NAME

sendmail − an electronic mail transport agent

SYNOPSIS

sendmail [*flags*] [*address ...*]
newaliases
mailq [**−v**]
hoststat
purgestat
smtpd

DESCRIPTION

Sendmail sends a message to one or more *recipients,* routing the message over whatever networks are necessary. **Sendmail** does internetwork forwarding as necessary to deliver the message to the correct place.

Sendmail is not intended as a user interface routine; other programs provide user-friendly front ends; **sendmail** is used only to deliver pre-formatted messages.

With no flags, **sendmail** reads its standard input up to an end-of-file or a line consisting only of a single dot and sends a copy of the message found there to all of the addresses listed. It determines the network(s) to use based on the syntax and contents of the addresses.

Local addresses are looked up in a file and aliased appropriately. Aliasing can be prevented by preceding the address with a backslash. Beginning with 8.10, the sender is included in any alias expansions, e.g., if 'john' sends to 'group', and 'group' includes 'john' in the expansion, then the letter will also be delivered to 'john'.

Parameters

−B*type* Set the body type to *type*. Current legal values are 7BIT or 8BITMIME.

−ba Go into ARPANET mode. All input lines must end with a CR-LF, and all messages will be generated with a CR-LF at the end. Also, the ''From:'' and ''Sender:'' fields are examined for the name of the sender.

−bd Run as a daemon. This requires Berkeley IPC. **Sendmail** will fork and run in background listening on socket 25 for incoming SMTP connections. This is normally run from /etc/rc.

−bD Same as **−bd** except runs in foreground.

−bh Print the persistent host status database.

−bH Purge expired entries from the persistent host status database.

−bi Initialize the alias database.

−bm Deliver mail in the usual way (default).

−bp Print a listing of the queue.

−bs Use the SMTP protocol as described in RFC821 on standard input and output. This flag implies all the operations of the **−ba** flag that are compatible with SMTP.

−bt Run in address test mode. This mode reads addresses and shows the steps in parsing; it is used for debugging configuration tables.

−bv Verify names only − do not try to collect or deliver a message. Verify mode is normally used for validating users or mailing lists.

−C *file* Use alternate configuration file. **Sendmail** refuses to run as root if an alternate configuration file is specified.

–d*X* Set debugging value to *X*.

–F *fullname*
Set the full name of the sender.

–f*name*
Sets the name of the ‘‘from’’ person (i.e., the envelope sender of the mail). This address may also be used in the From: header if that header is missing during initial submission. The envelope sender address is used as the recipient for delivery status notifications and may also appear in a Return-Path: header. **–f** should only be used by ‘‘trusted’’ users (normally *root*, *daemon*, and *network*) or if the person you are trying to become is the same as the person you are. Otherwise, an X-Authentication-Warning header will be added to the message.

–h*N* Set the hop count to *N*. The hop count is incremented every time the mail is processed. When it reaches a limit, the mail is returned with an error message, the victim of an aliasing loop. If not specified, ‘‘Received:’’ lines in the message are counted.

–i Ignore dots alone on lines by themselves in incoming messages. This should be set if you are reading data from a file.

–L *tag* Set the identifier used in syslog messages to the supplied *tag*.

–N *dsn* Set delivery status notification conditions to *dsn*, which can be ‘never’ for no notifications or a comma separated list of the values ‘failure’ to be notified if delivery failed, ‘delay’ to be notified if delivery is delayed, and ‘success’ to be notified when the message is successfully delivered.

–n Don’t do aliasing.

–O *option*=*value*
Set option *option* to the specified *value*. This form uses long names. See below for more details.

–o*x value*
Set option *x* to the specified *value*. This form uses single character names only. The short names are not described in this manual page; see the *Sendmail Installation and Operation Guide* for details.

–p*protocol*
Set the name of the protocol used to receive the message. This can be a simple protocol name such as ‘‘UUCP’’ or a protocol and hostname, such as ‘‘UUCP:ucbvax’’.

–q[*time*]
Processed saved messages in the queue at given intervals. If *time* is omitted, process the queue once. *Time* is given as a tagged number, with ‘s’ being seconds, ‘m’ being minutes, ‘h’ being hours, ‘d’ being days, and ‘w’ being weeks. For example, ‘–q1h30m’ or ‘–q90m’ would both set the timeout to one hour thirty minutes. If *time* is specified, **sendmail** will run in the background. This option can be used safely with **–bd**.

