



The Zen of Coding

Web Development Boot Camp
Lesson 1.1



Announcements Slack

- Slack is our main form of communication
 - #general **is for general announcements**
 - #random **is for fun**
 - #03-resources **is for sharing tools and further reading**
 - #05-questions-realtime - **ask for answer during lecture, and upvote**
 - #06-queue - **requests for individual help during class or office hours**
 - #07-parking-lot - **ask for answer later (i.e., not during lecture)**
- Use threading when appropriate (cuts down on noise)

Announcements - Zoom

- Zoom Link for future classes: look in #general
- Waiting room
- Passcode
- Full name
- Use Slack for chatting, not Zoom

Announcements - Everything else

**Questions about GitLab, GitHub, the prework, your accounts
will be addressed later in class when we do a check in.**

The Path of Learning

Your Goals

Basically, 100% of you said **new career**.



Your Goals

And why do you want a new career?

-  To pursue a **dream**
-  To escape a **dead-end job**
-  To be able to **create**
-  To follow a **fascination**
-  To attain **financial stability**
-  To obtain **financial freedom**
-  To **challenge yourself**
-  To be a **role model** to kids



Your Goal = Our Goal

As instructors, we take your goals
very, very seriously.

Support Team Promise

If you're willing to put in the time and take our advice, we're here to help you 100% of the way.

This goes for everyone working on this program:

- Instructors
- TAs
- Student Success Team
- Career coaches
- Everyone else!





But Remember:
Nothing good comes easily.

Our Keys to Success

Don't Be This Person:



A close-up photograph of a baby with light blue eyes and a wide-open mouth, appearing surprised or excited. The baby is wearing a bright pink, zippered jacket. The background is a dark, textured surface covered in numerous small water droplets, suggesting rain or condensation. The overall composition is a full-frame shot focusing on the baby's face and upper body.

This Should Be You

Our Mantra for Today and Beyond

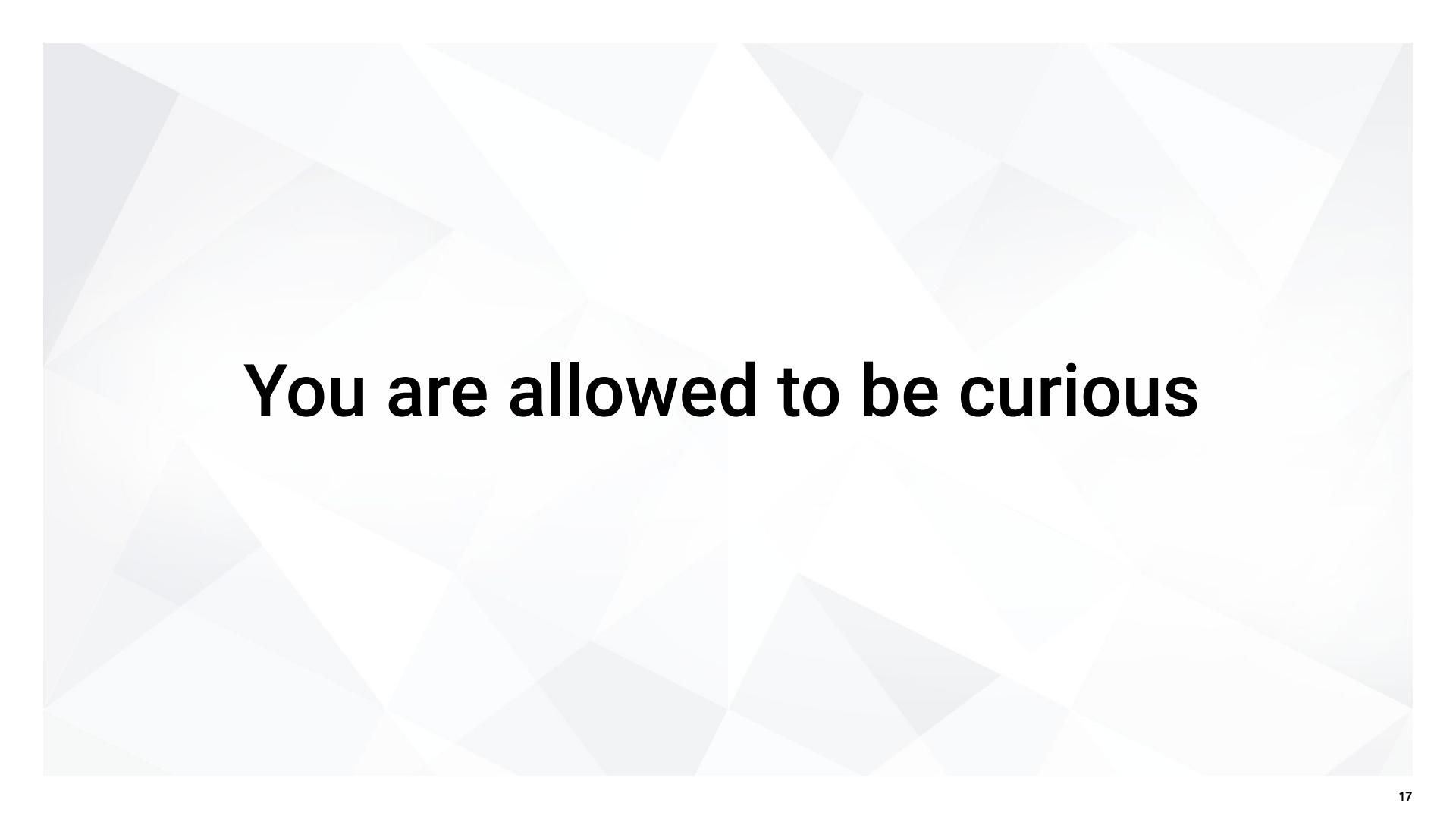
When it comes to web development...



I know nothing.

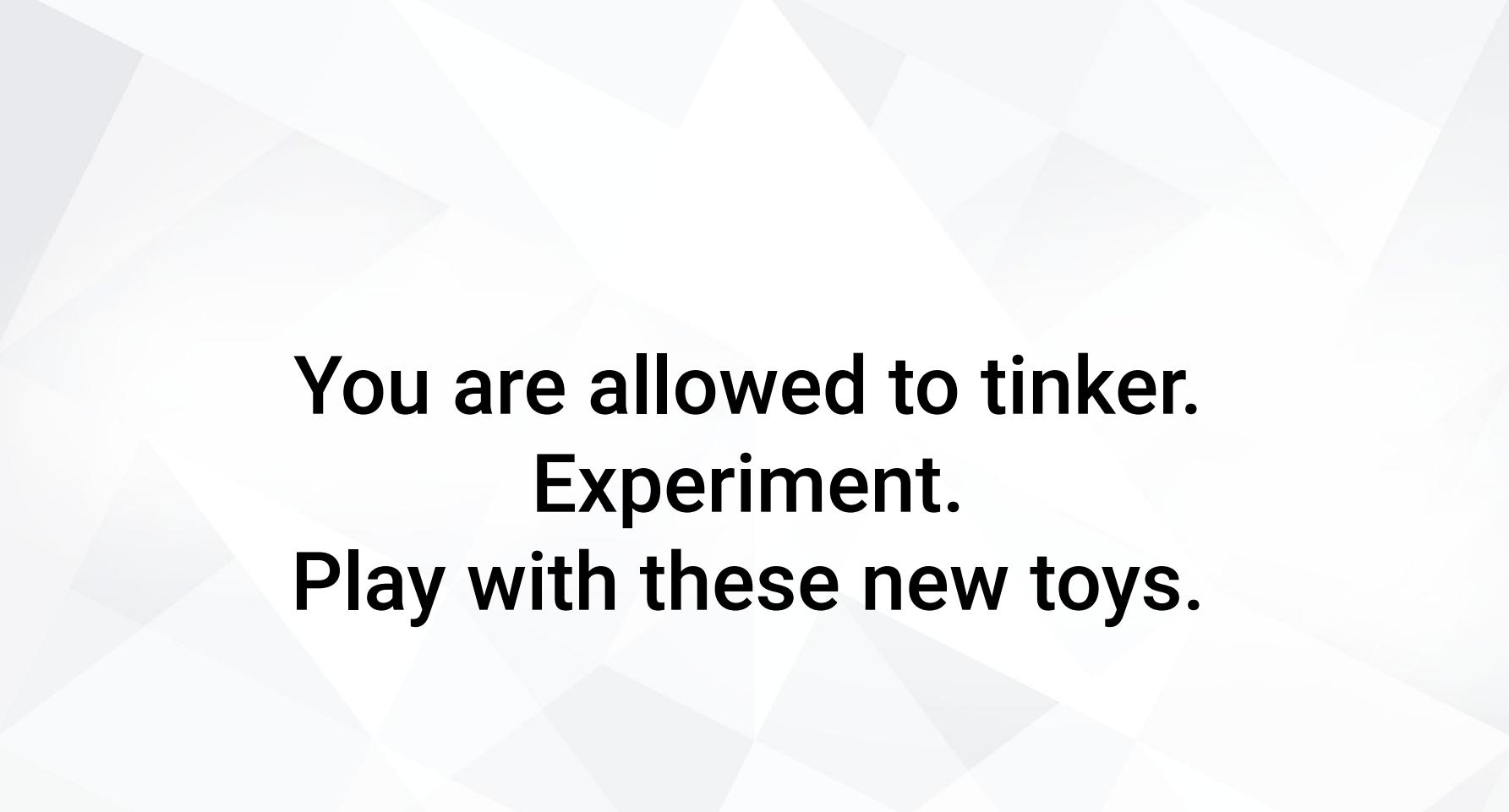


You.



