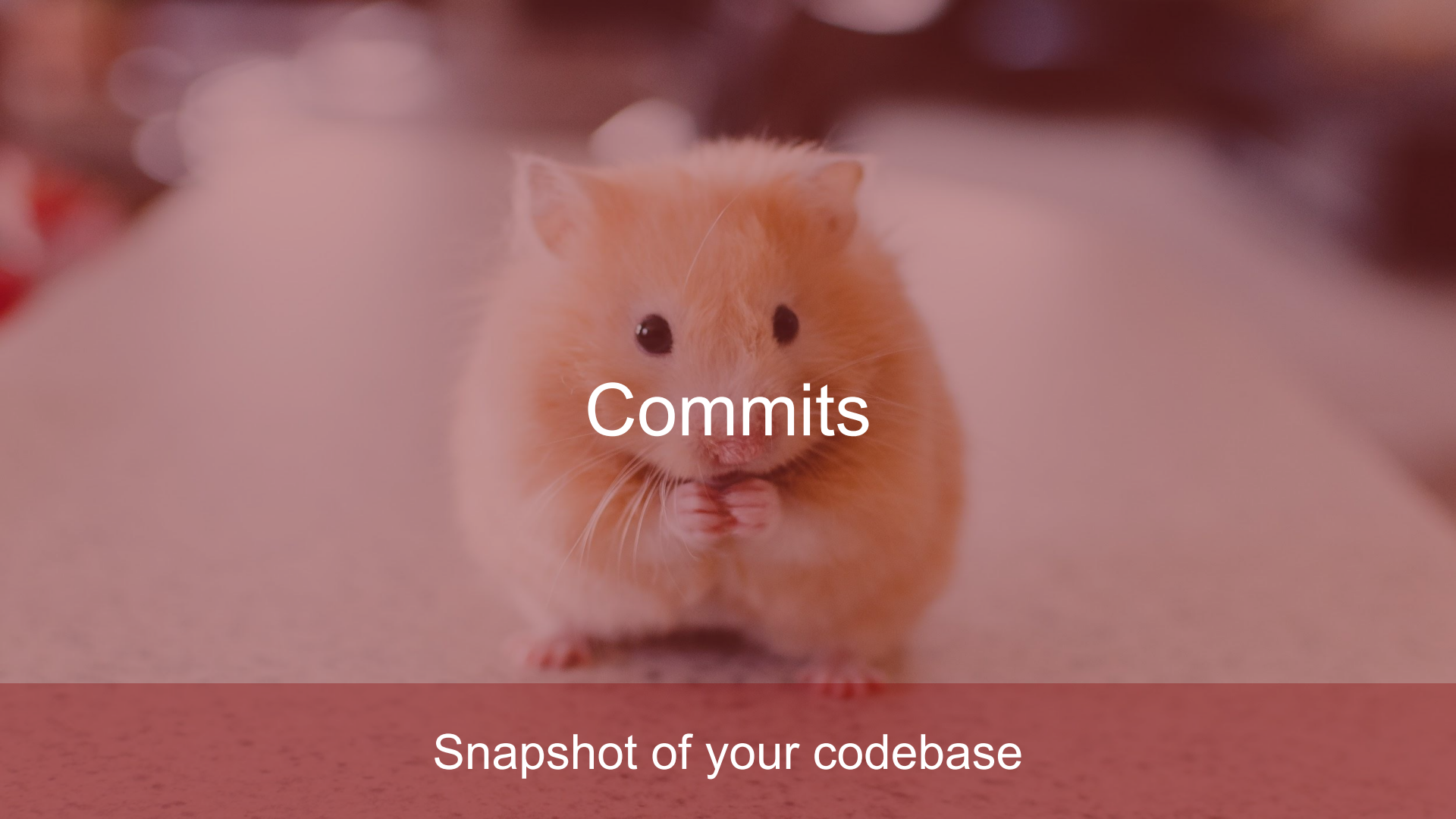
A solution to collaboration and codebase management

a presentation by Cole Lawrence

Local Repository

Git Repository

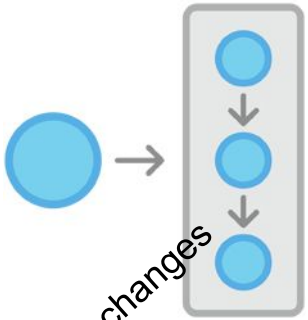
The **working copy** of code along with the **complete history** of the code base.

