The README file M. Rose

Dover Beach Consulting, Inc.

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The personal.tcl Mailbot

Abstract

The personal.tcl mailbot implements a highly-specialized filter for

personal messages. It MUST not be used by people who receive mailing

list traffic in their personal mailboxes.

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1. SYNOPSIS

Create a configuration file (Section 3.3) and add this line to your

".forward" file:

"| LIB/mbot-1.1/personal.tcl -config FILE -user USER"

where "LIB" is where the Tcl library lives, "FILE" is the name of

your configuration file, and "USER" is your username.

1.1 Requirements

This package requires:

o Tcl version 8.3 [1] or later

o tcl lib [2]

o TclX version 8.0 [3] or later

1.2 Copyrights

(c) 1999-2002 Marshall T. Rose

Hold harmless the author, and any lawful use is allowed.

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2. PHILOSOPHY

The mailbot's philosophy is simple:

o The mailbot receives all of your incoming personal mail.

o You ALWAYS copy yourself on every message you send, so that the

mailbot receives all of your outgoing personal mail.

o The mailbot performs six tasks, all optional:

\* makes audit copies of your incoming and outgoing mail;

\* performs duplicate supression;

\* performs originator supression by rejecting messages from

people who aren't your friends or on a guest list;

\* performs content supression by rejecting messages that contain

attachments with extensions on your prohibited list;

\* sends a textual synopsis to your PDA; and,

\* sends a copy to your remote mailbox.

Do NOT use the personal.tcl mailbot if you receive mailing list

traffic in your personal mailbox. When sending mail to a mailing

list, either:

o use a "From" address that the personal.tcl mailbot will process as

"impersonal" mail, (e.g., "hewes+ietf.general@example.com"); or,

o set the "Reply-To" for the message to the mailing list.

Consult Appendix A for information on how "impersonal" mail is

identified and processed.

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2.1 Guest Lists

Guest lists are an effective mechanism for cutting back on excessive

mail.

o when the mailbot receives a message from you, it adds any

recipients it finds to a permanent-guest list;

o when the mailbot receives a message from someone on a guest list,

it adds any recipients it finds to a temporary-guest list; but,

o when the mailbot receives a message from someone not on any guest

list, they get a rejection notice.

Note that in order to promote someone to the permanent-guest list,

you must send them a message (with a copy to yourself). In most

cases, simply replying to the original message accomplishes this. Of

course, if you don't want to promote someone to the permanent-guest

list, simply remove that address (or your address) from the list of

recipients in your reply.

Here are the fine points:

o rejection notices contain a passphrase that may be used at most

once to bypass the guest list mechanism (notices also contain the

original message to minimize type-in by the uninvited);

o a flip-flop is used to avoid mail loops; and,

o messages originated by an administrative address (e.g.,

"Postmaster") bypass the guest list mechanism (unless the message

refers to a previously-rejected message, in which case it is

supressed).

The rejection notice should be written carefully to minimize an

extreme negative reaction on the part of the uninvited. Of course,

by allowing a passphrase, this provides something of a CQ test for

the uninvited -- if someone can't pass the test...

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3. BEHAVIOR

3.1 Arguments

The mailbot supports the following command line arguments:

-config configFile: specifies the name of the configuration file

to use;

-debug boolean: enables debug output;

-file messageFile: specifies the name of the file containing the

message;

-originator orginatorAddress: specifies the email-address of the

originator of the message; and,

-user userName: specifies the user-identity of the recipient.

Note that if "-user" is given, then the working directory is set to

userName's home directory before configFile is sourced, and the umask

is set defensively.

The default values are:

personal.tcl -config .personal-config.tcl \

-debug 0 \

-file - \

-originator "derived from message"

Given the default values, only "-user" need be specified. The reason

is that if a message is being delivered to multiple local recipients,

and if any of the ".forward" files are identical in content, then

sendmail may not deliver the message to all of the local recipients.

