NAME

Mail::Box::Maildir::Message - one message in a Maildir folder

INHERITANCE

```
Mail::Box::Maildir::Message
  is a Mail::Box::Dir::Message
  is a Mail::Box::Message
  is a Mail::Message
  is a Mail::Reporter
```

SYNOPSIS

```
my $folder = new Mail::Box::Maildir ...
my $message = $folder->message(10);
```

DESCRIPTION

A Mail::Box::Maildir::Message represents one message in an Mail::Box::Maildir folder. Each message is stored in a separate file.

Extends "DESCRIPTION" in Mail::Box::Dir::Message.

METHODS

Extends "METHODS" in Mail::Box::Dir::Message.

Constructors

```
Extends "Constructors" in Mail::Box::Dir::Message.
```

```
$obj->clone(%options)
```

Inherited, see "Constructors" in Mail::Message

Mail::Box::Maildir::Message->new(%options)

Inherited, see "METHODS" in Mail::Box::Dir::Message

Constructing a message

Extends "Constructing a message" in Mail::Box::Dir::Message.

```
$obj->bounce([<$rg_object|%options>])
```

Inherited, see "Constructing a message" in Mail::Message::Construct::Bounce

Mail::Box::Maildir::Message->build([\$message|\$part|\$body], \$content)

Inherited, see "Constructing a message" in Mail::Message::Construct::Build

Mail::Box::Maildir::Message->buildFromBody(\$body, [\$head], \$headers)
Inherited, see "Constructing a message" in Mail::Message::Construct::Build

\$obj->forward(%options)

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward

\$obj->forwardAttach(%options)

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward

\$obj->forwardEncapsulate(%options)

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward

\$obj->forwardInline(%options)

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward

\$obj->forwardNo(%options)

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward

\$obj->forwardPostlude()

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward

\$obj->forwardPrelude()

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward

Inherited, see "Constructing a message" in Mail::Message::Construct::Forward Mail::Box::Maildir::Message->read(\$fh|STRING|SCALAR|ARRAY, %options) Inherited, see "Constructing a message" in Mail::Message::Construct::Read \$obj->rebuild(%options) Inherited, see "Constructing a message" in Mail::Message::Construct::Rebuild \$obj->reply(%options) Inherited, see "Constructing a message" in Mail::Message::Construct::Reply \$obj->replyPrelude([STRING|\$field|\$address|ARRAY-\$of-\$things]) Inherited, see "Constructing a message" in Mail::Message::Construct::Reply \$obj->replySubject(STRING) Mail::Box::Maildir::Message->replySubject(STRING) Inherited, see "Constructing a message" in Mail::Message::Construct::Reply The message Extends "The message" in Mail::Box::Dir::Message. \$obj->container() Inherited, see "The message" in Mail::Message \$obj->copyTo(\$folder, %options) Inherited, see "The message" in Mail::Box::Message \$obj->filename([\$filename]) Returns the current filename for this message. If the \$filename argument is specified, a new filename will be set. For maildir messages this means that modifications are immediately performed: there will be a rename (move) from the old name to the new name. Labels may change within in the message object as well. \$obj->folder([\$folder]) Inherited, see "The message" in Mail::Box::Message \$obj->isDummy() Inherited, see "The message" in Mail::Message \$obj->isPart() Inherited, see "The message" in Mail::Message \$obj->messageId() Inherited, see "The message" in Mail::Message \$obj->moveTo(\$folder, %options) Inherited, see "The message" in Mail::Box::Message \$obj->partNumber() Inherited, see "The message" in Mail::Message \$obj->**print**([\$fh]) Inherited, see "The message" in Mail::Message \$obj->send([\$mailer], %options) Inherited, see "The message" in Mail::Message \$obj->seqnr([\$integer]) Inherited, see "The message" in Mail::Box::Message \$obj->size() Inherited, see "The message" in Mail::Message

\$obj->forwardSubject(STRING)

```
$obj->toplevel()
         Inherited, see "The message" in Mail::Message
    $obj->write([$fh])
         Inherited, see "The message" in Mail::Message
The header
    Extends "The header" in Mail::Box::Dir::Message.
    $obj->bcc()
         Inherited, see "The header" in Mail::Message
    $obj->cc()
         Inherited, see "The header" in Mail::Message
    $obj->date()
         Inherited, see "The header" in Mail::Message
    $obj->destinations()
         Inherited, see "The header" in Mail::Message
    $obj->from()
         Inherited, see "The header" in Mail::Message
    $obj->get($fieldname)
         Inherited, see "The header" in Mail::Message
    $obj->guessTimestamp()
         The filename of a Mail::Box::Maildir::Message contains a timestamp. This is a wild guess
         about the actual time of sending of the message: it is the time of receipt which may be seconds to
         hours off. But is still a good guess... When the message header is not parsed, then this date is used.
    $obj->head([$head])
         Inherited, see "The header" in Mail::Message
    $obj->nrLines()
         Inherited, see "The header" in Mail::Message
    $obj->sender()
         Inherited, see "The header" in Mail::Message
    $obj->study($fieldname)
         Inherited, see "The header" in Mail::Message
    $obj->subject()
         Inherited, see "The header" in Mail::Message
    $obj->timestamp()
         Inherited, see "The header" in Mail::Message
    $obj->to()
         Inherited, see "The header" in Mail::Message
The body
    Extends "The body" in Mail::Box::Dir::Message.
    $obj->body([$body])
         Inherited, see "The body" in Mail::Message
    $obj->contentType()
         Inherited, see "The body" in Mail::Message
    $obj->decoded(%options)
         Inherited, see "The body" in Mail::Message
```

