

# hack your email with notmuch

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August 23, 2013

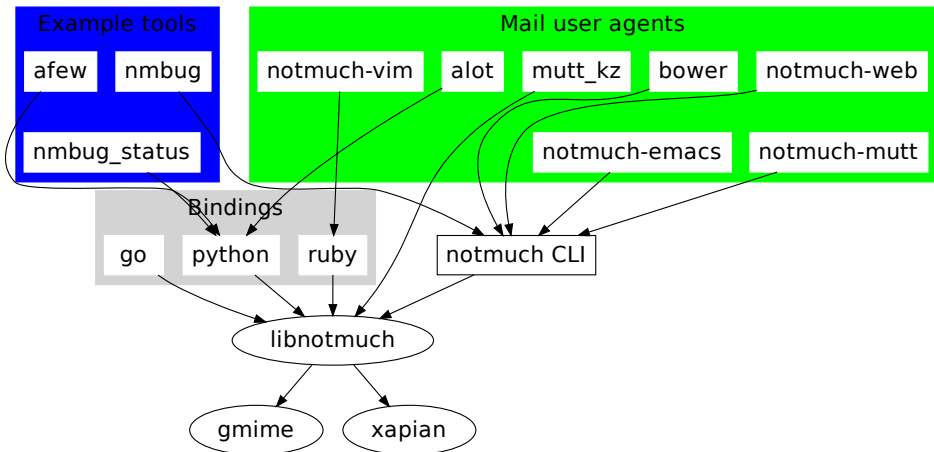
# What is notmuch?

A library/command-line tool for

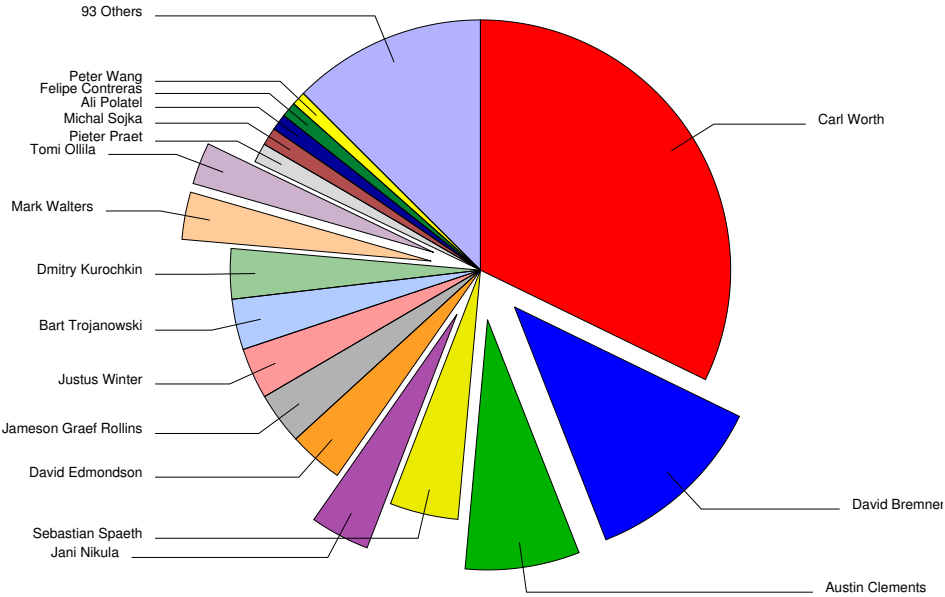
- indexing,
- tagging, and
- searching

a local email store, one message per file.

# The notmuch “ecosystem”



# Bus factor 5?



## On the command line

### Commands

```
notmuch count [options...] <search-term>...
notmuch dump [<filename> ] [--] [ <search-term>...]
notmuch search [options...] <search-term>...
notmuch show [options...] <search-term>...
notmuch tag +<tag>|-<tag> [...] [--] <search-term>...
```

# On the command line

## Commands

```
notmuch count [options...] <search-term>...
notmuch dump [<filename> ] [--] [ <search-term>...]
notmuch search [options...] <search-term>...
notmuch show [options...] <search-term>...
notmuch tag +<tag>|-<tag> [...] [--] <search-term>...
```

