Ubuntu 22.04– install&configure Postfix–Dovecot

Services et Administration des Réseaux

2024-2025

Ubuntu 22.04 –install & configure Postfix – Dovecot

Introduction:

Setting up a robust and reliable email infrastructure is a fundamental requirement for modern communication. In this lab, we will delve into the installation and configuration of an email server on Ubuntu 22.04, with the domain name **esprit.com**

Our email server will utilize two critical components: the Mail Transfer Agent (MTA) and the Mail Delivery Agent (MDA). These components play distinct yet complementary roles in ensuring the smooth flow of electronic mail.

- MTA (Mail Transfer Agent): Think of the MTA as the postal service of the digital world. It is responsible for routing and transferring emails from the sender's client to the recipient's server. Our choice for this role is Postfix, a highly efficient and secure MTA that has become a standard in the industry.
- MDA (Mail Delivery Agent): Once emails arrive at the recipient's server, they need to be sorted and placed into the correct mailbox. This is where the MDA comes into play. We will use Dovecot as our MDA, which provides robust support for the Internet Message Access Protocol (IMAP) and Post Office Protocol (POP3), allowing users to access their emails seamlessly.

By following the steps in this lab manual, you will develop a comprehensive understanding of how to configure these components, ultimately constructing a functional email server tailored to your communication needs. Let's begin the process of setting up your email infrastructure with Postfix and Dovecot on Ubuntu 22.04!

Objectifs:

- ✓ Adduseraccounts(user1 and user2).
- ✓ Installing the MTA and MDA services.
- ✓ Configuring Postfix and Dovecot software module.
- ✓ Testing

Step 1 : Creating the users

1. Create the first user:

sudo useradd -m user1

sudo passwd user1

2. Create the second user:

sudo useradd -m user2

sudo passwd user2

Step 2 : Install Postfix server

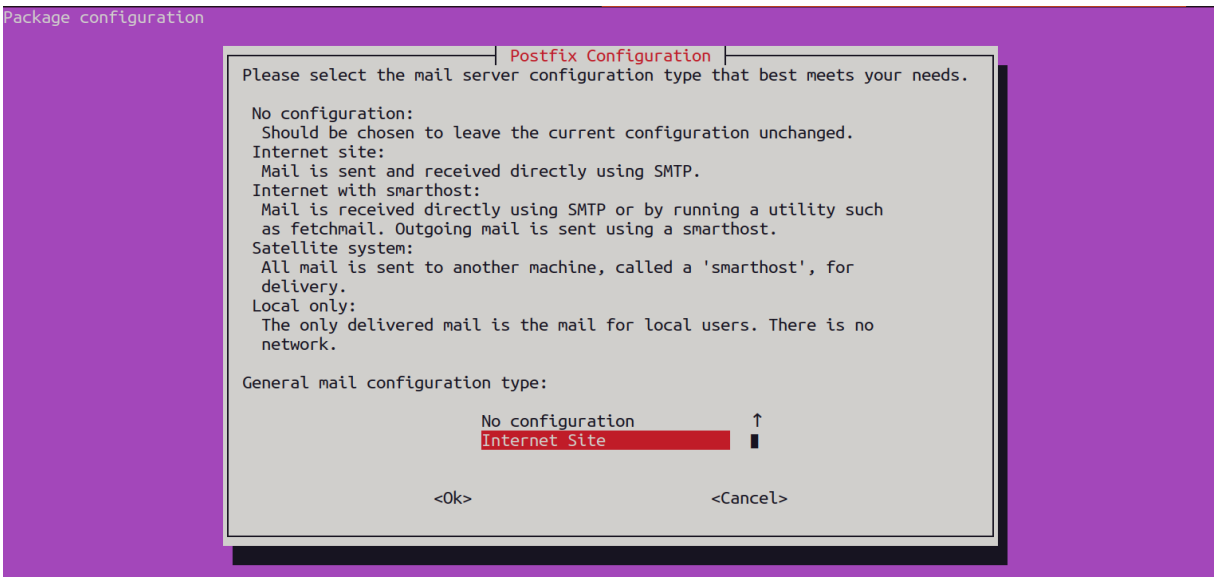
To update the list of available packages, run the following command