A few other (sendmail related) tips:

o If sendmail is configured with smrsh, you'll need to symlink

personal.tcl into the /usr/libexec/sm.bin/ directory.

o Make sure that tclsh8.0 is in the path specified on the third-line

of personal.tcl.

o You should chmod your ".forward" file to 0600.

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3.2 Actions

The mailbot begins by parsing its arguments, sourcing configFile, and

then examining the incoming message:

1. If auditInFile (Section 3.3.1.3) is set, a copy of the message is

saved (Section 3.3.2.4) there.

2. If the message contains a previously-encountered "Message-ID",

processing terminates.

3. If the message's originator can not be determined, a copy of the

message is saved (Section 3.3.2.4) in the defaultMaildrop

(Section 3.3.1.2) and processing terminates.

4. The originator's email-address is examined:

1. If the originator appears to be an automated administrative

process (Section 3.3.2.1), and if a previously rejected

email-address is found in the message, processing terminates.

2. Otherwise, if the originator isn't the user (Section

3.3.2.3), or a friend (Section 3.3.2.2), or a permanent-

access guest, or a temporary-access guest, and if noticeFile

(Section 3.3.1.10) is set, then the message is rejected.

3. Otherwise, each recipient email-address in the message's

header is added to a guest list. (If the originator is the

user (Section 3.3.2.3), the permanent-guest list is used

instead of the temporary-guest list.)

5. If the originator is the the user (Section 3.3.2.3), then:

1. If auditOutFile (Section 3.3.1.4) is set, saved (Section

3.3.2.4) there.

2. Regardless, processing terminates.

6. If pdaMailboxes (Section 3.3.1.11) is set, and if any plaintext

is contained in the message, then the plaintext is sent to those

email-addresses.

7. If remoteMailboxes (Section 3.3.1.12) is set, and if the message

is successful resent to those email-addresses, then processing

terminates.

8. A copy of the message is saved (Section 3.3.2.4) in the

defaultMaildrop (Section 3.3.1.2) and processing terminates.

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3.3 The Configuration File

There are two kinds of information that may be defined in configFile:

configuration options (Section 3.3.1) and configurable procedures

(Section 3.3.2).

Here's a simple example of a configFile for a user named "example":

set options(dataDirectory) .personal

set options(defaultMaildrop) /var/mail/example

set options(logFile) [file join .personal personal.log]

set options(noticeFile) [file join .personal notice.txt]

3.3.1 Configuration Options

configFile must define dataDirectory (Section 3.3.1.1) and

defaultMaildrop (Section 3.3.1.2). All other configuration options

are optional.

3.3.1.1 dataDirectory

The directory where the mailbot keeps its databases. The

subdirectories are:

badaddrs: the directory of rejected email-addresses

inaddrs: the directory of originator email-addresses

msgids: the directory of Message-IDs

outaddrs: the permanent-guest list

phrases: the directory of at-most-once passphrases

tmpaddrs: the temporary-guest list

If you want to remove someone from a guest list, simply go to that

directory and delete the corresponding file.

3.3.1.2 defaultMaildrop

The filename where messages are saved (Section 3.3.2.4) for later

viewing by your user agent.

3.3.1.3 auditInFile

The filename where messages are saved (Section 3.3.2.4) for audit

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purposes.

3.3.1.4 auditOutFile

The filename where your outgoing messages are saved (Section 3.3.2.4)

for audit purposes.

3.3.1.5 dropNames

A list of filename extensions for attachments that automatically

cause the message to be rejected.

3.3.1.6 friendlyDomains

A list used by friendP (Section 3.3.2.2) giving the domain names

where your friends live.

3.3.1.7 friendlyfire

If present and true, then someone sending a message both to you and

someone you've previously sent mail to, is considered a friend.

3.3.1.8 logFile

The filename where the mailbot logs (Section 3.3.2.8) its actions.