You are allowed to be curious

You are allowed to ask questions



**You are allowed to tinker.
Experiment.
Play with these new toys.**

The Path of Learning

Nothing comes easy.
As students, you face three
HUGE obstacles.

Obstacle #1: The Great Confusion

My code doesn't work and I don't know why.

My code works and I don't know why.



Obstacle #2: The Great Doubt

“Maybe I’m just dumb.”



Obstacle #3: The Great Distance





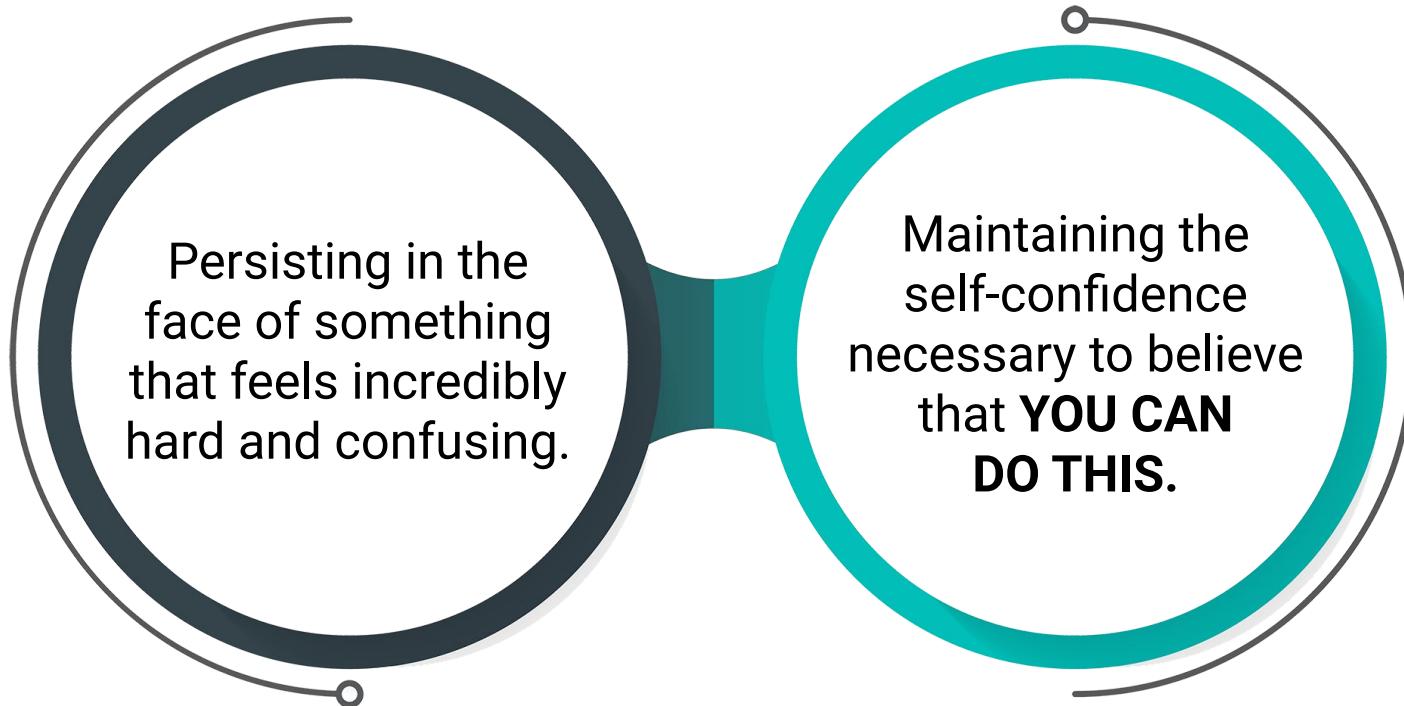
Congratulations!

You are now a

Professional
Learner!

Nothing Comes Easy

Learning to code requires two things:



You are going to fail. A lot.



A master has
failed more times
than a beginner
has tried...



Learning Can Be Frustrating



You can't tell whether you're learning something when you're learning it—in fact, *learning feels a lot more like frustration*.

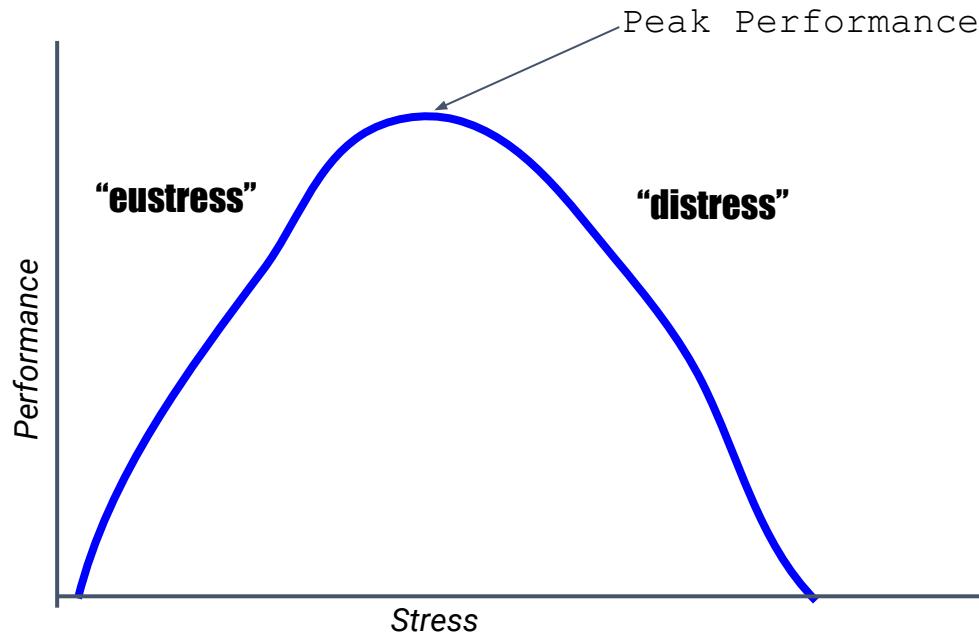
What I've learned is that during this period of frustration is actually when people improve the most, and their improvements are usually obvious to an outsider. If you feel frustrated while trying to understand new concepts, try to remember that it might not feel like it, but you're probably rapidly expanding your knowledge.



—Jeff Dickey, author of *Write Modern Web Apps with the MEAN Stack: Mongo, Express, AngularJS, and Node.js* (Peachpit Press, 2014)

Stress: Eustress vs Distress

Some stress is needed, but too much and we crack



How much struggle is enough?

You need to struggle, to find answers yourself, but too much struggle will lead to distress



Spend at least an hour, then please reach out for help.



Everything you find that doesn't work helps build your intuition



Not finding the answer is also expanding your knowledge and vocabulary



Allow yourself to do this in spite of deadlines, etc.

Google Fu: The Most Important Skill of All



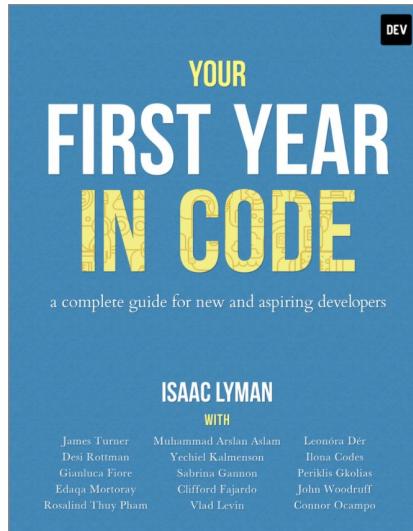
| What Is Google Fu?



