Ubuntu 22.04-install & configure Postfix-Dovecot

Services et Administration des Réseaux

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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 **montpdomain.lan**

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

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 :

- General type of mail configuration?: **Internet Site**
- System mail name: **montpdomain.lan** (not mail.montpdomain.lan)
- Root and postmaster mail recipient: The username of your primary Linux account
- 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, 10.0.2.0/24**
- Mailbox size limit: **0**
- Local address extension character: **+**
- Internet protocols to use: **all**

Step 3 : Configuring Postfix

Open the postfix config file /etc/postfix/main.cf. Find the below lines and edit them as shown below.
To set the mailbox format, you can edit the configuration file directly, the configuration parameters will be stored in /etc/postfix/main.cf file.

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

Find the below lines and edit them as shown below.

```
# Specify the hostname for this mail server.
myhostname = mail.montpdomain.lan
#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, 10.0.2.0/24
# 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/
```

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 "montpdomain.lan" domain.

#sudo gedit /etc/aliases

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

user1: user1@montpdomain.lan

user2: user2@montpdomain.lan

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.

Edit the iptable configuration file:

#sudo apt install ufw

#sudo ufw allow 25/tcp

#sudo ufw allow 110/tcp

#sudo ufw allow 143/tcp

To apply firewall rules (reload UFW rules):
sudo ufw reload

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.

```
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@montodomain.lan
250 2.1.0 Ok
rcpt to:user2@montodomain.lan
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.

```
root@machine-serveur:/home/user2/Maildir/new# cd /home/user2/Maildir/new
root@machine-serveur:/home/user2/Maildir/new# ls
1694966621.V803Ie0ac5M630309.machine-serveur
root@machine-serveur:/home/user2/Maildir/new# cat
1694966621.V803Ie0ac5M630309.machine-serveur
Return-Path: <user1@montpdomain.lan>
X-Original-To: user2@montpdomain.lan
Delivered-To: user2@montpdomain.lan
Received: from localhost (localhost [127.0.0.1])
    by mail.montpdomain.lan (Postfix) with ESMTP id 3642480116
    for <user2@montpdomain.lan >; Sun, 17 Sep 2023 17:03:15 +0100 (WAT)
Message-Id: <20230917160332.3642480116@mail.montpdomain.lan >
Date: Sun, 17 Sep 2023 17:03:15 +0100 (WAT)
From: user1@montpdomain.lan

test
```

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 : Configure Dovecot

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

#gedit /etc/dovecot/dovecot.conf

```
#line 30:uncomment
listen = * , ::
#line 24:uncomment
!include_try /usr/share/dovecot/protocols.d/*.protocol
```

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

 # 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."

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

 # 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"
```

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

 # 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
}
```

Restart the dovecot service.

```
# sudo systemctl restart dovecot
```

```
# sudo systemctl enable dovecot
```

Step 10 : Test Dovecot using the command telnet

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
+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.
```

Required tests:

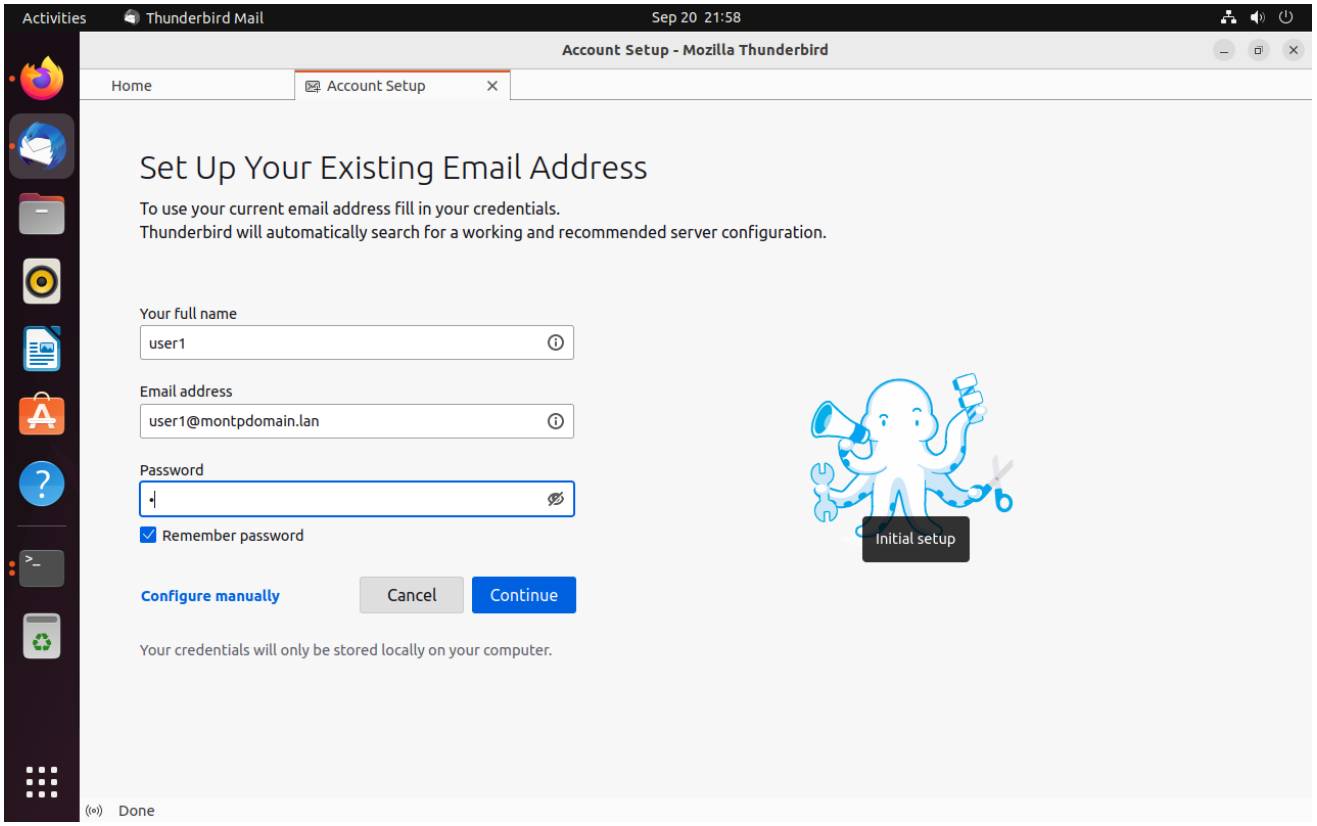
After testing postfix and dovecot with user1 now try to send a Mail from user 1 to user 2 and check if user2 receives the mail.

Mail Clients'Setting

Configure for your Mail Client on your PC. This example shows with Mozilla Thunderbird.

