### Release

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### R CMD check

#### Automated checking

Runs automated checks for common problems in R packages.

While it has false positives, it is useful for local packages.

If you want to submit to CRAN, you must pass R CMD check cleanly.

http://r-pkgs.had.co.nz/check.html



```
* checking for file 'rv2/DESCRIPTION' ... OK
* preparing 'rv2':
* checking DESCRIPTION meta-information ... OK
* installing the package to build vignettes
* creating vignettes ... OK
* checking for LF line-endings in source and make files
* checking for empty or unneeded directories
* building 'rv2_0.1.tar.gz'
==> R CMD check rv2_0.1.tar.gz
* using log directory '/Users/hadley/Documents/courses/13-devtools/rv2.Rcheck'
* using R version 3.0.2 (2013-09-25)
* using platform: x86_64-apple-darwin10.8.0 (64-bit)
* using session charset: UTF-8
* checking for file 'rv2/DESCRIPTION' ... OK
* this is package 'rv2' version '0.1'
* checking package namespace information ... OK
* checking package dependencies ... OK
* checking if this is a source package ... OK
* checking if there is a namespace ... OK
* checking for executable files ... OK
\star checking for hidden files and directories ... OK
* checking for portable file names ... OK
```

==> R CMD build rv2

```
* checking for sufficient/correct file permissions ... OK
* checking whether package 'rv2' can be installed ... OK* checking installed package size ... OK
* checking package directory ... OK
* checking DESCRIPTION meta-information ... OK
* checking top-level files ... OK
* checking for left-over files ... OK
* checking index information ... OK
* checking package subdirectories ... OK
* checking R files for non-ASCII characters ... OK
* checking R files for syntax errors ... OK
* checking whether the package can be loaded ... OK
* checking whether the package can be loaded with stated dependencies ... OK
* checking whether the package can be unloaded cleanly ... OK
* checking whether the namespace can be loaded with stated dependencies ... OK
* checking whether the namespace can be unloaded cleanly ... OK
* checking loading without being on the library search path ... OK
* checking dependencies in R code ... OK
* checking S3 generic/method consistency ... OK
* checking replacement functions ... OK
* checking foreign function calls ... OK
* checking R code for possible problems ... OK
* checking Rd files ... OK
* checking Rd metadata ... OK
* checking Rd cross-references ... OK
* checking for missing documentation entries ... OK
* checking for code/documentation mismatches ... OK
```

```
* checking Rd \usage sections ... OK
* checking Rd contents ... OK
* checking for unstated dependencies in examples ... OK
* checking installed files from 'inst/doc' ... OK
* checking files in 'vignettes' ... OK
* checking examples ... OK
\star checking for unstated dependencies in tests ... OK
* checking tests ...
  Running 'testthat.R' OK
* checking for unstated dependencies in vignettes ...
OK
* checking package vignettes in 'inst/doc' ... OK
* checking running R code from vignettes ...
   'clt.Rmd' ... OK
OK
* checking re-building of vignette outputs ... OK
* checking PDF version of manual ... OK
```

R CMD check succeeded

#### Types of problem

#### **ERROR**

Must fix!

#### **WARNING**

Fix if submitting to CRAN

	Local	CRAN
ERROR	<b>√</b>	<b>√</b>
WARNING		<b>√</b>
NOTE		<b>√</b>

#### **NOTE**

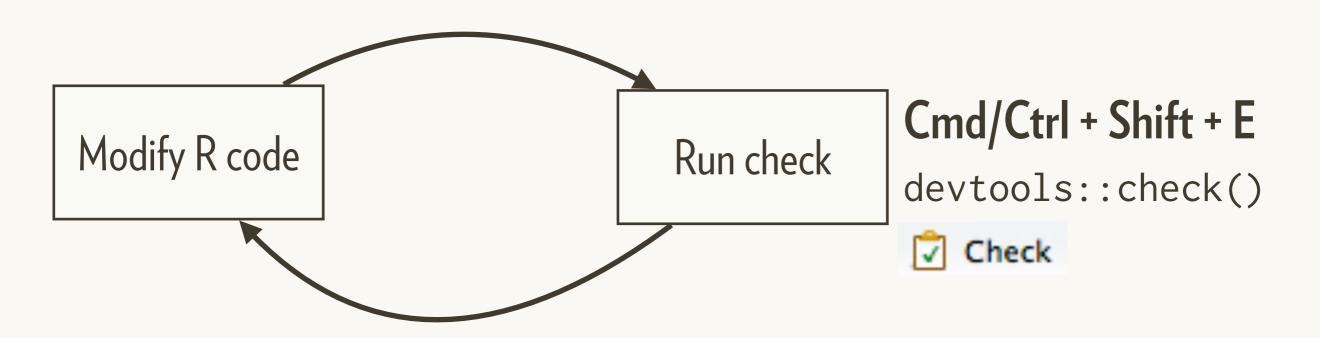
Fix if submitting to CRAN

It is possible to submit with a NOTE, but it's best avoided

Change working directory/project to:

[check-me]

#### Check workflow



Repeat the check workflow until all problems are fixed.

There are eight problems for you to find and fix. Don't look at the answers until you've made an attempt at finding them all.

You can ignore

WARNING 'qpdf' is needed for checks on size reduction of PDFs

No peeking until you've made an attempt!

- 1. @returns instead of @return in probability.r
- 2. Error in vignette
- 3. Description field needs to end in a period.
- 4. print generic is function(x, ...)
- 5. plot.rv needs to be explicit (see next slide)
- 6. Typo in moments documentation (SD not S)
- 7. # instead of #' in simulation.R
- 8. Missing "Suggests: testthat" in description

```
#'@export
plot.rv <- function(x, ...) {</pre>
  name <- deparse(substitute(x))</pre>
  ylim <- range(0, probs(x))</pre>
  graphics::plot(as.numeric(x), probs(x), type = "h",
    ylim = ylim, xlab = name,
    ylab = paste0("P(", name, ")"), \ldots)
  graphics::points(as.numeric(x), probs(x), pch = 20)
  graphics::abline(h = 0, col = "gray")
```