Great advice

Your first year in code - Issac Lyman

Read Chapter 3



- Build Intuition
- Knowledge debt
- Problem driven learning
- Multiple sources of truth
- Fewer subjects at a time
- Ask your own questions
- Challenge the material
- Go back and review
- Fundamentals are important

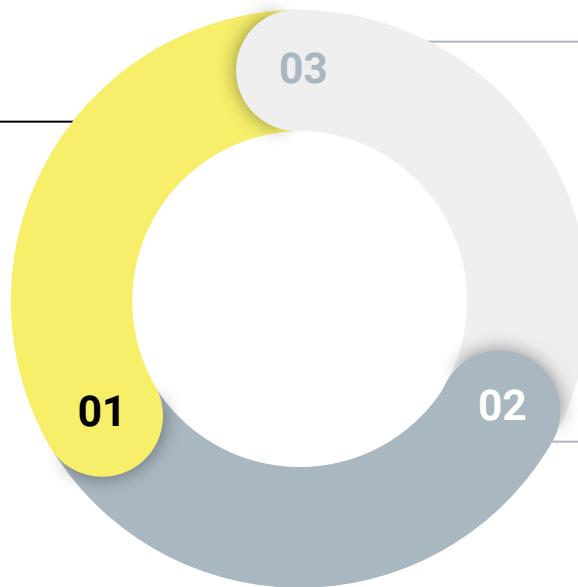


Instructor Demonstration Prework: Module 10

Advice for the Journey

Throughout this course, always remember to:

Work hard!

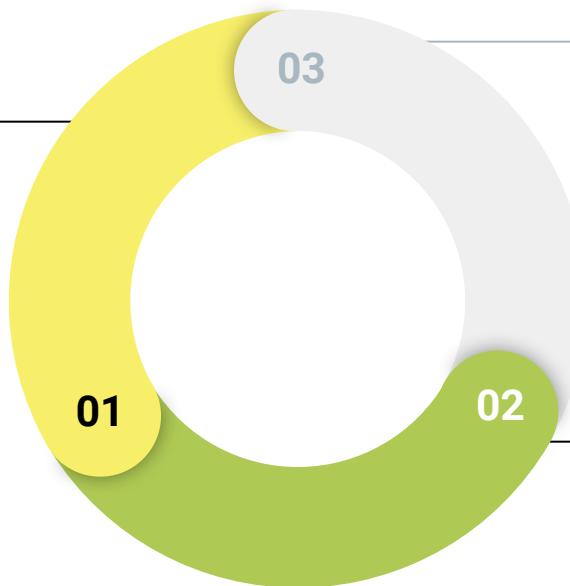


Trust yourself

Appreciate your successes

Advice for the Journey

Throughout this course, always remember to:



Work hard!

Trust yourself

Celebrate your
successes

Advice for the Journey

Throughout this course, always remember to:



Work hard!

Trust yourself

Celebrate your
successes

And Remember...

If you want to go fast, go alone. If you want to go far, go with a team.



More learning strategies

Take this course...it's free.

[Learning How to Learn: Powerful mental tools to help you master tough subjects](#)

“We'll learn about the how the brain uses two very different learning modes and how it encapsulates (“chunks”) information. We'll also cover illusions of learning, memory techniques, dealing with procrastination, and best practices shown by research to be most effective in helping you master tough subjects.”

Feedback from former students

“Learning how to use Google, like, REALLY use Google, is just as important as learning JavaScript or Express or any other technology we learned during boot camp. It's essential!”

“I would tell myself to re-do all the class activities I got stuck on. Do research going into the week on the topics you will be covering that week. And make sure you can answer all the questions in the weekly unit README at the end of the week to make sure you grasped the concepts from that week. I would also tell myself that it's okay if you have no experience coming in. If you work hard and use your awesome instructional team and all the other resources the bootcamp has to offer you CAN do it!”

Feedback from former students

“ This is not going to be easy at all. But when you feel like you can't do it anymore, KEEP GOING! When you need help, ask for it, stop being so damn prideful. Things that seem easy for everyone else, are going to be hard for you; however, things that seem hard for everyone else will be easy for you. You're going to be fine. Trust what John, Ben and Abdul say. Ask for help, I can't emphasize this enough. You're going to finish the class and from there, I don't know, but you're about 1,000 steps closer to your goals than you were before.”

Feedback from former students

“This class is a foundation. Don't expect to know any technology fully. The class is a launching point, not a destination. Trust the process, it takes time and requires your constant effort, but it works.”

“it's hard and you know it will be, but it's actually harder than you can imagine. you can get a 2nd tutor, request a change if you don't like your first one!!! I didn't know and i would def been further ahead!!!”

“Ask for help when you need it, don't wait until the last minute because the material goes by very fast! Also breaks are very important, and you got this!”

Feedback from former students

1. This course is very intense/demanding for some and kind off medium difficult for others. As long as you don't compare yourself and just try to just compete with yourself you will be okay (Something my dad taught me, and I religiously believe in). I think i personally found this bootcamp to be very demanding and if you cant give 4+ hours daily for atleast 5 days a week you can't succeed.
2. Redoing class activities is THE MOST USEFUL THING to keep up with class pace. Practice makes it easier
3. It is okay to not understand a word of some concepts sometimes(Express and REACT hooks) . I panicked and you know that lol but it took me several weeks and hours of bugs to understand just ROUTES !Those classes have now taught me that the stuff we learnt was hard, everybody is different.
4. Next best help is TUTOR and OFFICE HOURS . Try to be there and ask as many questions as you can. Don't care who thinks what of you.
5. Reading DOCUMENTATION of any new topic introduced helps cuz your instructor/TA will not always be there for you.You need to learn by yourself .
6. Completing homework on time helped me panic less and keep up with class pace. I didn't have to worry about pending homeworks during projects and stuff.

Hope this helps and all the very best for your new venture !

Feedback from former students

“The more time you put in coding, the easier it becomes. You can’t just read documentation and listen in class and get it. You may understand the concepts, but to become a better coder, it just takes time and effort. Anything that is “hard” just means you need to dedicate more time to developing the skill.”

Recent Grad Activity

- Recent grad (a journalist) is now a Technical Writer
- DevOps at Wizards of the Coast
- Interview project - when she came to this class she was an accountant, now on to a Final Interview for a front-end AngularJS job (which we don't teach in this class)
 1. *I created a light back-end with Node+Express to FS read the file and used Xml2JS parser to convert to an object.*
 2. *I used Angular for the front-end to make an HTTP request every minute to the pathway that I sent the xml object and display to user.*
 3. *The challenge was making sure that the components showed the most up to date info when the request was made. Angular has a concept of using a service in the app to “bind variables” so that the components only pull the updated version of it. I made sure that I made the HTTP request in one place only rather than slow down the app with each component making that. Also, accessing the data required all the practice that I've been doing with Leetcode - some data was in an array of arrays with one index having sub data, or an array of objects with inconsistent naming conventions (\$ sign for first key and the data was another layer in)*
 4. *I also had to address how to handle errors (the format of the xml file changes). I rendered each table dynamically so that if another field was added to the underlying file, it automatically rendered an additional column and related field.*
 5. *Lastly I made the tables responsive so that on a tablet or mobile phone it adjusts to still be readable.*



“ I found that once you have the foundation of code logic, you’re good to go.”

Course Structure

Daily Schedule

In each class, we'll cover the following:

- 01 Set objectives
- 02 Brief background lecture
- 03 Watch me/coding demos
- 04 Code discussions
- 05 In-class exercises
- 06 Project work

Daily Schedule

In each class, we'll cover the following:

01

Set objectives

02

Brief background lecture

03

Watch me/coding demos

04

Code discussions

05

In-class exercises

06

Project work



This is the super important
stuff—ALWAYS BE CODING!

