



# Using Git from RStudio

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git Through April

R-Ladies Seattle

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April 16, 2021

Photo  
by  
Ultra  
Tuna  
Fish

# Introduction

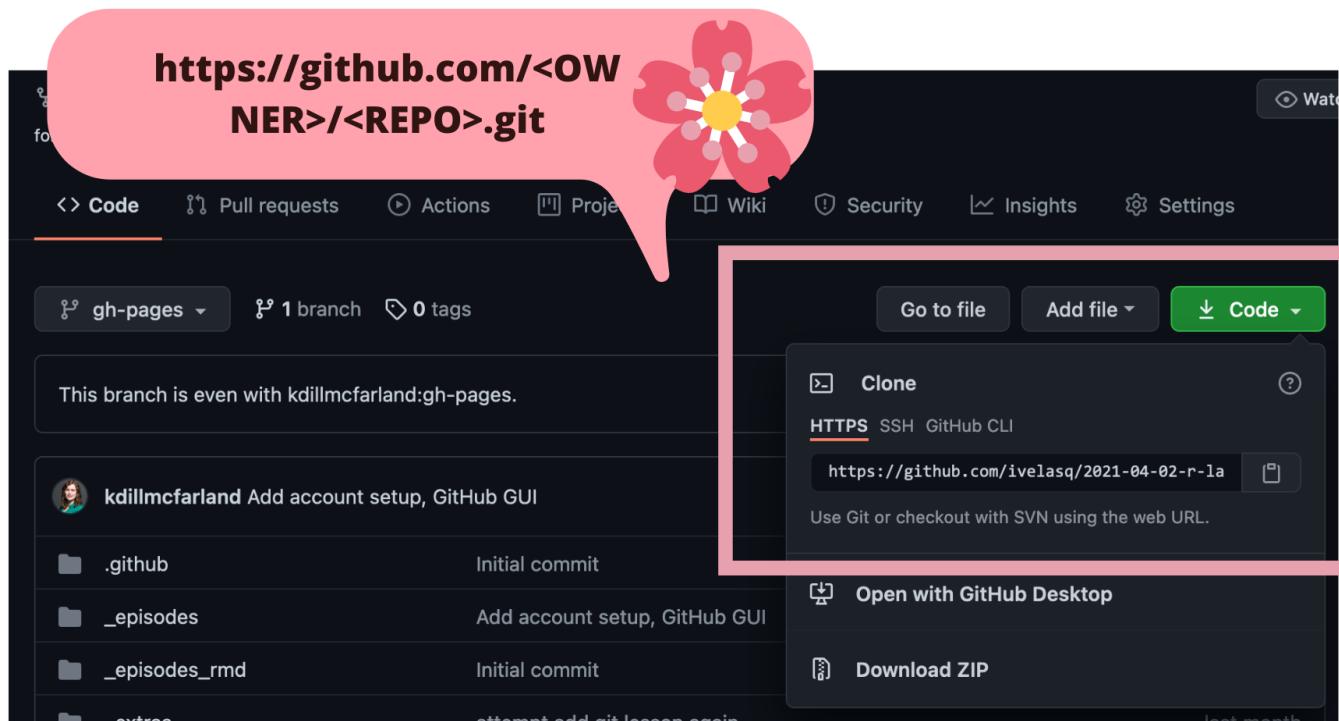
## Objectives

Understand how to use Git from RStudio.