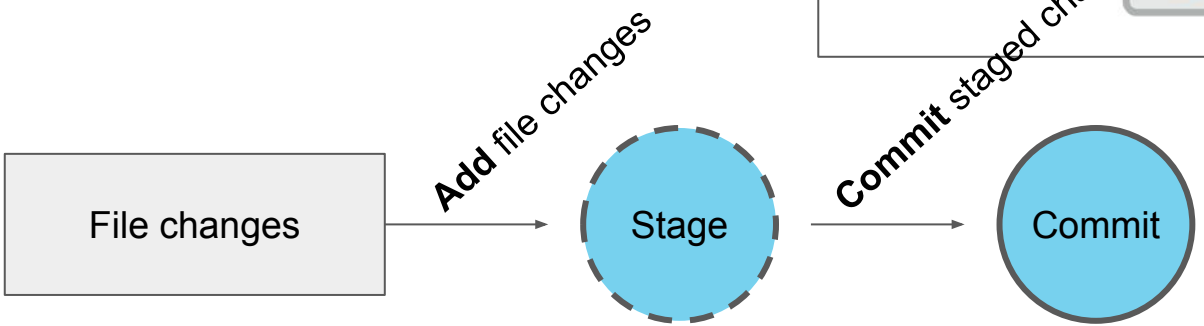

Commits
Snapshot of your codebase

How to commit code

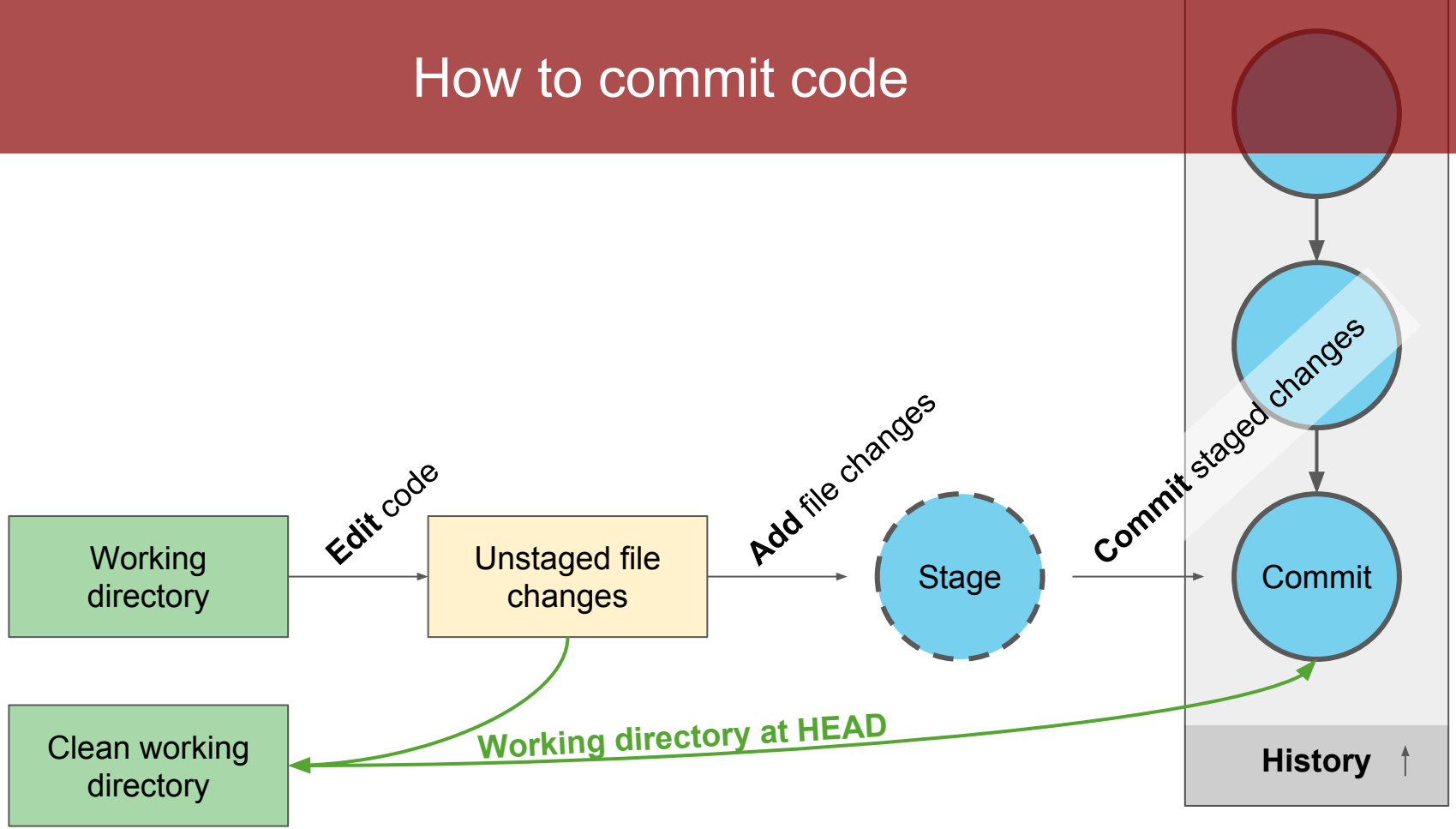
Add file changes to stage

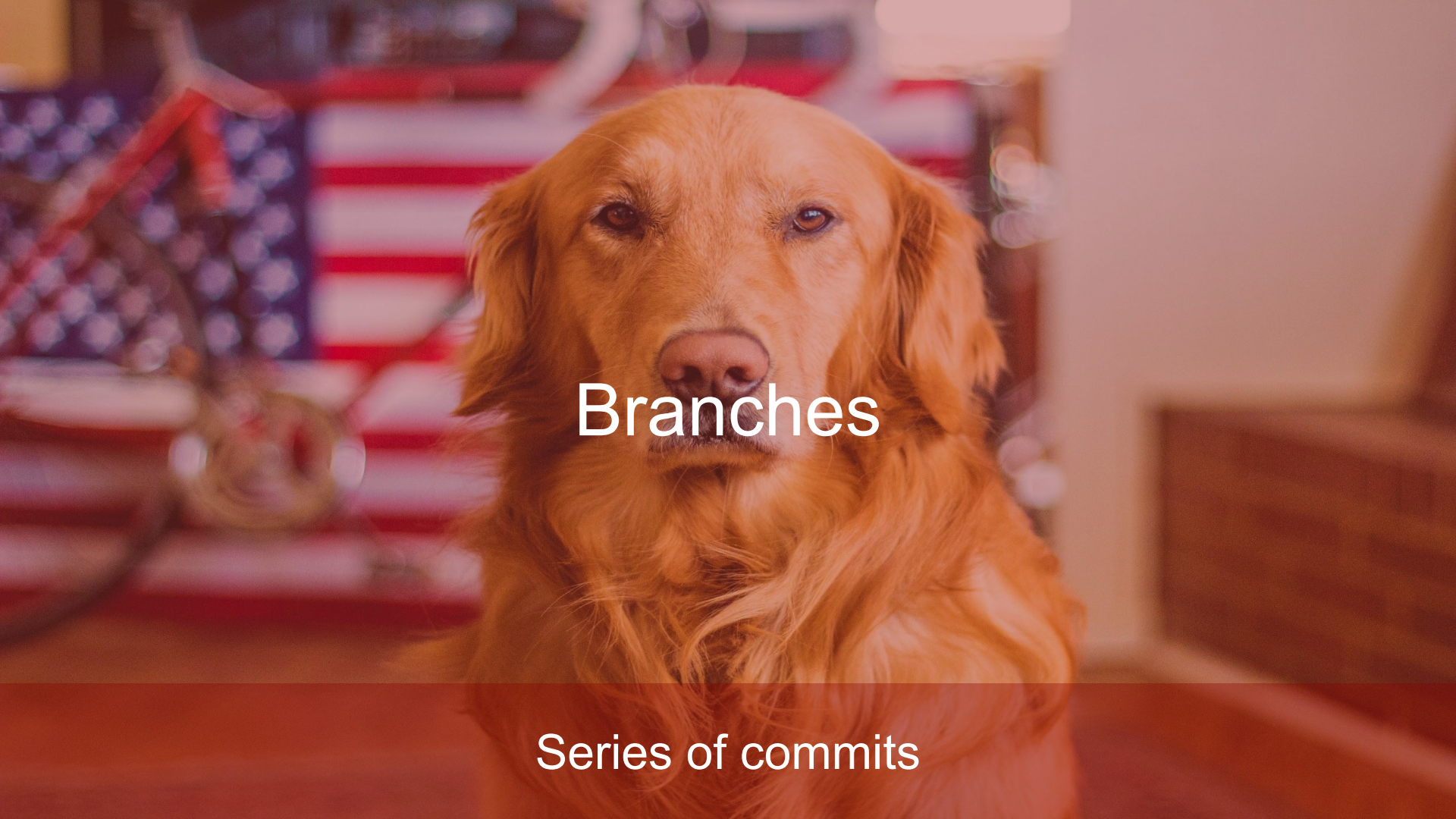
Commit file changes in the stage to the history





