

Setups

- Installing git: <https://umswc.github.io/2019-10-14-umich/#setup>
 - Creating an account on GitHub: <https://github.com>
-
- Feel free to ask questions any time
 - Let me know if I'm going too fast
 - Tell me when you think I made a mistake (like a typo on the first slide that I just did)

An after-workshop feedback form!

(I would really appreciate it if you would like to tell me what you think!)

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.



Version Control and Git

Software Carpentry UMich 20191014

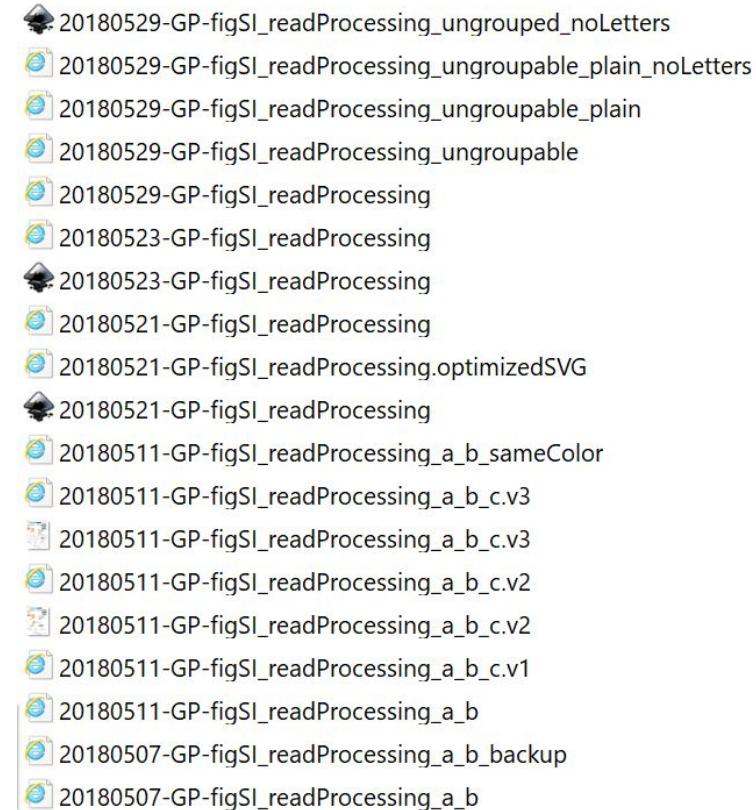
Rucheng Diao

diaorch@umich.edu

Keeping track of version is challenging in developments.



https://en.wikipedia.org/wiki/Kingdom_Hearts



VERSION CONTROL



imgflip.com

<https://imgflip.com/memegenerator/X-X-Everywhere>

Git was initially created for development of the Linux kernel

Version control: management of changes to data file(s) [1, 2]

The goals (citing Pro Git Book^[3]):

- Speed
- Simple design
- Strong support for non-linear development (thousands of parallel branches)
- Fully distributed ("What is distributed?" explained later)
- Able to handle large projects like the Linux kernel efficiently (speed and data size)

I think of git as a "mini-filesystem"^[4] that index and store your data changes.

1. https://en.wikipedia.org/wiki/Version_control
2. <https://git-scm.com/book/en/v1/Getting-Started-About-Version-Control>
3. <https://git-scm.com/book/en/v1/Getting-Started-A-Short-History-of-Git>
4. <https://git-scm.com/book/en/v1/Getting-Started-Git-Basics>

Outline

- What is version control and the goal of git
- ~~What is git?~~ Hands on git!
- What is special about git?
- Distributed git and GitHub

Glossary of commands (or simply run `git` for help)

Local git:

- `git config`: configuration of git
- `git init`: initialization a git repository
- `git status`: status of git repository
- `git add`: addition of file to staging area
- `git commit`: commitment of everything in staging area to git repository
- `git log`: log of commit history
- `git diff`: difference between commits

Distributed git

- `git push`: pushing current git repository to remote repository
- `git pull`: pulling remote repository to current git repository
- `git clone`: cloning a remote repository to current directory

Initializing a git repository

Let's check what is currently in the directory:

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ pwd  
/mnt/d/home/project/SWC  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ ls
```

Initializing a git repository

Let's check what is currently in the directory:

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ pwd  
/mnt/d/home/project/SWC  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ ls
```

Let's get git started!

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ git init swc-20191013  
Initialized empty Git repository in /mnt/d/home/project/SWC/swc-20191013/.gi  
t/
```

Initializing a git repository

Let's check what is currently in the directory:

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ pwd  
/mnt/d/home/project/SWC  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ ls
```

Let's get git started!

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ git init swc-20191013  
Initialized empty Git repository in /mnt/d/home/project/SWC/swc-20191013/.gi  
t/
```

Checking what has happened:

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ ls  
swc-20191013
```

Working
directory



Working with a git repository

What is in a git repository?

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ cd swc-20191013/  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ ls
```

Working with a git repository

What is in a git repository?

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ cd swc-20191013/  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ ls
```

Hidden contents?

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ ls -al  
total 0  
drwxrwxrwx 1 diaorch diaorch 4096 Oct 13 22:49 .  
drwxrwxrwx 1 diaorch diaorch 4096 Oct 13 22:49 ..  
drwxrwxrwx 1 diaorch diaorch 4096 Oct 13 22:49 .git
```

Working
directory

.git directory
Repository

Does git know what has happened?

```
git status
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status  
On branch master
```

```
Initial commit
```

```
nothing to commit (create/copy files and use "git add" to track)  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ █
```

Configuring git: telling git who you are

```
git config --global user.name "John Doe"  
git config --global user.email johndoe@example.com  
git config --global color.ui true  
git config --list
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git config --glob  
al user.name "Rucheng Diao"  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git config --glob  
al user.email diaorch@gmail.com  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git config --glob  
al color.ui true  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git config --list  
  
user.name=Rucheng Diao  
user.email=diaorch@gmail.com  
color.ui=true  
core.repositoryformatversion=0  
core.filemode=false  
core.bare=false  
core.logallrefupdates=true  
core.ignorecase=true
```

Adding contents to a git-tracking directory

Copy (or create a file) to the directory of tracking:

cp and ls and cat

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ ls
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ cp /mnt/d/home/pr
oject/SWC/safe_healthy_env.txt .
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ ls
safe_healthy_env.txt
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC$ cat safe_healthy_env.txt
Welcome to the Aperture Science Enrichment Center.
Let's look at some of the challenges you'll face as a test participant.
```

If you can't find the files from previous session anymore, you can:

```
echo 'This is a new file for git demo.' > first_example.txt
```

Does git know about the content changes?

```
git status
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status
On branch master
```

```
Initial commit
```

```
Untracked files:
  (use "git add <file>..." to include in what will be committed)
```

```
    safe_healthy_env.txt
```

```
nothing added to commit but untracked files present (use "git add" to track)
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```

Working
directory

.git directory
Repository



A hint from git about what to do next:

```
git status
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status  
On branch master
```

```
Initial commit
```

```
Untracked files:
```

```
(use "git add <file>..." to include in what will be committed)
```

```
safe_healthy_env.txt
```

```
nothing added to commit but untracked files present (use "git add" to track)  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```

Tracking changes:

```
git add <filename>
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git add safe*
```

Tracking changes:

```
git add <filename>
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git add safe*
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status
On branch master
```

Initial commit

```
Changes to be committed:
(use "git rm --cached <file>..." to unstage)
```

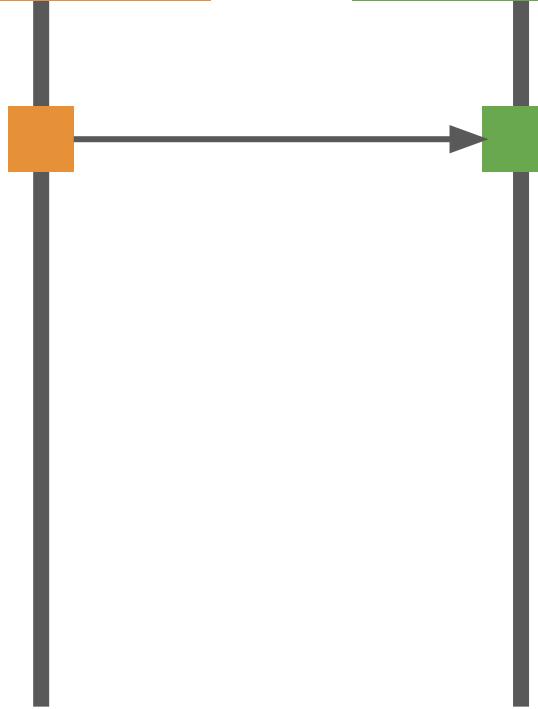
```
    new file:   safe_healthy_env.txt
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```

Working
directory

Staging area

.git directory
Repository



Committing changes:

```
git commit -m "your message"
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git commit -m 'first example of version control with git'  
[master (root-commit) 6e3cfdf] first example of version control with git  
1 file changed, 2 insertions(+)  
create mode 100644 safe_healthy_env.txt
```

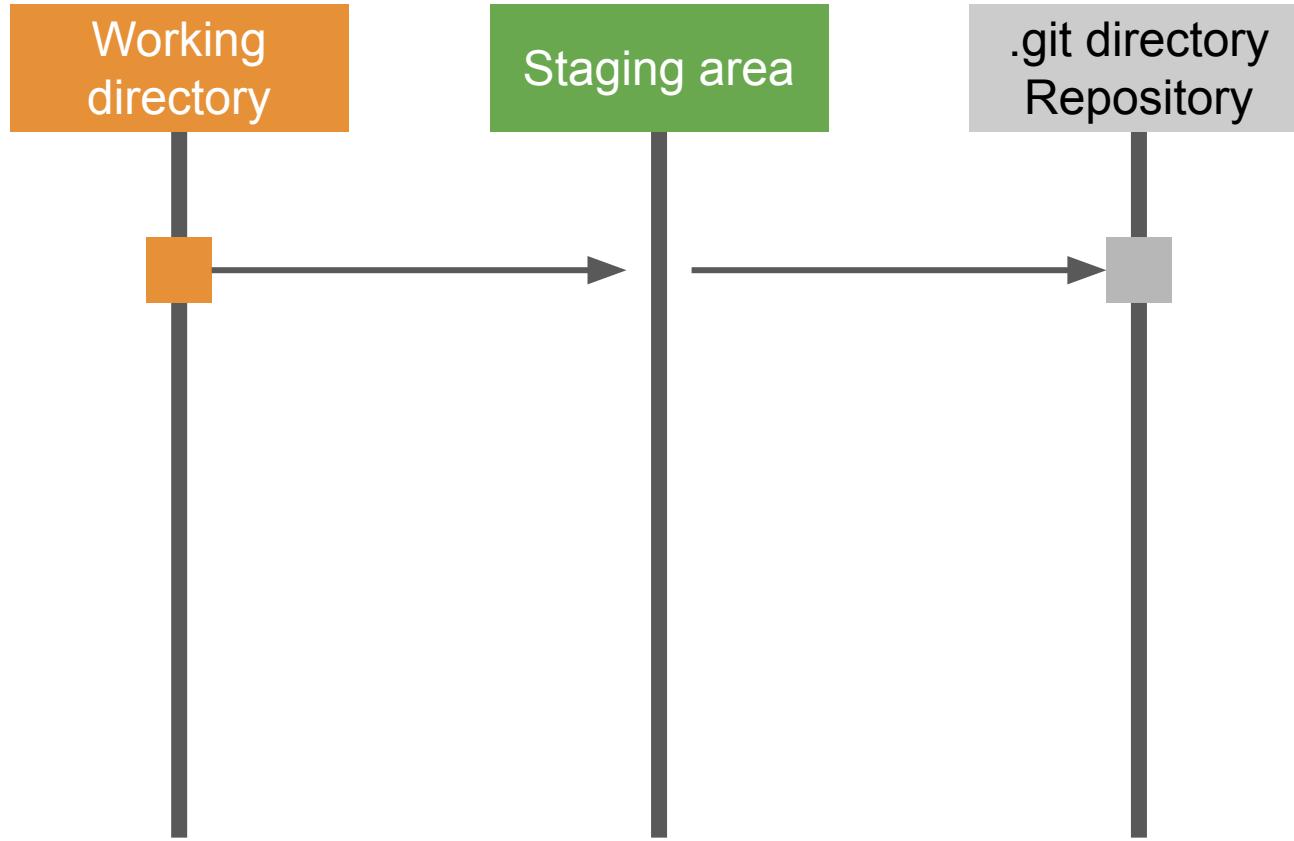
Committing changes:

```
git commit -m "your message"
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git commit -m 'fi  
rst example of version control with git'  
[master (root-commit) 6e3cfdf] first example of version control with git  
1 file changed, 2 insertions(+)  
create mode 100644 safe_healthy_env.txt
```