## Topics Introduced

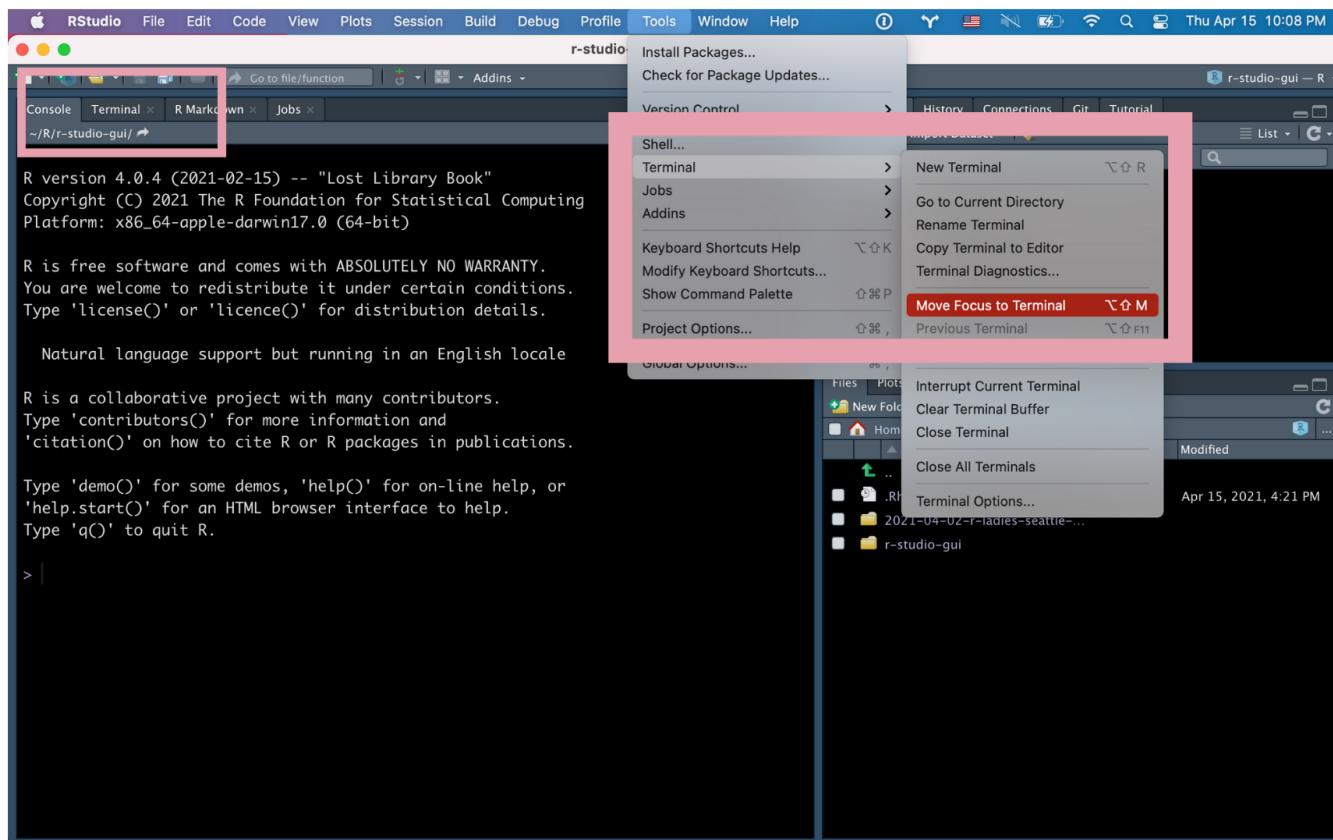
- Using Terminal in RStudio
- "Finding" Git in RStudio
- Creating or opening a project
- Working with RStudio's tools
- Linking your project to GitHub
- Committing and pushing up changes

# Quick recap: finding the GitHub repository URL



# Shell ... in RStudio?!

R Studio has a shell in the IDE in the Terminal tab.



# Using Git from RStudio prerequisites



you've registered for GitHub



you've installed or updated RStudio



you've installed Git



you've introduced yourself to Git



you can push to/pull from GitHub from the command line

# Where's your Git?

To see if Git is installed:

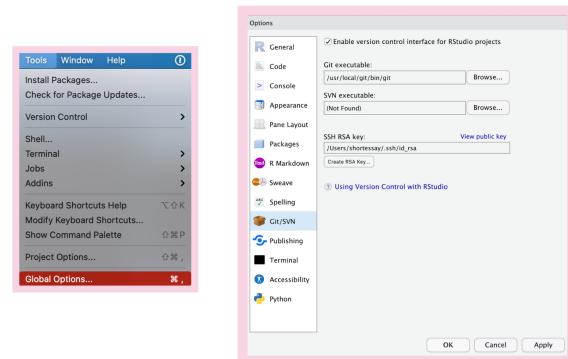
```
git
```

To see where Git 'lives':

- Enter `which git` (Mac, Linux, Git Bash shell on Windows)
- Enter `where git` (Windows command prompt, i.e. cmd.exe)

```
which git
```

