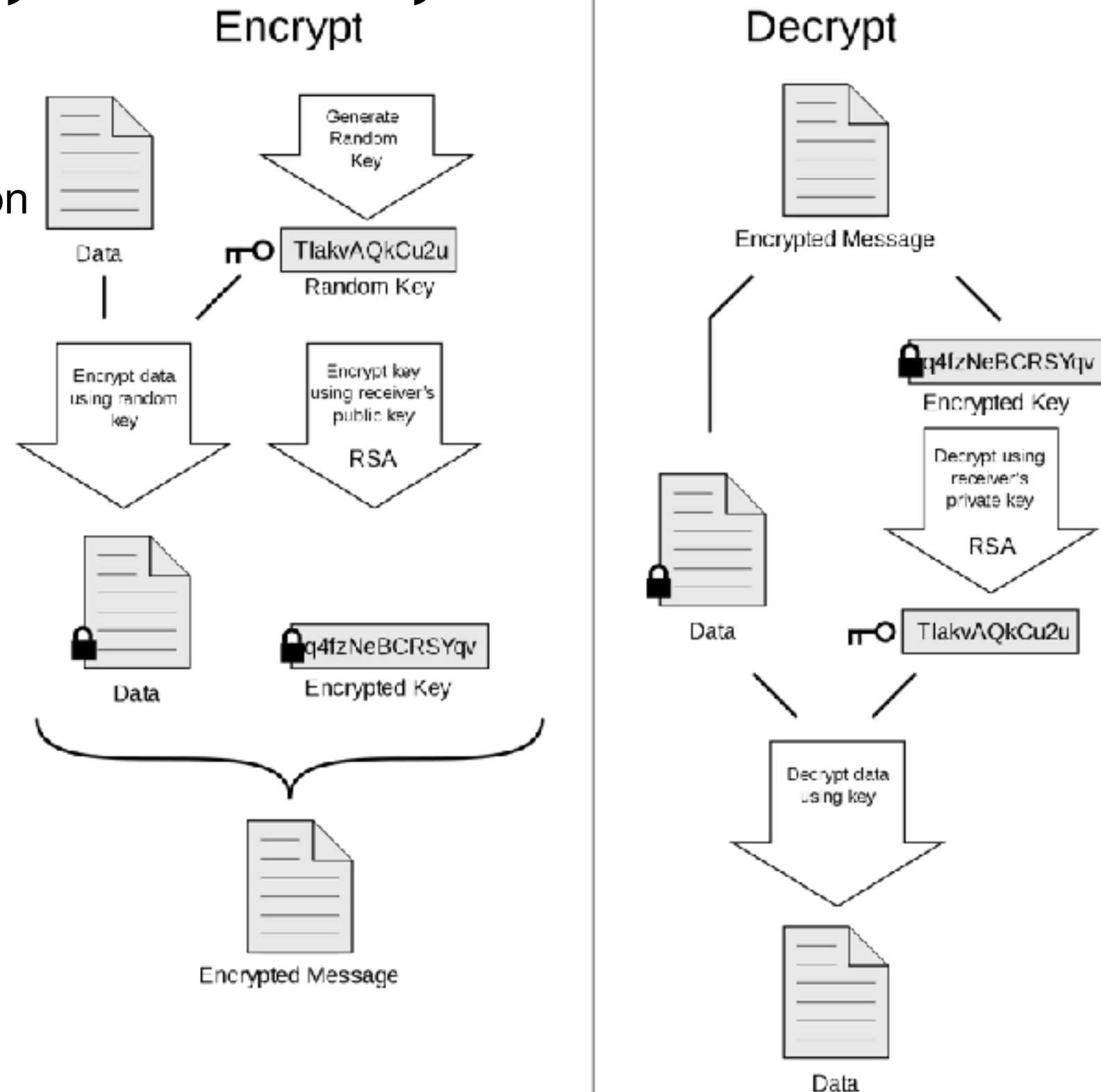# E-mail privacy with Mutt and PGP

MUTT

- CLI e-mail client with:

    - **color** support

    - message threading

    - POP3/IMAP support

    - **highly** customizable, including keybindings and macros

    - change configuration automatically based on recipients, current folder, etc.