\$obj->lines()

Inherited, see "The whole message as text" in Mail::Message::Construct::Text

\$obj->printStructure([\$fh|undef],[\$indent])

Inherited, see "The whole message as text" in Mail::Message::Construct::Text

\$obj->string()

Inherited, see "The whole message as text" in Mail::Message::Construct::Text

Labels

\$obj->labelsToFilename()

When the labels on a message change, this may implicate a change in the message's filename. The change will take place immediately. The new filename (which may be the same as the old filename) is returned. undef is returned when the rename is required but fails.

Extends "Internals" in Mail::Box::Dir::Message.

```
$obj->accept([BOOLEAN])
         Accept a message for the folder. This will move it from the new or tmp sub-directories into the cur
         sub-directory (or back when the BOOLEAN is false). When you accept an already accepted
         message, nothing will happen.
    $obj->clonedFrom()
         Inherited, see "Internals" in Mail::Message
    Mail::Box::Maildir::Message->coerce($message, %options)
         Inherited, see "Internals" in Mail::Message
    $obj->create($filename)
         Inherited, see "Internals" in Mail::Box::Dir::Message
    $obj->diskDelete()
         Inherited, see "Internals" in Mail::Box::Message
    $obj->isDelayed()
         Inherited, see "Internals" in Mail::Message
    $obj->loadBody()
         Inherited, see "Internals" in Mail::Box::Dir::Message
    $obj->loadHead()
         Inherited, see "Internals" in Mail::Box::Dir::Message
    $obj->parser()
         Inherited, see "Internals" in Mail::Box::Dir::Message
    $obj->readBody( $parser, $head, [$bodytype] )
         Inherited, see "Internals" in Mail::Box::Message
    $obj->readFromParser( $parser, [$bodytype] )
         Inherited, see "Internals" in Mail::Message
    $obj->readHead( $parser, [$class] )
         Inherited, see "Internals" in Mail::Message
    $obj->recursiveRebuildPart($part, %options)
         Inherited, see "Internals" in Mail::Message::Construct::Rebuild
    $obj->storeBody($body)
         Inherited, see "Internals" in Mail::Message
    $obj->takeMessageId( [STRING] )
         Inherited, see "Internals" in Mail::Message
Error handling
    Extends "Error handling" in Mail::Box::Dir::Message.
    $obj->AUTOLOAD()
         Inherited, see "METHODS" in Mail::Message::Construct
    $obj->addReport($object)
         Inherited, see "Error handling" in Mail::Reporter
    $obj->defaultTrace([$level]|[$loglevel, $tracelevel]|[$level, $callback])
    Mail::Box::Maildir::Message->defaultTrace([$level]|[$loglevel, $tracelevel]|[$level, $callback]
    )
         Inherited, see "Error handling" in Mail::Reporter
```

\$obj->errors()

Inherited, see "Error handling" in Mail::Reporter

Status and X-Status fields

Flags in filename

```
$obj->log([$level, [$strings]])
        Mail::Box::Maildir::Message->log([$level, [$strings]])
            Inherited, see "Error handling" in Mail::Reporter
        $obj->logPriority($level)
        Mail::Box::Maildir::Message->logPriority($level)
             Inherited, see "Error handling" in Mail::Reporter
        $obj->logSettings()
            Inherited, see "Error handling" in Mail::Reporter
        $obj->notImplemented()
            Inherited, see "Error handling" in Mail::Reporter
        $obj->report([$level])
            Inherited, see "Error handling" in Mail::Reporter
        $obj->reportAll([$level])
            Inherited, see "Error handling" in Mail::Reporter
        $obj->shortSize([$value])
        Mail::Box::Maildir::Message->shortSize([$value])
             Inherited, see "Error handling" in Mail::Message
        $obj->shortString()
            Inherited, see "Error handling" in Mail::Message
        $obj->trace([$level])
             Inherited, see "Error handling" in Mail::Reporter
        $obj->warnings()
            Inherited, see "Error handling" in Mail::Reporter
   Cleanup
        Extends "Cleanup" in Mail::Box::Dir::Message.
        $obj->DESTROY()
            Inherited, see "Cleanup" in Mail::Reporter
        $obj->destruct()
            Inherited, see "Cleanup" in Mail::Box::Message
DETAILS
        Extends "DETAILS" in Mail::Box::Dir::Message.
   Structure of a Message
        Extends "Structure of a Message" in Mail::Box::Dir::Message.
   Message object implementation
        Extends "Message object implementation" in Mail::Box::Dir::Message.
   Message class implementation
        Extends "Message class implementation" in Mail::Box::Dir::Message.
   Labels
        Extends "Labels" in Mail::Box::Dir::Message.
        Predefined labels
        Extends "Predefined labels" in Mail::Box::Dir::Message.
```