Course Structure

For each topic, we will take you from fundamentals to cutting edge



We will teach you a fundamental skill (e.g., Javascript DOM manipulation)



We may show you an evolved way (e.g., jQuery)



We will show you how it's being done now (e.g., React)



With hindsight, we will discuss the concepts that will take you farther in your career (e.g., imperative vs declarative, DOM Manipulation and state management)

Prework

Software Checklist

At this point, you should have all of these installed:

- Slack
- Visual Studio Code
- Git
- Git Bash (Windows) or Terminal (Mac)
- Node.js
- Heroku-CLI
- Google Chrome

Accounts Checklist

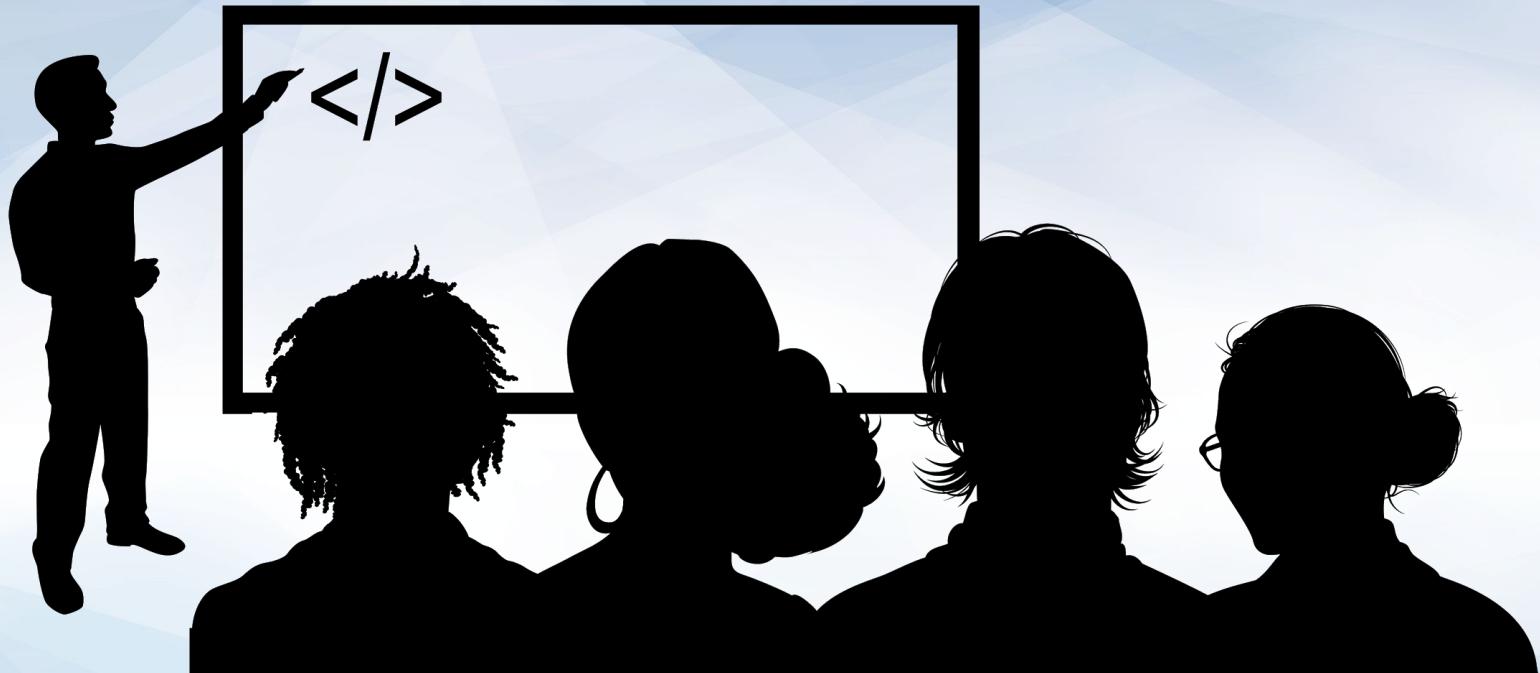
You should also have accounts for:

- GitHub (with SSH Integration)
- Heroku
- LinkedIn
- Stack Overflow

Self-Check

Let's do some quick checks of the following:

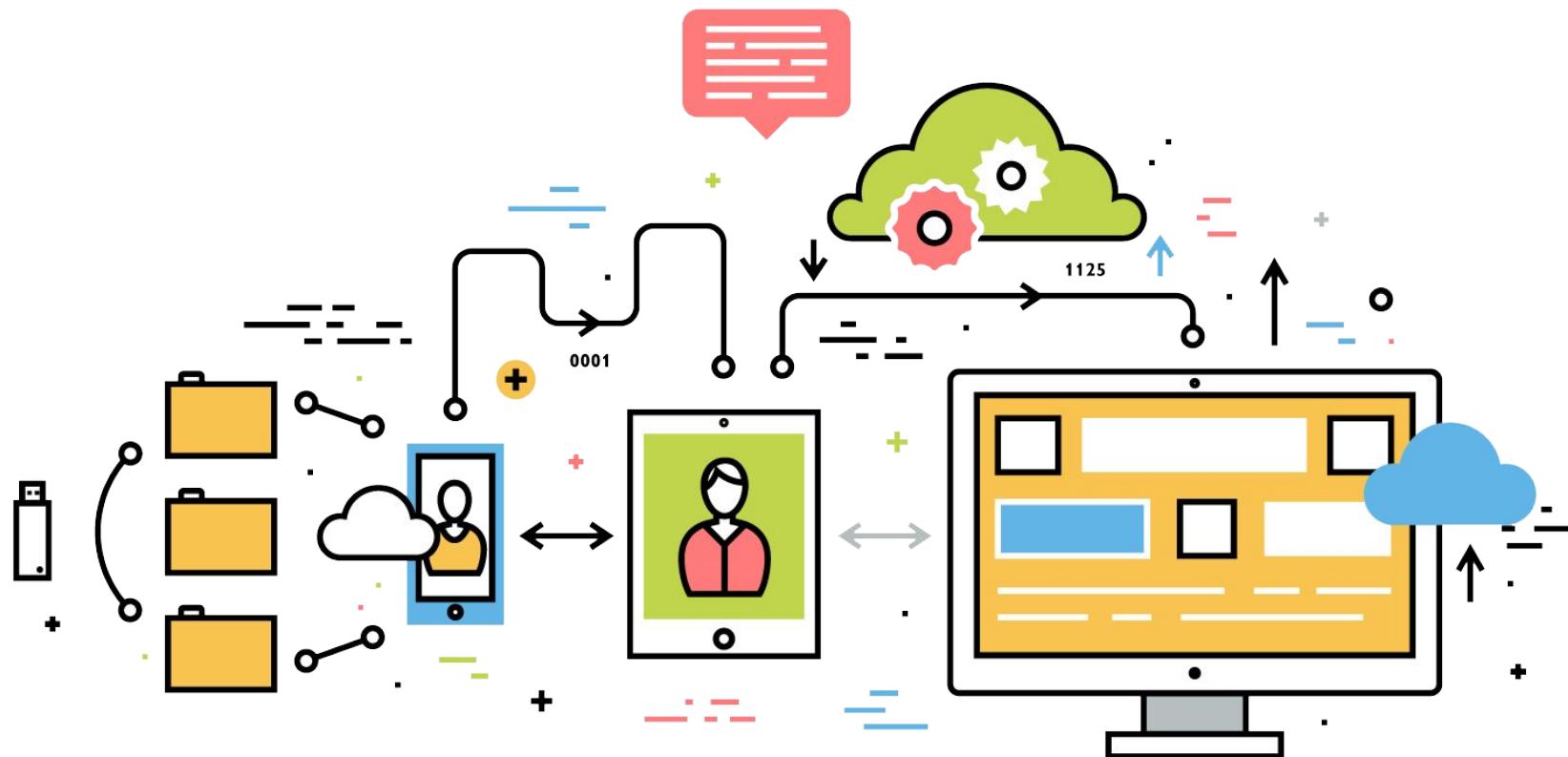
- Visual Studio Code Check
- Git Bash/Terminal Check
- Node Check
- Git Check
- Heroku Check



