Archiving Options](#)
  - [Mail<->News gateways](#)
  - [Auto-responder](#)
  - [Content filtering](#)
  - [Topics](#)
- 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"/>	<a href="#">agus@mail.evita.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾
<input type="checkbox"/>	<a href="#">anton@mail.evita.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾
<input type="checkbox"/>	<a href="#">toni@mail.putri.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾
<input type="checkbox"/>	<a href="#">tono@mail.putri.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾

VM2



### Siswi Administrator Authentication

List Administrator Password:

[Let me in...](#)

**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)

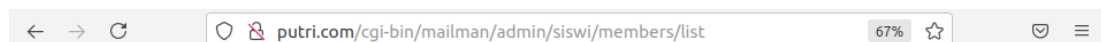
[Overview of all putri.com mailing lists](#)

[Delivered by Mailman version 2.1.26](#)

[Python Powered](#)

[GNU's Not Unix](#)

[Debian Powered](#)



### Siswi mailing list administration Membership Management... Section

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

#### Configuration Categories

- [Privacy options...](#)
- [Bounce processing](#)
- [Archiving Options](#)
- [Mail<->News gateways](#)
- [Auto-responder](#)
- [Content filtering](#)
- [Topics](#)

#### 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](#)):

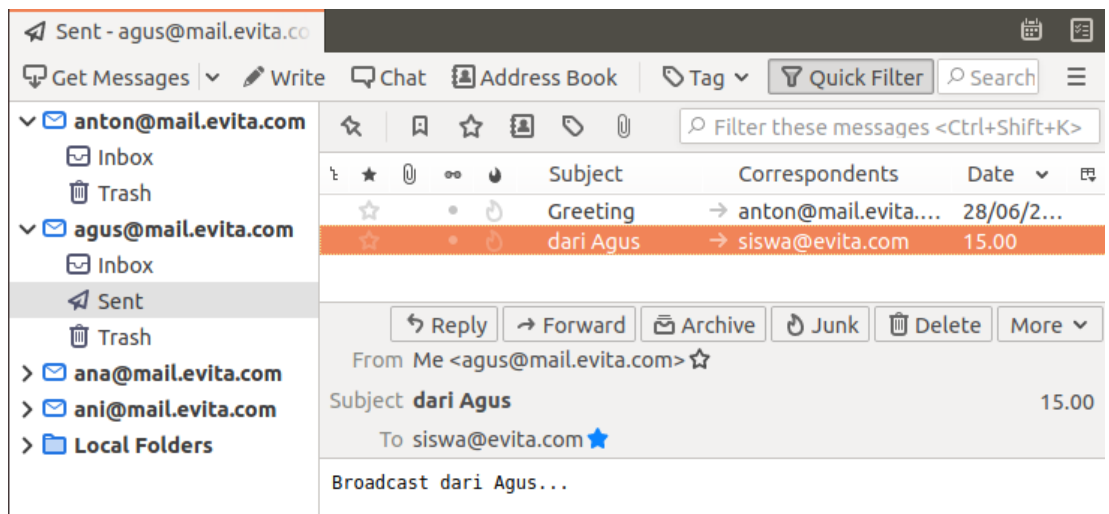
[Click here to include the legend for this table.](#)

4 members total										
unsub	member address member name	mod	hide	nomail [reason]	ack	not metoo	nodupes	digest	plain	language
<input type="checkbox"/>	<a href="#">ana@mail.evita.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾
<input type="checkbox"/>	<a href="#">ani@mail.evita.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾
<input type="checkbox"/>	<a href="#">tina@mail.putri.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾
<input type="checkbox"/>	<a href="#">tini@mail.putri.com</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▾

