

Git and GitHub – version control your work

- What is version control?
- What is Git?
- What is the difference between Git and GitHub?
- When can these tools be useful (vital)?



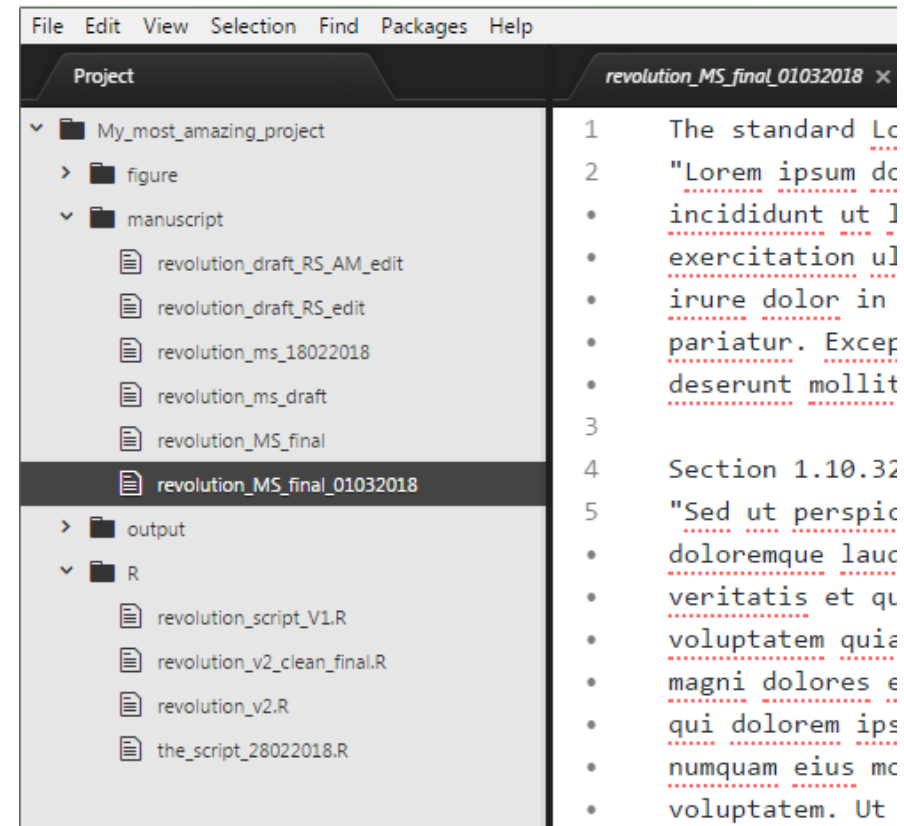
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Git and GitHub – version control your work

- What is version control?

A system that records changes to a file or set of files over time.

A tool to keep track of the version and changes you made.



Git and GitHub – version control your work

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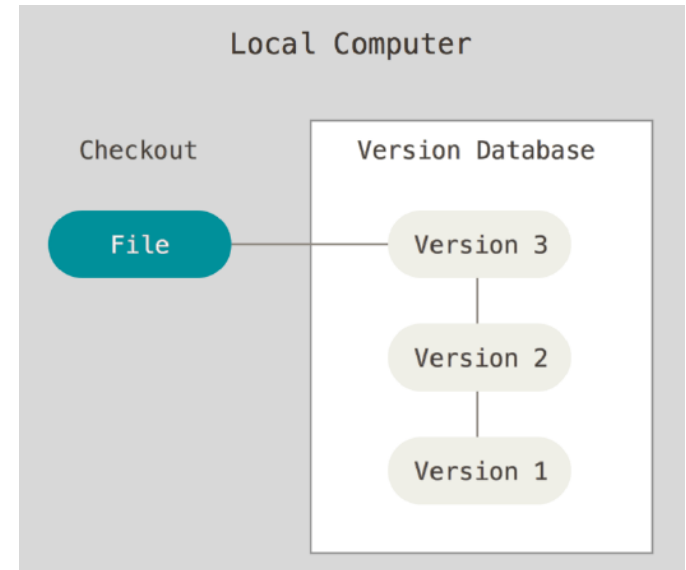


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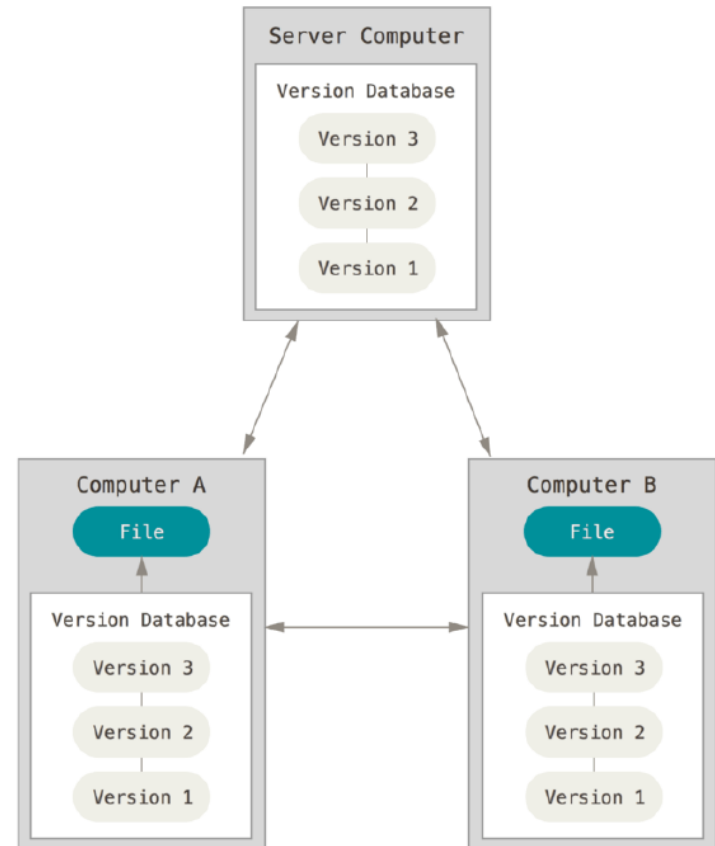


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Git and GitHub – version control your work

- What is version control?

