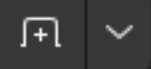




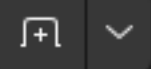
```
joe@www:~$ echo "I will need to do the following on all of my machines that aren't the mailserver. We will call these machines 'satellites'"
```

```
I will need to do the following on all of my machines that aren't the mailserver. We will call these machines 'satellites'
```

```
joe@www:~$
```



```
joe@www:~$ sudo apt update && sudo apt install exim4 mailutils -y
```



```
joe@www:~$ 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.

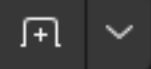
A system with a dynamic IP address can receive its own mail, or local delivery can be disabled entirely (except mail for root and postmaster).

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>



## 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.

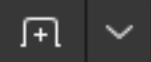
This name won't appear on From: lines of outgoing messages if rewriting is enabled.

System mail name:

`www.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.

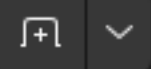
If this system only receives mail directly from local services (and not from other hosts), it is suggested to prohibit external connections to the local Exim daemon. Such services include e-mail programs (MUAs) which talk to localhost only as well as fetchmail. External connections are impossible when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

IP-addresses to listen on for incoming SMTP connections:

127.0.0.1 ; ::1

<Ok>

<Cancel>



# 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 (www.thegummibear.com) and 'localhost' are always added to the list given here.

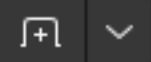
By default all local domains will be treated identically. If both a.example and b.example are local domains, acc@a.example and acc@b.example will be delivered to the same final destination. If different domain names should be treated differently, it is necessary to edit the config files afterwards.

Other destinations for which mail is accepted:

www.thegummibear.com

<Ok>

<Cancel>



# Package configuration

## Mail Server configuration

The option to hide the local mail name in outgoing mail was enabled. It is therefore necessary to specify the domain name this system should use for the domain part of local users' sender addresses.

Visible domain name for local users:

<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.

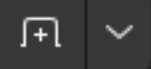
If the smarthost requires authentication, please refer to the Debian-specific README files in /usr/share/doc/exim4-base for notes about setting up SMTP authentication.

IP address or host name of the outgoing smarthost:

mail.thegummibear.com

<Ok>

<Cancel>



## 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.

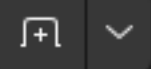
If this system does not have a DNS full service resolver available at all times (for example if its Internet access is a dial-up line using dial-on-demand), this might have unwanted consequences. For example, starting up Exim or running the queue (even with no messages waiting) might trigger a costly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

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

<Yes>

<No>



## 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.

Root and postmaster mail recipient:

joe

<Ok>

<Cancel>

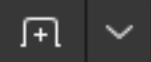


```
joe@www:~$ sudo service exim4 restart
```

```
joe@www:~$ echo "Remember to do on all satellites"
```

```
Remember to do on all satellites
```

```
joe@www:~$
```



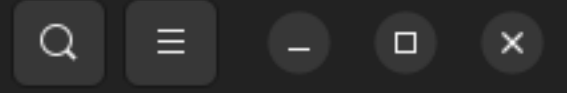
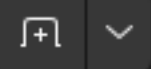
```
joe@mail:~$ echo "now I am on my mailserver"
```

```
now I am on my mailserver
```

```
joe@mail:~$ echo "We need to make it aware of all satellites"
```

```
We need to make it aware of all satellites
```

```
joe@mail:~$ 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.

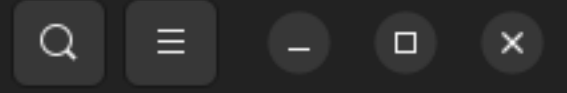
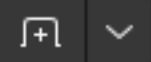
A system with a dynamic IP address can receive its own mail, or local delivery can be disabled entirely (except mail for root and postmaster).

