

Collaboration with GitHub and RStudio

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Reading

Chapter in **R Packages** on git and GitHub:
<http://r-pkgs.had.co.nz/git.html>

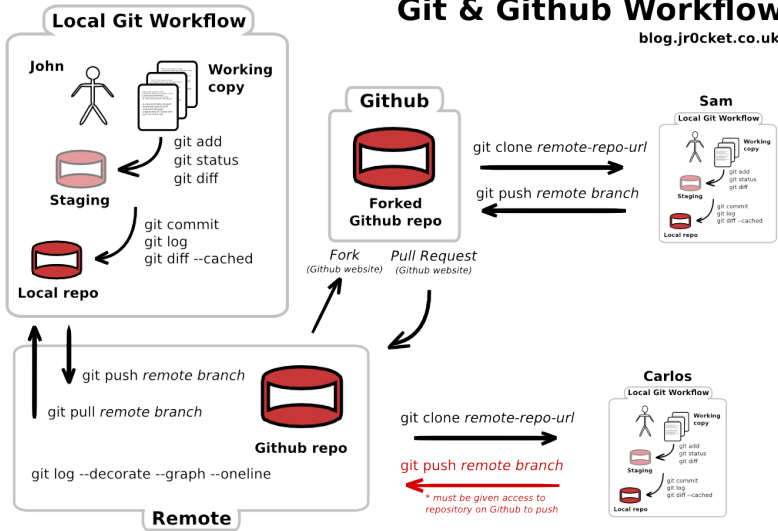
“Whoah, I’ve just read this quick tuto about git and oh my god it is cool. I feel now super comfortable using it, and I’m not afraid at all to break something.”— said no one ever.

To

(from blog post by Pierre de Wulf)

Git & Github Workflow

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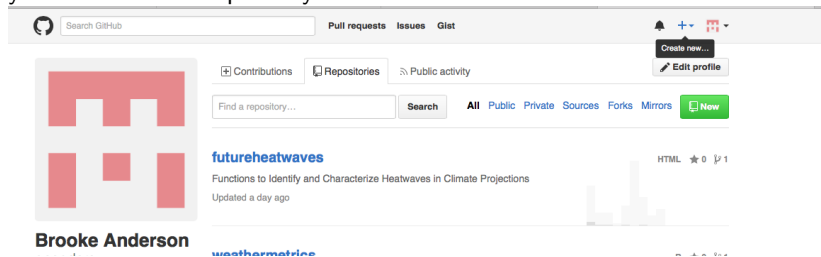


Setting up GitHub collaboration

1. One group member creates a repository.
2. That group member pushes local material to the repository
3. All other group members fork this repository.
4. Everyone creates a local clone of their own GitHub fork of the repository.

1. One group member creates a repository.

The “+” in the upper right corner of your GitHub account page will let you create a new repository.



1. One group member creates a repository.

I would suggest you create without a README file (you can always add one from RStudio) and use the same name for your repository as the name for your project directory on your own computer.

1. One group member creates a repository.

Create a new repository

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

Owner



geanders ▾

/

Repository name

BikeShare



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

Description (optional)

Work on Kaggle bike share competition



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

2. That group member pushes local material to the repository

(Before you do this, make sure that you've made this directory an R project and started git for your local directory using Tools -> Project Options.)

First, on your computer, use the command line (**Terminal** with Macs) to move into the directory. You can use the command `cd` to do this.

```
cd Desktop/MachineLearningClass/BikeShare
```

2. That group member pushes local material to the repository

Instruct git that the GitHub repository is a remote version of this directory.

```
git remote add origin git@github.com:geanders/BikeShare.git
```

For RStudio, it's better to use this `git@github.com` syntax rather than what GitHub suggests.

2. That group member pushes local material to the repository

Now push everything from your local directory to the GitHub repository:

```
git push -u origin master
```

Now everything in your directory that wasn't listed in your `.gitignore` file should be on your GitHub repository.