    - **postpone** message composition indefinitely for later recall

   - easily include **attachments** when composing

PGP, GPG, …

- **PGP**: data encryption/ decryption and authentication defined by RFC4480 (OpenPGP)

- "Web of trust"

- **GnuPG**: implementation of OpenPGP

- **GPGTools**: macOS version with GUI and CLI programs

Encrypt

Data

Generate Random Key

TlakvΛQkCu2u
Random Key

Encrypt data using random key

Encrypt key using receiver's public key

RSA

Data

q4fzNeBCRSYqv
Encrypted Key

Encrypted Message

Decrypt

Encrypted Message

q4fzNeBCRSYqv
Encrypted Key

Decrypt using receiver's private key

RSA

Data

TlakvΛQkCu2u

Decrypt data using key

Data

Requirements

- Homebrew or equivalent:

  - brew cask install gpgtools-beta
    (or download from gpgtools.org)

  - brew install mutt w3m

  - brew install tmux #(optional)

  - brew install vim #(mandatory!!! ;))

Create your key-pair
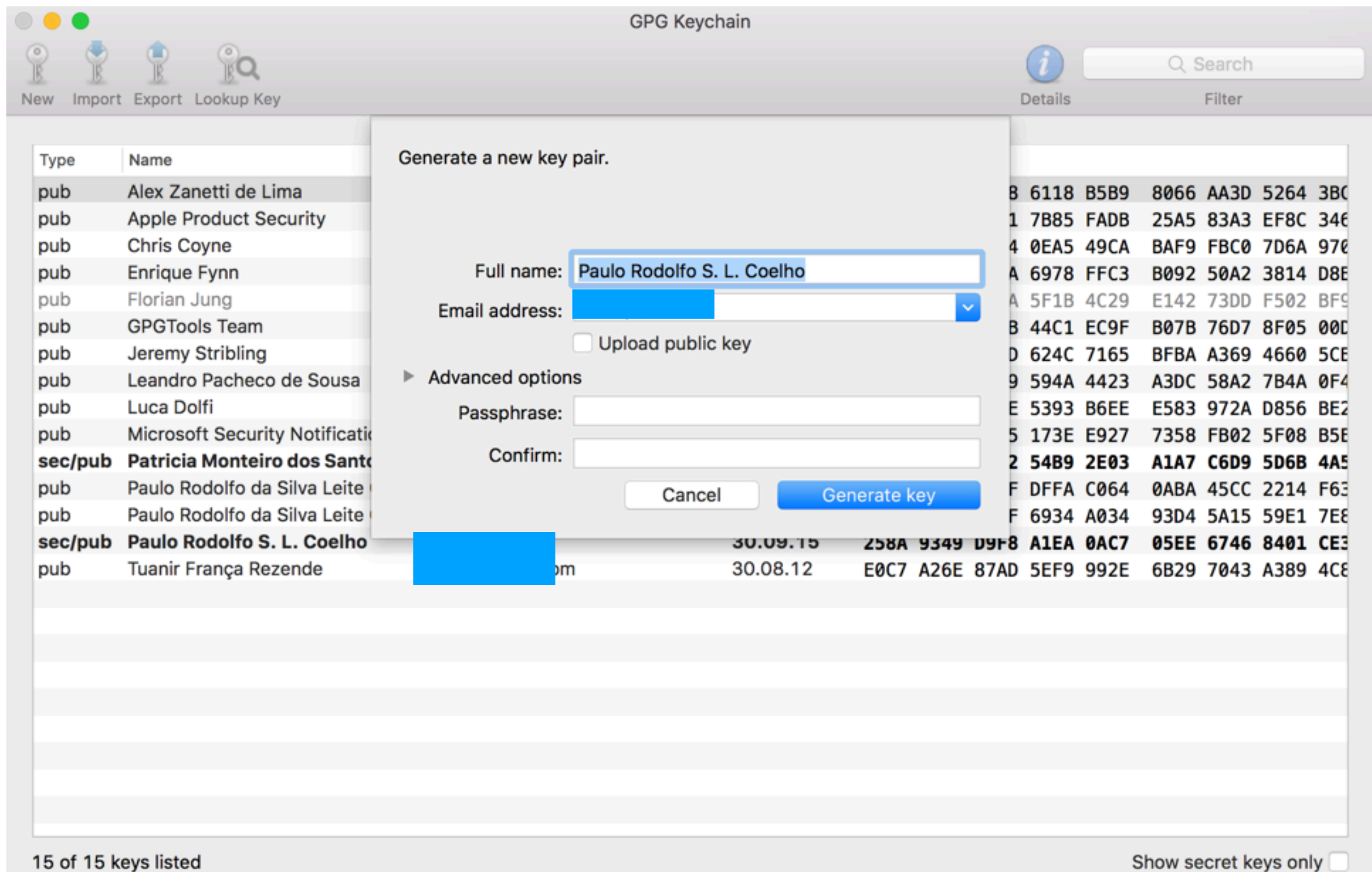
Mutt config: basics (gmail)

