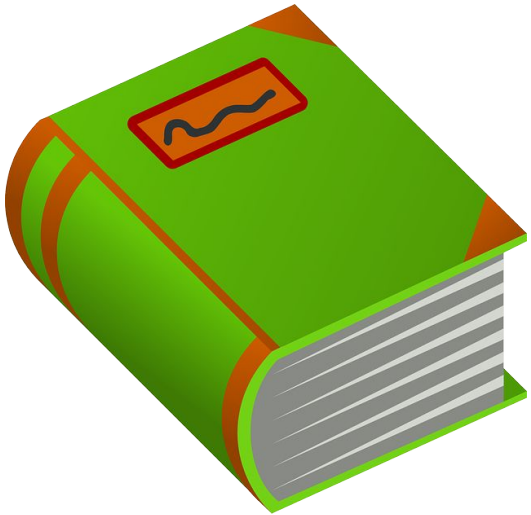
Introduction to Packages

Introduction to R

R Package

=



https://www.r-project.org/; http://clipart-library.com

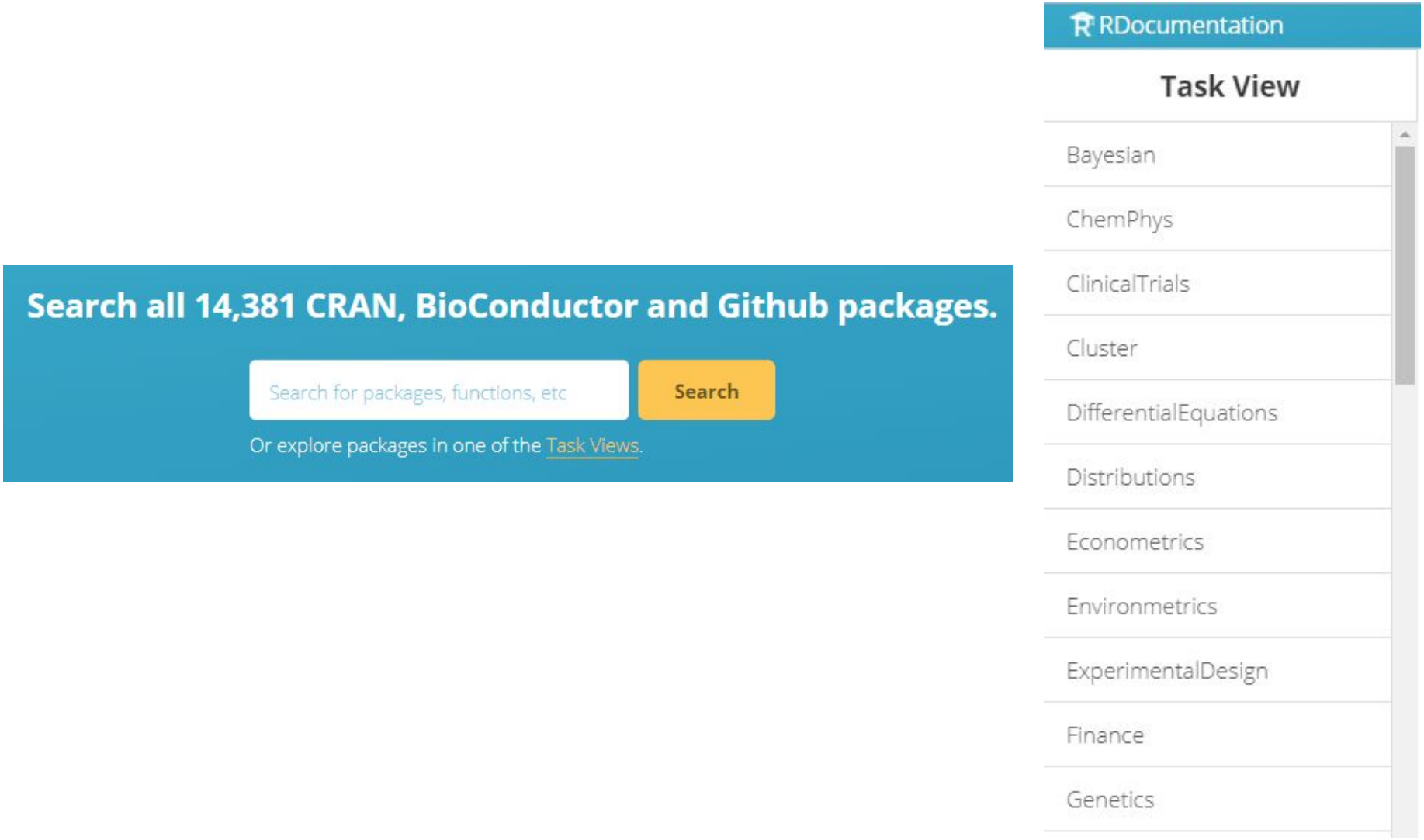
CRAN

GitHub

https://www.r-project.org/; http://bioconductor.org/; https://github.com/

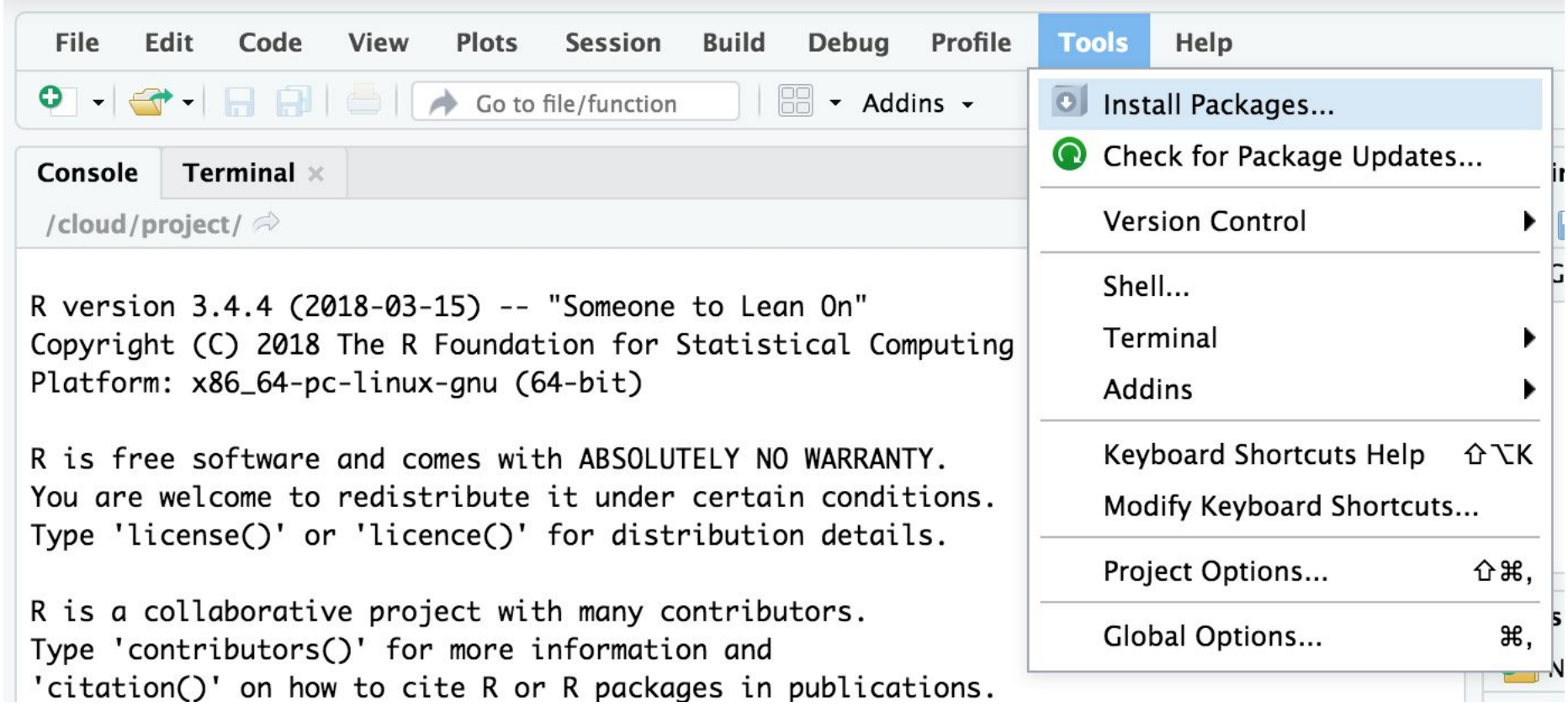
CRAN Task Views

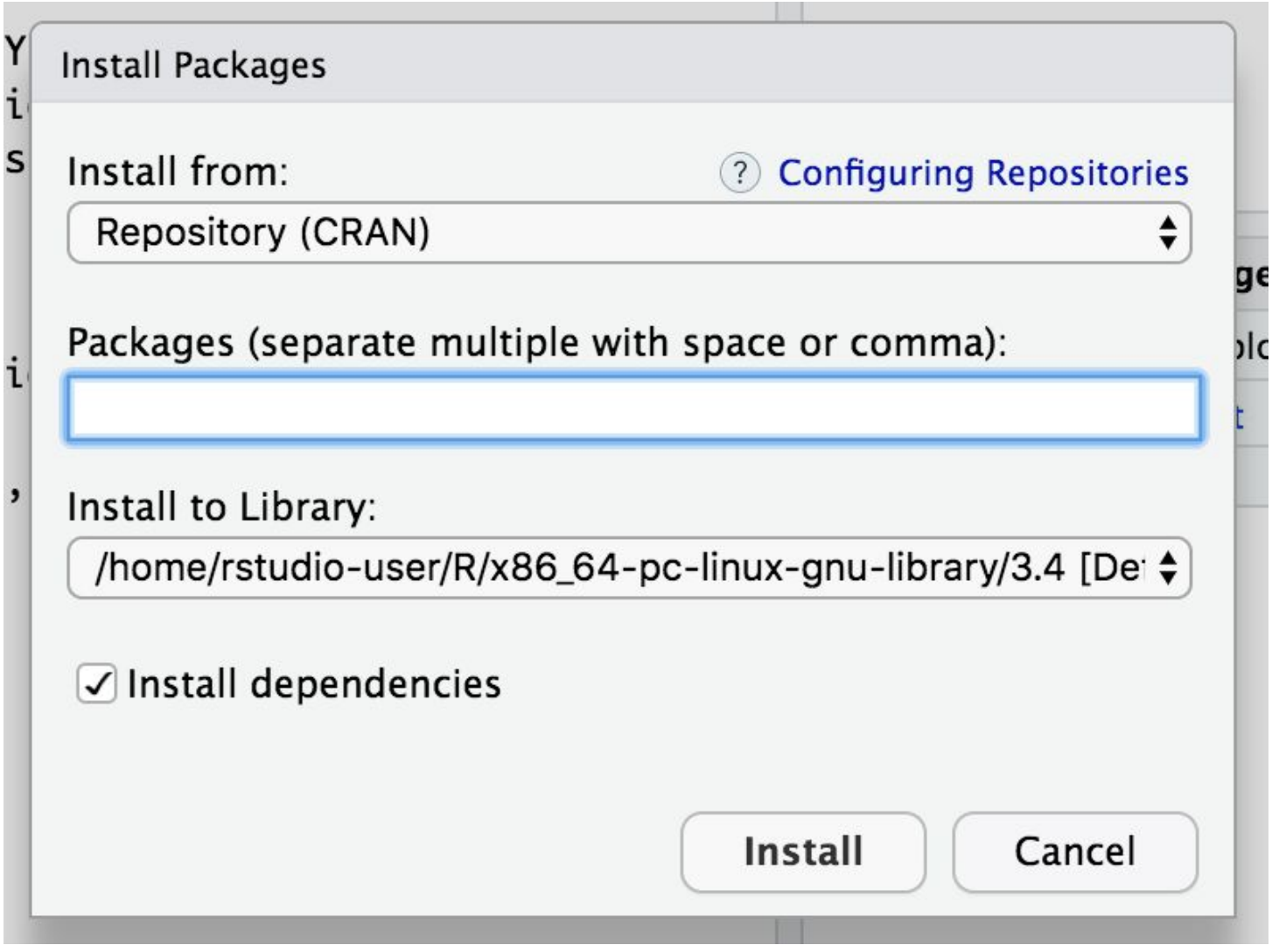
Bayesian	Bayesian Inference
ChemPhys	Chemometrics and Computational Physics
ClinicalTrials	Clinical Trial Design, Monitoring, and Analysis
Cluster	Cluster Analysis & Finite Mixture Models
DifferentialEquations	Differential Equations
Distributions	Probability Distributions
Econometrics	Econometrics