How to commit code

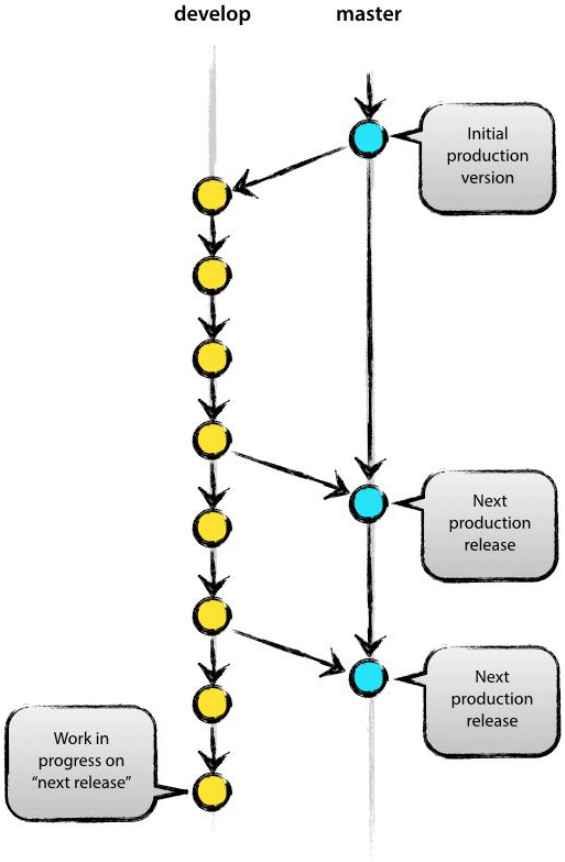


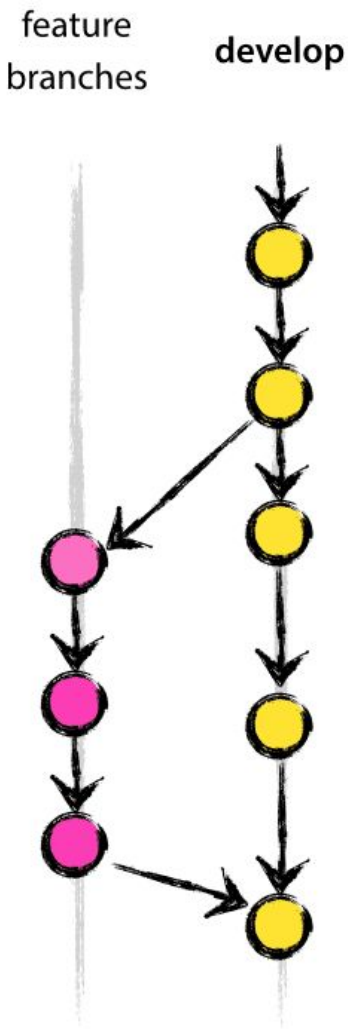


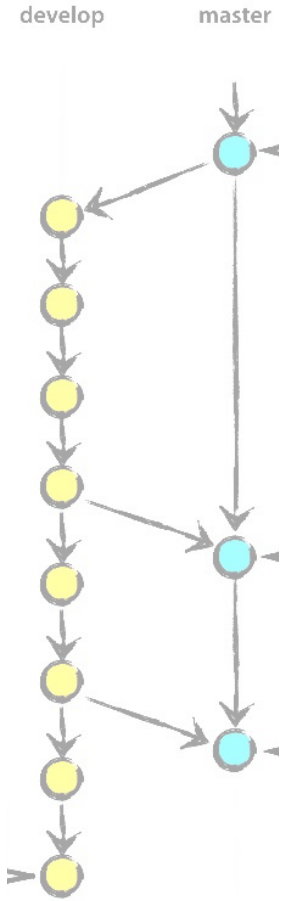
Branches

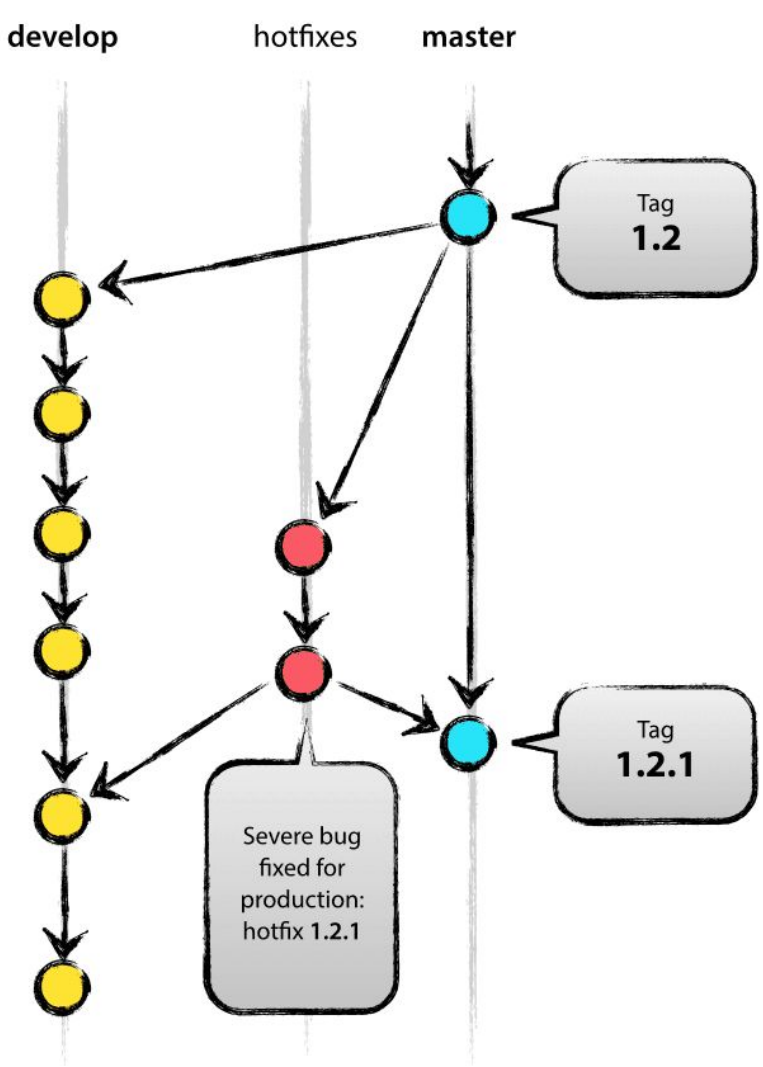
Series of commits

Branches


develop
master
Initial production version
Next production release
Next production release
Work in progress on "next release"

