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Faculty of Computer Science

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Subject: Linux Server Administration

Topic: Mail Server

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Content

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3. Which one do you use?
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I. What is Mail Server?

ជាម៉ាស៊ីនមេ (server) ដែលត្រូវបានប្រើសម្រាប់ ធ្វើ ទទួល និងរក្សាទុកអ៊ីមែល។ វាជាផ្នែកមួយសំខាន់នៃប្រព័ន្ធសារអេឡិចត្រូនិក (Email System) ដែលអាចដំណើរការតាមប្រព័ន្ធអ៊ីនធឺណិត ឬក្នុងបណ្តាញផ្ទៃក្នុង (local network)។

II. Type of mail server

ប្រភេទនៃ Mail Server មានដូចជា POP3, IMAP, SMTP,... និងមានជាច្រើនទៀត។

1. IMAP (Internet Message Access Protocol)

- គួនាទី: ប្រើសម្រាប់ ទាញអ៊ីមែលពីម៉ាស៊ីនមេ (server) ដោយអ៊ីមែលនៅតែស្ថិតនៅលើម៉ាស៊ីនមេ។
- លក្ខណៈពិសេស:
 - អាចអានអ៊ីមែលពីឧបករណ៍ណាមួយ (laptop, phone, tablet) ដោយសម្របសម្រួលជាមួយម៉ាស៊ីនមេ។
 - អ៊ីមែលត្រូវបានរក្សាទុកលើ server។
 - ល្អសម្រាប់ការប្រើប្រាស់ជាច្រើនឧបករណ៍។
- Port:
 - Default IMAP: 143
 - IMAP over SSL (encrypted): 993

2. POP3 (Post Office Protocol version 3)

- គួនាទី: ប្រើសម្រាប់ ទាញអ៊ីមែលពីម៉ាស៊ីនមេទៅកាន់ឧបករណ៍ ហើយជាញឹកញាប់លុបអ៊ីមែលពី server បន្ទាប់ពីទាញបាន។
- លក្ខណៈពិសេស:

- អ៊ីមែលត្រូវបានផ្ទុកក្នុងកុំព្យូទ័រឧបករណ៍បន្ទាប់ពីទាញបាន។
- មិនសូវសមស្របសម្រាប់ការប្រើប្រាស់ពីឧបករណ៍ច្រើនៗទេ។
- ប្រើប្រាស់ RAM និមួយៗដោយឡែក។
- **Port:**
 - Default POP3: 110
 - POP3 over SSL: 995
- 3. SMTP (Simple Mail Transfer Protocol)**
- **តួនាទី:** ប្រើសម្រាប់ ផ្ញើអ៊ីមែលពី client ទៅ server, ឬពី server ទៅ server ផ្សេងទៀត។
- **លក្ខណៈពិសេស:**
 - មិនបានប្រើសម្រាប់ទទួលអ៊ីមែលទេ, តែសម្រាប់ផ្ញើ។
 - Client ដូចជា Outlook, Gmail App ប្រើ SMTP ដើម្បីផ្ញើអ៊ីមែល។
- **Port:**
 - Default SMTP: 25
 - SMTP with STARTTLS: 587
 - SMTP over SSL: 465

III. Which one do you use?

យើងនឹងធ្វើការជ្រើសរើសយក pop3 ដើម្បីធ្វើជា Mail server។ ព្រោះ:

- a. ត្រូវការទាញអ៊ីមែលមករក្សាទុកក្នុងកុំព្យូទ័រផ្ទាល់ខ្លួន
 - POP3 នឹងទាញអ៊ីមែលចេញពីម៉ាស៊ីនមេ (mail server) ហើយរក្សាទុកវានៅក្នុងកុំព្យូទ័រ ឬឧបករណ៍។