Environmetrics	Analysis of Ecological and Environmental Data
ExperimentalDesign	Design of Experiments (DoE) & Analysis of Experimental Data
ExtremeValue	Extreme Value Analysis
Finance	Empirical Finance
FunctionalData	Functional Data Analysis
Genetics	Statistical Genetics
Graphics	Graphic Displays & Dynamic Graphics & Graphic Devices & Visualization
HighPerformanceComputing	High-Performance and Parallel Computing with R
MachineLearning	Machine Learning & Statistical Learning
MedicalImaging	Medical Image Analysis
MetaAnalysis	Meta-Analysis
Multivariate	Multivariate Statistics
NaturalLanguageProcessing	Natural Language Processing
NumericalMathematics	Numerical Mathematics


RDocumentation
Task View
Bayesian
ChemPhys
ClinicalTrials
Cluster
DifferentialEquations
Distributions
Econometrics
Environmetrics
ExperimentalDesign
Finance
Genetics
Search all 14,381 CRAN, BioConductor and Github packages.
Search for packages, functions, etc
Search
Or explore packages in one of the Task Views.

```
install.packages("ggplot2")
```

```
install.packages(c("ggplot2", "devtools", "lme4"))
```




Install Packages
Install from:
Configuring Repositories
Repository (CRAN)
Packages (separate multiple with space or comma):
Install to Library:
/home/rstudio-user/R/x86_64-pc-linux-gnu-library/3.4 [De
Install dependencies
Install
Cancel


```
source("https://bioconductor.org/biocLite.R")
```

```
biocLite()
```

```
biocLite("GenomicFeatures")
```

