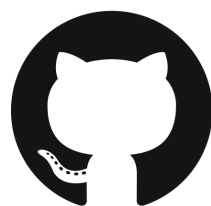


# Developing R project & R package



: [github.com/meta00/cafeR](https://github.com/meta00/cafeR)



**slack** : [caf-r.slack.com\\*](https://caf-r.slack.com)

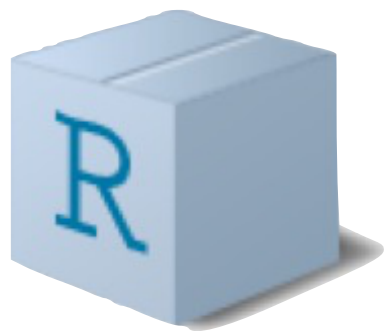
# Developing R project/R package

- R Project:



- Organisation of your work
- Reproducibility & maintaining

- R Packages:



- Reusable R functions and/or data
- Documentation that describes how to use them
- Publish and exchange (CRAN, GitHub ... )

**DEMO**

# Steps

- To work in a R-Project:
  1. `usethis::create_project("PATH")` or New Project...
  2. Stock your code in a folder `R/` with documentation and your data either in `data-raw/` (source file) and `data/` (created file) or just in `data/`
  3. Write your script R with section and documentation
- To work in a R-package:
  - A. `usethis::create_package("PATH")` or New Project...
  - B. Put your script of creation of data and any source files in `data-raw/`  
`usethis::use_data_raw()`
  - C. Generate the folder `data/` if necessary  
`usethis::use_data("NAMEOFTHEDATA")`
  - D. Put your function in the folder `R/` with documentation in Roxygen (`devtools::document()` to generate the documentation)
  - E. Complete the **DESCRIPTION** file (License, goal, author, dependency (`devtools::use_package("NAMEOFTHEPACKAGE")`) ...)
  - F. Build the package (automatically write the `NAMESPACE` and folder `/man`)

# To add testing & coverage

1. Make functions/packages...
2. Make tests by using:  
`usethis::testthat()`
3. Add .R file in the folder tests/testthat with your tests, the file should be named  
“`test_NAMEOFTHEFUNCTIONYOUTEST`” and contains:  
`testthat(“WHATAREYOUTESTING”, {  
 expect_equal(...)  
})`
4. Look at the coverage of your package:  
`covr::package_coverage()`  
`covr::report()`
5. If needed, improve the coverage of your package
6. Publish your package on Github
7. Add Travis, Appveyor and Coverage for continuous integration
  1. Make a README file: `usethis::use_readme_rmd()`
  2. Call and configure your profil if necessary:  
`usethis::use_travis`  
`usethis::use_coverage` (add paste covr code in Travis yaml script)  
`usethis::use_appveyor`

# Resources

- “R package” book: <http://r-pkgs.had.co.nz/>
- Usethis website: <https://usethis.r-lib.org/>
- Devtools website: <https://devtools.r-lib.org/>
- Package development cheat sheet: <https://rawgit.com/rstudio/cheatsheets/master/package-development.pdf>
- Rtools (for windows only): <https://cran.r-project.org/bin/windows/Rtools/>