- ល្អសម្រាប់ប្រើនៅកន្លែងដែល អ៊ីនធឺណិតមានកម្រិត (អាចអានអ៊ីមែលបានក្រៅបណ្តាញ)។
ចង់បន្ថយការប្រើ storage នៅលើ Mail Server
- ព្រោះ POP3 ទាញអ៊ីមែលចេញ ហើយជាច្រើនលុបចេញពី server (unless you change settings)។
- អ្នកអាចជៀសវាងការរួមកន្លែងនៅលើ Mail Hosting ដូចជា cPanel ដែលមានលំហជាចំនួនកំណត់។

b. ប្រើតែឧបករណ៍តែមួយក្នុងការអានអ៊ីមែល

- POP3 សមស្របសម្រាប់អ្នកដែលប្រើតែ laptop ឬ desktop មួយគត់ក្នុងការចូលអ៊ីមែល។
- មិនសូវសមស្របប្រសិនបើចង់ប្រើប្រាស់ពីឧបករណ៍ច្រើនៗ (ជាពិសេស mobile/tablet)។

c. ការចងចាំអ៊ីមែលនៅក្នុងម៉ាស៊ីនអ្នកប្រើ

- អ៊ីមែលដែលបានទាញរួចនឹងនៅក្នុង device អ្នកប្រើ សមស្របសម្រាប់អ្នកចង់រក្សាទុកអ៊ីមែល “offline” យូរយាង។

d. ងាយស្រួលក្នុងការបម្រុងទុក (backup) អ៊ីមែល

- ព្រោះអ៊ីមែលទាំងអស់ស្ថិតនៅក្នុងម៉ាស៊ីននោះ អ្នកអាចធ្វើការ backup ដោយប្រើ software ដូចជា Outlook, Thunderbird ល។

IV. Configuration

1. Install Postfix (SMTP Server)

បន្ទាប់មក បើក service និងបញ្ជូនវាឱ្យដំណើរការ startup នៅពេល boot:

```
# sudo systemctl enable --now postfix
```

ធ្វើការកំណត់ Postfix (ប្រើ editor ដូចជា nano ឬ vi):

```
# sudo nano /etc/postfix/main.cf
```

កែប្រែឬបន្ថែមតម្លៃដូចខាងក្រោម៖

```
1 myhostname = mail.savan.com
2 mydomain = savan.com
3 myorigin = $mydomain
4 inet_interfaces = all
5 inet_protocols = all
6 #mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain
7 mydestination = mail.savan.com, localhost.mail.savan.com, localhost, savan.com
8 # Enable local delivery
9 home_mailbox = Maildir/
10 |
11 # Other common settings
12 #smtpd_banner = $myhostname ESMTP $mail_name
13 #biff = no
14 #append_dot_mydomain = no
15 #readme_directory = no
16
17 # TLS (optional, but recommended)
18 #smtpd_use_tls = yes
19 #smtpd_tls_cert_file = /etc/ssl/certs/your_cert.pem
20 #smtpd_tls_key_file = /etc/ssl/private/your_key.pem
21 #smtpd_tls_session_cache_database = btree:${data_directory}/smtpd_scache
22
23 #\# Authentication settings (if you want SMTP auth)
24 #smtpd_sasl_type = dovecot
25 #smtpd_sasl_path = private/auth
26 #smtpd_sasl_auth_enable = yes
27 smtpd_replay_restrictions = permit_mynetworks, reject_unauth_destination
28 smtpd_recipient_restrictions = permit_sasl_authenticated, permit_mynetworks, reject_unauth_destination
```

