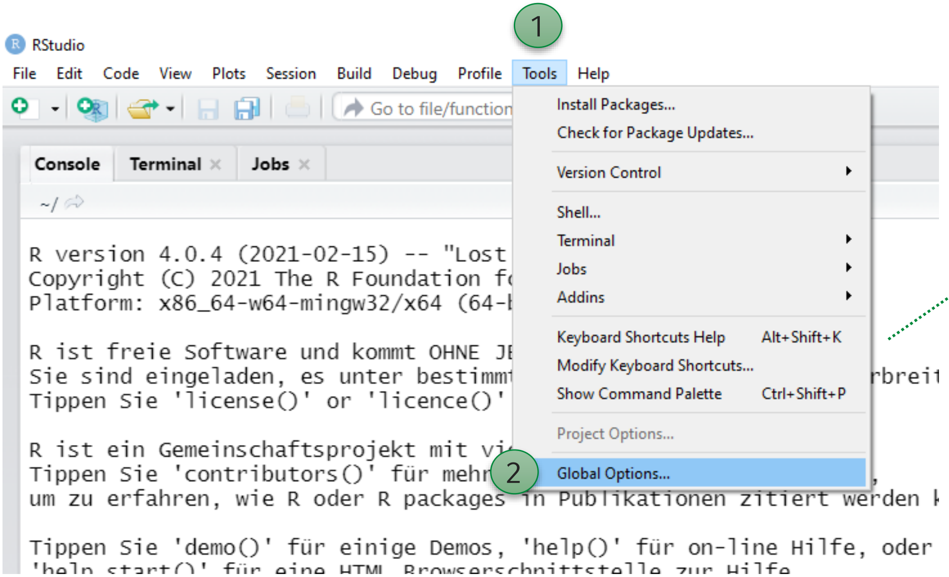
Live Demo – Connect Rstudio and Git (necessary only once)

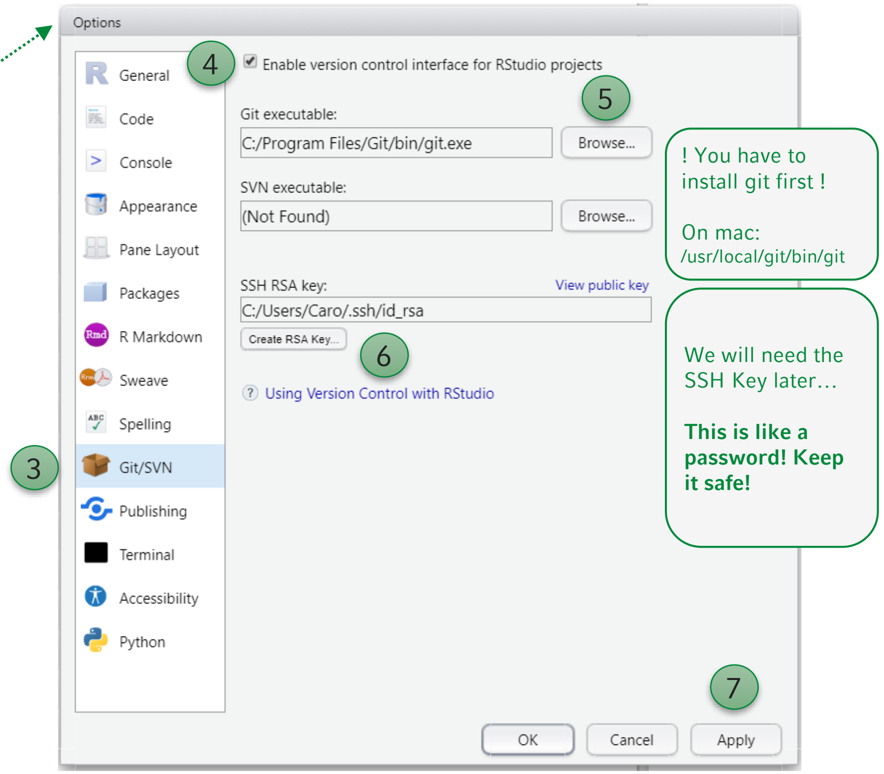

1
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Console Terminal Jobs
~/
Install Packages...
Check for Package Updates...
Version Control
Shell...
Terminal
Jobs
Addins
Keyboard Shortcuts Help Alt+Shift+K
Modify Keyboard Shortcuts...
Show Command Palette Ctrl+Shift+P
Project Options...
2
Global Options...

```
R version 4.0.4 (2021-02-15) -- "Lost
Copyright (C) 2021 The R Foundation f
Platform: x86_64-w64-mingw32/x64 (64-b

R ist freie Software und kommt OHNE JE
Sie sind eingeladen, es unter bestimmt                rbreit
Tippen Sie 'license()' or 'licence()'

R ist ein Gemeinschaftsprojekt mit vi
Tippen Sie 'contributors()' für mehr                 ,
um zu erfahren, wie R oder R packages in Publikationen zitiert werden k

Tippen Sie 'demo()' für einige Demos, 'help()' für on-line Hilfe, oder
'help.start()' für eine HTML Browserschnittstelle zur Hilfe
```



☑ Enable version control interface for RStudio projects

Git executable: C:/Program Files/Git/bin/git.exe

SVN executable: (Not Found)

SSH RSA key: C:/Users/Caro/.ssh/id_rsa

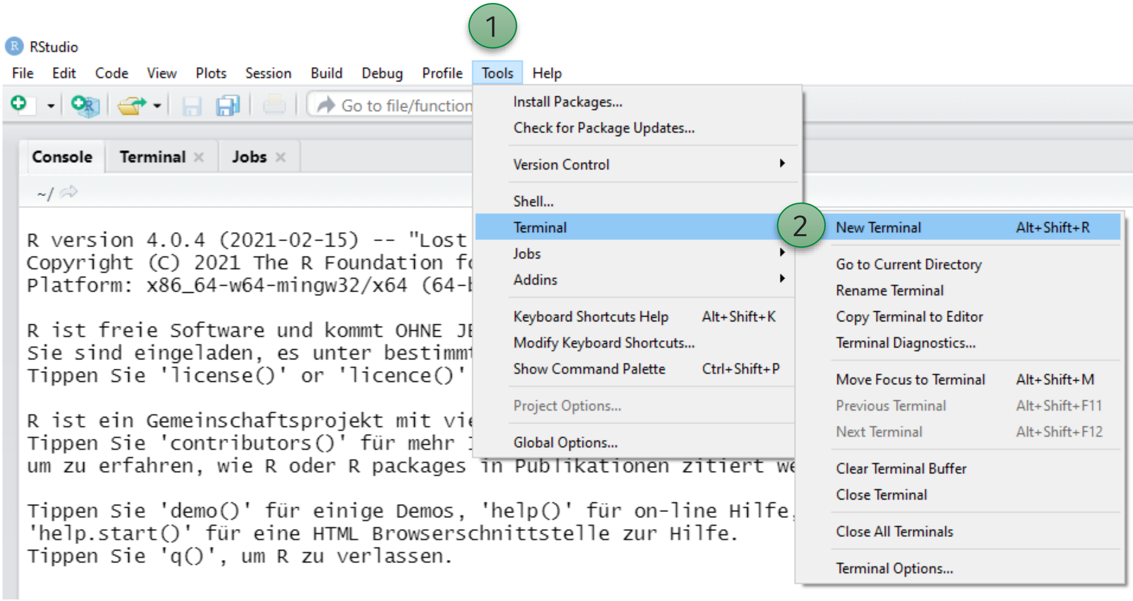
! You have to install git first !