## Query Syntax

from:<name-or-address>	to:<name-or-address>
subject:<word-or-quoted-phrase>	attachment:<suffix>
tag:<tag> (or is:<tag>)	id:<message-id>
thread:<thread-id>	folder:<directory-path>
date:<since>..<until>	

## On the command line

### Query Syntax

from:<name-or-address>	to:<name-or-address>
subject:<word-or-quoted-phrase>	attachment:<suffix>
tag:<tag> (or is:<tag>)	id:<message-id>
thread:<thread-id>	folder:<directory-path>
date:<since>..<until>	

```
% notmuch search tag:inbox::notmuch and to:david
% notmuch search --output=files tag:deleted | xargs rm
```

# Emacs Based MUA

- Talks to the CLI via sexp output
- Thread based UI
- Uses message mode to send mail
- Support for MIME and OpenPGP

```
File Edit Options Buffers Tools Help
Fri. 16:24 stedfast@comcast.net →UTF-8 in mail headers (namely FROM) sent by bugzilla (inbox)
Fri. 20:04 Jani Nikula (inbox, inbox::notmuch)
Fri. 20:38 Jeffrey Stedfast (inbox, inbox::notmuch)
Thu. 13:35 Geoffrey Ferrari →[PATCH] emacs: bugfix notmuch-mua-reply when signature is present (inbox, inbox::notmuch, notmuch:
Fri. 10:19 Tomi Ollila (inbox, inbox::notmuch)
August 05 Ramakrishnan Muthukr →unread message appear 'folded' (attachment, inbox, inbox::notmuch, notmuch::
August 05 Ramakrishnan Muthukr (inbox, inbox::notmuch)
August 05 Austin Clements (inbox, inbox::notmuch)
August 05 Ramakrishnan Muthukr →search order (inbox, inbox::notmuch, notmuch::bug)
August 03 Rory Yorke →[PATCH] man/Makefile.local: allow out-of-tree 'make install' (inbox, inbox::notmuch)
August 03 Tomi Ollila (inbox, inbox::notmuch)
August 04 Rory Yorke (inbox, inbox::notmuch)
June 23 Justus Winter →DNS issues with notmuchmail.org (inbox, inbox::notmuch)
June 23 Jim Paris (inbox, inbox::notmuch, unread)
U:|%*- *notmuch-pick-tag:inbox and tag:inbox::notmuch and not tag:notmuch::patch and not tag:notmuch::review* 36% L13 (notmuch-pi
[PATCH] emacs: bugfix notmuch-mua-reply when signature is present
Geoffrey Ferrari <geoffrey.ferrari@oriel.oxon.org> (Thu. 13:35) (inbox inbox::notmuch notmuch::needs-review notmuch::patch)
Subject: [PATCH] emacs: bugfix notmuch-mua-reply when signature is present
To: notmuch@notmuchmail.org
Cc: "Geoffrey H. Ferrari" <geoffrey.ferrari@oriel.oxon.org>

From: "Geoffrey H. Ferrari" <geoffrey.ferrari@oriel.oxon.org>

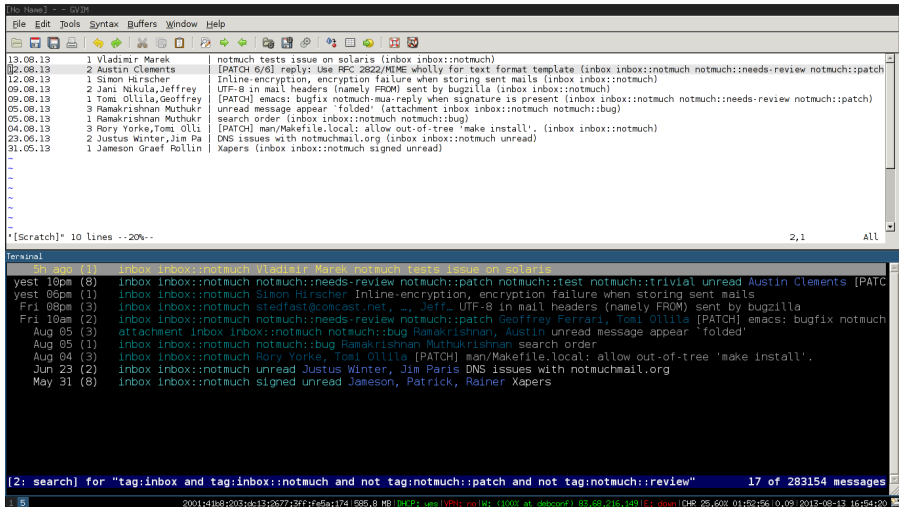
When composing a reply, notmuch-mua-reply tries to be smart and cite
the original message by inserting it before the user signature, if
one is present. However, the existing method of backward searching
from the end of the buffer to find the signature separator and then
moving one line up results in the original message being cited in
the message headers. That's because at this point the message looks
like this (with | representing point after searching for the
signature separator):

From: xxx
To: xxx
U:|%*- *notmuch-id:1375961732-14327-1-git-send-email-geoffrey.ferrari@oriel.oxon.org* Top L1 (notmuch-show Wrap)
Quit
```