sudo apt-get update

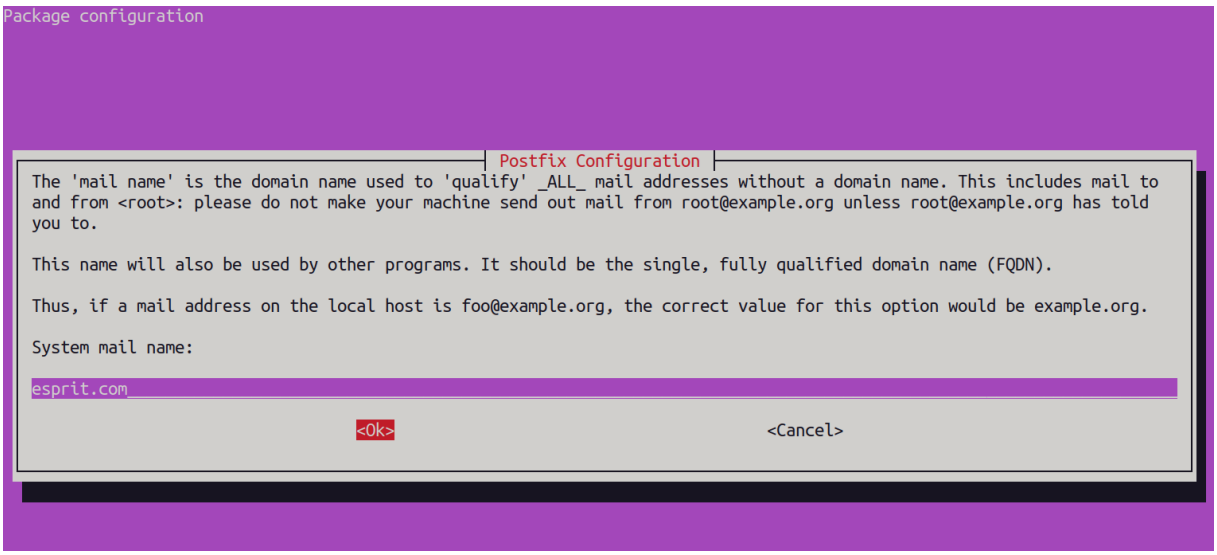
sudo apt-get install postfix

This installation process will open a series of interactive prompts, these are the settings used :

1) General type of mail configuration? Internet Site



2) System mail name: esprit.com (not mail.esprit.com)



Step 3 : Configuring Postfix

1. Open the postfix config file /etc/postfix/main.cf.

sudo gedit /etc/postfix/main.cf

2. Find the below lines and edit them as shown below.

```
# Specify the hostname for this mail server.
myhostname = mail.esprit.com
#Define the origin of locally-posted mail In this case, this file should contain
#'montpdomain.lan'.
myorigin = /etc/mailname
#List the destination domains for which this mail server will receive mail
mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain
# Leave the relay host empty, indicating this server performs local mail delivery.
relayhost =
# Specify a list of trusted networks that can relay mail through this server.
# This includes localhost and a local network range (10.0.2.0/24).
mynetworks = 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128, 192.168.231.0/24
# Set the mailbox size limit to 0, indicating unlimited mailbox size.
mailbox_size_limit = 0
# Define the recipient delimiter used in recipient addresses.
# It's set to '+' here but can be changed if needed.
recipient_delimiter = +
# Specify that the server should listen on all network interfaces.
inet_interfaces = all
# Allow all network protocols.
inet_protocols = all
# Define the mailbox format and location for user mailboxes.
# Here, it's set to use the Maildir format. Add this line
home_mailbox = Maildir/
```

- Other destinations to accept mail for: **$myhostname, localhost.$mydomain, localhost, $mydomain**
- Force synchronous updates on mail queue?: **No**
- Local networks: **127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128, 192.168.231.0/24 (the network address of the server)**
- Mailbox size limit: **0**
- Local address extension character: **+**
- Internet protocols to use: **all**

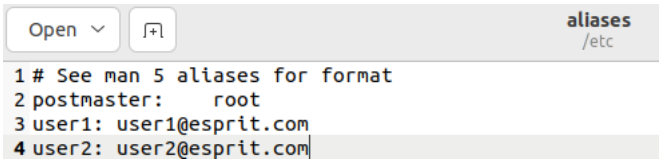
Step 4 : Creating a System Alias

You can create a system alias for each user you create. The system alias will redirect all emails intended for that user to a complete email address with the "esprit.com" domain.