3. All other group members fork this repository.

Next, everyone else in the group needs to fork this repository. They can do this by going to the repository and clicking on the “Fork” button in the top right.

The screenshot shows the GitHub repository page for **geanders / BikeShare**. At the top right, there are buttons for **Unwatch** (1), **Star** (0), and **Fork** (0). Below these are navigation tabs: **Code** (selected), **Issues** (0), **Pull requests** (0), **Wiki**, **Pulse**, **Graphs**, and **Settings**.

The main heading is **Work on Kaggle bike share competition — Edit**. Below this, a summary bar shows **1 commit**, **1 branch**, **0 releases**, and **0 contributors**.

A toolbar contains the following elements: **Branch: master** (dropdown), **New pull request** (green button), **New file**, **Upload files**, **Find file**, **HTTPS** (dropdown), the repository URL **https://github.com/geande**, **Copy** (icon), **Download ZIP** (icon), and **Download ZIP** (button).

A light blue banner for **Brooke Anderson Initial commit** is displayed, with the text **Latest commit afe961a 19 hours ago** on the right. A **Dismiss** link is on the far right.

In the center, a message states: **File uploading is now available**. Below this, it says: **You can now drag and drop files into your repositories. [Learn more](#)**. Above the message are icons for file, folder, code, and document.

At the bottom, a table lists repository files:

.gitignore	Initial commit	19 hours ago
BikeShare.Rproj	Initial commit	19 hours ago

3. All other group members fork this repository.

Once you fork a repository, it will show up as a Repository in your GitHub account.

4. Everyone creates a local clone of their fork.

From your command line, change directories into the directory where you want to download the clone of the repository. Then use the following code to clone your fork to a directory in your computer. (Note: This is what you do to pull materials **from** a GitHub directory onto your computer.)

```
git clone git@github.com:group_member/BikeShare.git
```

THIS IS GIT. IT TRACKS COLLABORATIVE WORK ON PROJECTS THROUGH A BEAUTIFUL DISTRIBUTED GRAPH THEORY TREE MODEL.

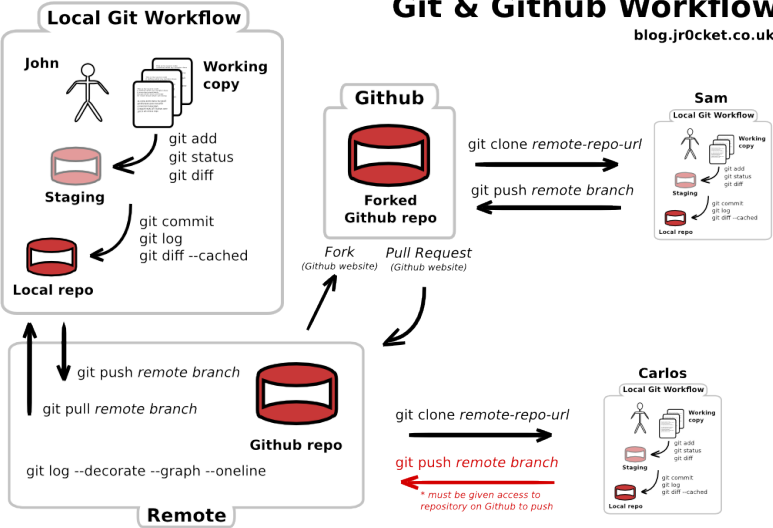
COOL. HOW DO WE USE IT?

NO IDEA. JUST MEMORIZE THESE SHELL COMMANDS AND TYPE THEM TO SYNC UP. IF YOU GET ERRORS, SAVE YOUR WORK ELSEWHERE, DELETE THE PROJECT, AND DOWNLOAD A FRESH COPY.