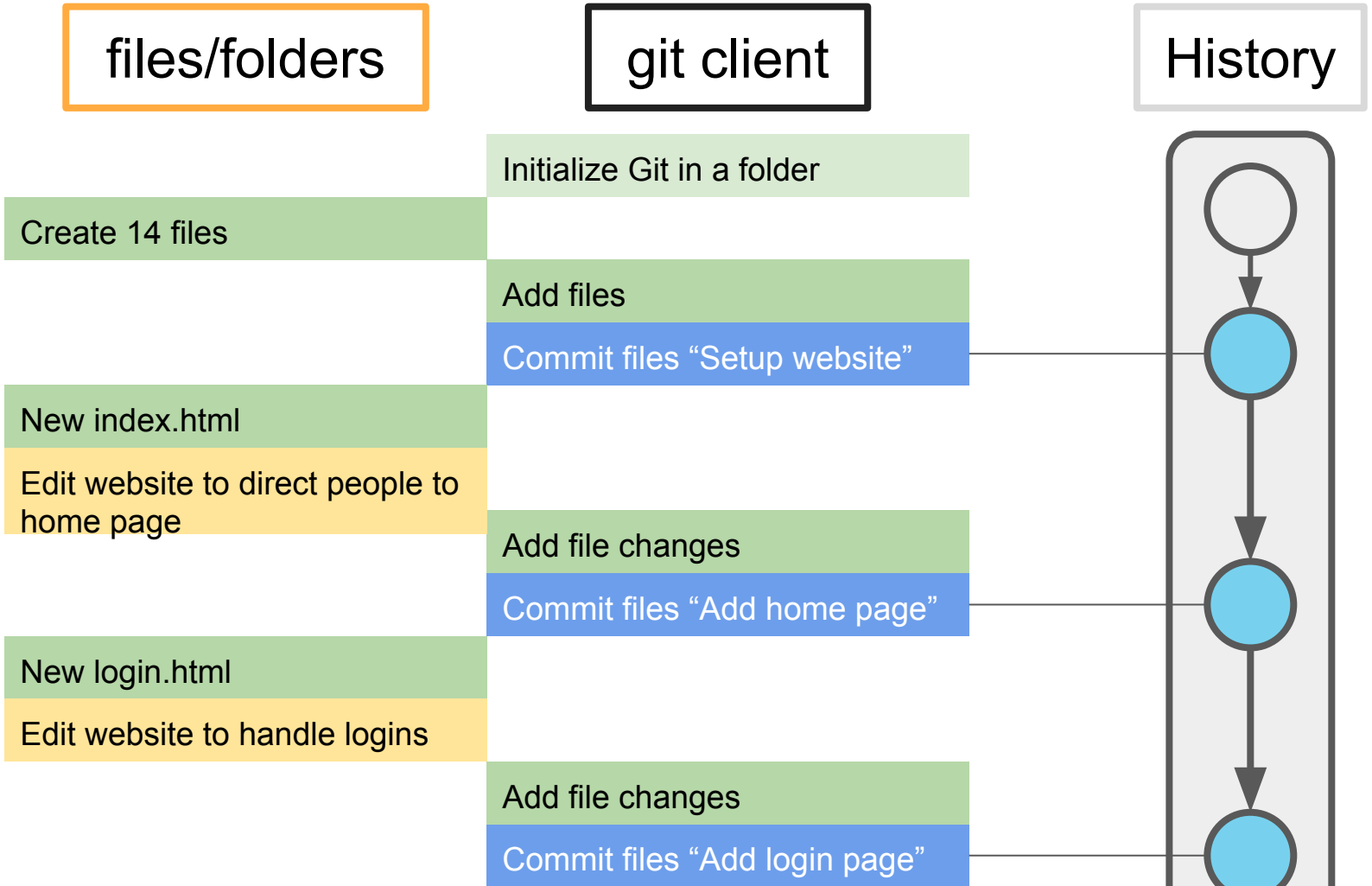

feature
branches
develop


develop
master


develop
hotfixes
master
Tag
1.2
Tag
1.2.1
Severe bug
fixed for
production:
hotfix 1.2.1


Doin’ Git

Commits

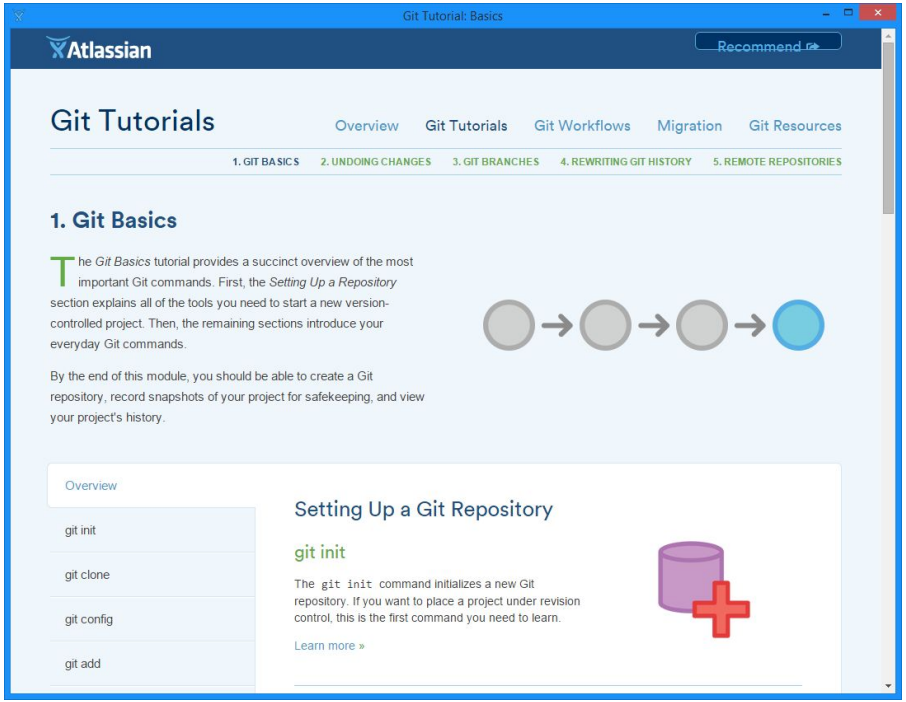

files/folders
git client
History
Initialize Git in a folder
Create 14 files
Add files
Commit files “Setup website”
New index.html
Edit website to direct people to home page
Add file changes
Commit files “Add home page”
New login.html
Edit website to handle logins
Add file changes
Commit files “Add login page”