1. Open the aliases config file

sudo gedit /etc/aliases

2. Add a line like this to the end of the aliases file:



3. Update the Alias Database

sudo newaliases

Step 5 : Configuring iptables

By default, Port number 25, 110 and 143 are closed so we need to allow access throw those ports

Configuring the Firewall:

Enabling access on port SMPT (tcp/25), POP3 (tcp/110), and IMAP (tcp/143) in the iptables.

1. Edit the iptable configuration file:

sudo apt install ufw

sudo ufw allow 25/tcp

sudo ufw allow 110/tcp

sudo ufw allow 143/tcp

2. To apply firewall rules (reload UFW rules):

sudo ufw reload

3. To enable and check UFW rules:

sudo ufw enable

sudo ufw status

Step 6 : Start the services

After finishing the configuration we should start the service and keep it on :

sudo systemctl restart postfix

Step 7 : Test Postfix using the command telnet

The commands shown in bold letters should be entered by the user. Note: The dot after the test command is important.

Note : Everything in blue represents commands to execute.

root@machine-serveur:/home# **telnet localhost smtp**

Trying 127.0.0.1...

Connected to localhost. Escape character is '^]'.

220 mail.montpdomain.lan ESMTP Postfix (Ubuntu)
ehlo localhost
250-mail.montpdomain.lan 250-PIPELINING
250-SIZE 10240000
250-VRFY
250-ETRN
250-STARTTLS
250-ENHANCEDSTATUSCODES
250-8BITMIME
250-DSN
250-SMTPUTF8
250 CHUNKING
mail from:user1@esprit.com
250 2.1.0 Ok
rcpt to:user2@esprit.com
250 2.1.5 Ok
data
354 End data with <CR><LF>.<CR><LF>
test
.
250 2.0.0 Ok: queued as 3642480116
quit
221 2.0.0 Bye
Connection closed by foreign host.

Check Mail

Navigate to the user mail directory and check for the new mail.

```
server@server-virtual-machine:~/Desktop$ sudo su
root@server-virtual-machine:/home/server/Desktop# cd /home/user2/Maildir/new/
root@server-virtual-machine:/home/user2/Maildir/new# ls
1726872897.V803Ie1e11M115347.server-virtual-machine
root@server-virtual-machine:/home/user2/Maildir/new# cat 1726872897.V803Ie1e11M115347.server-virtual-machine

Return-Path: <user1@esprit.com>
X-Original-To: user2@esprit.com
Delivered-To: user2@esprit.com
Received: from localhost (localhost [127.0.0.1])
        by mail.esprit.com (Postfix) with ESMTP id EC701A9F27
        for <user2@esprit.com>; Fri, 20 Sep 2024 23:54:27 +0100 (CET)
Message-Id: <20240920225448.EC701A9F27@mail.esprit.com>
Date: Fri, 20 Sep 2024 23:54:27 +0100 (CET)
From: user1@esprit.com

test
root@server-virtual-machine:/home/user2/Maildir/new# exit
exit
```

➔ Postfix working now.

Step 8 : Install Dovecot

Dovecot is used to allow users to access their email by either imap or pop protocols.

sudo apt-get install postfix dovecot-imapd dovecot-pop3d

Step 9 : Configuring Dovecot

1. Open the dovecot config file **/etc/dovecot/dovecot.conf**. Find and uncomment the line as shown below.

sudo gedit /etc/dovecot/dovecot.conf

```
#line 30:uncomment
listen = * , ::

#line 24:uncomment

!include_try /usr/share/dovecot/protocols.d/*.protocol
```

2. Open the file **/etc/dovecot/conf.d/10-mail.conf** and uncomment the line as shown below.

sudo gedit /etc/dovecot/conf.d/10-mail.conf

```
mail_location = maildir:~/Maildir ##line no 24 –uncomment
```

Make sure to have only one mail_location directive uncommented in the configuration !!

