

Front-End Web Development

Developer Tools

Today's Learning Objectives

In this lesson, you will:

- Use GitHub for version control and code collaboration.
- Execute commands from the command prompt for increased control of file systems.



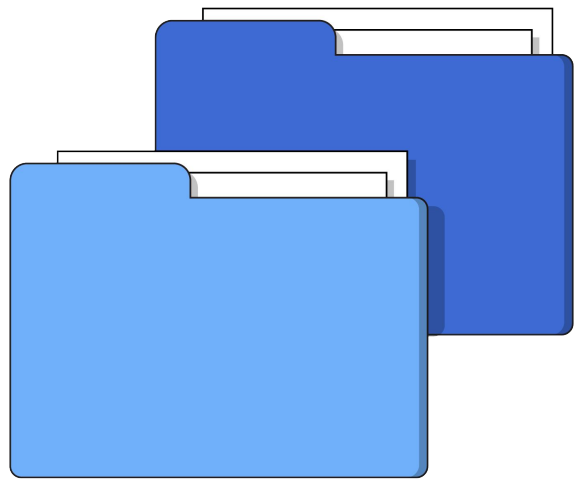
Front-End Web Development

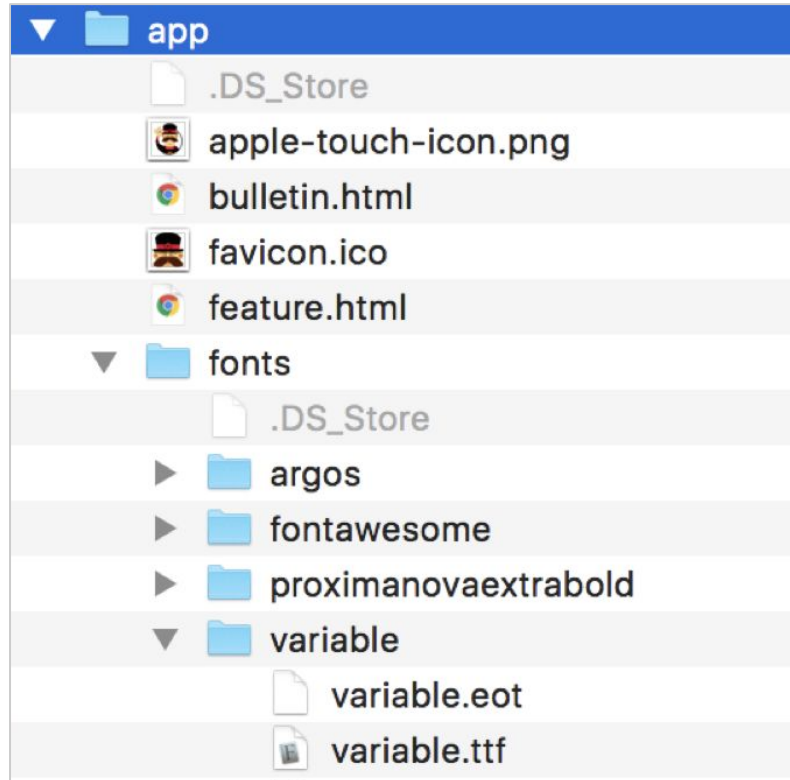
File Systems



File System Basics

- **Files** are organized in hierarchies of folders.
- **Folders** are organized in a modular way, with each folder representing a group of files with a similar purpose.
- The lowest level of a file hierarchy is called the **root**.
- System and user files are separated on computers. You should only deal with the user files.





Let's Explore Our Computers

Open up Finder on a Mac or Windows File Explorer on a PC.

- Set up your sidebar and toolbars.
- Create a “sites” area on your computer.
- Tweak system settings to create a productive workspace.
 - Spaces, dock, hot corners, and side-by-side windows can speed up navigation.