On mac:
/usr/local/git/bin/git

We will need the SSH Key later…

This is like a password! Keep it safe!

Live Demo – Initialize git (necessary only once)



```
R version 4.0.4 (2021-02-15) -- "Lost
Copyright (C) 2021 The R Foundation fo
Platform: x86_64-w64-mingw32/x64 (64-b

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Tippen Sie 'q()', um R zu verlassen.
```
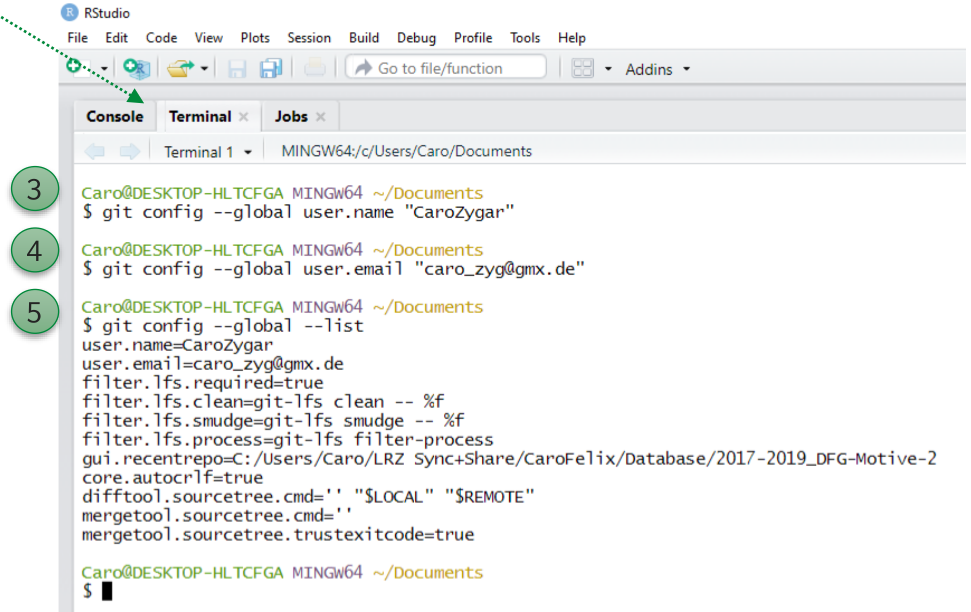



3

```
Caro@DESKTOP-HLTCFGA MINGW64 ~/Documents
$ git config --global user.name "CaroZygar"
```

4

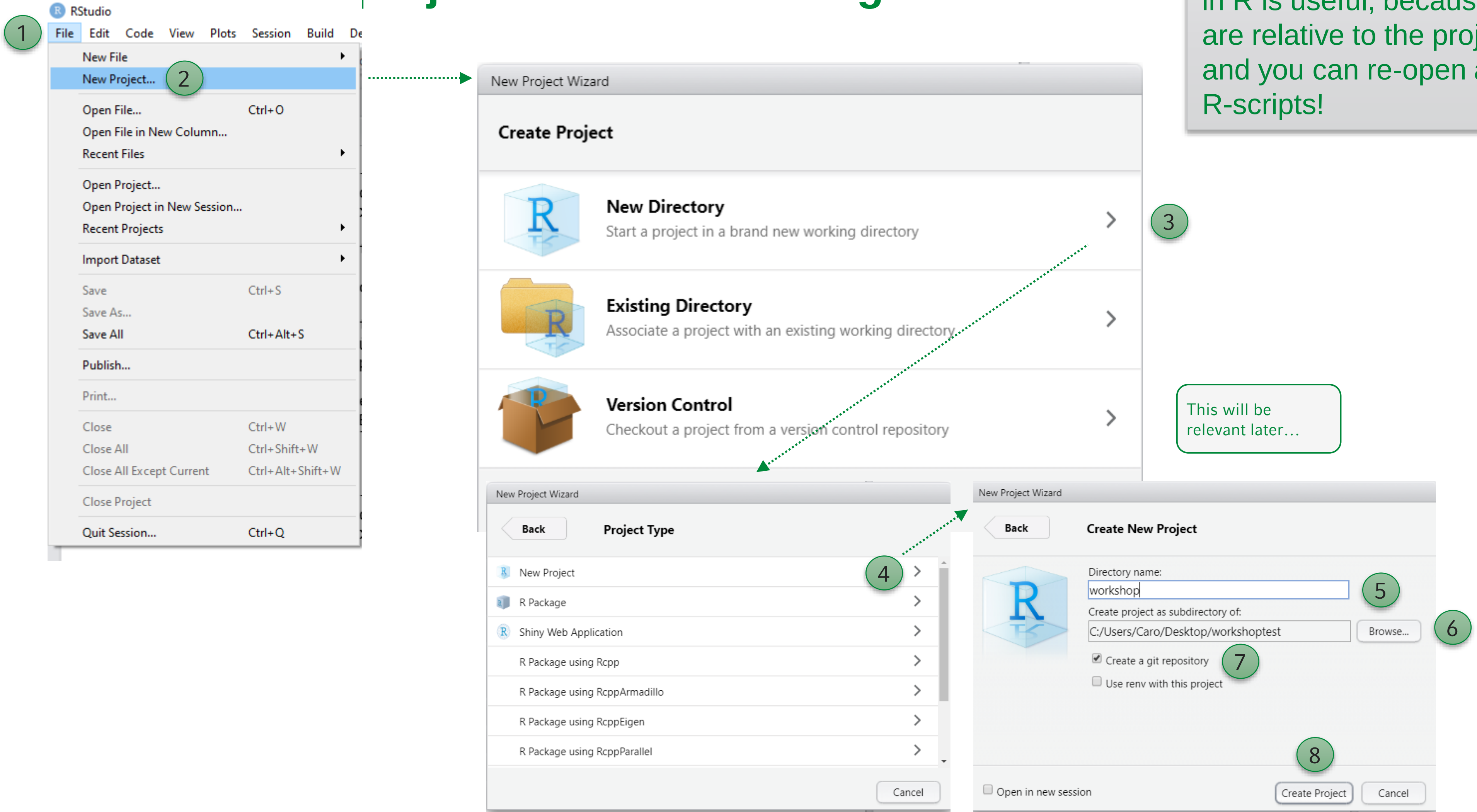
```
Caro@DESKTOP-HLTCFGA MINGW64 ~/Documents
$ git config --global user.email "caro_zyg@gmx.de"
```