3. Open the **/etc/dovecot/conf.d/10-auth.conf** and edit as shown below.

sudo gedit /etc/dovecot/conf.d/10-auth.conf

```
disable_plaintext_auth = no ##line no 10 - uncomment and change to no.

auth_mechanisms = plain login ##line no 100 - add the text"login"
```

4. Open the **/etc/dovecot/conf.d/10-master.conf** and edit as shown below.

sudo gedit /etc/dovecot/conf.d/10-master.conf

```
# line 107-109: uncomment and add like follows
# Postfix smtp-auth
 unix_listener /var/spool/postfix/private/auth {


mode = 0666
user = postfix

group = postfix

}
```

5. Restart the dovecot service.

sudo systemctl restart dovecot

sudo systemctl enable dovecot

Step 10 : Test Dovecot using the command telnet

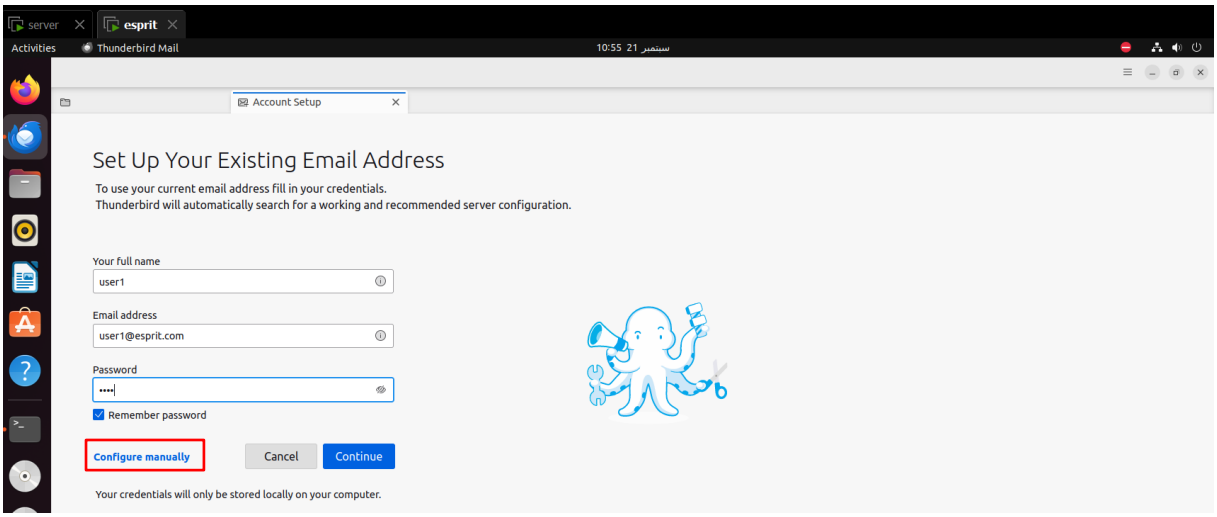
Note : The commands shown in bold should be entered by the user.

[root@machine-serveur]# **telnet localhost pop3**
Trying ::1... Connected to localhost.
Escape character is '^]'.
+OK Dovecot ready.
user user2
+OK
pass user2_pass
+OK Logged in.
list
+OK 1 messages:
1 428
.
retr 1
+OK 428 octets
Return-Path: <user1@ostechnix.com> X-Original-To: user1
Delivered-To: user1@ostechnix.com
Received: from localhost (localhost [IPv6:::1]) by montpdomain.lan (Postfix) with ESMTP id 117113FF18
for <user1>; Thu, 7 Feb 2013 17:05:32 +0530 (IST)
Message-Id:
<20130207113547.117113FF18@montpdomain.lan> Date:
Thu, 7 Feb 2013 17:05:32 +0530 (IST)
From: user1@montpdomain.lan
To: undisclosed-recipients:;
test
.
quit
+OK Logging out.
Connection closed by foreign host.