- Create a `.mutt/` folder

- Create an application password on google

- Save your password to .mutt/password:
  ```
  set smtp_pass = "mypassword"
  set imap_pass = "mypassword"
  ```

- Encrypt with gpg (change the key-id to your own):
  ```
  gpg -r CE341D36 -e .mutt/password
  ```
  (you should have a .mutt/password.gpg)
  ```
  rm ~/.mutt/password
  ```

Mutt config: basic gmail ~/.muttrc

```
1  #encrypted password file
2  source "gpg -d ~/.mutt/passwords.gpg |"          YOUR ENCRYPTED PASSWORD
3
4  # Google remote folders
5  set imap_user = "paulo.coelho@gmail.com"
6  set spoolfile = "imaps://imap.gmail.com:993/INBOX"
7  set folder = "imaps://imap.gmail.com:993"
8  set trash = =[Gmail]/Trash
9  set postponed = =[Gmail]/Drafts
10 set header_cache = "~/.mutt/cache/headers"           BASIC GMAIL CONFIG
11 set message_cachedir = "~/.mutt/cache/bodies"
12 set certificate_file = "~/.mutt/certificates"
13
14 set from = "paulo.coelho@gmail.com"
15 set realname = "Paulo Coelho"
16 set smtp_url = "smtps://paulo.coelho@smtp.gmail.com"
17 set record = ""
18 set smtp_authenticators = 'gssapi:login'
19 set copy                = no                   USERNAME AND FOLDERS ON SIDEBAR
20 mailboxes ='INBOX' ='[Gmail]/All Mail' ='[Gmail]/Dra    ='[Gmail]/Sent Mail' ='[Gmail]/Spam' ='[Gmail]/Trash'
21
22 # Gmail macros
23 macro index,pager P  <purge-message> "Purge message"
24 macro index,pager U  <set-flag>O▸        "Mark as read"
25 macro index,pager I  <clear-flag>O▸      "Mark as unread"
26 macro index,pager ga "<change-folder>=[Gmail]/All Mail<enter>"▸ "Go to all mail"
27 macro index,pager gs <change-folder>=[Gmail]/Starred<enter>▸    "Go to 'Starred'"
28 macro index,pager gd <change-folder>=[Gmail]/Drafts<enter>▸     "Go to 'Drafts'"
29 macro index,pager gl <change-folder>?▸  ▸                       "Go to 'Label'"
30 macro index,pager gi <change-folder>=INBOX<enter> ▸             "Go to inbox"
31 macro index,pager gt "<change-folder>=[Gmail]/Sent Mail<enter>"▸"Go to 'Sent Mail
32 macro index,pager +  <save-message>=[Gmail]/Important<enter> "Mark as important"
33 macro index,pager !  <save-message>=[Gmail]/Spam<enter> "Report spam"       GMAIL SHORTCUTS
34 macro index,pager e  "<save-message>=[Gmail]/All Mail<enter>" "Archive conversati
35
36 set sig_on_top
37 set signature           = ~/.mutt/signature #put your e-mail signature here
```

