

# Research GitHub Work Flow

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Summer 2019

## Introduction to version control

### Team goals

### What is Git?


Git is open-source version control software. Using Git, you can create local and remote (cloud) repositories for your files. Git will allow you to track and label updates to those files (kind of like Google Drive) with comments so you know what you've done. You can also use Git (and interfaces like GitHub) to contribute to other people's code and/or allow other people to modify your code.

### How are we going to use it?

Basically, I'll maintain the code archive. I encourage you to use my code and, as you make changes you think should be implemented for the group, it would be helpful if you would push them back to me. Below, I've highlighted two example workflows by which we can make this work.

### GitHub -> Fork -> Your computer -> Edit -> Commit changes -> Pull request back to me

This is the most basic GitHub-based workflow, and will require you to, at a minimum, create a GitHub account. Once you've got a GitHub account, go on to GitHub (<https://github.com/leachandrew>) and find the repository you want. For example, if you're looking for AESO scrapers, you could choose the `alberta_power` ([https://github.com/leachandrew/alberta\\_power](https://github.com/leachandrew/alberta_power)) repository.

 leachandrew / alberta\_power

Watch 0

Star 0

Fork 1

<> Code

Issues 0

Pull requests 0

Projects 0

Wiki

Security

Insights

Settings

Testing Edit

[Manage topics](#)

11 commits

2 branches

0 releases

2 contributors

Branch: master


New pull request





Create new file



Upload files

Find File

Clone or download

 leachandrew Merge branch 'master' of [https://github.com/leachandrew/alberta\\_power](https://github.com/leachandrew/alberta_power) Latest commit 3d37e8a 5 days ago

 .gitignore	Trying this out	11 months ago
 AESO_Data.Rproj	Trying this out	11 months ago
 README.md	Create README.md	5 days ago
 aeso_scrapes.R	Update aeso_scrapes.R	5 days ago

 README.md 

Alberta power market scrapers, graphing utilities, etc.

The repository contains all the files I've posted for you for use of Alberta power data. You want to then create a 'fork' to create a version of the files on your own GitHub repository. So, for example, if I want to use some files

from Jens von Bergmann, I can go to his repository and create a fork of his Doodles repository:

**leachandrew / doodles**  
forked from [mountainMath/doodles](#)

Watch 0 Star 0 Fork 5

Code Pull requests 0 Projects 0 Wiki Security Insights Settings

No description, website, or topics provided. [Edit](#)

[Manage topics](#)

211 commits 1 branch 0 releases 2 contributors MIT

Branch: master New pull request Create new file Upload files Find File Clone or download

This branch is 76 commits behind mountainMath:master. [Pull request](#) [Compare](#)


File	Commit Message	Time Ago
<a href="#">content</a>	fix axis lables and link to NYT tweet	6 months ago
<a href="#">data</a>	codo post	7 months ago
<a href="#">layouts</a>	fix some broken links, add twitter stream	2 years ago
<a href="#">static</a>	fix axis lables and link to NYT tweet	6 months ago
<a href="#">themes/hugo-future-imperfect</a>	swamp post	last year
<a href="#">.gitignore</a>	don't commit public directory	2 years ago
<a href="#">LICENSE</a>	Create LICENSE	2 years ago
<a href="#">README.md</a>	cleanup	2 years ago
<a href="#">config.toml</a>	fix some broken links, add twitter stream	2 years ago
<a href="#">index.Rmd</a>	first commit	2 years ago
<a href="#">mountaindoodles.Rproj</a>	young families blog post	2 years ago



[README.md](#)



## doodles



Code and content for [Mountain Doodles](#).


You can then download all the files in the repository using the Clone or Download link, depending on how you want to set things up on own home machine. Once you have the files on your machine, use them as you like, edit them, etc. but maintain the same file names. You can then, upload the files back to your forked repository. Name the commit (the upload) and make sure you add some comments about it to tell me what's going on.



 leachandrew / doodles  
forked from mountainMath/doodles



 Watch  0


 Star  0


 Fork  5


 Code


 Pull requests  0

 Projects  0


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doodles /

  
Drag additional files here to add them to your repository  
Or [choose your files](#)

facility\_GHG\_data.R



### Commit changes

Testing file adds.

Just dropping this here for a test.


☒ Commit directly to the `master` branch.





☐ Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)








Commit changes

Cancel

When you've reached a point that you think the changes are useful for others, you can create a pull request. In this way, you're asking me to 'pull' your files into the master repository. In the case I've just built, it would look like this.


 mountainMath / doodles

 Watch   Star 15  Fork 5



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## Comparing changes


Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#).





 base repository: mountainMath/doodles base: master ← head repository: leachandrew/doodles compare: master

✓ **Able to merge.** These branches can be automatically merged.