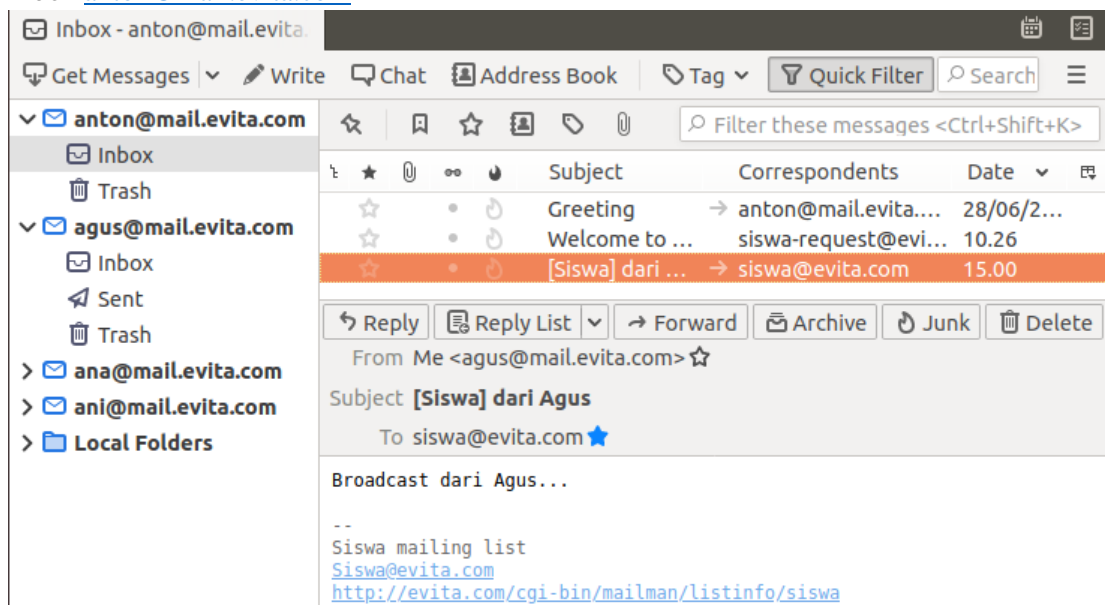
## 11. Pembuktian Mailing List user agus mengirim email ke mailing list [siswa@evita.com](#)

a) Isi pesan email dari agus





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



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



Inbox - agus@mail.evita.com

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

▼ anton@mail.evita.com

- Inbox
- Trash

▼ agus@mail.evita.com

- Inbox
- Sent
- Trash

> ana@mail.evita.com

> ani@mail.evita.com

> Local Folders

Filter these messages <Ctrl+Shift+K>

★	🔖	🔍	🔥	Subject	Correspondents	Date
☆	•	🔥		Welcome to ...	siswa-request@evi...	10.26
☆	•	🔥		[Siswa] dari ...	→ siswa@evita.com	15.00

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

From Me <agus@mail.evita.com> ☆

Subject [Siswa] dari Agus

To siswa@evita.com ☆

Broadcast dari Agus...

--

Siswa mailing list  
[Siswa@evita.com](mailto:Siswa@evita.com)  
<http://evita.com/cgi-bin/mailman/listinfo/siswa>

d) Inbox [toni@mail.putri.com](mailto:toni@mail.putri.com)

Inbox - toni@mail.putri.com

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

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

> tina@mail.....com (v1)

▼ toni@mail.putri.com

- Inbox (1)
- Trash

▼ tono@mail.putri.com

- Inbox (3)
- Trash

> Local Folders

- Trash
- Outbox

Filter these messages <Ctrl+Shift+K>

★	🔖	🔍	🔥	Subject	Correspondents	Date
☆	•	🔥		Welcome to ...	siswa-request@e...	10.26
☆	•	🔥		[Siswa] dari A...	agus	15.00

