```
joe@f21-mail-thegummibear:~$ sudo apt install mailutils exim4 -y
```

```
joe@f21-mail-thegummibear:~$ sudo dpkg-reconfigure exim4-config
```

Package configuration

┤ Mail Server configuration ├

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

Systems with dynamic IP addresses, including dialup systems, should generally be configured to send outgoing mail to another machine, called a 'smarthost' for delivery because many receiving systems on the Internet block incoming mail from dynamic IP addresses as spam protection.

A system with a dynamic IP address can receive its own mail, or local delivery can be disabled entirely (except mail for root and postmaster).

<Ok>

...@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin | ~ — joe@yavin: ~ — ssh ‹ ssh yavin | ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153 | +

Package configuration

┤ Mail Server configuration ├

General type of mail configuration:

    internet site; mail is sent and received directly using ...
    mail sent by smarthost; received via SMTP or fetchmail
    mail sent by smarthost; no local mail
    local delivery only; not on a network
    no configuration at this time

            <Ok>   <Cancel>

Package configuration

┌────────────────────┤ Mail Server configuration ├────────────────────┐

The 'mail name' is the domain name used to 'qualify' mail addresses
without a domain name.

This name will also be used by other programs. It should be the single,
fully qualified domain name (FQDN).

Thus, if a mail address on the local host is foo@example.org, the
correct value for this option would be example.org.

This name won't appear on From: lines of outgoing messages if rewriting
is enabled.

System mail name:

mail.thegummibear.com_____

                <Ok>   <Cancel>
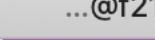
Package configuration

┤ Mail Server configuration ├

Please enter a semicolon-separated list of IP addresses. The Exim SMTP listener daemon will listen on all IP addresses listed here.

An empty value will cause Exim to listen for connections on all available network interfaces.

If this system only receives mail directly from local services (and not from other hosts), it is suggested to prohibit external connections to the local Exim daemon. Such services include e-mail programs (MUAs) which talk to localhost only as well as fetchmail. External connections are impossible when 127.0.0.1 is entered here, as this will disable listening on public network interfaces.

<Ok>

Package configuration

┤ Mail Server configuration ├

IP-addresses to listen on for incoming SMTP connections:

127.0.0.1 ; ::1; 144.38.199.52

<Ok>   <Cancel>

joe — joe@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin — 80×24

...@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin   ~ — joe@yavin: ~ — ssh ‹ ssh yavin   ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153

Package configuration

┤ Mail Server configuration ├

Please enter a semicolon-separated list of recipient domains for which
this machine should consider itself the final destination. These domains
are commonly called 'local domains'. The local hostname
(f21-mail-thegummibear) and 'localhost' are always added to the list
given here.

By default all local domains will be treated identically. If both
a.example and b.example are local domains, acc@a.example and
acc@b.example will be delivered to the same final destination. If
different domain names should be treated differently, it is necessary to
edit the config files afterwards.

Other destinations for which mail is accepted:

mail.thegummibear.com; thegummibear.com_____

            <Ok>   <Cancel>

Package configuration

┤ Mail Server configuration ├

Please enter a semicolon-separated list of IP address ranges for which
this system will unconditionally relay mail, functioning as a smarthost.

You should use the standard address/prefix format (e.g. 194.222.242.0/24
or 5f03:1200:836f::/48).

If this system should not be a smarthost for any other host, leave this
list blank.

Machines to relay mail for:

<Ok>   <Cancel>

joe — joe@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin — 80×24

...@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin   ~ — joe@yavin: ~ — ssh ‹ ssh yavin   ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153

Package configuration

┤ Mail Server configuration ├

Please enter the IP address or the host name of a mail server that this
system should use as outgoing smarthost. If the smarthost only accepts
your mail on a port different from TCP/25, append two colons and the
port number (for example smarthost.example::587 or
192.168.254.254::2525). Colons in IPv6 addresses need to be doubled.

If the smarthost requires authentication, please refer to the
Debian-specific README files in /usr/share/doc/exim4-base for notes
about setting up SMTP authentication.

IP address or host name of the outgoing smarthost:

stumail.cs.dixie.edu_____

           <Ok>   <Cancel>

Package configuration

┤ Mail Server configuration ├

The headers of outgoing mail can be rewritten to make it appear to have
been generated on a different system. If this option is chosen,
'mail.thegummibear.com', 'localhost' and 'mail.thegummibear.com;
thegummibear.com' in From, Reply-To, Sender and Return-Path are
rewritten.