# CRAN

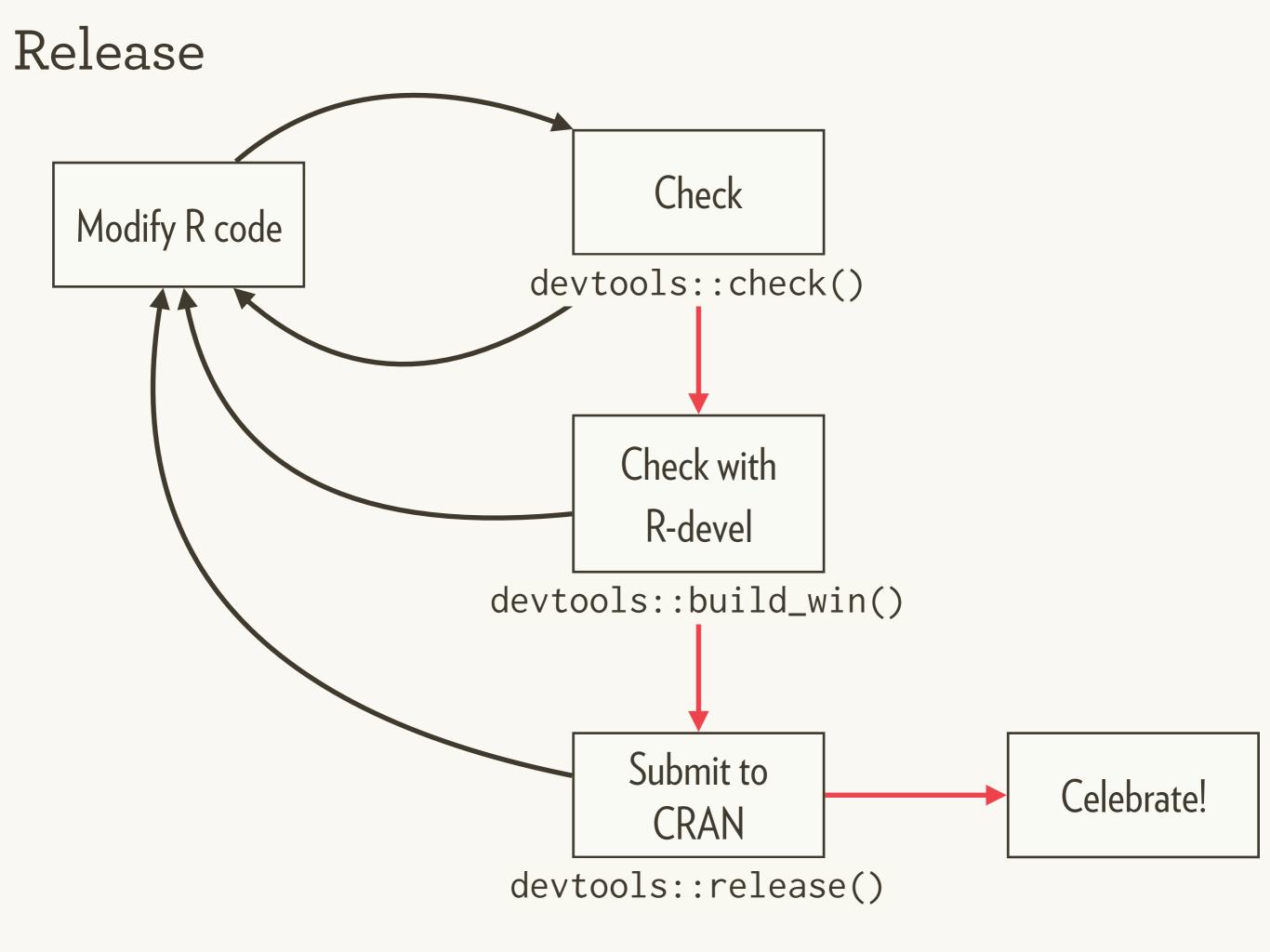
### Submitting to CRAN

```
# Always check with R-devel on windows
devtools::build_win()
devtools::use_cran_comments()
# Update cran-comments.md (next slide)
# Then submit to CRAN with:
devtools::release()
# This asks you a number of questions to check that
# you've done everything to make the submission as
# painless as possible
# It then builds and uploads to CRAN.
# You'll get a confirmation email a few minutes later
```

#### cran-comments.md

```
# Create with devtools::use_cran_comments()
## Test environments
* local OS X install, R 3.2.2
* win-builder (devel and release)
## R CMD check results
                                   There's always one
0 errors | 0 warnings | 1 note <
                                      submission
* This is a new release.
## Reverse dependencies
```

This is a new release, so there are no reverse dependencies.



### If your submission fails

The CRAN maintainers are overwhelmed. ~80% of package submissions need human intervention because of a problem.

Don't worry if you receive a curt response. CRAN treats everyone the same way (even members of R core!) — they're not singling you out.

Ignore any ad-hominen attacks and respond to the content.

Never respond by email. Simply update your cran-comments.md

& resubmit. It is not worth arguing.

#### For resubmission:

This is a resubmission. Compared to the last submission, I have:

```
* First change.

* Second change.

* Third change

---

## Test environments

* local OS X install, R 3.2.2

* win-builder (devel and release)
```

## R CMD check results

. . .

#### **Devtools** guarantee

If a CRAN maintainer yells at you because of a bug in devtools, I'll send you an hand-written apology card. Just forward the email to me, along with your mailing address.