- What is Git?

A tool developed by Linux development community.

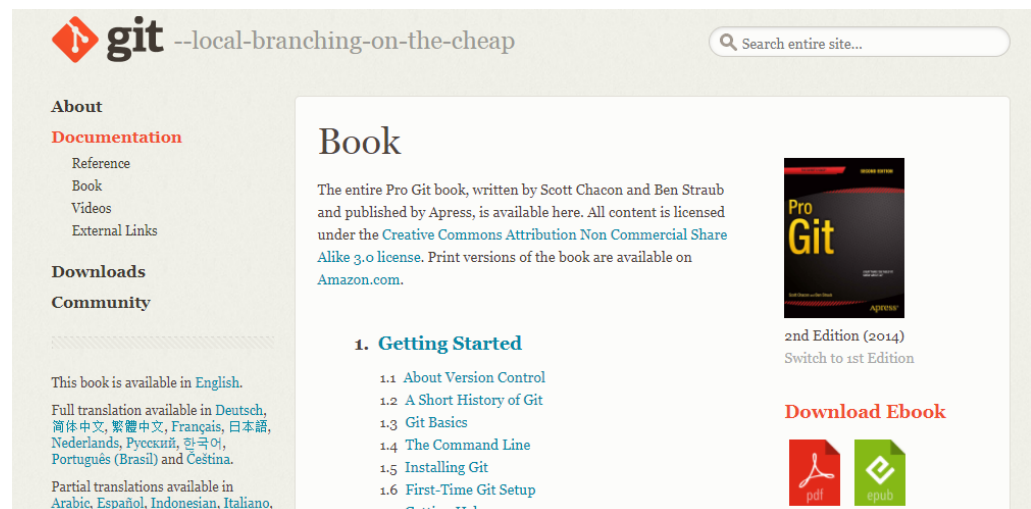
1. Speed
2. Simple design
3. Strong support
4. Able to handle large project



Git and GitHub – version control your work

- What is version control?
- What is Git?

Download from: <https://git-scm.com/>



Git and GitHub – version control your work

- What is version control?
- What is Git?

A set of commands that you can call directly within your console

```
retoschm@localhost: ~ $ git
usage: git [--version] [--help] [-C <path>] [-c name=value]
       [--exec-path[=<path>]] [--html-path] [--man-path] [--info-path]
       [-p | --paginate | --no-pager] [--no-replace-objects] [--bare]
       [--git-dir=<path>] [--work-tree=<path>] [--namespace=<name>]
       <command> [<args>]

These are common Git commands used in various situations:

start a working area (see also: git help tutorial)
  clone      Clone a repository into a new directory
  init       Create an empty Git repository or reinitialize an existing one

work on the current change (see also: git help everyday)
  add        Add file contents to the index
  mv         Move or rename a file, a directory, or a symlink
  reset      Reset current HEAD to the specified state
  rm         Remove files from the working tree and from the index

examine the history and state (see also: git help revisions)
  bisect     Use binary search to find the commit that introduced a bug
  grep       Print lines matching a pattern
  log        Show commit logs
  show       Show various types of objects
  status     Show the working tree status

grow, mark and tweak your common history
  branch     List, create, or delete branches
  checkout   Switch branches or restore working tree files
  commit     Record changes to the repository
  diff       Show changes between commits, commit and working tree, etc
  merge      Join two or more development histories together
  rebase     Reapply commits on top of another base tip
  tag        Create, list, delete or verify a tag object signed with GPG

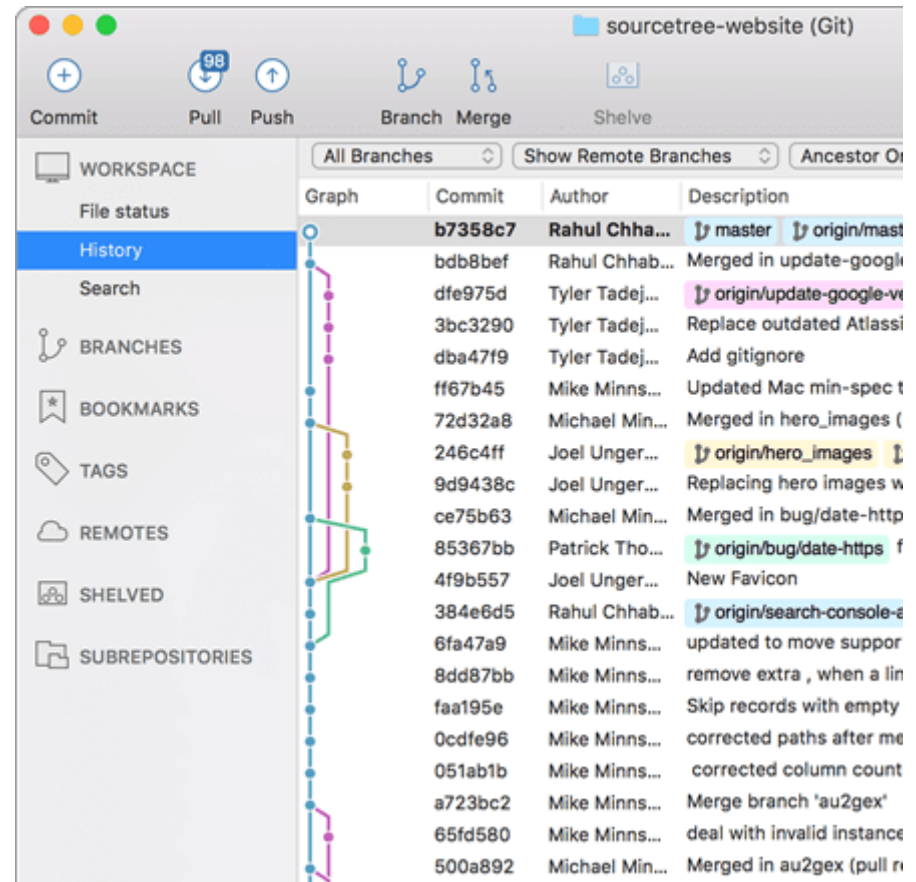
collaborate (see also: git help workflows)
  fetch      Download objects and refs from another repository
  pull       Fetch from and integrate with another repository or a local branch
  push       Update remote refs along with associated objects

'git help -a' and 'git help -g' list available subcommands and some
concept guides. See 'git help <command>' or 'git help <concept>'
to read about a specific subcommand or concept.
```