Hide local mail name in outgoing mail?

                    <Yes>   <No>

joe — joe@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin — 80×24

...@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin   ~ — joe@yavin: ~ — ssh ‹ ssh yavin   ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153   +
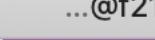
Package configuration

┤ Mail Server configuration ├

In normal mode of operation Exim does DNS lookups at startup, and when receiving or delivering messages. This is for logging purposes and allows keeping down the number of hard-coded values in the configuration.

If this system does not have a DNS full service resolver available at all times (for example if its Internet access is a dial-up line using dial-on-demand), this might have unwanted consequences. For example, starting up Exim or running the queue (even with no messages waiting) might trigger a costly dial-up-event.

This option should be selected if this system is using Dial-on-Demand. If it has always-on Internet access, this option should be disabled.
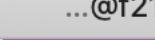
<Ok>

Package configuration

┤ Mail Server configuration ├

Keep number of DNS-queries minimal (Dial-on-Demand)?

          <Yes>   <No>

joe — joe@f21-mail-thegummibear: ~ — ssh ◂ ssh yavin — 80×24

...@f21-mail-thegummibear: ~ — ssh ◂ ssh yavin   ~ — joe@yavin: ~ — ssh ◂ ssh yavin   ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153   +

Package configuration

┤ Mail Server configuration ├

Exim is able to store locally delivered email in different formats. The most commonly used ones are mbox and Maildir. mbox uses a single file for the complete mail folder stored in /var/mail/. With Maildir format every single message is stored in a separate file in ~/Maildir/.

Please note that most mail tools in Debian expect the local delivery method to be mbox in their default.
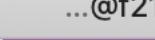
Delivery method for local mail:

mbox format in /var/mail/
Maildir format in home directory

<Ok>   <Cancel>

joe — joe@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin — 80×24

...@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin   ~ — joe@yavin: ~ — ssh ‹ ssh yavin   ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153   +

Package configuration

```
┌─────────────────────┤ Mail Server configuration ├─────────────────────┐
│                                                                        │
│  The Debian exim4 packages can either use 'unsplit configuration', a   │
│  single monolithic file (/etc/exim4/exim4.conf.template) or 'split     │
│  configuration', where the actual Exim configuration files are built from │
│  about 50 smaller files in /etc/exim4/conf.d/.                         │
│                                                                        │
│  Unsplit configuration is better suited for large modifications and is │
│  generally more stable, whereas split configuration offers a comfortable │
│  way to make smaller modifications but is more fragile and might break if │
│  modified carelessly.                                                  │
│                                                                        │
│                                                                        │
│  A more detailed discussion of split and unsplit configuration can be  │
│  found in the Debian-specific README files in /usr/share/doc/exim4-base. │
│                                                                        │
│  Split configuration into small files?                                │
│                                                                        │
│               <Yes>                              <No>                  │
│                                                                        │
└────────────────────────────────────────────────────────────────────────┘
```

Package configuration

Mail Server configuration

Mail for the 'postmaster', 'root', and other system accounts needs to be redirected to the user account of the actual system administrator.

If this value is left empty, such mail will be saved in /var/mail/mail, which is not recommended.

Note that postmaster's mail should be read on the system to which it is directed, rather than being forwarded elsewhere, so (at least one of) the users listed here should not redirect their mail off this machine. A 'real-' prefix can be used to force local delivery.

Multiple user names need to be separated by spaces.

<Ok>

Package configuration

```
┌─────────┤ Mail Server configuration ├─────────┐
│ Root and postmaster mail recipient:            │
│                                                │
│ put your username here_____        │
│                                                │
│        <Ok>              <Cancel>              │
│                                                │
└────────────────────────────────────────────────┘
```
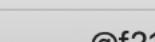
Package configuration

```
┌──────┤ Mail Server configuration ├──────┐
│ Root and postmaster mail recipient:      │
│                                          │
│ joe                                      │
│                                          │
│                                          │
│     <Ok>              <Cancel>           │
│                                          │
└──────────────────────────────────────────┘
```

```
[joe@f21-mail-thegummibear:~$ echo "Test with some local users"
Test with some local users
[joe@f21-mail-thegummibear:~$ sudo adduser bob
Adding user `bob' ...
Adding new group `bob' (1002) ...
Adding new user `bob' (1002) with group `bob' ...
Creating home directory `/home/bob' ...
Copying files from `/etc/skel' ...
[New password:
[Retype new password:
passwd: password updated successfully
Changing the user information for bob
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
joe@f21-mail-thegummibear:~$ 
```

```
[joe@f21-mail-thegummibear:~$ sudo adduser alice
Adding user `alice' ...
Adding new group `alice' (1003) ...
Adding new user `alice' (1003) with group `alice' ...
Creating home directory `/home/alice' ...
Copying files from `/etc/skel' ...
[New password:
[Retype new password:
passwd: password updated successfully
Changing the user information for alice
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]
joe@f21-mail-thegummibear:~$
```

```
[joe@f21-mail-thegummibear:~$ echo "Can bob send to alice?"
Can bob send to alice?
[joe@f21-mail-thegummibear:~$ sudo su - bob

***********
This template image will not work until you edit the contents of /etc/netplan/00
-installer-config.yaml, and correctly update the network settings.
***********

[bob@f21-mail-thegummibear:~$ mailx alice
```

