

# Programming with R/Advanced R

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Dries Debeer & Benjamin Becker

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FDZ Spring Academy

# Agenda

## Day 1

- Recap & Clean Code
- Functions (Introduction)
- Functions (Advanced)

## Day 2

- Flow & Iteration
- Object oriented programming: S3
- Version Controlling

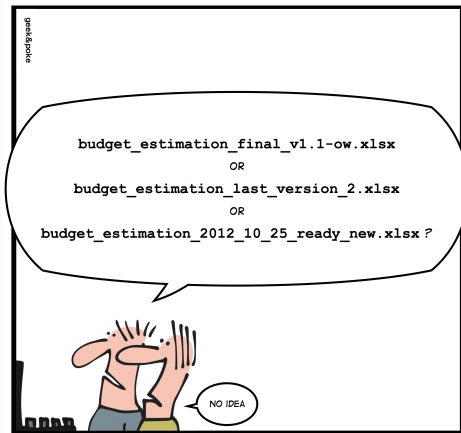
# Version Controlling (Git + Github)

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# Version Controlling

- Motivation
- Setup
- Work flow
- Recommendations
- Resources

## SIMPLY EXPLAINED



VERSION CONTROL

# Motivation

- Implementation of long term change history
  - No ridiculous file names
  - No archive subfolder
  - Always perfect overview of file history and changes
- Collaborations
  - What has changed?
  - Who has changed it?
  - Documentation of changes
  - Parallel working possible (merging)

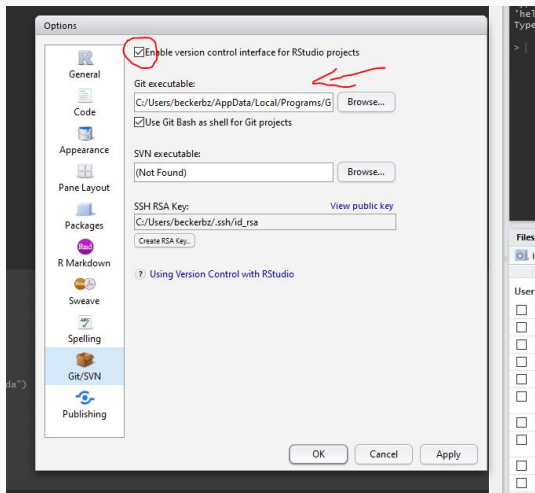
But...

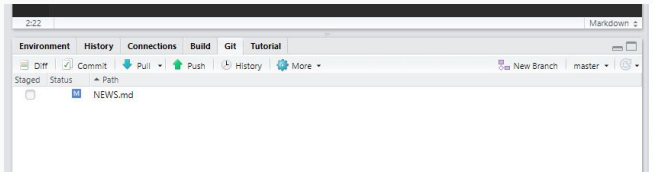


# Requirements

- Install git
- (optional) Install/Setup GUI for git (RStudio, Gitkraken, ...)
- Setup account for Github/Bitbucket/Gitlab/...
- Connect everything







## Creating a repository

- Create an online repository (e.g. on Github)
  - Use an R specific .gitignore
  - Initialize with a short readme
- Clone the repository to your local machine
- (optional) Place an R project in the existing repository

## Working with a repository

- Before working: Synch your local repo (**Pull**)
- Perform changes in your local repository
- **Stage** your changes
- **Commit** your changes (aka new version)
- **Push** your changes

# Recommendations

- Keep it simple!
  - No branches/forks/pull requests
- Have meaningful commits
- Keep it lean (no big files)

## Git (+ R) Resources

- Small Intro  
(<https://r-bio.github.io/intro-git-rstudio/>)
- Happy Git with R (<https://happygitwithr.com/>)
- R Packages and Git (<https://r-pkgs.org/git.html>)
- Git Book (<http://git-scm.com/book/en/v2>)

Thank you for your attention!

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Questions? Remarks?