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- What is version control?
- What is Git?

Git client for that simplifies how you interact with your Git repositories

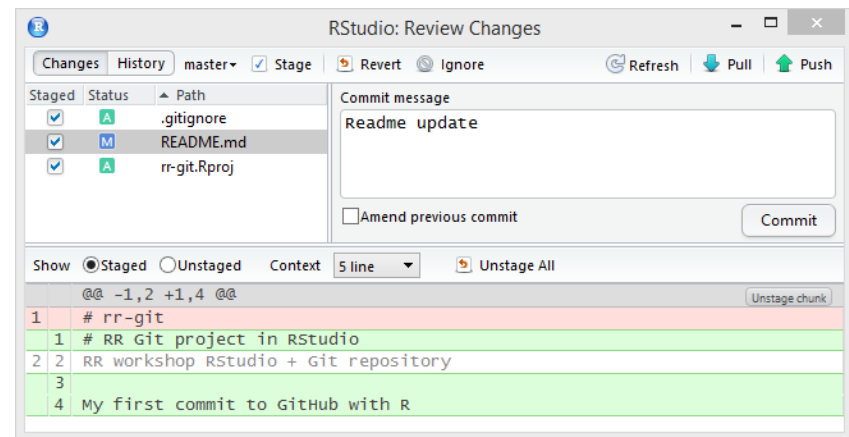
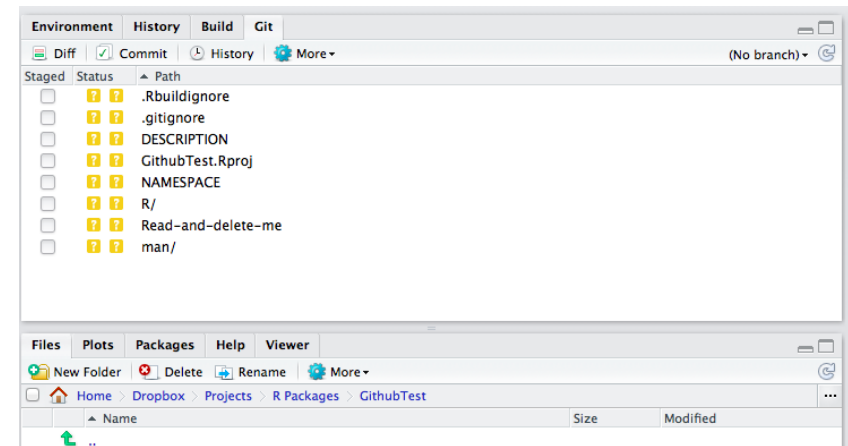


Git and GitHub – version control your work

- What is version control?
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Git client for that simplifies how you interact with your Git repositories

Including  **RStudio**



Git and GitHub – version control your work

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Allow to organize your work and work on development versions



Git and GitHub – version control your work

- What is version control?
- What is Git?
- What is the difference between Git and GitHub?



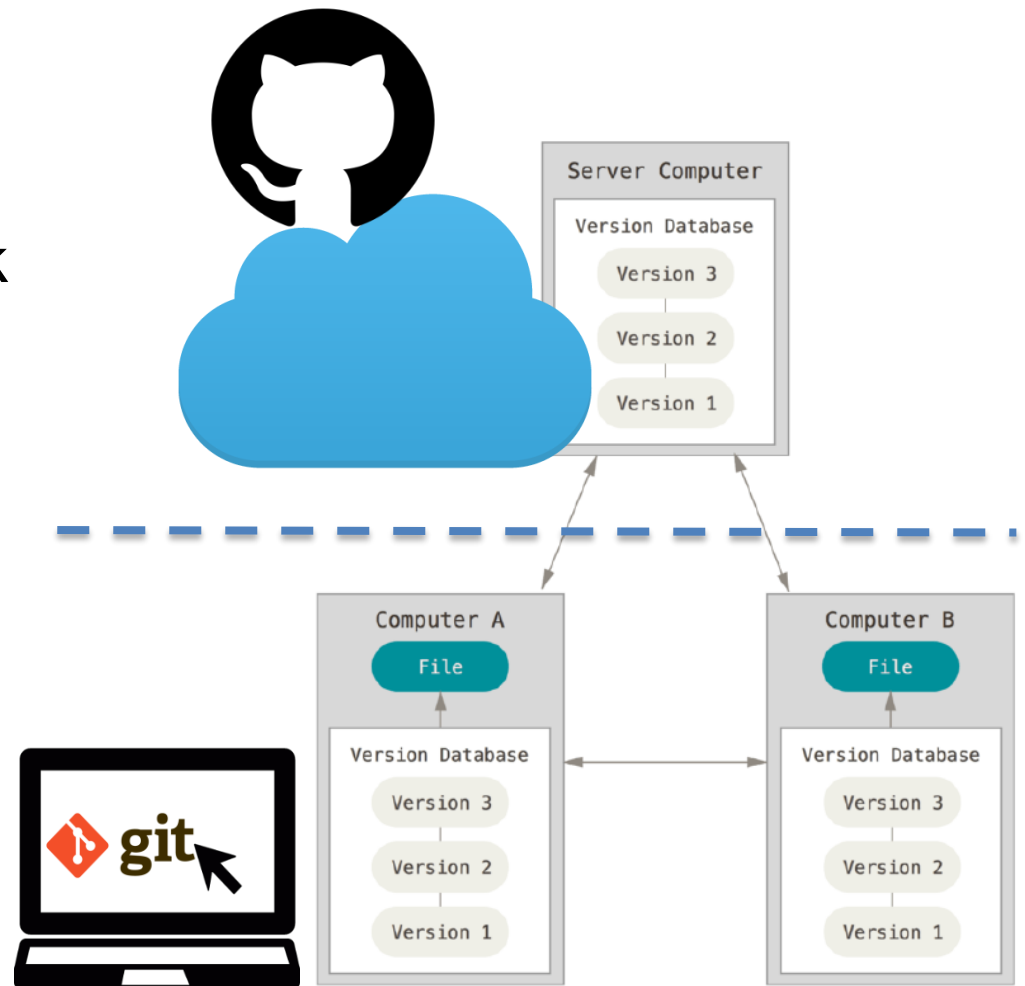
Git and GitHub – version control your work

