

How to Install Postfix, Dovecot, and Roundcube on Ubuntu 20.04

Learn how to set up a complete email server by installing Postfix, Dovecot, and Roundcube webmail on Ubuntu 20.04 with our step-by-step guide.

Contents

01	Introduction	3
02	Prerequisites	3
03	1. Install & Configure Postfix	3
04	2. Create Virtual Mail Box Domains	6
05	3. Install & Configure Dovecot	7
06	4. Install & Configure Roundcube	14
07	5. Test the Email Service	16

Introduction

Postfix is a Mail Transfer Agent(MTA) for routing and delivering electronic mail(email). Dovecot is a secure IMAP and POP3 Mail Delivery Agent(MDA). These two open-source applications work well with Roundcube, an email client primarily famous for its clever use of Ajax technology. In this guide, you'll install Postfix, Dovecot, and Roundcube on Ubuntu 20.04. This guide uses the domain **example.com** and the server name **mail.example.com**.

Prerequisites

Before you begin, make sure you have the following:

- An Ubuntu 20.04 server configured with a Fully Qualified Domain Name (FQDN).
- A non-root user with sudo privileges.
- A [LAMP stack](#) with an SSL certificate installed. This guide uses a free Let's Encrypt certificate.
- Verify the server's [outbound port status](#).

1. Install & Configure Postfix

1. SSH to your server and install the Postfix server by running the command below.

```
$ sudo apt update -y
$ sudo apt install -y postfix
```

2. You'll get the Postfix configuration screen, as shown below. Press Tab and Enter to continue.

```
Postfix Configuration

Please select the mail server configuration type that best meets your
needs.

No configuration:
  Should be chosen to leave the current configuration unchanged.
Internet site:
  Mail is sent and received directly using SMTP.
Internet with smarthost:
  Mail is received directly using SMTP or by running a utility such
  as fetchmail. Outgoing mail is sent using a smarthost.
Satellite system:
  All mail is sent to another machine, called a 'smarthost', for
  delivery.
Local only:

                                <Ok>
```

3. On the next screen, select **Internet Site**, then Tab and Enter.

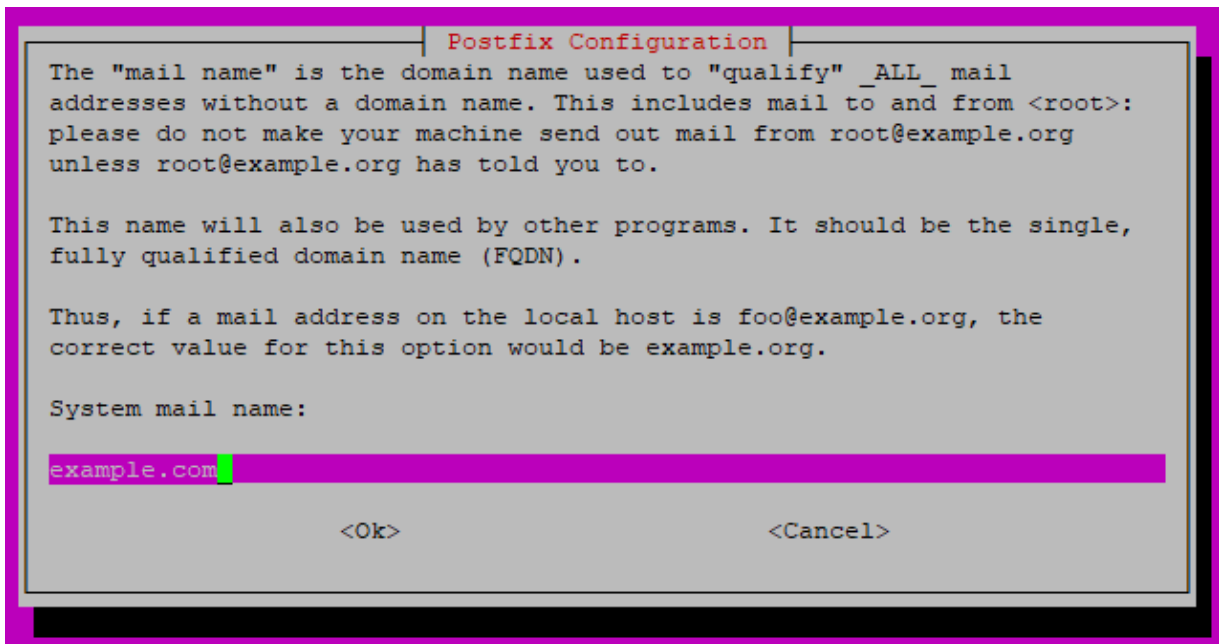
```
Postfix Configuration

General type of mail configuration:

  No configuration
  Internet Site
  Internet with smarthost
  Satellite system
  Local only

  <Ok>                <Cancel>
```