No one will use your package if they don't know it exists

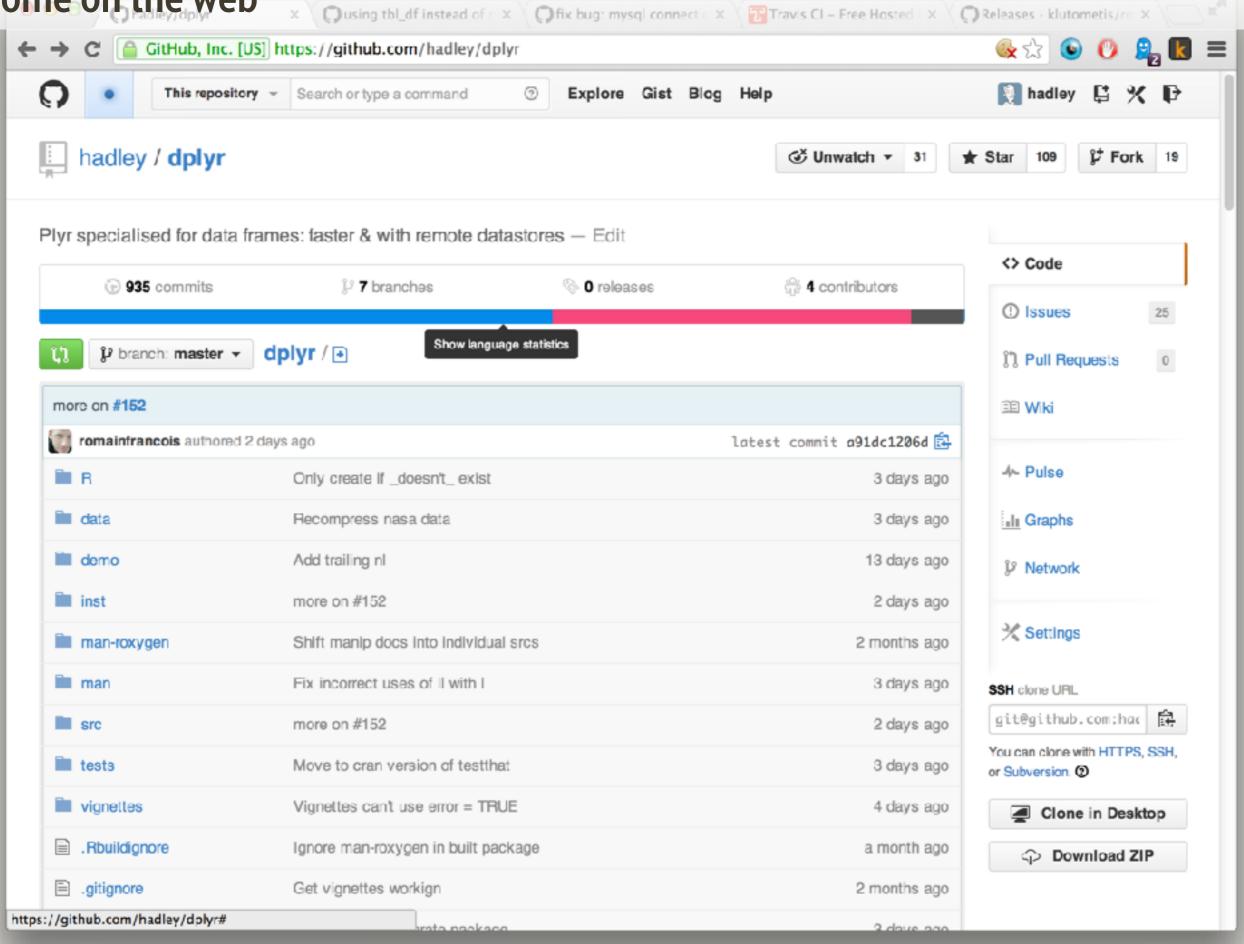




r-packages@stat.math.ethz.ch

# Git + github

#### A home on the web











#### 

#### dplyr

build failing

dplyr is the next iteration of plyr, focussed on tools for working with data frames (hence the a in the name). It has three main goals:

- Identify the most important data manipulation tools needed for data analysis and make them easy to use from R.
- Provide blazing fast performance for in-memory data by writing key pieces in C++.
- Use the same interface to work with data no matter where it's stored, whether in a data frame, a data table or database.

dplyr is not yet available on CRAN, but you can install it from github with:

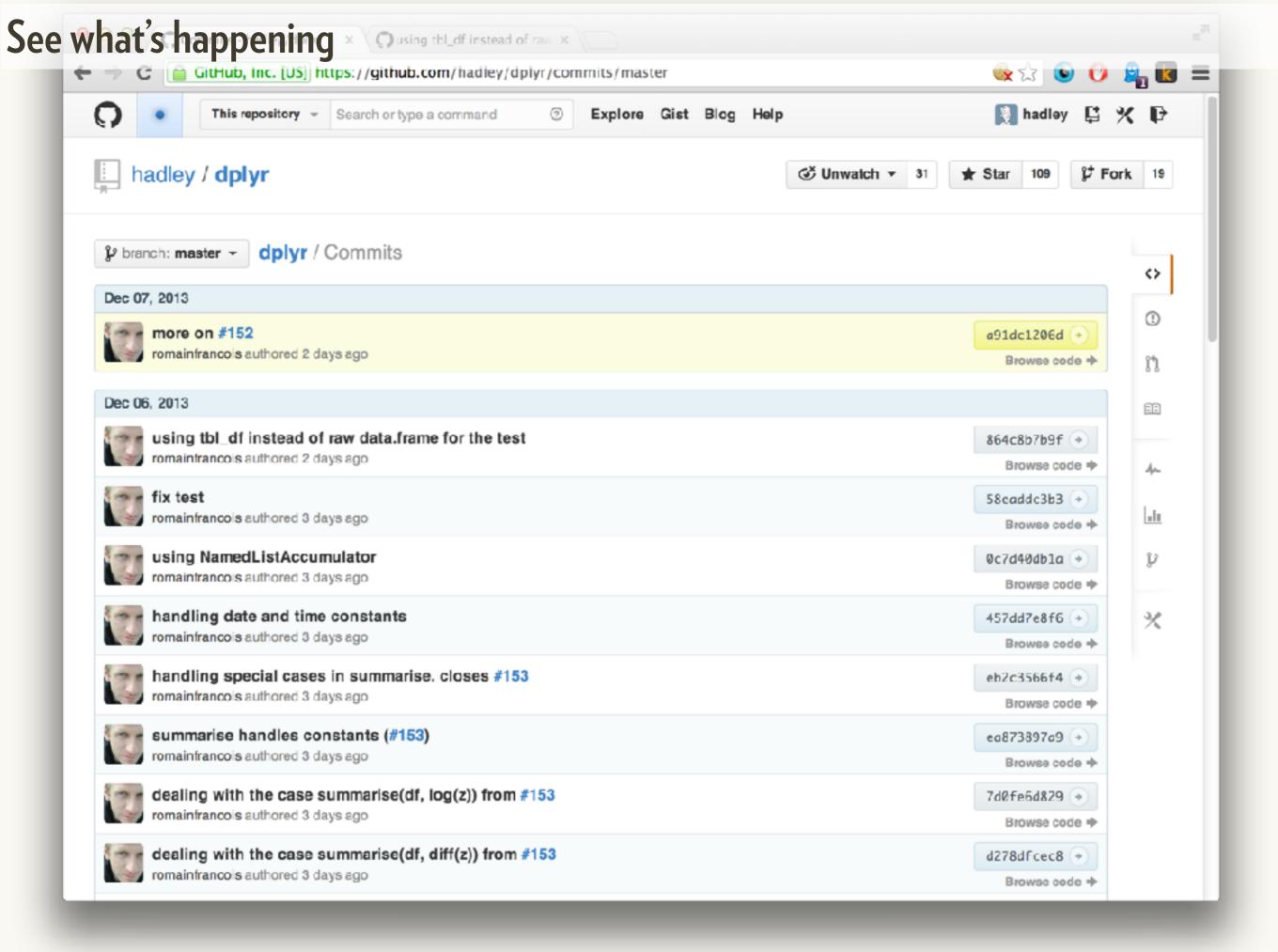
devtcols::install\_github("dplyr")