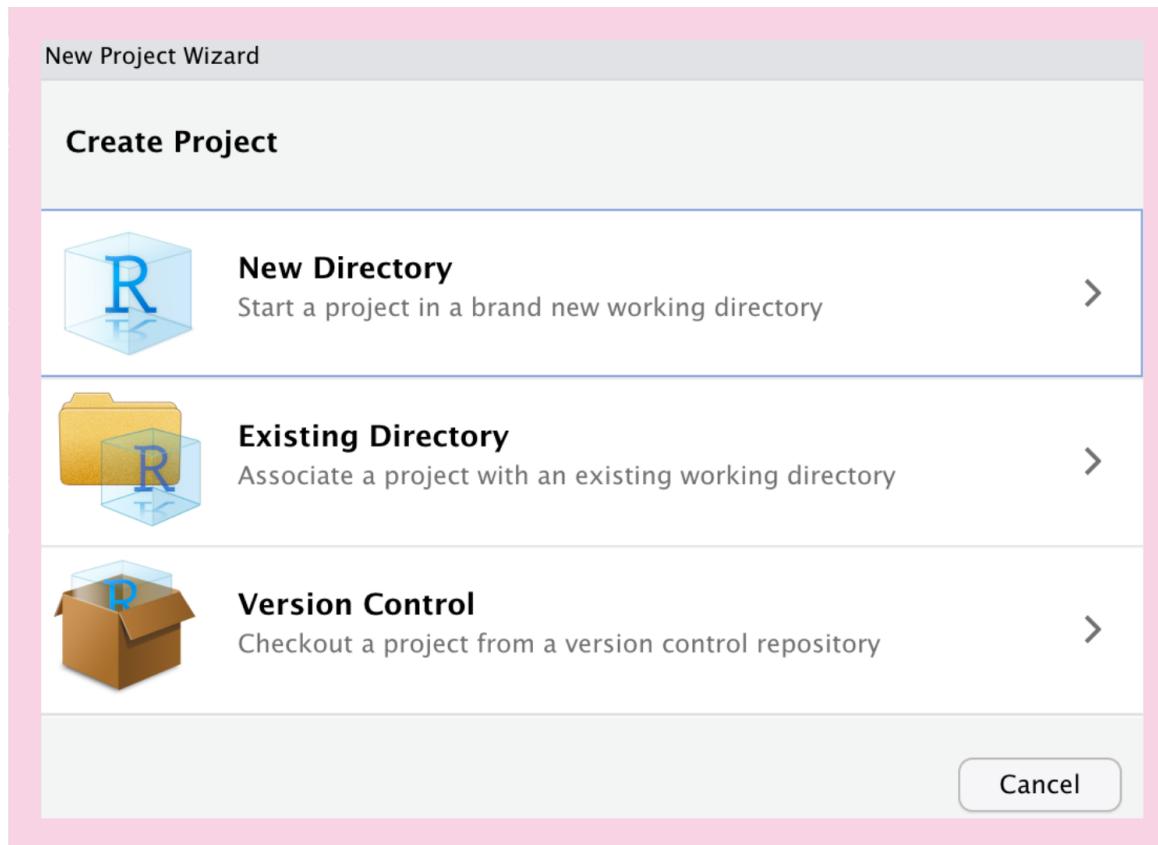
1. Tools > Global Options > Git/SVN
2. Enable version control interface for RStudio projects
3. If necessary, enter the path for your Git or SVN executable where provided



# Creating a project

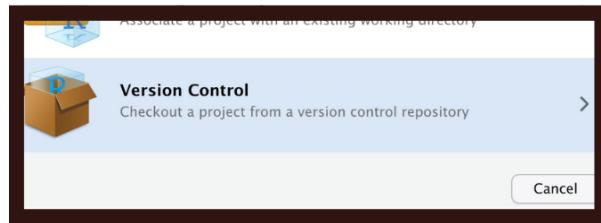
Once we know that Git is installed correctly and RStudio knows where it is, create a new project.