3.3.1.9 myMailbox

Your preferred email-address with commentary text, e.g.,

Arlington Hewes <hewes@example.com>

3.3.1.10 noticeFile

The filename containing the textual notice sent when a message is

rejected. Note that all occurrances of "%passPhrase%" within this

file are replaced with an at-most-once passphrase allowing the

originator to bypass the mailbot's filtering. Similarly, any

occurrences of "%subject%" are replaced by the "Subject" of the

incoming message.

3.3.1.11 pdaMailboxes

The email-addresses where a textual synopsis of the incoming message

is sent.

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3.3.1.12 remoteMailboxes

The email-addresses where a copy of the incoming message is resent.

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3.3.2 Configurable Procedures

All of these procedures are defined in personal.tcl. You may

override any of them in configFile.

3.3.2.1 adminP

proc adminP {local domain}

Returns "1" if the email-address is an automated administrative

process.

3.3.2.2 friendP

proc friendP {local domain}

Returns "1" if the email-address is from a friendly domain (Section

3.3.1.6) or sub-domain.

3.3.2.3 ownerP

proc ownerP {local domain}

Returns "1" if the email-address refers to the user (as determined by

looking at myMailbox (Section 3.3.1.9), pdaMailboxes (Section

3.3.1.11), and remoteMailboxes (Section 3.3.1.12).

3.3.2.4 saveMessage

proc saveMessage {inF {outF ""}}

Saves a copy of the message contained in the file inF. If the

destination file, outF, isn't specified, it defaults to the

defaultMaildrop (Section 3.3.1.2).

3.3.2.5 findPhrase

proc findPhrase {subject}

Returns "1" if a previously-allocated passphrase is present in the

subject. If so, the passphrase is forgotten.

3.3.2.6 makePhrase

proc makePhrase {}

Returns an at-most-once passphrase for use with a rejection notice.

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3.3.2.7 pruneDir

proc pruneDir {dir type}

Removes old entries from one of the mailbot's databases (Section

3.3.1.1). The second parameter is one of "addr", "msgid", or

"phrase".

3.3.2.8 tclLog

proc tclLog {message}

Writes a message to the logFile (Section 3.3.1.8).

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References

[1] <http://sourceforge.net/projects/tcl/>

[2] <http://sourceforge.net/projects/tcllib/>

[3] <http://sourceforge.net/projects/tclx/>

Author's Address

Marshall T. Rose

Dover Beach Consulting, Inc.

POB 255268

Sacramento, CA 95865-5268

US

Phone: +1 916 483 8878

Fax: +1 916 483 8848

EMail: mrose@dbc.mtview.ca.us

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Appendix A. Impersonal Mail

If impersonalMail (Appendix A.2.1) returns a non-empty string then

the message is processed differently than the algorithm given in

Section 3.2. Specifically:

1. If the message contains a previously-encountered "Message-ID",

processing terminates.

2. If the message's originator can not be determined, processing

terminates.

3. The value returned by impersonalMail (Appendix A.2.1) is the

folder's name and is broken into one or more components seperated

by dots ("."). If there aren't at least two components, or if

any of the components are empty (e.g., the folder is named

"sys..announce"), then the message is bounced.

4. If mappingFile (Appendix A.1.4) exists, that file is examined to

see if an entry is present for the folder. If so, the message is

processed according to the value present, one of:

"ignore": the message is silently ignored;

"bounce": the message is noisily bounced; or,

otherwise: the message is resent to the address.

Regardless, if an entry was present for the folder, then

processing terminates.

5. The message is saved (Section 3.3.2.4) in a file whose name is

constructed by replacing each dot (".") in the folder name with a

directory seperator (e.g., if the folder is named "sys.announce",

then the file is called "announce" underneath the directory "sys"

underneath the directory identified by foldersDirectory (Appendix

A.1.1).

6. Finally, the file identified by foldersFile (Appendix A.1.2) is

updated as necessary.