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

From agus <agus@mail.evita.com> ☆

Subject [Siswa] dari Agus

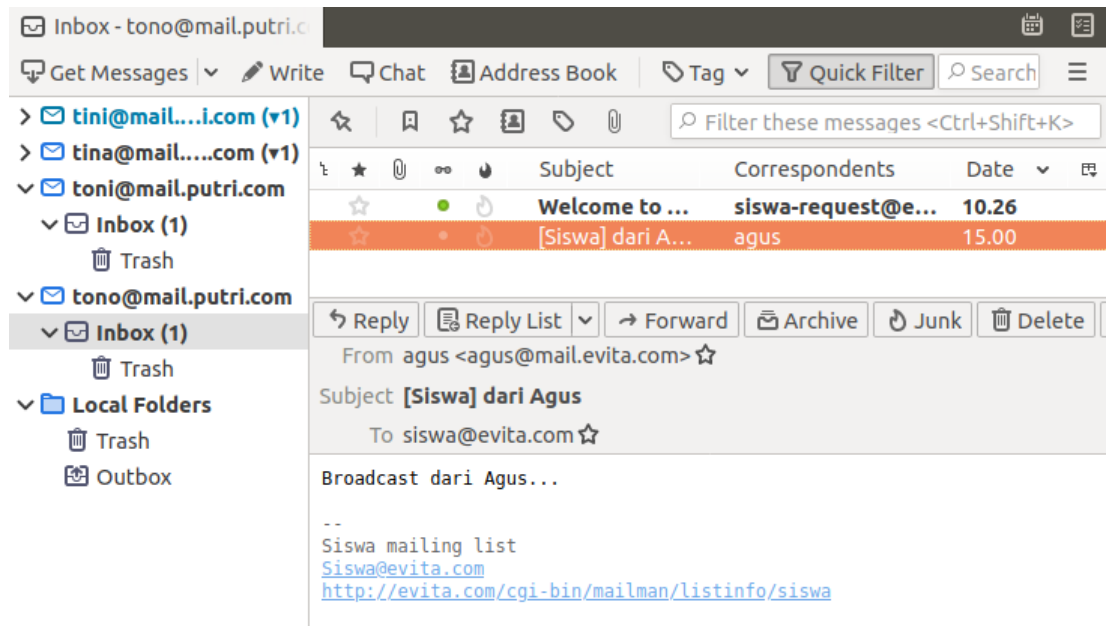
To siswa@evita.com ☆

Broadcast dari Agus...

--

Siswa mailing list  
[Siswa@evita.com](mailto:Siswa@evita.com)  
<http://evita.com/cgi-bin/mailman/listinfo/siswa>

e) Inbox [tono@mail.putri.com](mailto:tono@mail.putri.com)



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

12. Pembuktian Mailing List user ana mengirim email ke mailing list [siswa@evita.com](mailto:siswa@evita.com)

a) Isi pesan email dari ana

Sent - ana@mail.evita.com

Get Messages Write Chat Address Book Tag Quick Filter Search

anton@mail.evita.com

- Inbox
- Trash

agus@mail.evita.com

- Inbox
- Sent
- Trash

ana@mail.evita.com

- Inbox (1)
- Drafts
- Sent
- Trash

ani@mail.evita.com

Local Folders

Filter these messages <Ctrl+Shift+K>

Subject	Correspondents	Date
XJS*C4JDBQ... → ani@mail.evita.com	ani@mail.evita.com	11.46
XJS*C4JDBQ... → ani@mail.evita.com	ani@mail.evita.com	11.52
dari Ana → siswa@evita.com	siswa@evita.com	15.09

Reply Forward Archive Junk Delete More

From Me <ana@mail.evita.com>

Subject **dari Ana** 15.09

To siswa@evita.com

Broadcast dari Ana ...