4. Enter the system mail name, which is your domain name. For instance, the server name is **mail.example.com**, so you'll enter **example.com** here.



5. Back up the `/etc/postfix/main.cf` file, and create a new one.

```
$ sudo mv /etc/postfix/main.cf /etc/postfix/main.cf.bk
$ sudo nano /etc/postfix/main.cf
```

6. Enter the information below to the new file. Replace **example.com** with your domain name throughout the file. Make sure the value of **smtpd_tls_cert_file** and **smtpd_tls_key_file** point to your SSL certificate.

```
smtpd_banner = $myhostname ESMTP $mail_name
biff = no
append_dot_mydomain = no
readme_directory = no

# TLS parameters
smtp_use_tls = yes
smtp_tls_security_level = may
smtp_tls_session_cache_database = btree:${data_directory}/smtp_scache

smtpd_use_tls = yes
smtpd_tls_security_level = may
smtpd_tls_session_cache_database = btree:${data_directory}/smtpd_scache
smtpd_tls_cert_file = /etc/letsencrypt/live/example.com/fullchain.pem
smtpd_tls_key_file = /etc/letsencrypt/live/example.com/privkey.pem
smtpd_relay_restrictions = permit_mynetworks, permit_sasl_authenticated,
reject_unauth_destination
```

```
smtpd_sasl_auth_enable = yes
smtpd_sasl_type = dovecot
smtpd_sasl_path = private/auth

virtual_transport = lmtp:unix:private/dovecot-lmtp
virtual_mailbox_domains = /etc/postfix/virtual_mailbox_domains

myhostname = mail.example.com
myorigin = /etc/mailname
mydestination = localhost.$mydomain, localhost
relayhost =
mynetworks = 127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128
mailbox_size_limit = 0
recipient_delimiter = +
inet_interfaces = all
inet_protocols = all
alias_maps = hash:/etc/aliases
alias_database = hash:/etc/aliases
```

7. Save and close the file.

2. Create Virtual Mail Box Domains

1. The **main.cf** configuration file instructs postfix to look for email domains in the **/etc/postfix/virtual_mailbox_domains** file. Create the file:

```
$ sudo nano /etc/postfix/virtual_mailbox_domains
```

2. Add the information below to the file and replace **example.com** with your domain name.

```
example.com #domain
```

3. Use the **postmap** command to change **/etc/postfix/virtual_mailbox_domains** to a format recognizable by Postfix. Run this command every time you edit the file, for instance, after adding more domains to the file.

```
$ sudo postmap /etc/postfix/virtual_mailbox_domains
```

4. Edit the **/etc/postfix/master.cf** configuration file to enable the SMTP service.

```
$ sudo nano /etc/postfix/master.cf
```

5. Find the entry below.

```
...  
#submission inet n      -      y      -      -      smtpd  
...
```

Remove the pound symbol at the beginning of the line.

```
...  
submission inet n      -      y      -      -      smtpd  
...
```

6. Save and close the file.

3. Install & Configure Dovecot

1. Install the Dovecot package and all the dependency packages required to run the **imap**, **pop3**, and **lmtp** service.

```
$ sudo apt install -y dovecot-core dovecot-imapd dovecot-pop3d dovecot-lmtpd
```

2. Edit the **/etc/dovecot/conf.d/10-mail.conf** file to instruct Dovecot on the directory to look for mails.

```
$ sudo nano /etc/dovecot/conf.d/10-mail.conf
```

3. Find the entry below.

```
mail_location = mbox:~/mail:INBOX=/var/mail/%u
```

Change to:

```
mail_location = maildir:/var/mail/vhosts/%d/%n
```

Save and close the file. The **%d** represents the domain, and **%n** represents the users. This means that you'll need to create a sub-directory in the **/var/mail/vhosts** for every domain receiving emails on your server.