GitHub

```
install.packages("devtools")
```

```
library(devtools)
```

```
install_github("author/package")
```

Step 1: Install

```
install.packages("ggplot2")
```

Console Terminal

/cloud/project/

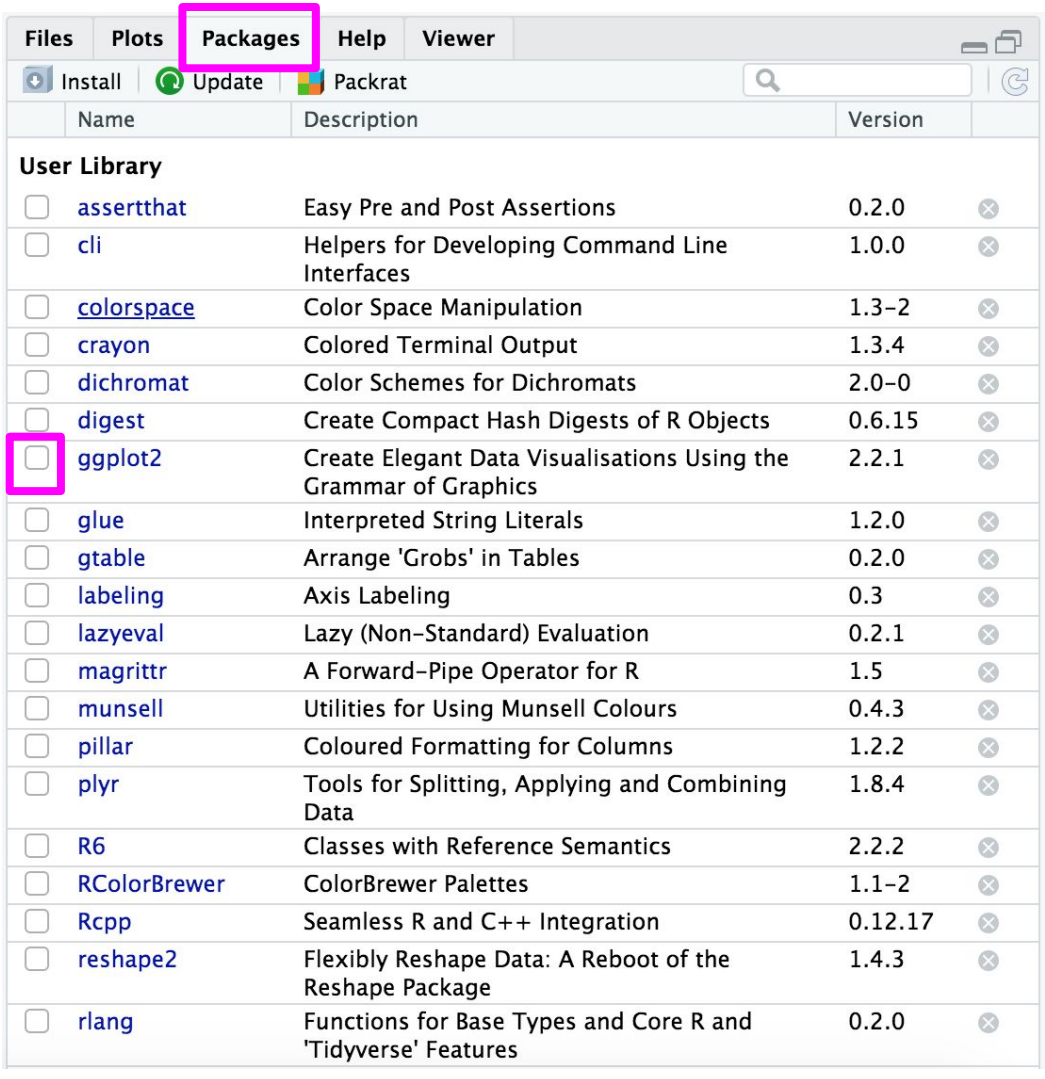
```
R version 3.4.4 (2018-03-15) -- "Someone to Lean On"
Copyright (C) 2018 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> install.packages("ggplot2")
Installing package into '/home/rstudio-user/R/x86_64-pc-linux-gnu-library/3.4'
(as 'lib' is unspecified)
also installing the dependencies 'glue', 'magrittr', 'stringi', 'colorspace', 'assertthat', 'utf8', 'Rcpp', 'stringr', 'RColorBrewer', 'dichromat', 'munsell', 'labeling', 'R6', 'viridisLite', 'cli', 'crayon', 'pillar', 'rlang', 'digest', 'gtable', 'plyr', 'reshape2', 'scales', 'tibble', 'lazyeval'

trying URL 'http://package-proxy/src/contrib/glue_1.2.0.tar.gz'
Content type 'application/x-tar' length 62719 bytes (61 KB)
==================================================
downloaded 61 KB
```

