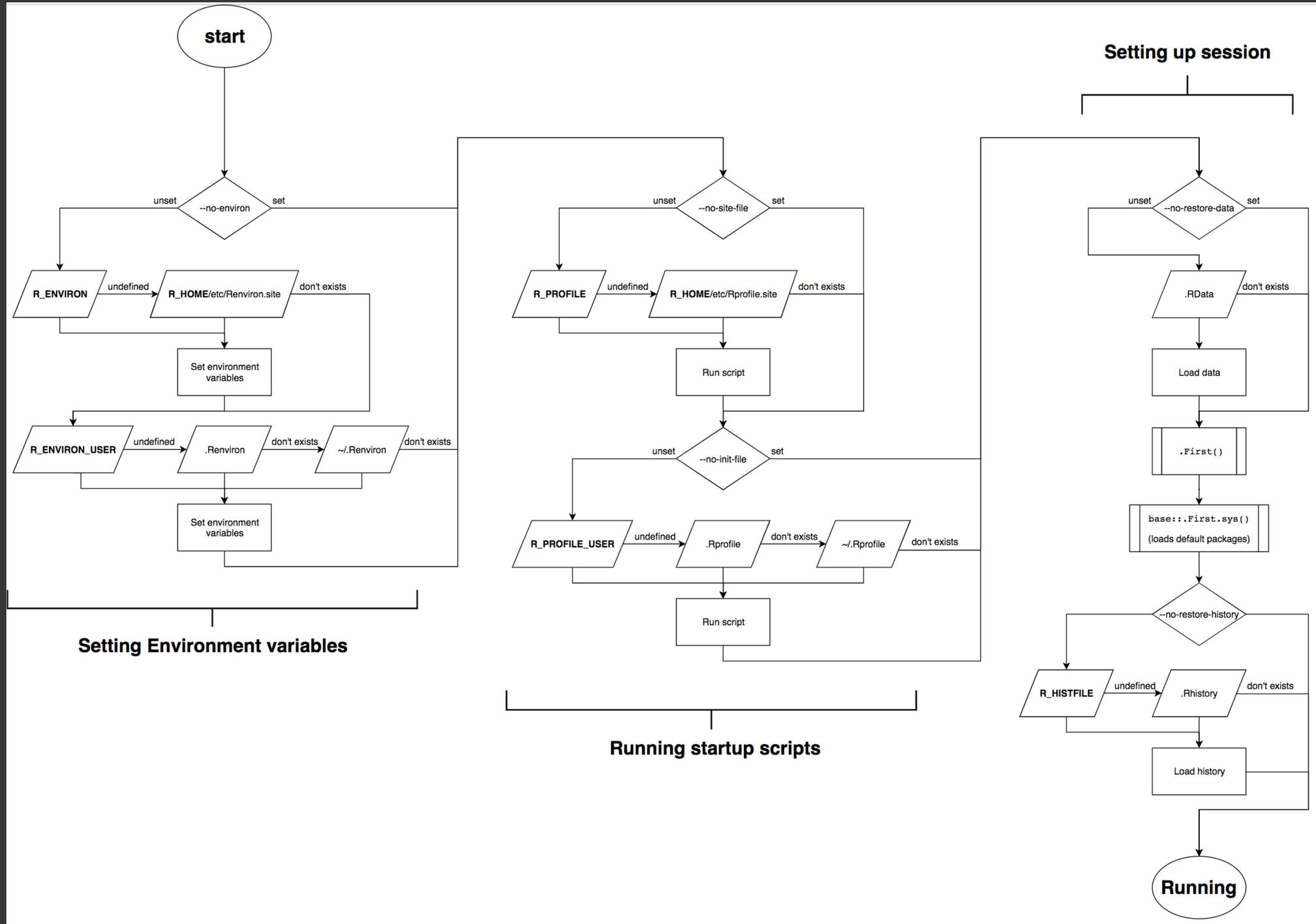
What They Forgot to Teach You About R
rstudio::conf
SAN FRANCISCO // JANUARY 27 - 30, 2020
from RStudio