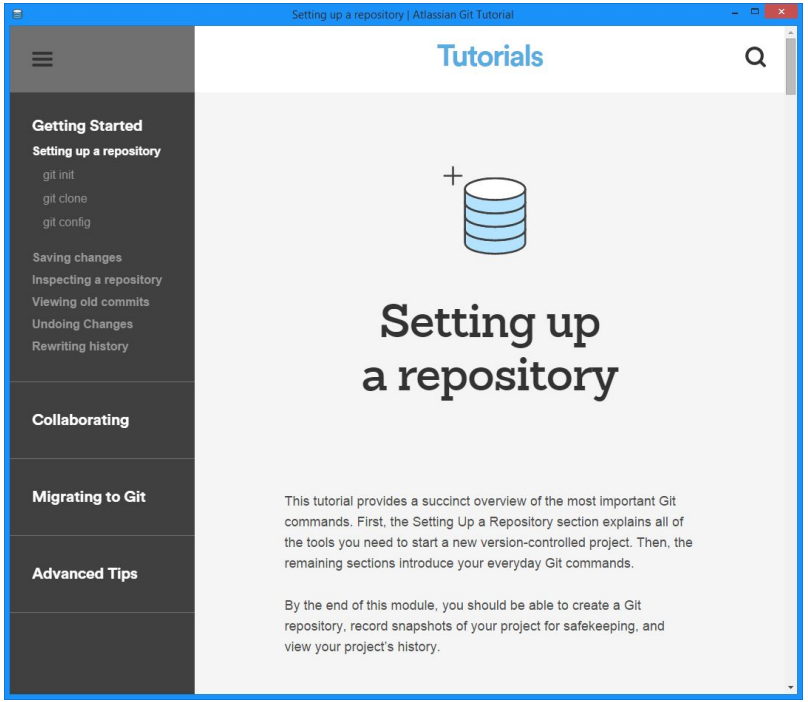

Learn by Doing

Atlassian Git Tutorials

https://www.atlassian.com/pt/git/tutorial/git-basics

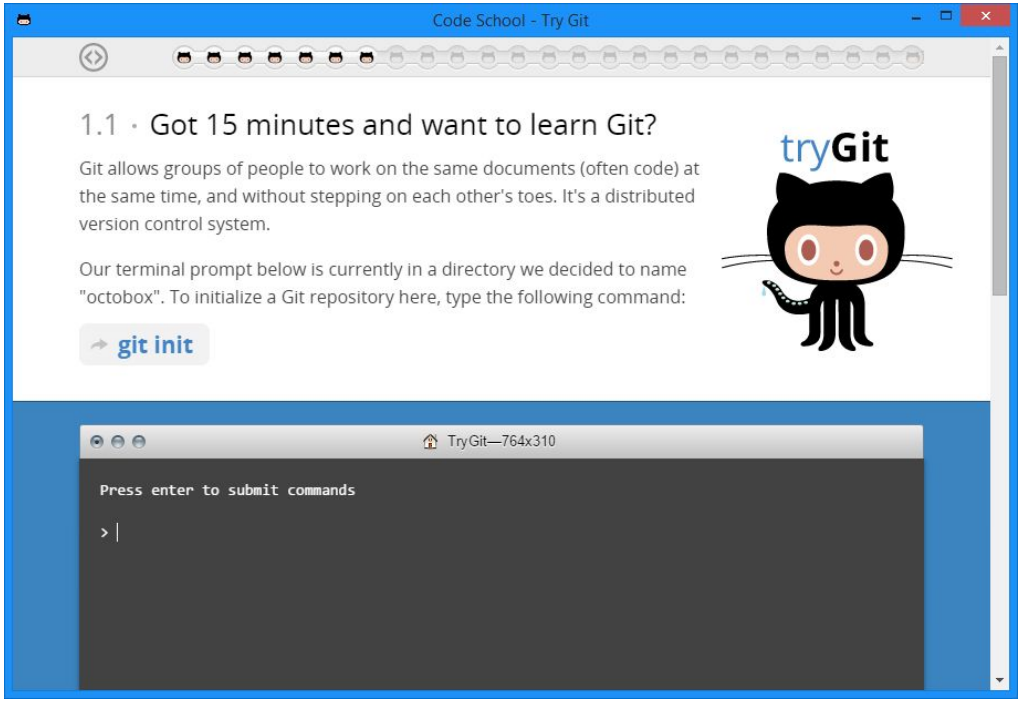
https://www.atlassian.com/git/tutorials/setting-up-a-repository