Text Editors

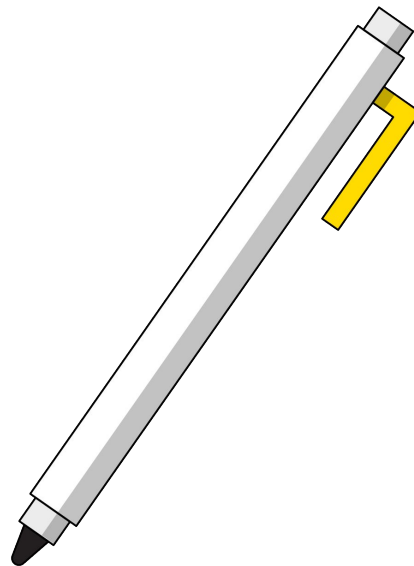


The screenshot shows a text editor window titled "homepage.html — /Users/jsir/Sites/aerospace-america-styleguide". The left sidebar displays a file explorer for the "aerospace-america-stylegui" directory. The main editing area shows HTML code for "homepage.html" with line numbers 35 through 45. The code includes closing a "subscribe" div, closing a main "div", and opening a "header-right-container" div. Inside this container, there is an anchor tag for a search button with a span for a search icon and a span for the text "Search Aero". Below this is another anchor tag for a login button with a span for the text "Log In to A".

```
35     </div class="subscribe"></div>
36 </div>
37 <div class="header-right-container">
38     <a class="header-search search-butto
39         <span class="header-search-icon g
40         <span class="sr-only">Search Aero
41     </a>
42     <a href="#" class="header-login" ro
43         Login
44         <span class="sr-only">Log In to A
45
```

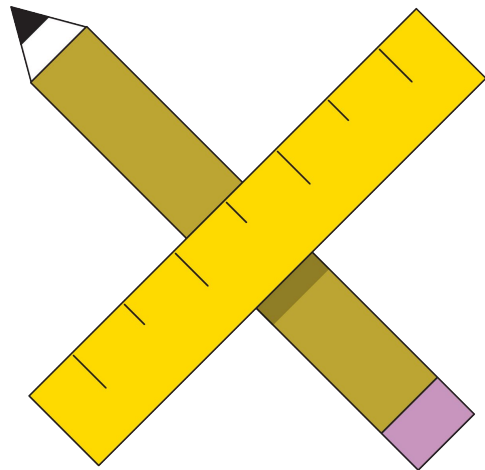
Text Editor Factoids

- **Text editors** highlight text based on the programming language you are using.
- They don't use native file endings, so you have to know the file extensions with which to save your files (for our class: **.html**, **.css**, and **.js**).
- They are close cousins to IDEs (integrated development environments). Text editors are good for front-end developers, while most back-end developers use IDEs.



Text Editor Options

- Popular text editors include Sublime Text, Atom, and Visual Studio Code.
- These are very similar tools — all show project files, highlight text, use modular plugin frameworks, and have powerful find-and-replace functions.
- The biggest difference: Atom tracks Git changes in your file system.



Let's Look at Our Text Editors

Install and/or open up your program of choice.

- Pick a theme.
- Install a package, like language extensions or formatting tools.
- Play around with some features (code folding, multi-cursors, split screen, Git status, find and replace, etc.).



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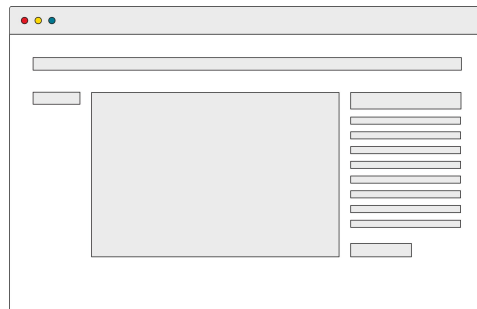
Command Line



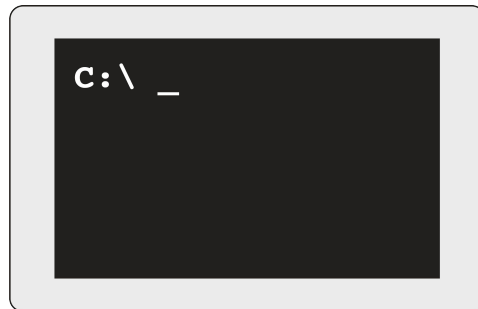
Command Line

Instead of graphical user interfaces like Finder or Windows File Explorer, programmers often use the **command line** — a direct, text-based system interface.

The command line allows you to navigate file systems, manipulate files, and execute programs.



GUI



CLI

Command Line Commands

UNIX (Mac)	Windows	Description
<code>cd</code>	<code>cd</code>	Change directories.
<code>ls</code>	<code>dir</code>	List the contents of the current directory.
<code>pwd</code>	<code>cd</code>	Print the location of the current directory.
<code>mkdir</code>	<code>mkdir</code>	Create a directory.
<code>rm</code>	<code>rmdir</code>	Delete a directory.
<code>touch</code>	<code>echo</code>	Create a file in the current directory.

