

# Reproducible science: Module 8

## R Git and Github: The trio

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# Acknowledgements

The content of this module are based on materials from:



Rob Schick's materials

# Hard way of doing things is Git Bash

- Why shall we bother doing it hard? Simple because if ever R Studio fails, you know an alternative. The second reason is in presence of conflict you might have only one option of doing it by hand.
- I agree that the integration of R git and Github is powerful

# Requirements to link Git and Github

- Set the same email for both Git and Github
- Set the same username (ideally) for both Git and Github
- Make sure you configure R Studio to open Git Bash
- Make sure you connect your computer/R Studio with Github Doing so will not only allow communication between Git and Github but also to allow clicking to automate actions in R studion

# How to link your computer to your github **securely**

You need to set an SSH Key.

Please follow instructions below.

# Setting up git in R Studio

play with git bash

set up git etc in Rstudio

then open git bash, then input the codes below

```
git config --global user.name "xtbgtraining"
```

```
git config --global user.email "liujingxin@msn.com (mailto:liujingxin@msn.com)"
```

```
git config --global --list
```

then the result is like the figure below



```
mingw64 MINGW64:/c/Users/dell
(base)
dell@dell-PC MINGW64 ~
$ git config --global user.name "xtbgtraining"
(base)
dell@dell-PC MINGW64 ~
$ git config --global user.email "liujingxin@msn.com"
(base)
dell@dell-PC MINGW64 ~
$ git config --global --list
user.name=xtbgtraining
user.email=liujingxin@msn.com
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
(base)
dell@dell-PC MINGW64 ~
$ pwd
/c/Users/dell
(base)
```

检查前两行代码是否正确

# Few basic git commands

then input commands to go to the directory that I want to work in

cd d: # goes to drive D

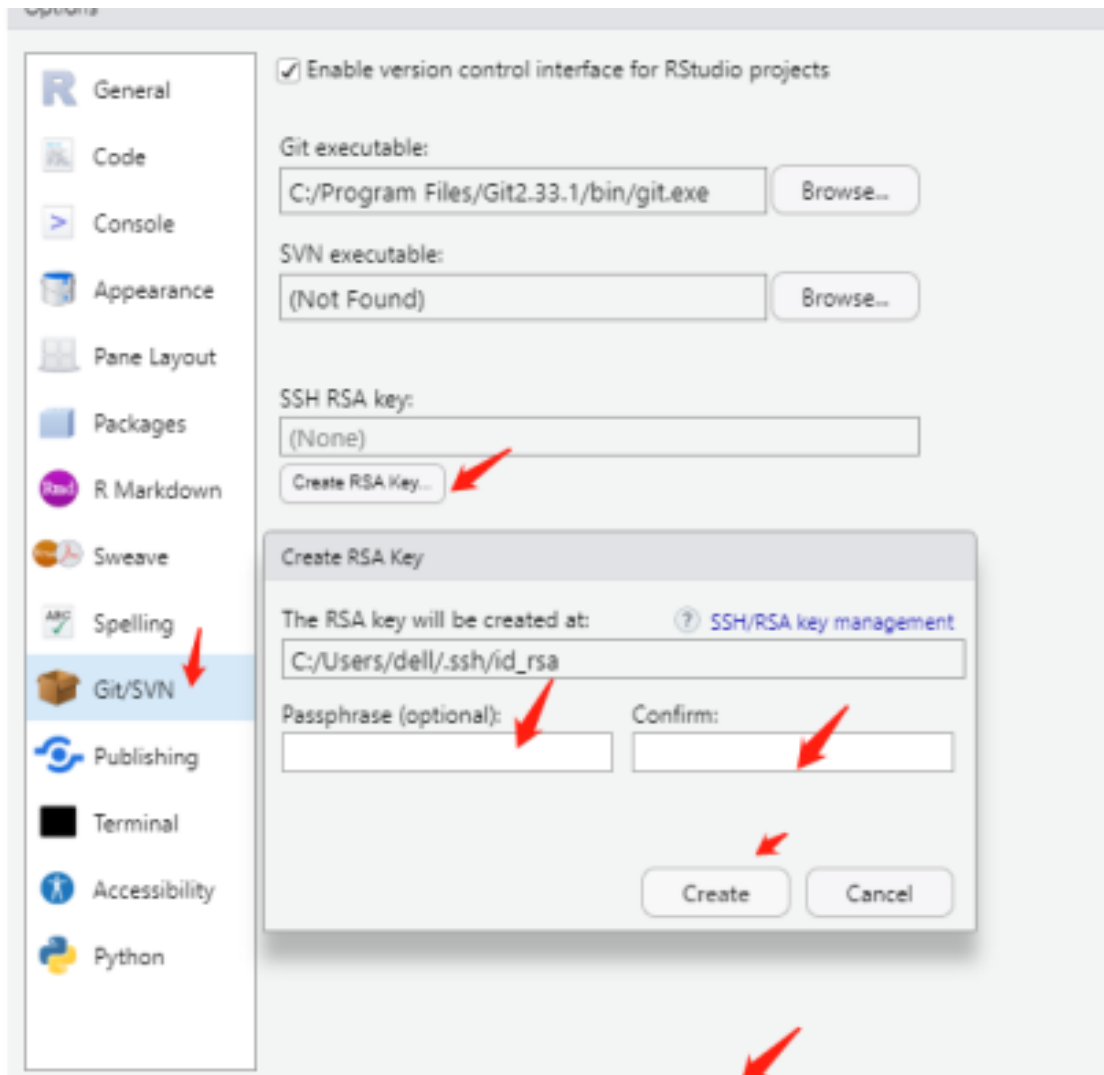
od 工作 # goes into 工作 ...