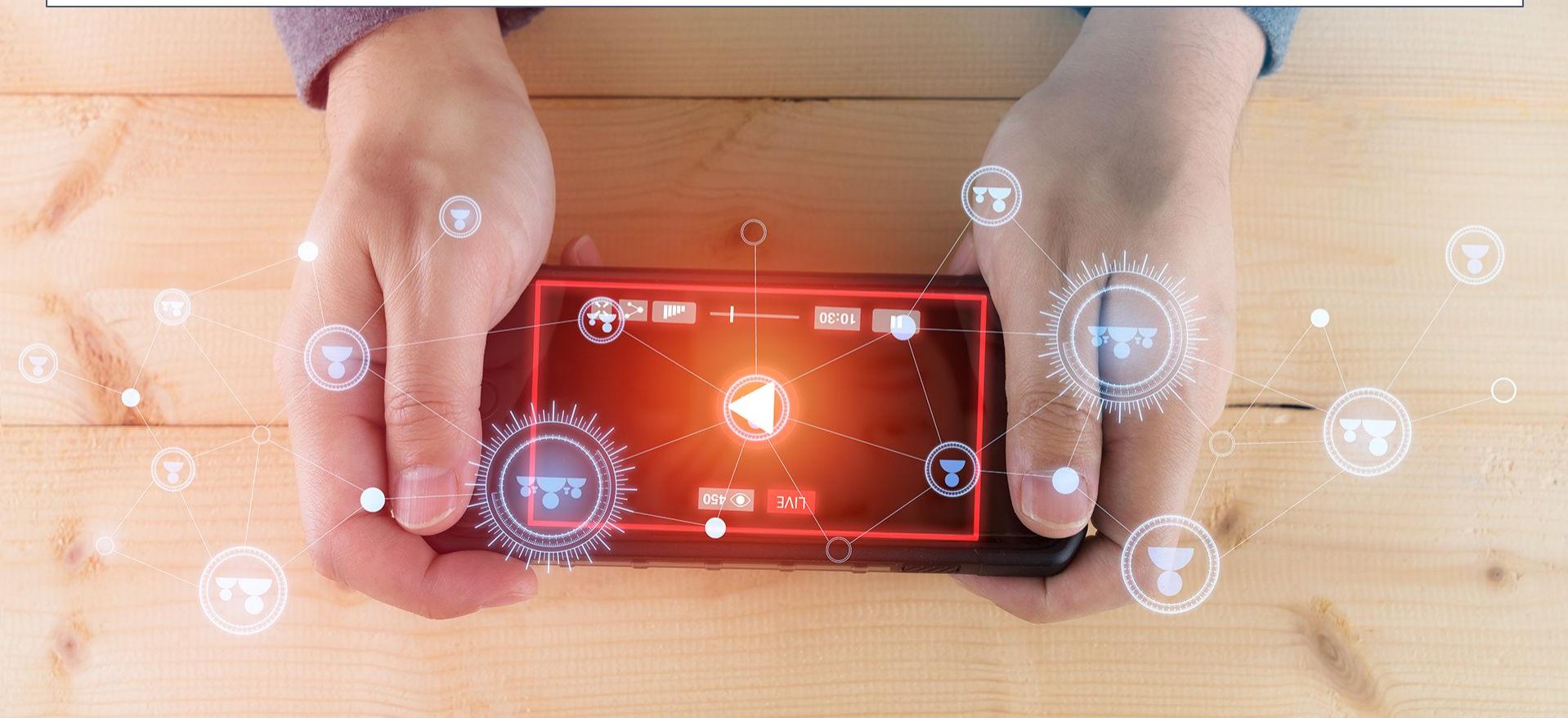
Instructor Demonstration GitLab - The class repository

The Modern Web

What Exactly Is Full-Stack Development?