5

```
Caro@DESKTOP-HLTCFGA MINGW64 ~/Documents
$ git config --global --list
user.name=CaroZygar
user.email=caro_zyg@gmx.de
filter.lfs.required=true
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
gui.recentrepo=C:/Users/Caro/LRZ Sync+Share/CaroFelix/Database/2017-2019_DFG-Motive-2
core.autocrlf=true
difftool.sourcetree.cmd='' "$LOCAL" "$REMOTE"
mergetool.sourcetree.cmd=''
mergetool.sourcetree.trustexitcode=true

Caro@DESKTOP-HLTCFGA MINGW64 ~/Documents
$
```

Live Demo – start a new project which includes git

Irrespective of git: Using projects in R is useful, because your paths are relative to the project directory and you can re-open all associated R-scripts!



New Directory
Start a project in a brand new working directory

Existing Directory
Associate a project with an existing working directory

Version Control
Checkout a project from a version control repository

This will be relevant later…

Directory name: workshop

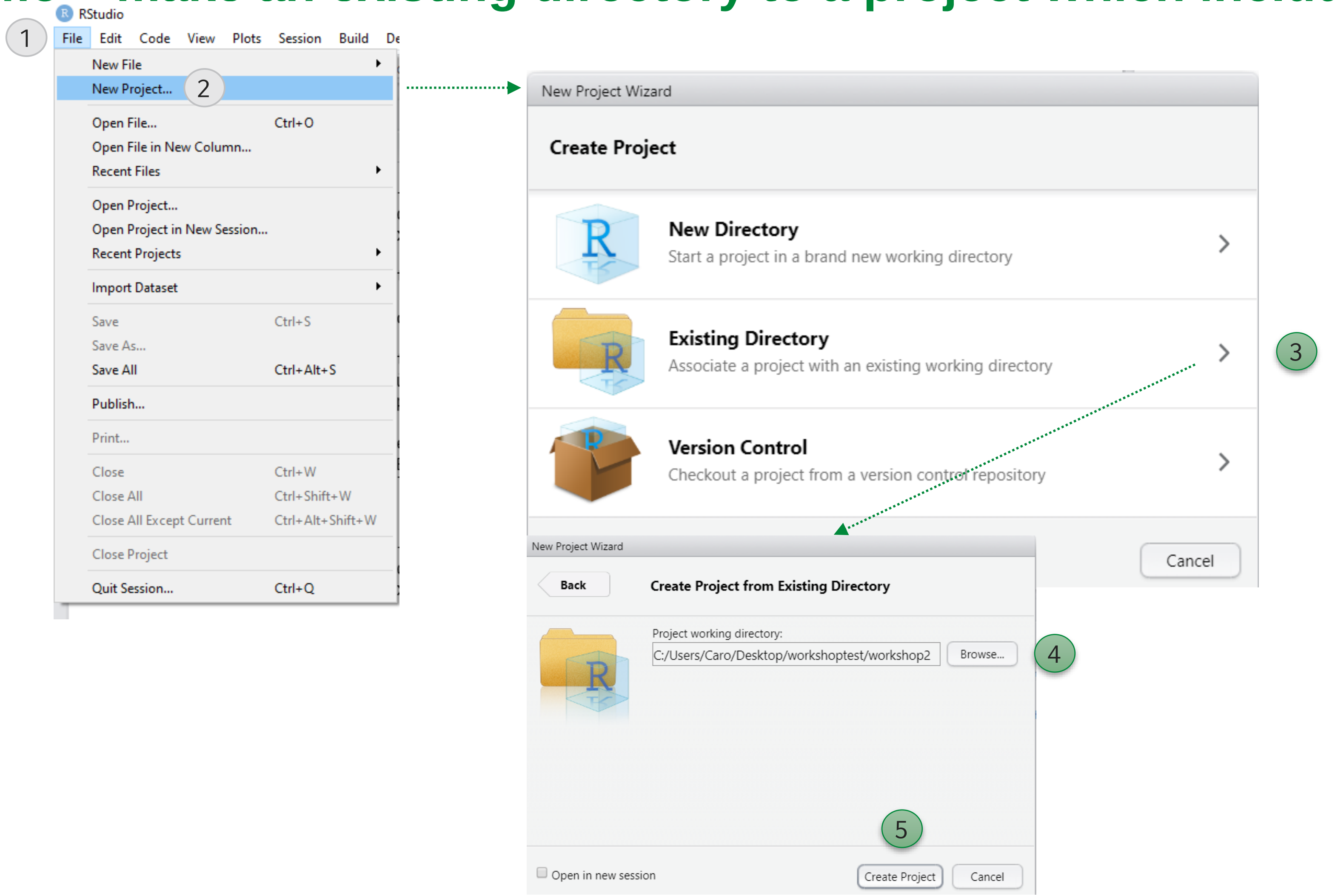
Create project as subdirectory of: C:/Users/Caro/Desktop/workshoptest

☑ Create a git repository

☐ Use renv with this project

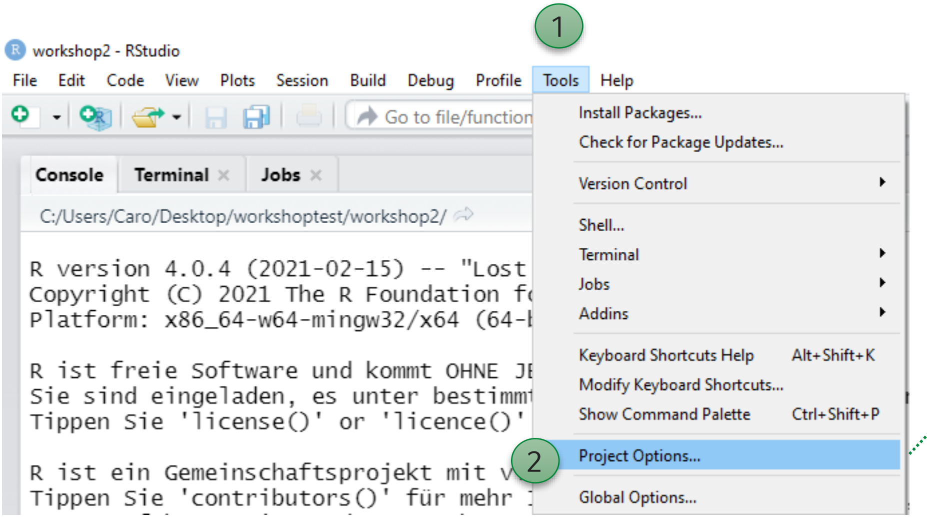
☐ Open in new session

Live Demo – make an existing directory to a project which includes git (1)



Project working directory: C:/Users/Caro/Desktop/workshoptest/workshop2

Live Demo – make an existing directory to a project which includes git (2)


1
workshop2 - RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Console
Terminal
Jobs
Install Packages...
Check for Package Updates...
Version Control
Shell...
Terminal
Jobs
Addins
Keyboard Shortcuts Help Alt+Shift+K
Modify Keyboard Shortcuts...
Show Command Palette Ctrl+Shift+P
2
Project Options...
Global Options...