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

Inbox - agus@mail.evita.com

Get Messages Write Chat Address Book Tag Quick Filter Search

anton@mail.evita.com

- Inbox
- Trash

agus@mail.evita.com

- Inbox
- Sent
- Trash

ana@mail.evita.com

- Inbox
- Drafts
- Sent
- Archives
- Trash

ani@mail.evita.com

Local Folders

Filter these messages <Ctrl+Shift+K>

Subject	Correspondents	Date
Welcome to ...	siswa-request@evi...	10.26
[Siswa] dari ... → siswa@evita.com	siswa@evita.com	15.00
[Siswa] dari ... → siswa@evita.com	siswa@evita.com	15.09

Reply Reply List Forward Archive Junk Delete

From Me <ana@mail.evita.com>

Subject **[Siswa] dari Ana**

To siswa@evita.com

Broadcast dari Ana ...

--  
 Siswa mailing list  
[Siswa@evita.com](mailto:Siswa@evita.com)  
<http://evita.com/cgi-bin/mailman/listinfo/siswa>

c) Inbox [anton@mail.evita.com](mailto:anton@mail.evita.com)

Inbox - anton@mail.evita.com

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

anton@mail.evita.com

- Inbox
- Trash
- agus@mail.evita.com
  - Inbox (3)
  - Sent
  - Trash
- ana@mail.evita.com
  - Inbox
  - Drafts
  - Sent
  - Archives
  - Trash
- ani@mail.evita.com
- Local Folders

Subject	Correspondents	Date
Greeting	anton@mail.evita...	28/06/2...
Welcome to ...	siswa-request@evi...	10.26
[Siswa] dari ...	siswa@evita.com	15.00
[Siswa] dari ...	siswa@evita.com	15.09

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

From Me <ana@mail.evita.com> ☆

Subject **[Siswa] dari Ana**

To siswa@evita.com ★

Broadcast dari Ana ...

--

Siswa mailing list  
[Siswa@evita.com](mailto:Siswa@evita.com)  
<http://evita.com/cgi-bin/mailman/listinfo/siswa>

d) Inbox [tono@mail.putri.com](mailto:tono@mail.putri.com)

Inbox - tono@mail.putri.com

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

tini@mail....l.com (▼1)

tina@mail.....com (▼1)

toni@mail.putri.com

- Inbox (4)
- Trash
- tono@mail.putri.com
  - Inbox (1)
  - Trash
- Local Folders
  - Trash
  - Outbox

Subject	Correspondents	Date
Welcome to ...	siswa-request@e...	10.26
[Siswa] dari A...	agus	15.00
[Siswa] dari Ana	ana	15.09