GitHub is a **cloud service** providing a place to store your projects that you track with Git

A place to:

- Collaborate
- Distribute
- Keep track of your project
- Learn

<https://github.com/>

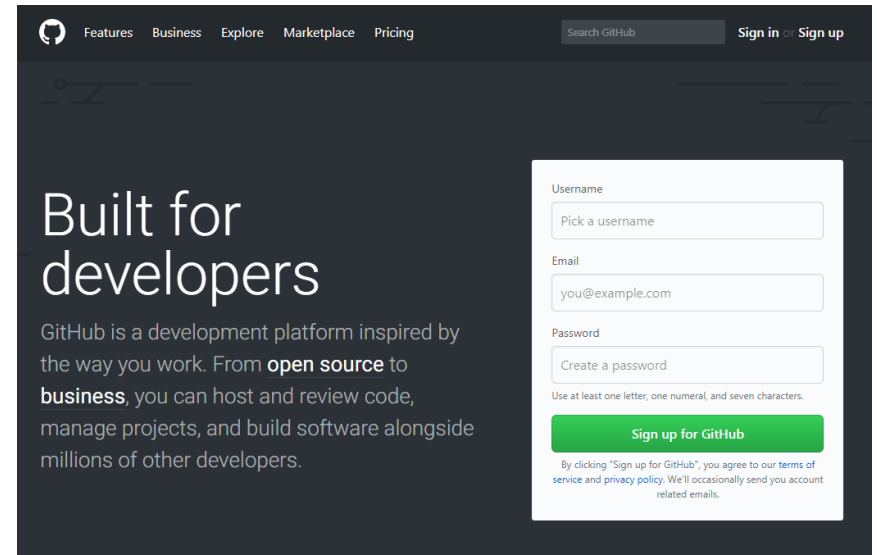


Git and GitHub – version control your work

GitHub is a **cloud service** providing a place to store your projects that you track with Git

<https://github.com/>

1. Create an account

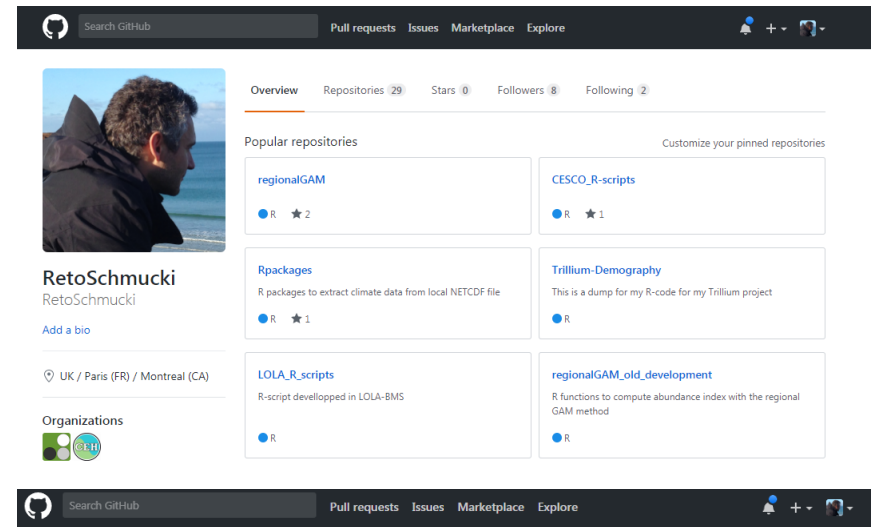
A screenshot of the GitHub website's sign-up page. The page has a dark blue header with navigation links: Features, Business, Explore, Marketplace, and Pricing. A search bar and 'Sign in or Sign up' links are on the right. The main content area is dark blue with the text 'Built for developers' in large white font. Below this, it says 'GitHub is a development platform inspired by the way you work. From open source to business, you can host and review code, manage projects, and build software alongside millions of other developers.' On the right side, there is a white sign-up form with fields for Username (placeholder: 'Pick a username'), Email (placeholder: 'you@example.com'), and Password (placeholder: 'Create a password'). Below the password field, it says 'Use at least one letter, one numeral, and seven characters.' A green 'Sign up for GitHub' button is at the bottom of the form. At the very bottom of the form, in small blue text, it says 'By clicking "Sign up for GitHub", you agree to our terms of service and privacy policy. We'll occasionally send you account related emails.'