C:/Users/Caro/Desktop/workshoptest/workshop2/

```
R version 4.0.4 (2021-02-15) -- "Lost
Copyright (C) 2021 The R Foundation fo
Platform: x86_64-w64-mingw32/x64 (64-b

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Tippen Sie 'contributors()' für mehr I
```
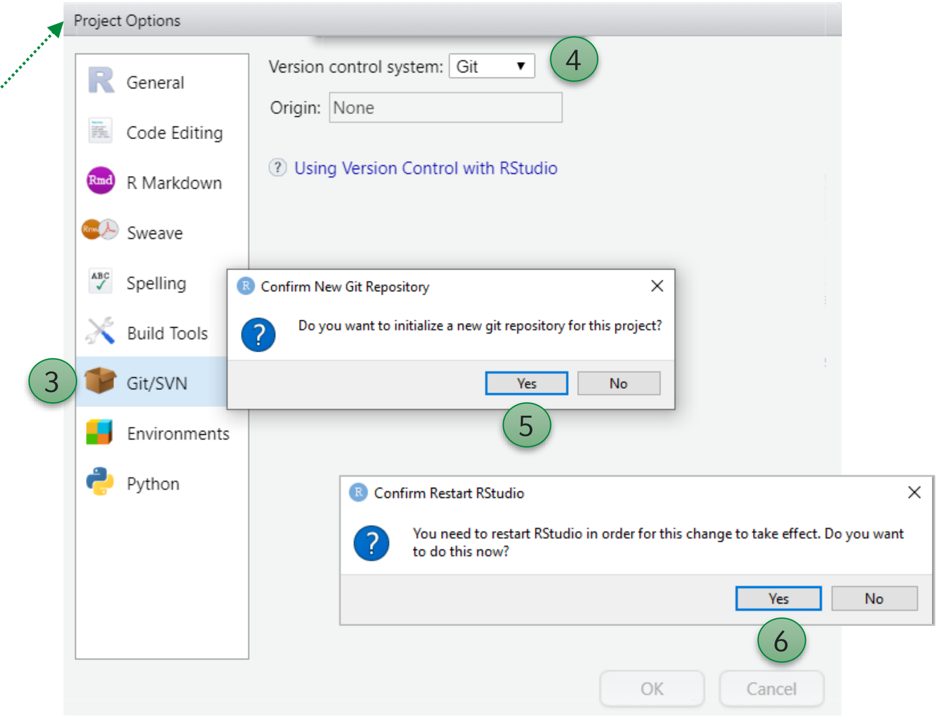



Version control system: Git

Origin: None

Confirm New Git Repository

Do you want to initialize a new git repository for this project?

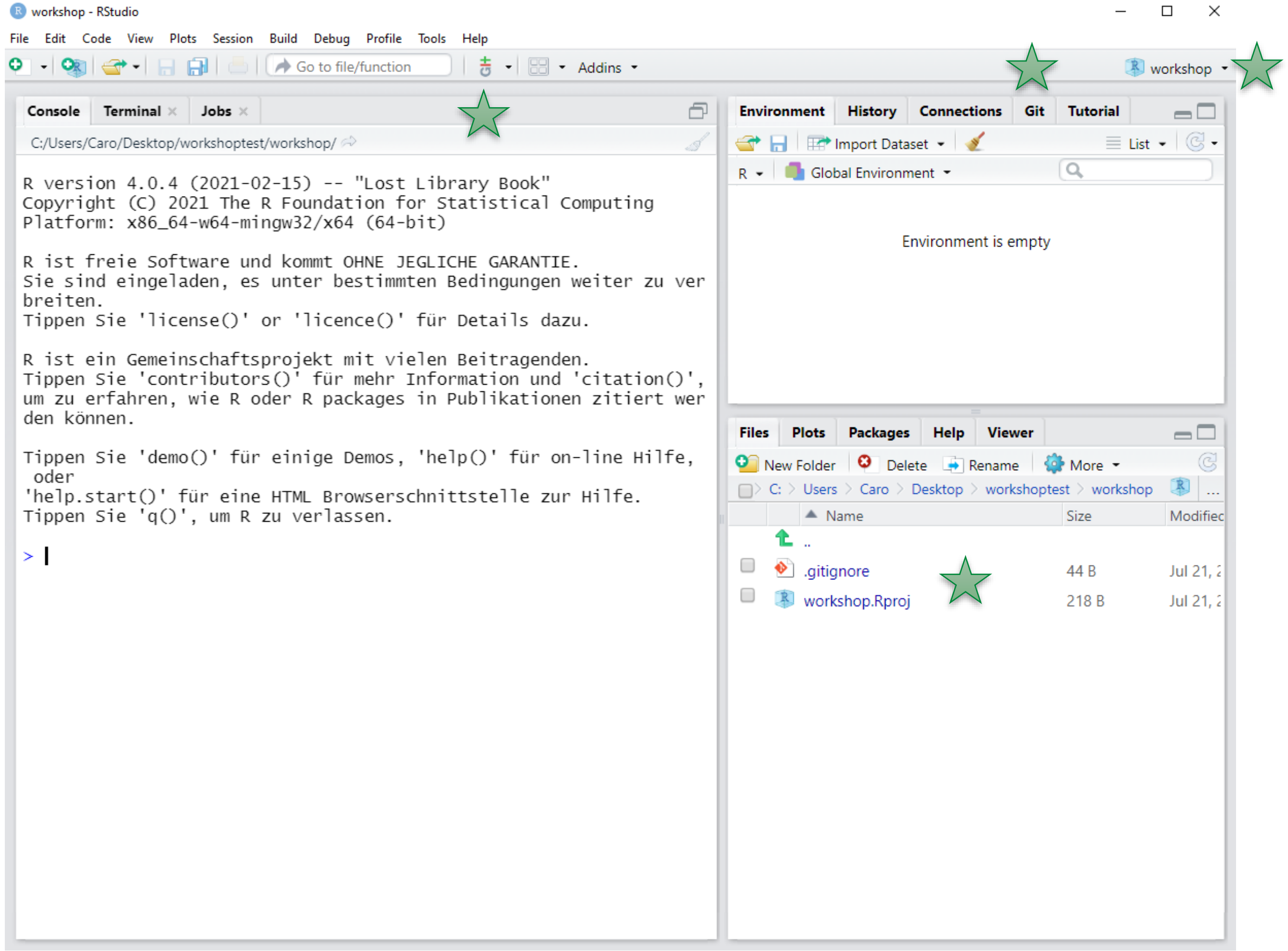
Yes No

Confirm Restart RStudio

You need to restart RStudio in order for this change to take effect. Do you want to do this now?