# Options for Emacs haters

- alot (python, curses)
- notmuch-vim (vim, ruby)



The screenshot shows the Emacs Notmuch interface. The top window displays a list of messages with columns for date, count, sender, and subject. The bottom window is a terminal showing the output of the 'notmuch search' command.

```
File Edit Tools Syntax Buffers Window Help
[Icons]
13.08.13 1 Vladimir Marek | notmuch tests issue on solaris (inbox inbox::notmuch)
12.08.13 2 Austin Clements | [PATCH 6/6] reply: Use RFC 2822/MIME wholly for text format template (inbox inbox::notmuch notmuch::needs-review notmuch::patch)
12.08.13 1 Simon Hirscher | Inline-encryption, encryption failure when storing sent mails (inbox inbox::notmuch)
09.08.13 2 Jani Nikula,Jeffrey | UTF-8 in mail headers (namely FROM) sent by bugzilla (inbox inbox::notmuch)
09.08.13 1 Tomi Ollila,Geoffrey | [PATCH] emacs: bugfix notmuch-mua-reply when signature is present (inbox inbox::notmuch notmuch::needs-review notmuch::patch)
05.08.13 3 Ramakrishnan Muthukr | unread message appear 'folded' (attachment inbox inbox::notmuch notmuch::bug)
05.08.13 1 Ramakrishnan Muthukr | search order (inbox inbox::notmuch notmuch::bug)
04.08.13 3 Rory Yorke,Tomi Olli | [PATCH] man/Makefile.local: allow out-of-tree 'make install'. (inbox inbox::notmuch)
23.06.13 2 Justus Winter, Jim Pa | DNS issues with notmuchmail.org (inbox inbox::notmuch unread)
31.05.13 1 Jameson Graef Rollin | Xapers (inbox inbox::notmuch signed unread)
...
* [Scratch] * 10 lines --20%--
2,1 All

Terminal
5h ago (1) inbox inbox::notmuch Vladimir Marek notmuch tests issue on solaris
yest 10pm (8) inbox inbox::notmuch notmuch::needs-review notmuch::patch notmuch::test notmuch::trivial unread Austin Clements [PATCH]
yest 06pm (1) inbox inbox::notmuch Simon Hirscher Inline-encryption, encryption failure when storing sent mails
Fri 08pm (3) inbox inbox::notmuch stedfast@comcast.net, Jeff_ UTF-8 in mail headers (namely FROM) sent by bugzilla
Fri 10am (2) inbox inbox::notmuch notmuch::needs-review notmuch::patch Geoffrey Ferrari, Tomi Ollila [PATCH] emacs: bugfix notmuch
Aug 05 (3) attachment inbox inbox::notmuch notmuch::bug Ramakrishnan, Austin unread message appear 'folded'
Aug 05 (1) inbox inbox::notmuch notmuch::bug Ramakrishnan Muthukrishnan search order
Aug 04 (3) inbox inbox::notmuch Rory Yorke, Tomi Ollila [PATCH] man/Makefile.local: allow out-of-tree 'make install'.
Jun 23 (2) inbox inbox::notmuch unread Justus Winter, Jim Paris DNS issues with notmuchmail.org
May 31 (8) inbox inbox::notmuch signed unread Jameson, Patrick, Rainer Xapers

[2: search] for "tag:inbox and tag:inbox::notmuch and not tag:notmuch::patch and not tag:notmuch::review" 17 of 283154 messages
5 2001:241b8:203:dc:13:2677:3ff:fe5a:174 565.5 MB [RHP: yes | VPI: no | W: 1100f at debconf] 03.68.216.149 [E: down | CHR 25.60% 01:52:56 | 0.09 2013-08-13 16:54:20]
```