Git & Github Workflow

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Collaborating

1. Before you start working on your code, make sure you're up-to-date with your group members.
2. Work on your code locally in RStudio.
3. Commit often locally.
4. Push your work to your GitHub fork.
5. When your ready to share with other group members, submit pull requests to them.

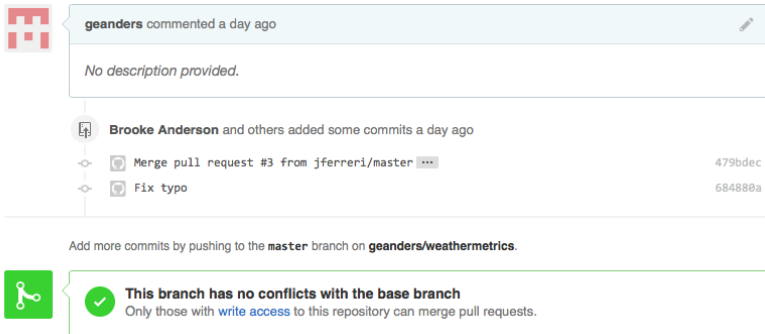
1. Make sure you're up-to-date with your group

I would suggest that you start by trying to work on your repositories at different times, so there won't be conflicts the first few times you try to merge pull requests. If so, just look for any pull requests on your GitHub repository page.

The screenshot shows the GitHub repository page for 'geanders / BikeShare'. At the top, there's a search bar and navigation links for 'Pull requests', 'Issues', and 'Gist'. Below this, the repository name 'geanders / BikeShare' is displayed, along with statistics: 'Unwatch' (1), 'Star' (0), and 'Fork' (0). A horizontal menu contains links for '<> Code', 'Issues' (0), 'Pull requests' (0), 'Wiki', 'Pulse', 'Graphs', and 'Settings'. The main heading is 'Work on Kaggle bike share competition — Edit'. Below this, a summary bar shows '1 commit', '1 branch', '0 releases', and '0 contributors'. A row of buttons includes 'Branch: master', 'New pull request' (highlighted in green), 'New file', 'Upload files', 'Find file', 'HTTPS', the repository URL 'https://github.com/geande', and 'Download ZIP'. A commit entry for 'Brooke Anderson Initial commit' is shown, with the latest commit hash 'afe961a' and a timestamp of '19 hours ago'.

1. Make sure you're up-to-date with your group

If there are no pull requests, you're good to go. If there are, click on the "Pull request" tab. If you're lucky, there will be no merge conflicts. If so, you can merge the pull automatically.



The image shows a GitHub pull request interface. At the top, a comment by **geanders** is displayed with the text "No description provided." Below the comment, the commit history is shown, including a merge of pull request #3 and a commit to fix a typo. At the bottom, a green box indicates that the branch has no conflicts with the base branch.

geanders commented a day ago

No description provided.

Brooke Anderson and others added some commits a day ago

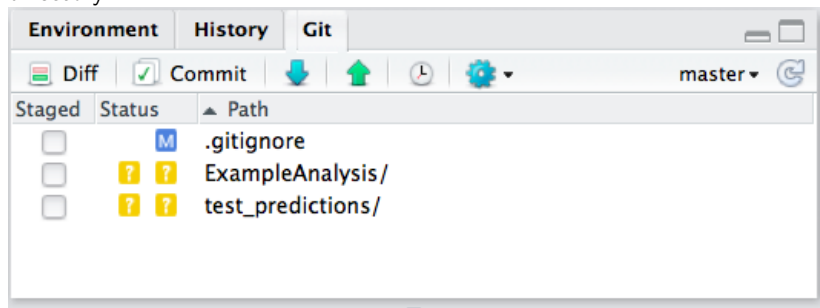
- Merge pull request #3 from jferreri/master 479bdec
- Fix typo 684880a

Add more commits by pushing to the **master** branch on **geanders/weathermetrics**.

This branch has no conflicts with the base branch
Only those with [write access](#) to this repository can merge pull requests.

