cgl@mail:~$ sudo apt-get install exim4 mailutils
cgl@mail:~$ sudo apt-get install exim4 mailutils
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  exim4-base exim4-config exim4-daemon-light guile-1.8/libs libgmp10 libgsasl7
  libltdl7 libmailutils2 libmysqlclient18 libntlml0 libpython2.7 mysql-common
Suggested packages:
  mail-reader exim4 exim4-doc-html exim4-doc-info spf-tools-perl swaks
  mailutils-mh
Recommended packages:
  mailx
The following NEW packages will be installed:
  exim4 exim4-base exim4-config exim4-daemon-light guile-1.8/libs libgmp10
  libgsasl7 libltdl7 libmailutils2 libmysqlclient18 libntlml0 libpython2.7
  mailutils mysql-common
0 upgraded, 14 newly installed, 0 to remove and 0 not upgraded.
Need to get 6,276 kB of archives.
After this operation, 19.2 MB of additional disk space will be used.
Do you want to continue [Y/n]?
cgl@mail:~$ sudo dpkg-reconfigure exim4-config
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 'smtarthost' 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).
Mail Server configuration

General type of mail configuration:

internet site; mail is sent and received directly using SMTP
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
Mail Server configuration

General type of mail configuration:

- internet site; mail is sent and received directly using SMTP
- 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>
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:

<Ok> <Cancel>
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.dsutux.us
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>
Mail Server configuration

IP-addresses to listen on for incoming SMTP connections:

127.0.0.1 ; ::1

<Ok>       <Cancel>
Mail Server configuration

IP-addresses to listen on for incoming SMTP connections:

127.0.0.1 ; ::1 ; 144.38.214.5

<Ok> <Cancel>
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 (mail.dsu.edu) 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:

<Ok> <Cancel>
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 (mail.dsutux.us) 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.dsutux.us; dsutux.us
```

<Ok>  <Cancel>
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>
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>
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:

mail.mail.dsutux.us

<Ok> <Cancel>
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.dsutux.us', 'localhost' and 'mail.dsutux.us; dsutux.us' in From, Reply-To, Sender and Return-Path are rewritten.

Hide local mail name in outgoing mail?

<Yes>  <No>
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.
Mail Server configuration

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

<Yes>  <No>
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
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
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>
cgl@mail:~$ sudo dpkg-reconfigure exim4-config
  * Stopping MTA for restart [ OK ]
  * Restarting MTA [ OK ]
cgl@mail:~$
cgl@mail:/$ cat /etc/exim4/update-exim4.conf.conf
cgl@mail:/$ sudo ls -l /var/log/exim4
total 4
-rw-r----- 1 Debian-exim adm 416 Sep 3 13:27 mainlog
cgl@mail:/$
cgl@mail:/$ sudo cat /var/log/exim4/mainlog
2013-09-03 13:23:44 exim 4.76 daemon started: pid=2373, -q30m, listening for SMTP on [127.0.0.1]:25 [::1]:25
2013-09-03 13:23:44 Start queue run: pid=2376
2013-09-03 13:23:44 End queue run: pid=2376
2013-09-03 13:27:31 exim 4.76 daemon started: pid=3100, -q30m, listening for SMTP on [127.0.0.1]:25 [::1]:25 [144.38.214.5]:25
2013-09-03 13:27:31 Start queue run: pid=3103
2013-09-03 13:27:31 End queue run: pid=3103
cgl@mail:/$
cgl@ns1:/$ sudo emacs /etc/bind/db.dsutux.us
; MX (Mail eXchange) records
; make mail addressed to user@dsutux.us and user@mail.dsutux.us be
; directed to the mail.dsutux.us server.
; 'mail' below means 'mail.dsutux.us'. It is NOT a keyword, but the
; name of a computer.
@   IN   MX   10 mail
mail IN MX 10 mail

; A (Address) records
;
ns1   IN   A   144.38.214.2
ns2   IN   A   144.38.214.3
users IN   A   144.38.214.4
mail IN   A   144.38.214.5
www   IN   A   144.38.214.6
@ IN SOA ns1.dsutux.us. root.ns1.dsutux.us. (2013090301); Serial
            3600; Refresh every 1 hour
            300; Retry every 5 minutes
            241920; Expire in 4 weeks
            60); Negative cache TTL is 1 minute

; NS (Name Server) records
;
@ IN NS ns1.dsutux.us.
@ IN NS ns2.dsutux.us.

; MX (Mail eXchange) records
; make mail addressed to user@dsutux.us and user@mail.dsutux.us be
; directed to the mail.dsutux.us server.
; 'mail' below means 'mail.dsutux.us'. It is NOT a keyword, but the
; name of a computer.
@ IN MX 10 mail
mail IN MX 10 mail
cgl@ns1:$ sudo service bind9 restart
  * Stopping domain name service... bind9
    waiting for pid 695 to die

  * Starting domain name service... bind9

  [ OK ]
  [ OK ]

cgl@ns1:$
cgl@ns1:/$ dig @144.38.214.2 dsutux.us MX | grep MX
; DiG 9.8.1-P1 <<>> @144.38.214.2 dsutux.us MX
;dsutux.us.
            IN    MX
dsutux.us.
            3600  IN    MX  10 mail.dsutux.us.
cgl@ns1:/$ 
cgl@ns1:/$ dig @144.38.214.3 dsutux.us MX | grep MX
; DiG 9.8.1-P1 <<>> @144.38.214.3 dsutux.us MX
;dsutux.us.
            IN    MX
dsutux.us.
            3600  IN    MX  10 mail.dsutux.us.
cgl@ns1:/$ 
cgl@ns1:/$ dig @144.38.1.2 dsutux.us MX | grep MX
; DiG 9.8.1-P1 <<>> @144.38.1.2 dsutux.us MX
;dsutux.us.
            IN    MX
dsutux.us.
            3600  IN    MX  10 mail.dsutux.us.
cgl@ns1:/$
cgl@mail:/$ sudo adduser bob
Adding user `bob' ...