–qI*substr*
Limit processed jobs to those containing *substr* as a substring of the queue id.

–qR*substr*
Limit processed jobs to those containing *substr* as a substring of one of the recipients.

–qS*substr*
Limit processed jobs to those containing *substr* as a substring of the sender.

–R *return*
Set the amount of the message to be returned if the message bounces. The *return* parameter can be ‘full’ to return the entire message or ‘hdrs’ to return only the headers. In the latter case also local bounces return only the headers.

–r*name*
An alternate and obsolete form of the **–f** flag.

−t Read message for recipients. To:, Cc:, and Bcc: lines will be scanned for recipient addresses. The Bcc: line will be deleted before transmission.

−U Initial (user) submission. This should *always* be set when called from a user agent such as **Mail** or **exmh** and *never* be set when called by a network delivery agent such as **rmail**.

−V *envid*
Set the original envelope id. This is propagated across SMTP to servers that support DSNs and is returned in DSN-compliant error messages.

−v Go into verbose mode. Alias expansions will be announced, etc.

−X *logfile*
Log all traffic in and out of mailers in the indicated log file. This should only be used as a last resort for debugging mailer bugs. It will log a lot of data very quickly.

−− Stop processing command flags and use the rest of the arguments as addresses.

Options

There are also a number of processing options that may be set. Normally these will only be used by a system administrator. Options may be set either on the command line using the **−o** flag (for short names), the **−O** flag (for long names), or in the configuration file. This is a partial list limited to those options that are likely to be useful on the command line and only shows the long names; for a complete list (and details), consult the *Sendmail Installation and Operation Guide*. The options are:

AliasFile=*file*
Use alternate alias file.

HoldExpensive
On mailers that are considered ‘‘expensive’’ to connect to, don’t initiate immediate connection. This requires queueing.

CheckpointInterval=*N*
Checkpoint the queue file after every *N* successful deliveries (default 10). This avoids excessive duplicate deliveries when sending to long mailing lists interrupted by system crashes.

DeliveryMode=*x*
Set the delivery mode to *x*. Delivery modes are ‘i’ for interactive (synchronous) delivery, ‘b’ for background (asynchronous) delivery, ‘q’ for queue only − i.e., actual delivery is done the next time the queue is run, and ‘d’ for deferred − the same as ‘q’ except that database lookups for maps which have set the −D option (default for the host map) are avoided.

ErrorMode=*x*
Set error processing to mode *x*. Valid modes are ‘m’ to mail back the error message, ‘w’ to ‘‘write’’ back the error message (or mail it back if the sender is not logged in), ‘p’ to print the errors on the terminal (default), ‘q’ to throw away error messages (only exit status is returned), and ‘e’ to do special processing for the BerkNet. If the text of the message is not mailed back by modes ‘m’ or ‘w’ and if the sender is local to this machine, a copy of the message is appended to the file *dead.letter* in the sender’s home directory.

SaveFromLine
Save UNIX-style From lines at the front of messages.

MaxHopCount=*N*
The maximum number of times a message is allowed to ‘‘hop’’ before we decide it is in a loop.

IgnoreDots
Do not take dots on a line by themselves as a message terminator.

SendMimeErrors
Send error messages in MIME format. If not set, the DSN (Delivery Status Notification) SMTP extension is disabled.

ConnectionCacheTimeout=*timeout*
Set connection cache timeout.

ConnectionCacheSize=*N*
Set connection cache size.

LogLevel=*n*
The log level.

MeToo=*False*
Don't send to "me" (the sender) if I am in an alias expansion.

CheckAliases
Validate the right hand side of aliases during a newaliases(1) command.

OldStyleHeaders
If set, this message may have old style headers. If not set, this message is guaranteed to have new style headers (i.e., commas instead of spaces between addresses). If set, an adaptive algorithm is used that will correctly determine the header format in most cases.

QueueDirectory=*queuedir*
Select the directory in which to queue messages.

StatusFile=*file*
Save statistics in the named file.

Timeout.queuereturn=*time*
Set the timeout on undelivered messages in the queue to the specified time. After delivery has failed (e.g., because of a host being down) for this amount of time, failed messages will be returned to the sender. The default is five days.