1. Make sure you're up-to-date with your group

To get your local version up-to-date, use the blue down arrow on RStudio's Git pane. This brings in any changes on your GitHub fork to your local directory.

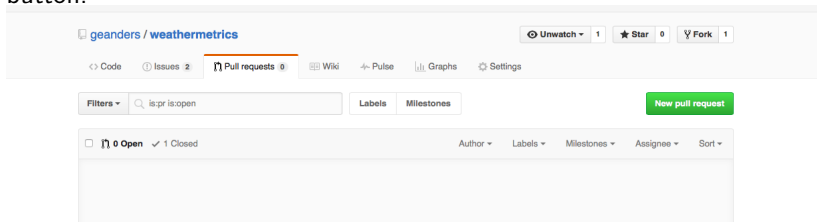


2.-4. Do your own work.

2. Work on your code locally in RStudio.
3. Commit often locally (Use “Commit” window in RStudio.).
4. Push your work to your GitHub fork (Use the green up arrow.).

5. Send group members pull requests.

When you're ready for the rest of your group to incorporate your work, send them all pull requests through GitHub. Go to the "Pull requests" tab of your fork of the repository and look for the green "New pull request" button.




5. Send group members pull requests.


Submit your pull request. You may need to use the “compare across forks” link to set up the right pull direction. Make sure that the base fork is the one you want to send your updates to and the head fork is yours.


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 fork: **jferreri/weathermetrics** ▼ base: **master** ▼ ... head fork: **geanders/weathermetrics** ▼ compare: **master** ▼

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

 **Fix typo in documentation #1**
No description available

 **View pull request**

Issues page

The Issues page is also great to use to work together. You can create new issues using the green “New Issue” button.

The screenshot shows the GitHub Issues page for the repository `geanders / futureheatwaves`. At the top, there are navigation links: `<> Code`, **Issues 4** (active), `Pull requests 0`, `Wiki`, `Pulse`, `Graphs`, and `Settings`. On the right, there are buttons for `Unwatch 2`, `Star 0`, and `Fork 1`. Below the navigation bar, there is a `Filters` dropdown, a search bar containing `is:issue is:open`, and buttons for `Labels` and `Milestones`. A prominent green `New issue` button is located on the right. The main content area displays a list of issues. The first issue is titled `Consider reducing size of sample data` (ID #79), opened 11 days ago by `geanders`, with 1 comment. The second issue is titled `Allow 'apply_all_models' to pass through additional arguments to a function` (ID #64), opened 21 days ago by `geanders`, with 0 comments. The interface includes standard GitHub UI elements like checkboxes, status indicators (info icon), and sorting options.

geanders / futureheatwaves

Unwatch 2 Star 0 Fork 1

Code Issues 4 Pull requests 0 Wiki Pulse Graphs Settings

Filters is:issue is:open Labels Milestones New issue

4 Open 77 Closed

Author Labels Milestones Assignee Sort


Consider reducing size of sample data
#79 opened 11 days ago by geanders 1

Allow 'apply_all_models' to pass through additional arguments to a function
#64 opened 21 days ago by geanders 0

Issues page

Each issue has a page where you can add notes about the issue.

Consider reducing size of sample data #79

 **Open** geanders opened this issue 11 days ago · 1 comment



geanders commented 11 days ago

Owner



The CMIP5 file with example data is currently 6.8Mb. We'll probably have an easier time of getting this through CRAN if we reduce it to just a few years' worth of data to get the size down a lot. (Sounds like < 1Mb would be ideal.)



geanders commented 4 days ago

Owner



I'm getting some funky results from the second ensemble member of CCSM example file that Libby isn't, so I should re-pull and clean up all the example files from her Google Drive.

Issues page

When you've fixed an issue, you can close it. You can do that either from the GitHub page for the issue, or do it with a commit message. For example, if a commit fixes issue #5, you could close the issue by using the commit message:

Close #5.