បន្ទាប់មក Restart Postfix:

```
# sudo systemctl restart postfix
```

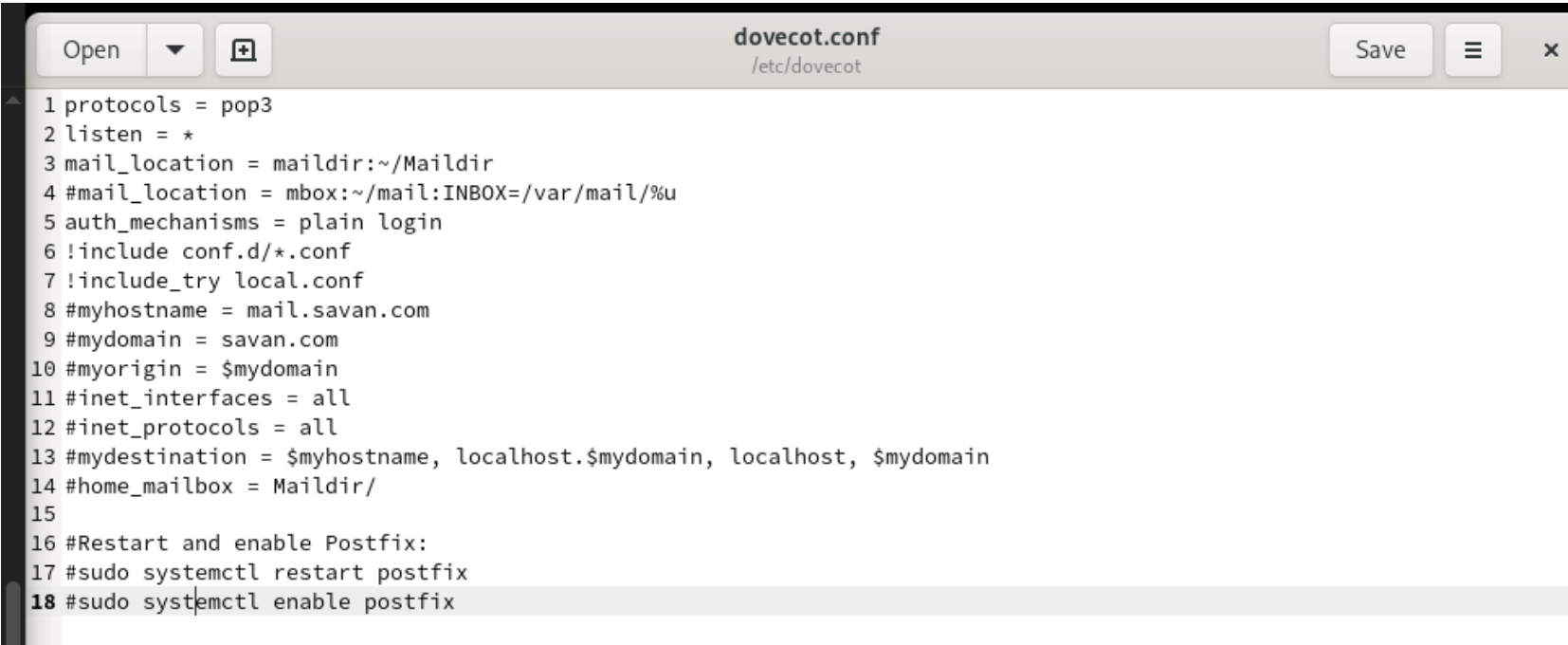
2. តម្លើង Dovecot (IMAP/POP3 Server)

sudo dnf install dovecot -y

```
[root@fedora /]# dnf install postfix dovecot -y
Fedora Modular 34 - x86_64                8.3 kB/s | 5.9 kB      00:00
Fedora Modular 34 - x86_64 - Updates      11 kB/s | 4.9 kB      00:00
Fedora 34 - x86_64 - Updates               8.8 kB/s | 5.0 kB      00:00
Fedora 34 - x86_64                        3.4 kB/s | 6.0 kB      00:01
Package postfix-2:3.5.10-2.fc34.x86_64 is already installed.
Package dovecot-1:2.3.17.1-1.fc34.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@fedora /]#
```

ចូលទៅកែ នៅក្នុង dovecot.conf

nano etc/dovecot/dovecot.conf

A screenshot of a nano text editor window. The title bar shows 'dovecot.conf' and the path '/etc/dovecot'. The editor contains a configuration file with 18 lines of text. Line 18 is highlighted. The interface includes 'Open', 'Save', and a close button (X) in the top right. A vertical scrollbar is on the right side.

```
1 protocols = pop3
2 listen = *
3 mail_location = maildir:~/Maildir
4 #mail_location = mbox:~/mail:INBOX=/var/mail/%u
5 auth_mechanisms = plain login
6 !include conf.d/*.conf
7 !include_try local.conf
8 #myhostname = mail.savan.com
9 #mydomain = savan.com
10 #myorigin = $mydomain
11 #inet_interfaces = all
12 #inet_protocols = all
13 #mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain
14 #home_mailbox = Maildir/
15
16 #Restart and enable Postfix:
17 #sudo systemctl restart postfix
18 #sudo systemctl enable postfix
```