```
git status
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status  
On branch master  
nothing to commit, working directory clean
```



What if I want to know what changes just happened?

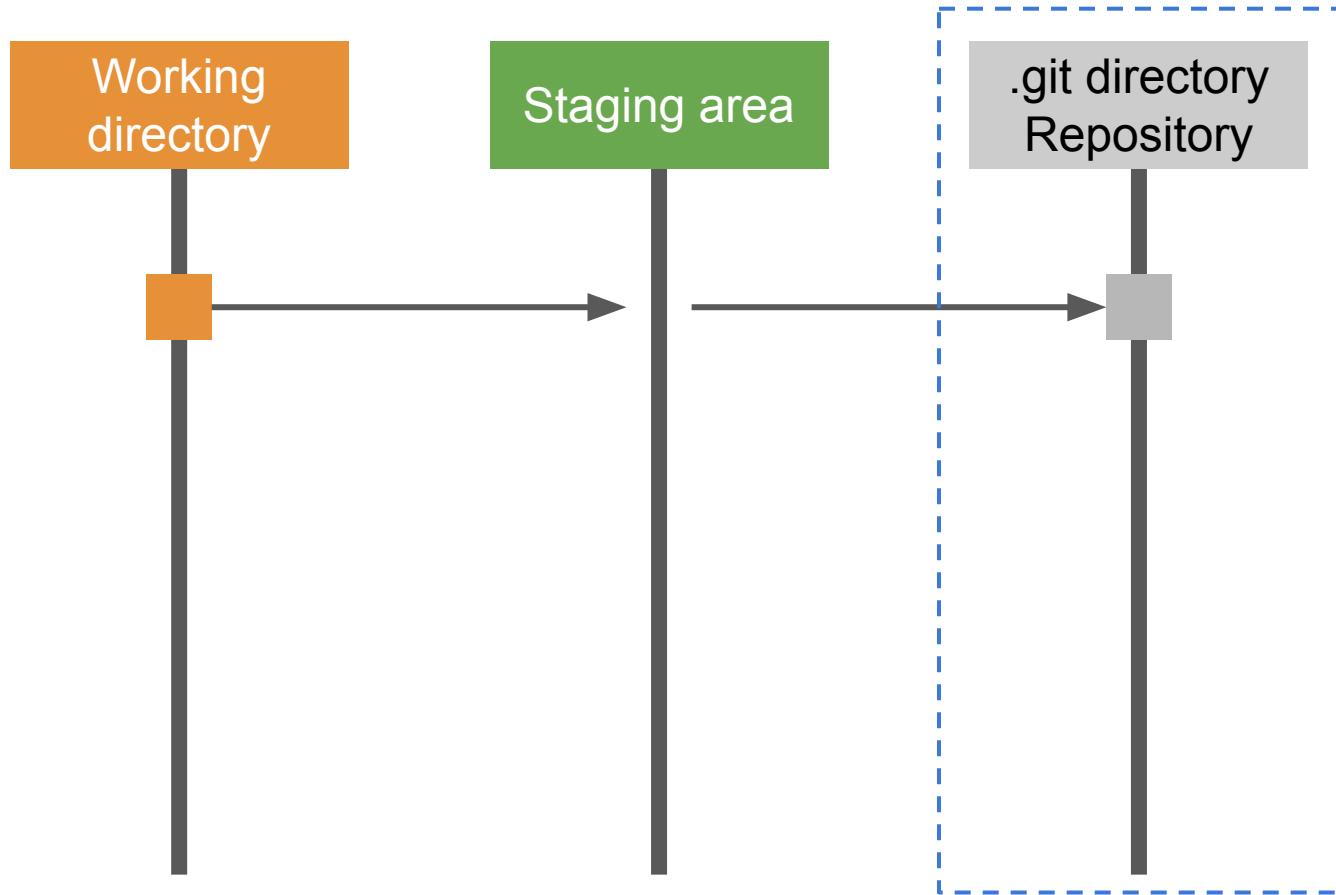
```
git log
```

```
diaorch@LAPTOP-PSEOHO2L:/mnt/d/home/project/SWC/swc-20191013$ git log  
commit 6e3cfdf16cd6916427466ce7b7289d9dd7d7885c
```

```
Author: Rucheng Diao <diaorch@gmail.com>  
Date:   Sun Oct 13 23:05:35 2019 -0400
```

```
first example of version control with git
```

SHA-1 hash: a unique "identifier" containing information of the commit.



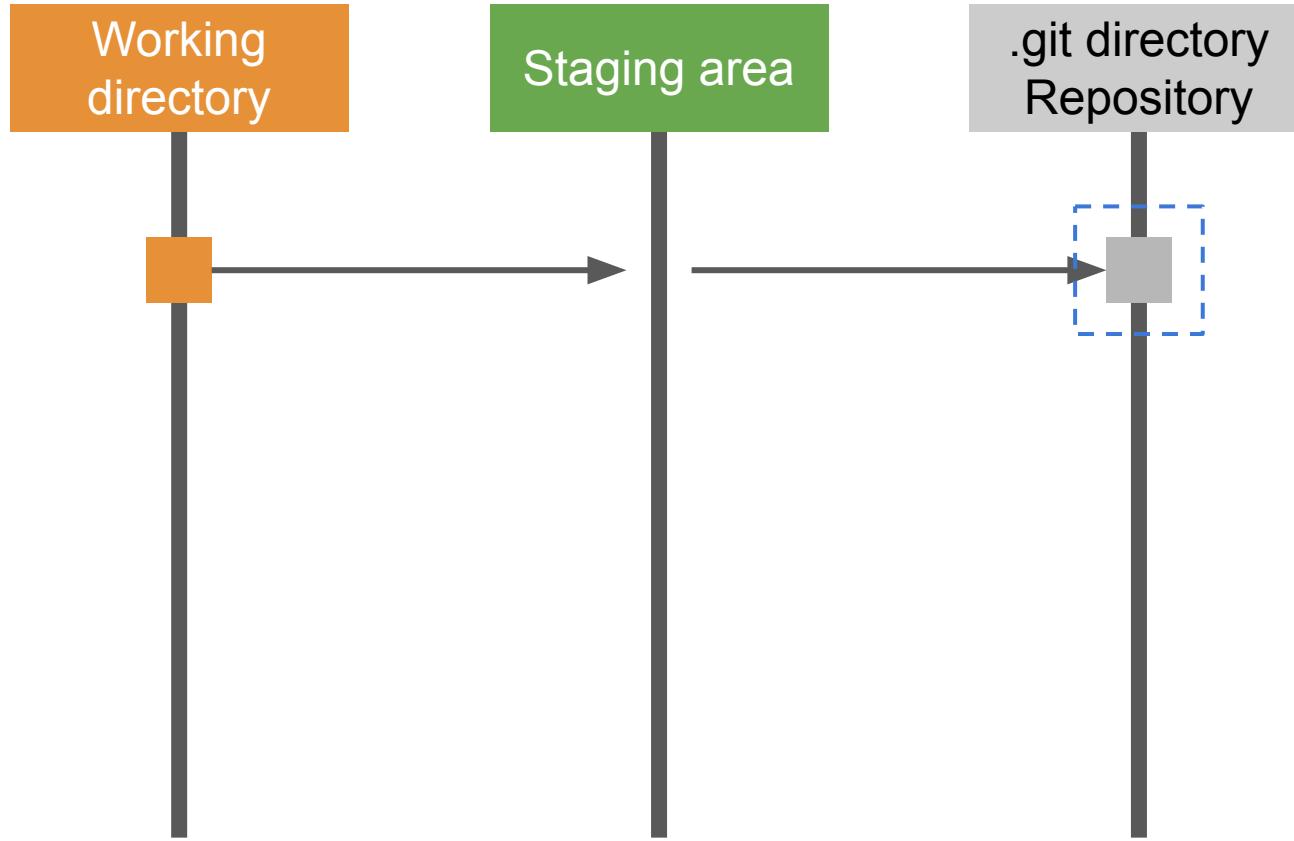
What if I want to know what changes just happened?

```
git show <commit>
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git show 6e3cfdf  
commit 6e3cfdf16cd6916427466ce7b7289d9dd7d7885c  
Author: Rucheng Diao <diaorch@gmail.com>  
Date:   Sun Oct 13 23:05:35 2019 -0400
```

```
    first example of version control with git
```

```
diff --git a/safe_healthy_env.txt b/safe_healthy_env.txt  
new file mode 100644  
index 000000..f86a9ae  
--- /dev/null  
+++ b/safe_healthy_env.txt  
@@ -0,0 +1,2 @@  
+Welcome to the Aperture Science Enrichment Center.  
+Let's look at some of the challenges you'll face as a test participant.  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```



More changes on their way: how to "update" content and track with git

Use your file editor of choice to add another line to your existing text file:

```
Welcome to the Aperture Science Enrichment Center.  
Let's look at some of the challenges you'll face as a test participant.
```

```
~  
~  
~  
~
```

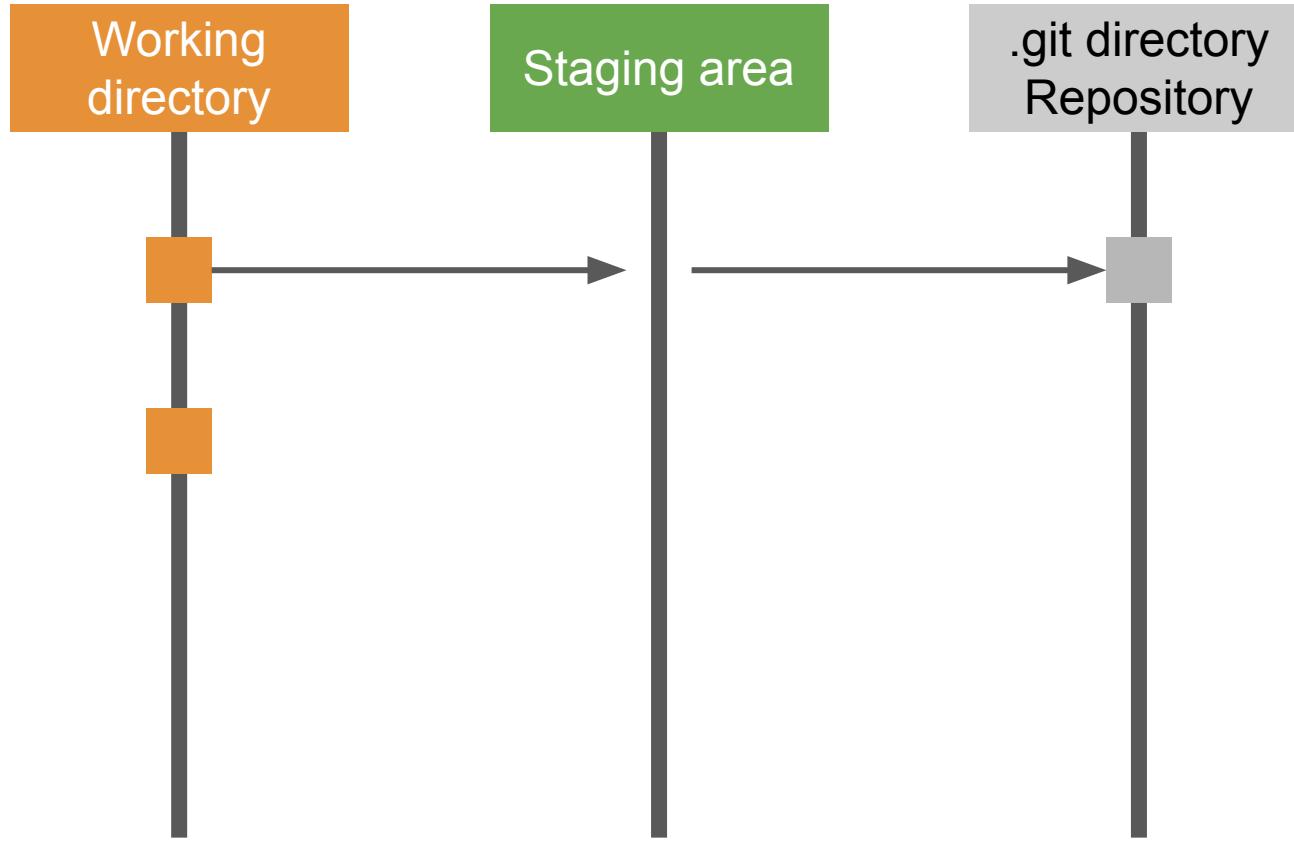
```
"safe_healthy_env.txt" 2L, 124C written          1,1          All
```

```
Welcome to the Aperture Science Enrichment Center.  
Let's look at some of the challenges you'll face as a test participant.
```

```
You may be required to perform simple tasks, such as locating an exit.
```

```
~  
~  
~  
~
```

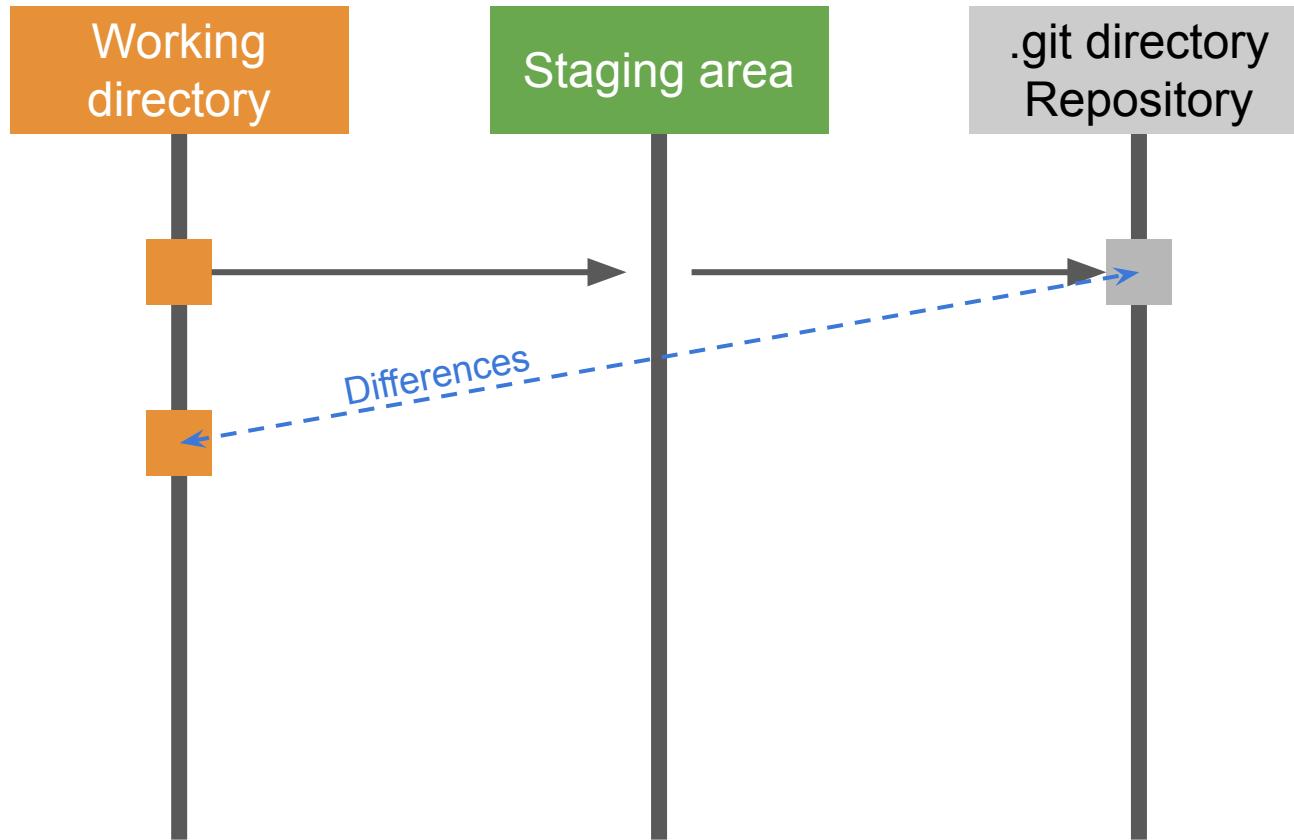
```
"safe_healthy_env.txt" 4L, 196C                  1,1          All
```