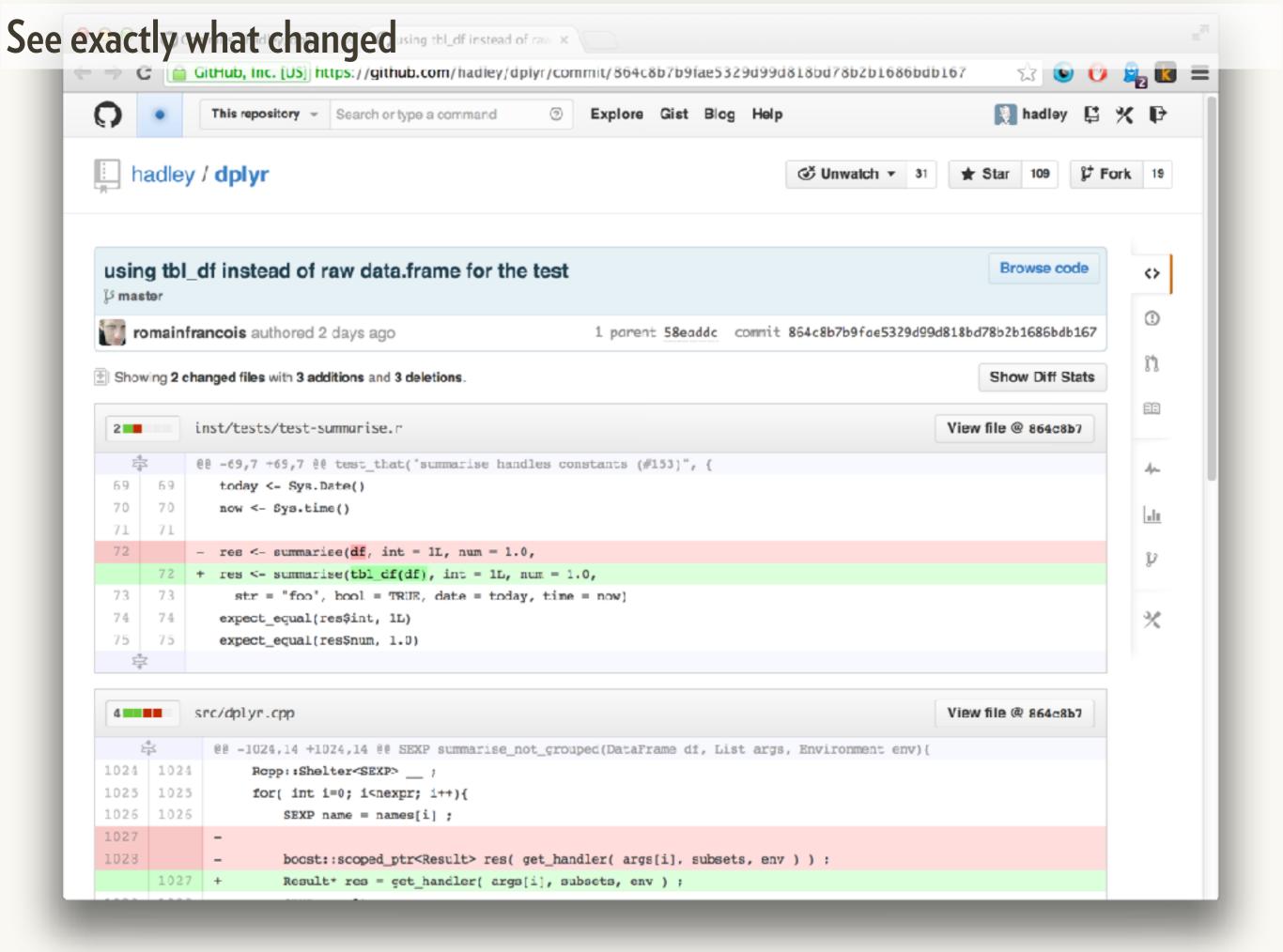
GitHub, Inc. [US] https://github.com/hadley/dplyr