finally I reach "D:\2013 PFS-Tropical Asia\_Reproducible science"

#### then the result is like the figure below

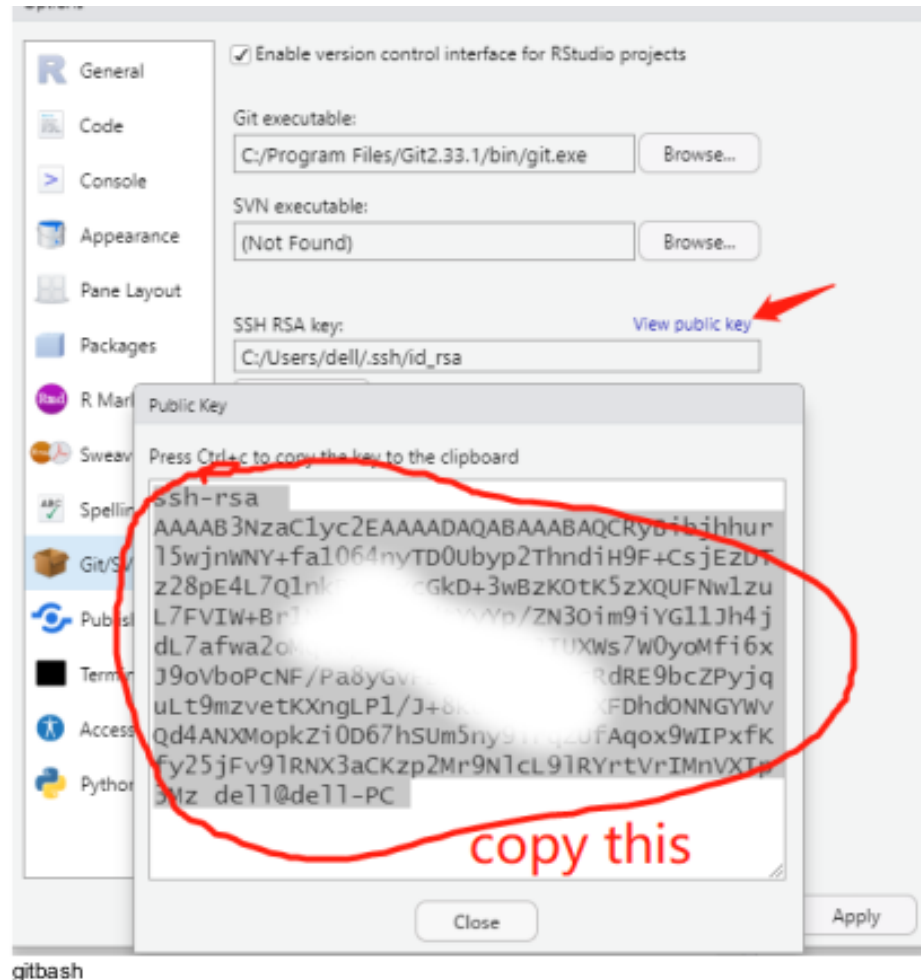
```
dell@dell-PC MINGW64 ~  
$ cd d:  
(base)  
dell@dell-PC MINGW64 /d  
$ cd 工作  
(base)  
dell@dell-PC MINGW64 /d/工作  
$ cd 2013\ PFS-Tropical\ Asia/  
(base)  
dell@dell-PC MINGW64 /d/工作/2013 PFS-Tropical Asia  
$ cd PFS_Reproducible\ science/  
(base)  
dell@dell-PC MINGW64 /d/工作/2013 PFS-Tropical Asia/PFS_Reproducible science  
$ ls  
'1 Workshop outline.html'  
'2 Markovetz 2015 Five selfish reasons to work reproducibly.pdf'  
'3 BES-Guide-Reproducible-Code-2019.pdf'  
'3 中国科学院西双版纳热带植物园会议审批表.docx'  
'4 Reproducible Research in Computational Science-2011.pdf'  
Announcement/  
fig5.jpg  
How R Helps Airbnb Make the Most of Its Data-2018.pdf'  
photos/  
prac1_Tidyverse Data manipulation.html'  
prac1_Tidyverse Data manipulation.Rmd'  
prac1_Tidyverse Data manipulation_solutionfromDossa.Rmd'  
prac2_datavisualisationwithggplot2.Rmd  
prac2_datavisualisationwithggplot2_solution.html  
prac2_datavisualisationwithggplot2_solution.Rmd  
'R Graphics GGplot Cookbook.pdf'  
'R Markdown Cookbook.pdf'  
'R Markdown Cookbook-2021 Yihui Xie.pdf'  
'R Markdown- The Definitive Guide.pdf'  
(base)  
dell@dell-PC MINGW64 /d/工作/2013 PFS-Tropical Asia/PFS_Reproducible science  
$
```