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

From ana <ana@mail.evita.com> ☆

Subject **[Siswa] dari Ana**

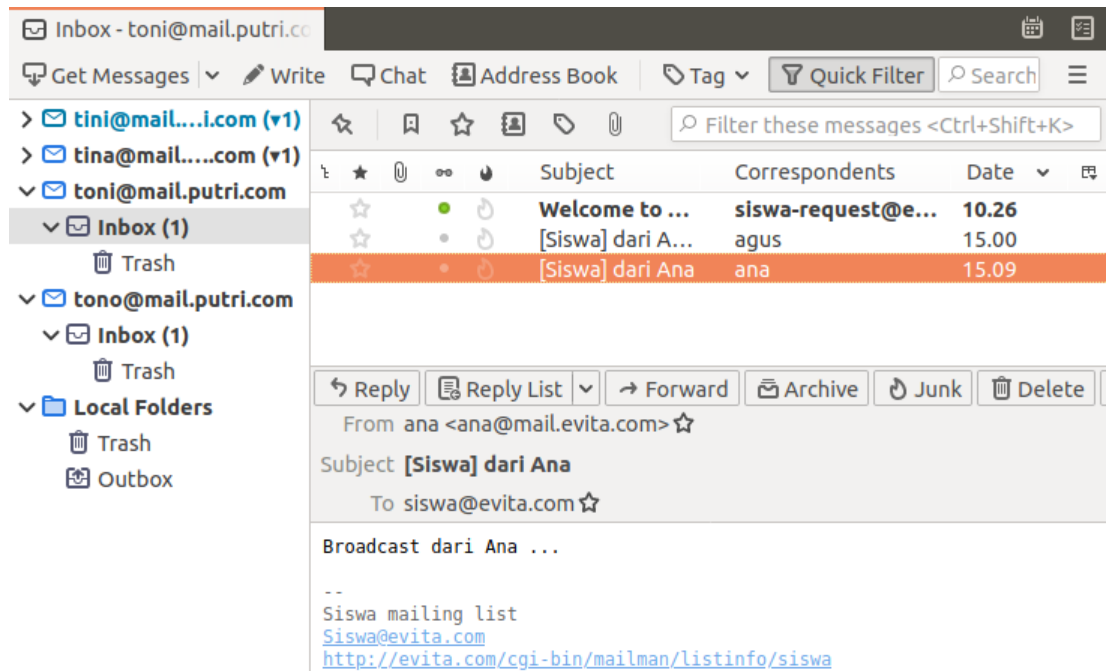
To siswa@evita.com ☆

Broadcast dari Ana ...

--

Siswa mailing list  
[Siswa@evita.com](mailto:Siswa@evita.com)  
<http://evita.com/cgi-bin/mailman/listinfo/siswa>

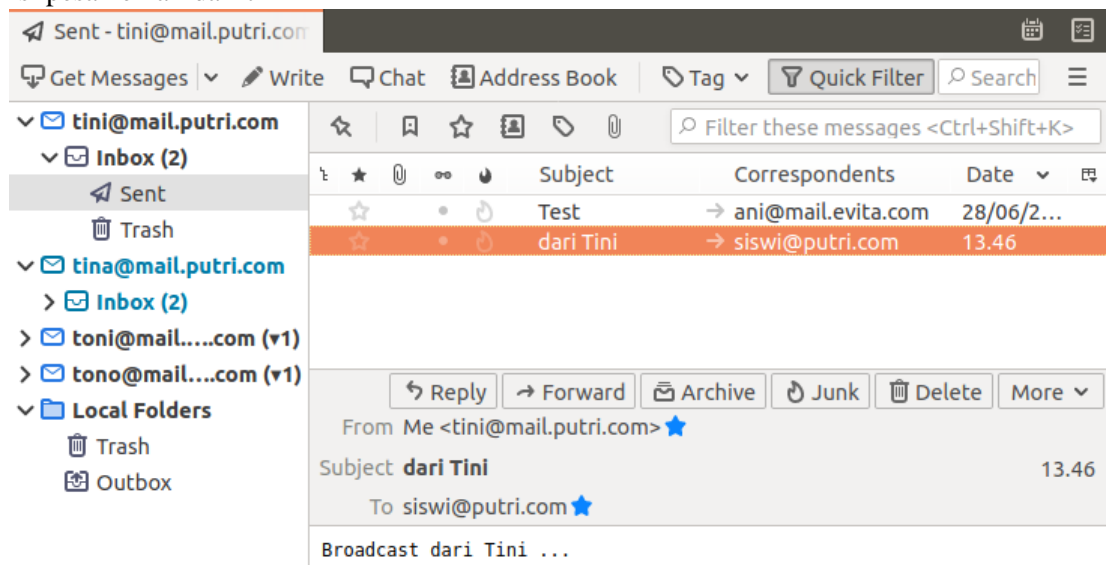
e) Inbox [toni@mail.putri.com](mailto:toni@mail.putri.com)



Dari percobaan tersebut dapat disimpulkan bahwa user yang tidak terdaftar dalam mailing list, bisa mengirim pesan ke mailing list tersebut ([siswa@evita.com](mailto: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](mailto:siswi@putri.com)

#### a) Isi pesan email dari tini



#### b) Inbox [tini@mail.putri.com](mailto:tini@mail.putri.com)

Inbox - tini@mail.putri.com

Get Messages Write Chat Address Book Tag Quick Filter Search

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

Reply Reply List Forward Archive Junk Delete

From Me <tini@mail.putri.com> ★

Subject [Siswi] dari Tini

To siswi@putri.com ★

Broadcast dari Tini ...