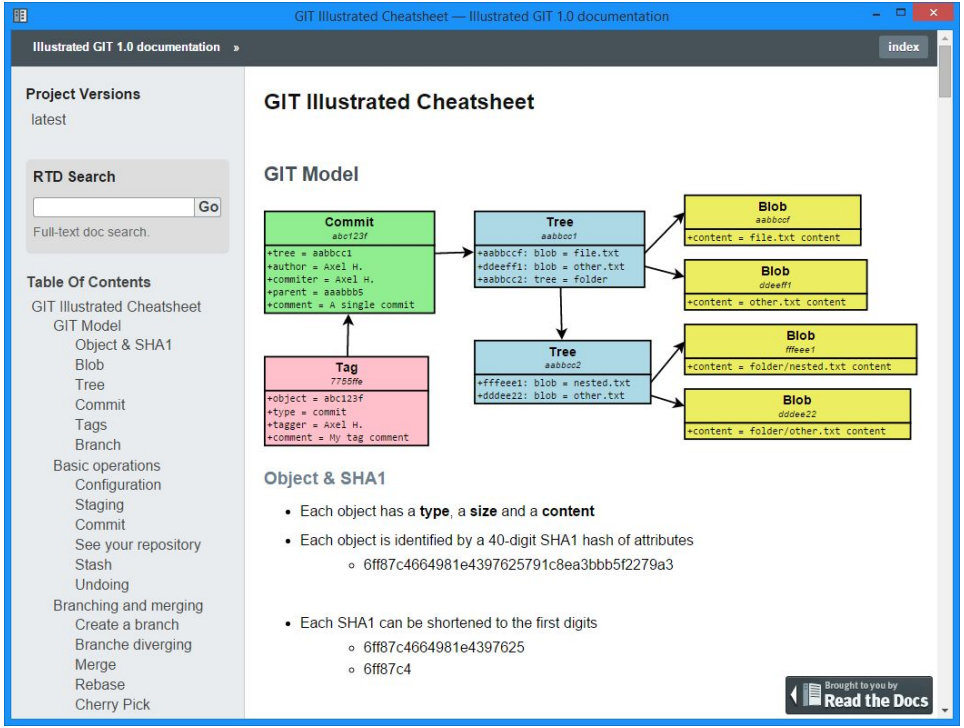
GitHub Git Tutorials

Guided git commits in the browser - https://try.github.io/levels/1/challenges/1



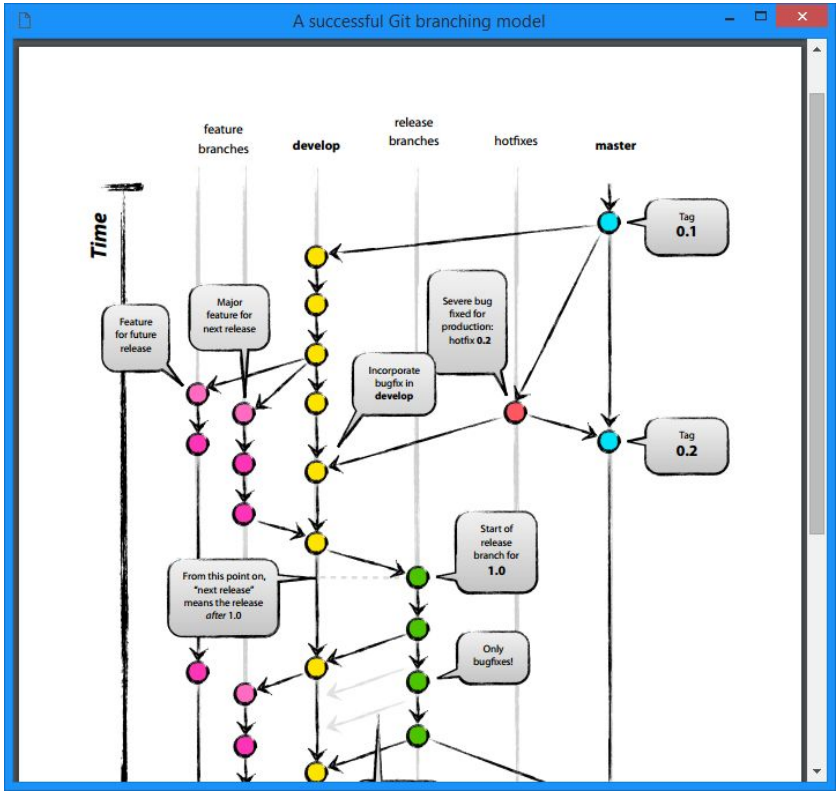
Git Illustrated

Less information than the git-help pages, and illustrated - https://illustrated-git.readthedocs.org/en/latest/



Git Branching Model

Git branching best-practices - http://nvie.com/files/Git-branching-model.pdf



Sources

Background images

- “Dog with ball” Andrew Pons, February 23, 2015, via *unsplash.com*
- “Hamster” Ricky Kharawala, February 27, 2015, via *unsplash.com*
- “Dog” Caleb Fisher, January 29, 2015, via *unsplash.com*
- “Bear” Thomas Lefebvre, August 18, 2014, via *unsplash.com*
- “Sheep” Ariana Prestes, January 27, 2015, via *unsplash.com*

Branches images

- “A successful Git branching model” http://nvie.com/posts/a-successful-git-branching-model/

How to commit code miscellaneous images

- “Git Basics - Atlassian” https://www.atlassian.com/pt/git/tutorial/git-basics

Cloning a Repository

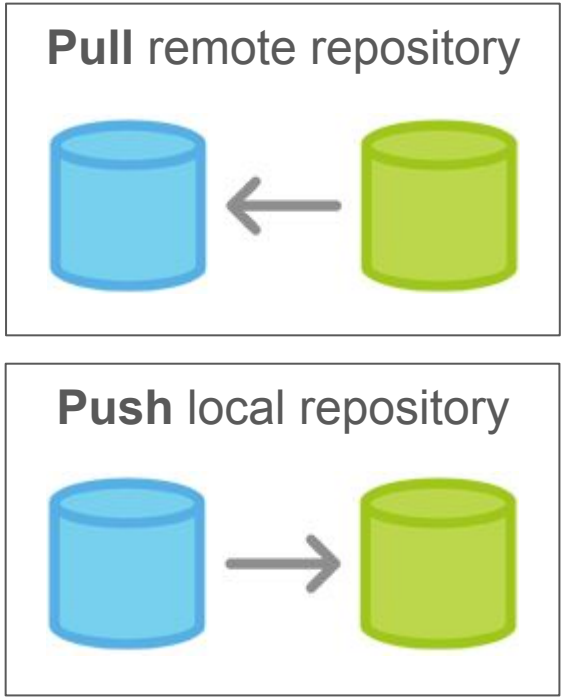
Clone a git repository locally.

Pulling updates from Origin

Why we are using **git.**

Merge file changes.

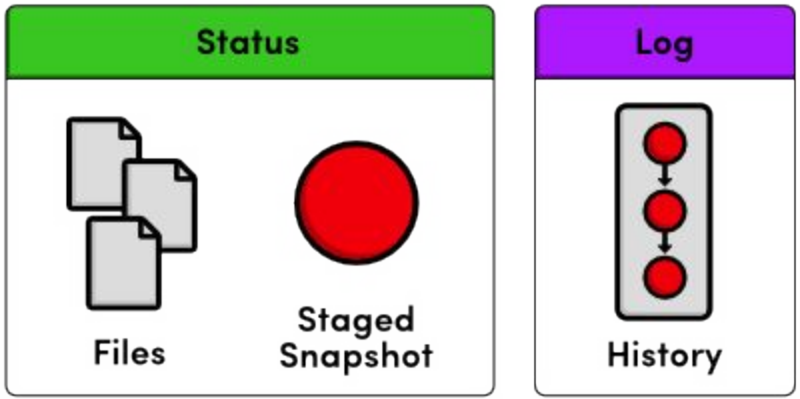
Team of developers may work on the same codebase, then merge their changes to the same files.