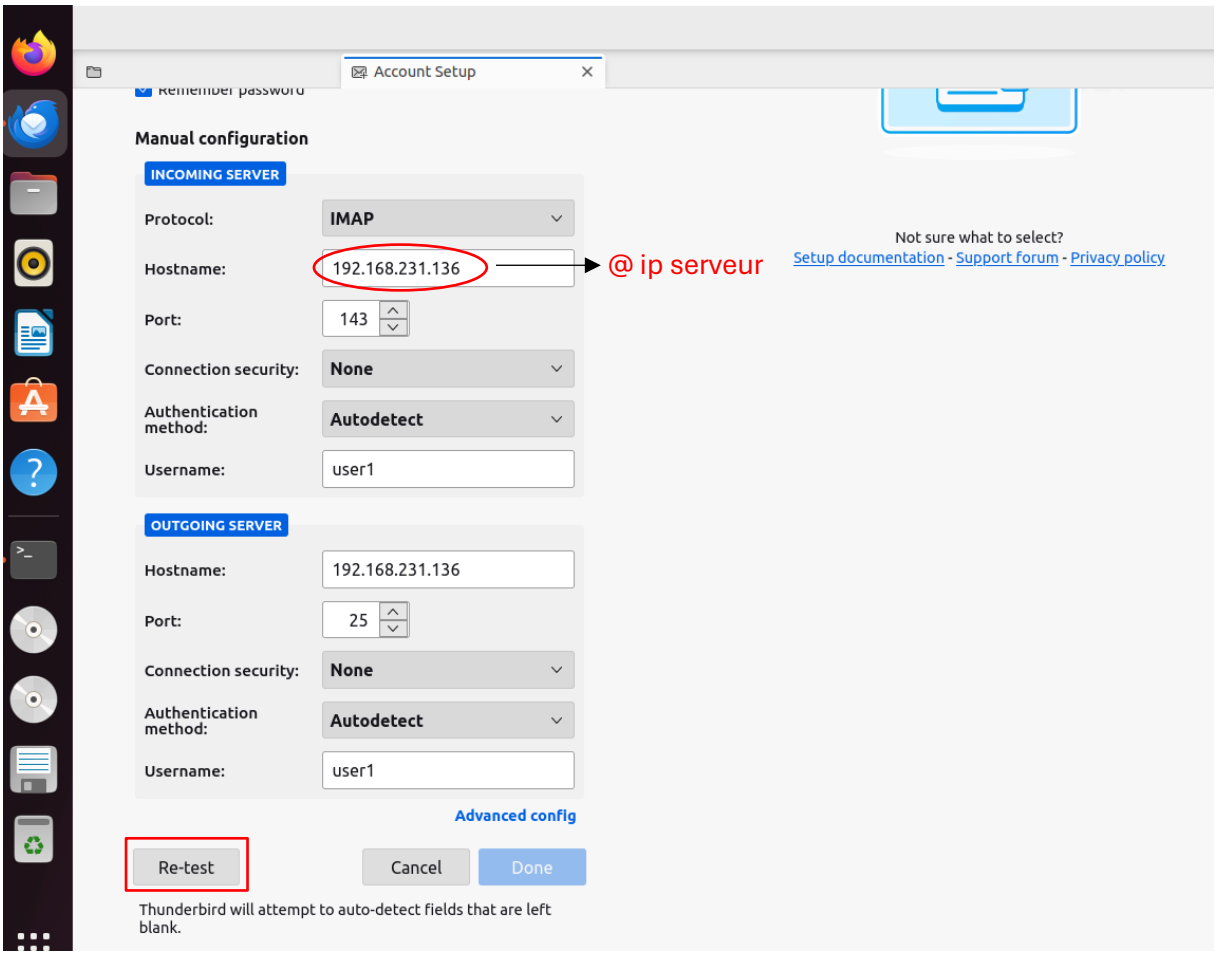
Step 11 : Configuring the Mail Client "Thunderbird"

In this last part you will create the email accounts for user1 and user2 on thunderbird.

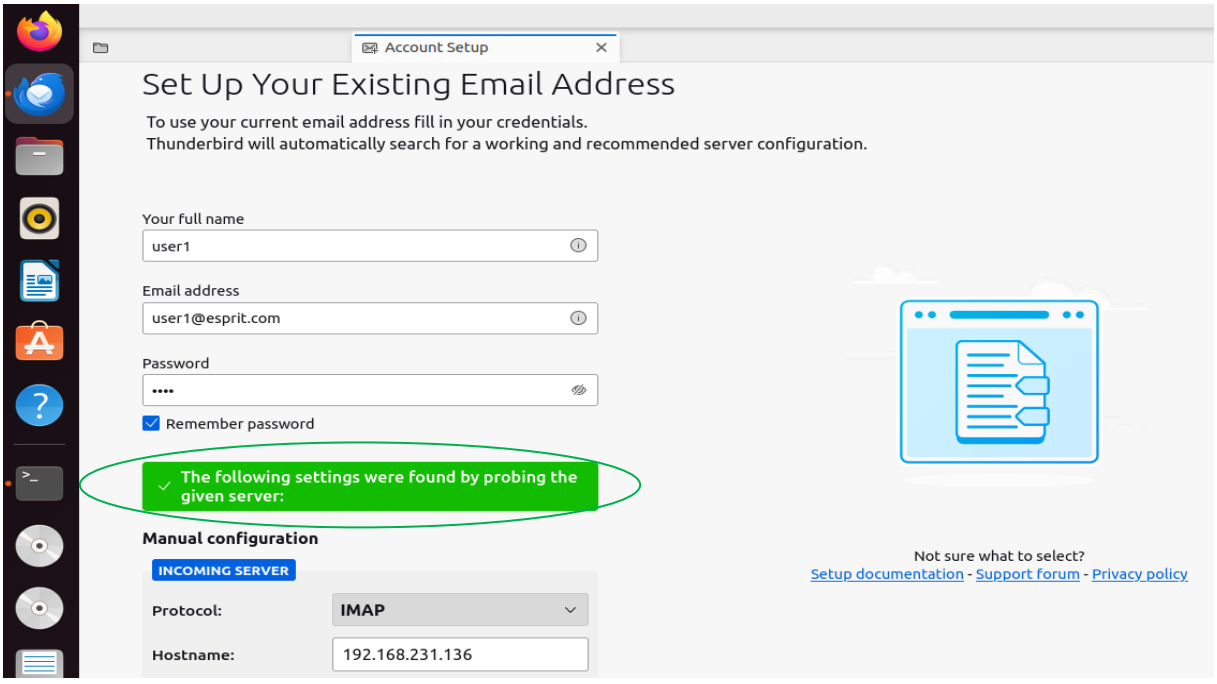
1. Enter your username, email address and password, then click the [Configure Manually] button