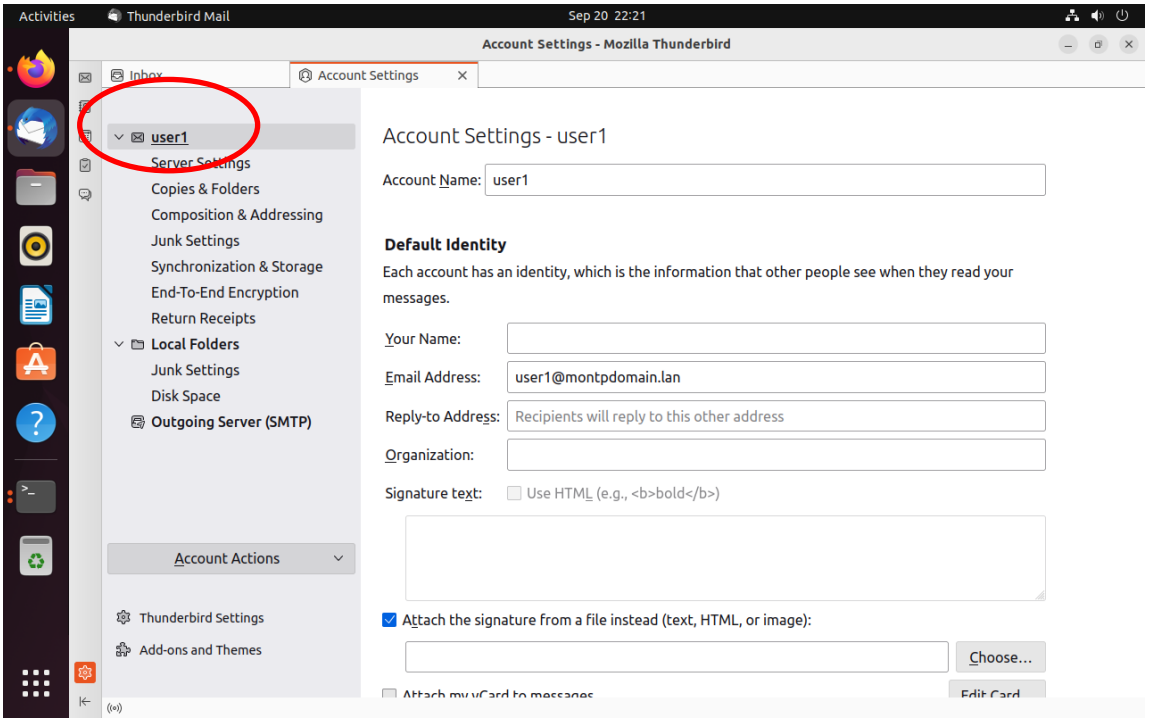
[1] Run Thunderbird and Click [Create a new account] - [EMAIL].