What have I just changed?

```
git diff <filename>
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git diff safe_healthy_env.txt
diff --git a/safe_healthy_env.txt b/safe_healthy_env.txt
index f86a9ae..b8848ae 100644
--- a/safe_healthy_env.txt
+++ b/safe_healthy_env.txt
@@ -1,2 +1,4 @@
 Welcome to the Aperture Science Enrichment Center.
 Let's look at some of the challenges you'll face as a test participant.
+
+You may be required to perform simple tasks, such as locating an exit.
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```



Let's tell git to track what we just changed:

But first, `git status`

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

    modified:   safe_healthy_env.txt

no changes added to commit (use "git add" and/or "git commit -a")
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ █
```

Let's tell git to track what we just changed:

```
git add <filename>
```

```
git commit -m "your message"
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git add safe_healthy_env.txt
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status  
On branch master
```

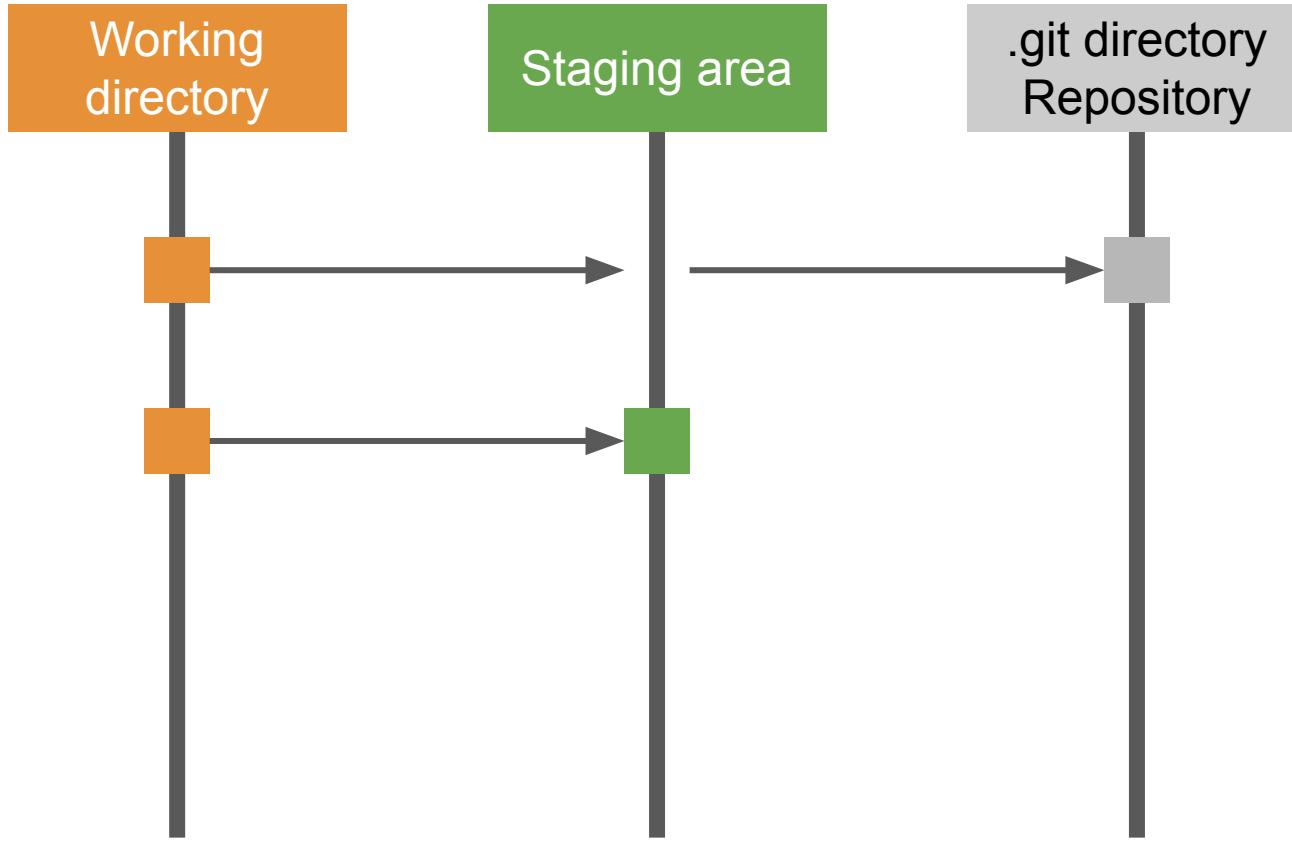
```
Changes to be committed:
```

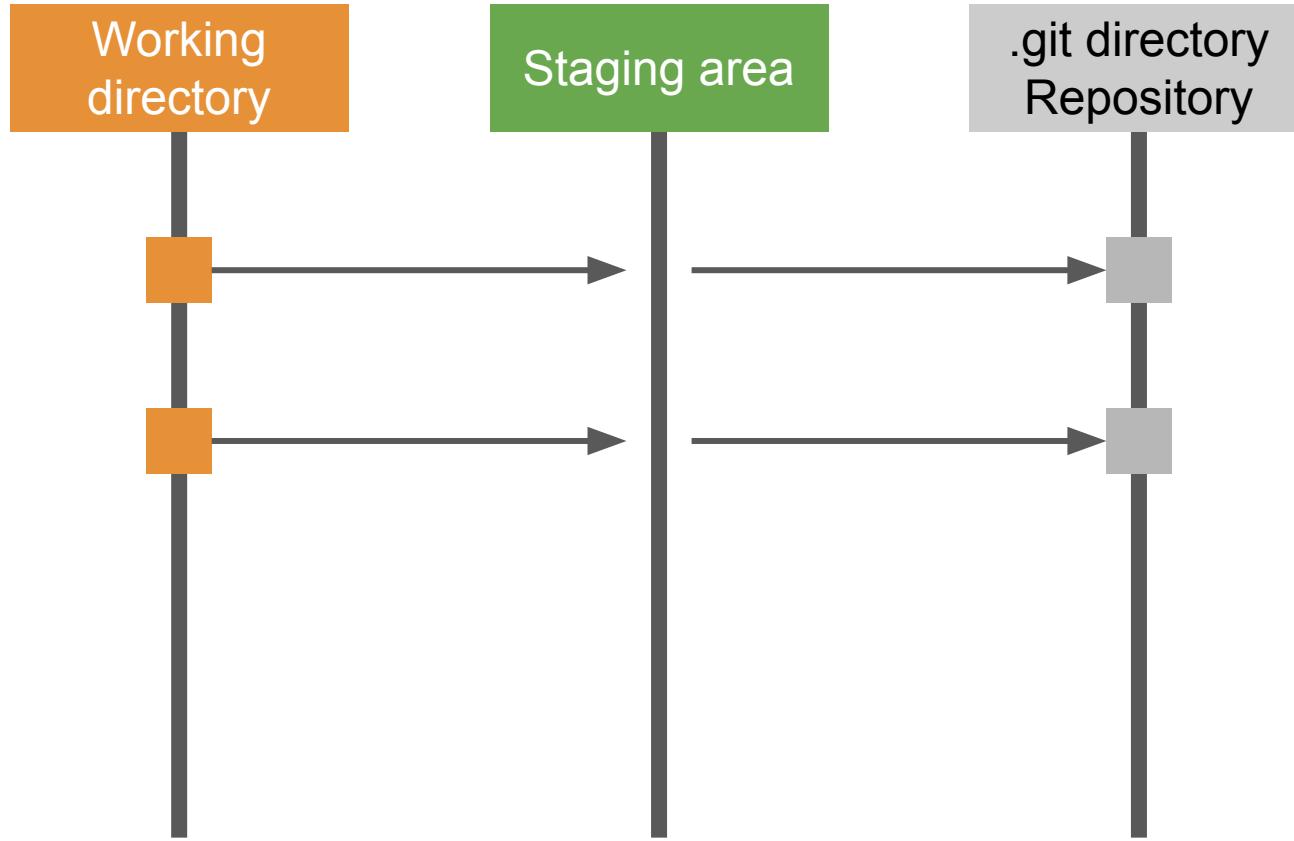
```
  (use "git reset HEAD <file>..." to unstage)
```

```
    modified:   safe_healthy_env.txt
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git commit -m 'example of tracking modification of one file in git'  
[master 80f4e42] example of tracking modification of one file in git  
 1 file changed, 2 insertions(+)
```

How to check your commit?





What if...

You had fixed a bug.

You had `git add` and `commit` the changes you made.

You went home and took a good break.

The next day, you `cd` into your working directory, and

"Wait, what was I doing the day before?"

How to check the "history" in git:

```
git log
```

```
git shortlog
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git log --graph
* commit 80f4e4229107584d60beb050fe247d3ab912c125
```

```
Author: Rucheng Diao <diaorch@gmail.com>
```

```
Date: Sun Oct 13 23:27:33 2019 -0400
```

```
example of tracking modification of one file in git
```

```
* commit 6e3cfdf16cd6916427466ce7b7289d9dd7d7885c
```

```
Author: Rucheng Diao <diaorch@gmail.com>
```

```
Date: Sun Oct 13 23:05:35 2019 -0400
```