Yes No

Live Demo – yay, we have a new project which includes git! :-)



```
R version 4.0.4 (2021-02-15) -- "Lost Library Book"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

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 oder
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Tippen Sie 'q()', um R zu verlassen.

> 
```
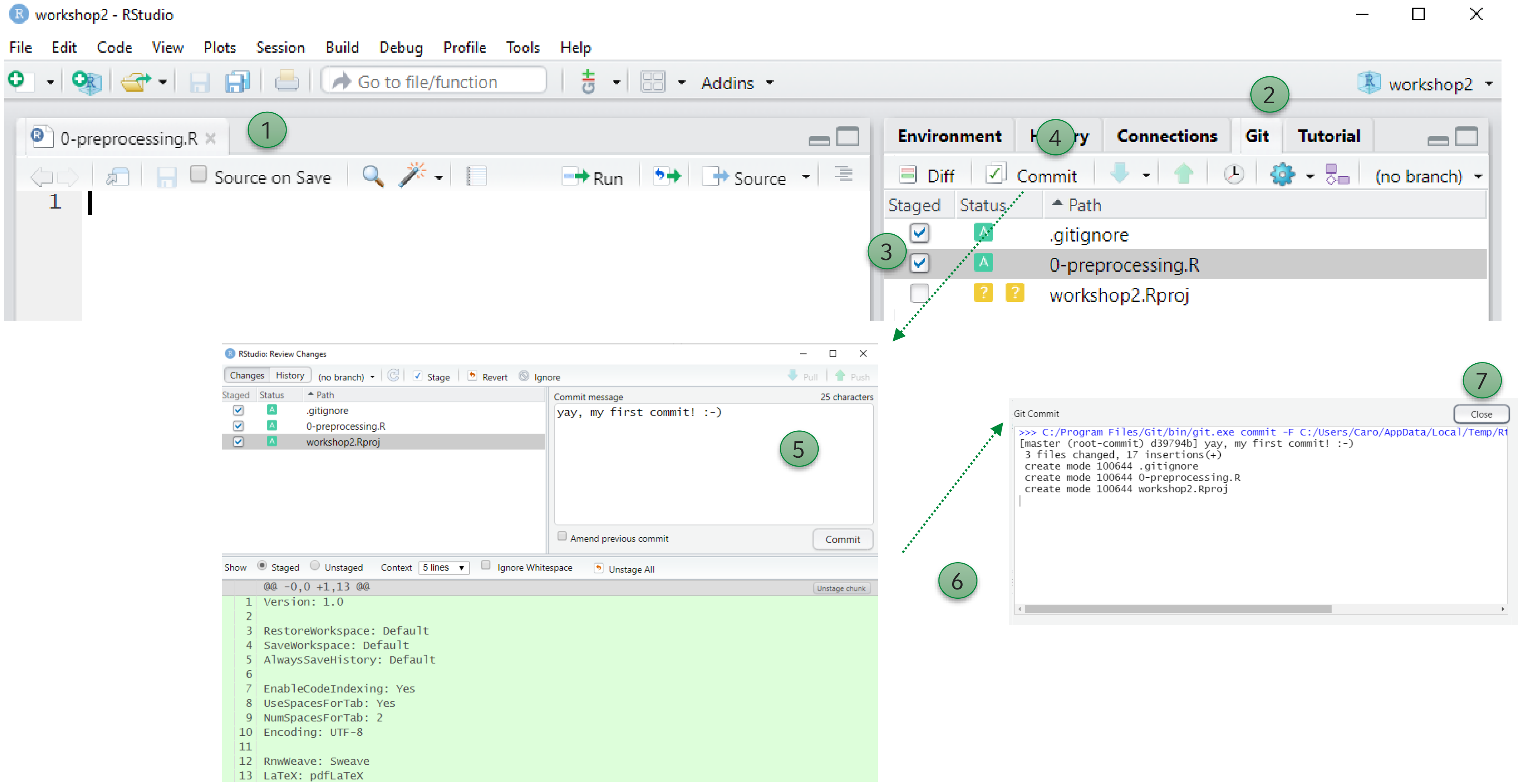