Git and GitHub – version control your work

GitHub is a **cloud service** providing a place to store your projects that you track with Git

<https://github.com/>

1. Create an account
2. Create a new repository



Create a new repository

A repository contains all the files for your project, including the revision history.

Owner: RetoSchmucki / Repository name: My_awesome_project ✓

Great repository names are short and memorable. Need inspiration? How about refactored-journey.

Description (optional): This will save the world

☒ Public
Anyone can see this repository. You choose who can commit.

☐ Private
You choose who can see and commit to this repository.

☐ Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: None Add a license: None ⓘ

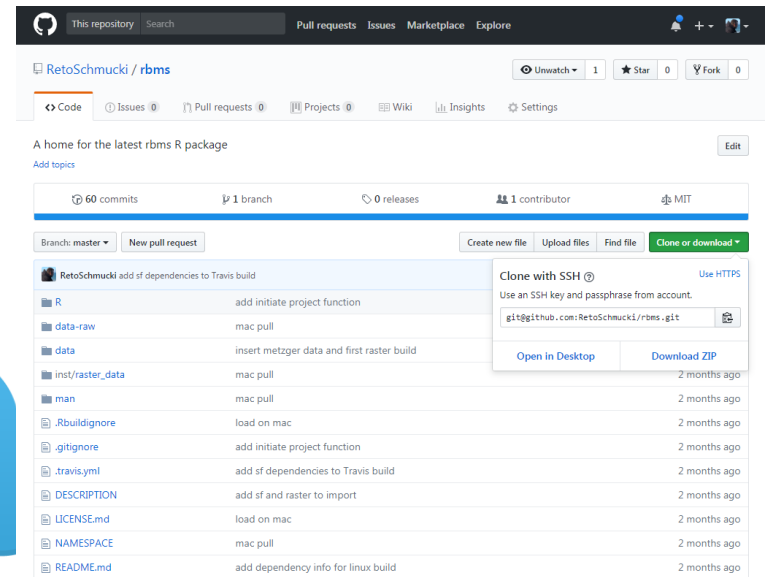
Create repository

Git and GitHub – version control your work

GitHub is a **cloud service** providing a place to store your projects that you track with Git

<https://github.com/>

1. Create an account
2. Create a new repository
3. Clone to your local machine



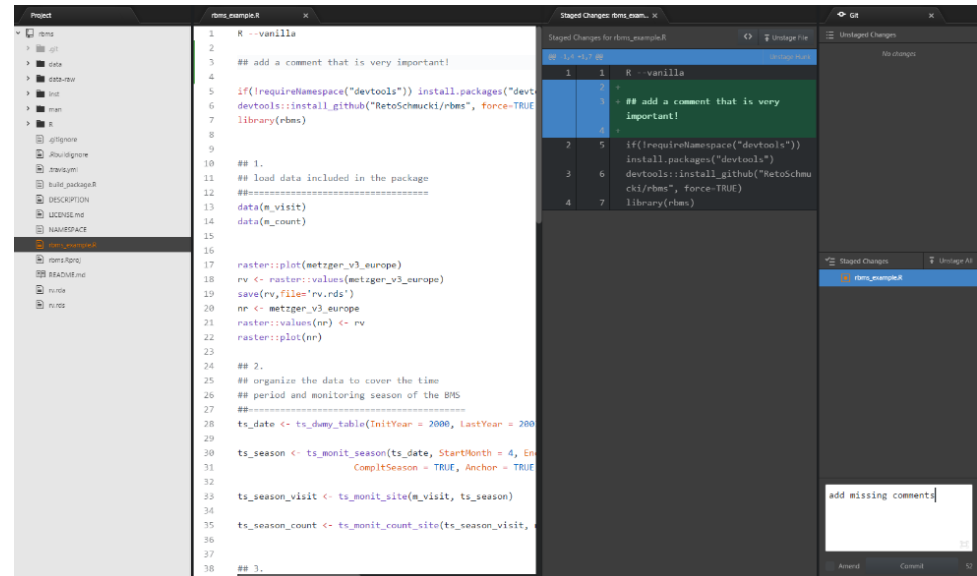
```
retosch@localhost: ~/My_most_amazing_project $ git clone git@github.com:RetoSchmucki/rbms.git
Cloning into 'rbms'...
remote: Counting objects: 352, done.
Receiving objects: 79% (279/352), 14.47 MiB | emote: Total 352 (delta 0), reused 0 (delta 0), pack-r
Receiving objects: 100% (352/352), 15.49 MiB | 2.48 MiB/s, done.
Resolving deltas: 100% (207/207), done.
Checking connectivity... done.
retosch@localhost: ~/My_most_amazing_project $ cd rbms
retosch@localhost: ~/My_most_amazing_project/rbms $ ls
.git/          .travis.yml   data-raw/     LICENSE.md    R/            README.md
.gitignore     build_package.R DESCRIPTION   man/          rbms.Rproj    rv.rda
.Rbuildignore data/          inst/         NAMESPACE    rbms_example.R rv.rds
retosch@localhost: ~/My_most_amazing_project/rbms $
```