Restart Dovecot service:


```
# sudo systemctl enable --now dovecot
```

```
[root@fedora ~]# systemctl enable --now postfix
Created symlink /etc/systemd/system/multi-user.target.wants/postfix.service → /usr/lib/systemd/system/postfix.service.
[root@fedora ~]# systemctl status postfix
● postfix.service - Postfix Mail Transport Agent
   Loaded: loaded (/usr/lib/systemd/system/postfix.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2025-08-18 20:26:09 +07; 31min ago
     Main PID: 4019 (master)
       Tasks: 3 (limit: 4667)
      Memory: 5.9M
         CPU: 1.196s
       CGroup: /system.slice/postfix.service
              └─4019 /usr/libexec/postfix/master -w
                 └─4020 pickup -l -t unix -u
                    └─4021 qmgr -l -t unix -u

Aug 18 20:50:19 fedora postfix/cleanup[4472]: E421E2B0AC: message-id=<20250818135019.E421E2B0>
Aug 18 20:50:19 fedora postfix/qmgr[4021]: E421E2B0AC: from=<root@savan.com>, size=419, nrcpt>
```

កំណត់ឱ្យ Dovecot អាន Maildir:

```
# sudo nano /etc/dovecot/conf.d/10-mail.conf
mail_location = maildir:~/Maildir
sudo nano /etc/dovecot/conf.d/10-master.conf
service imap-login {
  inet_listener imap {
    port = 143 }}
service pop3-login {
  inet_listener pop3 {
    port = 110 }}
```

បន្ទាប់មក Restart Dovecot:

```
# sudo systemctl restart dovecot
```

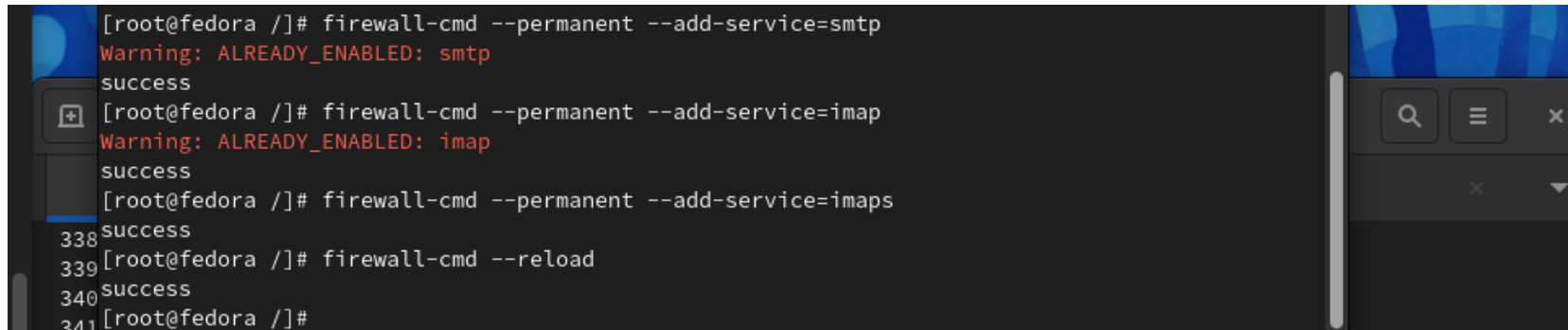
3. បើក Port នៅ Firewall

```
sudo firewall-cmd --permanent --add-service=smtp
```

```
sudo firewall-cmd --permanent --add-service=imap
```

```
sudo firewall-cmd --permanent --add-service=pop3
```

```
sudo firewall-cmd --reload
```