Step 2: Load

```
library()
```

```
library(ggplot2)
```

R.exe


Files
Plots
Packages
Help
Viewer
Install
Update
Packrat
Name
Description
Version
User Library
assertthat
Easy Pre and Post Assertions
0.2.0
cli
Helpers for Developing Command Line Interfaces
1.0.0
colorspace
Color Space Manipulation
1.3-2
crayon
Colored Terminal Output
1.3.4
dichromat
Color Schemes for Dichromats
2.0-0
digest
Create Compact Hash Digests of R Objects
0.6.15
ggplot2
Create Elegant Data Visualisations Using the Grammar of Graphics
2.2.1
glue
Interpreted String Literals
1.2.0
gtable
Arrange 'Grobs' in Tables
0.2.0
labeling
Axis Labeling
0.3
lazyeval
Lazy (Non-Standard) Evaluation
0.2.1
magrittr
A Forward-Pipe Operator for R
1.5
munsell
Utilities for Using Munsell Colours
0.4.3
pillar
Coloured Formatting for Columns
1.2.2
plyr
Tools for Splitting, Applying and Combining Data
1.8.4
R6
Classes with Reference Semantics
2.2.2
RColorBrewer
ColorBrewer Palettes
1.1-2
Rcpp
Seamless R and C++ Integration
0.12.17
reshape2
Flexibly Reshape Data: A Reboot of the Reshape Package
1.4.3
rlang
Functions for Base Types and Core R and 'Tidyverse' Features
0.2.0

What packages are installed?

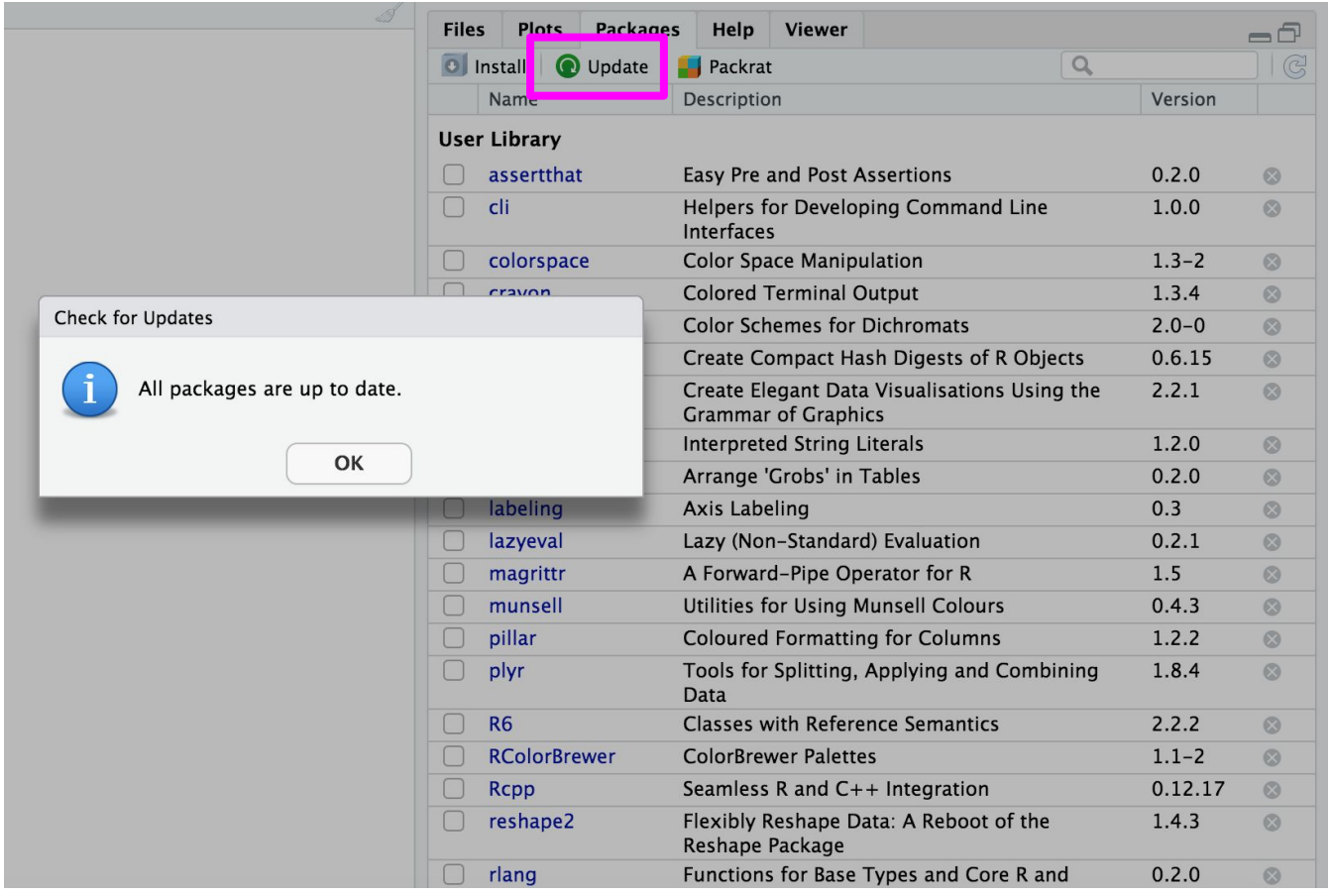
`installed.packages()` or `library()`

Updating packages

```
old.packages()
```

```
update.packages()
```

```
install.packages("packagename")
```