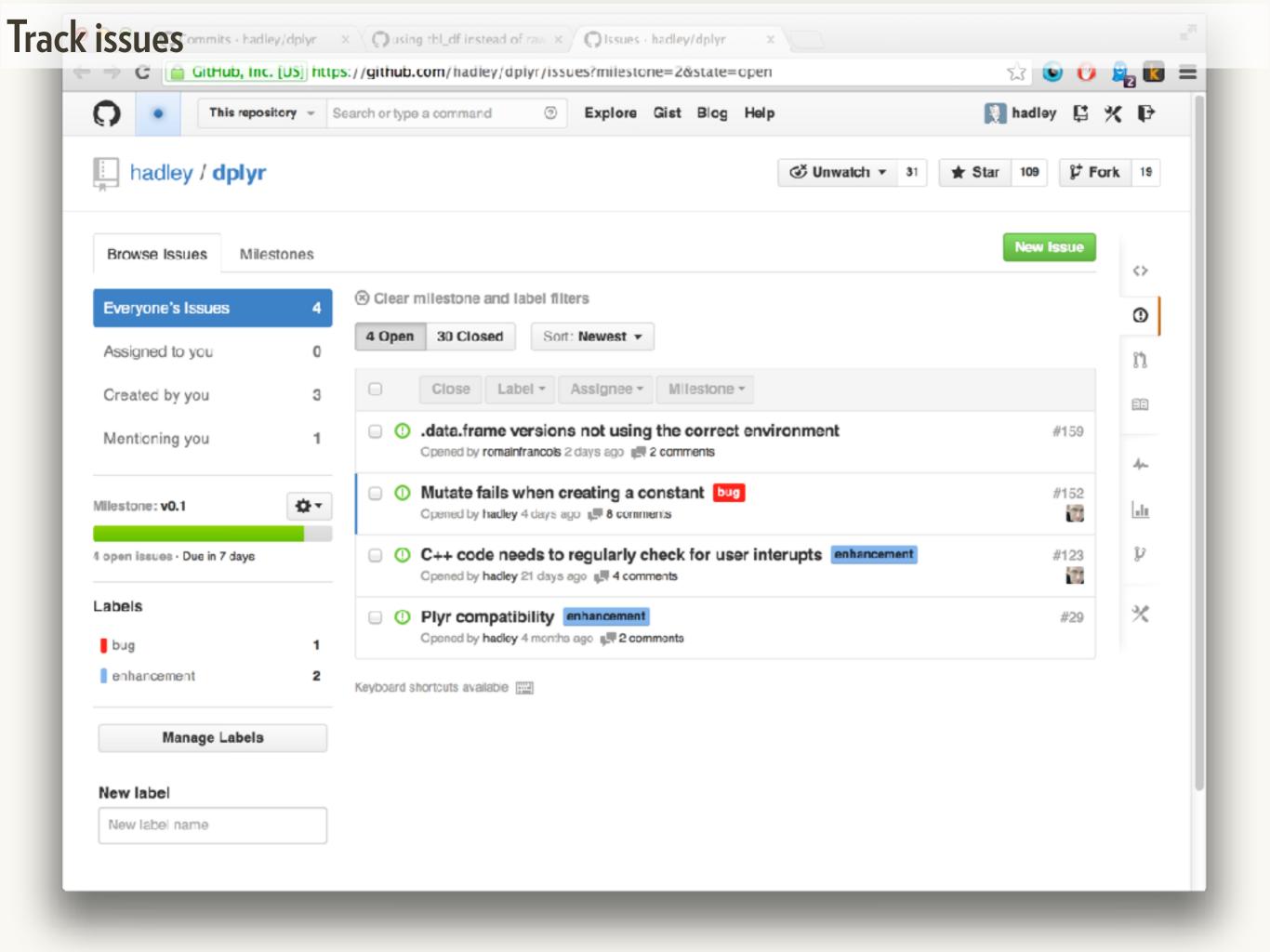
To get started, read the notes below, then read the intro vignette:

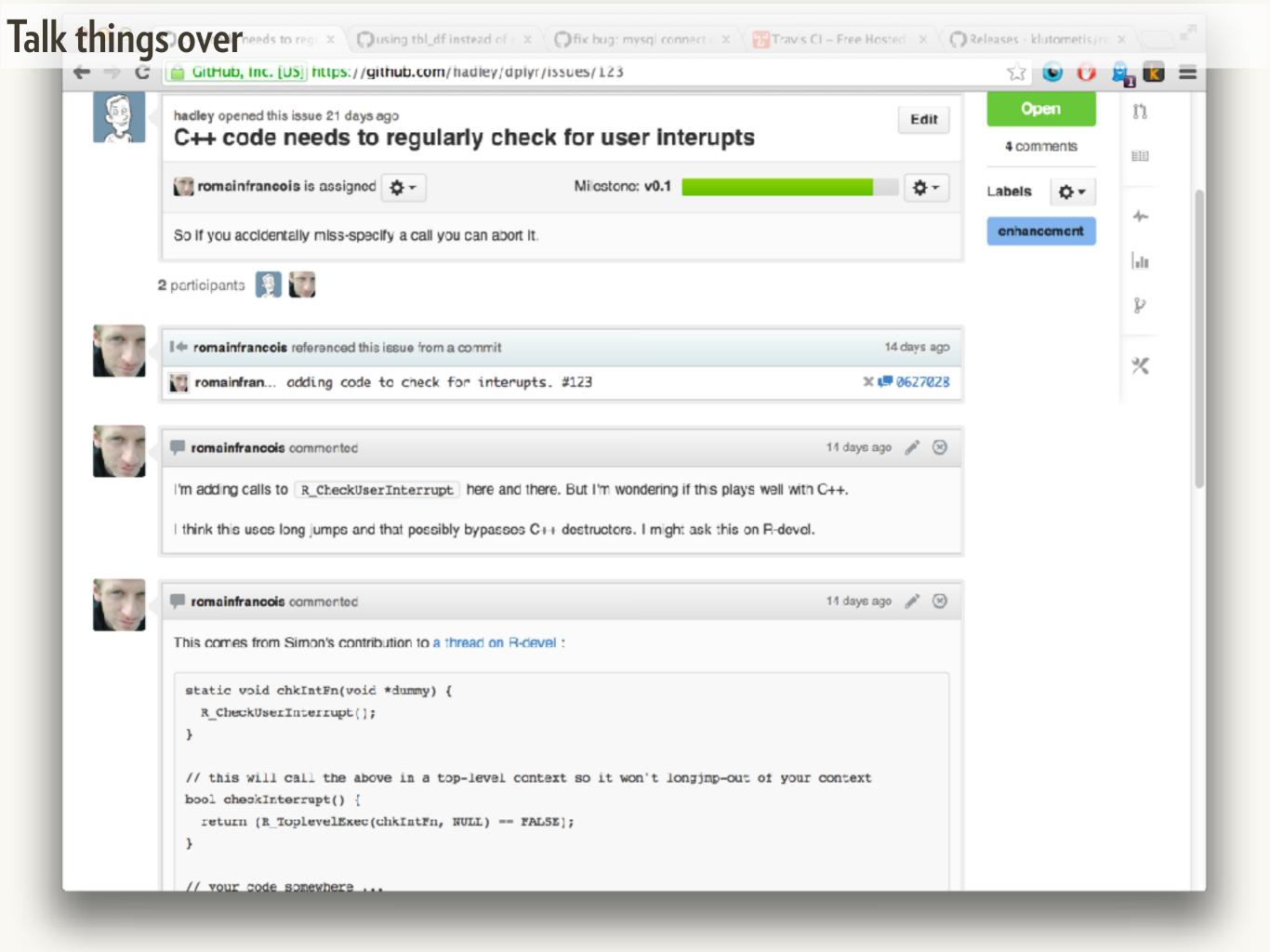
vignette("introduction", package = "dplyr") . To make the most of dplyr, I also recommend that you familiarise yourself with the principles of tidy data: this will help you get your data into a form that works well with dplyr, ggplot2 and R's many modelling functions.