Live Demo – committing

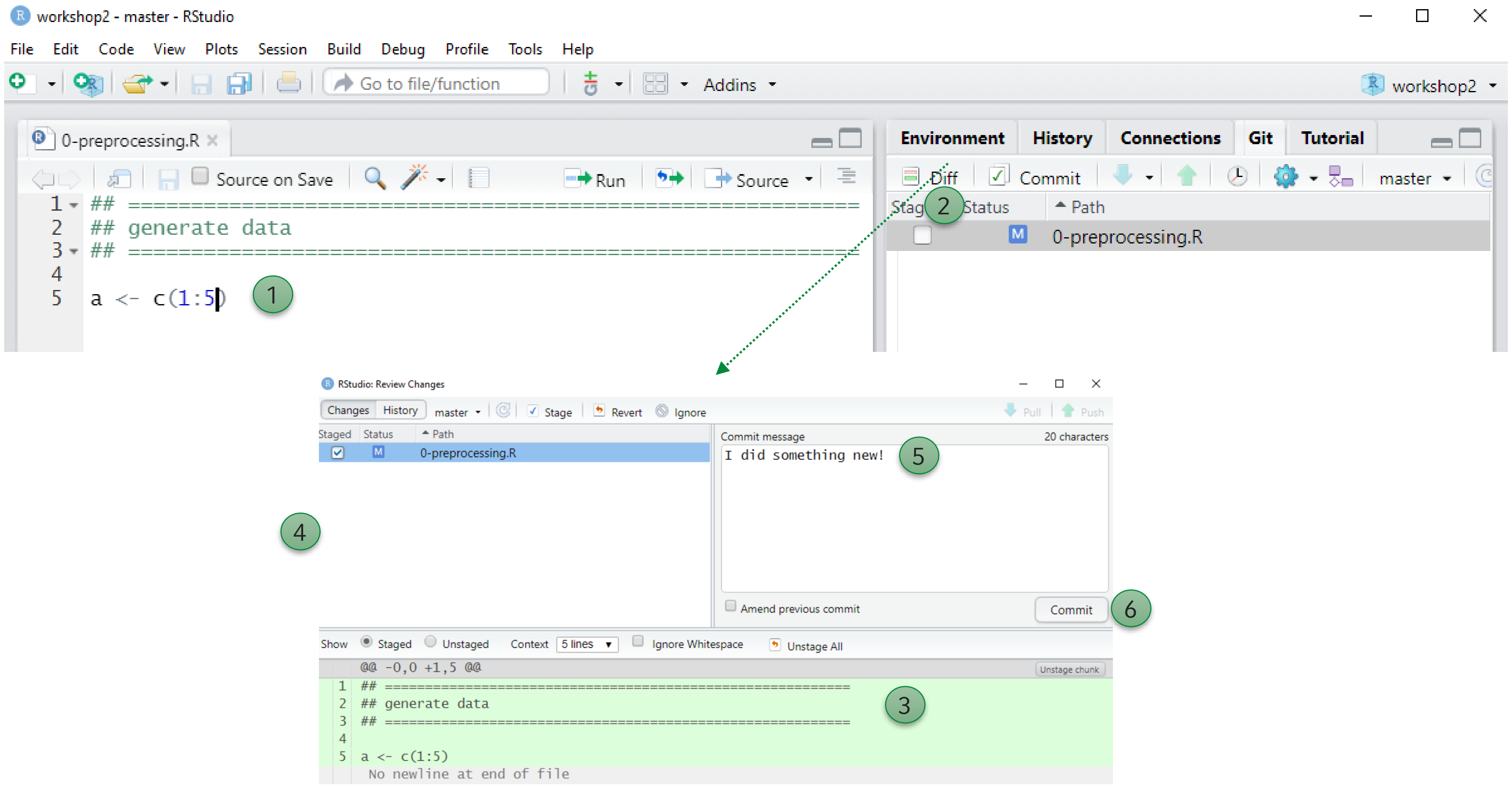


```
yay, my first commit! :-)
```

```
@@ -0,0 +1,13 @@
Version: 1.0

RestoreWorkspace: Default
SaveWorkspace: Default
AlwaysSaveHistory: Default

EnableCodeIndexing: Yes
UseSpacesForTab: Yes
NumSpacesForTab: 2
Encoding: UTF-8

RnwWeave: Sweave
LaTeX: pdfLaTeX
```

```
>>> C:/Program Files/Git/bin/git.exe commit -F C:/Users/Caro/AppData/Local/Temp/Rt
[master (root-commit) d39794b] yay, my first commit! :-)
 3 files changed, 17 insertions(+)
 create mode 100644 .gitignore
 create mode 100644 0-preprocessing.R
 create mode 100644 workshop2.Rproj
```

Live Demo – working in R with git



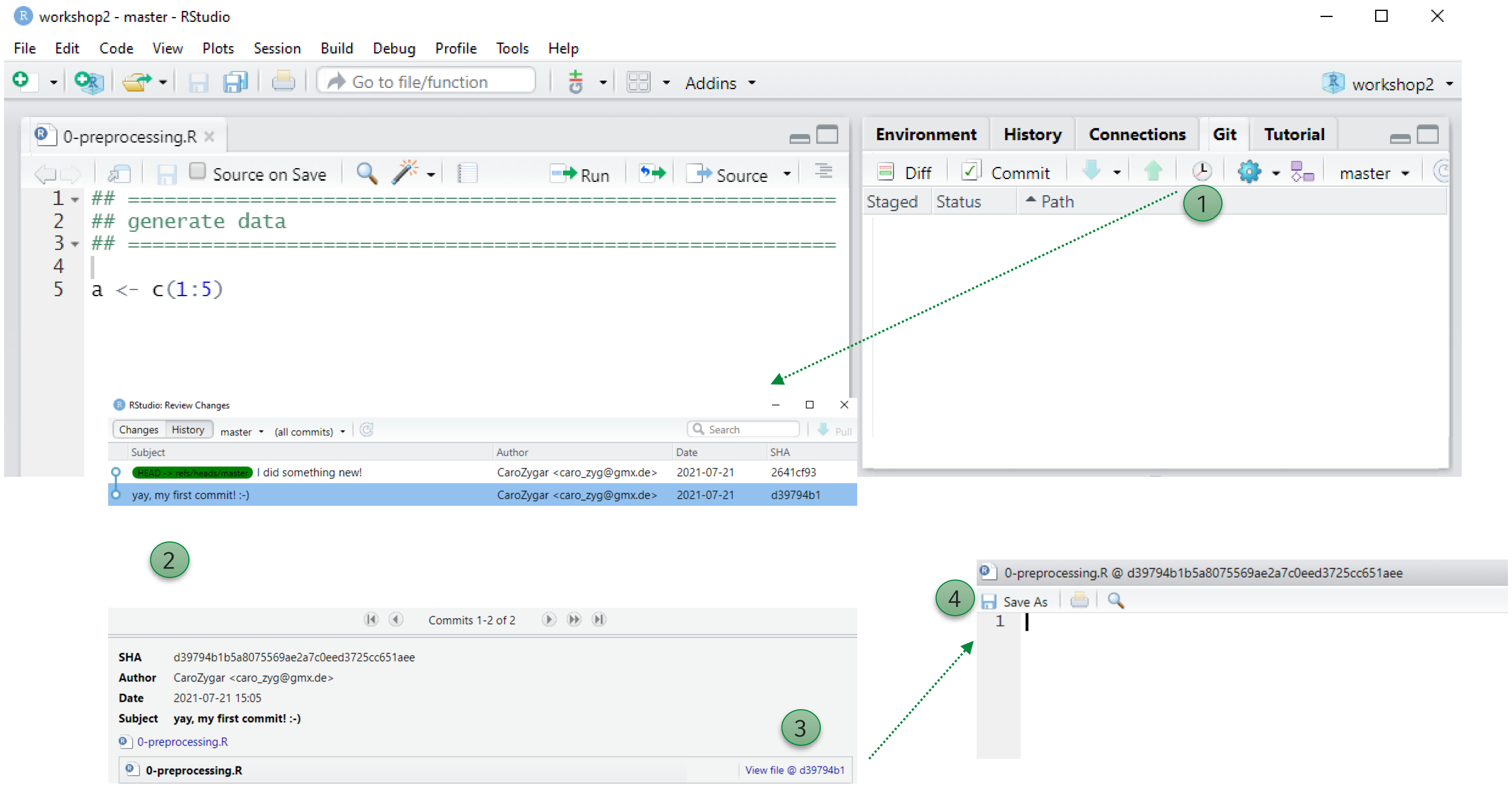
```
## ==============================================================
## generate data
## ==============================================================

a <- c(1:5)
```

Commit message:

```
I did something new!
```

```
@@ -0,0 +1,5 @@
## ==========================================================
## generate data
## ==========================================================

a <- c(1:5)
 No newline at end of file
```

Live Demo – restore earlier versions (of files that can be opened in R)



```
## ===============================================================
## generate data
## ===============================================================

a <- c(1:5)
```

