



git and GitHub.com





What is git?

- Version Control Software
 - Track changes to files
 - Collaborative
 - Track who made changes
 - Revert changes

The screenshot shows the Git website homepage. At the top is the Git logo (a red diamond with a white branching diagram) followed by the text "git --fast-version-control". Below this is a search bar with the placeholder text "Search entire site...". The main content area has a light gray background with a subtle grid pattern. It contains two paragraphs of text and a diagram. The first paragraph states: "Git is a **free and open source** distributed version control system designed to handle everything from small to very large projects with speed and efficiency." The second paragraph states: "Git is **easy to learn** and has a **tiny footprint with lightning fast performance**. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like **cheap local branching**, convenient **staging areas**, and **multiple workflows**." To the right of the text is a 3D diagram showing several stacks of white cards, each representing a commit. The cards are connected by colored lines (red, blue, yellow) that represent the branching and merging process in a distributed version control system.





What is GitHub.com?

- Commercial website for hosting online git repositories
 - Free options
 - Educational plans
 - GitHub Enterprise Cloud for USDA-ARS



Alternatives exist



And more...





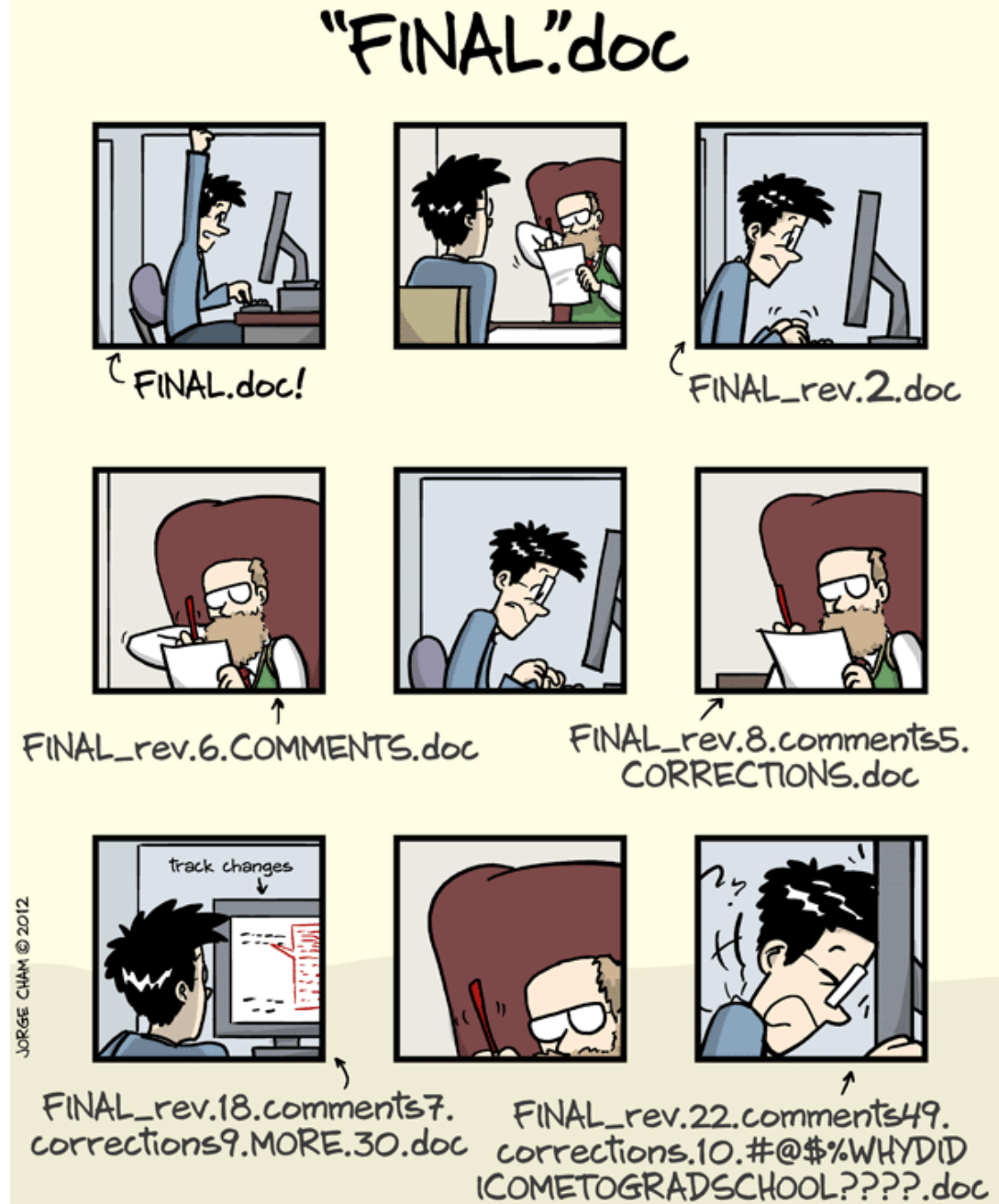
Why use version control?