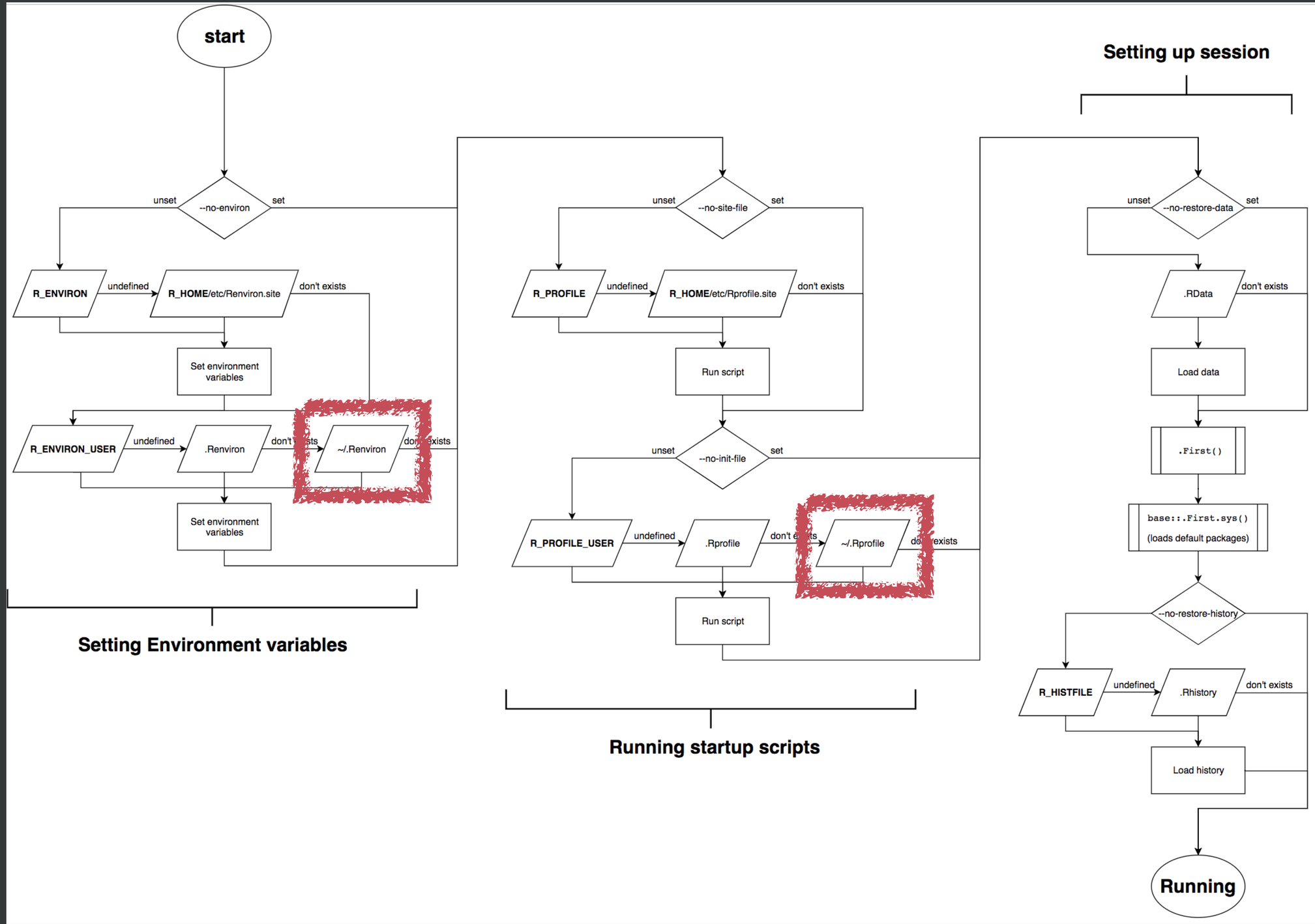
R Startup / configuration

Presenter:
Kara Woo
@karawoo
@kara_woo

Slides:
Jim Hester
RStudio
@jimhester
@jimhester_

https://whattheyforgot.org/r-startup.html


start
unset
--no-environ
set
R_ENVIRON
undefined
R_HOME/etc/Renviron.site
don't exists
Set environment variables
R_ENVIRON_USER
undefined
.Renviron
don't exists
~/.Renviron
don't exists
Set environment variables
Setting Environment variables
unset
--no-site-file
set
R_PROFILE
undefined
R_HOME/etc/Rprofile.site
don't exists
Run script
unset
--no-init-file
set
R_PROFILE_USER
undefined
.Rprofile
don't exists
~/.Rprofile
don't exists
Run script
Running startup scripts
Setting up session
unset
--no-restore-data
set
.RData
don't exists
Load data
.First()
base::.First.sys()
(loads default packages)
--no-restore-history
R_HISTFILE
undefined
.Rhistory
don't exists
Load history
Running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Dotfiles

https://dotfiles.github.io/

.Renviron

.Rprofile

GitHub search for filename:.Rprofile.

