

Github



“Experience with version control is fast
becoming a requirement for all data
scientists”

—Rebecca Vickery

WHAT IS GITHUB?

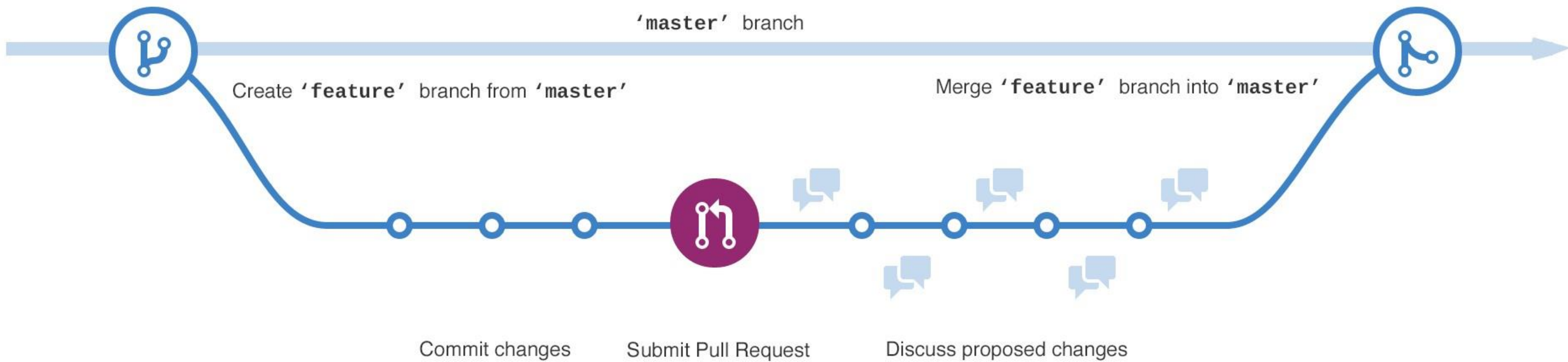
- Git is a Version Control Software
- Github stores the files for your project in a remote location and checks the differences as you change your code
- This allows you to roll back to previous versions of your project if you need to go back
- Makes sharing and collaboration much easier using the Github website

OTHER VERSION CONTROL

There are other kinds of version control software, GitLab also uses git.



We will be using Github in this course, but if in a future life, you might use these others.



Github Desktop and the Web

EXERCISE



- ▶ Download Github Desktop: <https://desktop.github.com/>
- ▶ Sign up for Github: <https://github.com/join>
- ▶ Got to course page: <https://github.com/orgs/rforoperations2019/>
 - ▶ Clone Class 2 repo: <https://github.com/rforoperations2019/Class-02-Shiny-Intro>
 - ▶ Create your own branch as your CMU username

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5:00

Github and Projects in RStudio

“R Projects are great.”

—Geoffrey Arnold

R PROJECTS

- ▶ So what is all this?
 - ▶ Avoid messy environment
 - ▶ Keep custom functions in check
 - ▶ Don't lose your work just because you want to do something else
- ▶ Info: <https://support.rstudio.com/hc/en-us/articles/200526207-Using-Projects>

HOW DO PROJECTS WORK?

- ▶ R typically saves your environment information in a default location (typically your Documents folder)
- ▶ When you create a project it gets its own .RData file for the project in the Directory/folder you created
- ▶ This is also the default working directory for your project, so no need to put all of the folders its in
 - ▶ Simply load objects by name if they're in the project folder

EXERCISE



- ▶ Create a “New Project”
 - ▶ Select “New Directory”
 - ▶ Select “New Project”
 - ▶ Make sure the “Create a git repository” is selected
 - ▶ Give the project any name you want
 - ▶ Click “Create Project”
 - ▶ Look at the “Git” tab