# notmuch-mutt

- “exports” notmuch searches to symlink farms
- comes with configuration snippet to integrate with mutt

```
mutt
q:Quit d:Del u:Undel s:Save n:Mail r:Reply g:Group f:Help
1 0 Nov 17 Mikhail Gusarov (0.7K) [notmuch] [PATCH 1/2] Close message file after parsing message headers
2 0 Nov 17 Mikhail Gusarov (0.4K) [notmuch] [PATCH 2/2] Include <stdint.h> to get uint32_t in C++ file with gcc 4.
3 0 Nov 17 Carl Worth (2.0K) Re: [notmuch] [PATCH 1/2] Close message file after parsing message headers
4 0 Nov 17 Keith Packard (0.8K)
5 0 Nov 18 Carl Worth (0.8K)
6 0s Nov 17 Lars Kellogg-St (1.5K) [notmuch] Working with Maildir storage?
7 0s Nov 18 Mikhail Gusarov (1.3K)
8 0s Nov 17 Lars Kellogg-St (1.2K)
9 0s Nov 18 Mikhail Gusarov (1.4K)
10 0 Nov 17 Keith Packard (0.4K)
11 0s Nov 17 Lars Kellogg-St (1.1K)
12 0 Nov 18 Carl Worth (1.0K)
13 0 Nov 17 Alex Botero-Low (3.5K) [notmuch] preliminary FreeBSD support
14 0 Nov 17 Carl Worth (1.0K)
--Mutt: ~/Maildir/.list.notmuch [Msgs:15742 Old:15592 918]---(threads/date)-----{0%}-----

mutt
q:Quit d:Del u:Undel s:Save n:Mail r:Reply g:Group f:Help
1 May 31 Jameson Graef R (1.7K) Re: Xapers
2 Jun 23 Justus Winter (0.7K) DNS issues with notmuchmail.org
3 Aug 03 Rory Yorke (0.6K) [PATCH] man/Makefile.local: allow out-of-tree 'make install'.
4 Aug 04 Tomi Ollila (1.0K) Re: [PATCH] man/Makefile.local: allow out-of-tree 'make install'.
5 Aug 04 Rory Yorke (4.0K) Re: [PATCH] man/Makefile.local: allow out-of-tree 'make install'.
6 Aug 05 Ramakrishnan Mu (11K) unread message appear `folded'
7 Aug 05 Ramakrishnan Mu (0.8K) Re: unread message appear `folded'
8 Aug 05 Austin Clements (3.4K) Re: unread message appear `folded'
9 Aug 20 Vladimir.Marek@ (4.9K) [PATCH 4/4] timegm: add portable implementation (Solaris support)
10 Aug 20 Blake Jones (5.4K) Re: [PATCH 4/4] timegm: add portable implementation (Solaris support)
11 Aug 20 Tomi Ollila (6.6K) Re: [PATCH 4/4] timegm: add portable implementation (Solaris support)
12 0 Aug 20 Tomi Ollila (1.1K) [PATCH 1/1] test: unset 'xpg_echo' bash shell option
13 Aug 20 Blake Jones (1.2K) Re: [PATCH 4/4] timegm: add portable implementation (Solaris support)
--Mutt: ~/cache/notmuch/oult/results [Msgs:13 Old:1 91X]---(date/date)-----{all}-----

5 no IP:v6:579,8 MB | DHCP: yes | VPI: no | W: 0712 at: Use if (Free) 192.168.0.6 | E: down | BAT 85.14% 04:37:44 | 0,10 | 2013-08-21 11:55:35
```

# Web client

- Written in Haskell  
<http://hackage.haskell.org/package/notmuch-web>
- Communicates with the CLI via JSON output