Adding new group `bob' (1001) ...
Adding new user `bob' (1001) with group `bob' ...
Creating home directory `~/home/bob' ...
Copying files from `~/etc/skel' ...
Enter new UNIX password:
Retype new UNIX 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]
cgl@mail:/$
cgl@mail:/$ sudo adduser alice
Adding user `alice' ...
Adding new group `alice' (1002) ...
Adding new user `alice' (1002) with group `alice' ...
Creating home directory `/home/alice' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX 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]
cgl@mail:/$
alice@mail:~$ echo "Alice will now send a test message to Bob."
Alice will now send a test message to Bob.
alice@mail:~$ mailx bob
Cc:
Subject: Local -> Local
Bob,

Hello from mail.dsutux.us.

Alice
.
alice@mail:~$
bob@mail:~$ echo "Bob will now try to read his messages."
Bob will now try to read his messages.
You have mail in /var/mail/bob
bob@mail:~$
bob@mail:~$ mailx
"/var/mail/bob": 1 message 1 new
>N 1 alice@mail.dsutux. Tue Sep 3 13:37 20/534 Local -> Local
?
bob@mail:~$ mailx
"/var/mail/bob": 1 message 1 new
> N  1 alice@mail.dsutux. Tue Sep 3 13:37 20/534 Local -> Local
?  1
Bob,

Hello from mail.dsutux.us.

Alice
cgl@mail:/$ sudo cat /var/log/exim4/mainlog
2013-09-03 13:23:44 exim 4.76 daemon started: pid=2373, -q30m, listening for SMTP
P on [127.0.0.1]:25 [::1]:25
2013-09-03 13:23:44 Start queue run: pid=2376
2013-09-03 13:23:44 End queue run: pid=2376
2013-09-03 13:27:31 exim 4.76 daemon started: pid=3100, -q30m, listening for SMTP
P on [127.0.0.1]:25 [::1]:25 [144.38.214.5]:25
2013-09-03 13:27:31 Start queue run: pid=3103
2013-09-03 13:27:31 End queue run: pid=3103
2013-09-03 13:37:20 1VGwPg-0000sk-Al <= alice@mail.dsutux.us U=alice P=local S=419
2013-09-03 13:37:20 1VGwPg-0000sk-Al => bob <bob@mail.dsutux.us> R=local_user T=mail_spool
2013-09-03 13:37:20 1VGwPg-0000sk-Al Completed

cgl@mail:/$
cgl@mail:/$ ls -l /var/spool/mail/
total 0
-rw-rw---- 1 bob mail 0 Sep 3 13:39 bob

cgl@mail:/$
alice@mail:~$ echo "Alice will now send a test message to larsen@dixie.edu."
Alice will now send a test message to larsen@dixie.edu.
alice@mail:~$ mailx larsen@dixie.edu
Cc:
Subject: Local -> Remote
Larsen,

Hello. Did you get this?

Alice
(type Ctrl-D to end)
alice@mail:~$
From: alice@mail.dsutux.us <alice@mail.dsutux.us>
To: "Larsen, Curtis" <larsen@dixie.edu>
Date: Tue, 3 Sep 2013 13:41:37 -0600
Subject: Local -> Remote

Received: from mx1.dixie.edu (144.38.1.10) by sgcashub2.sgc.local (144.38.1.218) with Microsoft SMTP Server id 8.3.327.1; Tue, 3 Sep 2013 13:41:38 -0600
Received: from mail.cs.dixie.edu (cs.dixie.edu [144.38.192.10]) by mx1.dixie.edu with ESMTP id nSTsAFg3AnCFEc63 for <larsen@dixie.edu>; Tue, 03 Sep 2013 13:41:38 -0600 (MDT)
Received: from stumail.cs.dixie.edu ([144.38.192.231]) by mail.cs.dixie.edu with esmtp (Exim 4.76) (envelope-from <alice@mail.dsutux.us>) id 1VGwTp-0000bx-MF for larsen@dixie.edu; Tue, 03 Sep 2013 13:41:37 -0600
Received: from [144.38.214.5] (helo=mail.dsutux.us) by stumail.cs.dixie.edu with esmtp (Exim 4.76) (envelope-from <alice@mail.dsutux.us>) id 1VGwV0-00068U-10 for larsen@dixie.edu; Tue, 03 Sep 2013 13:42:50 -0600
Received: from alice by mail.dsutux.us with local (Exim 4.76) (envelope-from <alice@mail.dsutux.us>) id 1VGwTp-0000tK-7X for larsen@dixie.edu; Tue, 03 Sep 2013 13:41:37 -0600
Larsen,

Hello. Did you get this?

Alice
(type Ctrl-D to end)
Bob,

Let me know if you don't get this.

Larsen
Bob,

This should get to you.

Larsen
P on [127.0.0.1]:25 [:1]:25 [144.38.214.5]:25