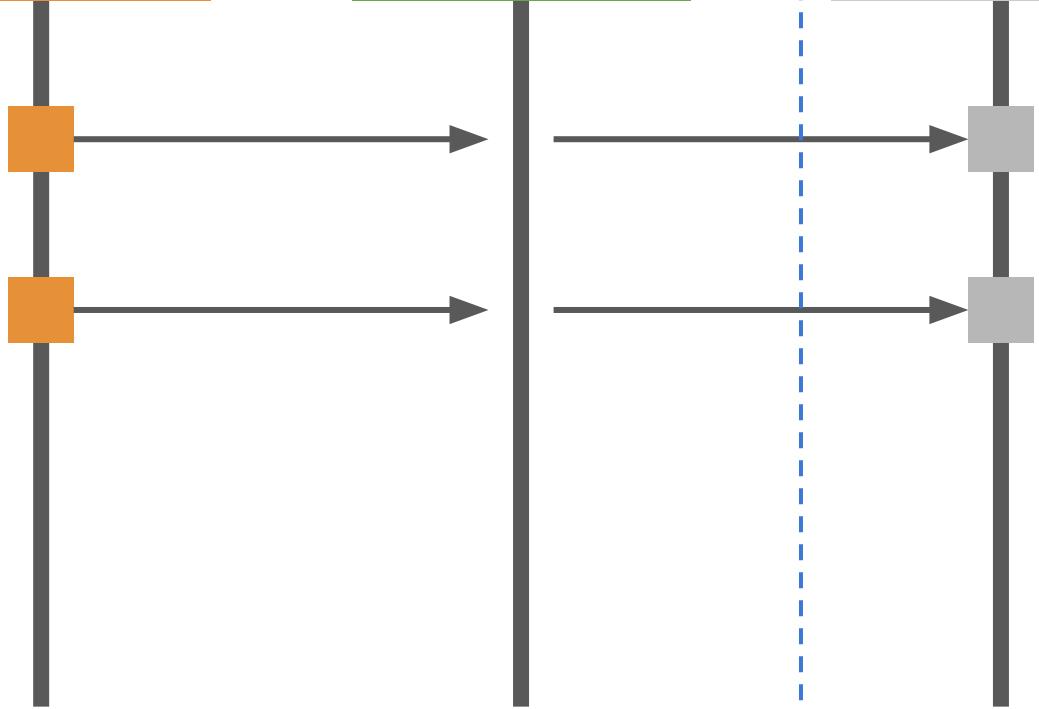
```
first example of version control with git
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```

Working
directory

Staging area

.git directory
Repository

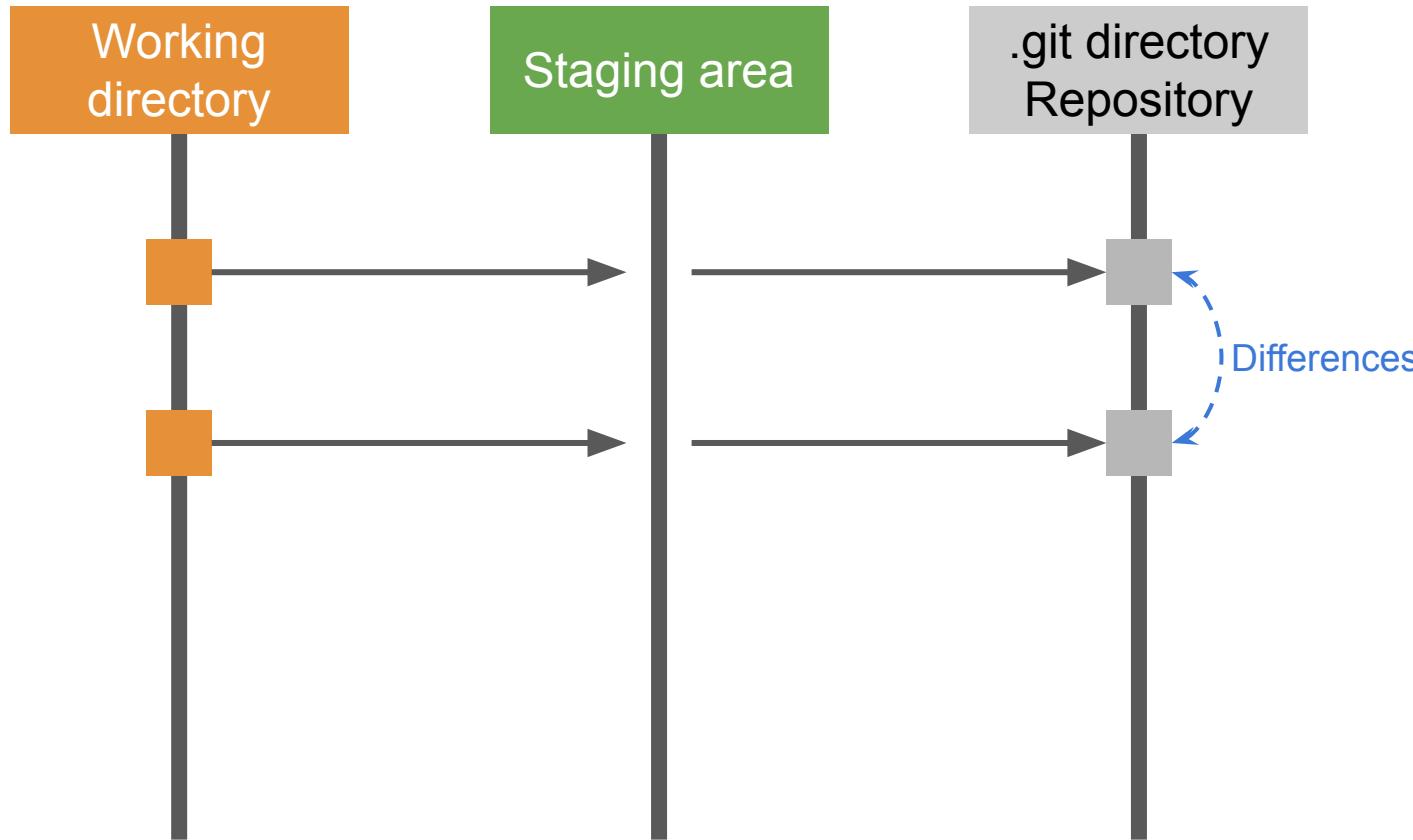


How to check the "history" in git:

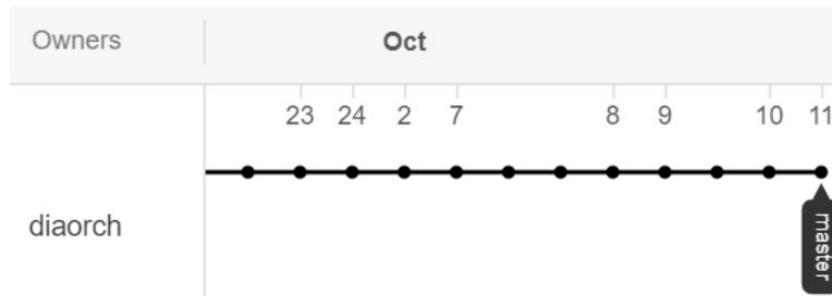
```
git diff <commit>..<commit>
```

Make use of the shorthands of commit SHA-1 hashes.

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git diff 6e3cfda..  
80f4e4 -- safe_healthy_env.txt  
diff --git a/safe_healthy_env.txt b/safe_healthy_env.txt  
index f86a9ae..b8848ae 100644  
--- a/safe_healthy_env.txt  
+++ b/safe_healthy_env.txt  
@@ -1,2 +1,4 @@  
 Welcome to the Aperture Science Enrichment Center.  
 Let's look at some of the challenges you'll face as a test participant.  
+  
+You may be required to perform simple tasks, such as locating an exit.  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```



We can keep adding changes and tracking with git



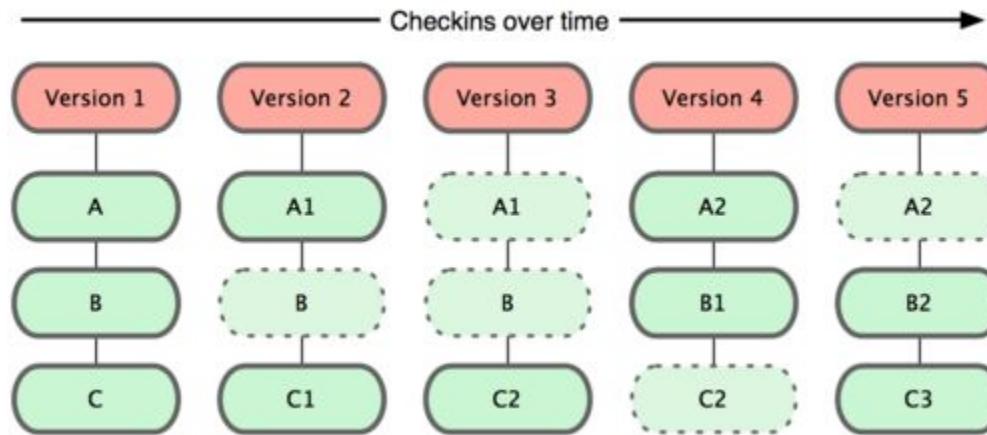
So, what is special about git?

Basic characteristics of git

- A three stage system
 - Modified, staged, and committed
- Generally only adds data

What is special about git compared to other version control systems?

- Git thinks of data as "streams of **snapshots**"
 - What if we want to compare C3 to A2?

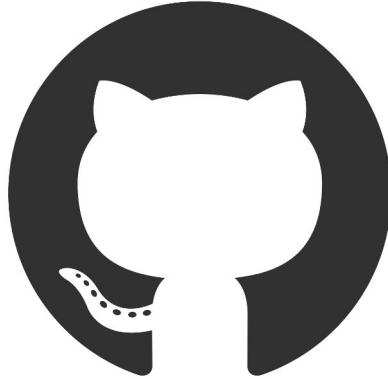


- Nearly every operation in git is **local**
 - What if your network is temporarily down? What if the server is destroyed?
- Git has **integrity** and knows every changes in the directory
 - What if a file is damaged but the file name remains the same?

My take on why you want to use git:

You should be able to work offline, track multiple parallel thoughts of one project at the same time, and then accidentally delete your whole directory but able to recover all files in a minute

You should be able to work offline, track multiple parallel thoughts of one project at the same time, and then accidentally delete your whole directory, and have the building you work in just burned down, but able to recover all files in a minute

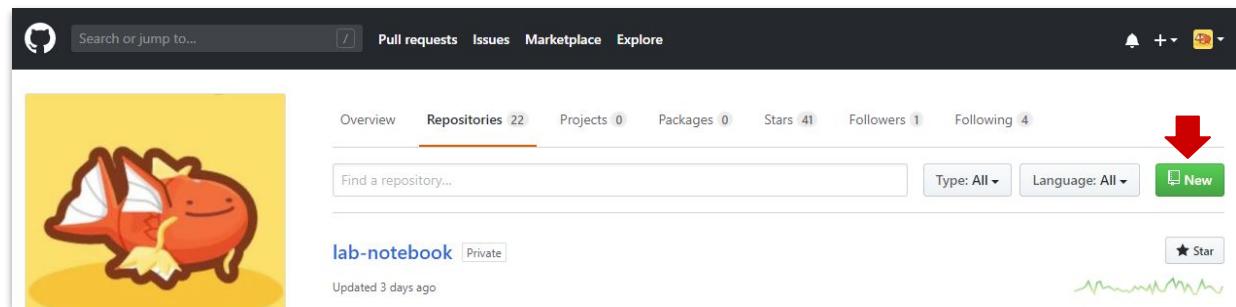
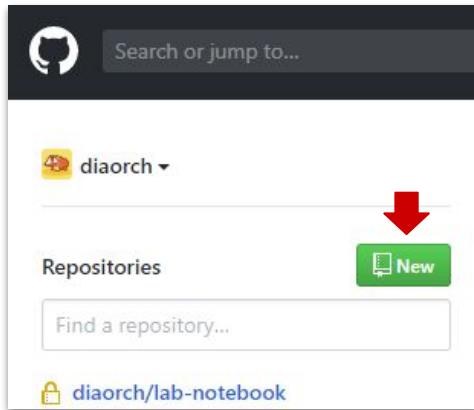


Distributed Git, and GitHub

<https://github.com/>

(Have an account as a part of set-up?)

Create a new remote repository:

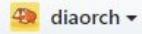


Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?

[Import a repository.](#)

Owner



diaorch ▾

Repository name *

swc-20191013



Same name as the local repo

Great repository names are short and memorable. Need inspiration? How about [special-octo-spoon](#)?

Description (optional)

Example repo in preparation for Software Carpentry UMich 20191014 contents for git.



Public

Anyone can see this repository. You choose who can commit.



Private

You choose who can see and commit to this repository.

Skip this step if you're importing an existing repository.

Initialize this repository with a README

This will let you immediately clone the repository to your computer.

Add .gitignore: None ▾

Add a license: None ▾



Create repository



Search or jump to...

Pull requests Issues Marketplace Explore

Notifications + Help

diaorch / swc-20191013

Unwatch 1

Star 0

Fork 0

Code

Issues 0

Pull requests 0

Projects 0

Wiki

Security

Insights

Settings

Quick setup — if you've done this kind of thing before

Set up in Desktop or HTTPS SSH <https://github.com/diaorch/swc-20191013.git>

Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

...or create a new repository on the command line

```
echo "# swc-20191013" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin https://github.com/diaorch/swc-20191013.git
git push -u origin master
```

...or push an existing repository from the command line

```
git remote add origin https://github.com/diaorch/swc-20191013.git
git push -u origin master
```

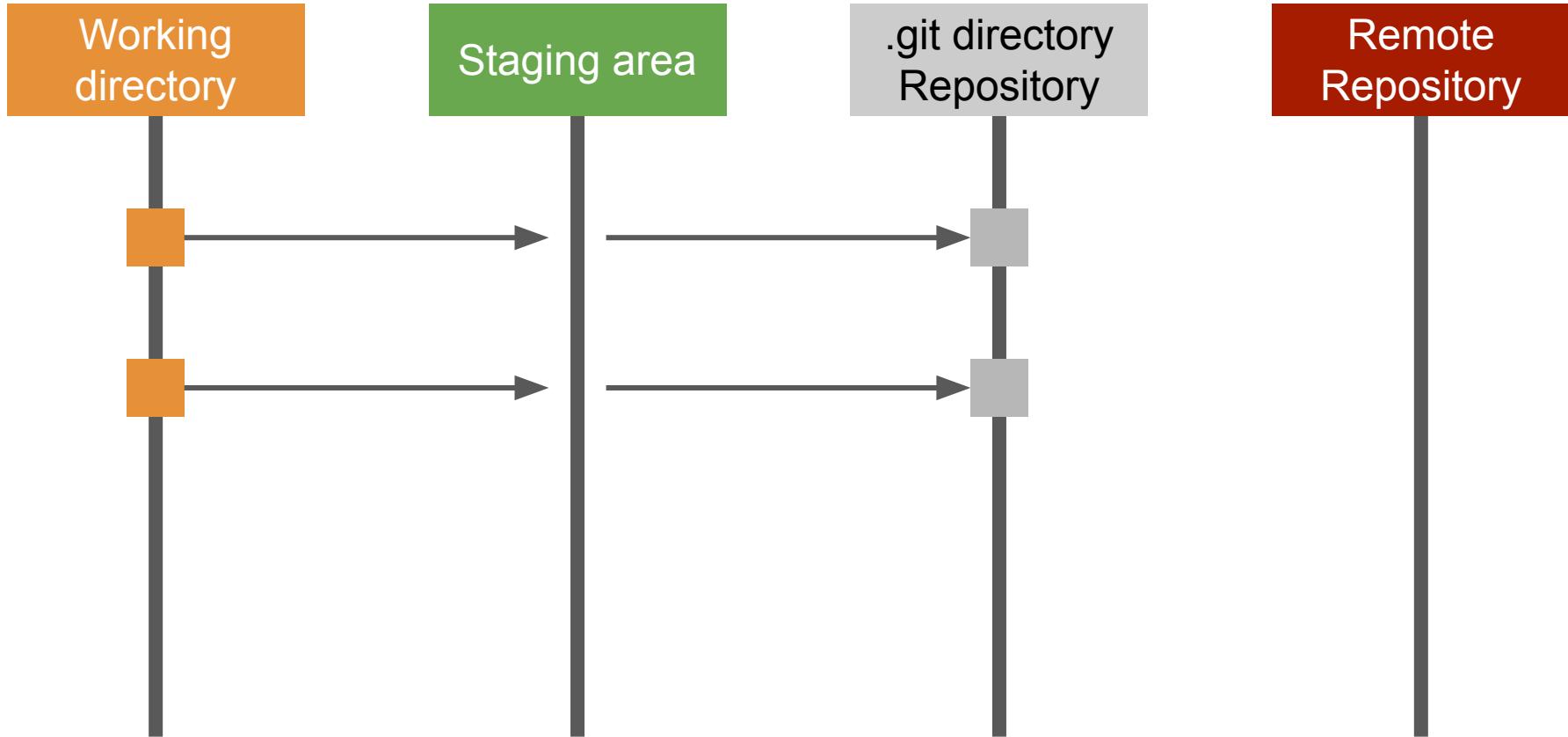
...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code

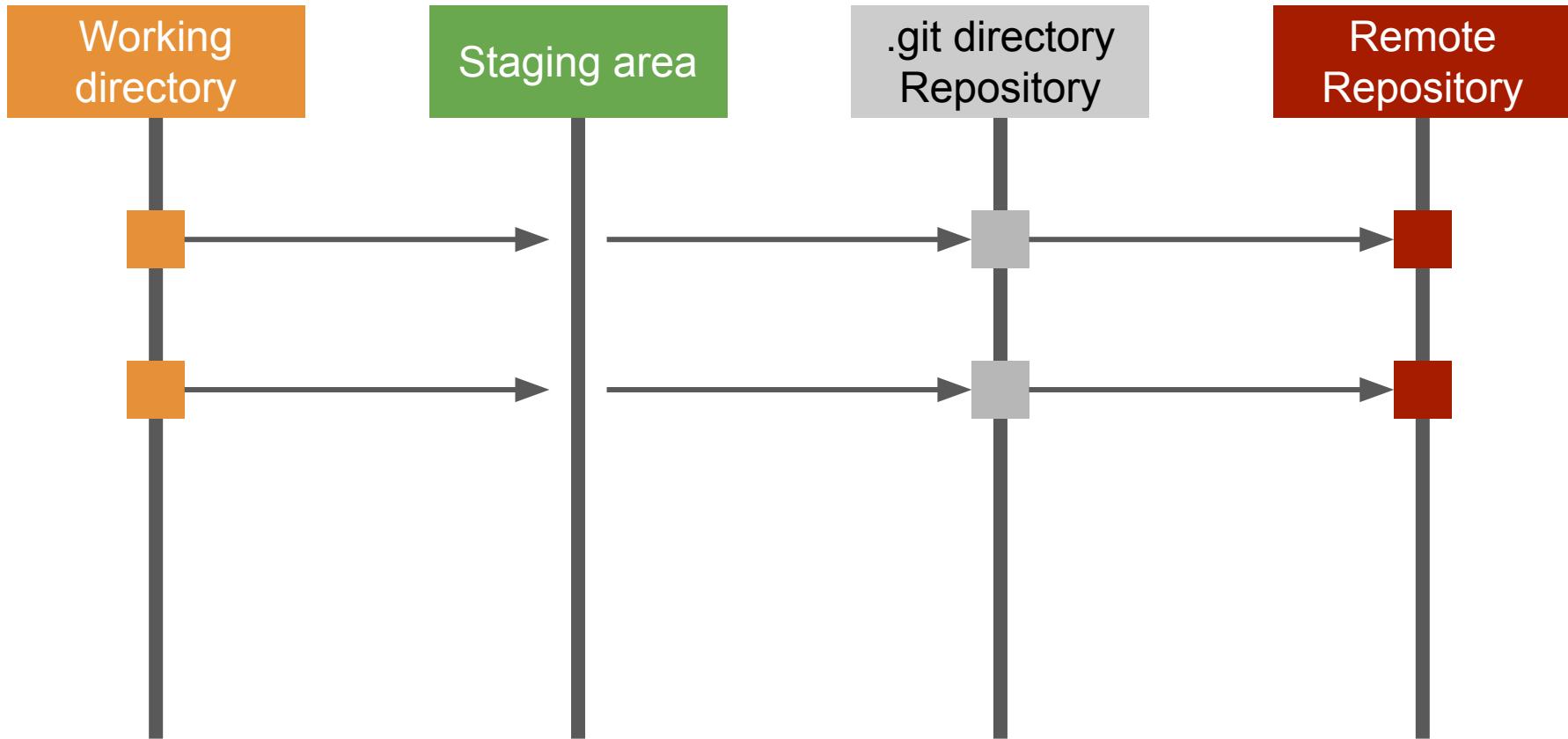
Pushing an existing repository from the command line