UserDatabaseSpec=*userdatabase*
If set, a user database is consulted to get forwarding information. You can consider this an adjunct to the aliasing mechanism, except that the database is intended to be distributed; aliases are local to a particular host. This may not be available if your sendmail does not have the USERDB option compiled in.

ForkEachJob
Fork each job during queue runs. May be convenient on memory-poor machines.

SevenBitInput
Strip incoming messages to seven bits.

EightBitMode=*mode*
Set the handling of eight bit input to seven bit destinations to *mode*: m (mimefy) will convert to seven-bit MIME format, p (pass) will pass it as eight bits (but violates protocols), and s (strict) will bounce the message.

MinQueueAge=*timeout*
Sets how long a job must ferment in the queue between attempts to send it.

DefaultCharSet=*charset*
Sets the default character set used to label 8-bit data that is not otherwise labelled.

DialDelay=*sleeptime*
If opening a connection fails, sleep for *sleeptime* seconds and try again. Useful on dial-on-demand sites.

NoRecipientAction=*action*
Set the behaviour when there are no recipient headers (To:, Cc: or Bcc:) in the message to *action*: none leaves the message unchanged, add-to adds a To: header with the envelope recipients, add-apparently-to adds an Apparently-To: header with the envelope recipients, add-bcc adds an empty Bcc: header, and add-to-undisclosed adds a header reading 'To: undisclosed-recipients:;'.

MaxDaemonChildren=*N*
Sets the maximum number of children that an incoming SMTP daemon will allow to spawn at any time to *N*.

ConnectionRateThrottle=*N*
Sets the maximum number of connections per second to the SMTP port to *N*.

In aliases, the first character of a name may be a vertical bar to cause interpretation of the rest of the name as a command to pipe the mail to. It may be necessary to quote the name to keep **sendmail** from suppressing the blanks from between arguments. For example, a common alias is:

msgs: "|/usr/bin/msgs -s"

Aliases may also have the syntax ":include:*filename*" to ask **sendmail** to read the named file for a list of recipients. For example, an alias such as:

poets: ":include:/usr/local/lib/poets.list"

would read */usr/local/lib/poets.list* for the list of addresses making up the group.

Sendmail returns an exit status describing what it did. The codes are defined in <*sysexits.h*>:

EX_OK
Successful completion on all addresses.

EX_NOUSER
User name not recognized.

EX_UNAVAILABLE
Catchall meaning necessary resources were not available.

EX_SYNTAX
Syntax error in address.

EX_SOFTWARE
Internal software error, including bad arguments.

EX_OSERR
Temporary operating system error, such as "cannot fork".

EX_NOHOST
Host name not recognized.

EX_TEMPFAIL
Message could not be sent immediately, but was queued.

If invoked as **newaliases**, **sendmail** will rebuild the alias database. If invoked as **mailq**, **sendmail** will print the contents of the mail queue. If invoked as **hoststat**, **sendmail** will print the persistent host status database. If invoked as **purgestat**, **sendmail** will purge expired entries from the persistent host status database. If invoked as **smtpd**, **sendmail** will act as a daemon, as if the **−bd** option were specified.

NOTES

sendmail often gets blamed for many problems that are actually the result of other problems, such as overly permissive modes on directories. For this reason, **sendmail** checks the modes on system directories and files to determine if they can be trusted. Although these checks can be turned off and your system security reduced by setting the **DontBlameSendmail** option, the permission problems should be fixed. For more information, see:

http://www.sendmail.org/tips/DontBlameSendmail.html

FILES

Except for the file */etc/mail/sendmail.cf* itself the following pathnames are all specified in */etc/mail/sendmail.cf*. Thus, these values are only approximations.

/etc/mail/aliases
: raw data for alias names

/etc/mail/aliases.db
: data base of alias names

/etc/mail/sendmail.cf
: configuration file

/etc/mail/helpfile
: help file

/etc/mail/statistics
: collected statistics

/var/spool/mqueue/*
: temp files

SEE ALSO

binmail(1), mail(1), rmail(1), syslog(3), aliases(5), mailaddr(7), rc(8)

DARPA Internet Request For Comments *RFC819*, *RFC821*, *RFC822*. *Sendmail − An Internetwork Mail Router*, No. 9, SMM. *Sendmail Installation and Operation Guide*, No. 8, SMM.

http://www.sendmail.org/

HISTORY

The **sendmail** command appeared in 4.2BSD.