A terminal window screenshot showing the execution of firewall commands. The prompt is [root@fedora /]#. The commands and their outputs are: 1. firewall-cmd --permanent --add-service=smtp: Warning: ALREADY_ENABLED: smtp, success. 2. firewall-cmd --permanent --add-service=imap: Warning: ALREADY_ENABLED: imap, success. 3. firewall-cmd --permanent --add-service=imaps: success. 4. firewall-cmd --reload: success. Line numbers 338, 339, 340, and 341 are visible on the left side of the terminal output.

```
[root@fedora /]# firewall-cmd --permanent --add-service=smtp
Warning: ALREADY_ENABLED: smtp
success
[root@fedora /]# firewall-cmd --permanent --add-service=imap
Warning: ALREADY_ENABLED: imap
success
[root@fedora /]# firewall-cmd --permanent --add-service=imaps
success
338 success
339 [root@fedora /]# firewall-cmd --reload
340 success
341 [root@fedora /]#
```

4. បង្កើត User សម្រាប់ទទួលអ៊ីមែល និង set permission ប្តីចូល user ដែលបានបង្កើត and test send mail

```
# sudo useradd testUser
```

```
# sudo passwd testUser
```

```
# chmod -R 700 home/testUser/Maildirectory
```

```
# chown testUser:testUser home/testUser/Maildirectory
```

```
# echo "Hello, My name is Savan" | mail -s "Subject" testUser@savan.com
```

```
[root@fedora /]# useradd testUser
[root@fedora /]# passwd testUser
Changing password for user testUser.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@fedora /]# mkd
mkdict    mkdir    mkdosfs  mkdumprd
[root@fedora /]# mkdir /home/testUser/Maildirectory
[root@fedora /]# chown testUser:testUser home/testUser/Maildirectory/
[root@fedora /]# chmod -R 700 home/testUser/Maildirectory/
[root@fedora /]# echo "Hello, My name is Savan" | mail -s "Subject" testUser@savan.com
[root@fedora /]#
```

5. How to check ?

- យើងត្រូវតែ download Thunderbird ដើម្បីពិនិត្យមើលការ send Mail
- បន្ទាប់មកបើក Thunderbird ដើម្បី login

thunderbird

យើងត្រូវបំពេញ Username និង Password ដែលយើងបានបង្កើតនៅខាងលើ ហើយប្រើប្រាស់ mail ដែលយើងបានធ្វើការ send ទៅដូចខាងលើ។

Account Setup - Mozilla Thunderbird

fedora@savan.com

Account Setup

Email address

testUser@savan.com

Password

savan

☒ Remember password

✓ Configuration found by trying common server names.

Available configuration

☒ POP3

Keep your folders and emails on your computer

☒ Incoming

POP3 savan.com STARTTLS

☒ Outgoing

SMTP savan.com **No Encryption**

☒ Username

testUser

[Configure manually](#)

Cancel

Done



Not sure what to select?

[Setup documentation](#) - [Support forum](#) - [Privacy policy](#)

No messages to download

fedora@savan.com

Account Setup

Email address

testUser@savan.com

Password

savan

☒ Remove☒ Complete

Available

☒ POP

Keep



Warning!

Outgoing settings:

savan.com does not use encryption.

Insecure mail servers do not use encrypted connections to protect your passwords and private information. By connecting to this server you could expose your password and private information.

Thunderbird can allow you to get to your mail using the provided configurations. However, you should contact your administrator or email provider regarding these improper connections. See the [Thunderbird FAQ](#) for more information.

☒ I understand the risks[Change Settings](#)[Confirm](#)[Configure manually](#)[Cancel](#)[Done](#)

✓ Account successfully created

You can now use this account with Thunderbird.

You can improve the experience by connecting related services and configuring advanced account settings.

✉ testUser testUser@savan.com

POP3

⚙ Account settings 🔑 End-to-end encryption

✍ Add a signature ⬇ Download dictionaries



Connect your linked services

Setup other services to get the most out of your Thunderbird experience.

👤 Connect to a CardDAV address book

👤 Connect to an LDAP address book

📅 Connect to a remote calendar

Finish

Not sure about your next steps?