Build the Labyrinth

Use the command line to create this folder and file structure:

```
.  
|-- parlor  
|   |-- ballroom  
|       |-- sarah_williams.txt  
|   |-- dining_room  
|-- stairway  
    |-- escher_room  
    |-- throne_room  
        |-- goblin_king.txt
```

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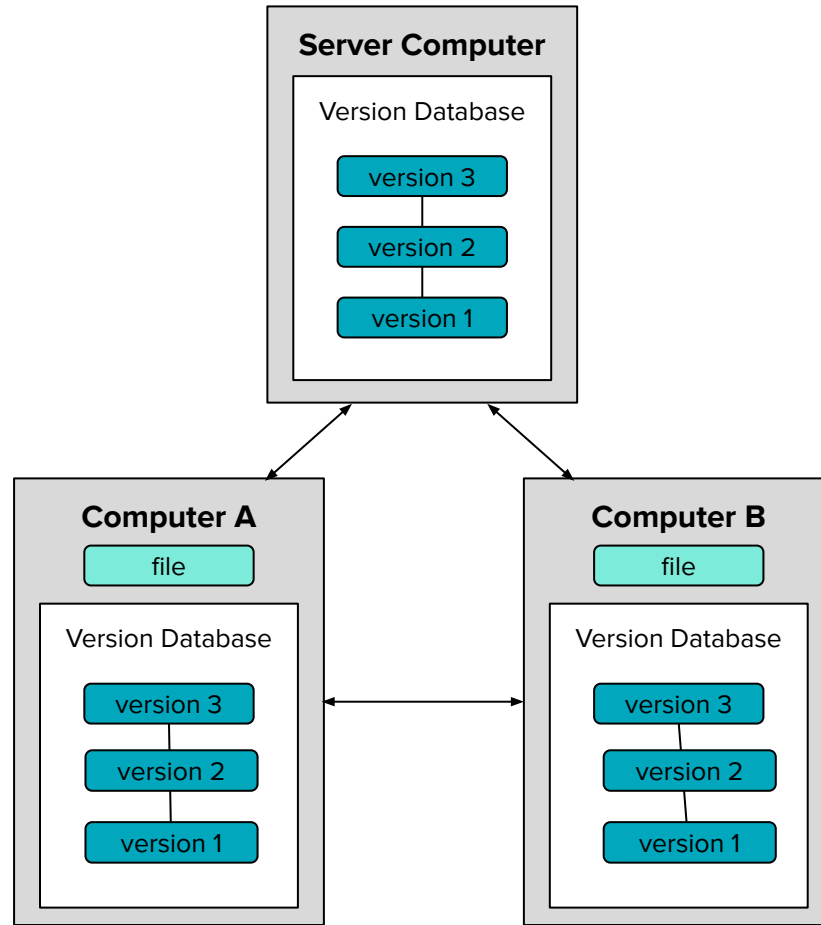
Git



What Is Git?

- **Git** is a database for all of your code (version control).
- It's a particular kind of version control called **distributed version control**. This means multiple people can make edits to the same codebase at once.
- This can be a hard concept to wrap your head around — see the diagram on the next slide.





Git Commands

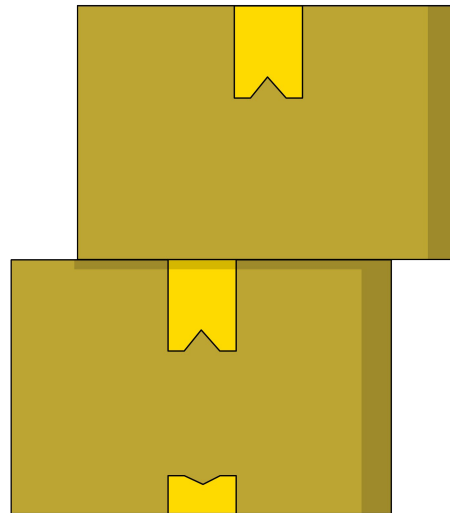
Command	Explanation
init	Creates a repository in the current directory (folder).
add	Stages the specified files to prepare them for a commit .
commit	Saves the current state of the repository.
push	Sends local repository contents to a remote repository.
clone	Downloads a remote repository onto your local machine.
pull	Syncs one version of a repository with another.



Storing a Project on GitHub

Choose any of the previous assignments or projects and store them in a repository using the command line, then push that repository to a repository on github.com.

Use your text editor to create the folder structure and copy files into a new folder.



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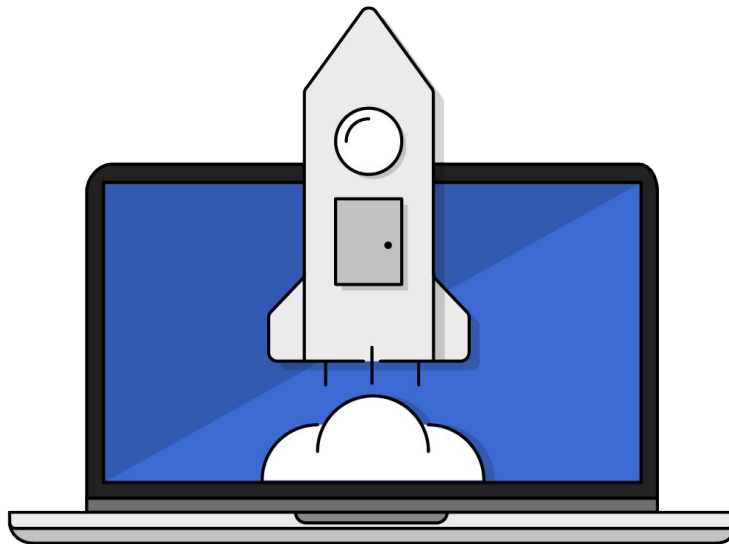
Deployment With GitHub Pages