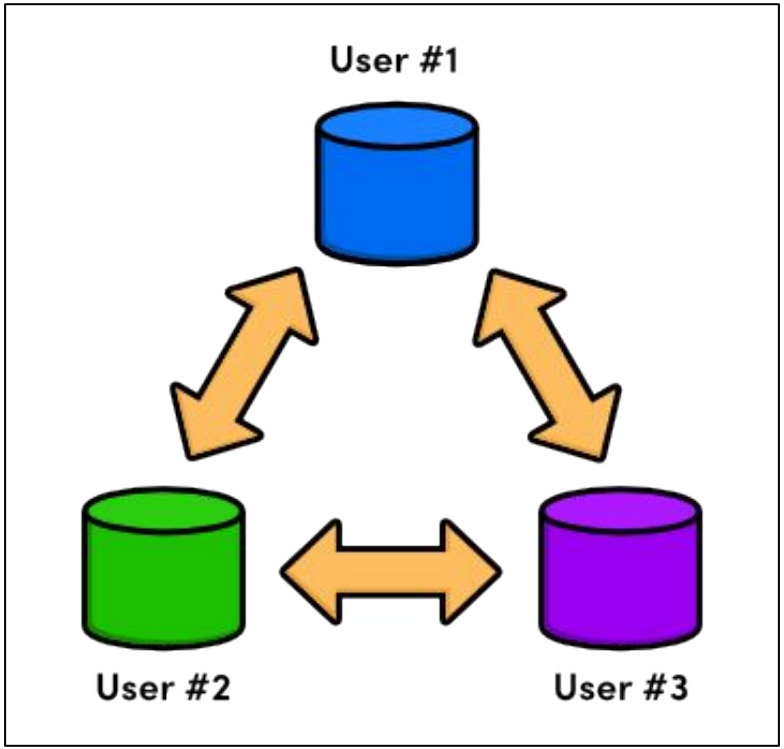

Pull remote repository
Push local repository

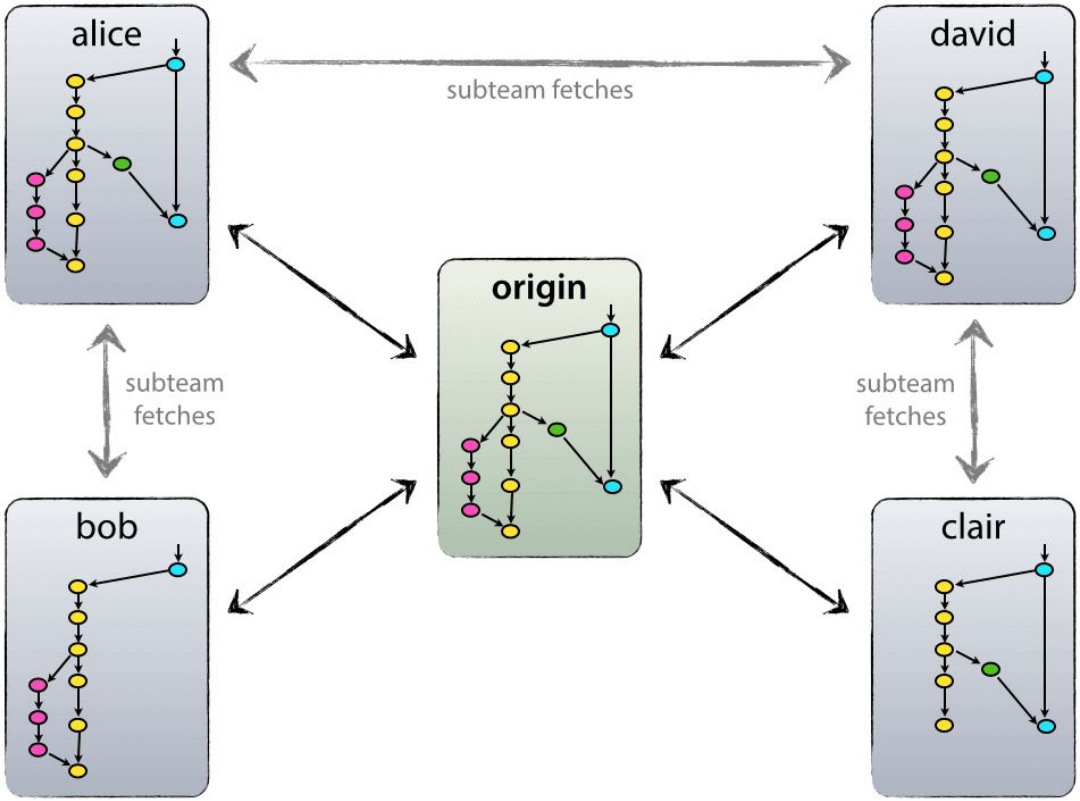
Resources

- Learn
  - Documentation and getting started resources
  - Try Git in browser
- Cool repositories
  - google/deepdream IPython Notebook combining images by movement, a study of neural networks, blog post
  - golang/go A new compiled language developed for productivity and asynchronous programming
  - codemirror/CodeMirror An in-browser code editor
  - /explore Explore up and coming developing software trending on Github

