



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


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.




The basics: GitHub

FeaturesBusinessExploreMarketplacePricing

This organizationSearch

Sign in or Sign up

U.S. General Services Administration

The U.S. General Services Administration

1800 F Street NW, Washington DC 20540 <https://open.gsa.gov> gsa-github.support@gsa.gov

Repositories 398

People 30

Pinned repositories

data.gov
Data.gov source code and issue tracker
JavaScript 1.1k 302

data
Assorted data from the General Services Administration.
HTML 281 89

us-digital-registry
Forked from measuredvoice/ringsail
US Digital Registry.
JavaScript 34 14

piv-guides
Implementation information for using PIV in federal networks and applications
JavaScript 24 24

cto-website
Tech at GSA website
CSS 9 14

FEDSIM_root
FEDSIM Site
HTML 1

Search repositories...

Type: All

Language: All

<https://github.com/GSA>

Modules and Labs:

git.io/vd5HV

GSA / training-pathway-data-practitioner

Watch

13

★ Star

3

Fork

2

Code

Issues 0

Pull requests 0

Projects 0

Wiki

Insights

Settings

Branch: master

training-pathway-data-practitioner / codealong-version-control /

Create new file

Upload files

Find file

History



jfredrickson5 links to labs

Latest commit 05359f9 2 minutes ago

..

Lab_0.md	add GitHub account setup instructions	2 hours ago
Lab_1.md	initial import	4 minutes ago
Lab_2.md	initial import	4 minutes ago
Lab_3.md	initial import	3 minutes ago
Lab_4.md	initial import	3 minutes ago
README.md	links to labs	2 minutes ago
version-control-class-README.md	corrected URL	2 hours ago

<https://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
○	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
○	ENABLED CONFIG FILE PARSING	9 HOURS AGO
○	MISC BUGFIXES	5 HOURS AGO
○	CODE ADDITIONS/EDITS	4 HOURS AGO
○	MORE CODE	4 HOURS AGO
○	HERE HAVE CODE	4 HOURS AGO
○	AAAAAAA	3 HOURS AGO
○	ADKFTSLKDFJSDKLFJ	3 HOURS AGO
○	MY HANDS ARE TYPING WORDS	2 HOURS AGO
○	HAHAHAHAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT MESSAGES GET LESS AND LESS INFORMATIVE.

<https://xkcd.com/1296/>

Lab 3: Commits

Module 4: Pull requests

GitHub pull requests (PRs)

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

Lab 4: Pull requests