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A.1 Configuration Options

If "impersonal" mail is received, then foldersFile (Appendix A.1.2)

and foldersDirectory (Appendix A.1.1) must exist.

A.1.1 foldersDirectory

The directory where the mailbot keeps private folders.

A.1.2 foldersFile

This file contains one line for each private folder.

A.1.3 announceMailboxes

The email-addresses where an announcement is sent when a new private

folder is created.

A.1.4 mappingFile

The file consulted by the mailbot to determine how to process

"impersonal" messages. Each line of the file consists of a folder

name and value, seperated by a colon (":"). There are three reserved

values: "bounce", "ignore", and "store".

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A.2 Configurable Procedures

All of these procedures are defined in personal.tcl. You may

override any of them in configFile.

A.2.1 impersonalMail

proc impersonalMail {}

If the message is deemed "impersonal", return the name of a

corresponding private folder; otherwise, return the empty-string.

Many mail systems have a mechanism of passing additional information

when performing final delivery using a program. With modern versions

of sendmail, for example, if mail is sent to a local user named

"user+detail", then, in the absense of an alias for either

"user+detail" or "user+\*", then the message is delivered to "user".

The trick is to get sendmail to pass the "detail" part to the

mailbot.

At present, sendmail passes this information only if procmail is your

local mailer. Here's how I do it:

\*\*\* \_alias.c Tue Dec 29 10:42:25 1998

--- alias.c Sat Sep 18 21:51:35 1999

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\* 813,818 \*\*\*\*

--- 813,821 ----

define('z', user->q\_home, e);

define('u', user->q\_user, e);

define('h', user->q\_host, e);

+

+ setuserenv("SUFFIX", user->q\_host);

+

if (ForwardPath == NULL)

ForwardPath = newstr("\201z/.forward");

This makes available an environment variable called "SUFFIX" which

has the "details" part. The drawback in this approach is that this

information is lost if the message is re-queued for delivery (what's

really needed is an addition to the .forward syntax to allow macros

such as $h to be passed).

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The corresponding impersonalMail procedure is defined as:

proc impersonalMail {} {

global env

return $env(SUFFIX)

}

A.2.2 processFolder

proc processFolder {folderName mimeT} { return $string }

If an entry for the folder exists in the mappingFile (Appendix

A.1.4), and if the value for that entry is "process", then this

procedure is invoked to return a string indicating what action to

take (cf., Appendix A).

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Appendix B. An Example configFile

Here is the ".forward" file for the user "hewes":

"|/usr/pkg/lib/mbot-1.1/personal.tcl

-config .personal/config.tcl -user hewes"

(Of course, it's all on one line.)

Here is the user's ".personal/config.tcl" file:

array set options [list \

dataDirectory .personal \

defaultMaildrop /var/mail/hewes \

auditInFile [file join .personal INCOMING] \

auditOutFile [file join .personal OUTGOING] \

friendlyDomains [list tcp.int example.com] \

logFile [file join .personal personal.log] \

myMailbox "Arlington Hewes <hewes@example.com>" \

pdaMailboxes hewes.pager@example.com \

noticeFile [file join .personal notice.txt] \

foldersDirectory [file join .personal folders] \

foldersFile [file join .personal .mailboxlist] \

announceMailboxes hewes+sys.announce@example.com \

mappingFile [file join .personal mapping] \

friendlyFire 1 \

dropNames [list \*.bat \*.exe \*.src \*.pif \*.wav \*.vbs] \

]

proc impersonalMail {} {

global env

return $env(SUFFIX)

}

Note that because remoteMailboxes (Section 3.3.1.12) isn't defined,

personal messages are ultimately stored in the user's defaultMaildrop

(Section 3.3.1.2).

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Appendix C. Acknowledgements

The original version of this mailbot was written by the author in

1994, implemented using the safe-tcl package (Borenstein and Rose,

circa 1993).

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