Mutt config: sorting/grouping messages, editor

```
 1 set imap_keepalive = 10
 2 set imap_idle = yes
 3 set timeout = 10                        # idle time before scanning
 4 set mail_check = 10                     # minimum time between scans
 5
 6 set sort = threads
 7 set sort_aux = date
 8 set editor = "vim"                      # use vim as the default editor
 9
10 set quit              = ask-yes         # confirm before quitting
11 set wait_key          = no              # Don't ask me to press a key to continue after I did a shell escape and c
12 # set mbox_type       = Maildir          # mailbox type
13 set delete                              # don't ask, just do
14 unset confirmappend                     # When saving a message, append the message to an existing mailbox without
   y? Mailboxes generally have multiple messages...)
15 # unset mark_old                        # read/new is good enough for me
16 set beep_new                            # bell on new mails
17 set pipe_decode                         # strip headers and eval mimes when piping
18 set thorough_search                     # strip headers and eval mimes before searching
19
20 ignore *                                # ignore all headers
21 unignore from: to: cc: date: subject:   # show only these
22 unhdr_order *                           # some distros order things by default
23 hdr_order from: to: cc: date: subject:  # and in this order
24
25 set date_format       = "%d.%m.%y-%H:%M"  # a simple date format
26 set index_format      = "[%Z] %D %-20.20F %s"  # format of the index view, show all flags, date, the sender and finally t
27 set sort              = threads         # like gmail
28 set sort_aux          = reverse-last-date-received  # like gmail
29 set uncollapse_jump                     # don't collapse on an unread message
30 set sort_re                             # thread based on regex
31 set reply_regexp      = "^(([Rr][Ee]?(\[[0-9]+\])?: *)?(\[[^]]+\] *)?)*"
32 set fast_reply                          # do not ask to, subject, etc when replying
33 set include                             # always include message when replying
34 set forward_format    = "Fwd: %s"       # when forwarding email, simply add a Fwd to the subject
35 set smart_wrap                          # dont wrap mid word
36
37 auto_view text/html                     # autoview html
38 alternative_order text/plain text/enriched text/html  # save html for lasto
39
40 set status_chars      = " *%A"
41 set status_format     = "─[ Folder: %f ]──[%r%m messages%?n? (%n new)?%?d? (%d to delete)?%?t? (%t tagged)? ]──%>─%?p?( %p postponed )?─"
```

MAIL CHECK INTERVAL AND EDITOR

SORTING

Mutt config: shortcuts and alias

```
51 # Custom keybindings
52 bind index,pager ! noop                              # unbind report-spam
53 bind index,pager \# noop                             # unbind delete-thread
54 bind index,pager % noop                              # unbind toggle-write
55 bind index,pager & noop                              # unbind link-threads
56
57 bind index,pager b noop                              # Unbind bounce
58 bind index,pager A create-alias                      # bind alias-creation
59 bind pager <up> previous-line                        # scroll inside the message rather than the index
60 bind pager <down> next-line                          # scroll inside the message rather than the index
61 bind index G imap-fetch-mail                         # Fetch mail shortcut
62
63
64 # Gmail style keybindings
65 bind  editor <space> noop
66 bind  index,pager c  mail                            # compose
67 bind  generic       x  tag-entry                     # Select Conversation
68 bind  index         x  tag-thread                    # Select Conversation
69 bind  pager         x  tag-message                   # Select Conversation
70 bind  index,pager s    flag-message                  # Star a message
71
72 bind  index,pager a  group-reply                     # Reply all
73 #bind index,pager \# delete-thread                   # Delete
74 bind  index,pager l  copy-message                    # Label
75 bind  index,pager m  save-message                    # Move to
76
77
78 bind index         L    noop
79 bind index         Lt   limit
80 macro index        Ln  <limit>~N<enter>   "Limit display to new mail"
81 macro index        Lu  <limit>~U<enter>   "Limit display to unread mail"
82 macro index        Ld  <limit>~D<enter>   "Limit display to deleted mail"
83 macro index        Lp  <limit>~D<enter>   "Limit display to personal mail"
84 macro index        Ls  <limit>~F<enter>   "Limit display to starred/flagged mail"
85 macro index        Ll  <limit>all<enter>  "Reset disply limit to all mail"
86 macro index        LL  <limit>all<enter>  "Reset disply limit to all mail"
87
88 macro index,pager \cb ": set pipe_decode\n|w3m\n: unset pipe_decode\n" "call w3m to extract URLs out of a message"
89 macro attach,pager \cu <pipe-entry>'cat > /tmp/mutt_mail.html; open /tmp/mutt_mail.html'<enter> 'open email in safari'
90
91 # Contact aliases, could also use `goobook`.
92 set alias_file         = ~/.mutt/aliases
93 set sort_alias         = alias
```

