

# Version Control and GitHub

Data Science Code-Along October 20, 2017

#### What we'll cover

#### The basics:

- Version control
- Git
- GitHub

#### Labs:

- Lab 0: Setup
- Lab 1: Issues
- Lab 2: Forking
- Lab 3: Commits
- Lab 4: Pull requests

The basics: Version control

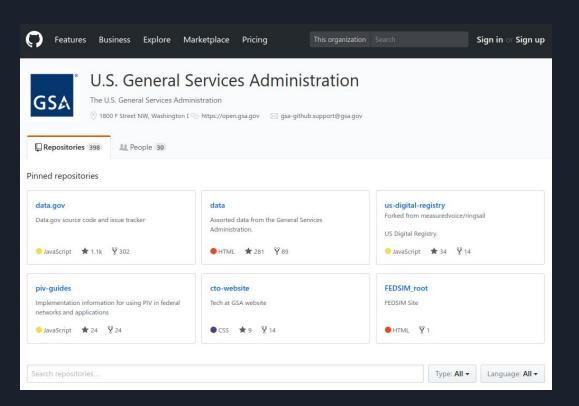
Name	^
▶ MyPythonDataProject	
MyPythonDataProject 2017-10-13	
MyPythonDataProject copy	
MyPythonDataProject copy 2	
MyPythonDataProject FINAL	
MyPythonDataProject FINAL fixed	
MyPythonDataProject V2	
MyPythonDataProject V3	
MyPythonDataProject V3 copy	
MyPythonDataProject V3 copy test	

The basics: Git



https://xkcd.com/1597/

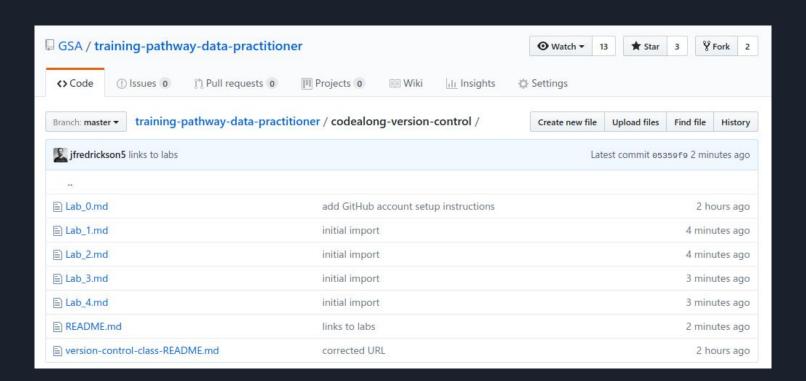
### The basics: GitHub



https://github.com/GSA

Modules and Labs:

git.io/vd5HV



Lab 0: Setup

#### Module 1: Issues

#### GitHub Issues

- Items that track work
  - Bug reports
  - Enhancement requests
  - Tasks
- Every project has different guidelines
  - Look for a CONTRIBUTING file or check the wiki
  - Some repositories have issue templates
- Writing good issues
  - Concise, useful title
  - Bug report? Describe the problem, specific error messages, how to reproduce
  - Enhancement? Explain what it should be, why it would be useful, who would benefit

## help wanted

### Lab 1: Issues

### Module 2: Forking

#### GitHub Forks

- Forking creates an exact copy of a GitHub repository
- A fork remembers the connection between the original repository and your new one
- Two primary uses:
  - A workspace for you to make changes to contribute back to the original repository
  - A starting point for a new project

### Lab 2: Forking

### Module 3: Commits

#### Commits

- Commits record your changes for posterity in version control
- A commit can include a single file or many files
- Each commit has a log message
- Best practices
  - Group related changes
  - Write useful log messages

	COMMENT	DATE	
Q	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO	
O .	ENABLED CONFIG FILE PARSING	9 HOURS AGO	
<b>o</b>	MISC BUGFIXES	5 HOURS AGO	
000	CODE ADDITIONS/EDITS	4 HOURS AGO	
Q	MORE CODE	4 HOURS AGO	
Ò	HERE HAVE CODE	4 HOURS AGO	
9	AAAAAAA	3 HOURS AGO	
0	ADKFJ5LKDFJ5DKLFJ	3 HOURS AGO	
O	MY HANDS ARE TYPING WORDS	2 HOURS AGO	
þ	HAAAAAAAANDS	2 HOURS AGO	
AS A PROJECT DRAGS ON, MY GIT COMMIT			
	MESSAGES GET LESS AND LESS INFO	RMATIVE.	

### Lab 3: Commits

### Module 4: Pull requests

#### GitHub pull requests (PRs)

- Offer your code to a project
- Best practices
  - o Small, incremental PRs
  - Descriptive messages
  - Associate with issues

### Lab 4: Pull requests