Git and GitHub – version control your work



1. Create an account
2. Create a new repository
3. Clone to your local machine
4. Work on your computer

- Change
- Save
- Stage
- Commit

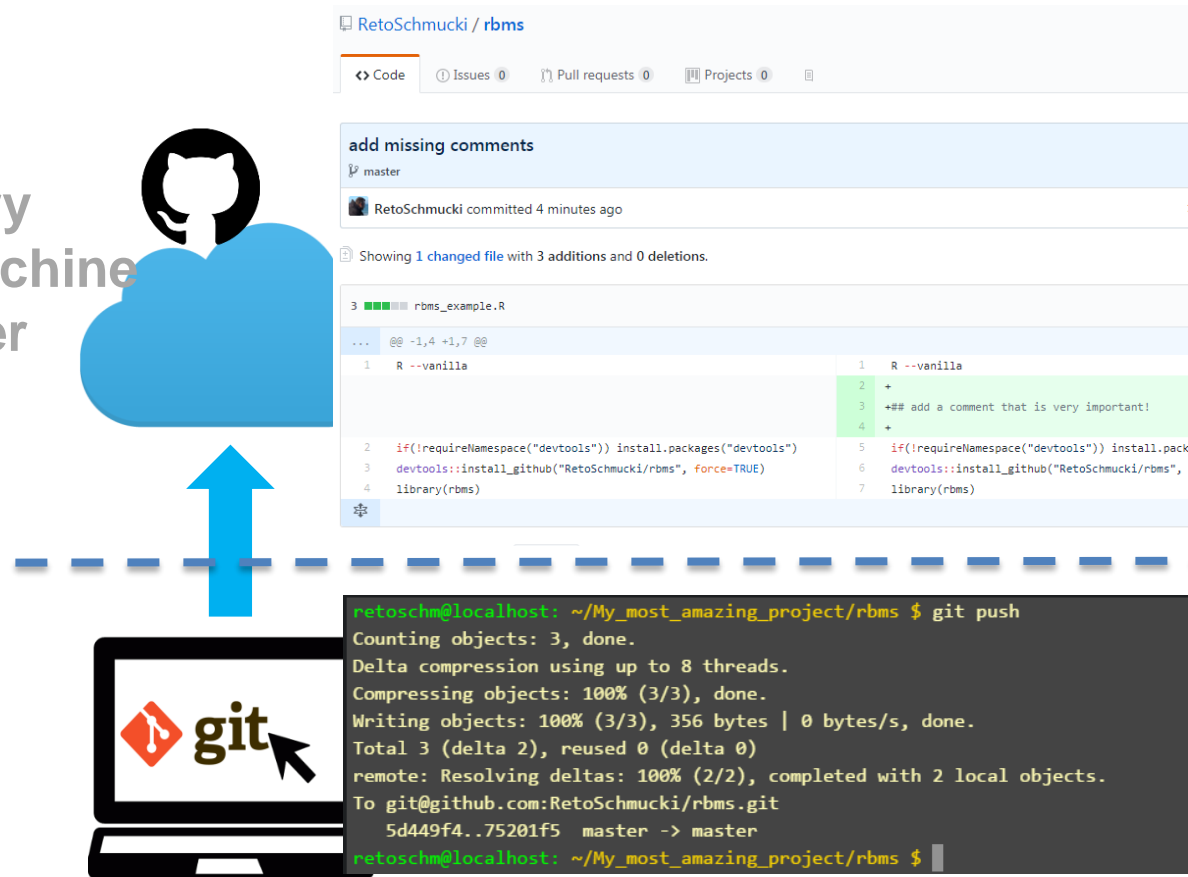


Git and GitHub – version control your work

1. Create an account
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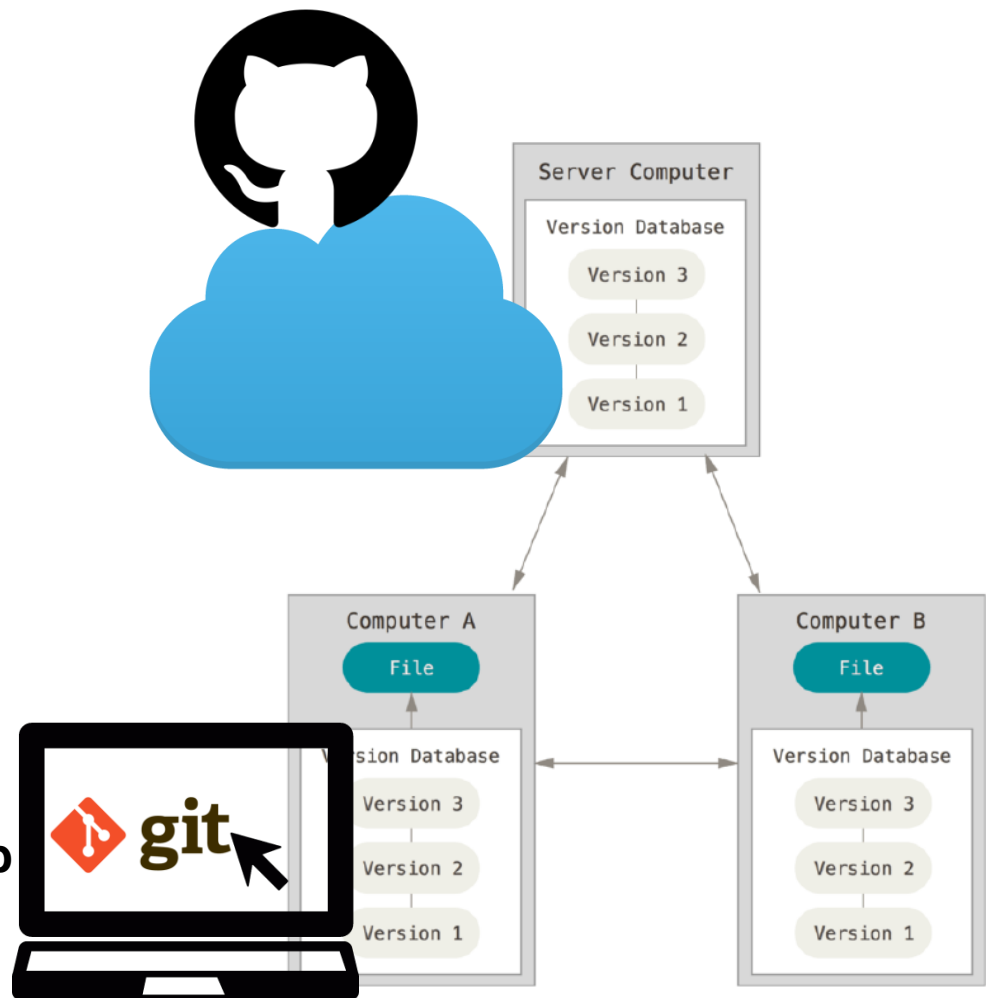
- Change
- Save
- Stage
- Commit