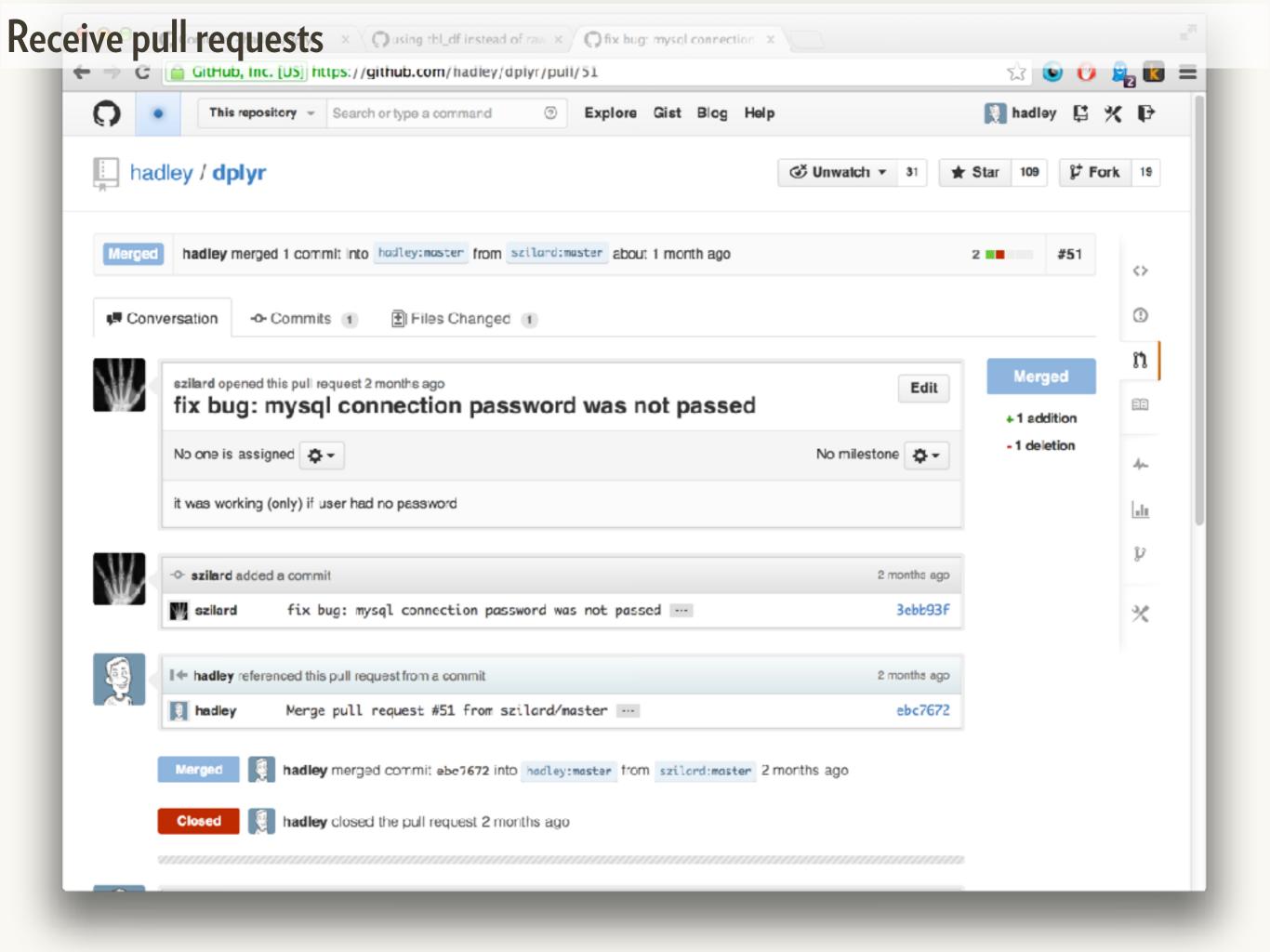
If you encounter a clear bug, please file a minimal reproducible example on github. For questions and other discussion, please use the manipulatr mailing list.