joe — bob@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin — 80×24

...@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin   ~ — joe@yavin: ~ — ssh ‹ ssh yavin   ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153   +

```
[joe@f21-mail-thegummibear:~$ echo "Can bob send to alice?"
Can bob send to alice?
[joe@f21-mail-thegummibear:~$ sudo su - bob

************
This template image will not work until you edit the contents of /etc/netplan/00
-installer-config.yaml, and correctly update the network settings.
************

[bob@f21-mail-thegummibear:~$ mailx alice
Cc:
Subject: can u see this
hello
thisis a test message from bob
bye
bob@f21-mail-thegummibear:~$
```

```
tion
2021-09-11 18:05:45 1mP7Np-00016C-3d <= bob@f21-mail-thegummibear U=bob P=local
S=458
2021-09-11 18:05:45 Warning: No server certificate defined; will use a selfsigne
d one.
 Suggested action: either install a certificate or change tls_advertise_hosts op
tion
2021-09-11 18:05:45 1mP7Np-00016C-3d => alice <alice@f21-mail-thegummibear> R=lo
cal_user T=mail_spool
2021-09-11 18:05:45 1mP7Np-00016C-3d Completed
2021-09-11 18:05:59 Warning: No server certificate defined; will use a selfsigne
d one.
 Suggested action: either install a certificate or change tls_advertise_hosts op
tion
2021-09-11 18:05:59 1mP7O3-00016S-8P <= bob@mail.thegummibear.com U=bob P=local
S=600
2021-09-11 18:05:59 Warning: No server certificate defined; will use a selfsigne
d one.
 Suggested action: either install a certificate or change tls_advertise_hosts op
tion
2021-09-11 18:05:59 1mP7O3-00016S-8P => joe <root@mail.thegummibear.com> R=local
_user T=mail_spool
2021-09-11 18:05:59 1mP7O3-00016S-8P Completed
joe@f21-mail-thegummibear:~$
```

```
[joe@f21-mail-thegummibear:~$ sudo su - alice

***********
This template image will not work until you edit the contents of /etc/netplan/00
-installer-config.yaml, and correctly update the network settings.
***********

[alice@f21-mail-thegummibear:~$ mailx
"/var/mail/alice": 1 message 1 unread
>U   1 bob@f21-mail-thegu Sat Sep 11 18:05   20/631    can u see this
?
```

```
Return-path: <bob@f21-mail-thegummibear>
Envelope-to: alice@f21-mail-thegummibear
Delivery-date: Sat, 11 Sep 2021 18:05:45 +0000
Received: from bob by f21-mail-thegummibear with local (Exim 4.93)
        (envelope-from <bob@f21-mail-thegummibear>)
        id 1mP7Np-00016C-3d
        for alice@f21-mail-thegummibear; Sat, 11 Sep 2021 18:05:45 +0000
To: <alice@f21-mail-thegummibear>
Subject: can u see this
X-Mailer: mail (GNU Mailutils 3.7)
Message-Id: <E1mP7Np-00016C-3d@f21-mail-thegummibear>
From: bob@f21-mail-thegummibear
Date: Sat, 11 Sep 2021 18:05:45 +0000
X-IMAPbase: 1631383617 2
Status: O
X-UID: 1

hello
thisis a test message from bob
bye
[? q
Saved 1 message in /home/alice/mbox
Held 0 messages in /var/mail/alice
alice@f21-mail-thegummibear:~$
```

```
alice@f21-mail-thegummibear:~$ echo "I typed the number one to read the message"
I typed the number one to read the message
alice@f21-mail-thegummibear:~$ echo "Then I typed q to quit"
Then I typed q to quit
alice@f21-mail-thegummibear:~$
```

