

Packages

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2021/01/12 (updated: 2021-07-23)

Packages

- **package**: user-written R code and functions to solve a specific problem
- Packages are submitted to **CRAN** (official repository for R packages)
- R has a huge number of external packages (>= 17,000 on CRAN)
- Browse packages at r-pkg.org

Popular Packages

Package	Usage	Documentation
dplyr	Data management	dplyr
ggplot2	Data visualization	ggplot2
stringr	Working with string (text) data	stringr
forcats	Working with categorical variables	forcats
lubridate	Working with date and time data	lubridate
tidymodels	A collection of packages for modeling and machine learning	tidymodels
shiny	Build dashboards and interactive data products	shiny

Installing packages

- Install a package with
`install.packages("package_name")`
- Normally, package installation is done once
- You can update a package within the Packages pane in RStudio or with `update.packages()`

```
install.packages("dplyr")
```

Loading packages

- We can use the functions in a package by loading a package into our environment
- Load a package with `library("package_name")`

```
library(dplyr)
```

Using functions from a package

- After loading a package into your environment, you can use the functions in the package
- You can use functions from a package just as usual: `function_name(arg1 = val1, arg2 = val2, ...)`

```
library(dplyr)
#> Warning: package 'dplyr' was built under R version 4.0.5

df <- data.frame(a = c(1,2,3),
                  b = c(4,5,6),
                  c = c(7,8,9))

# select columns from a data frame
select(df, a, c)
#>   a c
#> 1 1 7
#> 2 2 8
#> 3 3 9
```

Using functions from a package

- Alternatively, use the `package_name::package_function()` syntax to be explicit which function the package belongs to

```
library(dplyr)
df <- data.frame(a = c(1,2,3),
                 b = c(4,5,6),
                 c = c(7,8,9))

# select columns from a data frame
dplyr::select(df, a, c)
#>   a c
#> 1 1 7
#> 2 2 8
#> 3 3 9
```