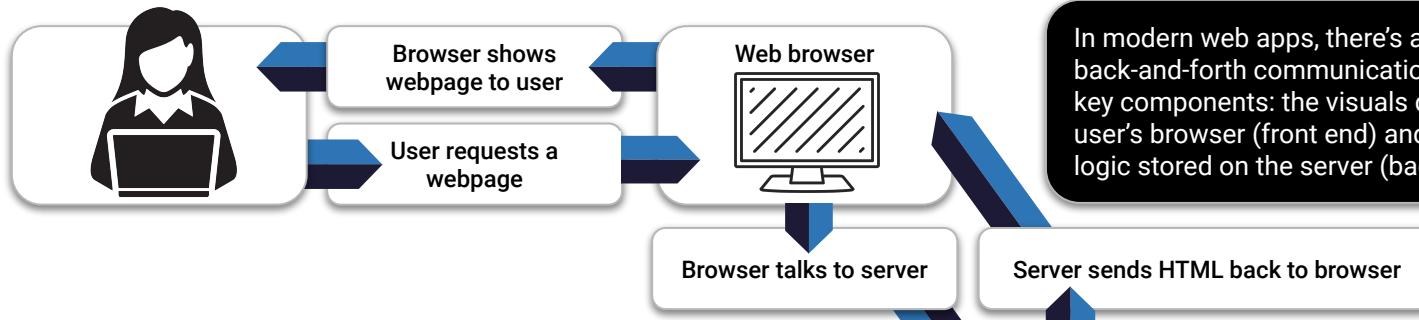
The “Magic” of YouTube



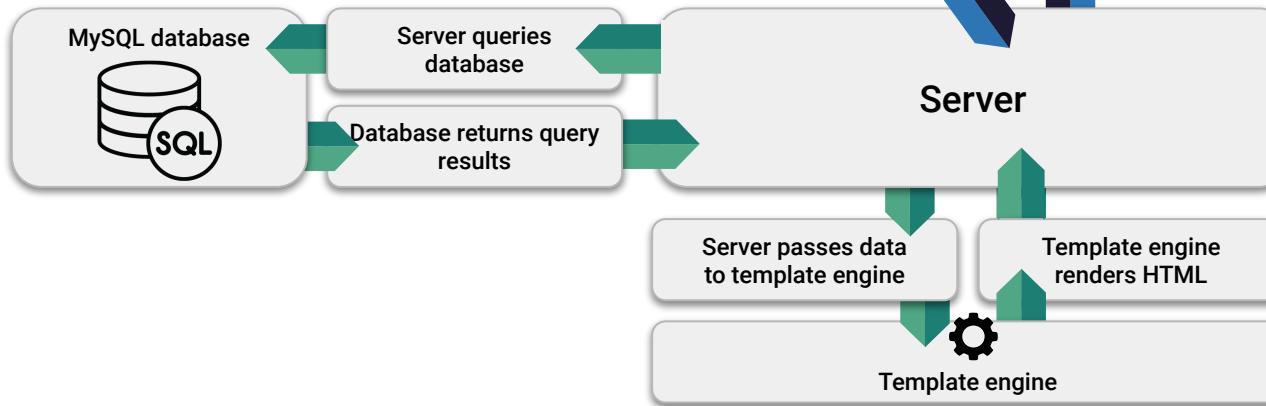
Full-Stack Development

FSF FLOW

Front end



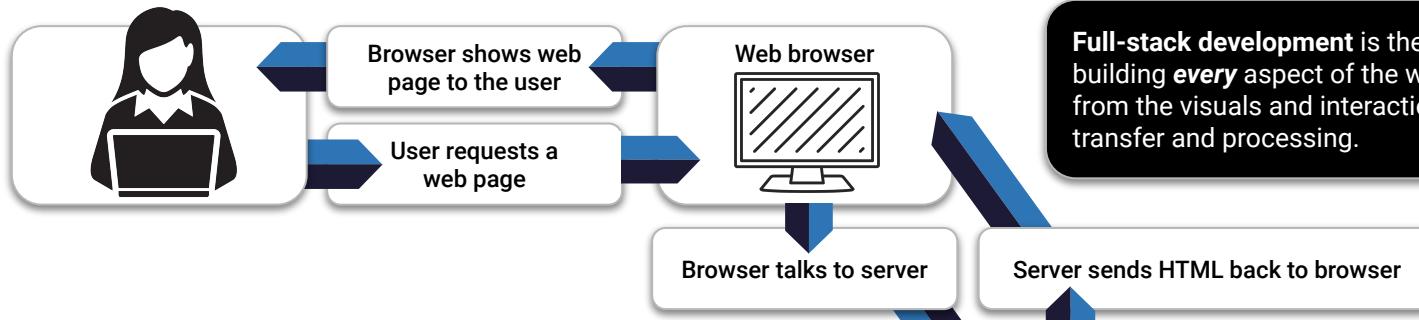
Back end



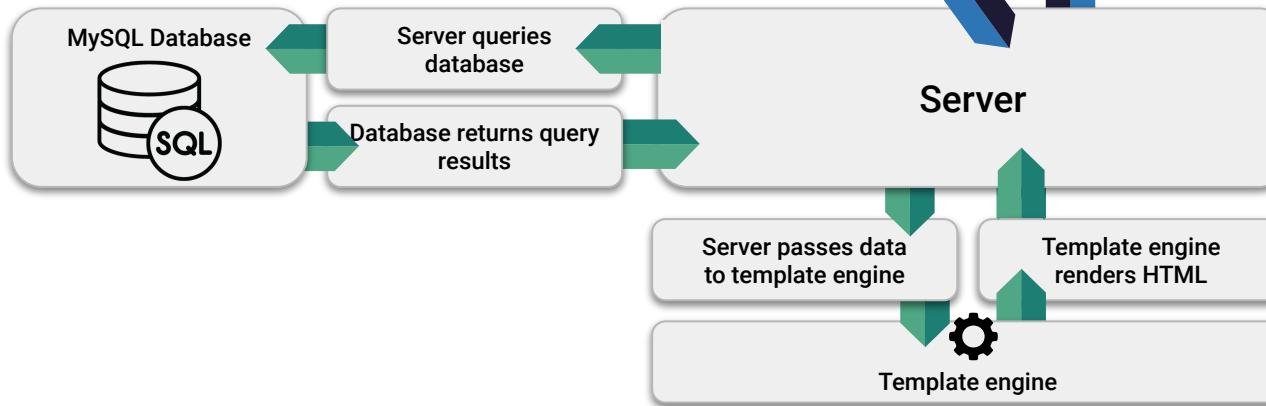
Full-Stack Development

FSF FLOW

Frontend

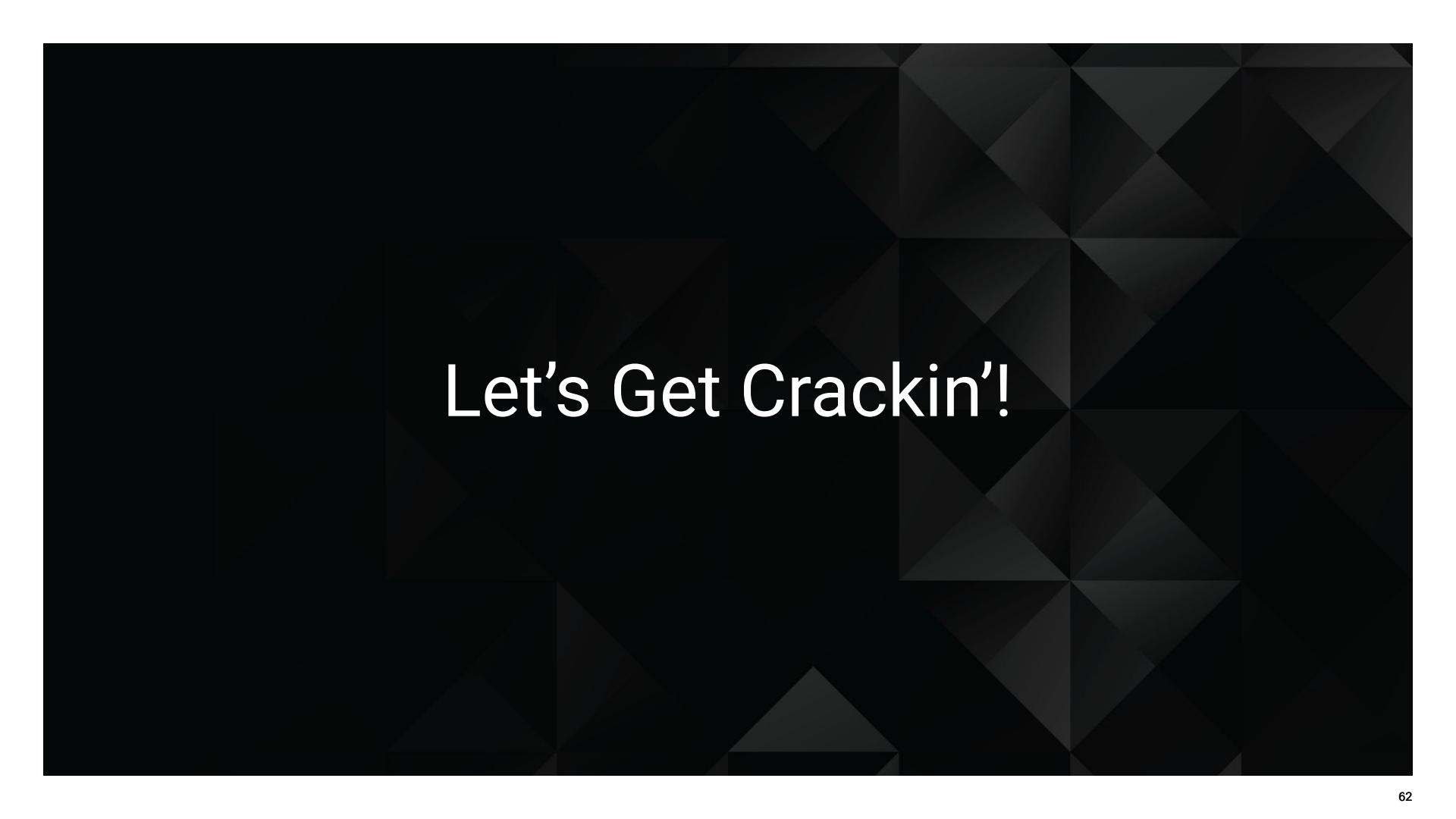


Backend



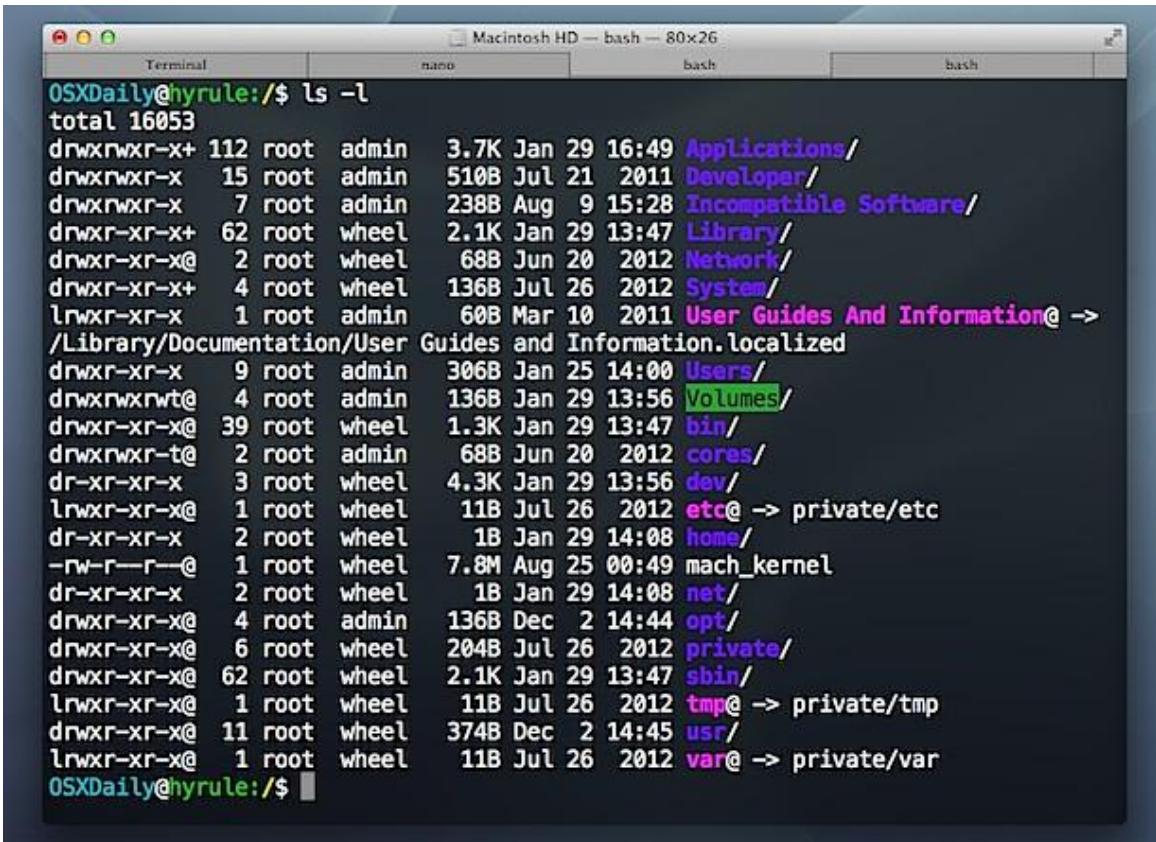
Full-Stack Development

The Browser	Dev Tools	Server Side	
HTML	Heroku	Templating engines	
CSS	Git	Sessions	
JavaScript	GitHub	Writing tests	
jQuery	Databases		
Bootstrap	MySQL	Express.js	
SEO	MongoDB	Creating APIs	
API Interaction		MVC	
APIs (Consuming)		User authentication	
JSON		ORM (Object-relational mapping)	
AJAX		CS Fundamentals	
Real-time cloud database via Firebase		Algorithms	
Cutting-Edge Development		Design patterns	
React.js			