--

Siswi mailing list  
[Siswi@putri.com](mailto:Siswi@putri.com)  
<http://putri.com/cgi-bin/mailman/listinfo/siswi>

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

Reply Reply List Forward Archive Junk Delete

From Me <tina@mail.putri.com> ★

Subject [Siswi] dari Tini

To siswi@putri.com ★

Broadcast dari Tini ...

--

Siswi mailing list  
[Siswi@putri.com](mailto:Siswi@putri.com)  
<http://putri.com/cgi-bin/mailman/listinfo/siswi>

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

Inbox - ana@mail.evita.co

Get Messages Write Chat Address Book Tag Quick Filter Search

anton@mail.evita.com  
 agus@mail.evita.com  
 Inbox  
 Sent  
 Trash  
 ana@mail.evita.com  
 Inbox  
 Drafts  
 Sent  
 Archives  
 Trash  
 ani@mail.e....com (v1)  
 Local Folders

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

Reply Reply List Forward Archive Junk Delete

From tini <tini@mail.putri.com>

Subject [Siswi] dari Tini

To siswi@putri.com

Broadcast dari Tini ...

--  
 Siswi mailing list  
[Siswi@putri.com](mailto:Siswi@putri.com)  
<http://putri.com/cgi-bin/mailman/listinfo/siswi>

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

Inbox - ani@mail.evita.co

Get Messages Write Chat Address Book Tag Quick Filter Search

anton@mail.evita.com  
 agus@mail.evita.com  
 Inbox  
 Sent  
 Trash  
 ana@mail.evita.com  
 ani@mail.evita.com  
 Inbox  
 Trash  
 Local Folders

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

Reply Reply List Forward Archive Junk Delete

From tini <tini@mail.putri.com>

Subject [Siswi] dari Tini

To siswi@putri.com

Broadcast dari Tini ...

--  
 Siswi mailing list  
[Siswi@putri.com](mailto:Siswi@putri.com)  
<http://putri.com/cgi-bin/mailman/listinfo/siswi>

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

14. Pembuktian Mailing List user toni mengirim email ke mailing list [siswi@putri.com](mailto:siswi@putri.com)

a) Isi pesan email dari toni

The screenshot shows an email client window titled "Inbox - toni@mail.putri.co". The left sidebar lists folders: "Inbox (1)", "tono@mail.putri.com", "Trash", and "Local Folders". The main pane displays a list of emails. The selected email is from "siswi-owner@putri.com" with the subject "Your message to Siswi awaits moderator approval" and a timestamp of 13.56. The email body contains the following text:

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

The screenshot shows an email client window titled "Inbox - ana@mail.evita.co". The left sidebar lists folders: "Inbox", "Drafts", "Sent", "Archives", "Trash", and "Local Folders". The main pane displays a list of emails. The selected email is from "toni" with the subject "[Siswi] dari Toni" and a timestamp of 13.56. The email body contains the following text:

From toni <toni@mail.putri.com> ☆

Subject **[Siswi] dari Toni**

To siswi@putri.com ★

Broadcast dari Toni ...

--

Siswi mailing list  
[Siswi@putri.com](mailto:Siswi@putri.com)  
<http://putri.com/cgi-bin/mailman/listinfo/siswi>



c) Inbox [ani@mail.evita.com](mailto:ani@mail.evita.com)

The screenshot shows the inbox for [ani@mail.evita.com](mailto:ani@mail.evita.com). The left sidebar lists folders: Inbox, Trash, and Local Folders. The main pane displays a list of messages with columns for Subject, Correspondents, and Date. The selected message is from Toni to siswi@putri.com with the subject '[Siswi] dari Toni'.