- Collaborate
- Track history of changes
 - Revert changes
 - See what you did
 - Recover deleted bits
- Experiment
 - Easy to try something
- Backup
 - Remote copies



Version control

- One file, many versions



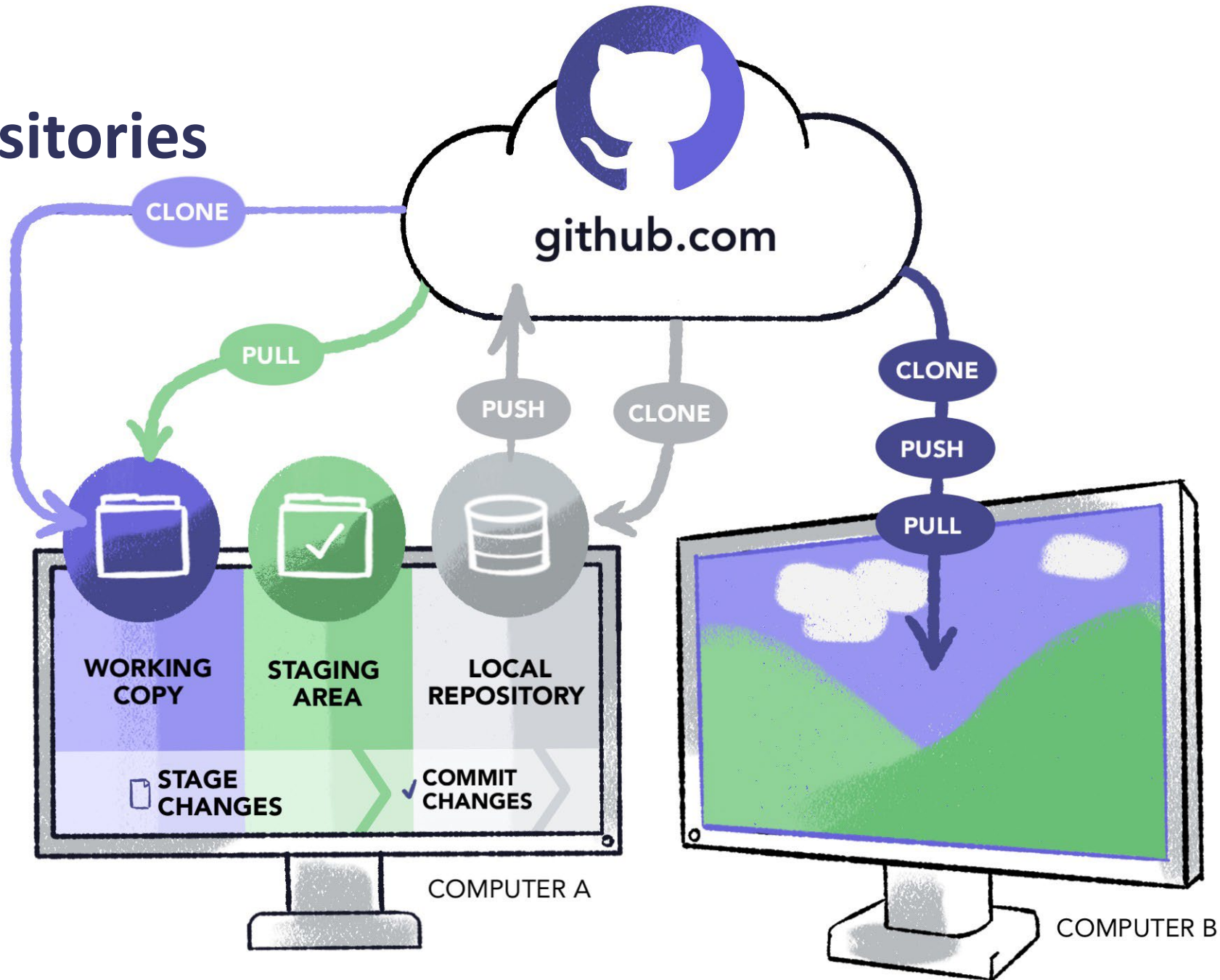
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Getting Started with git Repositories