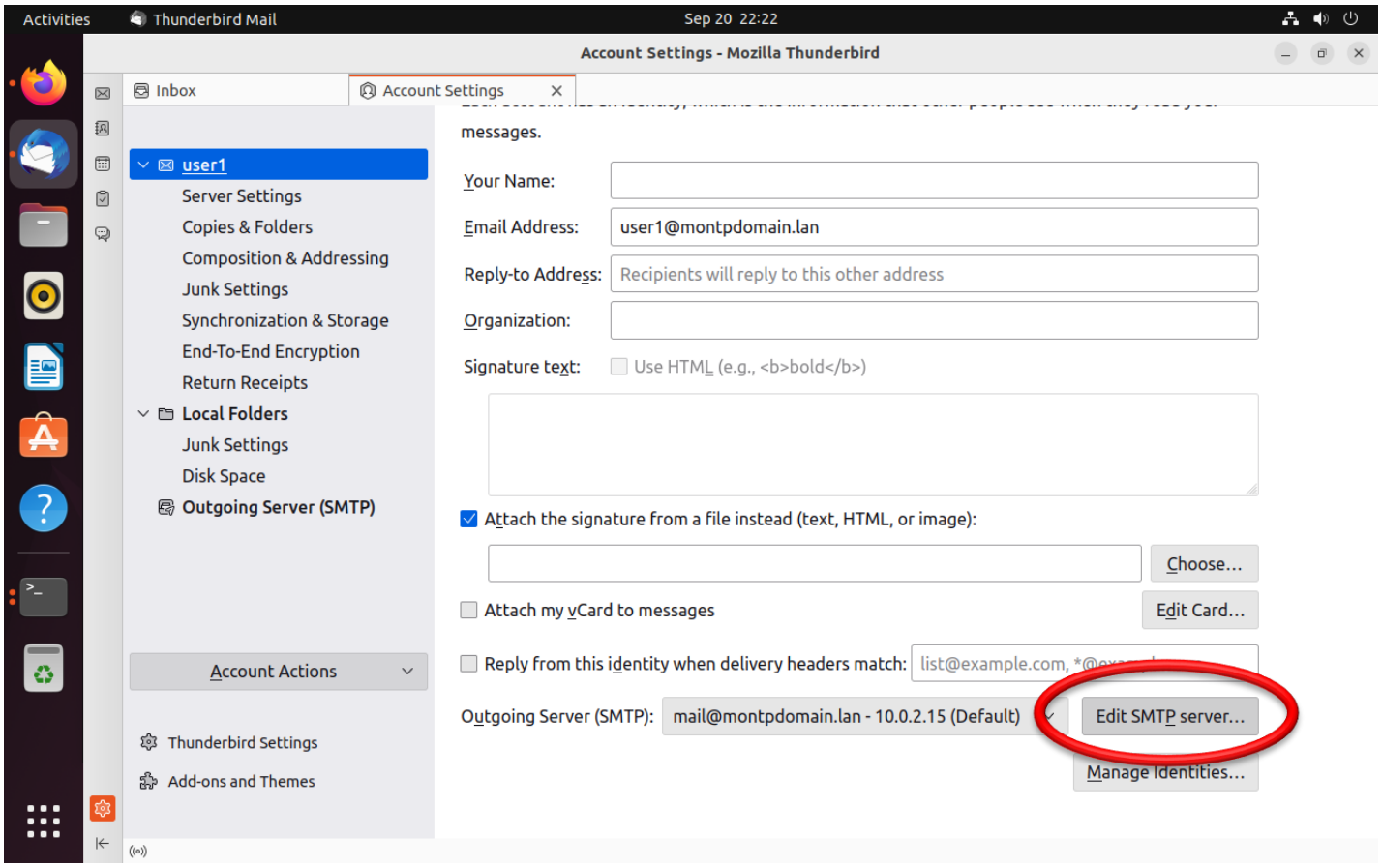
[2] Click [Skip this and use my existing email].