.Renviron

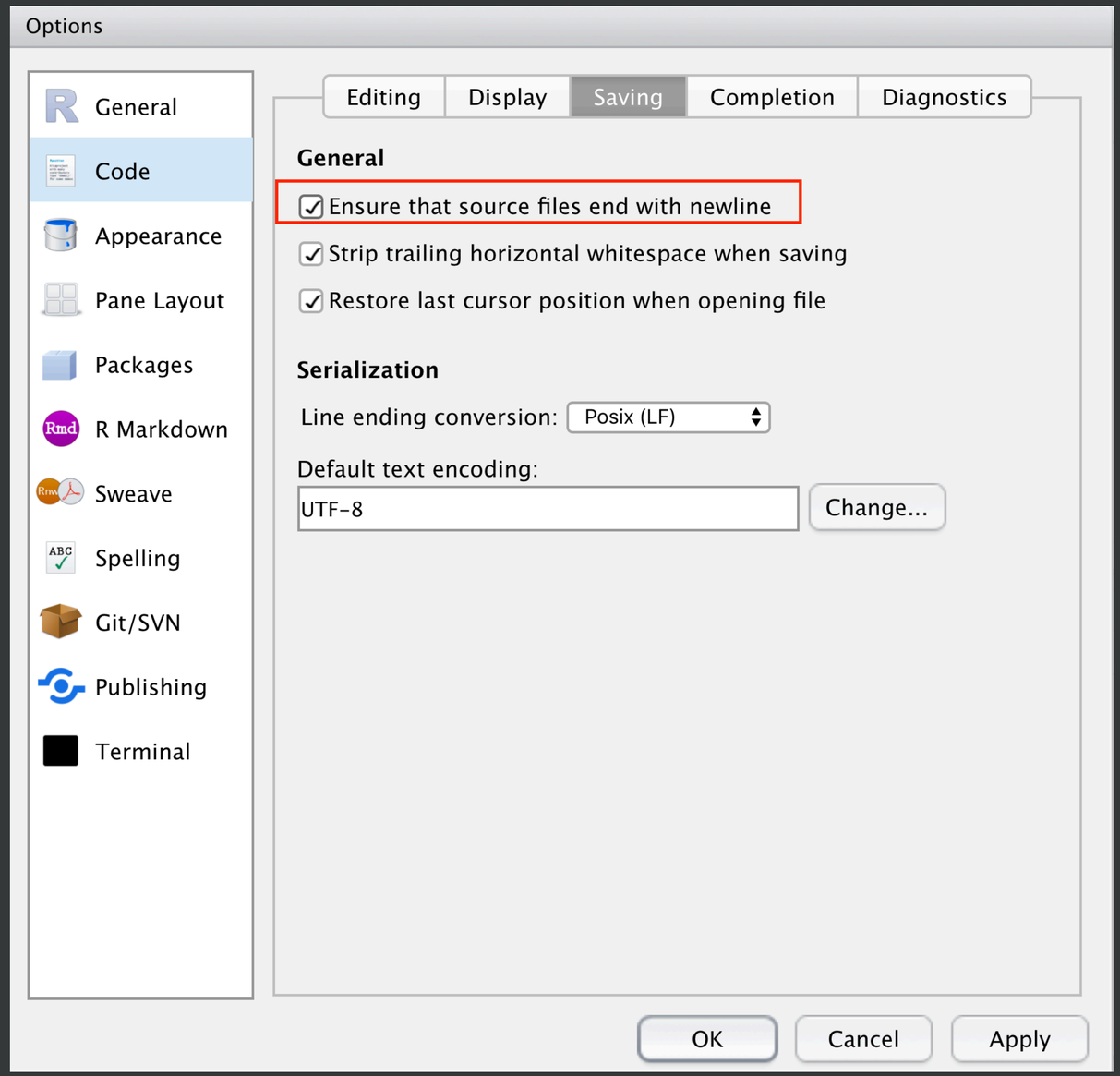
R specific environment vars

API keys

not R code

```
R_HISTSIZE=100000
GITHUB_PAT=abc123
R_LIBS_USER=~/R/%p/%v
```

⚠️ .Renviron and .Rprofile must end in a newline!



```
usethis::use_course("rstd.io/wtf-startup")
```

Pick one to open and flesh out:

01_startup_spartan.R

01_startup_comfy.R*

* worst case, there's always jim

.Rprofile

use for helpers you use *interactively*

runs on *every* session

Things to put in .Rprofile

- Set a default CRAN mirror
- Write a welcome message
- Customize R prompt
- Selectively change (but be careful)
  - Options, screen width, numeric display
  - Load frequently used interactive packages
  - Aliases / shortcuts for frequently used functions

Common pitfalls

```
options(stringsAsFactors = FALSE)
library(tidyverse)
library(ggplot2)
f <- dplyr::filter
theme_set(theme_bw())
```

If something appears in a script, should *not* be in .Rprofile

Exceptions

```
library(usethis)
library(devtools)
s <- summary
h <- utils::head
```

```
options(repos = c(CRAN = "https://cran.rstudio.org"))