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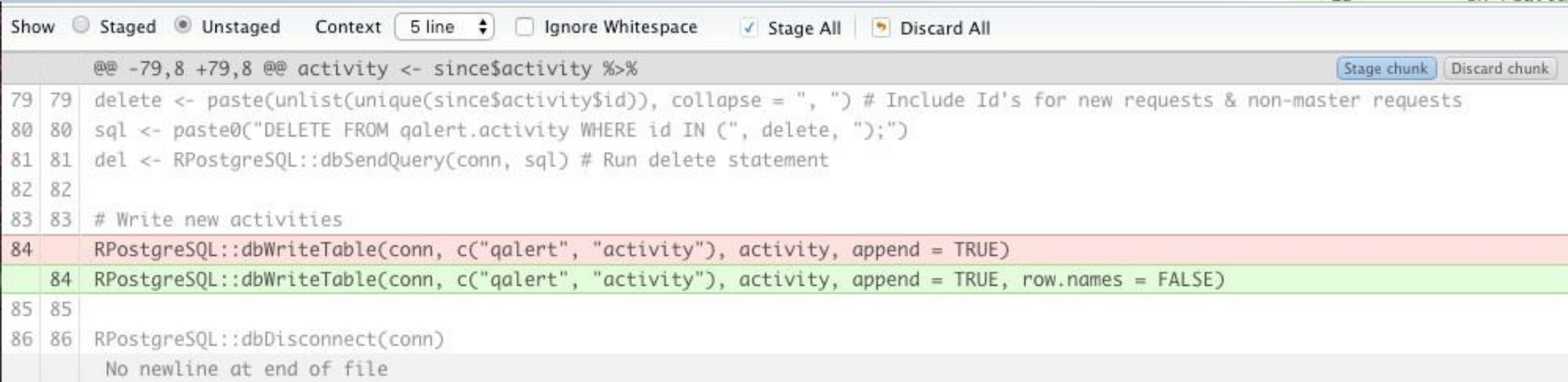
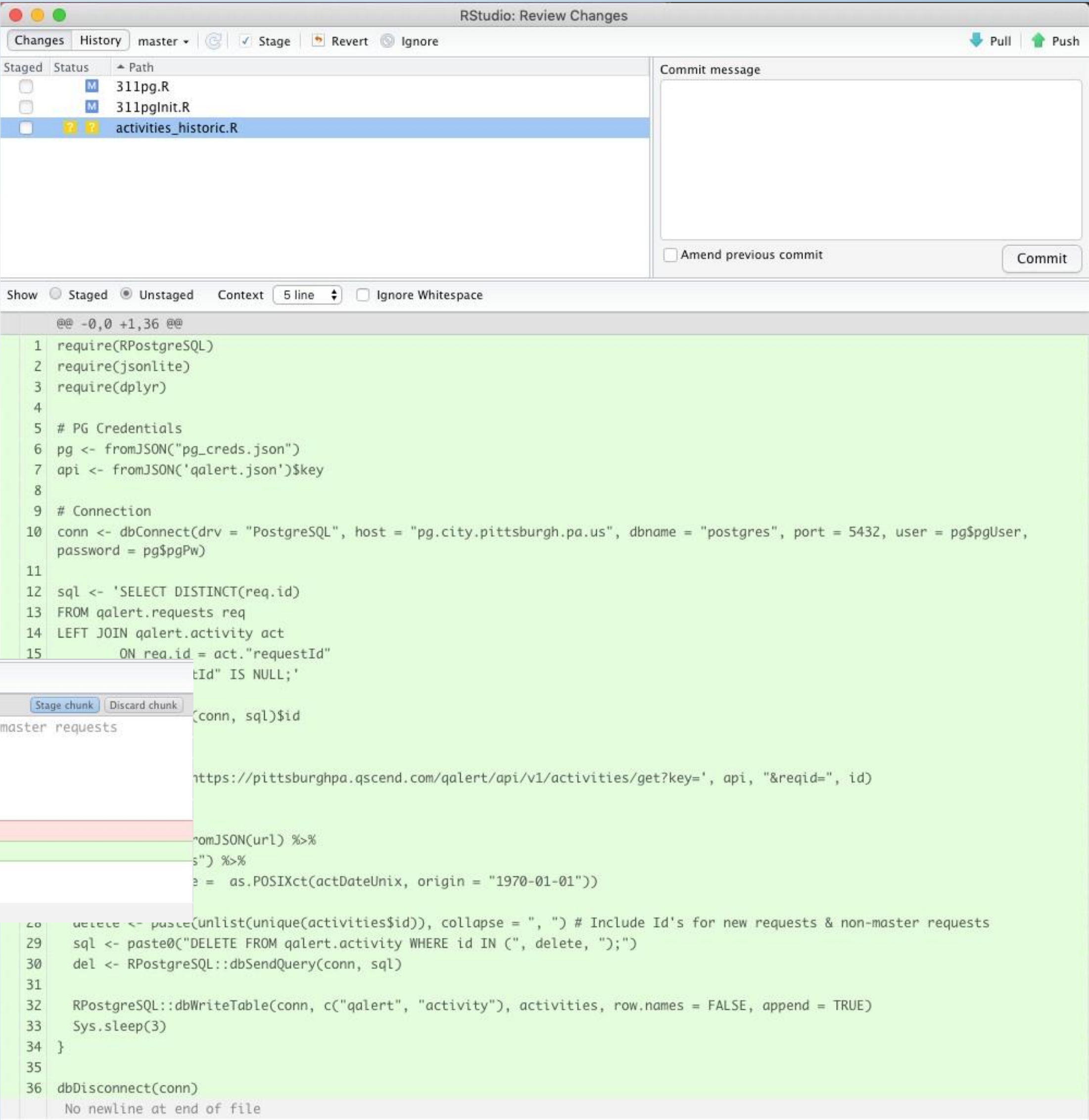
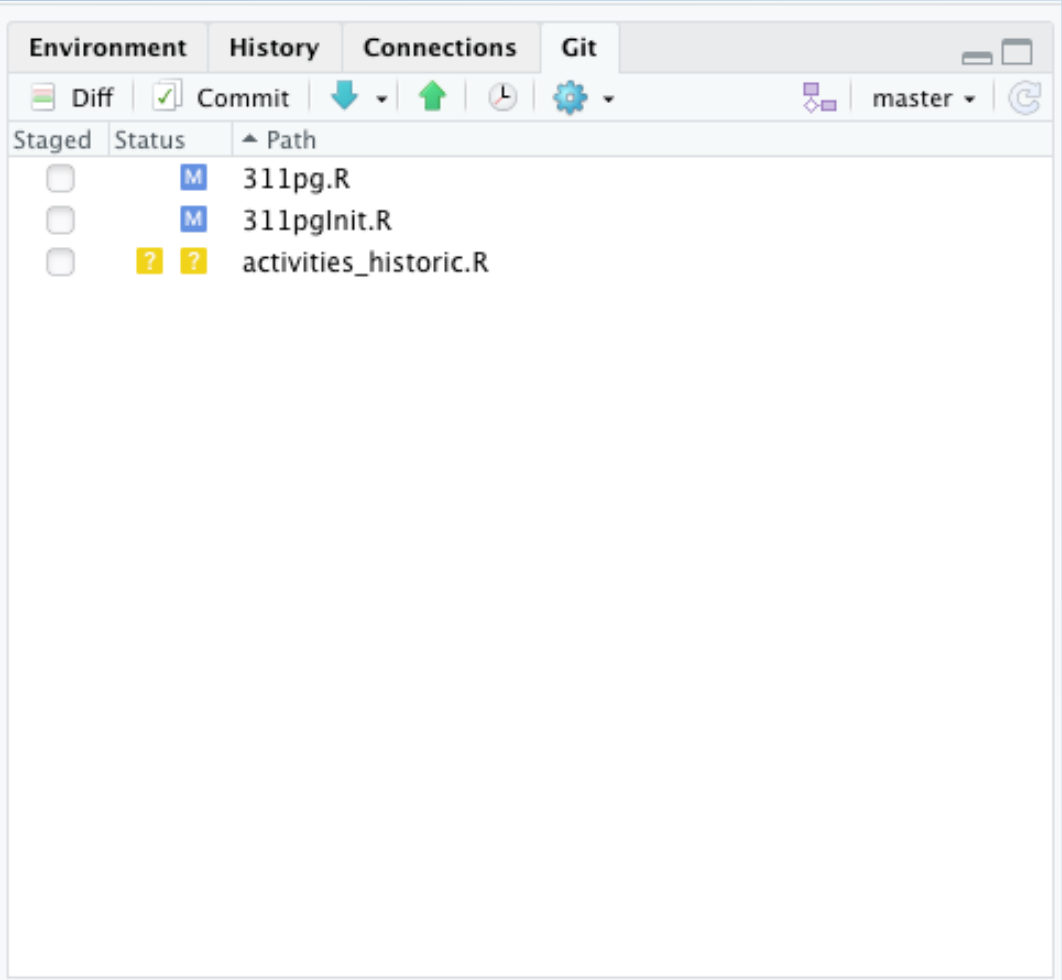
EXERCISE