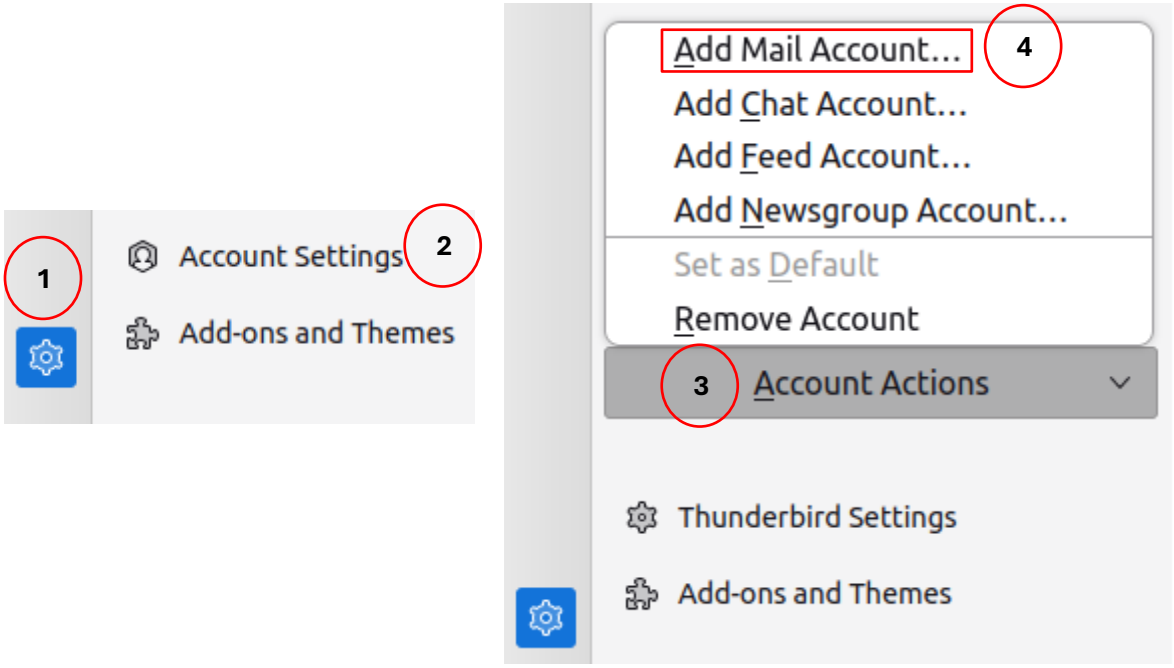
2. Fill out the fields in the displayed form following the example, making sure to enter your own server address instead of the one shown in the screenshot. Once finished, click “Re-test”.



3. If your email account configuration is correct, a success notification will appear. Then, click on the 'Done' button.



4. You now need to repeat all the previous steps to create the second user. To do this, go to **Settings**, then select : **Account Settings** > **Account Actions** > **Add Mail Account**.



5. After creating the two accounts for user1 and user2, try now to send an email from user 2 to user 1 and check if user1 receives the mail.