FILTERS (lines 78–86)

ADDRESS BOOK (lines 91–93)

Mutt config: colors (from GitHub)

- add line:
  `source ~/.mutt/.colors`
  to your .muttrc

- from https://github.com/victorparmar/vic-config

Mutt config: pane

```
 2 set sidebar_visible
#3 #set sidebar_format = "%B%?F? [%F]?%* %?N?    ?%S"
 4 set sidebar_format = "%B %?N?(%N)?%* %S"
 5 set sidebar_short_path                    # Shorten mailbox names
 6 set sidebar_delim_chars="/"               # Delete everything up to the last / character
 7 set mail_check_stats
 8
 9 bind index,pager \CP sidebar-prev
10 # Ctrl-Shift-P - Previous Mailbox
11 bind index,pager \CN sidebar-next
12 # Ctrl-Shift-N - Next Mailbox
13 bind index,pager \CV sidebar-open
14 # Ctrl-Shift-V - Open Highlighted Mailbox
15
16 bind index,pager B sidebar-toggle-visible
17 # Use 'B' to switch the Sidebar on and off
18
19
20 set sidebar_width = 20
21 # Plenty of space
22 set sidebar_divider_char = '|'
23 # Pretty line-drawing character
24
25 color sidebar_indicator default color17       # Dark blue background
26 color sidebar_highlight white   color238      # Grey background
27 color sidebar_spoolfile yellow  default        # Yellow
28 color sidebar_new       green   default        # Green
29 #color sidebar_ordinary  default default        # Default colors
30 color sidebar_flagged   red     default        # Red
31 color sidebar_divider   color8  default        # Dark grey
```
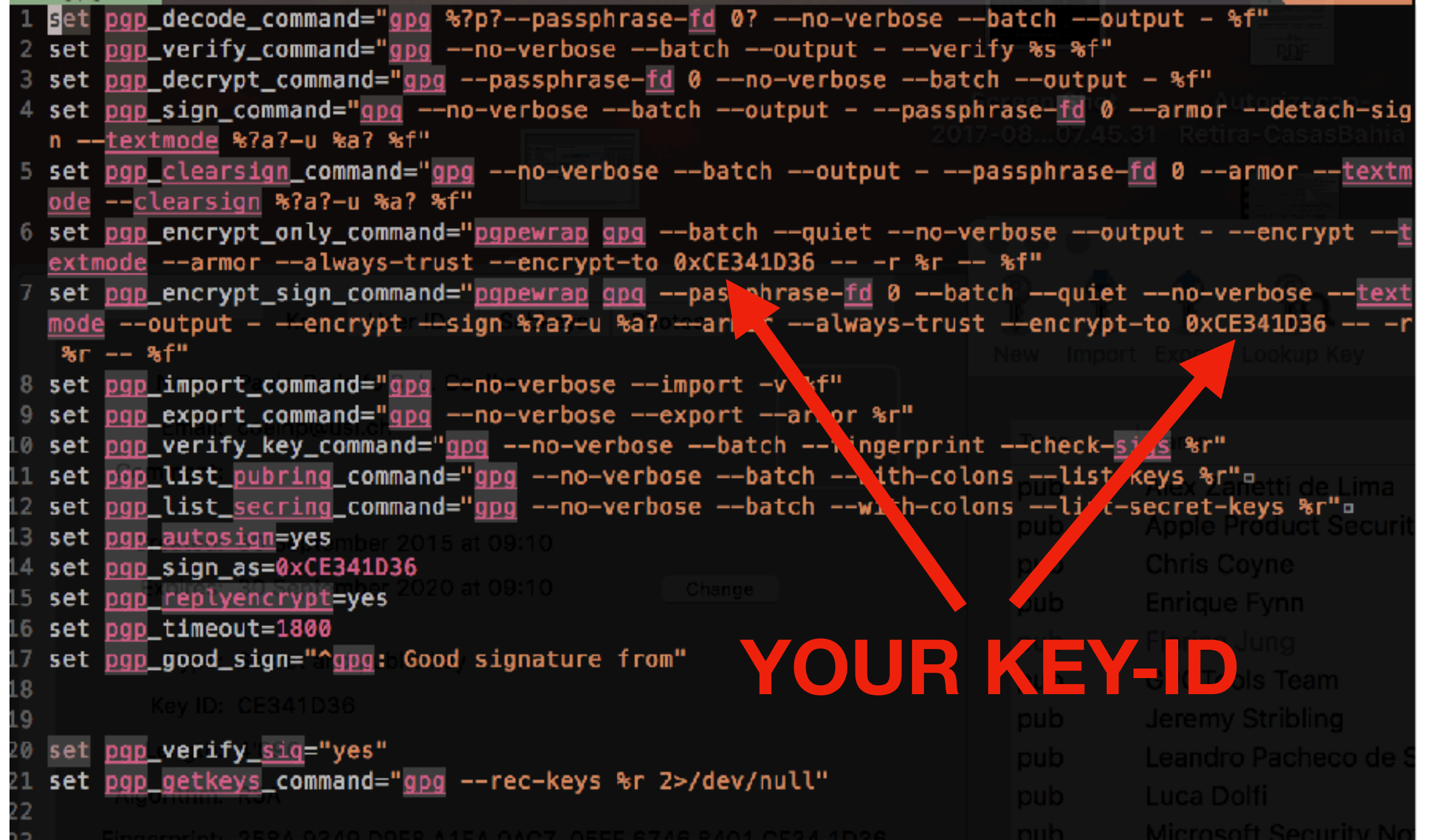
ENABLE AND CONFIGURE