 **Create pull request** Discuss and review the changes in this comparison with others. 

 1 commit  1 file changed  0 commit comments  1 contributor

 Commits on Jul 17, 2019

  leachandrew Testing file adds.   Verified c6ad451

Once you've created the pull request, you'll get a screen like this where you can add more comments to explain what you've done. A good pull request would contain not only the changed files, but also some testing results that show what it does.

mountainMath / doodles

Watch

5

Star

15

Fork

5

<> Code

Issues 0

Pull requests 0

Projects 0

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## Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).

base repository: mountainMath/doodles

base: master

head repository: leachandrew/doodles

compare: master

✓ Able to merge.

These branches can be automatically merged.

Testing file adds.

Write

Preview

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⋮

✓

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↶

Just dropping this here for a test.

Attach files by dragging & dropping, selecting or pasting them.

✓

Allow edits from maintainers.

[Learn more](#)

Create pull request

1 commit

1 file changed

0 commit comments

1 contributor

Commits on Jul 17, 2019

leachandrew

Testing file adds. ...

Verified

c6ad451

When you send me a pull request to assess the changes, I'll be able to see a line-by-line comparison, I'll be able to test the files, etc. If everything looks good, then I can merge your pull request into my master repository. The next time a member of the team downloads the repository, they'll get your modified version of the files.

This leads to an important point about repo management. If you look at my forked repo from Jens, it's way out-of-date, so I was at risk of modifying a file that's already been modified by Jens or others. AS a result, you want to make sure to keep your repo up-to-date. This is where GitHub is a bit cumbersome and not-at-all intuitive, but here are the instructions (<https://github.com/KirstieJane/STEMMRoleModels/wiki/Syncing-your-fork-to-the-original-repository-via-the-browser>) to do it via your browser only.

file:///C:/Users/aleach/Google Drive/git\_hub\_workflow.html

6/9

leachandrew / doodles
forked from mountainMath/doodles
Watch 0 Star 0 Fork 5

Code Pull requests 0 Projects 0 Wiki Security Insights Settings

No description, website, or topics provided. Edit

Manage topics

289 commits 1 branch 0 releases 2 contributors MIT

Branch: master New pull request Create new file Upload files Find File Clone or download

This branch is 2 commits ahead of mountainMath:master. Pull request Compare

leachandrew Merge pull request #1 from mountainMath/master Latest commit b3f6f47 17 seconds ago


content	tweaks	3 days ago
data	new CHSP data post	29 days ago
layouts	fix links to be https	5 months ago
static	link for cross-post. And data for old Vancouver census tract timeline...	3 days ago
themes/hugo-future-imperfect	addendum to how-not-to-measure post	20 days ago
.gitignore	don't commit public directory	2 years ago
LICENSE	Create LICENSE	2 years ago
README.md	cleanup	2 years ago
config.toml	fix links to be https	5 months ago
facility_GHG_data.R	Testing file adds.	12 minutes ago
index.Rmd	first commit	2 years ago
mountaindoodles.Rproj	young families blog post	2 years ago




README.md








doodles
Code and content for Mountain Doodles.

You can see that my fork is now up-to-date.




You can and should also use GitHub for version control. Unfortunately, you can't do that with the browser alone. So, for example, if I decided that I wanted to revert to a previous version of my online repository, I'd have to manually revert the file upload by clicking on the file and then clicking on the delete icon. Once you get there, you'll be asked if you want to 'commit' the changes, which you can do.

 leachandrew / doodles  
forked from mountainMath/doodles


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doodles / facility\_GHG\_data.R

 1,001  facility\_GHG\_data.R 

0 additions, 1,001 deletions not shown because the diff is too large. Please use a local Git client to view these changes.



### Commit changes

Delete facility\_GHG\_data.R


Add an optional extended description...

☒ Commit directly to the `master` branch.  
☐ Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)

Commit changes

Cancel

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## GitHub -> Your computer -> Send files back to me


This is the most basic workflow, and doesn't require much of a change from you. To access the files, log on to GitHub (<https://github.com/leachandrew>) and find the repository you want. For example, if you're looking for AESO scrapers, you could choose the `alberta_power` ([https://github.com/leachandrew/alberta\\_power](https://github.com/leachandrew/alberta_power)) repository.







 leachandrew / alberta\_power

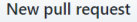
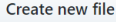



 Watch 0  Star 0  Fork 1


 Code  Issues 0  Pull requests 0  Projects 0  Wiki  Security  Insights  Settings





Testing 



[Manage topics](#)

 11 commits  2 branches  0 releases  2 contributors

Branch: master     

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