- File > New Project

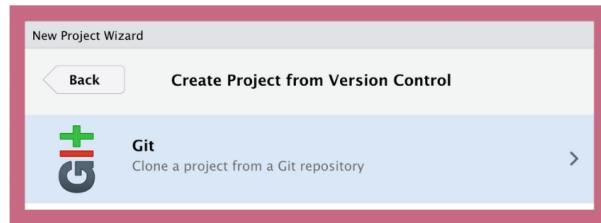


# Version Control

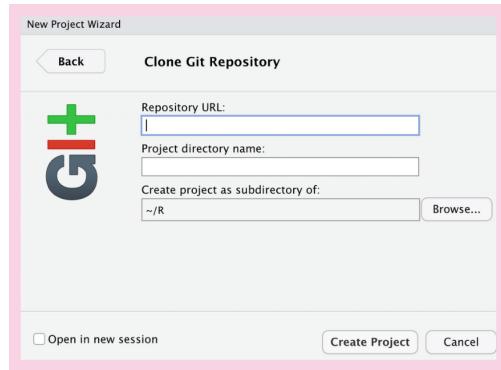
Select Version Control



Select Git

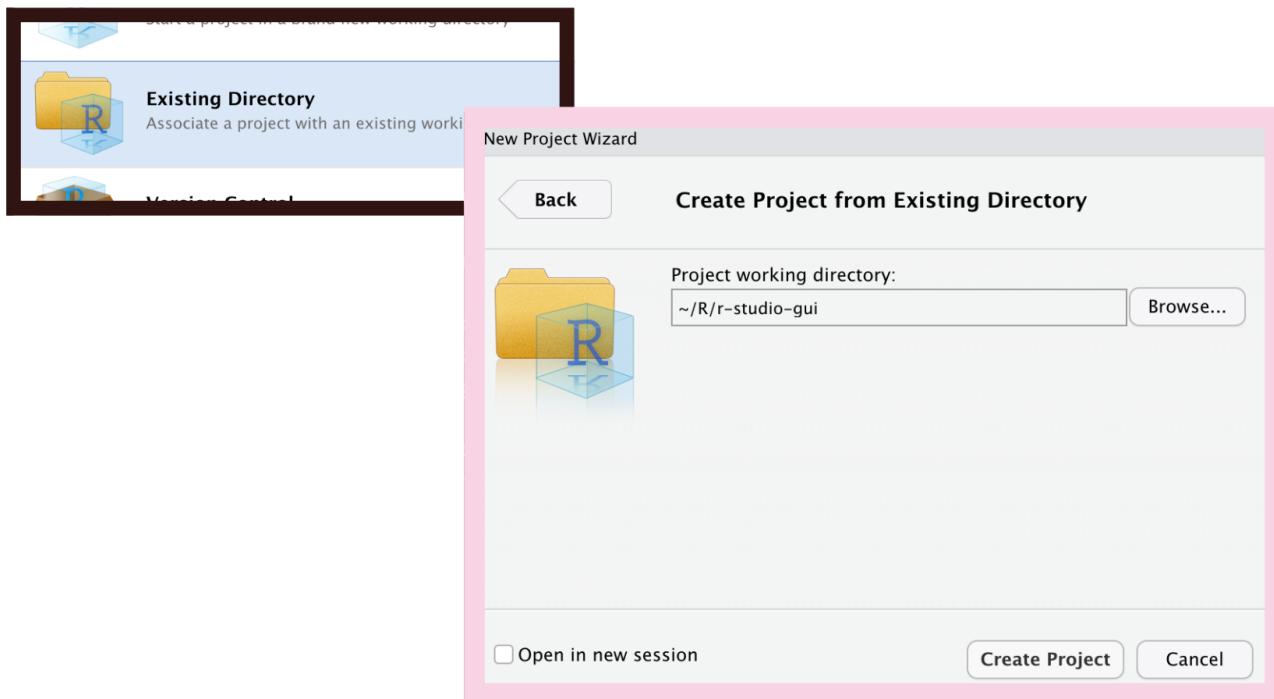


Clone Repository



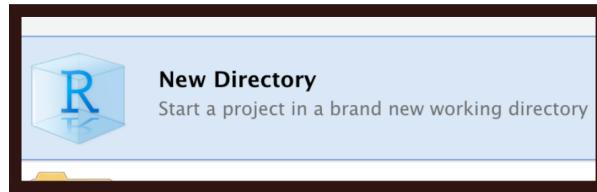
# Existing Directory

1. Click Existing Directory