GitHub Pages

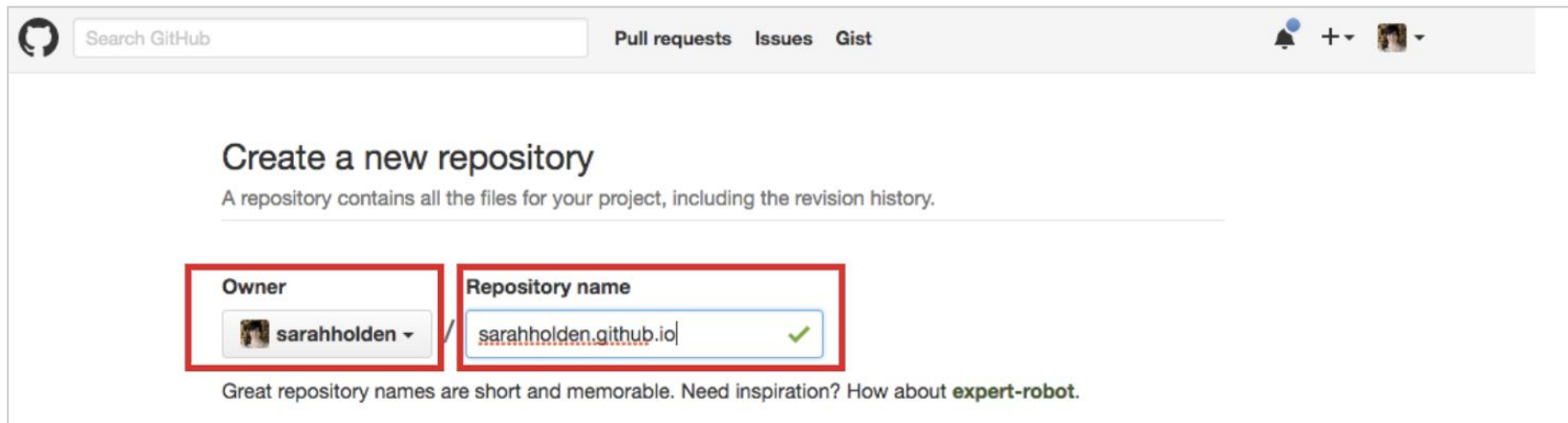
Git is commonly used in the process of deploying projects to live servers on the internet.

It's no surprise, then, that GitHub has its own built-in way to host projects directly from the repositories they already live in: GitHub Pages!



Make a Repository Based on Your Username

GitHub doesn't just let you host every single project live. You'll have to store the code you want to deploy in one specific repository, named after your username.



Search GitHub

Pull requests Issues Gist

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner: sarahholden

Repository name: sarahholden.github.io ✓

Great repository names are short and memorable. Need inspiration? How about **expert-robot**.

Push Your Code to the GitHub.com Repository

Once you've set up a **remote** repository on GitHub, create a **local** repository in your project directory and push it to GitHub.

Don't worry — when you create a repository on github.com, it automatically shows you the command line commands needed to set things up.



Choose a Jekyll Theme — Even If You Don't Need It

GitHub Pages uses a static site generator called **Jekyll** to transform repositories into complete HTML sites. To satisfy its requirements, you'll have to choose a Jekyll theme in the Settings > GitHub Pages menu of your repository.

Source

Your GitHub Pages site is currently being built from the master branch. [Learn more.](#)

User pages must be built from the master branch.

Theme Chooser

Select a theme to publish your site with a Jekyll theme. [Learn more.](#)

Your site is currently using the Cayman theme.

Change theme

Congratulations, Your Site Is Live!

It may take a few seconds, but you should be able to visit your site at `your-username.github.io`!

If you need to redirect the GitHub Pages project to a more friendly custom domain name, Pages provides ways of doing that as well.

There are other command-line tools that make deploying front-end websites a breeze: Netlify and surge.sh are both great alternatives to GitHub Pages.



Key Takeaways

CLI > GUI for Developers

- Many tools of the developer trade rely on command line interfaces.
- Version control with Git is a key component of professional workflows.

For Next Time

Go Forth and Develop!

- Work on the final project for this class!