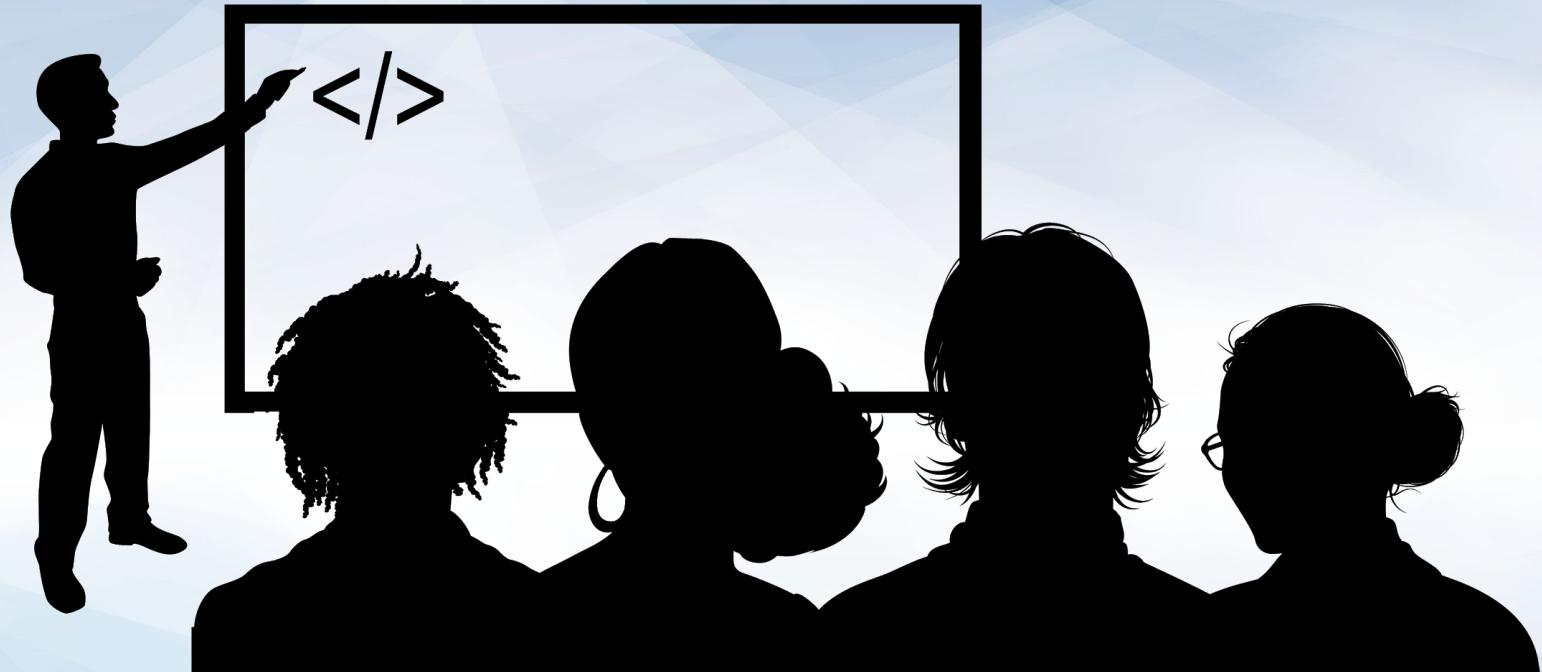
Let's Get Crackin'!

Intro to Console/Terminal



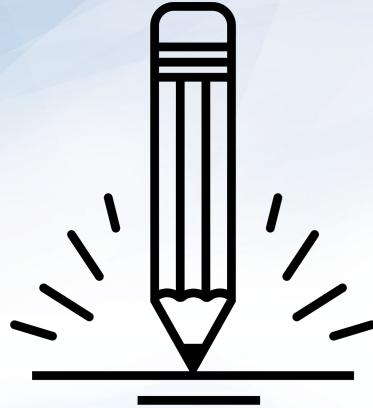
A screenshot of a Mac OS X Terminal window titled "Macintosh HD — bash — 80x26". The window shows the output of the command "ls -l". The output lists numerous system directories and files, including "Applications/", "Developer/", "Incompatible Software/", "Library/", "Network/", "System/", "User Guides And Information@ > /Library/Documentation/User Guides and Information.localized", "Users/", "Volumes/", "bin/", "cores/", "dev/", "etc@ > private/etc", "home/", "mach_kernel", "net/", "opt/", "private/", "sbin/", "tmp@ > private/tmp", "usr/", and "var@ > private/var". The "Volumes/" directory is highlighted with a green rectangle. The "User Guides And Information" file is also highlighted with a green rectangle.

```
OSXDaily@hyrule:/$ ls -l
total 16053
drwxrwxr-x+ 112 root admin 3.7K Jan 29 16:49 Applications/
drwxrwxr-x  15 root admin 510B Jul 21 2011 Developer/
drwxrwxr-x   7 root admin 238B Aug  9 15:28 Incompatible Software/
drwxr-xr-x+  62 root wheel 2.1K Jan 29 13:47 Library/
drwxr-xr-x@  2 root wheel 68B Jun 20 2012 Network/
drwxr-xr-x+  4 root wheel 136B Jul 26 2012 System/
lrwxr-xr-x@  1 root admin 60B Mar 10 2011 User Guides And Information@ >
/Library/Documentation/User Guides and Information.localized
drwxr-xr-x@  9 root admin 306B Jan 25 14:00 Users/
drwxrwxnwt@  4 root admin 136B Jan 29 13:56 Volumes/
drwxr-xr-x@  39 root wheel 1.3K Jan 29 13:47 bin/
drwxrwxr-t@  2 root admin 68B Jun 20 2012 cores/
dr-xr-xr-x@  3 root wheel 4.3K Jan 29 13:56 dev/
lrwxr-xr-x@  1 root wheel 11B Jul 26 2012 etc@ > private/etc
dr-xr-xr-x@  2 root wheel 1B Jan 29 14:08 home/
-rw-r--r--@  1 root wheel 7.8M Aug 25 00:49 mach_kernel
dr-xr-xr-x@  2 root wheel 1B Jan 29 14:08 net/
drwxr-xr-x@  4 root admin 136B Dec  2 14:44 opt/
drwxr-xr-x@  6 root wheel 204B Jul 26 2012 private/
drwxr-xr-x@  62 root wheel 2.1K Jan 29 13:47 sbin/
lrwxr-xr-x@  1 root wheel 11B Jul 26 2012 tmp@ > private/tmp
drwxr-xr-x@  11 root wheel 374B Dec  2 14:45 usr/
lrwxr-xr-x@  1 root wheel 11B Jul 26 2012 var@ > private/var
OSXDaily@hyrule:/$
```



Instructor Demonstration

Let's Get Crackin'—Intro to Console



Activity:

Console Commands

Suggested Time:
12 minutes



Activity: Console Commands

Create a folder on your desktop named code. You'll put all the code you write today inside that folder.

Best Practices:



Always use lowercase for folder and file names.



Never put spaces in folder and file names.



Use dashes to separate words in folder and file names.

Suggested Time: 1 min



Activity: Console Commands

From the Terminal/console and using only the command line:



Create a new folder with the name **first-day-stuff**.



Create a new HTML file with the name **first-day.html**.



Open the current folder containing the new HTML file.

BONUS!



Create multiple directories/folders with the names **one-folder** and **second-folder** with one command.