4. Create the first sub-directory and replace **example.com** with your domain name.

```
$ sudo mkdir -p /var/mail/vhosts/example.com
```

Repeat the command above for every other domain that you want to receive emails for in your server while replacing **example.com** with the domain name. For instance, if you also intend to receive emails for the **example.net** domain, run the command below.

```
$ sudo mkdir -p /var/mail/vhosts/example.net
```

5. Create a Vmail user and group for the Dovecot service.

Create the **vmail** group.

```
$ sudo groupadd -g 5000 vmail
```

Create a **vmail** user and add the user to the **vmail** group.

```
$ sudo useradd -r -g vmail -u 5000 vmail -d /var/mail/vhosts -c "virtual mail user"
```

Assign the ownership of the **/var/mail/vhosts/** to the **vmail** user and group.

```
$ sudo chown -R vmail:vmail /var/mail/vhosts/
```

6. Edit the Dovecot **10-master.conf** file.

```
$ sudo nano /etc/dovecot/conf.d/10-master.conf
```

7. Locate the entries below.

```
...
inet_listener imaps {
    #port = 993
    #ssl = yes
}
...
```

Remove the pound symbol before the **port** and **ssl** entries, as shown below, to allow Dovecot to use port 993 and SSL for secure IMAP.

```
...
inet_listener imaps {
    port = 993
    ssl = yes
}
...
```

8. Locate the entries below.

```
...
inet_listener pop3s {
    #port = 995
    #ssl = yes
}
...
```

Remove the pound symbol before the **port = 995** and **ssl = yes** parameters.

```
...
inet_listener pop3s {
```

```
port = 995
ssl = yes
}
...
```

9. Enable the **lmtp** service. Locate the entries below.

```
...
service lmtp {
    unix_listener lmtp {
        #mode = 0666
    }

    # Create inet listener only if you can't use the above UNIX socket
    #inet_listener lmtp {
        # Avoid making LMTP visible for the entire internet
        #address =
        #port =
    #}
}
...
```

Change the configuration to:

```
...
service lmtp {
    unix_listener /var/spool/postfix/private/dovecot-lmtp {
        mode = 0600
        user = postfix
        group = postfix
    }
}
...
```

10. Locate the Dovecot authentication socket configurations below.

```
...
# Postfix smtp-auth
#unix_listener /var/spool/postfix/private/auth {
# mode = 0666
```

```
#}  
...
```

Change the configuration to:

```
...  
#Postfix smtp-auth  
unix_listener /var/spool/postfix/private/auth {  
  mode = 0666  
  user = postfix  
  group = postfix  
}  
...
```

11. Save and close the file.
12. Configure Dovecot to use secure authentication. Edit the Dovecot **10-auth.conf** file.

```
$ sudo nano /etc/dovecot/conf.d/10-auth.conf
```

13. Find the entry below.

```
# disable_plaintext_auth = yes
```

Uncomment the setting above by removing the **#** character to disable plain text authorization.

```
disable_plaintext_auth = yes
```

14. Find the entry below.

```
auth_mechanisms = plain
```

Change the authentication mechanisms from **plain** to **plain login**.

```
auth_mechanisms = plain login
```

15. Disable the Dovecot default authentication behavior that requires users to have a system account to use the email service. Find the line:

```
!include auth-system.conf.ext
```

Add a pound symbol at the beginning of the line to comment it out.

```
#!include auth-system.conf.ext
```

16. Find the line:

```
#!include auth-passwdfile.conf.ext
```

Remove the **#** symbol at the beginning to enable Dovecot to use a password file.

```
!include auth-passwdfile.conf.ext
```