Files
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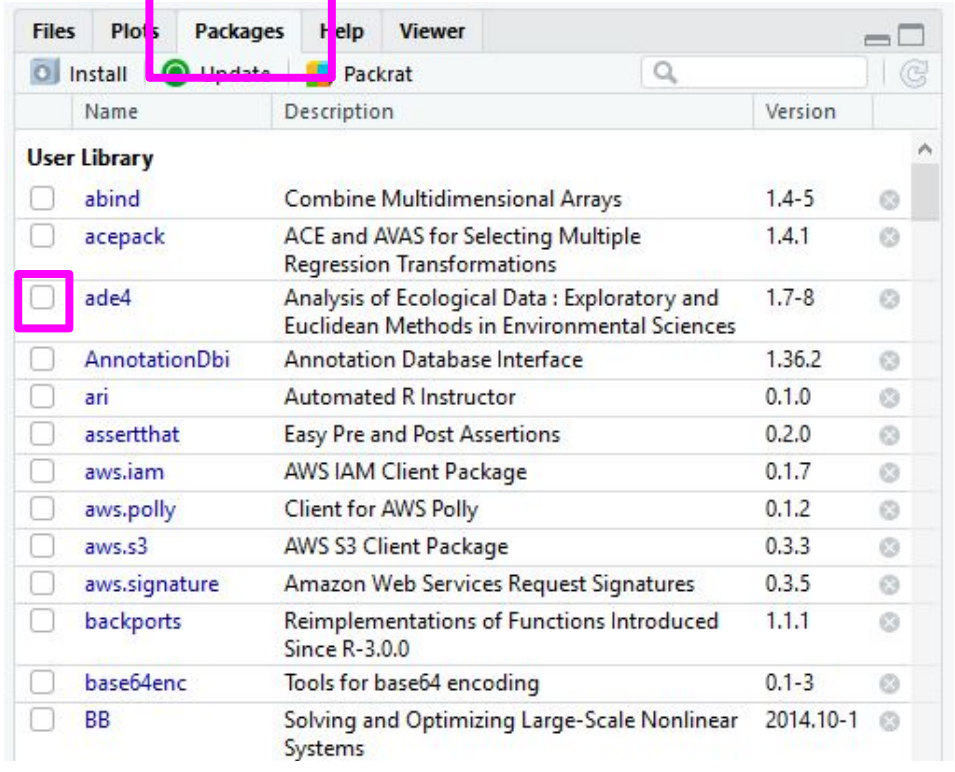
reshape2
Flexibly Reshape Data: A Reboot of the Reshape Package
1.4.3
rlang
Functions for Base Types and Core R and
0.2.0
Check for Updates
All packages are up to date.
OK