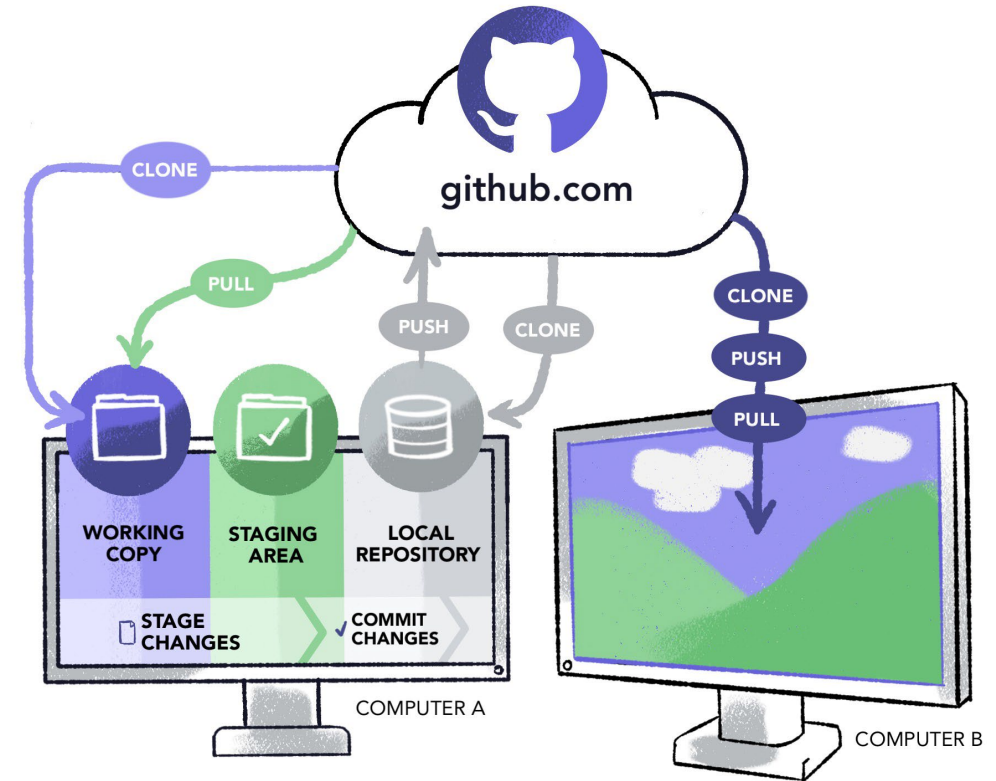
Repositories





Simple git workflow

- Clone the repository
- Edit file(s)
- Add changed files (moves to staging area)
- Commit changes with a message summarizing changes
- Push changes to resynchronize with GitHub.com

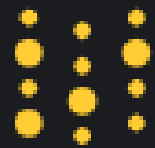




git also used for models and more



Hugging Face



Weights & Biases

mlflow 0.5.2

