

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

Workshop 10/17/2020



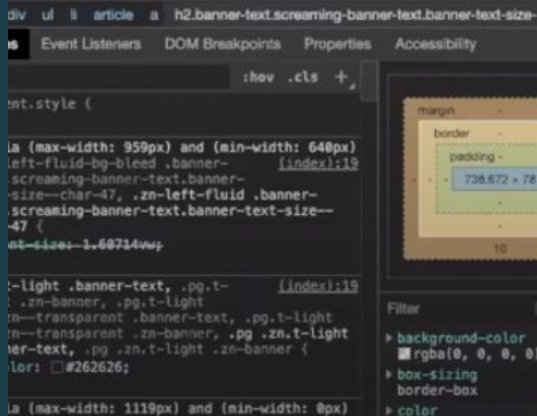
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About DigitalCrafts

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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.

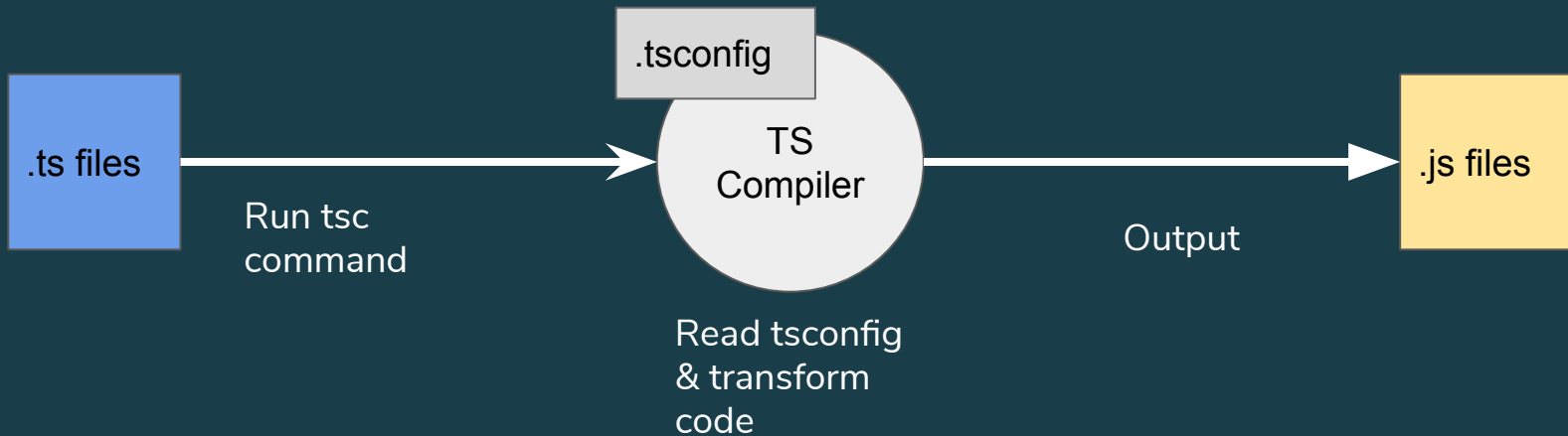


What is TypeScript?

- 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



TypeScript Compile Process



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

- Thank you for joining!
- Survey will be sent
- Appreciate any feedback