- ▶ Click “File”
 - ▶ Click “New File”
 - ▶ Select “Shiny Web App”
 - ▶ Give the application a name and click “Create”
 - ▶ Click the “Git” tab
 - ▶ What’s change?

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EXERCISE



- ▶ Go to “Global Options”
 - ▶ Click “Git/SVN”
 - ▶ Ensure “Enable version control interface for Studio projects” is selected
 - ▶ Click “Create RSA Key...”
 - ▶ Click “Create”
 - ▶ Click “View public key” and copy key
- ▶ Go to <https://github.com/settings/keys>
 - ▶ Click “New SSH key”
 - ▶ Paste key in text box and give your key a name
 - ▶ Click “Add SSH Key”
 - ▶ If you have two factor authorization turned on for GitHub (people with previous GitHub accounts may have this turned on) you will need your Personal Access Token to login later
 - ▶ Everyone else, your GitHub login and password will be important when logging in later.

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EXERCISE



- ▶ Click the “Git” tab
 - ▶ Click “Commit”
 - ▶ Type a message into the “Commit message” box
 - ▶ Stage the files by making sure they are selected on the left
 - ▶ Click “Commit”
 - ▶ Click “Push”
 - ▶ Login to GitHub with either your password or personal access token

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Github in the command line / terminal

WHATS THE COMMAND LINE

- ▶ Command or terminal git commands are how git was first used.
- ▶ You don't need to know how to do these things as either the "Git" tab in RStudio or the Github desktop program provides a GUI (goosey user interface) for you.
- ▶ However, knowing the hard way to do something never hurt anybody.

EXERCISE



- ▶ <https://learngitbranching.js.org/>
- ▶ Complete Introduction Sequences
 - ▶ Git Commits
 - ▶ Branching Git
 - ▶ Merging in Git

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