2. Browse to the project working directory



# New Directory

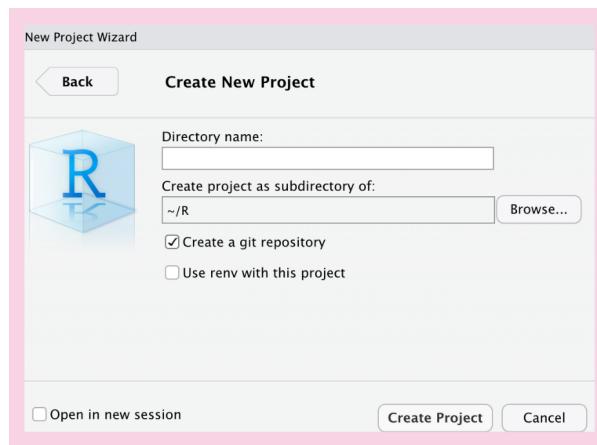
Click New  
Directory



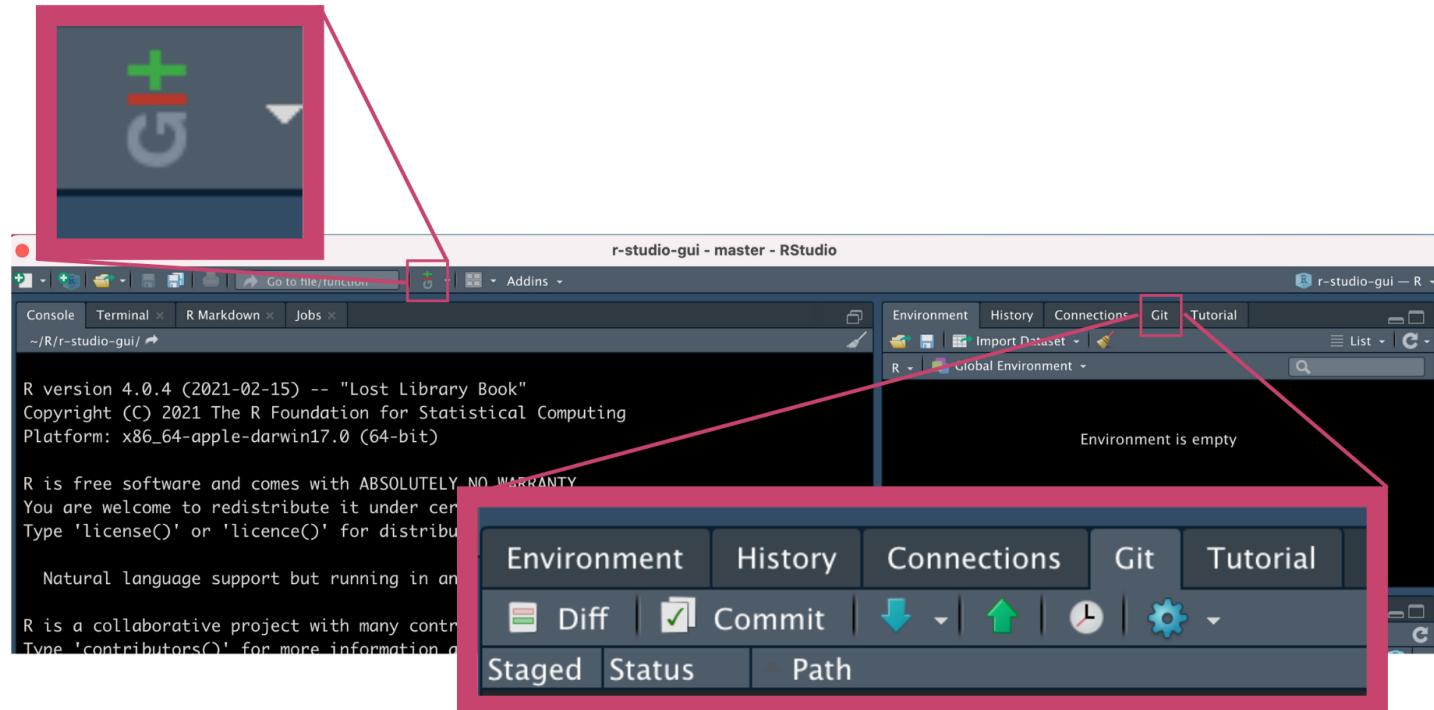
Select New  
Project



Give the project  
directory a name  
and check  
"create a git  
repository"



