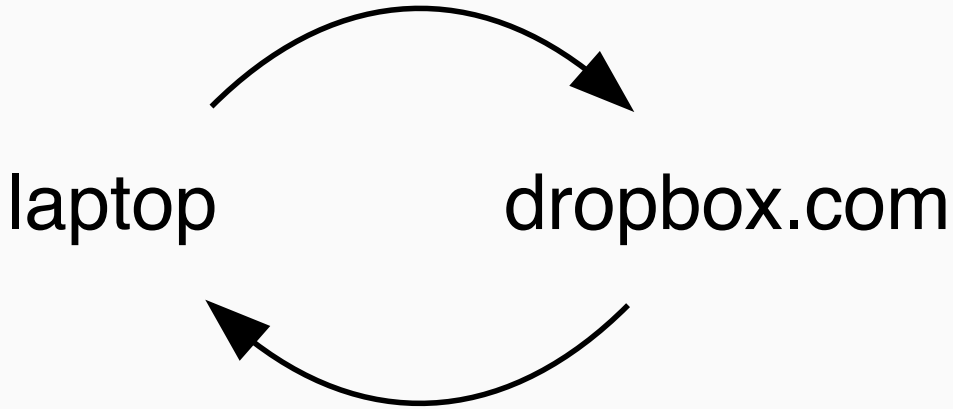
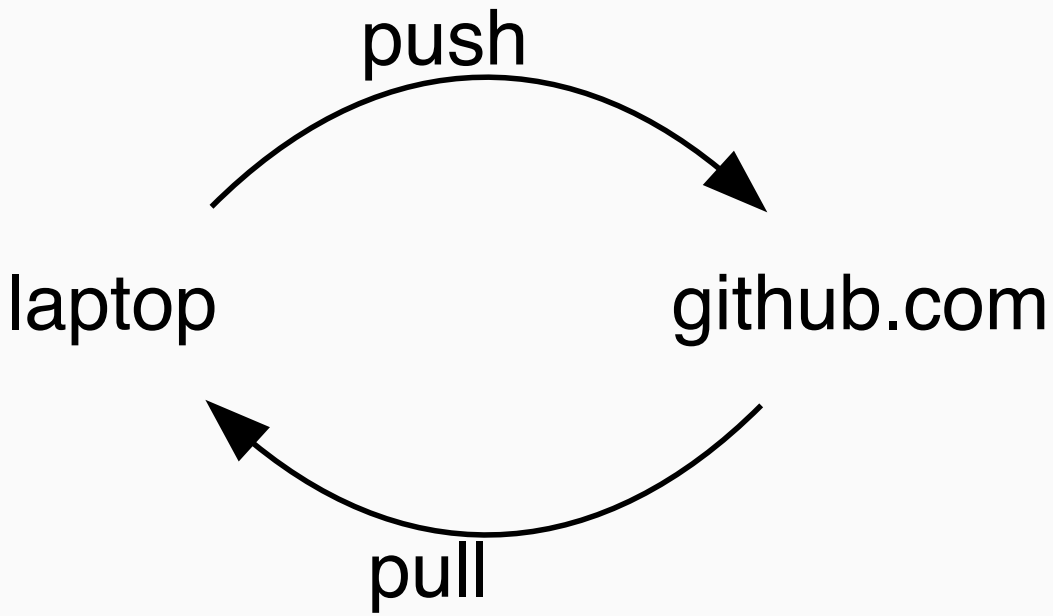
# git and github.com

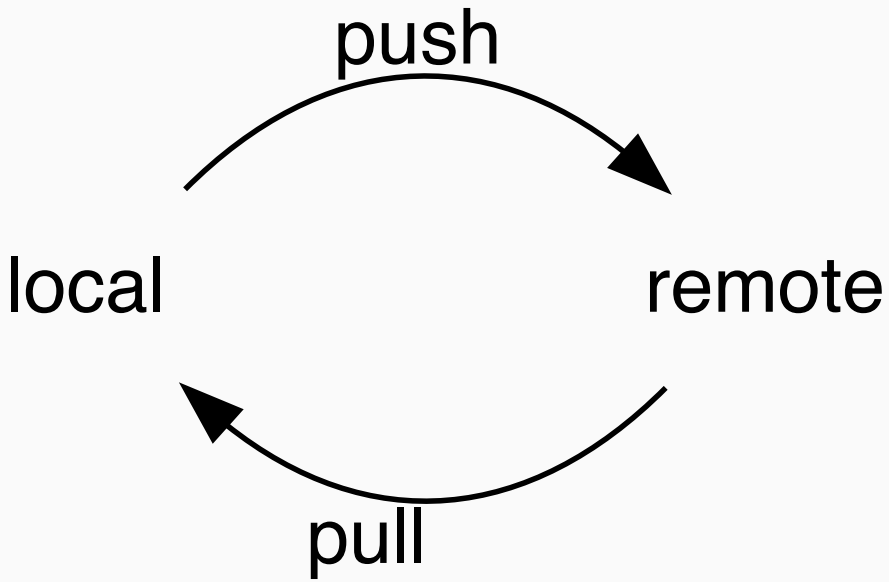
# Dropbox Sync



# Github Sync



# git remotes



# git vocabulary

**pull** Receive changes (edits, new files, files removed).

**push** Send changes to another computer.

**clone** Download an existing repo, e.g. from github.com. "The first pull."

**repo** Folder of files to track, with a ".git/" database of revisions.

# git vocabulary

| | |
|---|---|
| **add** | Mark a changed file as ready to commit. Moves an edit to the staging area. |
| **staging** | A waiting area for edits before they are commited. |
| **commit** | Bundle edits together. Needs a commit message. Moves edits from the staging area into the .git/ database. A commit is the standard unit of time in git. |
| **checkout** | Update the files in your working directory to what they were at a particular commit. |

# Vocabulary

**push** Send new commits in my .git/ database to a different computer (like github.com).

If the .git/ database on the other computer has different commits, the push is aborted.