5. Push to GitHub



Git and GitHub – version control your work

1. Create an account
2. Create a new repository
3. Clone to your local machine
4. Work on your computer
 - Change
 - Save
 - Stage
 - Commit
5. Push to GitHub
6. Pull from GitHub and repeat step 4 and 5



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- What is version control?
- What is Git?
- What is the difference between Git and GitHub?
- When can Git and GitHub be useful (vital) for you?



Git and GitHub – version control your work

When can these tools be useful (vital)?

- Develop code and keep track of your work

fix get_raster_value function
✓ master
RetoSchmucki committed on Jan 10
Showing 1 changed file with 2 additions and 2 deletions.

```
diff --git a/r/rms_toolbox.r b/r/rms_toolbox.r
index 881313..881313 100644
--- a/r/rms_toolbox.r
+++ b/r/rms_toolbox.r
@@ -10,13 +10,13 @@ ts_data_ses <- function(IsitYear=1979,LastYear=format(Sys.Date(),"%Y")) {
 00 #* @export get_raster_value
 00 #* @examples
 00 #* x <- data.frame(longitude = c(4, 4.1, 4.5), latitude = c(58, 58.45, 58.5), id = c('a','b','c'))
 00 #* x_value <- get_raster_value(x)
 00 #*
 00 get_raster_value <- function(x, y_path = 'metzger_v3_europe', Classification = NULL, x_crs = 4326,
 00 buffer_dist = NULL, out_of = TRUE){
 00
 00 if(y_path == 'metzger_v3_europe'){
 00   if(!exists(file.path(system.file(package = 'rms'), 'raster_data/metzger_v3_europe.tif'))){
 00     raster::values(metzger_v3_europe) <- metzger_v3_europe_values
 00     raster::writeRaster(metzger_v3_europe, file.path(system.file(package = 'rms'),
 00 'raster_data/metzger_v3_europe.tif'), overwrite=TRUE)
 00   }
 00 }
 00 }
```

This repository Search Pull requests Issues Marketplace Explore

AugustT / CEHCraft Unwatch 2 Star 0 Fork 0

<> Code Issues 8 Pull requests 0 Projects 0 Wiki Insights

Label issues and pull requests for new contributors
Now, GitHub will help potential first-time contributors discover issues labeled with **help wanted** or **good first issue** Dismiss

Filters is:issue is:open Labels Milestones New issue

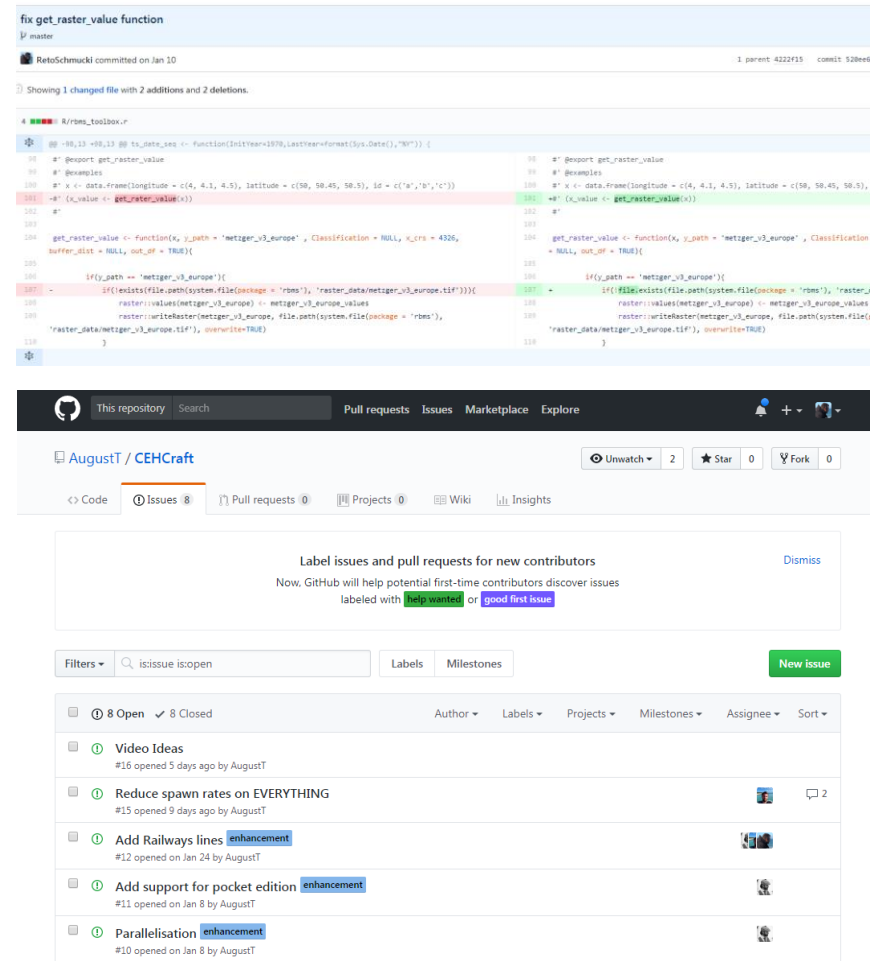
8 Open 8 Closed Author Labels Projects Milestones Assignee Sort

- Video Ideas #16 opened 5 days ago by AugustT
- Reduce spawn rates on EVERYTHING #15 opened 9 days ago by AugustT
- Add Railways lines enhancement #12 opened on Jan 24 by AugustT
- Add support for pocket edition enhancement #11 opened on Jan 8 by AugustT
- Parallelisation enhancement #10 opened on Jan 8 by AugustT

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When can these tools be useful (vital)?