Status output vs. Log output

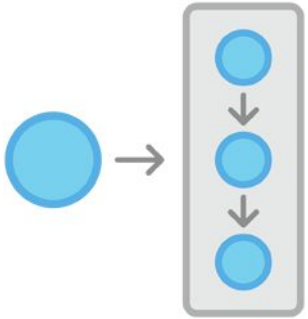


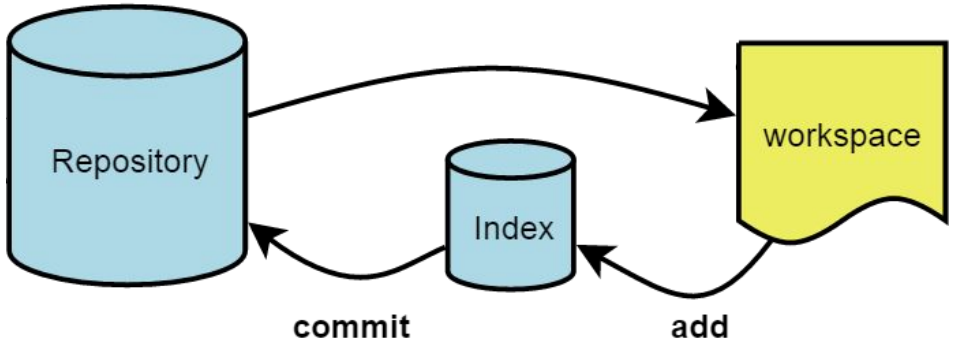

User #1
User #2
User #3


alice
david
subteam fetches
origin
subteam
fetches
subteam
fetches
bob
clair

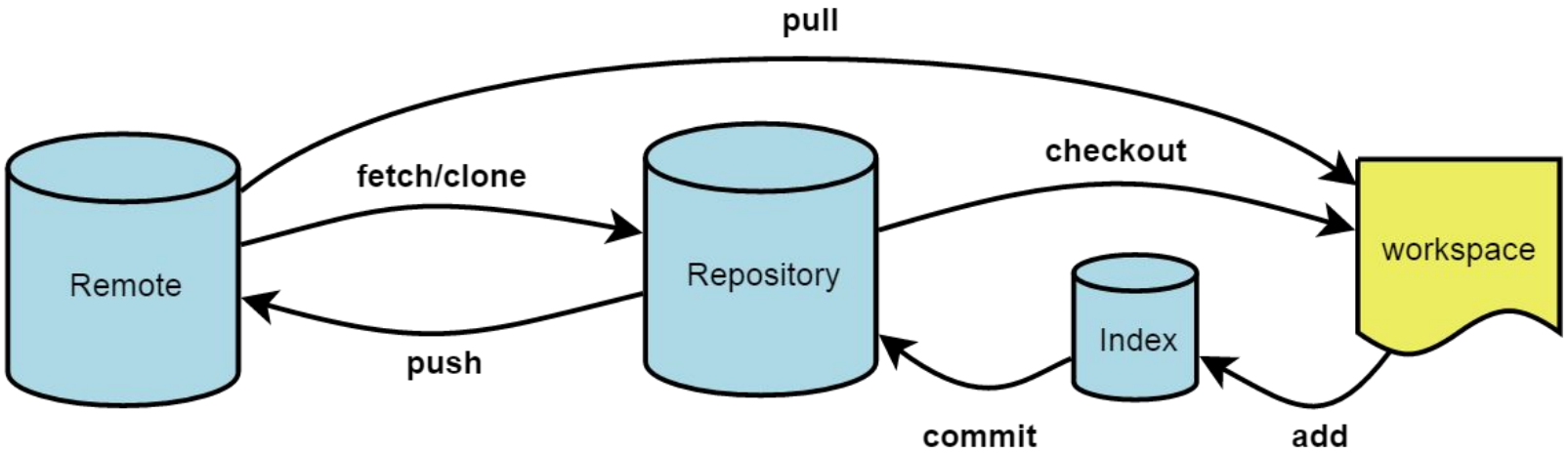
Add file changes to stage

Commit file changes





Syncing your database



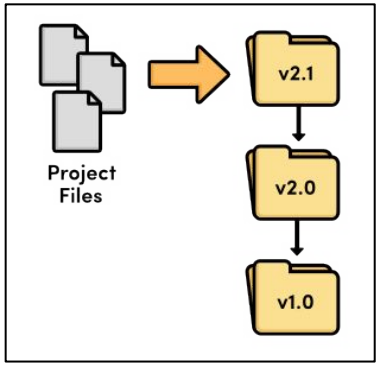
Commands

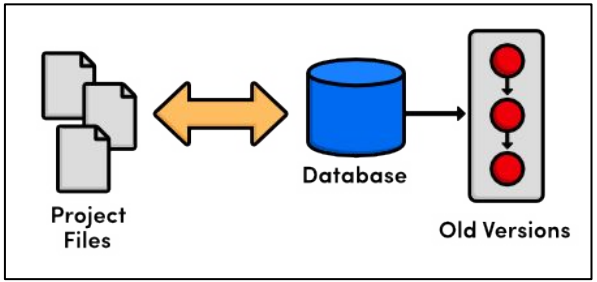
`git init`	**Create** a Git repository in the current folder
`git status`	View the **status of each file** in a repository
`git add <file>`	**Stage** a file for the **next commit**
`git commit`	**Commit the staged files** with a descriptive message
`git log`	View a repository's **commit history**.

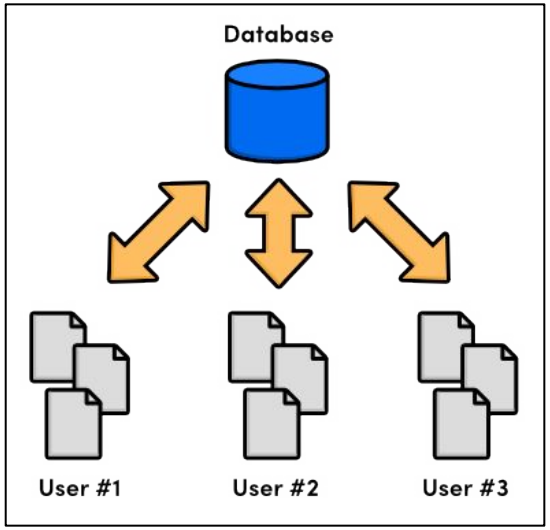
Version Control System

VCS

How have we solved version control?

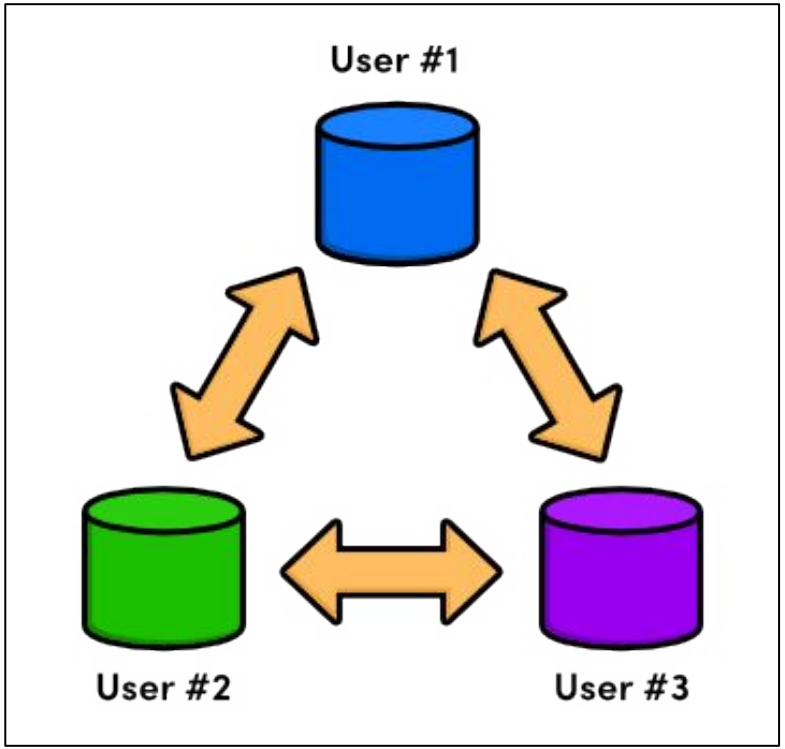






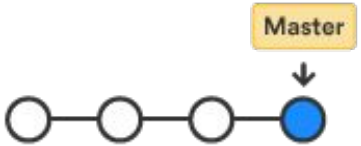
Today

- **Local database of history**
- Everyone can **sync DBs easily**
- **Easy codebase management**



Branching

History



Branches