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>



# 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.

IP-addresses to listen on for incoming SMTP connections:

127.0.0.1 ; ::1; 144.38.199.40

<Ok>

<Cancel>



## 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 (mail.thegummibear.com) 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; add all your hosts here
```

<Ok>

<Cancel>



## 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 (mail.thegummibear.com) 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; www.thegummibear.com; db.thegummibear.com
```

<Ok>

<Cancel>



# 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 (mail.thegummibear.com) 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:

or this...

<Ok>

<Cancel>



## 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 (mail.thegummibear.com) and 'localhost' are always added to the list given here.

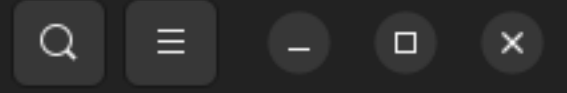
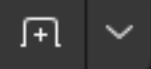
By default all local domains will be treated identically. If both a.example and b.example are local domains, acc@a.example and acc@b.example will be delivered to the same final destination. If different domain names should be treated differently, it is necessary to edit the config files afterwards.

Other destinations for which mail is accepted:

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:

enter all the ips of your hosts or a wildcard

<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).

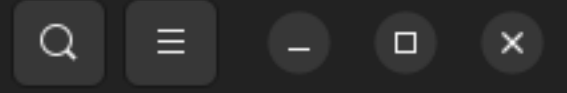
If this system should not be a smarthost for any other host, leave this list blank.

Machines to relay mail for:

if you don't know how to do your netmask, just do all your ips

<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:

144.38.199.32/28

<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.

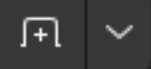
If the smarthost requires authentication, please refer to the Debian-specific README files in /usr/share/doc/exim4-base for notes about setting up SMTP authentication.

IP address or host name of the outgoing smarthost:

stumail.cs.utahtech.edu

<Ok>

<Cancel>



# Package configuration

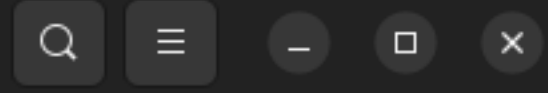
## Mail Server configuration

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 'thegummibear.com; \*.thegummibear.com' in From, Reply-To, Sender and Return-Path are rewritten.

Hide local mail name in outgoing mail?

<Yes>

<No>



# 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.

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

<Yes>

<No>



## 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>



## 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>

```
joe@www:~$ echo "Back on sat ready to test"
```

```
Back on sat ready to test
```

```
joe@www:~$ sudo su - bob
```

```
su: user bob does not exist or the user entry does not contain all the required fields
```

```
joe@www:~$ 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 []:
```

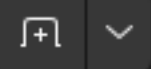
```
Work Phone []:
```

```
Home Phone []:
```

```
Other []:
```

```
Is the information correct? [Y/n]
```

```
joe@www:~$
```



```
joe@www:~$ sudo su - bob
```

```
bob@www:~$ mailx bob@mail.thegummibear.com
```

```
Cc:
```

```
Subject: hello
```

```
this is a test
```

```
bob@www:~$ █
```

```
joe@mail:~$ echo "Back on the mailserver"
```

```
Back on the mailserver
```

```
joe@mail:~$ sudo su - bob
```

```
bob@mail:~$ mail
```

```
Mail version 8.1.2 01/15/2001.  Type ? for help.
```

```
"/var/mail/bob": 3 messages 3 new
```

```
>N  1 Mailer-Daemon@stu  Tue Aug 08 20:55    87/3765  Mail delivery failed: returning messa
  N  2 Mailer-Daemon@stu  Wed Aug 09 17:19    87/3759  Mail delivery failed: returning messa
  N  3 bob@www.thegummib  Wed Aug 09 20:02   24/839   hello
```

```
& q
```

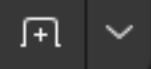
```
Held 3 messages in /var/mail/bob
```

```
bob@mail:~$ echo "we got it!"
```

```
we got it!
```

```
bob@mail:~$ █
```





```
bob@www:~$ echo "Back on my sat, can it send out to gmail?"
```

```
Back on my sat, can it send out to gmail?
```