```
diaorch@LAPTOP-PSEOHO2L:/mnt/d/home/project/SWC/swc-20191013$ git remote add origin https://github.com/diaorch/swc-20191013.git
```



Pushing an existing repository from the command line

```
→ diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git remote add origin https://github.com/diaorch/swc-20191013.git
→ diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git push -u origin master
Username for 'https://github.com': diaorch
Password for 'https://diaorch@github.com':
Counting objects: 6, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (6/6), 647 bytes | 0 bytes/s, done.
Total 6 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/diaorch/swc-20191013.git
 * [new branch]      master -> master
Branch master set up to track remote branch master from origin.
```



Your content now has a copy in the remote repository.

The screenshot shows a GitHub repository page for 'diaorch / swc-20191013'. The top navigation bar includes 'Pull requests', 'Issues', 'Marketplace', and 'Explore' links. Below the header, there are buttons for 'Unwatch', 'Star', 'Fork', and a search bar. The repository name 'diaorch / swc-20191013' is displayed, along with statistics: 2 commits, 1 branch, 0 releases, and 1 contributor. A red box highlights the '2 commits' button. Below this, a dropdown menu shows 'Branch: master' and a 'New pull request' button. A green 'Clone or download' button is also visible. The commit list shows two entries: 'diaorch example of tracking modification of one file in git' (latest commit) and 'safe_healthy_env.txt example of tracking modification of one file in git' (21 minutes ago). A red arrow points to the 'safe_healthy_env.txt' commit. A blue callout box at the bottom left encourages users to add a README, with a 'Add a README' button. The footer contains links for GitHub, Inc., Terms, Privacy, Security, Status, Help, Contact GitHub, Pricing, API, Training, Blog, and About.

diaorch / swc-20191013

2 commits

1 branch

0 releases

1 contributor

Branch: master ▾ New pull request

Create new file Upload files Find file Clone or download ▾

diaorch example of tracking modification of one file in git

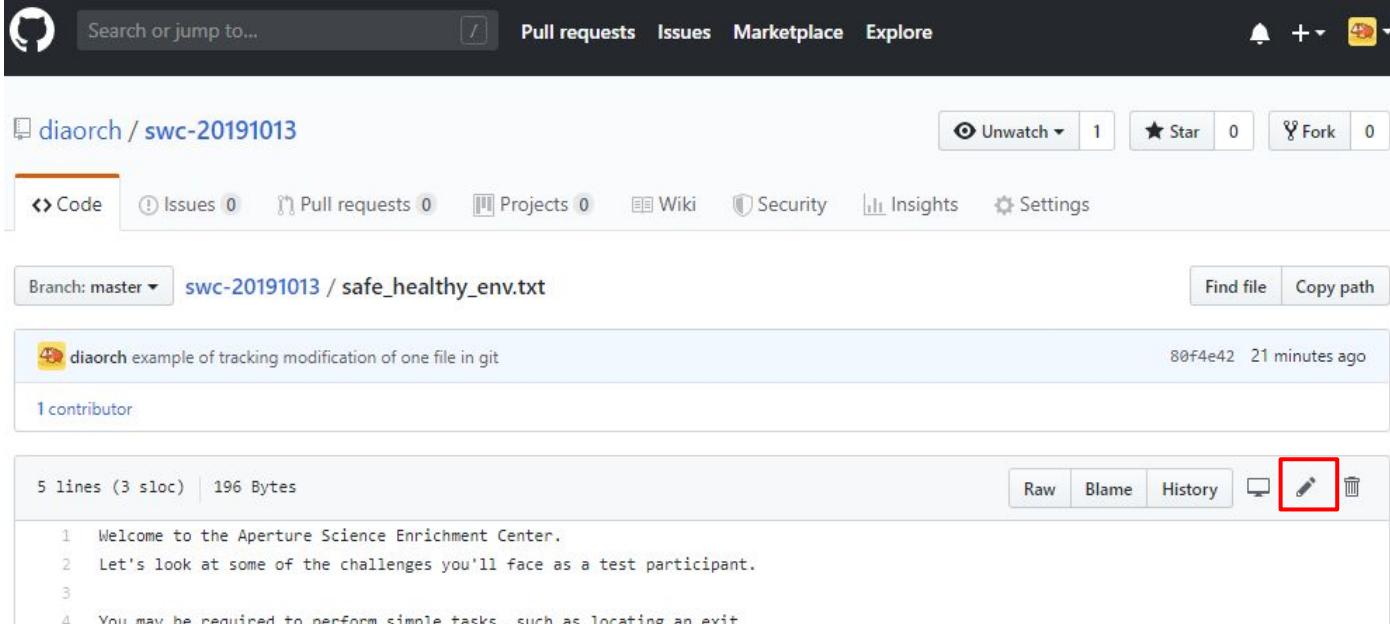
Latest commit 80f4e42 21 minutes ago

safe_healthy_env.txt example of tracking modification of one file in git 21 minutes ago

Add a README

Click on a plain text file

What if collaborators (might be ourselves) make changes to the remote repository?



The screenshot shows a GitHub repository page for 'diaorch / swc-20191013'. The repository has 1 unwatched star and 0 forks. The 'Code' tab is selected, showing the file 'safe_healthy_env.txt'. The file has 5 lines (3 sloc) and 196 Bytes. A commit history is displayed:

- diaorch example of tracking modification of one file in git (commit 80f4e42, 21 minutes ago)

1 contributor

Raw Blame History  

```
1 Welcome to the Aperture Science Enrichment Center.  
2 Let's look at some of the challenges you'll face as a test participant.  
3  
4 You may be required to perform simple tasks, such as locating an exit.
```



Search or jump to...

Pull requests Issues Marketplace Explore

Unwatch 1 Star 0 Fork 0

diaorch / swc-20191013

Code

Issues 0

Pull requests 0

Projects 0

Wiki

Security

Insights

Settings

swc-20191013 / safe_healthy_env.txt

Cancel

Edit file

Preview changes

Spaces

2

Soft wrap

- 1 Welcome to the Aperture Science Enrichment Center.
- 2 Let's look at some of the challenges you'll face as a test participant.
- 3
- 4 You may be required to perform simple tasks, such as locating an exit.
- 5 These simple tasks may be supplemented with insurmountable obstacles.

1



Commit changes

2

GitHub example and collaborating with ourselves

Use GitHub web interface to update the single git example file to illustrate remote repo and later `git pull`

[Edit file](#)[Preview changes](#)

Spaces

2

Soft wrap

1

- 1 Welcome to the Aperture Science Enrichment Center.
- 2 Let's look at some of the challenges you'll face as a test participant.
- 3
- 4 You may be required to perform simple tasks, such as locating an exit.
- 5 These simple tasks may be supplemented with insurmountable obstacles.|



Commit changes

2

GitHub example and collaborating with ourselves

Use GitHub web interface to update the single git example file to illustrate remote repo and later `git pull`

Commit directly to the `master` branch.

Create a new branch for this commit and start a pull request. Learn more about pull requests.

3

[Commit changes](#)

Cancel



Search or jump to...

Pull requests Issues Marketplace Explore

Notifications + GitHub SSO

diaorch / swc-20191013

Unwatch ▾ 1

Star 0

Fork 0

Code

Issues 0

Pull requests 0

Projects 0

Wiki

Security

Insights

Settings

Branch: master ▾

swc-20191013 / safe_healthy_env.txt

Find file

Copy path



diaorch GitHub example and collaborating with ourselves

04787dc now

1 contributor

6 lines (4 sloc) | 266 Bytes

Raw

Blame

History



```
1 Welcome to the Aperture Science Enrichment Center.  
2 Let's look at some of the challenges you'll face as a test participant.  
3  
4 You may be required to perform simple tasks, such as locating an exit.  
5 These simple tasks may be supplemented with insurmountable obstacles.
```



How to retrieve the changes implemented on the remote?

The screenshot shows a GitHub repository page for 'diaorch / swc-20191013'. The top navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. The repository name 'diaorch / swc-20191013' is displayed, along with metrics: 1 unwatched star, 0 forks, and 0 contributors. Below the header, there are tabs for Code, Issues (0), Pull requests (0), Projects (0), Wiki, Security, Insights, and Settings. A descriptive text states: 'Example repo in preparation for Software Carpentry UMICH 20191014 contents for git.' An 'Edit' button is visible. A 'Manage topics' link is present. Key statistics include 3 commits (highlighted with a red box), 1 branch, 0 releases, and 1 contributor. Branch selection dropdown shows 'master'. Action buttons include 'New pull request', 'Create new file', 'Upload files', 'Find file', and a green 'Clone or download' button. A commit list shows one entry by 'diaorch' with the message 'GitHub example and collaborating with ourselves ...'. The commit was made 1 minute ago. A README section at the bottom encourages adding a README file.

Search or jump to...

Pull requests Issues Marketplace Explore

diaorch / swc-20191013

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Security Insights Settings

Example repo in preparation for Software Carpentry UMICH 20191014 contents for git. Edit

Manage topics

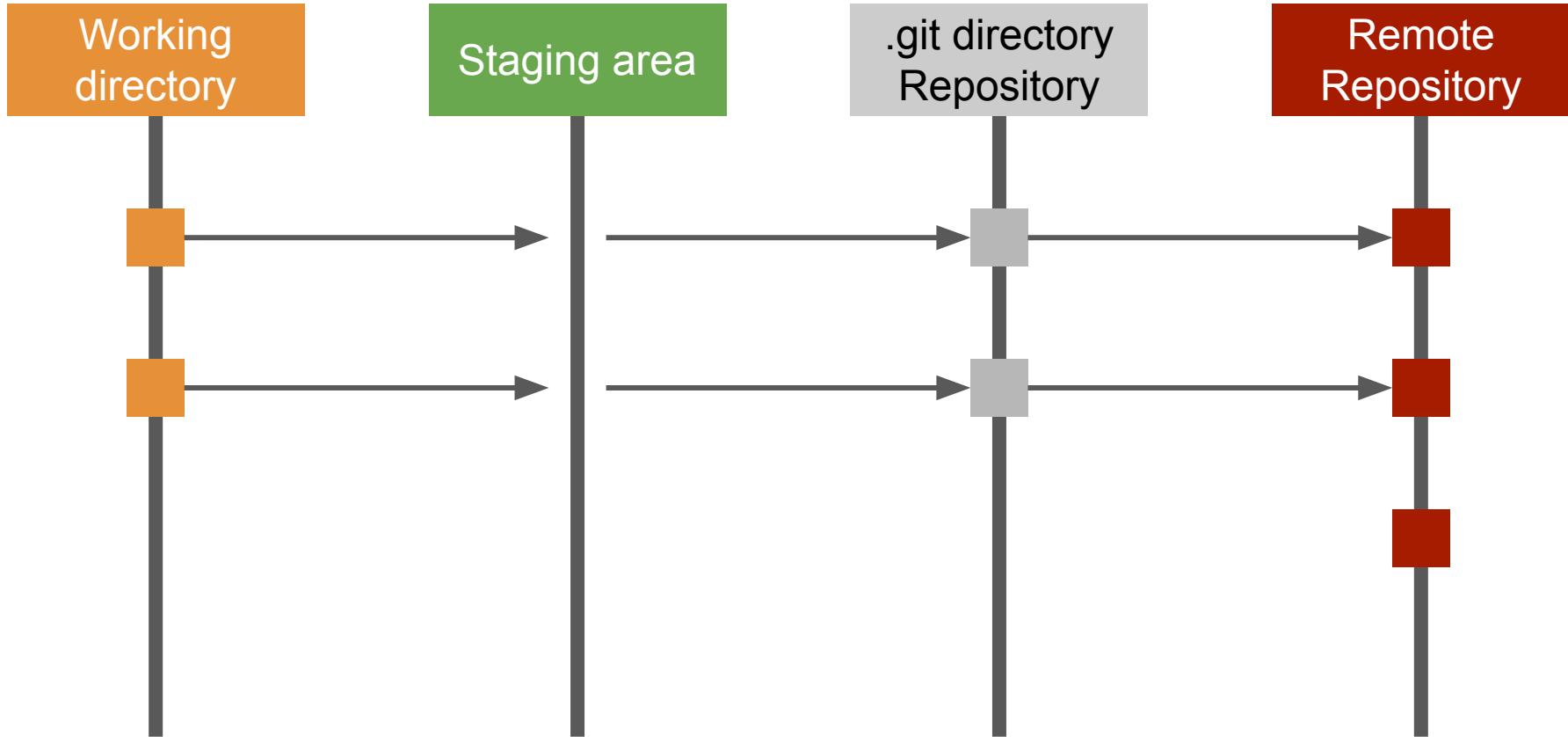
3 commits 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

 diaorch GitHub example and collaborating with ourselves ... Latest commit 04787dc 1 minute ago

 safe_healthy_env.txt GitHub example and collaborating with ourselves 1 minute ago

Help people interested in this repository understand your project by adding a README. Add a README



Back to our local command line:

First, tell git to check if the remote has updates `git remote update`:

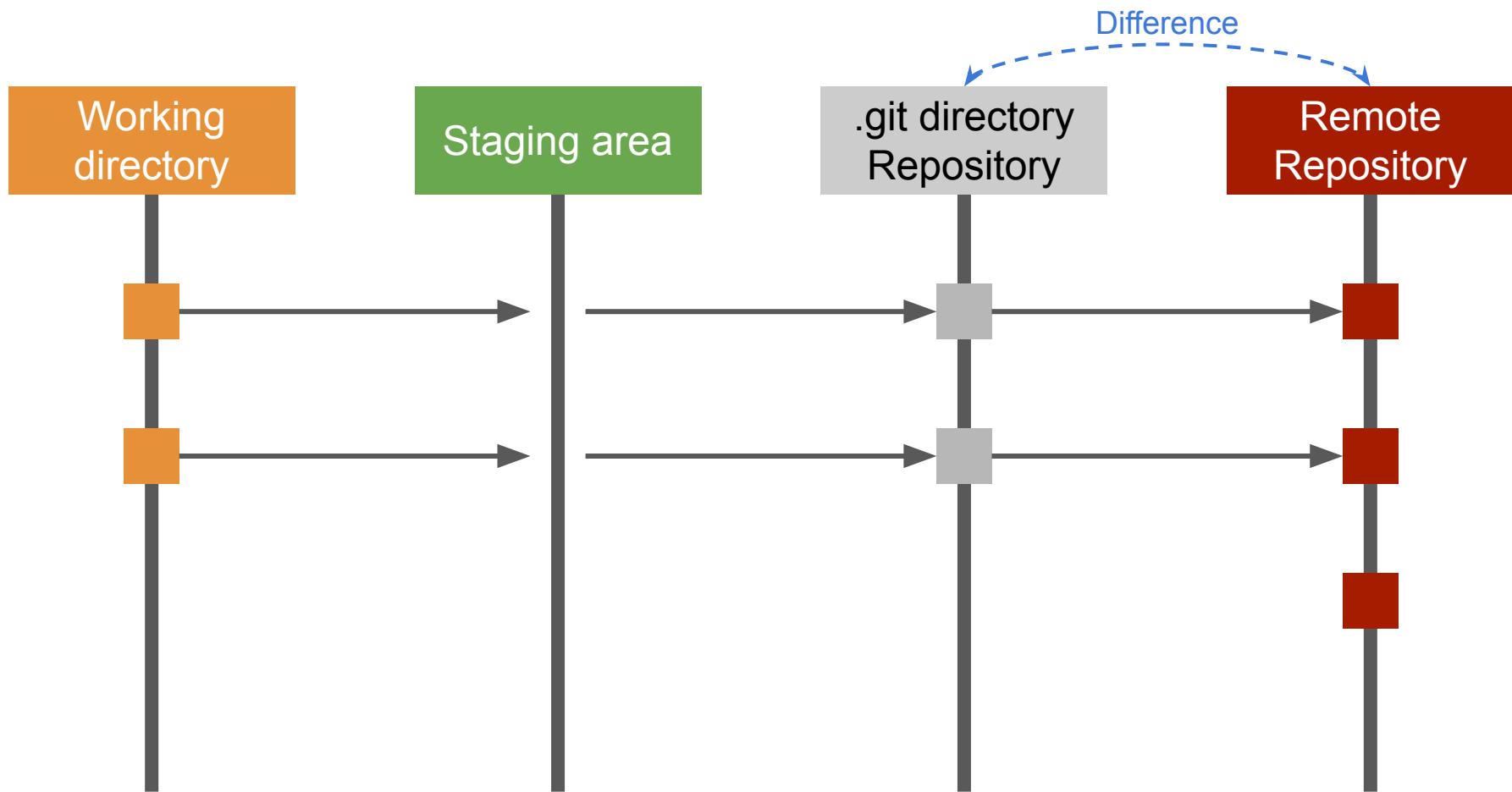
```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git remote update
Fetching origin
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
From https://github.com/diaorch/swc-20191013
  80f4e42..04787dc  master      -> origin/master
```