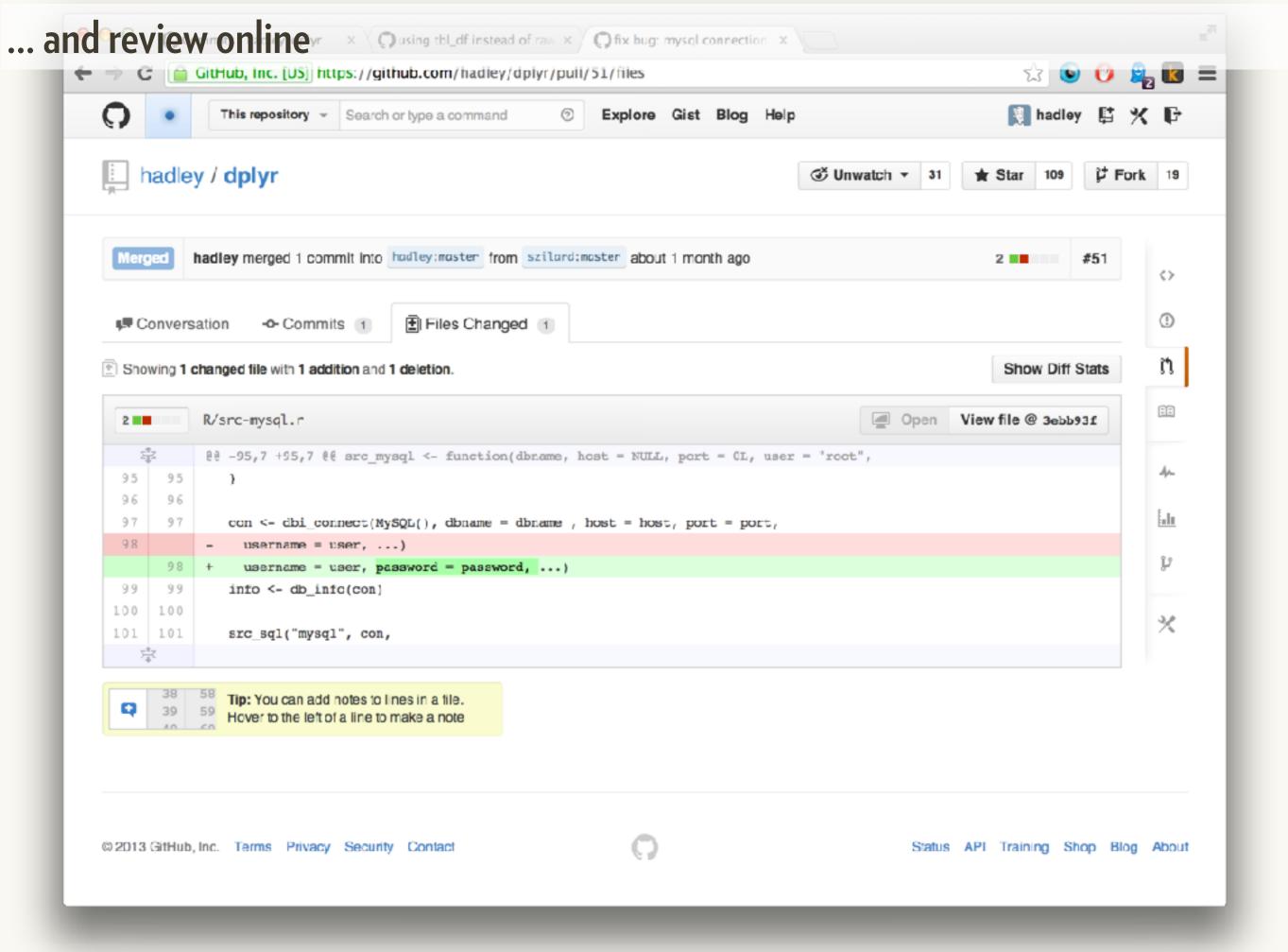












#### Find out as soon as you break something bug mysel connection x Travis CI - Free Hosted Co x 없 🌘 🤨 🖺 🖪 🖃 + -> C | https://travis-ci.org/klutometis/roxygen 🏋 ravis Travis CI for Private Repositories Home Blog Status Help klutometis/roxygen 🔾 Search all repositories My Repositories Recent Build History Pull Requests Branch Summary Current ropensci/RMendeley 3 Build 97 Commit b510eaa (master) ⊙ ⊙ 1 min 17 sec. State Passed Compare 93fe512416d8...b510eaab00df 3 minutes ago Finished about 2 hours ago Author hadlev 3 min 55 sec Duration Committer hadlev klutometis/roxygen 97 First pass at functions in usage. #164 Message ⊙ ⊙ 3 min 55 sec. about 2 hours ago Using worker: worker-linux-5-2.bb.travis-ci.org:travis-linux-3 \$ export global=[ hadley/dplyr 192 \$ export WARNINGS\_ARE\_ERRORS=1 \$ export CC=goo Ø Ø 8 min 51 sec git.1 \$ git clone --depth=50 --branch=master 2 days ago \$ cd klutometis/roxygen \$ cit checkout -qf b510eaab00df548d02305d5f233dab3d54420b9f git.3 \$ ccc --version hadley/testthat 12 gcc (Ubuntu/Linaro 4.6.3-lubuntu5) 4.6.3 ⊙ Ø 1 min 33 sec Copyright (C) 2011 Free Software Foundation, Inc. This is free software; see the source for copying conditions. There is NO 2 days ago warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. before install.1 \$ curl -OL http://raw.github.com/craigcitro/r- hadley/assertthat 10 \$ chmod 755 ./travis-tool.sh before install.2 before install.3 ∅ 1 min 30 sec. \$ ./travis-tool.sh bootstrap \$ ./travis-tool.sh install\_deps 2 days ago \$ ./travis-tool.sh run tests 575 + CRAN=http://cran.rstudio.com