if (interactive()) {
  options(width = 120)
}
```

```
usethis::use_course("rstd.io/wtf-startup")
```

Pick one to open and flesh out:

02_startup_spartan.R

02_startup_comfy.R*

* worst case, there's always jim

Kara's .Rprofile

```
options(
  repos = c(
    CRAN = "https://cloud.r-project.org",
    Sage = "http://ran.synapse.org"
  ),
  browserNLdisabled = TRUE,
  warnPartialMatchArgs = TRUE,
  warnPartialMatchDollar = TRUE,
  warnPartialMatchAttr = TRUE,
  useFancyQuotes = FALSE,
  usethis.full_name = "Kara Woo",
  menu.graphics = FALSE
)
```

```
if (interactive()) {
  suppressMessages(require(devtools))
  suppressMessages(require(usethis))
  suppressMessages(require(testthat))
  suppressMessages(require(reprex))
}
```

When I’m feeling whimsical

```
# Karl Broman’s ASCII cat error message
options(error= function() cat('        \\\ \n          \\\
          /\\_/\\
         ( o.o )
          > ^ <\n\n'))
```

```
stop("Meow")
 #> Error: meow
          \
           \
            /\_/\
           ( o.o )
            > ^ <
```

.Rprofile inspiration

See replies

Maintaining R

Presenter:

Kara Woo @karawoo @kara_woo

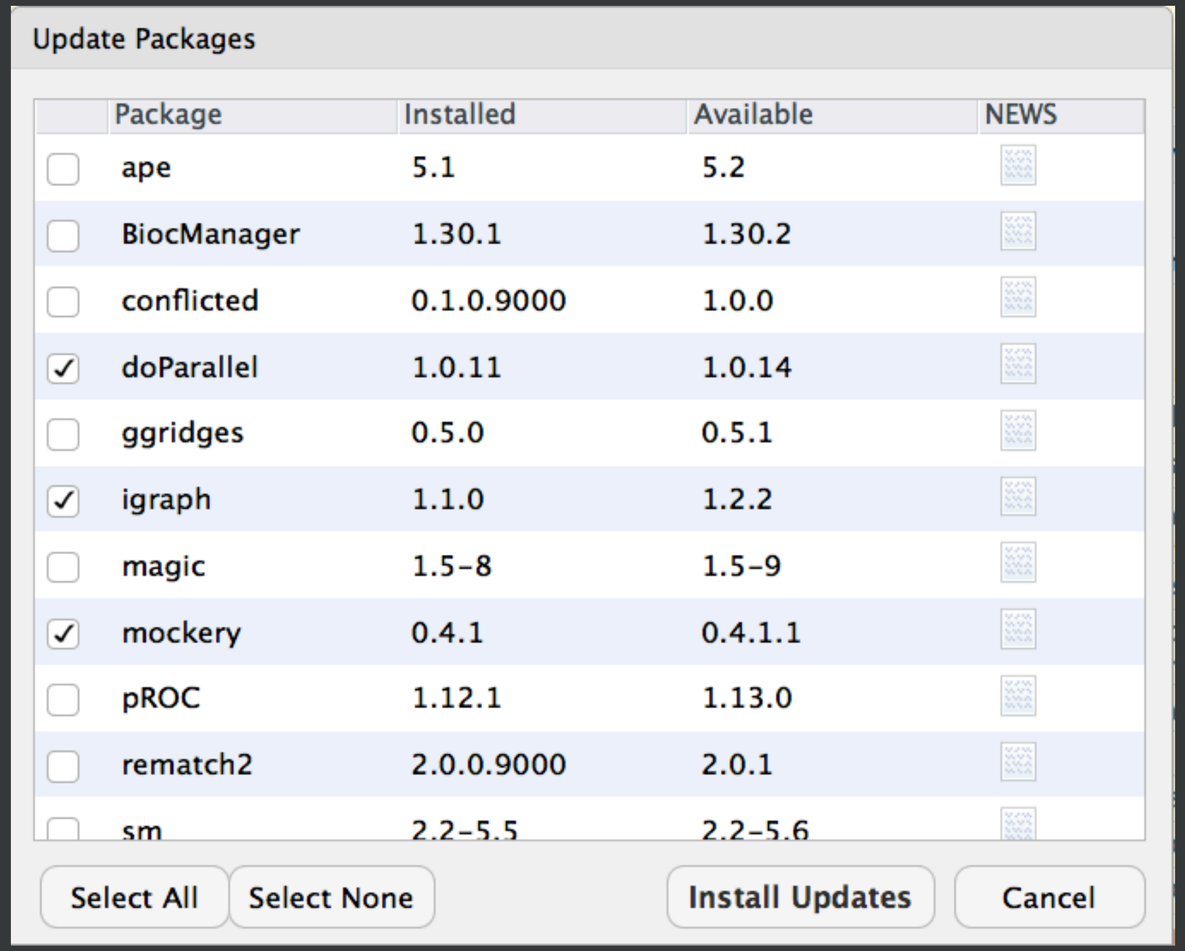
Slides:

Jim Hester @jimhester

RStudio @jimhester_

https://whattheyforgot.org/maintaining-r.html

RStudio: upgrading packages

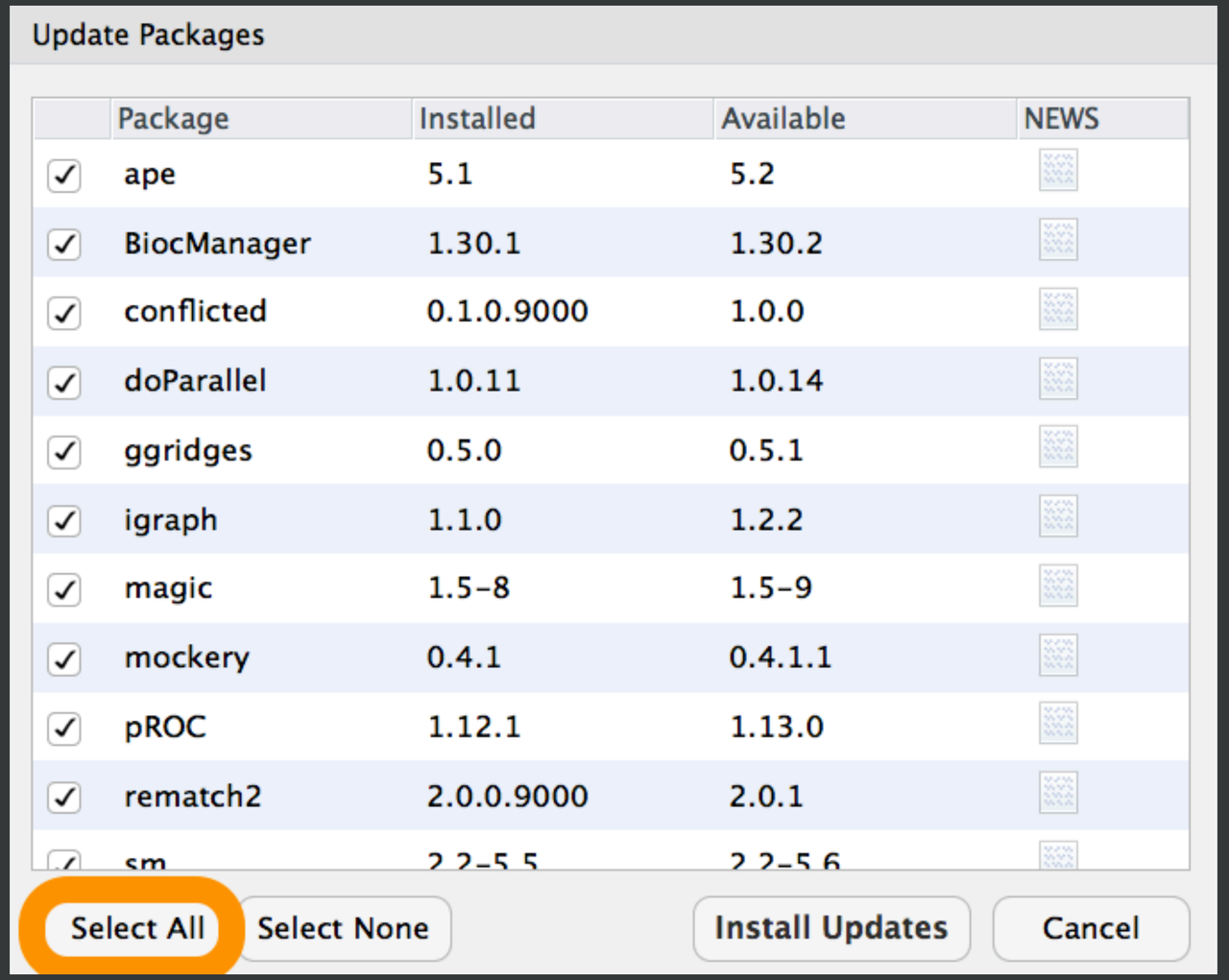


Upgrading packages

```
install.packages("pkgname")
devtools::upgrade_packages("pkgname")
```