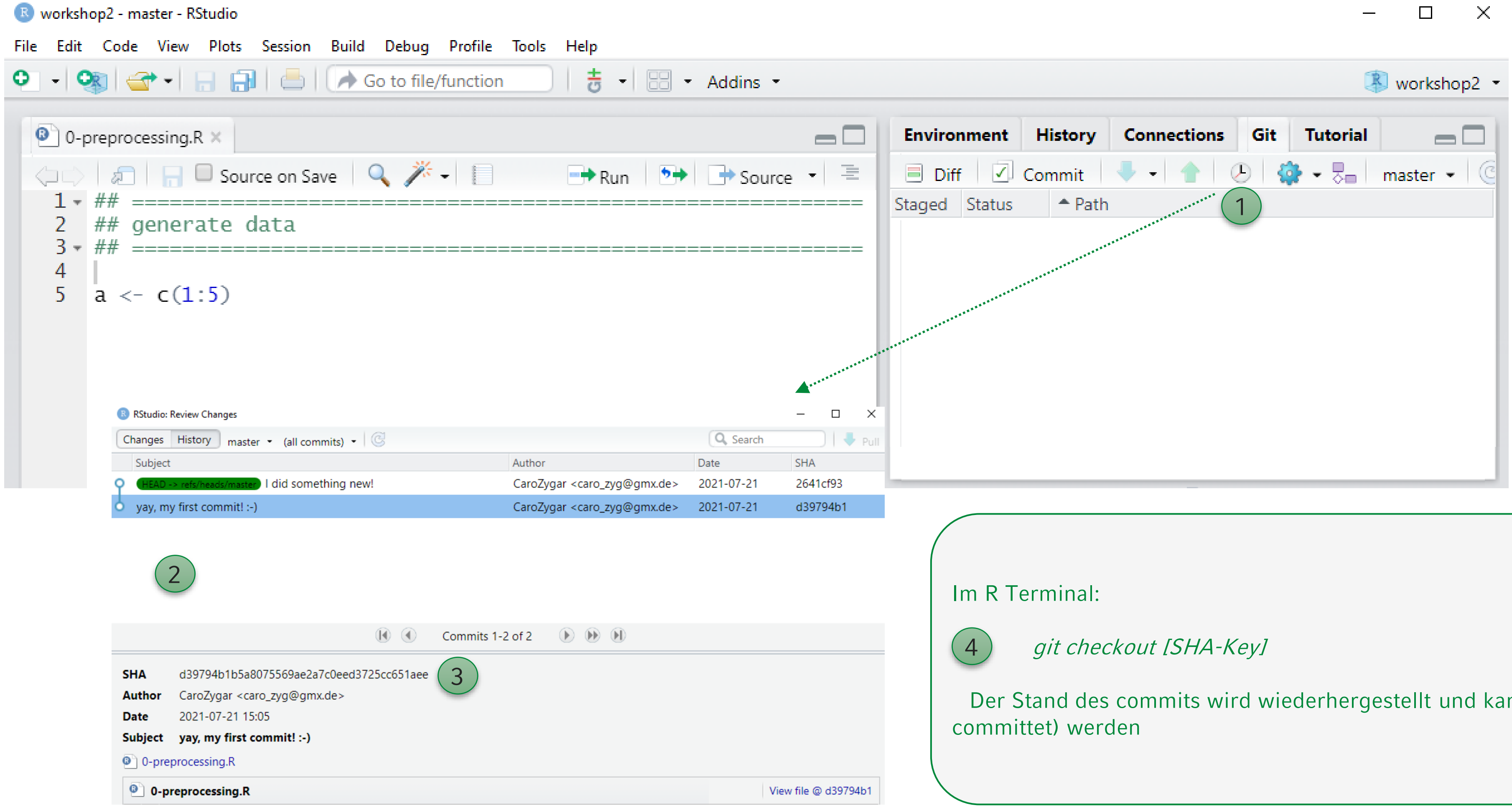
Subject	Author	Date	SHA
HEAD -> refs/heads/master I did something new!	CaroZygar <caro_zyg@gmx.de>	2021-07-21	2641cf93
yay, my first commit! :-)	CaroZygar <caro_zyg@gmx.de>	2021-07-21	d39794b1

SHA d39794b1b5a8075569ae2a7c0eed3725cc651aee
Author CaroZygar <caro_zyg@gmx.de>
Date 2021-07-21 15:05
Subject yay, my first commit! :-)

0-preprocessing.R

0-preprocessing.R

Live Demo – restore earlier versions (of other files)



```
## ================================================================
## generate data
## ================================================================

a <- c(1:5)
```

Subject	Author	Date	SHA
HEAD -> refs/heads/master I did something new!	CaroZygar <caro_zyg@gmx.de>	2021-07-21	2641cf93
yay, my first commit! :-)	CaroZygar <caro_zyg@gmx.de>	2021-07-21	d39794b1

SHA d39794b1b5a8075569ae2a7c0eed3725cc651aee

Author CaroZygar <caro_zyg@gmx.de>

Date 2021-07-21 15:05

Subject **yay, my first commit! :-)**

0-preprocessing.R

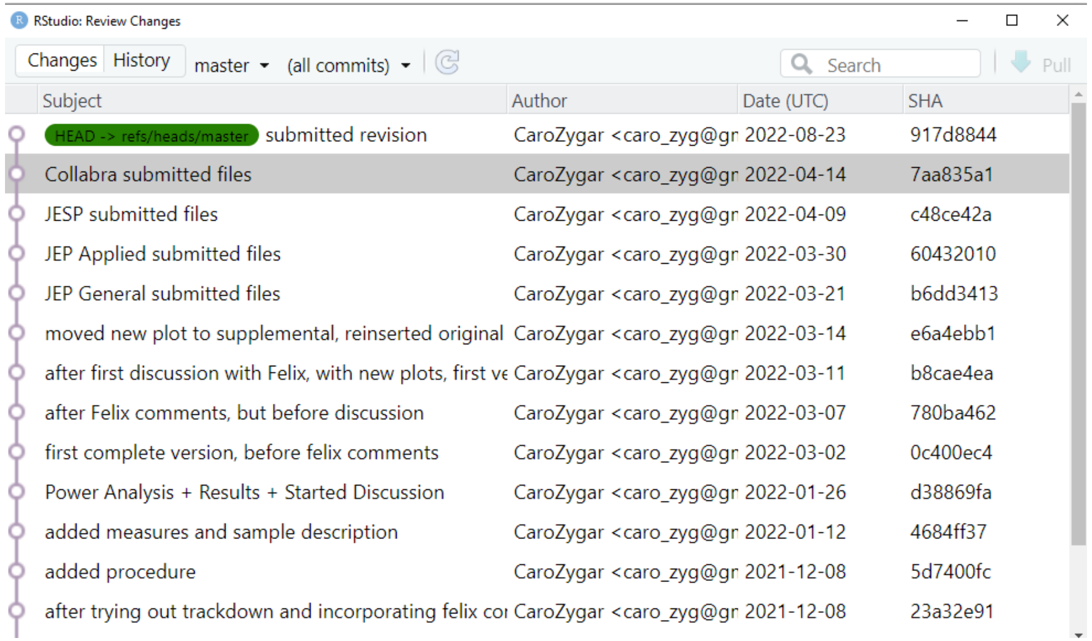
0-preprocessing.R

Im R Terminal:

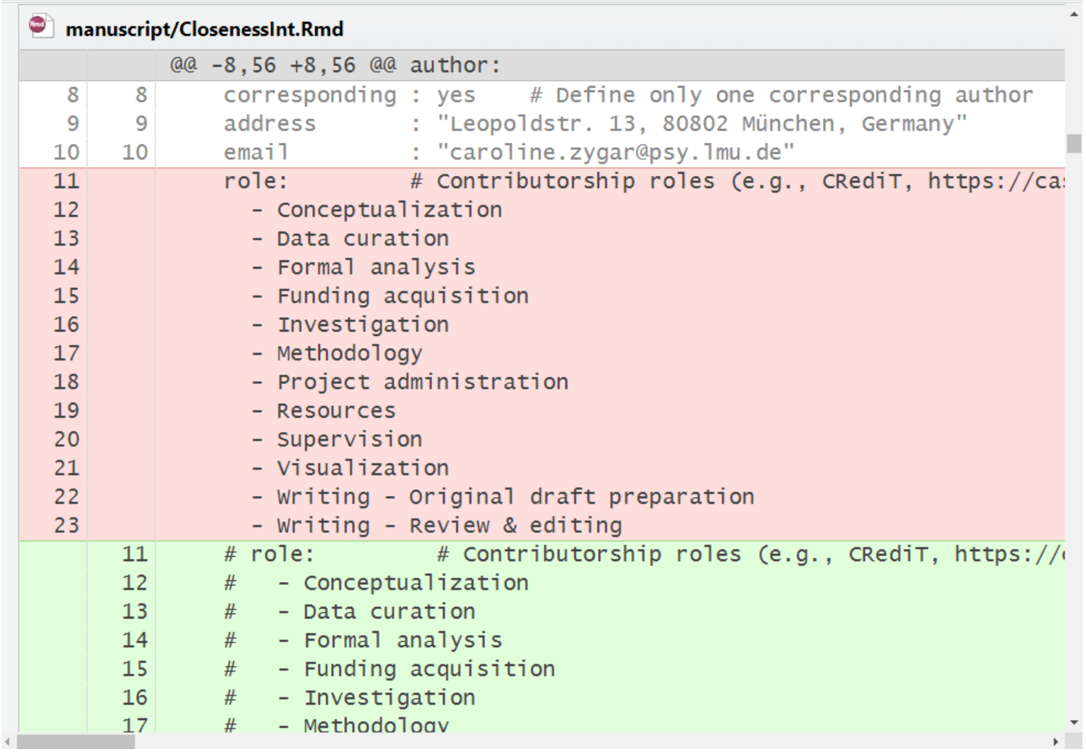
4 *git checkout [SHA-Key]*

Der Stand des commits wird wiederhergestellt und kann kopiert (und wieder committet) werden

Live Demo – how I use git for papers



Subject	Author	Date (UTC)	SHA
HEAD -> refs/heads/master submitted revision	CaroZygar <caro_zyg@gr	2022-08-23	917d8844
Collabra submitted files	CaroZygar <caro_zyg@gr	2022-04-14	7aa835a1
JESP submitted files	CaroZygar <caro_zyg@gr	2022-04-09	c48ce42a
JEP Applied submitted files	CaroZygar <caro_zyg@gr	2022-03-30	60432010
JEP General submitted files	CaroZygar <caro_zyg@gr	2022-03-21	b6dd3413
moved new plot to supplemental, reinserted original	CaroZygar <caro_zyg@gr	2022-03-14	e6a4ebb1
after first discussion with Felix, with new plots, first ve	CaroZygar <caro_zyg@gr	2022-03-11	b8cae4ea
after Felix comments, but before discussion	CaroZygar <caro_zyg@gr	2022-03-07	780ba462
first complete version, before felix comments	CaroZygar <caro_zyg@gr	2022-03-02	0c400ec4
Power Analysis + Results + Started Discussion	CaroZygar <caro_zyg@gr	2022-01-26	d38869fa
added measures and sample description	CaroZygar <caro_zyg@gr	2022-01-12	4684ff37
added procedure	CaroZygar <caro_zyg@gr	2021-12-08	5d7400fc
after trying out trackdown and incorporating felix coı	CaroZygar <caro_zyg@gr	2021-12-08	23a32e91



```
          @@ -8,56 +8,56 @@ author:
 8    8     corresponding : yes     # Define only one corresponding author
 9    9     address       : "Leopoldstr. 13, 80802 München, Germany"
10   10     email         : "caroline.zygar@psy.lmu.de"
11          role:         # Contributorship roles (e.g., CRediT, https://ca
12            - Conceptualization
13            - Data curation
14            - Formal analysis
15            - Funding acquisition
16            - Investigation
17            - Methodology
18            - Project administration
19            - Resources
20            - Supervision
21            - Visualization
22            - Writing - Original draft preparation
23            - Writing - Review & editing
     11     # role:         # Contributorship roles (e.g., CRediT, https://
     12     #   - Conceptualization
     13     #   - Data curation
     14     #   - Formal analysis
     15     #   - Funding acquisition
     16     #   - Investigation
     17     #   - Methodology
```

Hands-On

Tasks:

1. Get Git going in RStudio (incl. SSH and setting up name and email address)
2. Start a local project in R, give it a meaningful name, and activate git
3. Create two folders “raw_data” and “preprocessing” and make your first commit
4. Add the folder „raw_data“ to the .gitignore
5. Start a new r-script in the „preprocessing“-folder, load the packages „dplyr“ and „psych“ and save the script.
6. Make a new commit and describe it meaningfully
7. Change the r-script by replacing „dplyr“ with the „tidyverse“, by no longer loading „psych“ and by adding a line which says „a <- 4“
8. Make a new commit, and have a look at the diff
9. Revert the r-script bake to the second commit

Git Ressources / Tipps & Tricks

* https://docs.google.com/document/d/1WvApy4ayQcZaLRpD6bvAqhWncUaPmmRimT016-PrLBk/edit
* https://swcarpentry.github.io/git-novice/
* https://happygitwithr.com/
* https://guides.github.com/activities/hello-world/
* https://ohshitgit.com/
* https://twitter.com/aosmith16/status/1382424048857014272?s=09

Rmarkdown + Git:

* https://resulumit.com/blog/rmd-workshop/
* https://twitter.com/ed_hagen/status/1381746314019414020?s=09