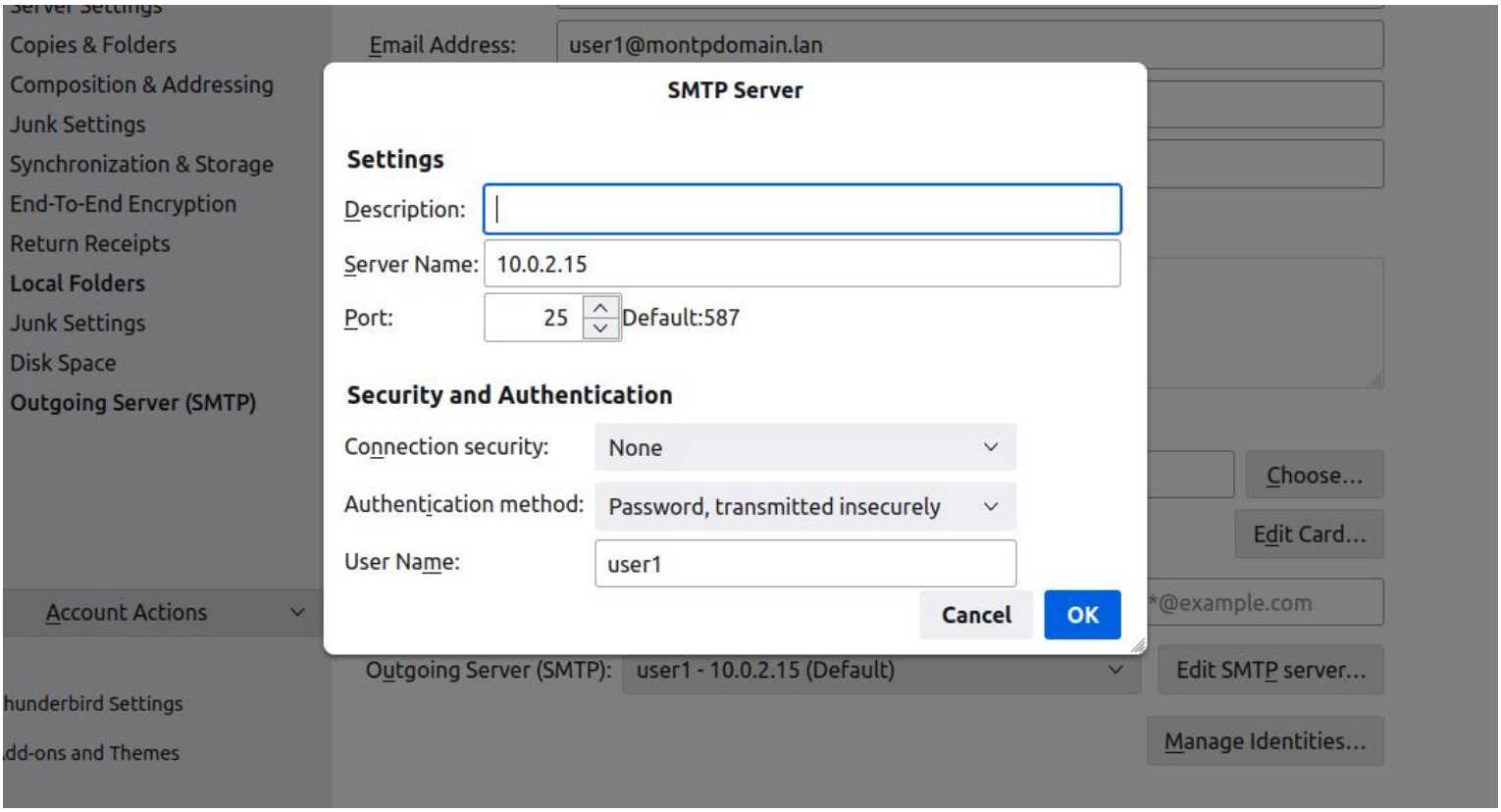


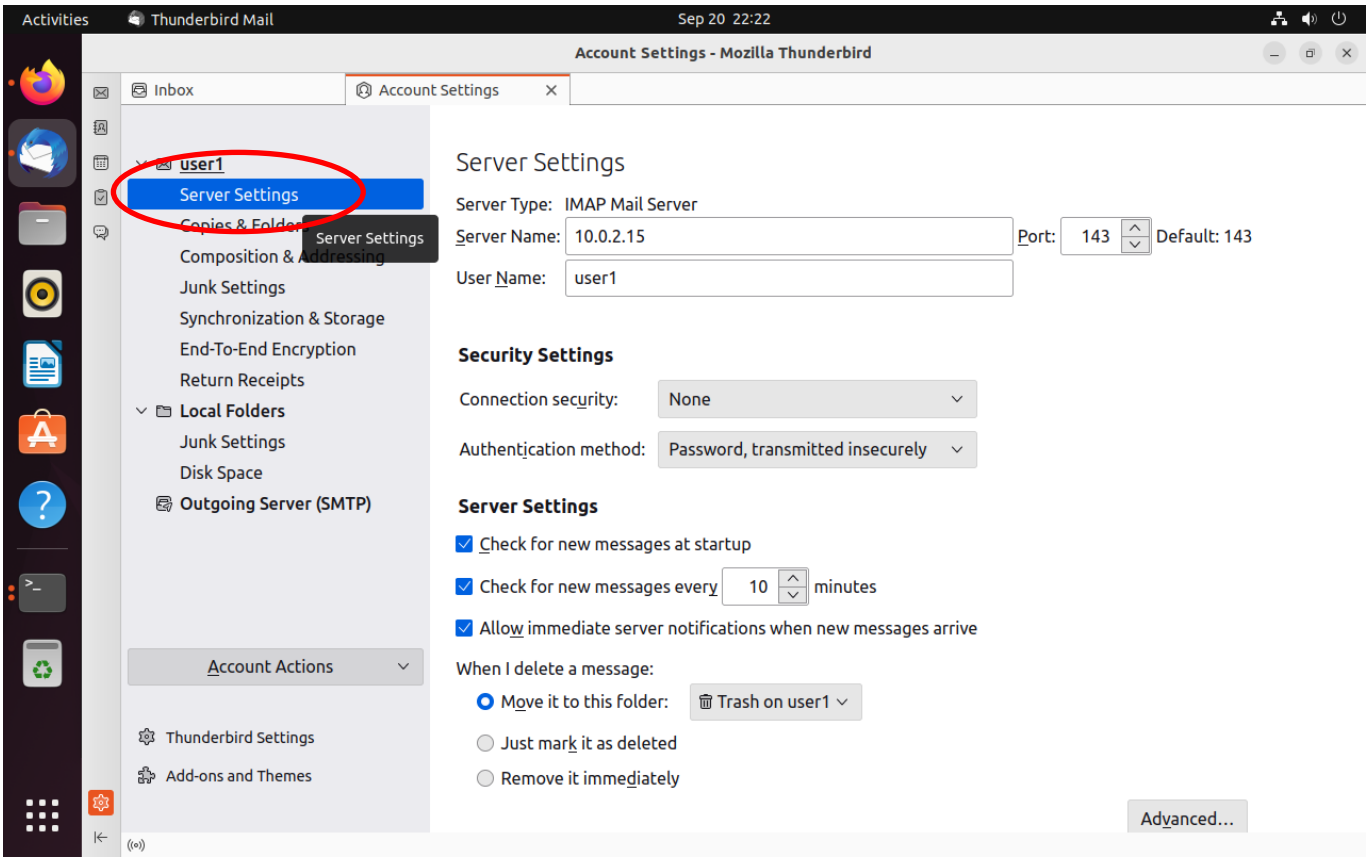
[3] Input any name which is displayed as email-Sender and also input email address and password, and then Click [Continue] button

[4] Click [Manual config] button.




Activities
Thunderbird Mail
Sep 20 22:22
Account Settings - Mozilla Thunderbird
Inbox
Account Settings
messages.
user1
Server Settings
Copies & Folders
Composition & Addressing
Junk Settings
Synchronization & Storage
End-To-End Encryption
Return Receipts
Local Folders
Junk Settings
Disk Space
Outgoing Server (SMTP)
Your Name:
Email Address:
user1@montpdomain.lan
Reply-to Address:
Recipients will reply to this other address
Organization:
Signature text:
Use HTML (e.g., bold)
Attach the signature from a file instead (text, HTML, or image):
Choose...
Attach my vCard to messages
Edit Card...
Reply from this identity when delivery headers match:
list@example.com, *@
Outgoing Server (SMTP):
mail@montpdomain.lan - 10.0.2.15 (Default)
Edit SMTP server...
Manage Identities...
Account Actions
Thunderbird Settings
Add-ons and Themes


Copies & Folders
Composition & Addressing
Junk Settings
Synchronization & Storage
End-To-End Encryption
Return Receipts
Local Folders
Junk Settings
Disk Space
Outgoing Server (SMTP)
Email Address:
user1@montpdomain.lan
SMTP Server
Settings
Description:
Server Name:
10.0.2.15
Port:
25
Default:587
Security and Authentication
Connection security:
None
Authentication method:
Password, transmitted insecurely
User Name:
user1
Cancel
OK
Choose...
Edit Card...
*@example.com
Account Actions
Outgoing Server (SMTP):
user1 - 10.0.2.15 (Default)
Edit SMTP server...
Manage Identities...
hunderbird Settings
dd-ons and Themes



[5] If email account setup normally, it's possible to send or receive emails like follows.