SHORTCUTS

COLORS

Mutt config: gpg

```
1 set pgp_decode_command="gpg %?p?--passphrase-fd 0? --no-verbose --batch --output - %f"
2 set pgp_verify_command="gpg --no-verbose --batch --output - --verify %s %f"
3 set pgp_decrypt_command="gpg --passphrase-fd 0 --no-verbose --batch --output - %f"
4 set pgp_sign_command="gpg --no-verbose --batch --output - --passphrase-fd 0 --armor --detach-sig
  n --textmode %?a?-u %a? %f"
5 set pgp_clearsign_command="gpg --no-verbose --batch --output - --passphrase-fd 0 --armor --textm
  ode --clearsign %?a?-u %a? %f"
6 set pgp_encrypt_only_command="pgpewrap gpg --batch --quiet --no-verbose --output - --encrypt --t
  extmode --armor --always-trust --encrypt-to 0xCE341D36 -- -r %r -- %f"
7 set pgp_encrypt_sign_command="pgpewrap gpg --passphrase-fd 0 --batch --quiet --no-verbose --text
  mode --output - --encrypt --sign %?a?-u %a? --armor --always-trust --encrypt-to 0xCE341D36 -- -r
  %r -- %f"
8 set pgp_import_command="gpg --no-verbose --import -v %f"
9 set pgp_export_command="gpg --no-verbose --export --armor %r"
10 set pgp_verify_key_command="gpg --no-verbose --batch --fingerprint --check-sigs %r"
11 set pgp_list_pubring_command="gpg --no-verbose --batch --with-colons --list-keys %r"
12 set pgp_list_secring_command="gpg --no-verbose --batch --with-colons --list-secret-keys %r"
13 set pgp_autosign=yes
14 set pgp_sign_as=0xCE341D36
15 set pgp_replyencrypt=yes
16 set pgp_timeout=1800
17 set pgp_good_sign="^gpg: Good signature from"
18
19
20 set pgp_verify_sig="yes"
21 set pgp_getkeys_command="gpg --rec-keys %r 2>/dev/null"
22
```

YOUR KEY-ID

Opening attachments

- **~/.mailcap**: mime-type to application mapping

- **~/.mutt/view_attachment.sh**: mime-type from file extension

- contacts (https://github.com/tgray/contacts): convert your contacts from Contacts.app to **~/.mutt/aliases** format

  You can use also save from the messages with 'A'

Mutt: let's use it

- Basic shortcuts

- Use '?' when you forget

- Give a week to memorize them before you just give up!

- Instructions and config files for gmail and USI-mail at: https://github.com/paulo-coelho/my_mutt.git