Features

Languages

Pricing



nadley / tidyr

92.06%

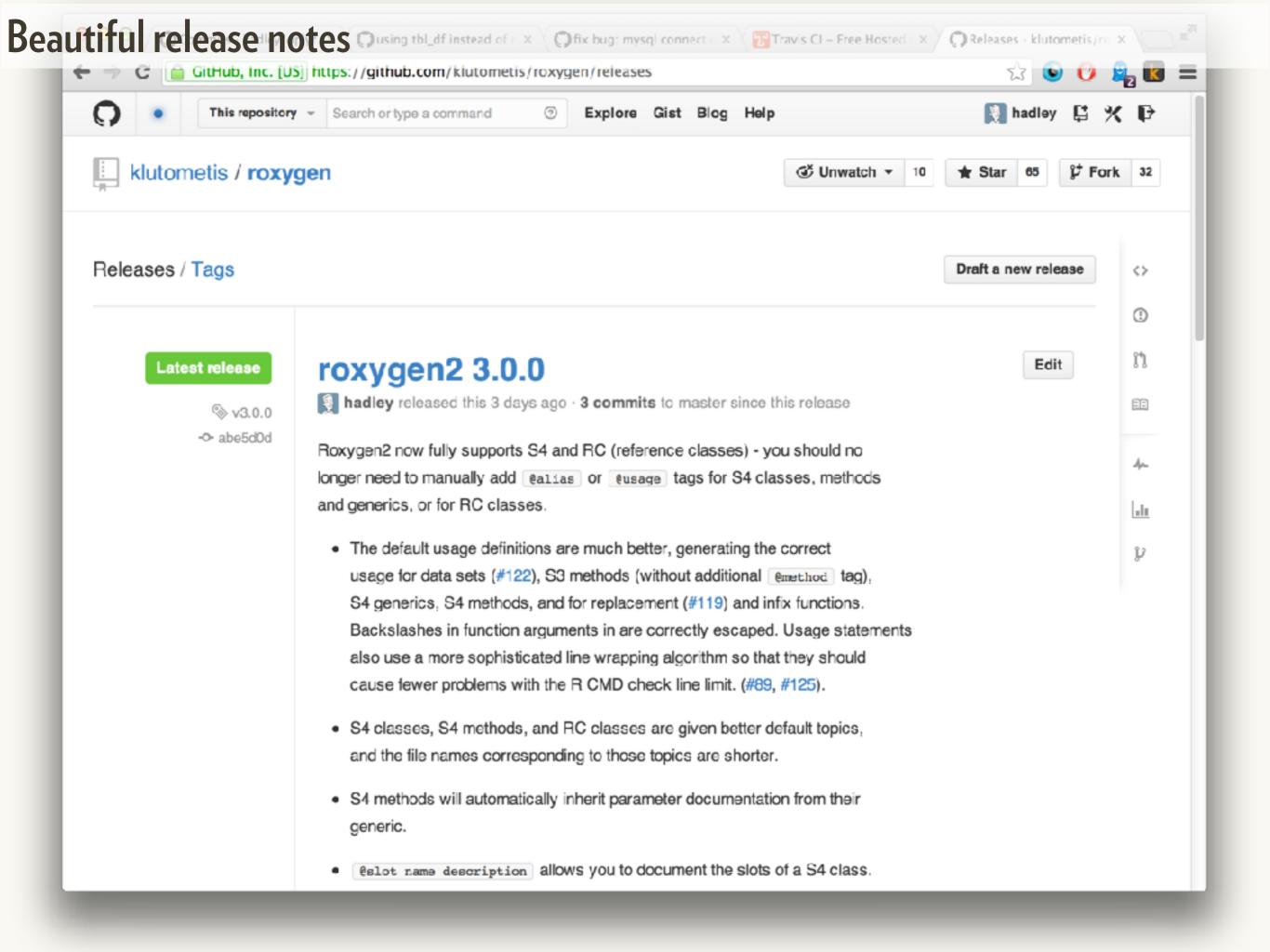
**≣** List Tree

**9** 49b30ea

P master -

(1B) Files	Statements	Hit	Missing	Partial	Branches	Methods	Coverage
R/RcppExports.R	4	4	o	0	0	0	100.00%
R/complete.R	7	7	0	0	0	0	100.00%
R/expand.R	16	14	2	0	0	0	87.50%
R/extract.R	18	18	o	0	0	0	100.00%
R/fill.R	9	9	0	0	0	0	100.00%
R/gather.R	74	67	7	0	0	0	90.54%
R/nest.R	13	13	0	0	0	0	100.00%
R/replace_na.R	7	7	0	0	0	0	100.00%
R/separate.R	52	48	4	0	0	0	92.31%
R/spread.R	61	57	4	0	0	0	93.44%
R/unite.R	12	12	О	0	0	0	100.00%

```
0 =
                                                                                                      ů o
                                      codecov.io/github/hadley/tidyr/R/gather.R?re
        81
                 #' @export
                gather_.data.frame <- function(data, key_col, value_col, gather_cols,</pre>
        82
                                                 na.rm = FALSE, convert = FALSE) {
        84
                   ## Return if we're not doing any gathering
                   if (length(gather_cols) == 0) {
        85
             16
             1
                     return(data)
        86
        87
             16
                   gather_idx <- match(gather_cols, names(data))</pre>
        89
             15
             15
                   if (anyNA(gather idx)) {
        90
                     missing_cols <- paste(gather_cols[is.na(gather_idx)], collapse = ", ")
                     stop("Unknown column names: ", missing_cols, call. = FALSE)
             15
                  id_idx <- setdiff(seq_along(data), gather_idx)</pre>
        94
             15
        95
                   ## Get the attributes if common, NULL if not.
                  args <- normalize_melt_arguments(data, gather_idx, factorsAsStrings = TRUE)</pre>
        97
             15
             15
                   measure.attributes <- args$measure.attributes</pre>
                   factorsAsStrings <- args$factorsAsStrings
             15
            15
                   valueAsFactor <- "factor" %in% measure.attributes$class</pre>
       100
       101
       102
            15
                   df <- melt_dataframe(data,</pre>
       103
            15
                    id_idx - 1L
                     gather_idx - 1L,
       104
            15
                     as.character(key_col),
       105
             15
            15
                     as.character(value_col),
       106
             15
                     as.pairlist(measure.attributes),
       107
       108
            15
                     as.logical(factorsAsStrings),
            15
                     as.logical(valueAsFactor)
       110
             15
       111
       112
                   if (na.rm) {
            14
                     missing <- is.na(df[[value_col]])</pre>
       113
             1
                     df <- df[!missing, ]</pre>
       114
             1
       115
             14
       116
       117
                   if (convert) {
             14
                     df[[key_col]] <- type.convert(as.character(df[[key_col]]), as.is = TRUE)</pre>
       118
       119
             14
       120
```



Devtools comes with helpers to get you started

```
use_git()
use_github()
use_travis()
use_coverage()
```

#### Easy to install a package from github

```
library(devtools)
install_github("hadley/devtools")
# Install specific tag
install_github("hadley/devtools@v1.4.1")
# Github is a viable location for package
# distribution, but it doesn't yet have the
# reach or authority of CRAN. Currently
# about ~4,000 packages on github.
```

#### More resources

http://happygitwithr.com

```
http://r-pkgs.had.co.nz/git.html
```

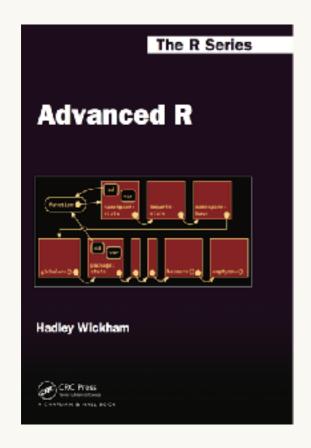
http://help.github.com/

http://try.github.com/

http://gitref.org/

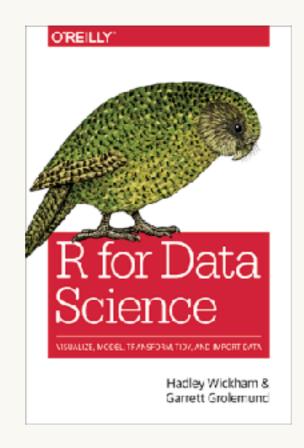
http://www.rstudio.com/ide/docs/version\_control/overview

### Learning more

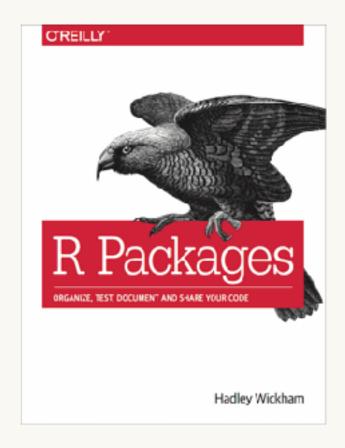


http://adv-r.had.co.nz/

http://amzn.com/1466586966



http://r4ds.had.co.nz
Use AUTHD discount



http://r-pkgs.had.co.nz/
Use AUTHD discount

#### Other resources





[r] score:5 is:question closed:no

https://rweekly.org

https://stat.ethz.ch/mailman/listinfo/r-devel

https://groups.google.com/d/forum/rdevtools

Friendly, low-traffic mailing list for package development questions

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