```
git status
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status
On branch master
Your branch is behind 'origin/master' by 1 commit, and can be fast-forwarded.
  (use "git pull" to update your local branch)
```

```
nothing to commit, working directory clean
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```

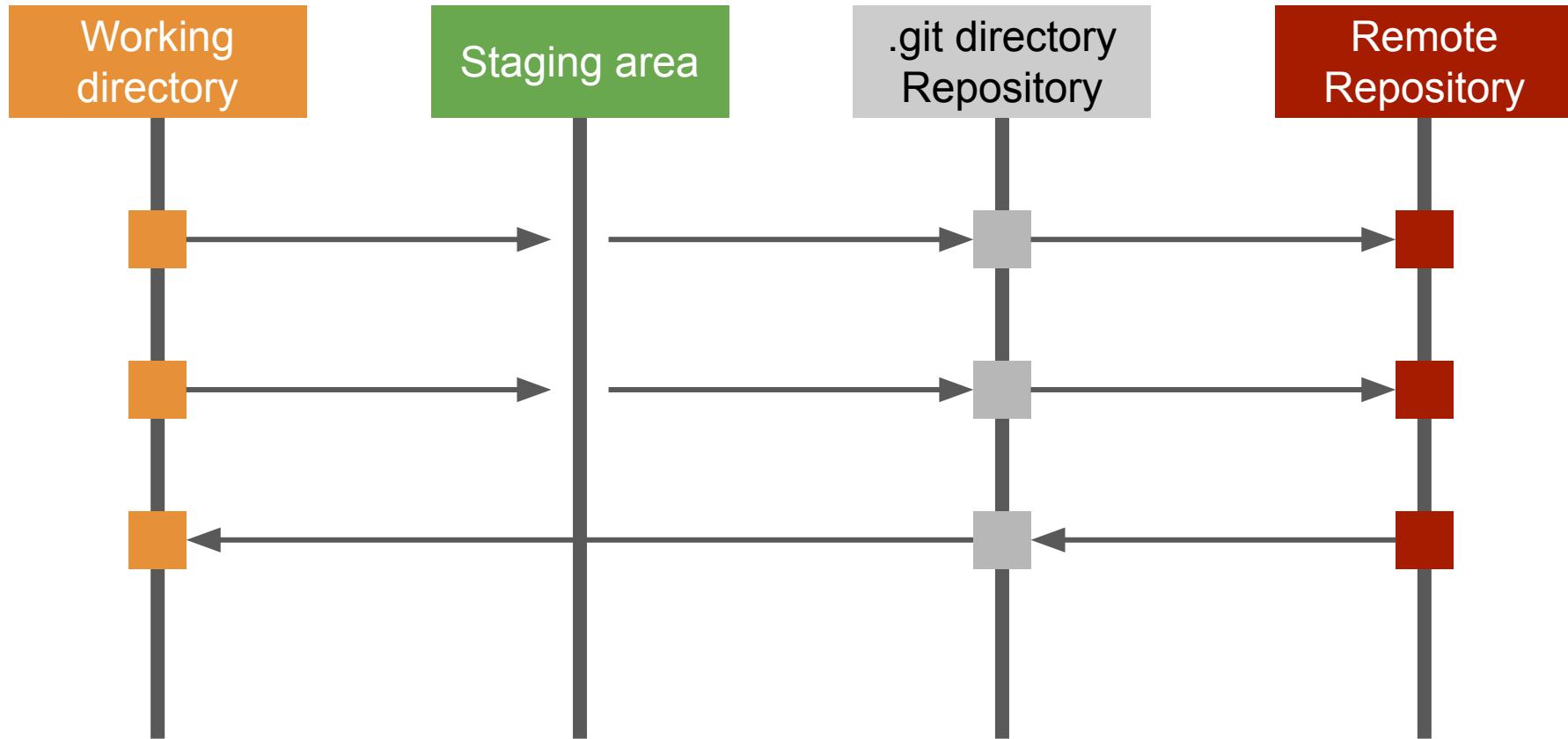


Back to our local command line:

Next, pull down the updates from remote git pull:

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git pull
Updating 80f4e42..04787dc
Fast-forward
  safe_healthy_env.txt | 1 +
  1 file changed, 1 insertion(+)
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ cat safe_healthy_e
nv.txt
Welcome to the Aperture Science Enrichment Center.
Let's look at some of the challenges you'll face as a test participant.

You may be required to perform simple tasks, such as locating an exit.
These simple tasks may be supplemented with insurmountable obstacles.
```



How has the "history" changed?

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git log --graph
* commit 04787dc35b9c8c6062601009f30538dfcf817958
| Author: diaorch <8112509+diaorch@users.noreply.github.com>
| Date:   Sun Oct 13 23:54:37 2019 -0400
|
| GitHub example and collaborating with ourselves
|
| Use GitHub web interface to update the single git example file to illustra
|
* commit 80f4e4229107584d60beb050fe247d3ab912c125
| Author: Rucheng Diao <diaorch@gmail.com>
| Date:   Sun Oct 13 23:27:33 2019 -0400
|
| example of tracking modification of one file in git
|
* commit 6e3cfdf16cd6916427466ce7b7289d9dd7d7885c
| Author: Rucheng Diao <diaorch@gmail.com>
| Date:   Sun Oct 13 23:05:35 2019 -0400
|
| first example of version control with git
```

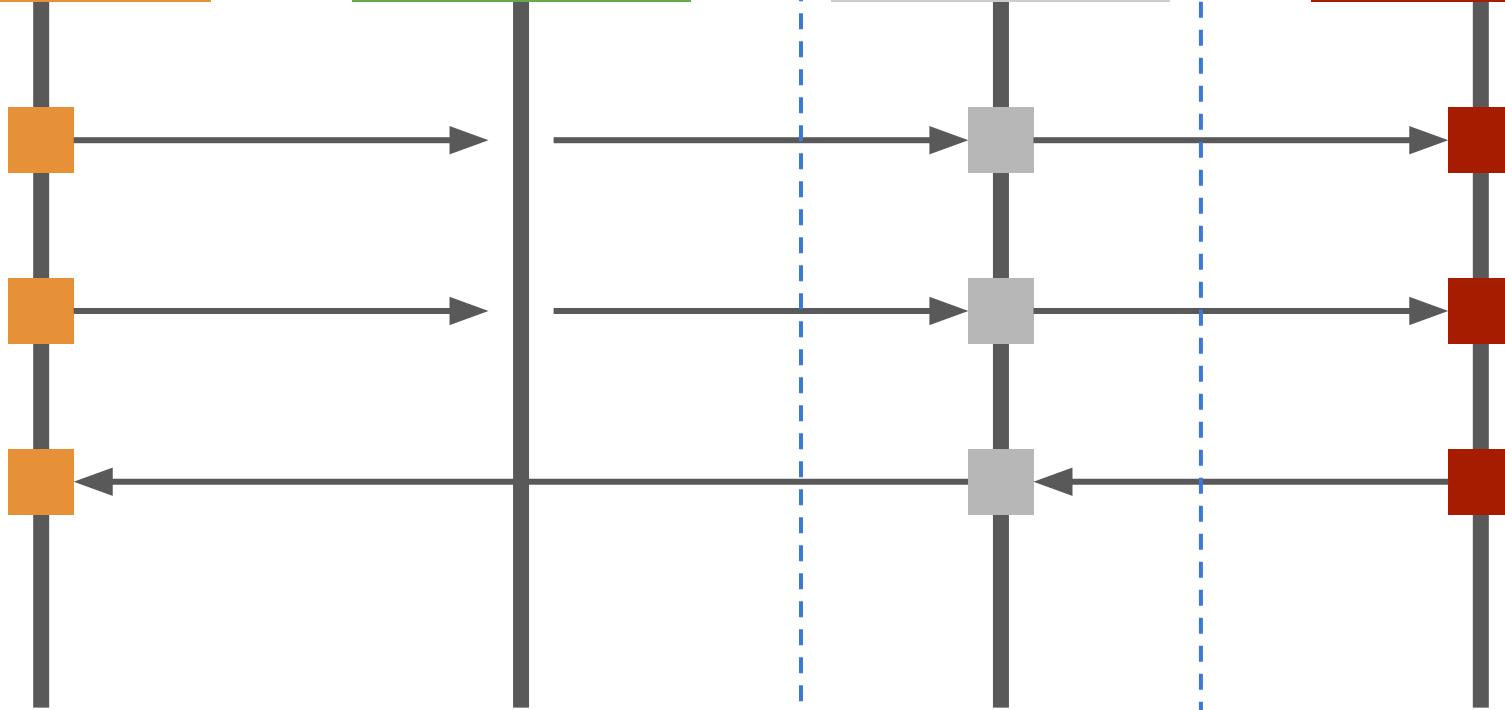
(END)

Working
directory

Staging area

.git directory
Repository

Remote
Repository



Adding local changes to remote repository:

What are the steps to add a new file as local changes?