# How to create SSH key in R studio step 1



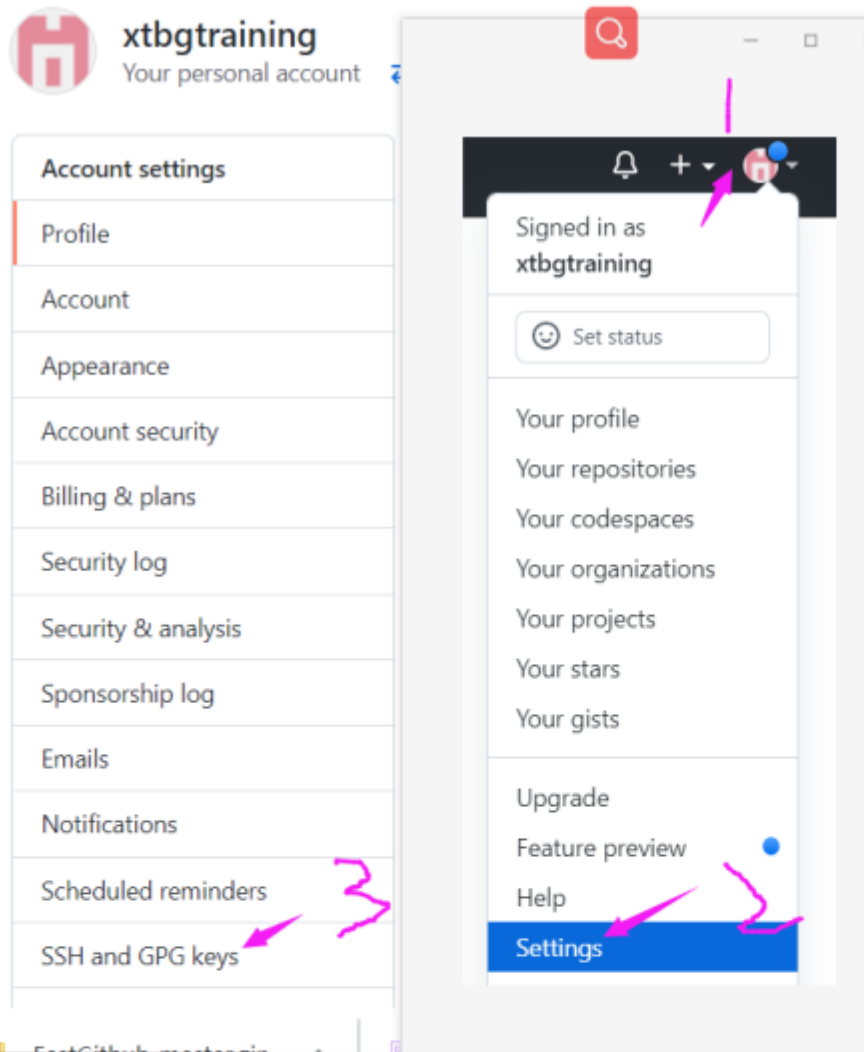


# How to create SSH key in R studio step 2



step 3 log into github and go to , there you will find a ssh key zone to creat ssh key  
past the copied key there, this step links rstudio with your github account