17. Save and close the file.

18. Edit the Dovecot password file, **auth-passwdfile.conf.ext**.

```
$ sudo nano /etc/dovecot/conf.d/auth-passwdfile.conf.ext
```

The file looks similar to the one shown below.

```
passdb {  
  driver = passwd-file  
  args = scheme=CRYPT username_format=%u /etc/dovecot/users  
}  
  
userdb {  
  driver = passwd-file  
  args = username_format=%u /etc/dovecot/users  
  ...  
}
```

Make the changes to the file, as shown below.

```
passdb {  
    driver = passwd-file  
    args = scheme=PLAIN username_format=%u /etc/dovecot/dovecot-users  
}  
  
userdb {  
    driver = static  
    args = uid=vmail gid=vmail home=/var/mail/vhosts/%d/%n  
}
```

Save and close the file.

19. Create the **/etc/dovecot/dovecot-users** password file. This file is a plain text database that holds email users on your server.

```
$ sudo nano /etc/dovecot/dovecot-users
```

Add the users that you want to use the email service to the file by following the format below. Replace **EXAMPLE_PASSWORD** with a strong password. Also, replace **example.com** with your domain name.

```
admin@example.com:{plain}EXAMPLE_PASSWORD  
info@example.com:{plain}EXAMPLE_PASSWORD  
billing@example.com:{plain}EXAMPLE_PASSWORD
```

Save and close the file.

20. Configure Dovecot to Use the SSL Certificate. Open the **/etc/dovecot/conf.d/10-ssl.conf** file.

```
$ sudo nano /etc/dovecot/conf.d/10-ssl.conf
```

Find the line:

```
ssl = yes
```

Change the **ssl** value from **yes** to **required**.

```
ssl = required
```

Locate the two entries below.

```
#ssl_cert = </etc/dovecot/dovecot.pem  
#ssl_key = </etc/dovecot/private/dovecot.pem
```

Change the two entries above and make sure they are pointing to the SSL certificate for your domain. For instance, if you are using the Let's Encrypt certificate, your entries will be similar to those shown below. Replace **example.com** with your domain name.

```
ssl_cert = </etc/letsencrypt/live/example.com/fullchain.pem  
ssl_key = </etc/letsencrypt/live/example.com/privkey.pem
```

Save and close the file.

Restart the postfix and dovecot services to use the new settings.

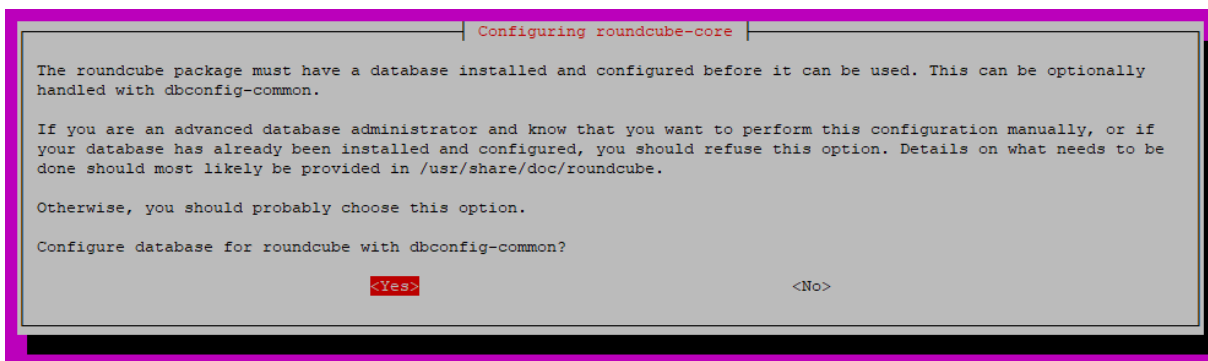
```
$ sudo service postfix restart  
$ sudo service dovecot restart
```