# Checking out the Git tools in RStudio



# Linking your project to GitHub

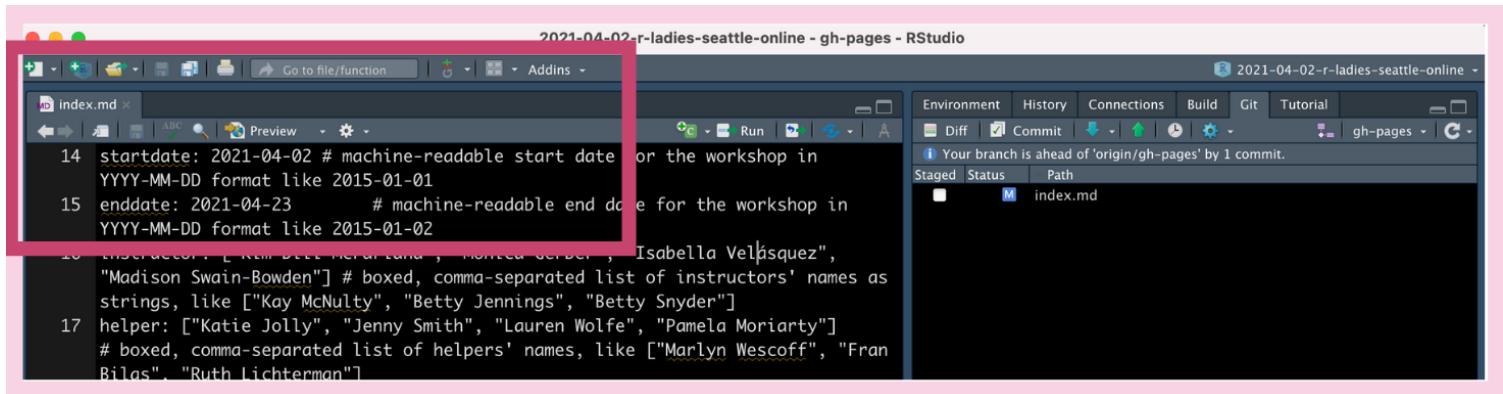
If the push/pull icons are greyed out in RStudio, then the Project doesn't know what the GitHub repository it should be linked to.

## Link through shell

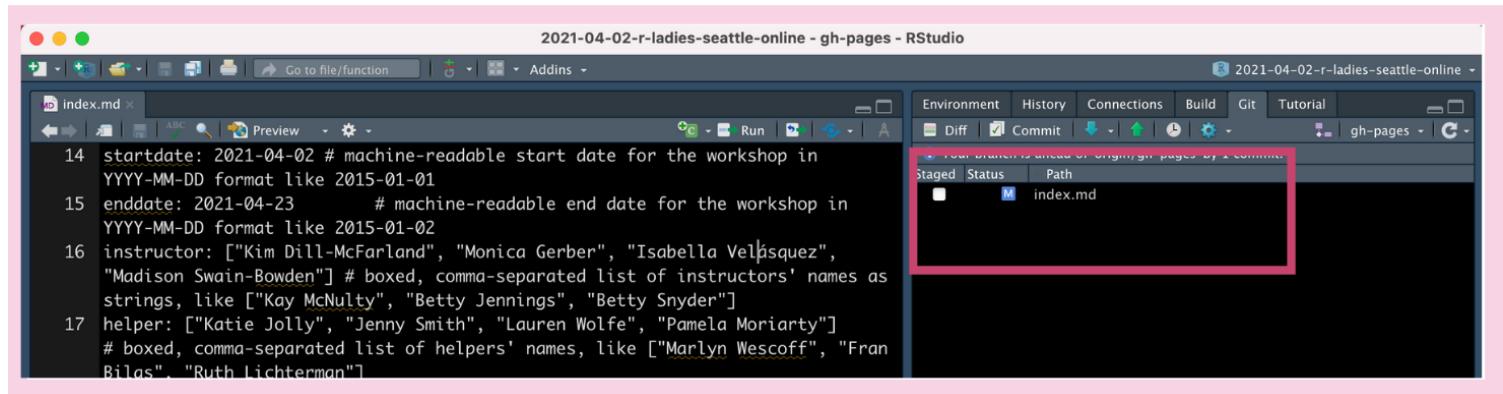
```
# point to remote URL  
git remote add origin https://github.com/ivelasq/myrepo.git  
  
# download all the files from the online GitHub repository  
git pull origin master  
  
# set the current branch to track a branch on the remote  
git branch -vv  
  
# set local master branch to track master on GitHub  
# this is equivalent to git push -u origin master but more specific  
git push --set-upstream origin master
```

# Committing changes

- Open up a file (e.g., index.md).
- Make changes and save.
- See changes in your Git pane.