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 T...	toni	13.56

Message details:  
 From: toni <toni@mail.putri.com>  
 Subject: [Siswi] dari Toni  
 To: siswi@putri.com  
 Broadcast dari Toni ...

d) Inbox [tina@mail.putri.com](mailto:tina@mail.putri.com)

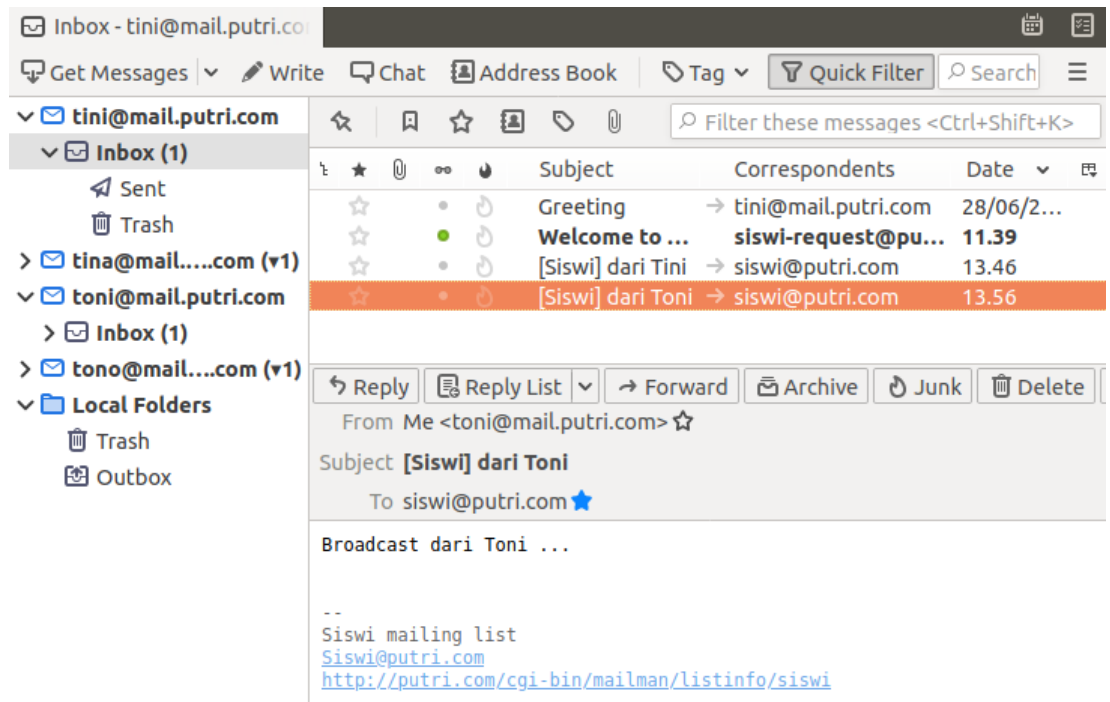
The screenshot shows the inbox for [tina@mail.putri.com](mailto:tina@mail.putri.com). The left sidebar lists folders: Inbox (1), Trash, Outbox, and Local Folders. The main pane displays a list of messages with columns for Subject, Correspondents, and Date. The selected message is from Me (toni@mail.putri.com) to siswi@putri.com with the subject '[Siswi] dari Toni'.

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

Message details:  
 From: Me <toni@mail.putri.com>  
 Subject: [Siswi] dari Toni  
 To: siswi@putri.com  
 Broadcast dari Toni ...

