



# R Studio<sup>®</sup>

## Package Manager

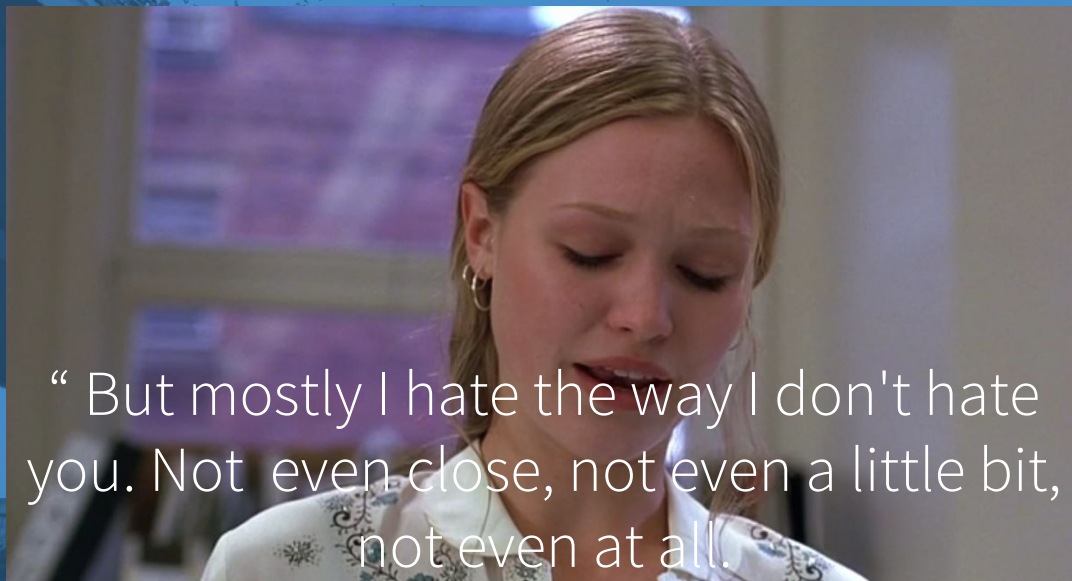
# Game Plan

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- **Organize** packages in a central repository
- Automatic **versioning**
- **Integrated** with R, RStudio, RStudio Connect
- **CRAN, curated CRAN , local packages, Git(Hub)**
- Track **usage** metrics

Alternative Title:

# 10 Things I Hate About R Packages



# #1 Compiler Errors

```
* installing *source* package 'XML' ...
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking how to run the C preprocessor...
gcc -E No ability to remove finalizers on externalptr objects in this verison of R checking for sed...
/bin/sed checking for pkg-config... /usr/bin/pkg-config
checking for xml2-config... no Cannot find xml2-config
ERROR: configuration failed for package 'XML' * removing
`/home/spirit/R/i686-pc-linux-gnu-library/2.12/XML' The downloaded packages are in
`/tmp/RtmpoZYxnv/downloaded_packages'
Warning message: In install.packages("XML") : installation of package 'XML' had non-zero exit status
```

## #2 Broken Environments

lionel- commented on Oct 24, 2018 Member + 😊 ...

We can force dependencies to be at least a given version, but we currently have no mechanism for detecting out of date *reverse* dependencies :/

lionel- commented on Oct 29, 2018 Member + 😊 ...

If many people are having this problem, this indicates we should have waited longer before removing these functions. Please add an emoji reaction to this message if you're reading this because youve encountered this error.

👍 25 🙄 12 😞 67 ❤️ 2

lionel- commented on Oct 29, 2018 Member + 😊 ...

That's strange, there are dplyr binaries for Windows available: [https://cran.r-project.org/bin/windows/contrib/3.5/dplyr\\_0.7.7.zip](https://cran.r-project.org/bin/windows/contrib/3.5/dplyr_0.7.7.zip)

Perhaps you're running an old R for which binaries are no longer compiled?