4. Install & Configure Roundcube

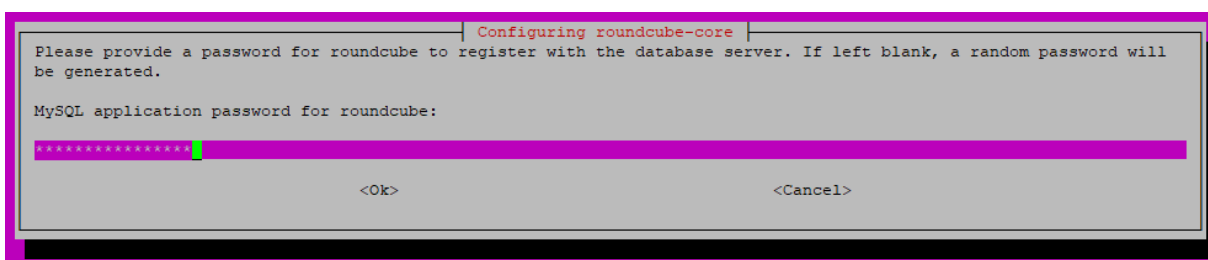
1. To access Postfix and Dovecot servers, install Roundcube email client.

```
$ sudo apt install -y roundcube
```

2. Press Enter to configure the database for use with Roundcube.



3. On the next screen, enter a MySQL password to use with Roundcube.



Press Tab and Enter.

Repeat the same password then hit Tab and Enter to continue.

4. Open your website SSL configuration file from the **/etc/apache2/sites-enabled** directory. Run the command below and replace **example.com** with your domain name.

```
$ sudo nano /etc/apache2/sites-enabled/example.com-le-ssl.conf
```

Your website configuration file will be similar to the one shown below.

```
...
<VirtualHost *:443>
    ServerAdmin admin@franktek.space
    ServerName franktek.space
    ...
</VirtualHost>
...
```

Add the entry **Alias /mail /usr/share/roundcube** after the entry **ServerName example.com** as shown below.

```
...
<VirtualHost *:443>
    ServerAdmin admin@example.com
    ServerName example.com
    Alias /mail /usr/share/roundcube
    ...
</VirtualHost>
...
```

Save and close the file.

5. Restart Apache.

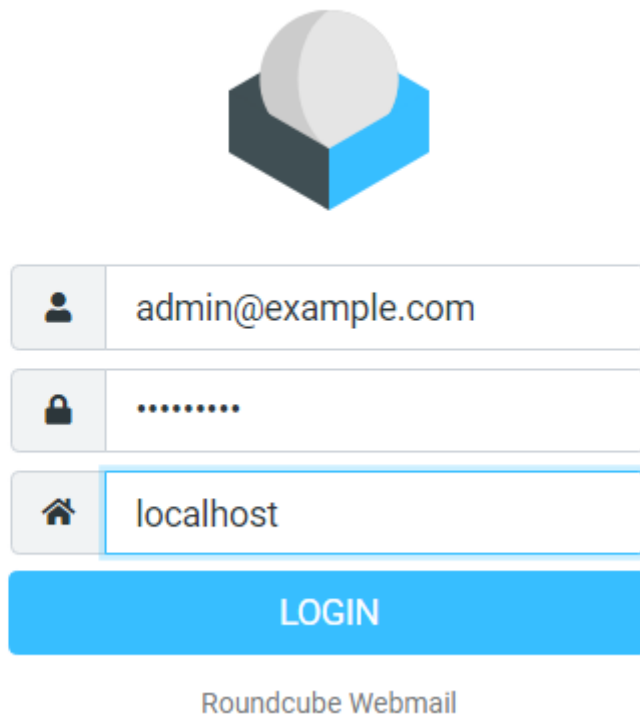
```
$ sudo service apache2 restart
```

5. Test the Email Service

To login to the email server using Roundcube, enter the URL shown below and replace **example.com** with your domain name.

```
https://mail.example.com/mail
```

You should see a screen similar to the one shown below. Enter the username and password you defined in the Dovecot password file, and log in.



Once logged in, you can send and receive emails from the Roundcube dashboard.



VULTR