Extends "Status and X-Status fields" in Mail::Box::Dir::Message.

When new messages arrive on system and have to be stored in a maildir folder, they are put in the new sub-

directory of the folder (first created in the tmp sub-directory and then immediately moved to new). The following information was found at http://cr.yp.to/proto/maildir.html>.

Each message is written in a separate file. The filename is constructed from the time-of-arrival, a hostname, an unique component, a syntax marker, and flags. For example 1014220791.meteor.42:2, DF. The filename must match:

When an application opens the folder, there may be messages in new which are new arival, and messages in cur. The latter are labeledaccepted. To move a message from new to cur, you have two options with the same effect:

```
$msg->accept;
$msg->label(accept => 1);
```

See accept(), label(), Mail::Box::Maildir::new(accept_new), and Mail::Box::Maildir::acceptMessages()

The messages are moved, and their name is immediately extended with flags. An example:

```
new/897979431.meteor.42 may become cur/897979431.meteor.42:2,FS
```

The added characters ':2,' refer to the "second state of processing", where the message has been inspected. And the characters (which should be in alphabetic order) mean

```
D => draft
F => flagged
R => replied (answered)
S => seen
T => deleted (tagged for deletion)
```

Some maildir clients support

P => passed (resent/forwarded/bounced to someone else)

The flags will immediately change when **label()** or **delete()** is used, which differs from other message implementations: maildir is stateless, and should not break when applications crash.

DIAGNOSTICS

Error: Cannot coerce a \$class object into a \$class object

Error: Cannot create parser for \$filename.

For some reason (the previous message have told you already) it was not possible to create a message parser for the specified filename.

Error: Cannot include forward source as \$include.

Unknown alternative for the forward(include). Valid choices are NO, INLINE, ATTACH, and ENCAPSULATE.

Error: Cannot include reply source as \$include.

Unknown alternative for the include option of **reply()**. Valid choices are NO, INLINE, and ATTACH.

Error: Cannot write message to \$filename: \$!

When a modified or new message is written to disk, it is first written to a temporary file in the folder directory. For some reason, it is impossible to create this file.

Error: Failed to move \$new to \$filename: \$!

When a modified or new message is written to disk, it is first written to a temporary file in the folder directory. Then, the new file is moved to replace the existing file. Apparently, the latter fails.

Error: Method bounce requires To, Cc, or Bcc

The message **bounce**() method forwards a received message off to someone else without modification; you must specified it's new destination. If you have the urge not to specify any destination, you probably are looking for **reply**(). When you wish to modify the content, use **forward**().

Error: Method forwardAttach requires a preamble

Error: Method forwardEncapsulate requires a preamble

Error: No address to create forwarded to.

If a forward message is created, a destination address must be specified.

Error: No default mailer found to send message.

The message **send()** mechanism had not enough information to automatically find a mail transfer agent to sent this message. Specify a mailer explicitly using the via options.

Error: No rebuild rule \$name defined.

Error: Only **build()** Mail::Message's; they are not in a folder yet

You may wish to construct a message to be stored in a some kind of folder, but you need to do that in two steps. First, create a normal Mail::Message, and then add it to the folder. During this Mail::Box::addMessage() process, the message will get coerce()—d into the right message type, adding storage information and the like.

Error: Package \$package does not implement \$method.

Fatal error: the specific package (or one of its superclasses) does not implement this method where it should. This message means that some other related classes do implement this method however the class at hand does not. Probably you should investigate this and probably inform the author of the package.

Error: Unable to read delayed body.

For some reason, the header of the message could be read, but the body cannot. Probably the file has disappeared or the permissions were changed during the progress of the program.

Error: Unable to read delayed head.

Mail::Box tries to be *lazy* with respect to parsing messages. When a directory organized folder is opened, only the filenames of messages are collected. At first use, the messages are read from their file. Appearently, a message is used for the first time here, but has disappeared or is unreadible for some other reason.

Error: coercion starts with some object

SEE ALSO

This module is part of Mail-Box distribution version 3.009, built on August 18, 2020. Website: http://perl.overmeer.net/CPAN/

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