joe — alice@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin — 80×24

...@f21-mail-thegummibear: ~ — ssh ‹ ssh yavin   ~ — joe@yavin: ~ — ssh ‹ ssh yavin   ...m@ssh.cs.dixie.edu -L 6153:cordelia:6153   +

```
[alice@f21-mail-thegummibear:~$ echo "Now test to see if you can send remotely" ]
Now test to see if you can send remotely
alice@f21-mail-thegummibear:~$ 
```

```
[alice@f21-mail-thegummibear:~$ mailx dixiejoe2020@gmail.com
[Cc:
[Subject: this is a test
[can you receive this
[this is from alice
[ok bye
[alice@f21-mail-thegummibear:~$ echo "Control+d will end the message"
Control+d will end the message
alice@f21-mail-thegummibear:~$
```

```
[alice@f21-mail-thegummibear:~$ mailx dixiejoe2020@gmail.com
[Cc:
[Subject: testing
[can you read this
[I hope so
[bye
alice@f21-mail-thegummibear:~$
```

joe — root@f21-mail-thegummibear: /home/joe — ssh ‹ ssh yavin — 80×24

...il-thegummibear: /home/joe — ssh ‹ ssh yavin   ...-scripts/ansible/playbooks — ssh ‹ ssh yavin   ...2.118:8006 -L 8007:144.38.192.116:8006

```
root@f21-mail-thegummibear:/home/joe# cat /var/log/exim4/mainlog
```

joe — root@f21-mail-thegummibear: /home/joe — ssh ‹ ssh yavin — 80×24

...il-thegummibear: /home/joe — ssh ‹ ssh yavin   ...-scripts/ansible/playbooks — ssh ‹ ssh yavin   ...2.118:8006 -L 8007:144.38.192.116:8006   +

```
tion
2021-09-11 18:29:48 1mP7l5-0001F2-7a => dixiejoe2020@gmail.com R=smarthost T=rem
ote_smtp_smarthost H=stumail.cs.dixie.edu [144.38.192.231] X=TLS1.3:ECDHE_SECP25
6R1__RSA_PSS_RSAE_SHA256__AES_256_GCM:256 CV=no DN="C=UK,O=Exim Developers,CN=st
umail.cs.dixie.edu" K C="250- 464 byte chunk, total 464\\n250 OK id=1mP7l6-0000P
z-7X"
2021-09-11 18:29:48 1mP7l5-0001F2-7a Completed
2021-09-11 18:31:50 Warning: No server certificate defined; will use a selfsigne
d one.
 Suggested action: either install a certificate or change tls_advertise_hosts op
tion
2021-09-11 18:31:50 1mP7n4-0001FP-Tf <= alice@f21-mail-thegummibear U=alice P=lo
cal S=438
2021-09-11 18:31:50 Warning: No server certificate defined; will use a selfsigne
d one.
 Suggested action: either install a certificate or change tls_advertise_hosts op
tion
2021-09-11 18:31:51 1mP7n4-0001FP-Tf => dixiejoe2020@gmail.com R=smarthost T=rem
ote_smtp_smarthost H=stumail.cs.dixie.edu [144.38.192.231] X=TLS1.3:ECDHE_SECP25
6R1__RSA_PSS_RSAE_SHA256__AES_256_GCM:256 CV=no DN="C=UK,O=Exim Developers,CN=st
umail.cs.dixie.edu" K C="250- 452 byte chunk, total 452\\n250 OK id=1mP7n5-0000U
z-N7"
2021-09-11 18:31:51 1mP7n4-0001FP-Tf Completed
root@f21-mail-thegummibear:/home/joe# 
```

testing Inbox ✕

alice@f21-mail-thegummibear   12:31 PM (0 minutes ago)