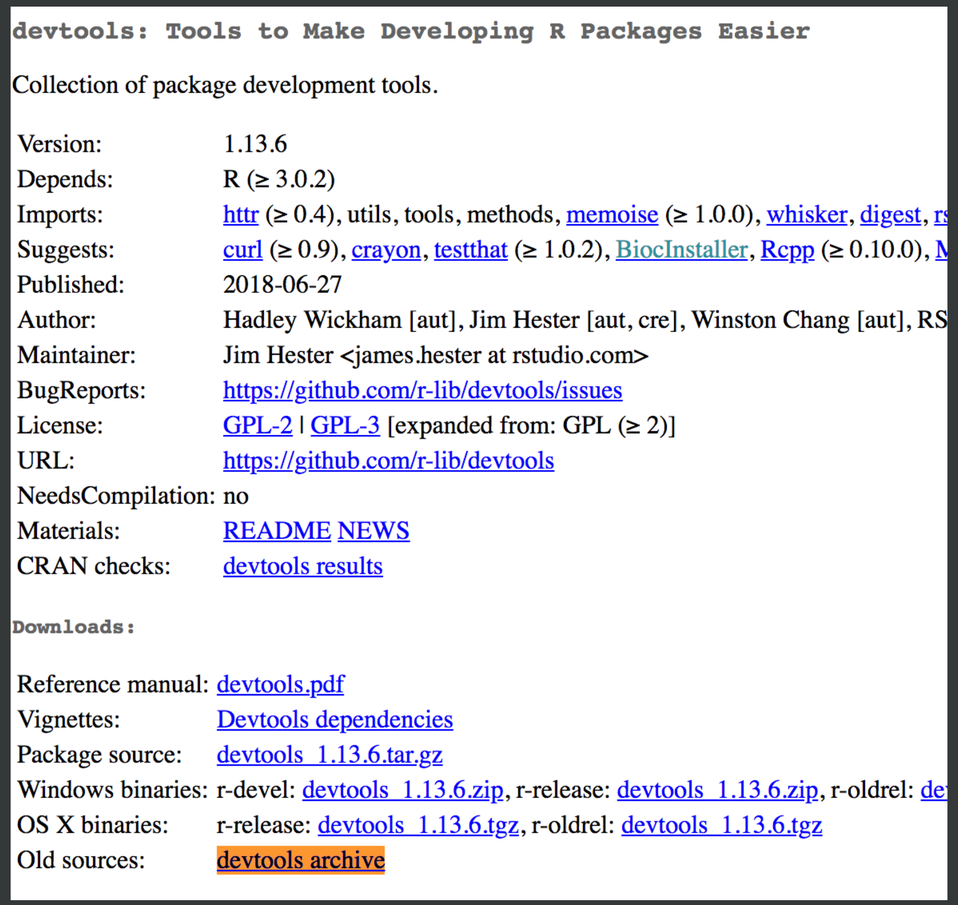
devtools will upgrade dev packages too

Upgrading all packages




```
devtools::upgrade_packages(TRUE)
```

Downgrading packages



devtools: Tools to Make Developing R Packages Easier

Collection of package development tools.

Version:	1.13.6
Depends:	R (≥ 3.0.2)
Imports:	httr (≥ 0.4), utils, tools, methods, memoise (≥ 1.0.0), whisker, digest, rs
Suggests:	curl (≥ 0.9), crayon, testthat (≥ 1.0.2), BiocInstaller, Rcpp (≥ 0.10.0), M
Published:	2018-06-27
Author:	Hadley Wickham [aut], Jim Hester [aut, cre], Winston Chang [aut], RS
Maintainer:	Jim Hester <james.hester at rstudio.com>
BugReports:	https://github.com/r-lib/devtools/issues
License:	GPL-2 | GPL-3 [expanded from: GPL (≥ 2)]
URL:	https://github.com/r-lib/devtools
NeedsCompilation:	no
Materials:	README NEWS
CRAN checks:	devtools results

Downloads:

Reference manual:	devtools.pdf
Vignettes:	Devtools dependencies
Package source:	devtools_1.13.6.tar.gz
Windows binaries:	r-devel: devtools_1.13.6.zip, r-release: devtools_1.13.6.zip, r-oldrel: de
OS X binaries:	r-release: devtools_1.13.6.tgz, r-oldrel: devtools_1.13.6.tgz
Old sources:	devtools archive

google: cran devtools

old sources: devtools archive

```
devtools::install_version("devtools", "1.13.3")
```

Transferring libraries across R versions

OK If patch: 3.5.0 -> 3.5.1

NOT OK If minor: 3.4.3 -> 3.5.0

Have R handle automatically

MacOS: R_LIBS_USER=~/Library/R/%v/library

Win: R_LIBS_USER=~/R/win-library/x.y

```
fs::dir_create(Sys.getenv("R_LIBS_USER"))
```

```r
# Install new version of R (lets say 3.5.0 in this example)
# and install fs and tibble packages
install.packages(c("fs", "tibble"))

# Create a new directory for the version of R
fs::dir_create("~/Library/R/3.5/library")

# Re-start R so the .libPaths are updated

# Lookup what packages were in your old package library
pkgs <- installed.packages("~/Library/R/3.4/library") %>%
                tibble::as_tibble()

# Filter these packages as needed

# Install the packages in the new version
install.packages(pkgs$Package)
```