[Getting started](#) - [Support forum](#) - [Privacy policy](#)

Inbox - testUser@savan.com

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

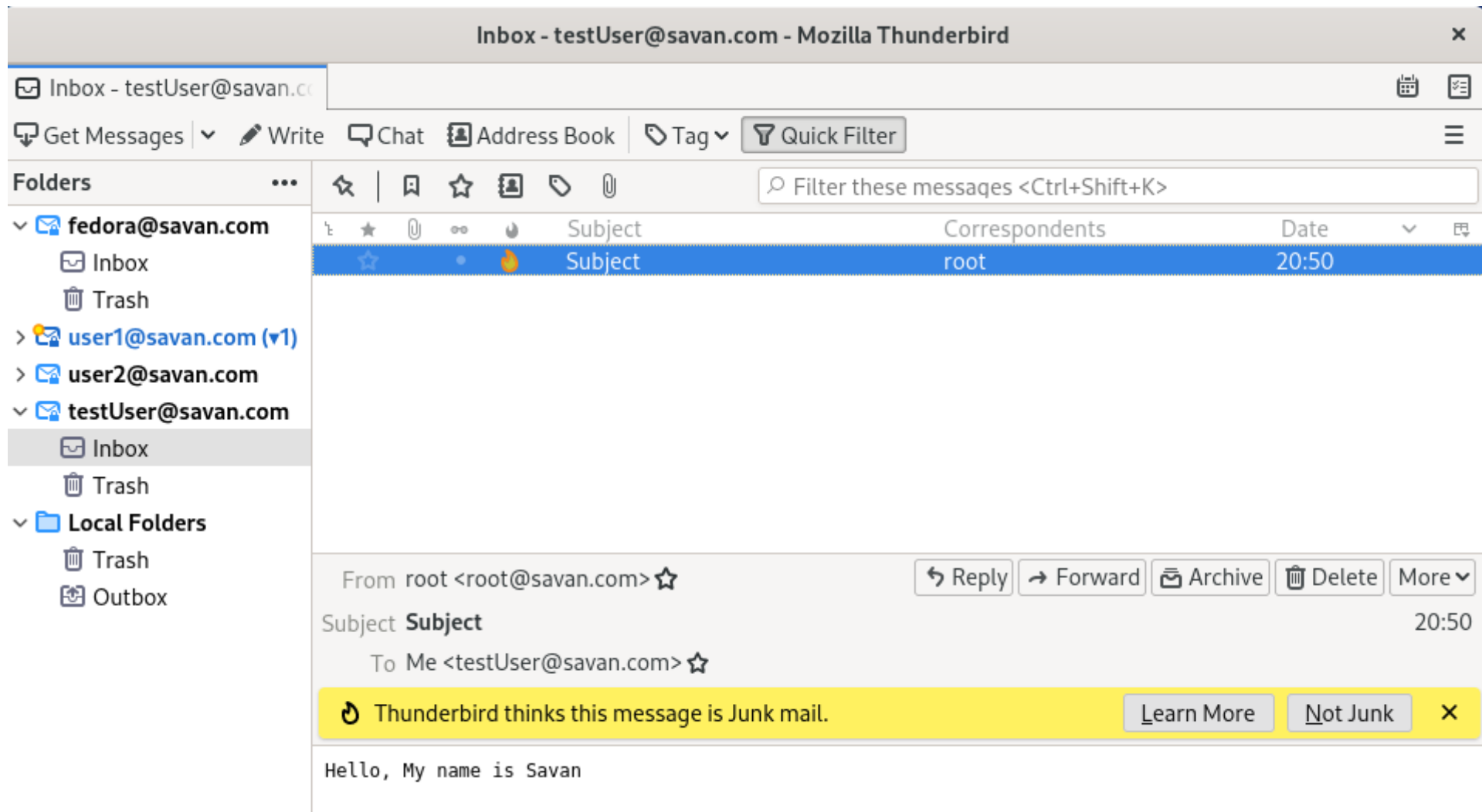
Folders

- ✓ fedora@savan.com
 - Inbox
 - Trash
- > user1@savan.com (▼1)
- > user2@savan.com
- ✓ testUser@savan.com
 - Inbox (1)
 - Trash
- ✓ Local Folders
 - Trash
 - Outbox

Filter these messages <Ctrl+Shift+K>

| | | | | Subject | Correspondents | Date |
|--|--|--|--|---------|----------------|-------|
| | | | | Subject | root | 20:50 |

យើងអាចធ្វើការចុចតែកមើលរាល់ mail ដែលបាន send មកដូចខាងក្រោមបាន។



Successful

Thank you