- Create a new file
- Let git track the changes
- Let remote repository know

Adding local changes to remote repository: create a new file

Create a new file:

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ echo '# My First M  
arkdown' >first.md  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ ls  
first.md  safe_healthy_env.txt  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```

git status

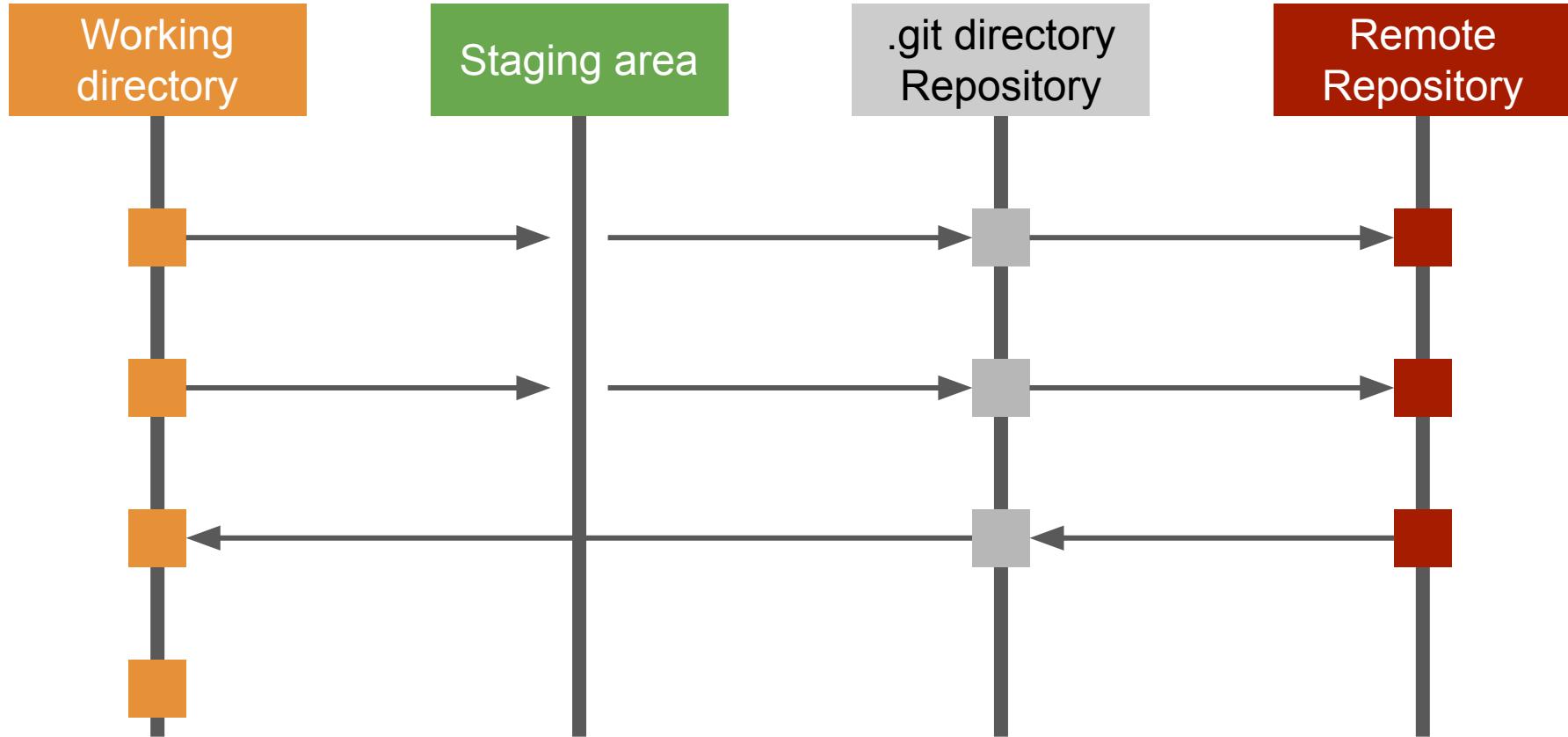
```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status  
On branch master  
Your branch is up-to-date with 'origin/master'.
```

Untracked files:

(use "git add <file>..." to include in what will be committed)

first.md

```
nothing added to commit but untracked files present (use "git add" to track)  
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$
```



Take a couple minutes to try commit the changes you just made

Local git:

- `git config`: configuration of git
- `git init`: initialization a git repository
- `git status`: status of git repository
- `git add`: addition of file to staging area
- `git commit`: commitment of everything in staging area to git repository
- `git log`: log of commit history
- `git diff`: difference between commits

Distributed git

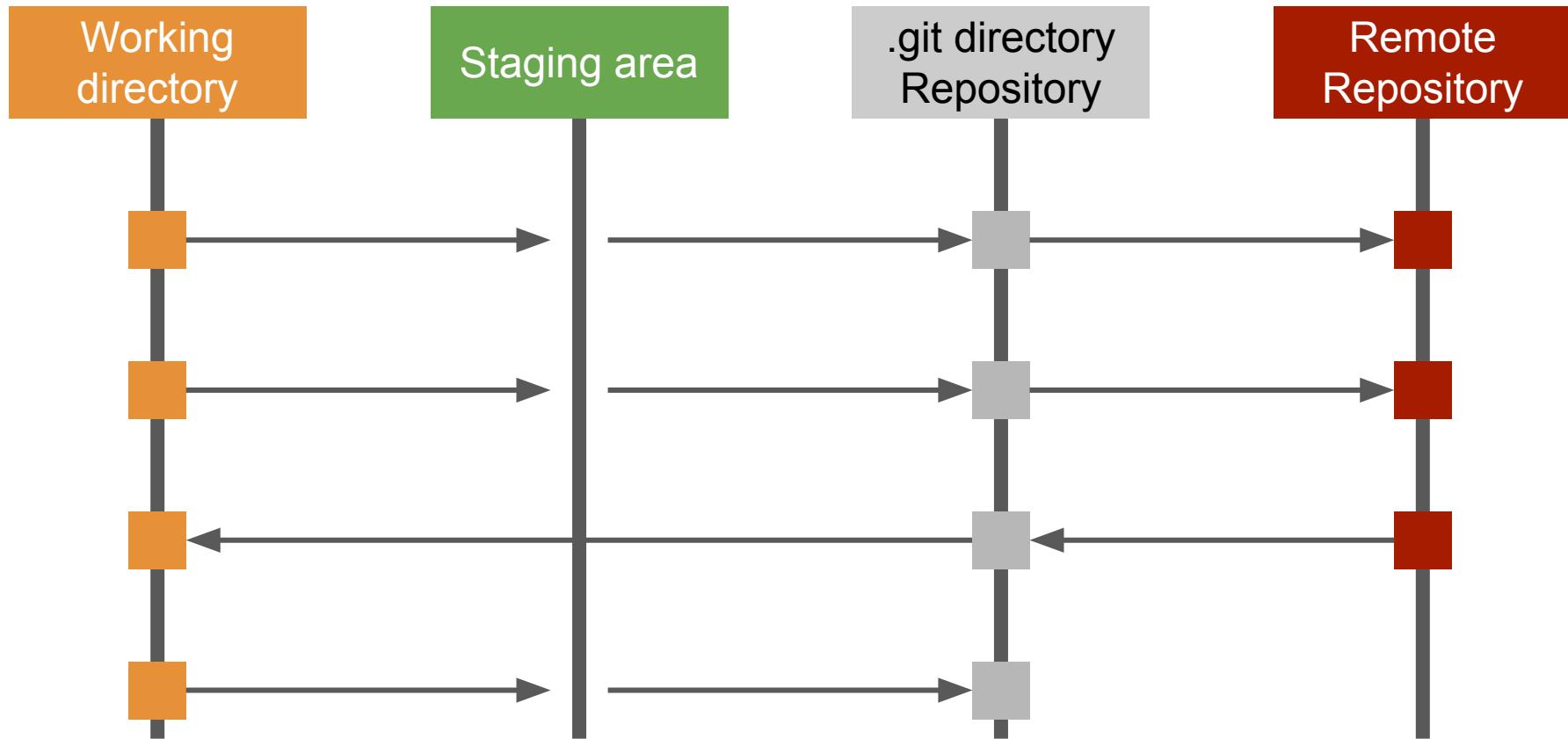
- `git push`: pushing current git repository to remote repository
- `git pull`: pulling remote repository to current git repository

Adding local changes to remote repository

Add and commit:

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git add first.md
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git commit -m 'use
markdown file as git push example'
[master b37f963] use markdown file as git push example
 1 file changed, 1 insertion(+)
  create mode 100644 first.md
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working directory clean
```



Adding local changes to remote repository: push to remote

git push

If you get a wall of text,
don't panic!

- Read the message
- Check errors and warnings
- Adjust

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git push
warning: push.default is unset; its implicit value is changing in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the current behavior after the default changes, use:

    git config --global push.default matching

To squelch this message and adopt the new behavior now, use:

    git config --global push.default simple

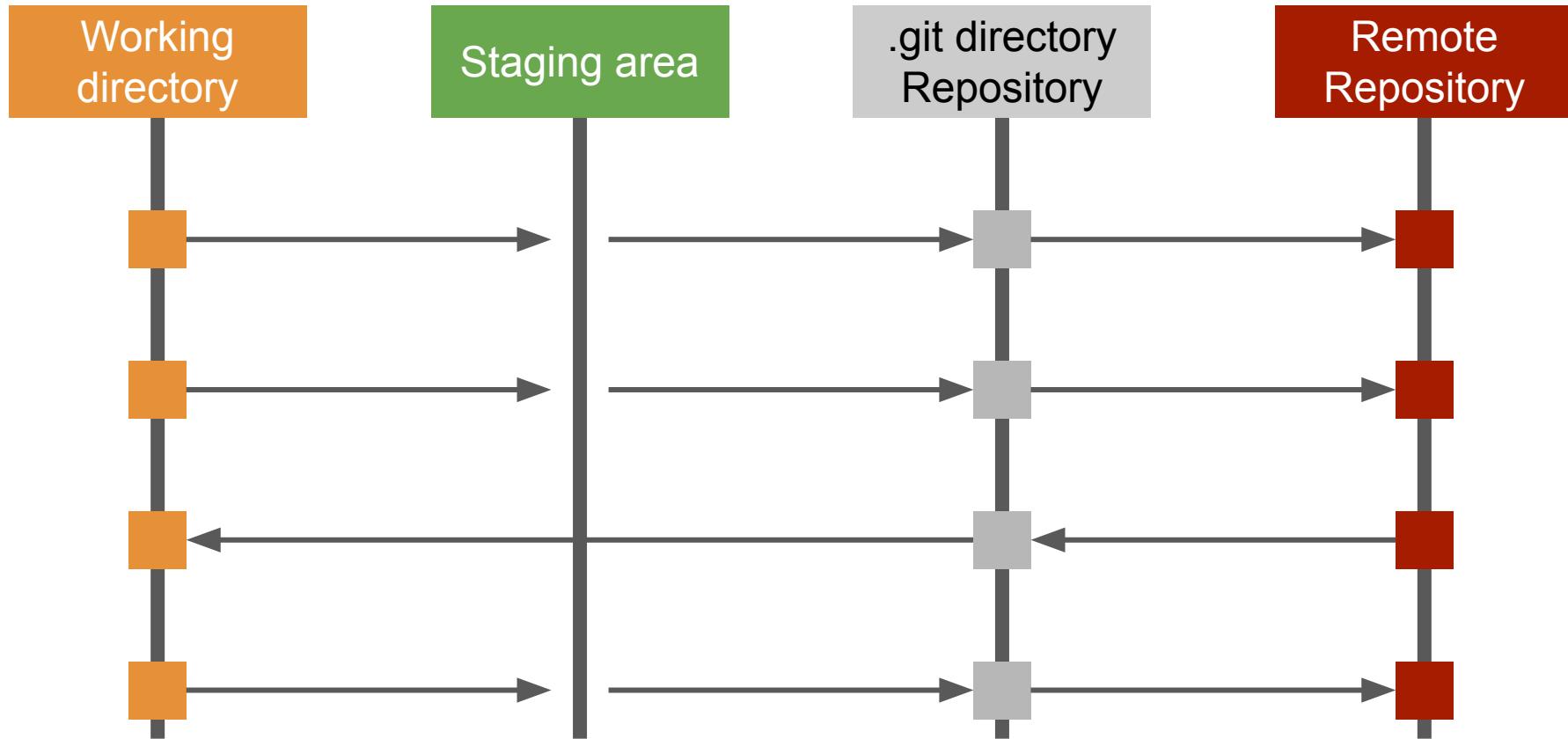
When push.default is set to 'matching', git will push local branches
to the remote branches that already exist with the same name.

In Git 2.0, Git will default to the more conservative 'simple'
behavior, which only pushes the current branch to the corresponding
remote branch that 'git pull' uses to update the current branch.

See 'git help config' and search for 'push.default' for further information.
(the 'simple' mode was introduced in Git 1.7.11. Use the similar mode
'current' instead of 'simple' if you sometimes use older versions of Git)
```

```
Username for 'https://github.com': diaorch
Password for 'https://diaorch@github.com':
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 328 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/diaorch/swc-20191013.git
    04787dc..b37f963  master -> master
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/swc-20191013$ git config --global push.default simple
```



Has our remote repositories got the memo?

Refresh the GitHub page for your repository.

The screenshot shows a GitHub repository page for 'diaorch / swc-20191013'. The page includes a navigation bar with 'Pull requests', 'Issues', 'Marketplace', and 'Explore' tabs. Below the header, there's a search bar and a user profile icon. The repository name 'diaorch / swc-20191013' is displayed, along with 'Unwatch' (1), 'Star' (0), and 'Fork' (0) buttons. A navigation bar below the header includes 'Code' (selected), 'Issues 0', 'Pull requests 0', 'Projects 0', 'Wiki', 'Security', 'Insights', and 'Settings'.

Example repo in preparation for Software Carpentry UMich 20191014 contents for git.

Manage topics

4 commits 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

diaorch	use markdown file as git push example	Latest commit b37f963 5 minutes ago
first.md	use markdown file as git push example	5 minutes ago
safe_healthy_env.txt	GitHub example and collaborating with ourselves	17 minutes ago

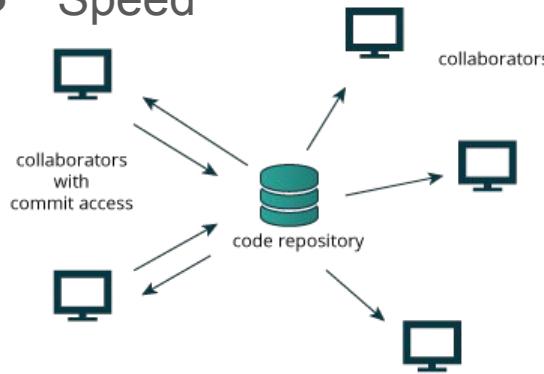
Help people interested in this repository understand your project by adding a README.