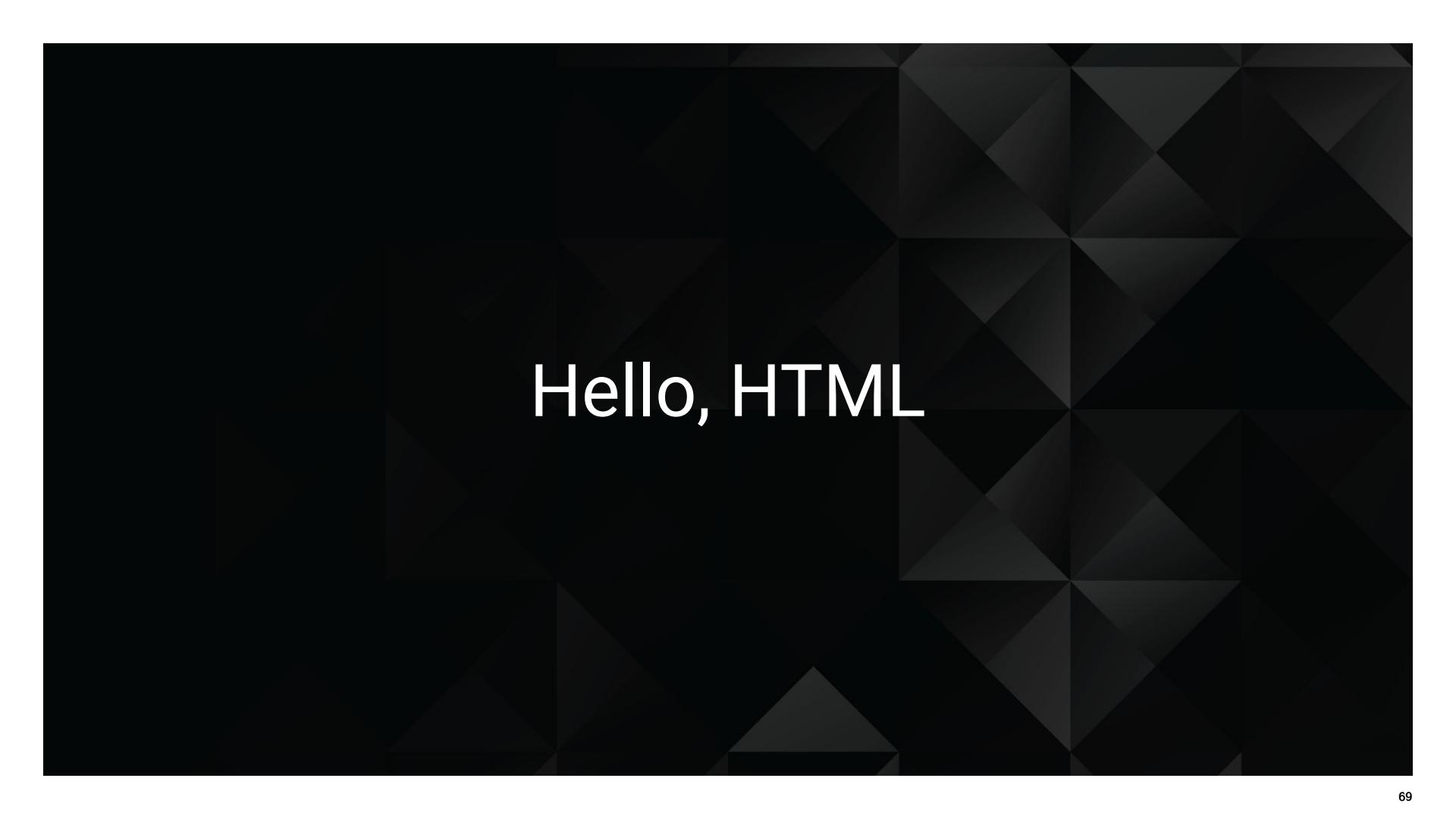
Create multiple files with the names **one.html** and **two.html** with one command in the **first-day-stuff** directory.

Suggested Time: 12 minutes



Intro to Console: Discuss with Neighbors





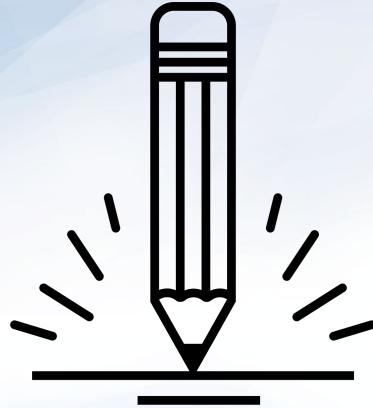
Hello, HTML

<title>Intro to HTML</title>

HTML5

- HTML is one of the three base languages behind every website.
- It defines all the basic content and a bit of formatting.





Activity:

Intro to HTML

Suggested Time:
5 minutes



Activity: Intro to HTML

In a new HTML file, create the basic structure of an HTML document and include the following in it:

- DOCTYPE declaration
- Head tag with a title tag
- H1 tag with a title of your choice
- An embedded image

Now add the following three links to your page:

- One link that has target="_blank" so that it opens a new tab when clicked
- One link that is bold
- One link that is only a placeholder (it goes nowhere)

BONUS!

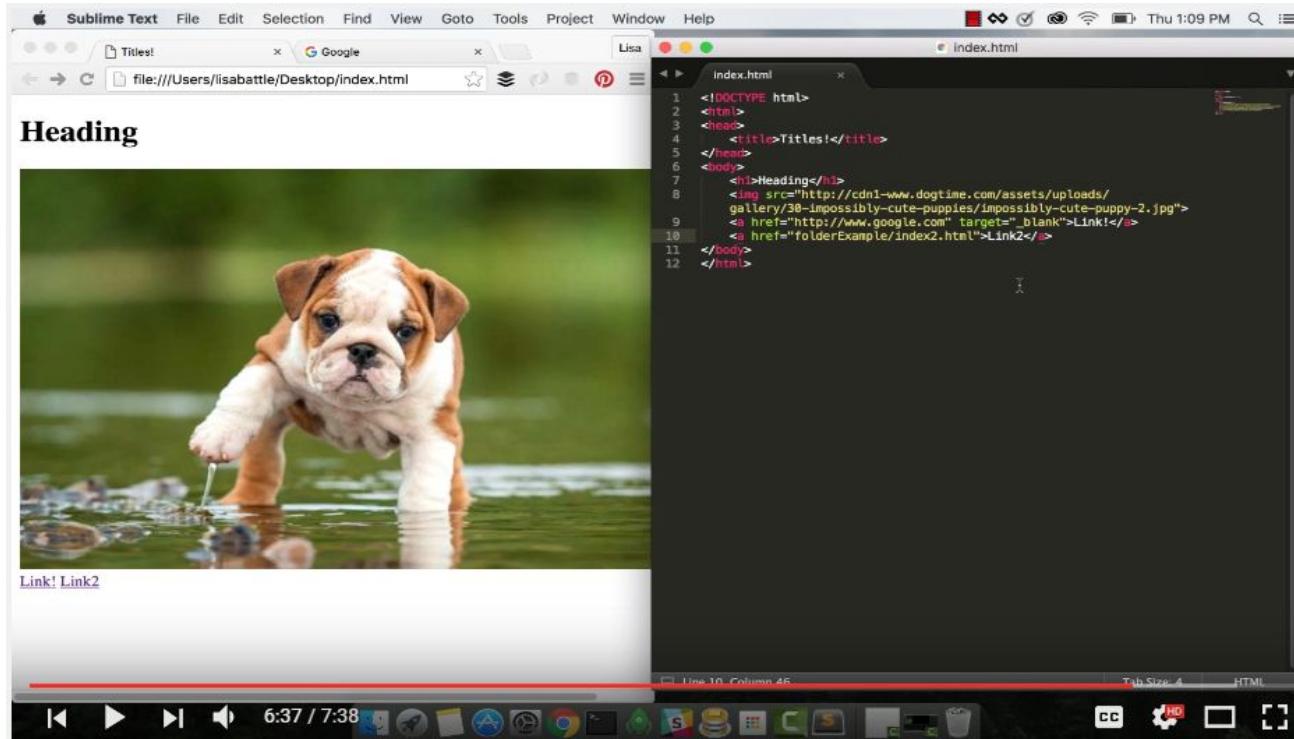
- Create an ordered list of steps to make a sandwich
- Create an unordered list of five bands/musicians you like
- Create a table with two columns (animal class and animal name) and four rows of animals
- Use an alternate way of separating links without line breaks
- Embed a YouTube video of your favorite band/musician

Suggested Time: 5 minutes



YouTube Video Walkthrough

Watch the [walkthrough video](#):



<title>Intro to HTML</title>



How'd it go?

For next class:

01

Figure out where the GitLab repo is for our class.

02

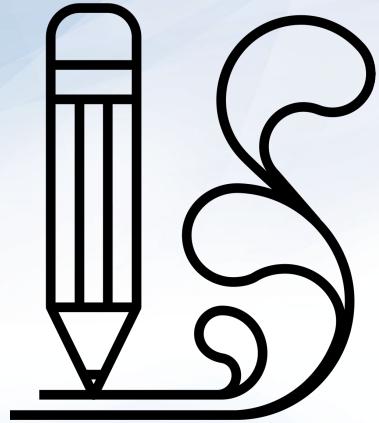
Redo the Terminal example from today's class.

03

Redo the HTML example from today's class.
(Watch the [walkthrough video](#) if you feel a bit lost.)

Due Date: Next Class





Homework Assignment: **Code Refactor**

Due Date:
Tuesday, September 8th