The screenshot shows the Notmuch web client interface. At the top, there is a navigation bar with 'Notmuch', a search input field, 'Folders', and buttons for 'Compose', 'Check New', 'Raw Command', and 'Logout'. Below the navigation bar, a message says 'You are now logged in' and 'View search results in pager'. The main content is a table of email messages with columns for Date, Subject, Authors, and Tags. Each message row includes a date, a subject line, the author(s), and a set of icons (check, trash, refresh, envelope) followed by a list of tags. The tags are color-coded: blue for 'inbox', red for 'unread', and various shades of blue for specific message categories like 'notmuch:bug', 'notmuch:patch', etc.

Date	Subject	Authors	Tags
Today 16:34	Possible additions to notmuch new ?	Vladimir Marek, Austin Clements	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>unread</span>
Fri, 20:38	UTF-8 in mail headers (namely FROM) sent by bugzilla	Jani Nikula, Jeffrey Stedfast   stedfast@comcast.net	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>unread</span>
Fri, 10:19	[PATCH] emacs: bugfix notmuch-mua-reply when signature is present	Geoffrey Ferrari, Tomi Ollila	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>unread</span>
August 05	unread message appear 'folded'	Ramakrishnan Muthukrishnan, Austin Clements	✓ 🗑️ ↻ ✉️ <span>attachment</span> <span>inbox</span> <span>inbox::notmuch</span> <span>notmuch:bug</span>
August 05	search order	Ramakrishnan Muthukrishnan	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>notmuch:bug</span>
August 04	[PATCH] man/Makefile.local: allow out-of-tree 'make install'.	Rory Yorke, Tomi Ollila	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span>
June 24	[PATCH 1/3] emacs: Introduce 'notmuch-call-notmuch-sexp'	Tomi Ollila, Mark Walters   Austin Clements, David Bremner	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>notmuch:emacs</span> <span>notmuch:patch</span> <span>notmuch:pushed</span> <span>notmuch:review</span> <span>unread</span>
June 23	DNS issues with notmuchmail.org	Justus Winter, Jim Paris	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>unread</span>
June 21	[PATCH v3 7/8] lib: add NOTMUCH_EXCLUDE_FLAG to notmuch_exclude_t	Tomi Ollila   Mark Walters, David Bremner, Peter Wang	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>notmuch:moreinfo</span> <span>notmuch:obsolete</span> <span>notmuch:patch</span> <span>notmuch:pushed</span> <span>notmuch:review</span> <span>unread</span>
June 10	[PATCH] emacs: update search sort order help to match code	Tomi Ollila, Mark Walters   Jani Nikula, David Bremner	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>notmuch:emacs</span> <span>notmuch:patch</span> <span>notmuch:pushed</span> <span>notmuch:review</span> <span>unread</span>
June 10	[PATCH v2 0/7] cli: better tooling support for duplicate messages	Tomi Ollila   Jani Nikula, Mark Walters	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>notmuch:needs-review</span> <span>notmuch:obsolete</span> <span>notmuch:patch</span> <span>notmuch:review</span> <span>unread</span>
June 10	[PATCH v4 0/5] emacs: show lazy handling of	Austin Clements   Mark Walters	✓ 🗑️ ↻ ✉️ <span>inbox</span> <span>inbox::notmuch</span> <span>notmuch:emacs</span> <span>notmuch:patch</span> <span>notmuch:pushed</span> <span>notmuch:review</span> <span>unread</span>

At the bottom left, the browser address bar shows 'http://localhost:3000/'. At the bottom right, the system tray shows '20:03 (100, 0)'.