# Have a plan **before** it becomes deadly

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- Going back to an old analysis and not being able to reproduce it due to a package error
- Trying to move an analysis from your desktop to an offline server
- Trying to share code with a colleague

## R Packages



GitHub



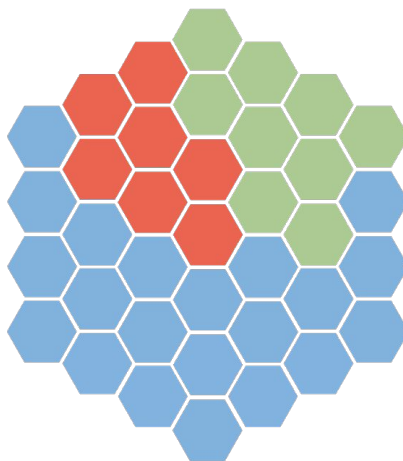
Internal



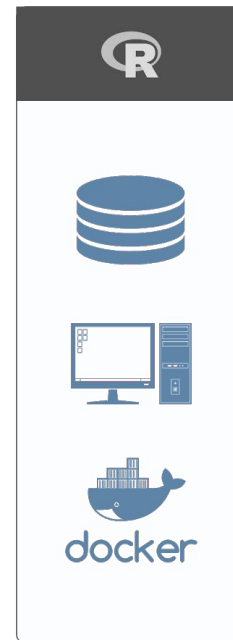
CRAN



## Administrators



## Users







	Hobbyist Cook	Professional Chef	R Equivalent Environment	Status
How	<b>Wing It</b>			
Using	<b>Home Kitchen</b>			
From	<b>Grocery Store</b>			





	Hobbyist Cook	Professional Chef	R Equivalent Environment	Status
How	Wing It	Detailed Recipe		
Using	Home Kitchen	Industrial Kitchen		
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How	Wing It	Detailed Recipe	Project Management	packrat, rmarkdown, ???
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	Hobbyist Cook	Professional Chef	R Equivalent Environment	Status
How	Wing It	Detailed Recipe	Project Management	packrat, rmarkdown, ???
Using	Home Kitchen	Industrial Kitchen	Compute Management	Most Organizations
From	Grocery Store	Supply Chain		



	Hobbyist Cook	Professional Chef	R Equivalent Environment	Status
How	Wing It	Detailed Recipe	Project Management	packrat, rmarkdown, ???
Using	Home Kitchen	Industrial Kitchen	Compute Management	Most Organizations
From	Grocery Store	Supply Chain	Package Management	Exceptional Organizations



## Jr. Analyst

Just hired, but learned R in college.



Has to  
**DISCOVER**  
tribal knowledge



## Sr. Analyst

Built functions to connect to the company's database.



Wants to  
**SHARE**  
code without  
emailing files



## Statistician

Submitted valued trial results to the FDA.



Needs to  
**REPRODUCE**  
results, without worrying  
about packages



## IT / Ops

Receives install and upgrade requests.



Goal is to  
**MAINTAIN**  
servers without  
breaking R code



## InfoSec

Enforces legal and risk policies.



Requires  
**SECURE**  
downloads that  
meet standards



# Demo



# Using Repository Versioning

---

FROM ubuntu

RUN apt-get install \

...

~~RUN R -e 'install.packages(...)~~

RUN R -e 'install.packages( ... ,  
          repos = "<https://r-pkgs.example.com/cran/189>")'

CMD <some process>



# Summary

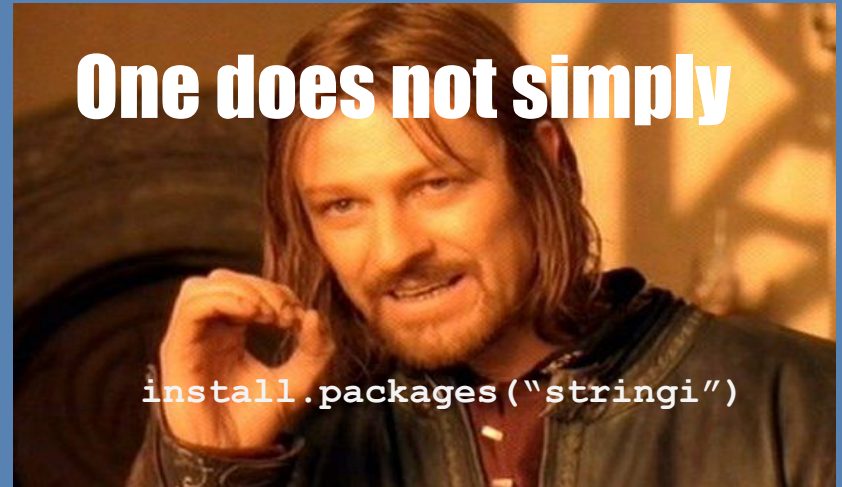
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# Up Next

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- System Requirements
- Linux Binaries
- BioConductor



# The Details

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**[rstudio.com/package-manager](https://rstudio.com/package-manager)  
(pro lounge)**

# The Challenge

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How many packages does your project use?

```
rstd.io/countdeps  
countdeps::countdeps()
```

Tweet:

**@rstudio**