Add a README

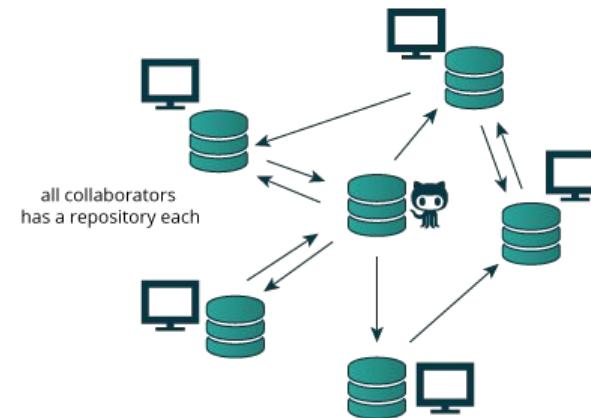
Continue on what the features git has:

As a version control system, git has these features:

- Fully distributed
- Strong support for non-linear development (thousands of parallel branches)
- Speed



Centralized version control



Distributed version control

git and GitHub

git: a version control system

GitHub: a hosting service of git

GitHub also provide other features:

- Hosting websites
- Knowledgebase of repositories (try search for vim in all contents and sort by most stars!)
- Networking of content creators

There are other git hosting services too, e.g. Bitbucket.

There are also other management tools based on git, e.g. GitLab.

How to use openly distributed code?

The screenshot shows a GitHub repository page for 'diaorch / swc-20191013'. The top navigation bar includes links for 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. The repository name 'diaorch / swc-20191013' is displayed, along with statistics: 1 unwatched, 0 stars, and 0 forks. Below the header, there are tabs for 'Code', 'Issues 0', 'Pull requests 0', 'Projects 0', 'Wiki', 'Security', 'Insights', and 'Settings'. A note states 'Example repo in preparation for Software Carpentry UMich 20191014 contents for git.' with an 'Edit' button. A 'Manage topics' link is also present. Key metrics shown are 6 commits, 1 branch, 0 releases, and 1 contributor. A dropdown menu for the branch 'master' and a 'New pull request' button are visible. On the right, there are buttons for 'Create new file', 'Upload files', 'Find file', and a prominent green 'Clone or download' button. A detailed commit history is listed, including:

- diaorch move collaboration README.md to corresponding sub-directory
- collaboration move collaboration README.md to corresponding sub-directory
- first.md use markdown file as git push example
- safe_healthy_env.txt GitHub example and collaborating with ourselves

A 'Clone with HTTPS' section provides the URL <https://github.com/diaorch/swc-20191013> and options to 'Open in Desktop' or 'Download ZIP'. At the bottom, a call to action encourages adding a README with a 'Add a README' button.

Back in our local command line:

```
git clone https://github.com/diaorch/swc-20191013.git
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ ls
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ git clone https://github.com/diaorch/swc-20191013.git
Cloning into 'swc-20191013'...
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (18/18), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 18 (delta 2), reused 14 (delta 1), pack-reused 0
Unpacking objects: 100% (18/18), done.
Checking connectivity... done.
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$
```

Why is git important?

- "Emergency exit": what if I accidentally erase all contents in my directory?
- History tracking: what did I do 10 minutes ago that worked?
- Collaboration and openness
- Reproducibility

Licenses, openness, and reproducibility

License

- A software license is a legal instrument governing the use or redistribution of software.
 - Proprietary software licenses
 - Free and open-source software licenses
- MATLAB vs R

Open source and reproducibility

> Since 2014, for papers where custom code is central to the work, Nature Research journals have required that authors include a statement of how their code can be accessed and mention restrictions to access. ([Easing the burden of code review. Nature Methods. 15, 641–641 \(2018\).](#))

Good practice of git and GitHub

git

- Commit often.
- Write commit messages that make sense.
- Be careful when you have to "get out of your way" to make something work.

GitHub:

- Be aware of data breach.
- Write README.md files.
- Choose a license.

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
ADKFJSLKDFJSOKLFJ	3 HOURS AGO
MY HANDS ARE TYPING WORDS	2 HOURS AGO
HAAAAAAAAANDS	2 HOURS AGO

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

Glossary of commands (or simply run `git` for help)

Local git:

- `git config`: configuration of git
- `git init`: initialization a git repository
- `git status`: status of git repository
- `git add`: addition of file to staging area
- `git commit`: commitment of everything in staging area to git repository
- `git log`: log of commit history
- `git diff`: difference between commits

Distributed git

- `git push`: pushing current git repository to remote repository
- `git pull`: pulling remote repository to current git repository
- `git clone`: cloning a remote repository to current directory

Resources

- Read the error/warning messages
- Pro Git Book: <https://git-scm.com/book/en/v2>
- Git reference manual: <https://git-scm.com/doc>
- GitHub (Educations): <https://education.github.com/git-cheat-sheet-education.pdf>
- Various StackOverflow threads and blogs

Questions?

Try it?

In your new repository created today, create a file named as your "uniqname.txt" that contains one line describing what you saw on your way here, use git to track the addition of the file and deposit the file on the remote

Forking and Creating Pull Request



Search or jump to...

Pull requests Issues Marketplace Explore

Alert + ⚙️

diaorch / swc-20191013

Unwatch 1

Star 0

Fork 0

Code

Issues 0

Pull requests 0

Projects 0

Wiki

Security

Insights

Settings

Example repo in preparation for Software Carpentry UMICH 20191014 contents for git.

Edit

Manage topics

6 commits

1 branch

0 releases

1 contributor

Branch: master ▾

New pull request

Create new file

Upload files

Find file

Clone or download ▾



diaorch move collaboration README.md to corresponding sub-directory

Latest commit 7e085d2 15 minutes ago



move collaboration README.md to corresponding sub-directory

15 minutes ago



use markdown file as git push example

36 minutes ago



GitHub example and collaborating with ourselves

1 hour ago

Help people interested in this repository understand your project by adding a README.

Add a README



Search or jump to...

Pull requests Issues Marketplace Explore



pastaBreaker / swc-20191013
forked from diaorch/swc-20191013

[Watch](#) 0[Star](#) 0[Fork](#) 1[Code](#)[Pull requests 0](#)[Projects 0](#)[Wiki](#)[Security](#)[Insights](#)[Settings](#)

Example repo in preparation for Software Carpentry UMich 20191014 contents for git.

[Edit](#)[Manage topics](#)

6 commits

1 branch

0 releases

1 contributor

Branch: master ▾

[New pull request](#)[Create new file](#)[Upload files](#)[Find file](#)[Clone or download ▾](#)

This branch is even with diaorch:master.

[Pull request](#) [Compare](#)

diaorch move collaboration README.md to corresponding sub-directory

Latest commit 7e085d2 33 minutes ago

collaboration

move collaboration README.md to corresponding sub-directory

33 minutes ago

first.md

use markdown file as git push example

1 hour ago

safe_healthy_env.txt

GitHub example and collaborating with ourselves

1 hour ago

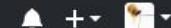
Help people interested in this repository understand your project by adding a README.

[Add a README](#)



Search or jump to...

Pull requests Issues Marketplace Explore



pastaBreaker / swc-20191013
forked from diaorch/swc-20191013

Watch ▾ 0

Star 0

Fork 1

Code

Pull requests 0

Projects 0

Wiki

Security

Insights

Settings

Example repo in preparation for Software Carpentry UMich 20191014 contents for git.

Edit

Manage topics

6 commits

1 branch

0 releases

1 contributor

Branch: master ▾

New pull request

Create new file

Upload files

Find file

Clone or download ▾

This branch is even with diaorch:master.

diaorch move collaboration README.md to corresponding sub-directory

collaboration move collaboration README.md to corresponding sub-directory

first.md use markdown file as git push example

safe_healthy_env.txt GitHub example and collaborating with ourselves

Clone with HTTPS

Use SSH

Use Git or checkout with SVN using the web URL.

<https://github.com/pastaBreaker/swc-2019>

Open in Desktop

Download ZIP

1 hour ago

Help people interested in this repository understand your project by adding a README.

Add a README

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ ls
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ git clone https://github.com/pastaBreaker/swc-20191013.git
Cloning into 'swc-20191013'...
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (18/18), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 18 (delta 2), reused 14 (delta 1), pack-reused 0
Unpacking objects: 100% (18/18), done.
Checking connectivity... done.
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ ls
swc-20191013
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ git clone https://github.com/pastaBreaker/swc-20191013.git
Cloning into 'swc-20191013'...
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (18/18), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 18 (delta 2), reused 14 (delta 1), pack-reused 0
Unpacking objects: 100% (18/18), done.
Checking connectivity... done.
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ ls
swc-20191013
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples$ cd swc-20191013/
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013$ ls
collaboration  first.md  safe_healthy_env.txt
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013$ cd collaboration/
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$ ls
README.md
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ git remote -v
origin  https://github.com/pastaBreaker/swc-20191013.git (fetch)
origin  https://github.com/pastaBreaker/swc-20191013.git (push)
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ git remote add upstream git@github.com:diaorch/swc-20191013.git
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ git remote -v
origin  https://github.com/pastaBreaker/swc-20191013.git (fetch)
origin  https://github.com/pastaBreaker/swc-20191013.git (push)
upstream      git@github.com:diaorch/swc-20191013.git (fetch)
upstream      git@github.com:diaorch/swc-20191013.git (push)
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$ git branch -v
* master 7e085d2 move collaboration README.md to corresponding sub-directory
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$ git branch collab/diaorch
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$ git checkout collab/diaorch
Switched to branch 'collab/diaorch'
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$ git branch -v
* collab/diaorch 7e085d2 move collaboration README.md to corresponding sub-directory
  master          7e085d2 move collaboration README.md to corresponding sub-directory
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ echo 'the trees near my apartment are starting to change colors'
> diaorch.txt
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ git status
On branch collab/diaorch
Untracked files:
  (use "git add <file>..." to include in what will be committed)

    diaorch.txt
```

```
nothing added to commit but untracked files present (use "git add" to track)
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ git add diaorch.txt
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ git commit -m 'example of forking and pull requests'
[collab/diaorch d43f68b] example of forking and pull requests
  1 file changed, 1 insertion(+)
   create mode 100644 collaboration/diaorch.txt
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$ git status
On branch collab/diaorch
nothing to commit, working directory clean
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/
collaboration$
```

```
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$ git push -u origin collab/diaorch
Username for 'https://github.com': pastaBreaker
Password for 'https://pastaBreaker@github.com':
Counting objects: 6, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 481 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'collab/diaorch' on GitHub by visiting:
remote:     https://github.com/pastaBreaker/swc-20191013/pull/new/collab/diaorch
remote:
remote: To https://github.com/pastaBreaker/swc-20191013.git
 * [new branch]      collab/diaorch -> collab/diaorch
Branch collab/diaorch set up to track remote branch collab/diaorch from origin.
diaorch@LAPTOP-PSEOH02L:/mnt/d/home/project/SWC/git_clone_examples/swc-20191013/collaboration$
```



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Example repo in preparation for Software Carpentry UMich 20191014 contents for git.

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Your recently pushed branches:

 [pastaBreaker:collab/diaorch \(1 minute ago\)](#) [Compare & pull request](#)[Branch: master ▾](#)[New pull request](#)[Create new file](#)[Upload files](#)[Find file](#)[Clone or download ▾](#) [diaorch move collaboration README.md to corresponding sub-directory](#)

Latest commit 7e085d2 1 hour ago

 [collaboration](#)

move collaboration README.md to corresponding sub-directory

1 hour ago

 [first.md](#)

use markdown file as git push example

1 hour ago

 [safe_healthy_env.txt](#)

GitHub example and collaborating with ourselves

1 hour ago





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diaorch move collaboration README.md to corresponding sub-directory

Latest commit 7e085d2 1 hour ago



collaboration move collaboration README.md to corresponding sub-directory

1 hour ago



first.md use markdown file as git push example

1 hour ago



safe_healthy_env.txt GitHub example and collaborating with ourselves

2 hours ago

Help people interested in this repository understand your project by adding a README.

Add a README





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Label issues and pull requests for new contributors

Dismiss

Now, GitHub will help potential first-time contributors discover issues
labeled with [good first issue](#)

Filters ▾

is:pr is:open

Labels 9

Milestones 0

New pull request

1 Open ✓ 0 Closed

Author ▾

Labels ▾

Projects ▾

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Collaboration from Pasta Breaker

#1 opened 2 minutes ago by pastaBreaker

💡 ProTip! Adding [no:label](#) will show everything without a label.





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Collaboration from Pasta Breaker #1

[Open](#)

pastaBreaker wants to merge 1 commit into diaorch:master from pastaBreaker:collab/diaorch

Conversation 0

Commits 1

Checks 0

Files changed 1

+1 -0



pastaBreaker commented 3 minutes ago

First-time contributor +1



...

Added personalized text file as part of collaboration testing.

example of forking and pull requests

d43f68b

Add more commits by pushing to the collab/diaorch branch on pastaBreaker/swc-20191013.



Merge pull request #1 from pastaBreaker/collab/diaorch

Collaboration from Pasta Breaker

[Confirm merge](#)[Cancel](#)

Write

Preview

AA B i “ < > ↵ I E Y E @ ⌂ ↵

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Reviewers

No reviews

Assignees

No one—assign yourself

Labels

None yet

Projects

None yet

Milestone

No milestone

Notifications

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2 participants





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diaorch / swc-20191013

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Collaboration from Pasta Breaker #1

[Edit](#)[Merged](#)

diaorch merged 1 commit into diaorch:master from pastaBreaker:collab/diaorch

[Conversation 0](#)[Commits 1](#)[Checks 0](#)[Files changed 1](#)[+1 -0](#)

pastaBreaker commented 4 minutes ago

[+1](#) [...](#)

Added personalized text file as part of collaboration testing.

example of forking and pull requests

d43f68b

diaorch merged commit 57ec478 into diaorch:master now

[Revert](#)[Write](#)[Preview](#)

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

[Comment](#)

ProTip! Add .patch or .diff to the end of URLs for Git's plaintext views.

2 participants



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diaorch / swc-20191013



Unwatch

▼

1



Star

0



Fork

1



Issues 0

Pull requests 0

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Settings

Branch: master ▾

swc-20191013 / collaboration /

Create new file

Upload files

Find file

History

diaorch example of forking and pull requests

Latest commit d43f68b 9 minutes ago

..

README.md

move collaboration README.md to corresponding sub-directory

1 hour ago

diaorch.txt

example of forking and pull requests

9 minutes ago

README.md



20191014 SWC: collaborating with git

Objectives

Test out problem solving when collaborating with others (and ourselves) using git and GitHub.

Method

Each participant adds a plain text file named as their uniqname (e.g. diaorch.txt , or initials, e.g. rd.txt), to directory collaboration/ in the cloned repo. The file is a text file including one line of text describing "one thing you noticed on your way to this workshop".