# How to create SSH key in R studio step 3



# How to create SSH key in R studio step 4

paste the ssh key generated in rstudio here

Add SSH key

Switch to another account

Go to your personal profile

## SSH keys

New SSH key

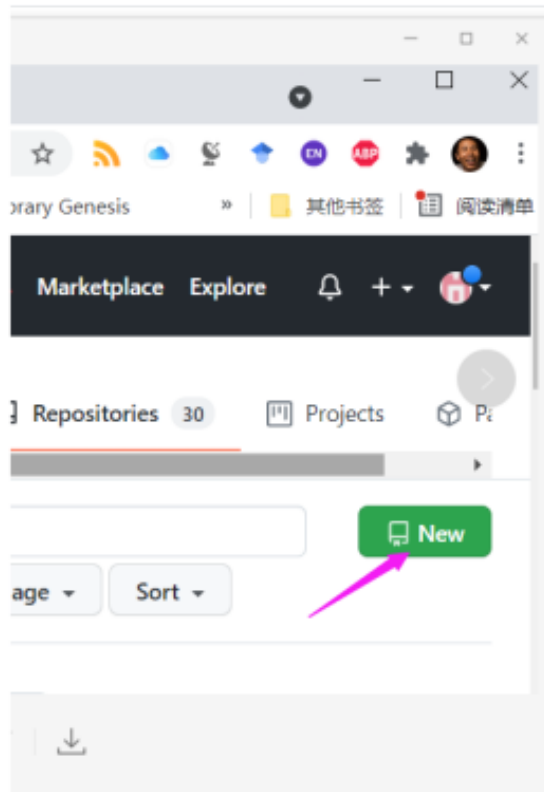
This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.

Key Name	Key Type	Added On	Permissions	Actions
my_Dell_notebook	SSH	Added on 21 Oct 2021	Never used — Read/write	Delete

Check out our guide to [generating SSH keys](#) or troubleshoot [common SSH problems](#).

step 4 creat a new repository in your github account and get its ssh link

# How to create a new repository on github



## Create a new repository

A repository contains all project files, including the revision history. Already have an existing repository? [Import a repository.](#)

Owner \*

xtbtraining

Repository name \*

2021\_Dossa

Great repository names are short and memorable. Need inspiration? [How about...](#)

Description (optional)

☐



Public

Anyone on the internet can see this repository. You choose who can commit.

☒



Private

You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

☐ Add a README file

This is where you can write a long description for your project. [Learn more.](#)

☐ Add .gitignore

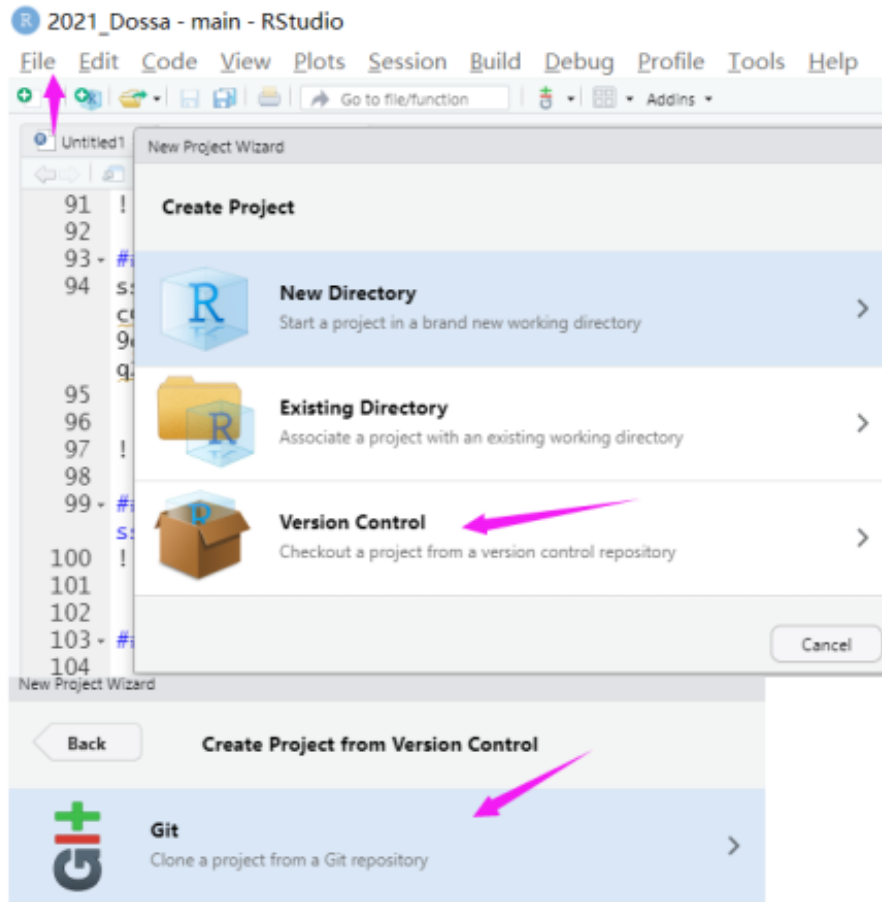
Choose which files not to track from a list of templates. [Learn more.](#)