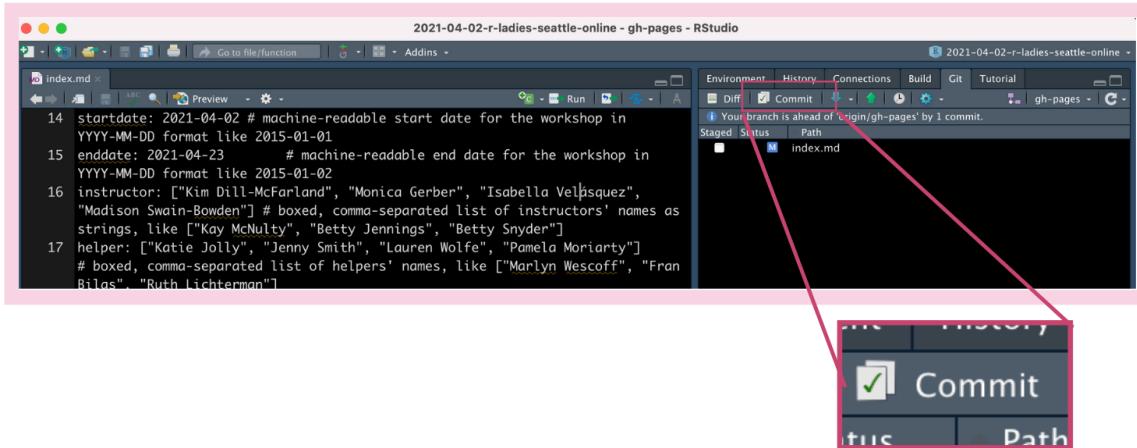


A screenshot of the RStudio interface. The title bar says "2021-04-02-r-ladies-seattle-online - gh-pages - RStudio". The left panel shows the code editor with an open file "index.md". The code contains several lines of YAML configuration:14 startdate: 2021-04-02 # machine-readable start date for the workshop in  
YYYY-MM-DD format like 2015-01-01  
15 enddate: 2021-04-23 # machine-readable end date for the workshop in  
YYYY-MM-DD format like 2015-01-02  
16 instructor: ["Kim Dill-McFarland", "Monica Gerber", "Isabella Velásquez",  
"Madison Swain-Bowden"] # boxed, comma-separated list of instructors' names as  
strings, like ["Kay McNulty", "Betty Jennings", "Betty Snyder"]  
17 helper: ["Katie Jolly", "Jenny Smith", "Lauren Wolfe", "Pamela Moriarty"]  
# boxed, comma-separated list of helpers' names, like ["Marlyn Wescoff", "Fran  
Bilas", "Ruth Lichterman"]The right panel shows the "Git" tab of the RStudio interface. It displays a message: "Your branch is ahead of 'origin/gh-pages' by 1 commit." Below this, there are three tabs: "Staged", "Status", and "Path". The "Status" tab is selected, showing a single file "index.md" with a blue icon indicating it has been modified.



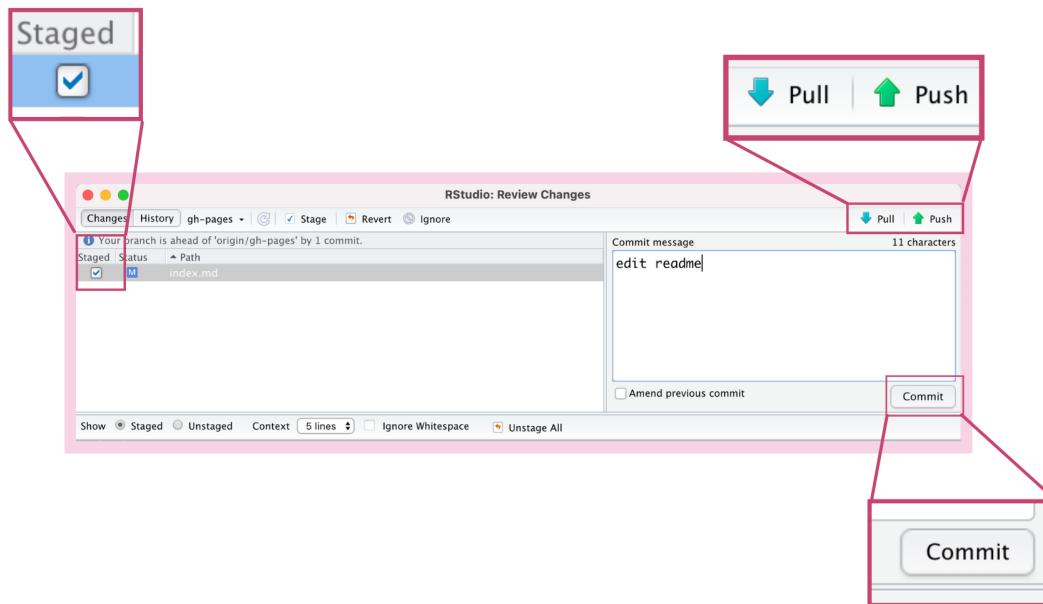
A screenshot of the RStudio interface, identical to the one above but showing the state after a commit. The title bar and code editor remain the same. In the Git pane, the "Status" tab is still selected, but the "index.md" file now has a white icon, indicating it is staged for commit. The message "Your branch is ahead of 'origin/gh-pages' by 1 commit." is still present.