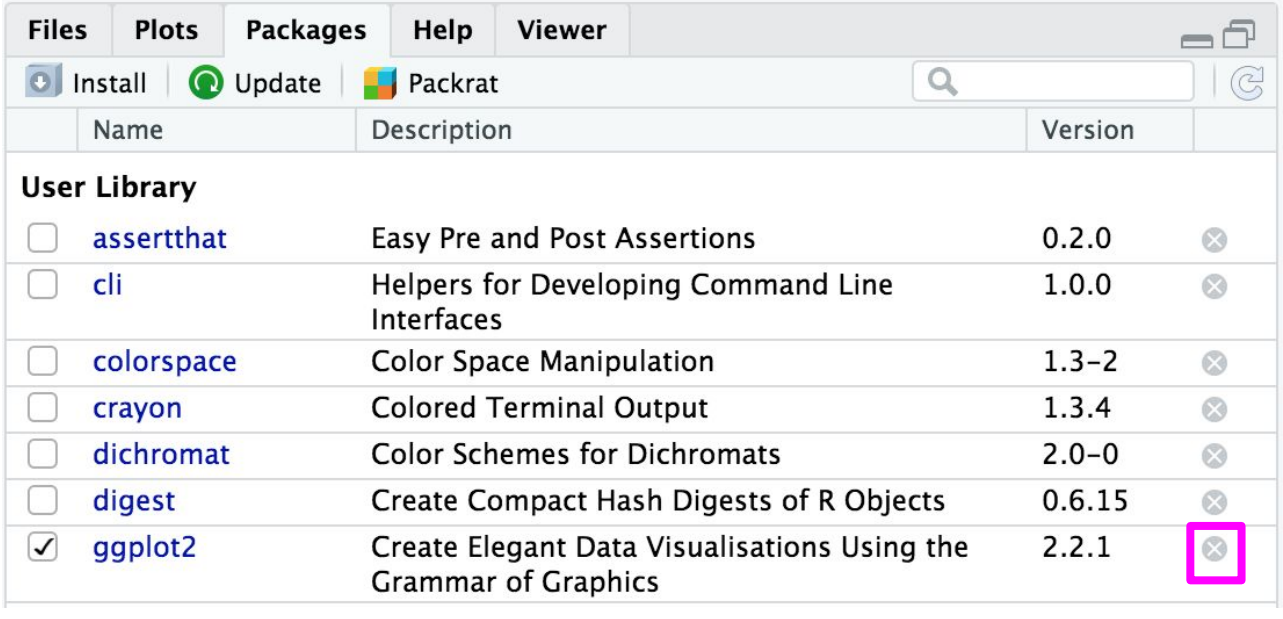
```
detach()
```

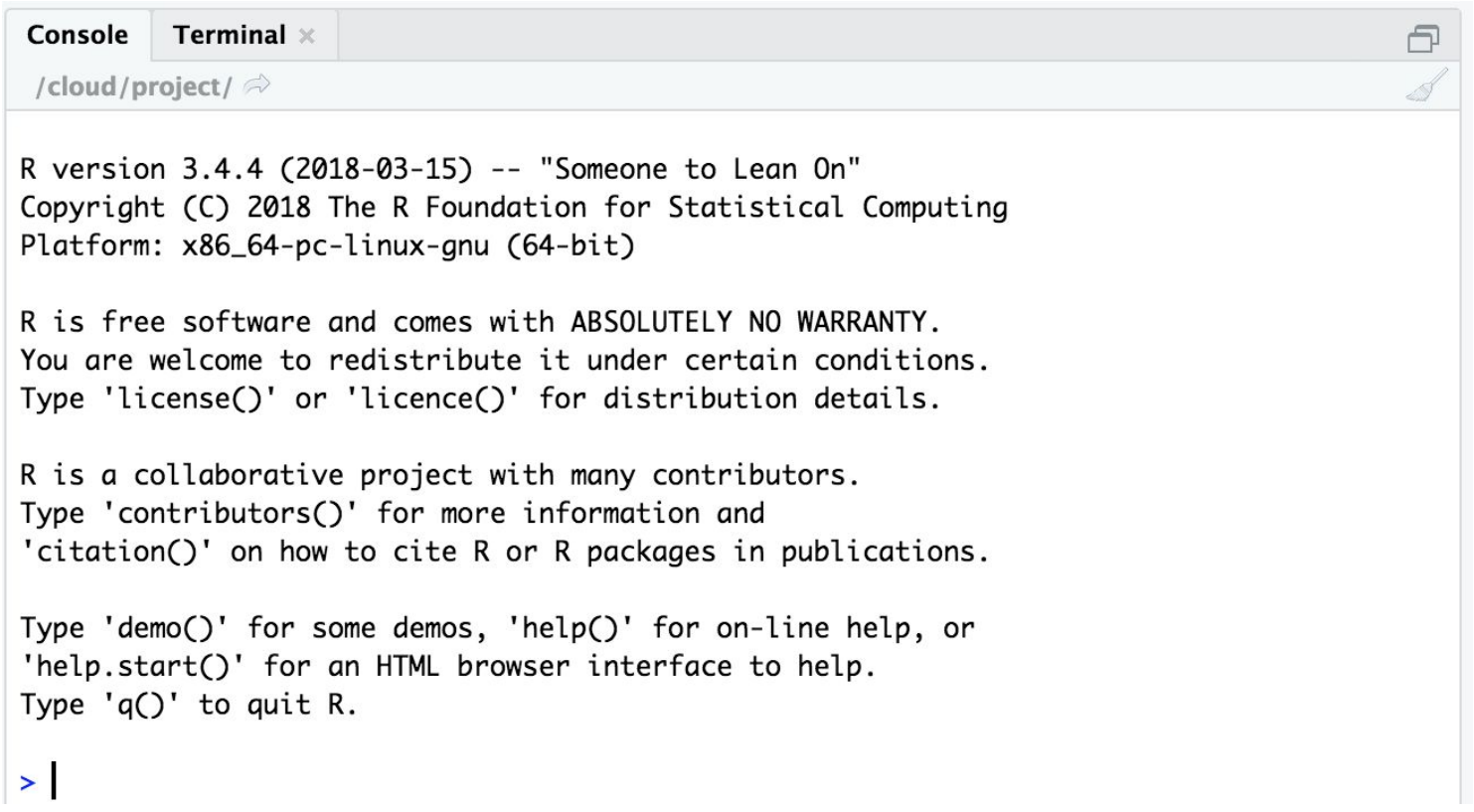
```
detach("package:ggplot2", unload=TRUE)
```



```
remove.packages()
```

```
remove.packages("ggplot2")
```