**pull** Receive new commits to my .git/ database.

If the .git/ database on the other computer has different commits, git will try to merge those changes, but if there is a merge conflict, you must throw away your computer.

# Classroom workflow

**Get an assignment**

`[click link to github classroom assignment]`

`git clone https://github.com/...`

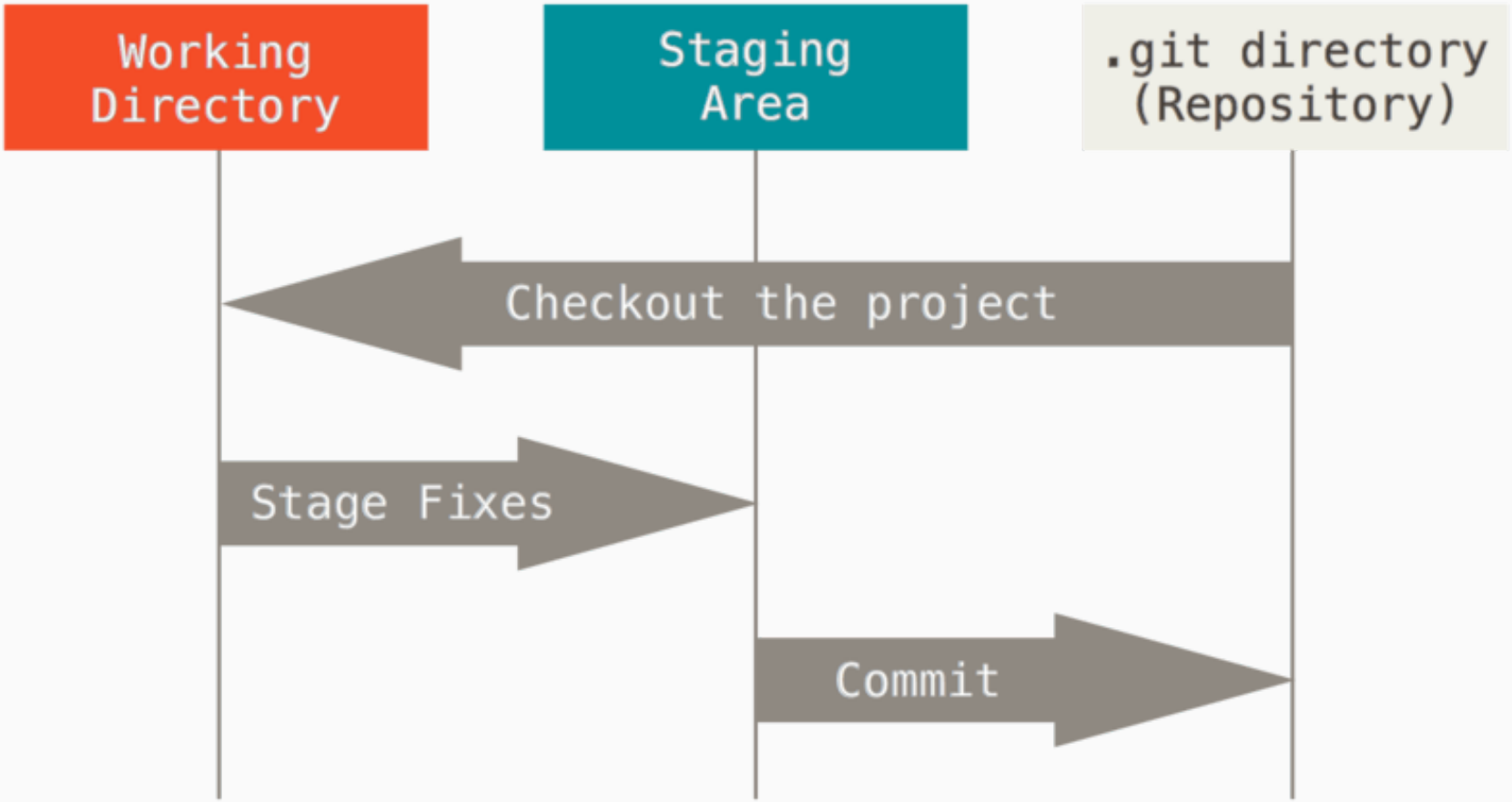
**Get an update to an assignment**

`git pull`

**Submit an assignment**

1. `git add [files]`
2. `git commit [describe changes]`
3. `git push`

# git areas


Working Directory
Staging Area
.git directory (Repository)
Checkout the project
Stage Fixes
Commit

# Why learn git?

"Move fast and break things" mentality.

Multiple versions of files without having multiple files.

Reproducibility.

Open science.

# Brace yourselves!

Pro Git

Oh, shit! Git