--  
 Siswi mailing list  
[Siswi@putri.com](mailto:Siswi@putri.com)  
<http://putri.com/cgi-bin/mailman/listinfo/siswi>

e) Inbox [tini@putri.com](mailto: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](mailto: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
<pre># 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</pre>		

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}

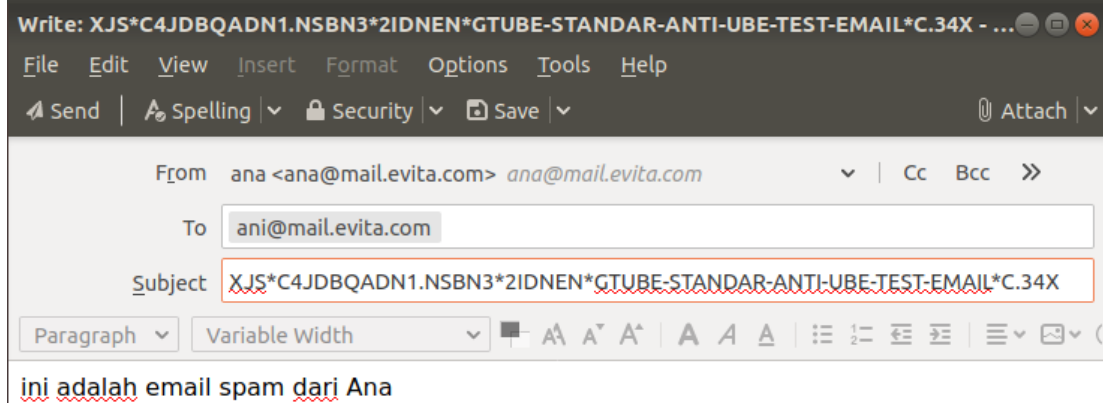
```

## 6. Restart postfix dan SpamAssassin

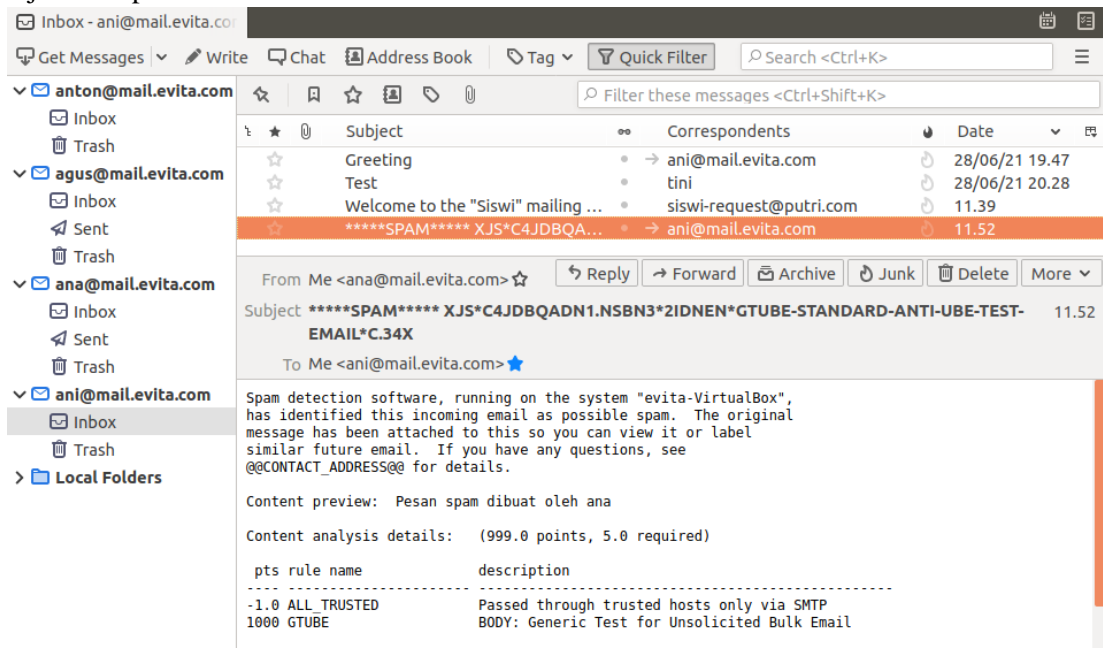
```

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 tina yang menandakan bahwa SpamAssassin bekerja dengan baik.