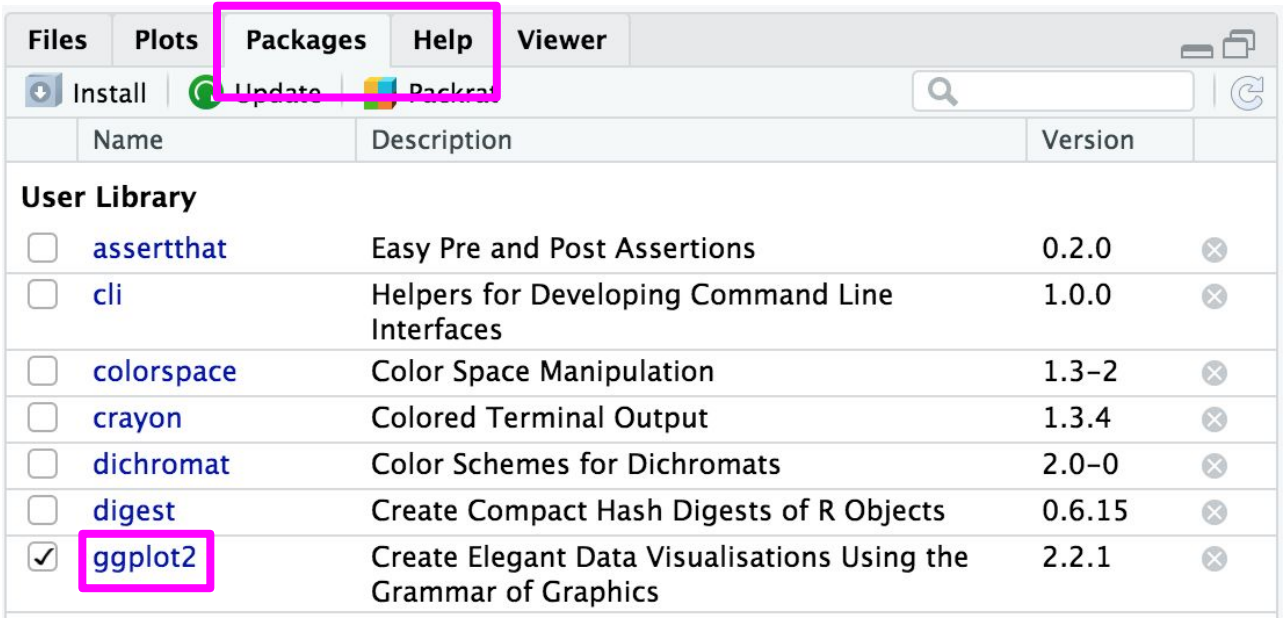

```
version
```

```
sessionInfo()
```

```
> sessionInfo()
R version 3.4.4 (2018-03-15)
Platform: x86_64-pc-linux-gnu (64-bit)
Running under: Ubuntu 16.04.3 LTS

Matrix products: default
BLAS: /usr/lib/atlas-base/atlas/libblas.so.3.0
LAPACK: /usr/lib/atlas-base/atlas/liblapack.so.3.0

locale:
 [1] LC_CTYPE=C.UTF-8       LC_NUMERIC=C           LC_TIME=C.UTF-8
 [4] LC_COLLATE=C.UTF-8     LC_MONETARY=C.UTF-8    LC_MESSAGES=C.UTF-8
 [7] LC_PAPER=C.UTF-8       LC_NAME=C              LC_ADDRESS=C
[10] LC_TELEPHONE=C         LC_MEASUREMENT=C.UTF-8 LC_IDENTIFICATION=C

attached base packages:
[1] stats     graphics  grDevices utils     datasets  methods   base

other attached packages:
[1] ggplot2_2.2.1

loaded via a namespace (and not attached):
 [1] colorspace_1.3-2 scales_0.5.0     compiler_3.4.4   lazyeval_0.2.1
 [5] plyr_1.8.4       tools_3.4.4      pillar_1.2.2     gtable_0.2.0
 [9] tibble_1.4.2     Rcpp_0.12.17     grid_3.4.4       rlang_0.2.0
[13] munsell_0.4.3
```

```
help()
```

```
help(package = "ggplot2")
```



```
browseVignettes()
```

```
browseVignettes("ggplot2")
```

Vignettes found by `"browseVignettes("ggplot2")"`

Vignettes in package `ggplot2`

- Aesthetic specifications - HTML source R code
- Extending ggplot2 - HTML source R code

CRAN

GitHub

https://www.r-project.org/; http://bioconductor.org/; https://github.com/