# Click Commit



# Committing changes

- Stage your change
- Write a commit message
- Click "Commit"
- Push up changes



# Cache credentials

## Get PAT

- GitHub > Settings > Developer Settings > Personal access tokens > Generate new tokens or <https://github.com/settings/tokens>

## Save PAT

- `usethis::edit_r_environ()`
- THEN RESTART RSTUDIO!

```
GITHUB_TOKEN='12345'  
# leave blank line here
```

# Editing .gitignore

Say you want to create a directory called `graphs` and have Git ignore the files in the folder.

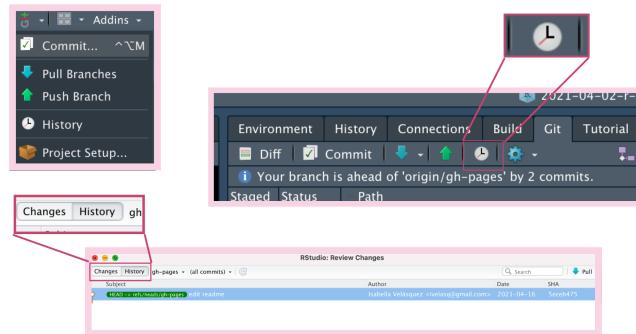
```
dir.create("./graphs")
```

In `.gitignore`:

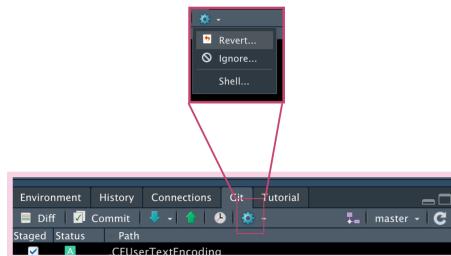
```
.Rproj.user  
.Rhistory  
.RData  
graphs/
```

# Other Git operations

## Check History

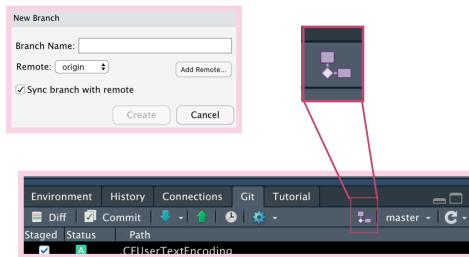


## Revert changes

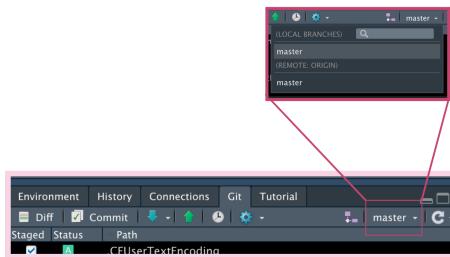


# Other Git operations

## Make new branches



## Switch branches



# Thank you!

Here's where you can find me...

[ivelasq.rbind.io](http://ivelasq.rbind.io) 

[@ivelasq3](https://twitter.com/ivelasq3) 

[@ivelasq](https://github.com/ivelasq) 



# Resources

## Git

- Carpentries Walkthrough of Version Control with Git: Setup

## Git & RStudio

- Happy Git with R
- Version Control with Git and SVN from RStudio

## Xaringan

- Sharing Your Work with Xaringan by Dr. Silvia Canelón