## Hack scripts

### Perl/CLI

```
my $notmuch = spawn ({}, '|-',  
                    qw/notmuch tag --batch /);  
foreach my $pair (@{$status->{added}}) {  
    print $notmuch  
        pair_to_batch_line ($A_action, $pair);  
}
```

### Python

```
notmuch = notmuch.Database(  
    mode=notmuch.Database.MODE.READ_WRITE)  
q = notmuch.Query(db, query_string)  
q.set_sort(notmuch.Query.SORT.OLDEST_FIRST)  
for m in q.search_messages():  
    thread_id = m.get_thread_id()
```

## Hack scripts

### Python

```
notmuch = notmuch.Database(  
    mode=notmuch.Database.MODE.READ_WRITE)  
q = notmuch.Query(db, query_string)  
q.set_sort(notmuch.Query.SORT.OLDEST_FIRST)  
for m in q.search_messages():  
    thread_id = m.get_thread_id()
```

### Ruby

```
do_read do |db|  
    q = db.query(get_cur_view)  
    q.sort = 0  
    msgs = q.search_messages  
    msgs.each do |msg|  
        m = Mail.read(msg.filename)  
        part = m.find_first_text
```

# Not much of a bug tracker

The image shows a terminal window on the left and a web browser window on the right.

**Terminal Window:**

```
esacs@nar.itornes.cs.unc.edu
File Edit Options Buffers Tools Help
Yest, 20:40 [4/8] Austin Clements [PATCH 4/6] reply: Test
End of search results.

U: @%- *notmuch-saved-search-notmuch-ready* All LI [#debc-
Quit

urxvt
-address--so-tickle-me bug
a m2mq0t5v5.fsf@guru.guru-group.fi review
a m2ppwt7db.fsf@guru.guru-group.fi review
a m2wqopla90.fsf@guru.guru-group.fi review
a m2zju2lqpy.fsf@guru.guru-group.fi review
a notmuch-web-1372724382.450184839@www.wuzzeb.org need
s-review
a notmuch-web-1372724382.450184839@www.wuzzeb.org patc
h
a yf6ippgtbn0.fsf@taco2.nixu.fi obsolete
d yf6ippgtbn0.fsf@taco2.nixu.fi wip
a yf6sjplityl.fsf@taco2.nixu.fi obsolete
d yf6sjplityl.fsf@taco2.nixu.fi wip
maritornes:-
% nmbug merge
maritornes:-
%
1 5 7 2001:41b8:203:dc13:2677:3ff:fe5a:174 | 697.1 MB | DHCP: use | VPN: no | W: (100% at debconf) 83.68.216.149 | E: down | CHR 68.67% 01:16:45 | 0.04 | 2013-08-13 10:12:05
```

**Web Browser Window:**

### Maybe Ready (Core and Emacs)

These patches are under consideration for pushing. The view is generated from the following query:

```
tag:notmuch::patch and not tag:notmuch::pushed and not
tag:notmuch::obsolete and not tag:notmuch::wip and not
tag:notmuch::stale and not tag:notmuch::contrib and not
tag:notmuch::moreinfo and not tag:notmuch::python and not
tag:notmuch::vim and not tag:notmuch::wontfix and not
tag:notmuch::needs-review
```

2013-08-12 id:"1376332839-22825-2-git-send-email-amdragon@mit.edu"  
Austin Clements [\[PATCH 1/6\] lib: Correct out-of-date doc comment](#)  
id:"1376332839-22825-3-git-send-email-amdragon@mit.edu"  
[\[PATCH 2/6\] lib: Document which strings are returned in UTF-8](#)  
id:"1376332839-22825-4-git-send-email-amdragon@mit.edu"  
[\[PATCH 3/6\] reply: Document the reason for q\\_mime\\_filter\\_headers](#)  
id:"1376332839-22825-5-git-send-email-amdragon@mit.edu"  
[\[PATCH 4/6\] reply: Test replying to messages with RFC 2047-encoded headers](#)

### Maybe Ready (Python)

These python related patches might be ready to push, or they might just need updated tags. The view is generated from the following query:

```
tag:notmuch::patch and not tag:notmuch::pushed and not
tag:notmuch::obsolete and not tag:notmuch::wip and not
tag:notmuch::stale and not tag:notmuch::contrib and not
tag:notmuch::moreinfo and not tag:notmuch::wontfix and
```

[http://nmbug.tethera.net/status/#Maybe%20Ready%20\(Core%20and%20Emacs\)](http://nmbug.tethera.net/status/#Maybe%20Ready%20(Core%20and%20Emacs)) 10:12 (0, 25)  
Done

notmuch more info?

source/wiki `http://notmuchmail.org`

mailing list `notmuch@notmuchmail.org`

irc `irc://chat.freenode.net/#notmuch`