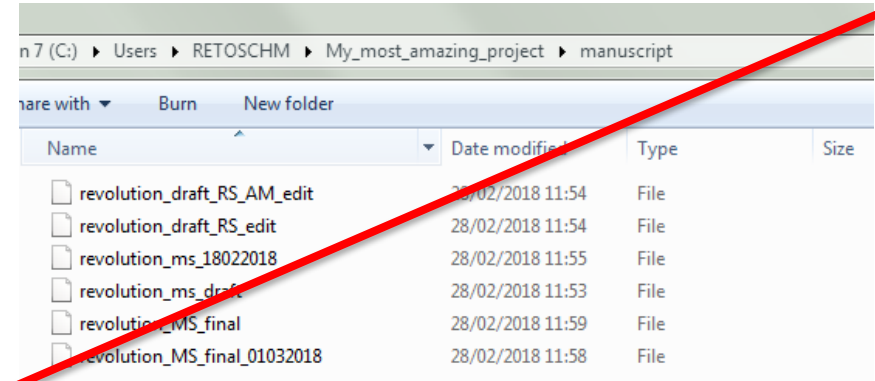
- Develop code and keep track of your work
- Collaborate on projects with joint effort



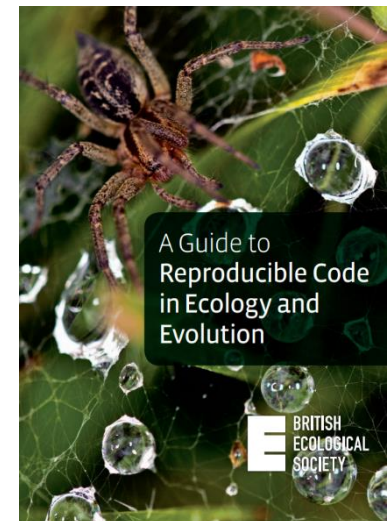
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When can these tools be useful (vital)?

- Develop code and keep track of your work
- Collaborate on projects with joint effort
- Document your workflow and progress



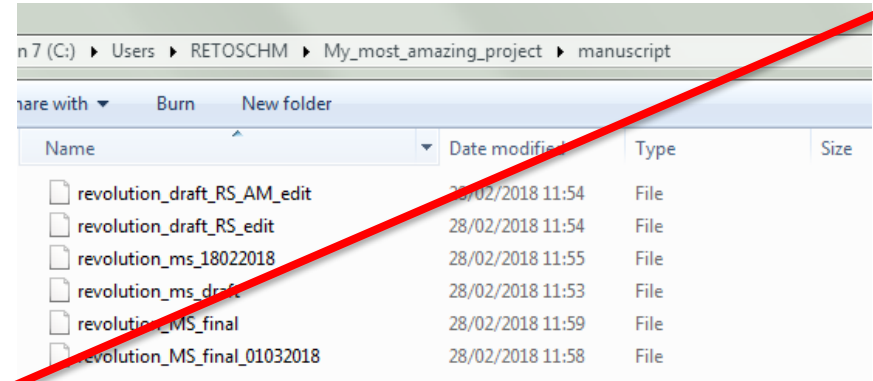
n 7 (C:) > Users > RETOSCHM > My_most_amazing_project > manuscript				
Share with ▾ Burn New folder				
Name	Date modified	Type	Size	
revolution_draft_RS_AM_edit	28/02/2018 11:54	File		
revolution_draft_RS_edit	28/02/2018 11:54	File		
revolution_ms_18022018	28/02/2018 11:55	File		
revolution_ms_draft	28/02/2018 11:53	File		
revolution_MS_final	28/02/2018 11:59	File		
revolution_MS_final_01032018	28/02/2018 11:58	File		



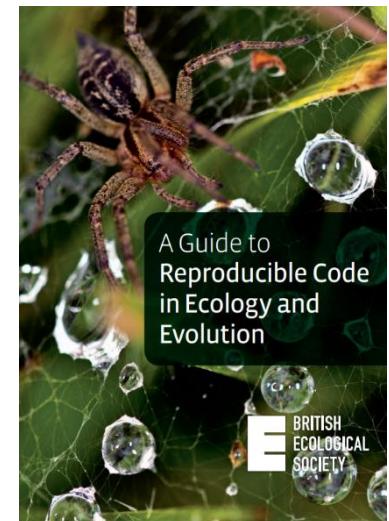
Git and GitHub – version control your work

When can these tools be useful (vital)?

- Develop code and keep track of your work
- Collaborate on projects with joint effort
- Document your workflow and progress
- Share your work and help reproducibility



Name	Date modified	Type	Size
revolution_draft_RS_AM_edit	28/02/2018 11:54	File	
revolution_draft_RS_edit	28/02/2018 11:54	File	
revolution_ms_18022018	28/02/2018 11:55	File	
revolution_ms_draft	28/02/2018 11:53	File	
revolution_MS_final	28/02/2018 11:59	File	
revolution_MS_final_01032018	28/02/2018 11:58	File	



Git and GitHub – version control your work



Master

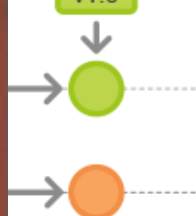
Develop

Feature

Feature



v1.0



Git and GitHub – version control your work