☐ Choose a license

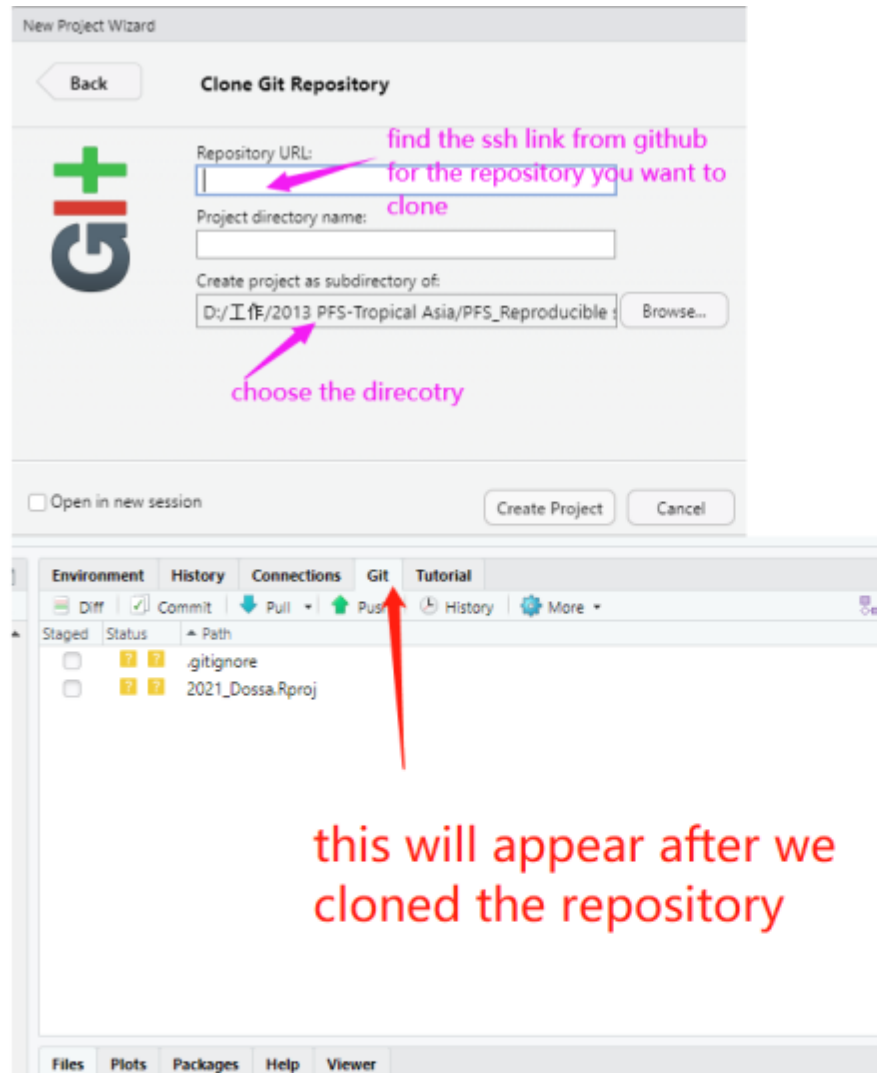
A license tells others what they can and can't do with your code. [Learn more.](#)

# How to clone the repository in R studio

step 5 in rstudio, creat new project choose “version control”, then “git”, then copy the ssh link from the repository you want to clone from your repository, then press creat project in rstudio, then the repository will be cloned to your computer



# How R studio looks like repo is cloned



# Thank you for listening!

Any questions now or email me at [dossa@xtbg.org.cn](mailto:dossa@xtbg.org.cn)

Slides created via the R package **xaringan**.

The chakra comes from **remark.js**, **knitr**, and **R Markdown**.