2013-09-03 13:27:31 Start queue run: pid=3103
2013-09-03 13:27:31 End queue run: pid=3103
2013-09-03 13:37:20 1VGwPg-0000sk-Al <= alice@mail.dsutux.us U=alice P=local S=419
2013-09-03 13:37:20 1VGwPg-0000sk-Al => bob <bob@mail.dsutux.us> R=local_user T=mail_spool
2013-09-03 13:37:20 1VGwPg-0000sk-Al Completed
2013-09-03 13:41:37 1VGwTp-0000tK-7X <= alice@mail.dsutux.us U=alice P=local S=437
2013-09-03 13:41:37 1VGwTp-0000tK-7X => larsen@dixie.edu R=smarthost T=remote_smtp_smarthost H=stumail.cs.dixie.edu [144.38.192.231]
2013-09-03 13:41:37 1VGwTp-0000tK-7X Completed
2013-09-03 13:46:24 1VGwYS-0000tN-KI <= Larsen@dixie.edu H=mx1.dixie.edu [144.38.1.10] P=esmtp S=1704 id=1378237577.17631.0.camel@brockhall.cs.dixie.edu
2013-09-03 13:46:24 1VGwYS-0000tN-KI => bob <bob@mail.dsutux.us> R=local_user T=mail_spool
2013-09-03 13:46:24 1VGwYS-0000tN-KI Completed
2013-09-03 13:47:38 1VGwZe-0000tT-28 <= Larsen@dixie.edu H=mx1.dixie.edu [144.38.1.10] P=esmtp S=1718 id=1378237651.17631.1.camel@brockhall.cs.dixie.edu
2013-09-03 13:47:38 1VGwZe-0000tT-28 => bob <bob@mail.dsutux.us> R=local_user T=mail_spool
2013-09-03 13:47:38 1VGwZe-0000tT-28 Completed
cgl@mail:/$
bob@mail:~$ echo "I should check my mail..."
I should check my mail...
You have new mail in /var/mail/bob
bob@mail:~$
bob@mail:~$ mailx
"/var/mail/bob": 2 messages 2 new
>N   1 Curtis Larsen      Tue Sep 3 13:46   45/1810 Remote -> domain
   N  2 Curtis Larsen      Tue Sep 3 13:47   45/1829 Remote -> Mail Server
bob@mail:~$ mailx
"/var/mail/bob": 2 messages 2 new

>N 1 Curtis Larsen       Tue Sep 3 13:46 45/1810 Remote -> domain
>N 2 Curtis Larsen       Tue Sep 3 13:47 45/1829 Remote -> Mail Server
bob@mail:~$ mailx
"/var/mail/bob": 2 messages 2 new
> N 1 Curtis Larsen       Tue Sep 3 13:46 45/1810  Remote -> domain
 N 2 Curtis Larsen       Tue Sep 3 13:47 45/1829  Remote -> Mail Server
? 1
Bob,

Let me know if you don't get this.
Bob,

Let me know if you don't get this.

Larsen
Bob,

Let me know if you don't get this.

Larsen
Bob,

Let me know if you don't get this.

Larsen
Bob,

This should get to you.

Larsen
Bob,

This should get to you.

Larsen
cgl@mail:/$ sudo ps aux | grep exim4
104  3100  0.0  0.9  47472  1080 ?  Ss   13:27  0:00 /usr/sbin/exim4
   -bd -q30m
cgl   3458  0.0  0.7  9384  876 pts/1  S+   13:51  0:00 grep --color=auto to exim4
cgl@mail:/$
cgl@mail:/$ sudo netstat -natp
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
PID/Program name    tcp    0    0  0.0.0.0:22                  0.0.0.0:*           LISTEN
                652/sshd  tcp    0    0  144.38.214.5:25            0.0.0.0:*           LISTEN
                3100/exim4 tcp    0    0  127.0.0.1:25                0.0.0.0:*           LISTEN
                3100/exim4 tcp    0    0  144.38.214.5:22            144.38.197.2:33819 ESTABLISHED
                708/sshd: cgl   tcp    0    336  144.38.214.5:22         144.38.197.2:33962 ESTABLISHED
                1031/sshd: cgl  tcp    0    0  144.38.214.5:22            144.38.197.2:33972 ESTABLISHED
                3277/sshd: alice tcp    0    0  144.38.214.5:22            144.38.197.2:33971 ESTABLISHED
                3161/sshd: bob   tcp    0    0  144.38.214.5:22            144.38.197.2:33971 ESTABLISHED
                652/sshd  tcp6    0    0  ::::22                              :::::*            LISTEN
                3100/exim4 tcp6    0    0  ::1:25                             :::::*            LISTEN

cgl@mail:/$ sudo ls -l /var/log/exim4/
total 4
-rw-r----- 1 Debian-exim adm 1477 Sep 3 13:47 mainlog
cgl@mail:/$