

# Stretch your Skills: Intro to Secure & Composable Architecture w/TypeScript

Workshop 10/17/2020



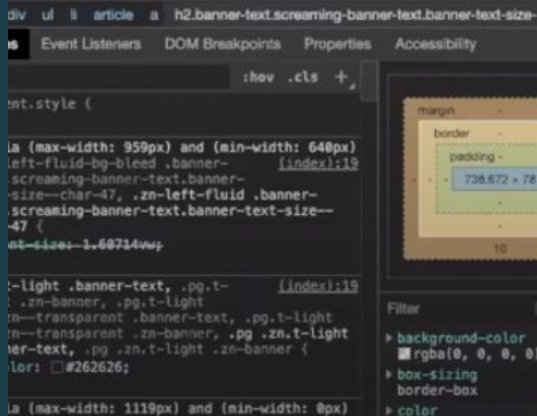
# WELCOME TO DIGITALCRAFTS

BUILD YOUR SKILLS

BUILD YOUR CAREER

BUILD YOUR NETWORK

```
<li>
  <article class="cd cd--card cd--story cd--idx-0 cd--l
    vertical cd--has-siblings cd--has-media cd--media_vid
    cd--has-banner" data-vr-contentbox="https://www.cnn.com
    live-news/coronavirus-pandemic-04-09-20/index.html" dal
    "xsmall: 0, small: 300, medium: 460, large: 780, full11
    data-eq-state="xsmall small medium">
    <a href="https://www.cnn.com/world/live-news/corona
    pandemic-04-09-20/index.html" class="link-banner">
      <h2 class="banner-text screaming-banner-text bann
        size--char-47" data-analytics="_list-hierarchical
        xs_story_">Man in Suit Looks at Camera for 8 hour
      </h2> == $0
    </a>
    <div class="cd_wrapper" data-analytics="_list-hier
    xs_story_"></div>
  </article>
</li>
<li></li>
<li></li>
<li></li>
<li></li>
<li></li>
<li></li>
</li>
</div>
```



# About DigitalCrafts

DigitalCrafts is the #1-rated web development bootcamp in Atlanta and Houston. Our bootcamps, now available online and in Tampa and Seattle, transform aspiring developers into full-stack software engineers.

We offer full-time and part-time bootcamps to fit your schedule.

Classes start soon, so send in your application today!

[digitalcrafts.com](https://digitalcrafts.com)



# IceBreakers

1. Name
2. Hometown
3. Fun/Interesting Fact
4. What made you want to learn more about TypeScript



# Goals

1. Understand TypeScript syntax and differences from regular JavaScript
2. Understand the benefits of using TypeScript
3. Set up a React app and build it out using TypeScript
4. Understand practical patterns to organize your React app
5. Avoid common pitfalls when developing an app
6. Become aware of trends, tips, and tricks used with ReactJS and Typescript



# Schedule

- TypeScript Basics
  - Environment setup
  - Types and Syntax
- Start ReactJS App using TypeScript
  - App Setup
  - Layout and Components
- Lunch 12pm - 1pm
- Continue ReactJS App
  - Finish Layout and Components
  - Formatting and serving data
  - Using TypeScript to aide structure, load data, and facilitate dynamic interaction
  - More Exercises
- Wrap Up



# Workflow

- TypeScript basics - walk through together
  - Have your IDE open
- React App
  - I will demonstrate a concept ( feel free to follow along)
  - An exercise will follow where you get to spend more time on the concept
  - I will follow up after the exercise to make sure everyone is on the same page



# TypeScript Basics: Intro, Types, & Syntax





# Why TypeScript?

- Makes debugging easier
- Saves time
- Enhances ability to code in an object oriented way
- Supports interfaces, inheritance, generics, access - modifiers
- Strongly and statically typed
- Catch errors before runtime



# History

- Created by Microsoft
- Made public in 2012
- Popularity increased since then as more features and a faster compiler have been released.



# What is TypeScript?

- A programming language that compiles to JavaScript
- Syntax of JavaScript but with types
- Uses .ts file type
- Compile you TypeScript using TypeScript compiler
- or use Babel transpiler



# Follow Along Exercises



# Take a Break!



# Build a React App w/ TypeScript



# ReactJS Setup



# Breaking Down an App into Components





# Exercise: Create Components



**This is my header component**

**This is my catalog component**

**This is my cart component**



This is my header component

This is my catalog component

This is my cart  
component



# Variables within Components



# Lunchtime: Be back at 1pm



# Exercise: Define Data Interfaces



# Exercise: Mock Data



# State and Props





# Exercise: Add State to Components



# Populate App with Data



# Exercise: Dynamically Populate Your Catalog



# Take a Break!



# Exercise: Update Product Card UI



# Passing Data Back to Parent



# Passing Data to Siblings



# Exercise: Update Cart to Show Items Added





# Take a Break!



# Update State Based on Props



# Exercise: Update Order Summary



# Take a Break!



# Exercise: Update CartItem Quantities



# More Features

- Be able to add a rating to products in that show in the Catalog Product Card
- Be able to add products to a favorites list from both the Catalog and the Cart



# Continued Learning

## Beyond the Workshop

- Dynamic Catalog Search
  - Add a text field to the top of the Catalog component
  - Dynamically filter Products by the text contained on the Product's associated card
- Consider what other parts of the app could become their own React components
  - Turn the quantity selector into its own component
  - Order summary could be its own component
  - Dynamically pass user's name to the header



# The End

- Survey will be sent
- Appreciate any feedback