to me ▾

can you read this
I hope so
bye

[It works!]   [Yes, I got your email.]   [No, I didn't get it.]

```
  of alice@f21-mail-thegummibear) smtp.mailfrom=alice@f21-mail-thegummibear
Return-Path: <alice@f21-mail-thegummibear>
Received: from stumail.cs.dixie.edu (stumail.cs.dixie.edu. [144.38.192.231])
        by mx.google.com with ESMTPS id mu16si2880698pjb.133.2021.09.11.11.31.53
```

```
[joe@f21-mail-thegummibear:~$ echo "Cannot reply to that address, need to fix /et]
c/hosts"
Cannot reply to that address, need to fix /etc/hosts
joe@f21-mail-thegummibear:~$
```

```
127.0.0.1 localhost
127.0.1.1 template

# The following lines are desirable for IPv6 capable hosts
::1     ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
~
~
~
~
~
~
~
~
~
~
~
~
~
"/etc/hosts" 9L, 223C                          3,0-1           All
```

```
127.0.0.1 localhost
127.0.1.1 template

#you only really need the ip address and FQDN
#I put some short names in here for convenience
144.38.199.52 mail.thegummibear.com mail f21-mail-thegummibear

# The following lines are desirable for IPv6 capable hosts
::1     ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                          5,48            All
```

```
[joe@f21-mail-thegummibear:~$ echo "Test emaail again"
Test emaail again
joe@f21-mail-thegummibear:~$ 
```

```
[alice@f21-mail-thegummibear:~$ mailx dixiejoe2020@gmail.com
[Cc:                                                          ]
[Subject: another message                                    ]
[I hope you can see my correct return address now            ]

[bye                                                          ]
alice@f21-mail-thegummibear:~$ echo "Don't forget control+d to end your message"
Don't forget control+d to end your message
alice@f21-mail-thegummibear:~$ █
```

```
tion
2021-09-11 18:31:51 1mP7n4-0001FP-Tf => dixiejoe2020@gmail.com R=smarthost T=rem
ote_smtp_smarthost H=stumail.cs.dixie.edu [144.38.192.231] X=TLS1.3:ECDHE_SECP25
6R1__RSA_PSS_RSAE_SHA256__AES_256_GCM:256 CV=no DN="C=UK,O=Exim Developers,CN=st
umail.cs.dixie.edu" K C="250- 452 byte chunk, total 452\\n250 OK id=1mP7n5-0000U
z-N7"
2021-09-11 18:31:51 1mP7n4-0001FP-Tf Completed
2021-09-11 18:35:41 Warning: No server certificate defined; will use a selfsigne
d one.
 Suggested action: either install a certificate or change tls_advertise_hosts op
tion
2021-09-11 18:35:41 1mP7qn-0001G0-9n <= alice@mail.thegummibear.com U=alice P=lo
cal S=468
2021-09-11 18:35:41 Warning: No server certificate defined; will use a selfsigne
d one.
 Suggested action: either install a certificate or change tls_advertise_hosts op
tion
2021-09-11 18:35:42 1mP7qn-0001G0-9n => dixiejoe2020@gmail.com R=smarthost T=rem
ote_smtp_smarthost H=stumail.cs.dixie.edu [144.38.192.231] X=TLS1.3:ECDHE_SECP25
6R1__RSA_PSS_RSAE_SHA256__AES_256_GCM:256 CV=no DN="C=UK,O=Exim Developers,CN=st
umail.cs.dixie.edu" K C="250- 482 byte chunk, total 482\\n250 OK id=1mP7qo-0000V
9-6R"
2021-09-11 18:35:42 1mP7qn-0001G0-9n Completed
joe@f21-mail-thegummibear:~$ 
```

another message   Inbox ✕

alice@mail.thegummibear.com

to me ▾

I hope you can see my correct return address now

bye

Yes, I got it   Yes, I got your email   No, I didn't get it

of alice@mail.thegummibear.com) smtp.mailfrom=alice@mail.thegummibear.com
Return-Path: <alice@mail.thegummibear.com>
Received: from stumail.cs.dixie.edu (stumail.cs.dixie.edu. [144.38.192.231])
        by mx.google.com with ESMTPS id k12si3012542pfa.188.2021.09.11.11.37.52

alice@mail.thegummibear.com

Ok. Here is my response! I hope you get this.

...

Send

To: alice@mail.thegummibear.com
Content-Type: multipart/alternative; boundary="00000000000052

--000000000000520f7505cbbc8f81
Content-Type: text/plain; charset="UTF-8"

Ok. Here is my response! I hope you get this.

On Sat, Sep 11, 2021 at 12:37 PM <alice@mail.thegummibear.com

> I hope you can see my correct return address now
>
> bye

```
alice@f21-mail-thegummibear:~$ mail
"/var/mail/alice": 1 message 1 new
>N   1 Dixie joe              Sat Sep 11 18:40   75/3547   Re: another message
? 1
```

```
[alice@f21-mail-thegummibear:~$ echo "It appears to work, yay"
It appears to work, yay
alice@f21-mail-thegummibear:~$ █
```