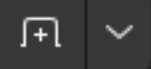
```
bob@www:~$ mailx dixiejoe2020@gmail.com
```

```
Cc:
```

```
Subject: this is another test
```

```
hello can you see this?
```

```
bob@www:~$ █
```



```
bob@www:~$ echo "I didn't receive it. I think it because this server is not authenticated  
with SPF, so lets modify that on dns again"  
I didn't receive it. I think it because this server is not authenticated with SPF, so lets  
modify that on dns again  
bob@www:~$ █
```

```
; db file for thegummibear.com
; this is just a comment and is not important
;
;
$TTL      86400
@         IN      SOA      ns1.thegummibear.com. root.ns1.thegummibear.com. (
                        26          ; Serial
                        604800     ; Refresh
                        86400      ; Retry
                        2419200    ; Expire
                        86400      ; Negative Cache TTL
);

@         IN      NS       ns1.thegummibear.com.
@         IN      NS       ns2.thegummibear.com.

@         IN      MX       10      mail
mail      IN      MX       10      mail

@         IN      TXT      "v=spf1 mx ip4:144.38.192.231 a:stumail.cs.utahtech.edu ~all"
mail      IN      TXT      "v=spf1 mx ip4:144.38.192.231 a:stumail.cs.utahtech.edu ~all"
; i added an spf record for www
; you need to for all your sats
www       IN      TXT      "v=spf1 mx ip4:144.38.192.231 a:stumail.cs.utahtech.edu ~all"

; Look at the MX records I added here
@         IN      A        144.38.199.38
"db.thegummibear.com" 54L, 1338B written
```



```
joe@ns1:/etc/bind$ echo "We also need to tell DNS what MX should be designated as the recipient for each of our satellites."
```

```
We also need to tell DNS what MX should be designated as the recipient for each of our satellites.
```

```
joe@ns1:/etc/bind$ █
```

```

@      IN      TXT      "v=spf1 mx ip4:144.38.192.231 a:stumail.cs.utahtech.edu ~all"
mail   IN      TXT      "v=spf1 mx ip4:144.38.192.231 a:stumail.cs.utahtech.edu ~all"
; i added an spf record for www
; you need to for all your sats
www    IN      TXT      "v=spf1 mx ip4:144.38.192.231 a:stumail.cs.utahtech.edu ~all"

```

```

; Look at the MX records I added here

```

```

@      IN      A        144.38.199.38
      IN      MX      10      mail
fs     IN      A        144.38.199.35
      IN      MX      10      mail
ns1    IN      A        144.38.199.36
      IN      MX      10      mail
ns2    IN      A        144.38.199.37
      IN      MX      10      mail
www    IN      A        144.38.199.38
      IN      MX      10      mail
db     IN      A        144.38.199.39
      IN      MX      10      mail
mail   IN      A        144.38.199.40

```

```

; THE AAAA will be used if they are coming from an ipv6 network

```

```

huey   IN      AAAA    2001:1948:e10:2002:5054:ff:fe08:2fe
dewey  IN      AAAA    2001:1948:e10:2002:5054:ff:fe08:2fe
louie  IN      AAAA    2001:1948:e10:2002:5054:ff:fe08:2fe

```

```

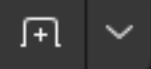
; The A will be used if IPV4

```

```

huey   IN      A        144.38.199.38

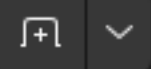
```



```
joe@ns1:/etc/bind$ echo "Always increment and restart bind"
```

```
Always increment and restart bind
```

```
joe@ns1:/etc/bind$
```



```
bob@www:~$ echo "Test again"
```

```
Test again
```

```
bob@www:~$ mailx dixiejoe2020@gmail.com
```

```
Cc:
```

```
Subject: another test
```

```
I hope that this goes through!
```

```
bob@www:~$
```



```
bob@www:~$ echo "If it doesn't work, see the troubleshooting screenshots"  
If it doesn't work, see the troubleshooting screenshots  
bob@www:~$
```