CS4830 Exploration 1

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Journal of Angular

Step by step

LEARN TYPESCRIPT

1. Install TypeScript: In the terminal, type: sudo *npm install -g typescript*

```
fengdeMacBook-Pro:~ feng$ sudo npm install -g typescript
Password:
Sorry, try again.
Password:
Sorry, try again.
Password:
/usr/local/bin/tsc -> /usr/local/lib/node_modules/typescript/bin/tsc
/usr/local/bin/tsserver -> /usr/local/lib/node_modules/typescript/bin/tsserver
+ typescript@3.6.2
updated 1 package in 1.098s
fengdeMacBook-Pro:~ feng$ cd desktop
fengdeMacBook-Pro:desktop feng$ sudo mkdir TestTypeScript
Password:
Sorry, try again.
Password:
fengdeMacBook-Pro:desktop feng$ vi greeter.ts
```

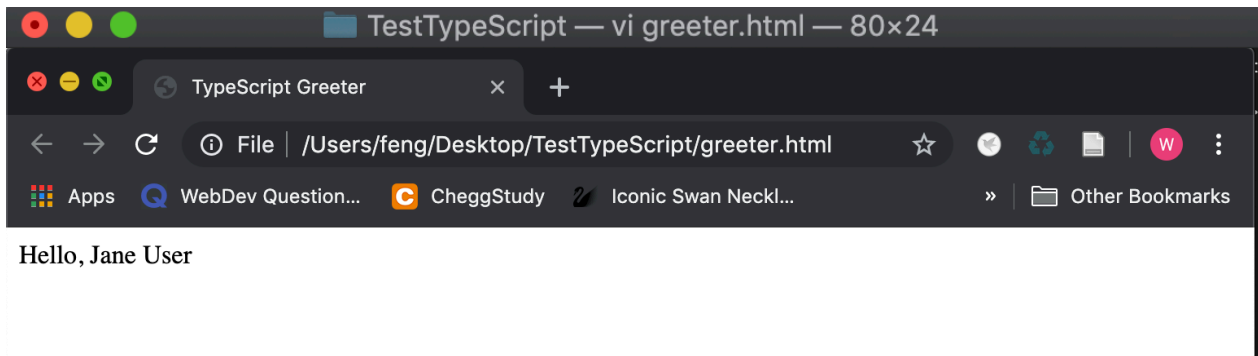2. Create and compile your first TypeScript file, and use it in your html:

   First, make a directory (I made it on my desktop), and then create a file named

   greeter.ts with following code in it. 'let' is a key word similar as 'var' in javascript.

```
TestTypeScript — vi greeter.ts — 80×24
function greeter(person) {
    return "Hello, " + person;
}

let user = "Jane User";

document.body.textContent = greeter(user);
~
```

3. Then, use tsc greeter.ts compiling .ts file and you got a .js file, which means

   TypeScript now can be used in our javascript app.

4. The last thing to do is just making a simple html file with this greeter.js.

5. Now you can open the html file and see your first website with TypeScript
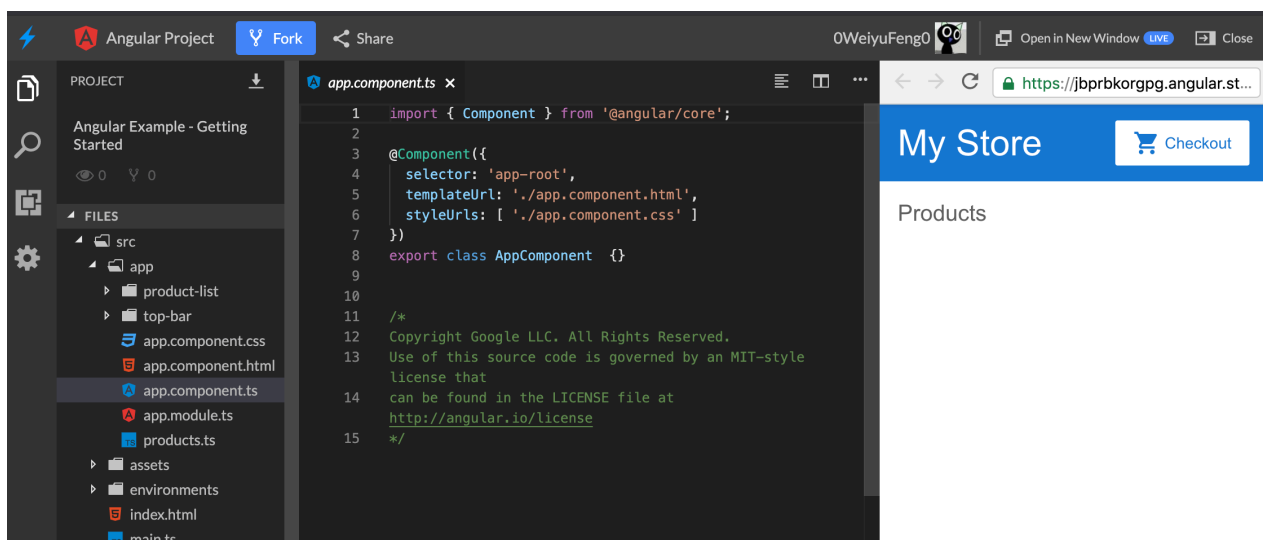

SET UP ANGULAR WITH STACKBLITZ

1. Visit https://angular.io/start to go over Angular Docs, which helps you get start

   with Angular by creating a project in online environment, StackBlitz.

2. Click the link "Click here to create a new project in StackBlitz." to create a new project in StackBlitz, and then login to StackBlitz with your GitHub account. Then you'll get this page:

3. Click the Fork Button at the top left first, and you will be able to save your project in your StackBlitz account (NOT IN GITHUB). To manage your project in StackBlitz, just click the username at the top left corner.

BUILD TODO LIST APP

1. Inside app folder, I generated a component called 'todo-list'
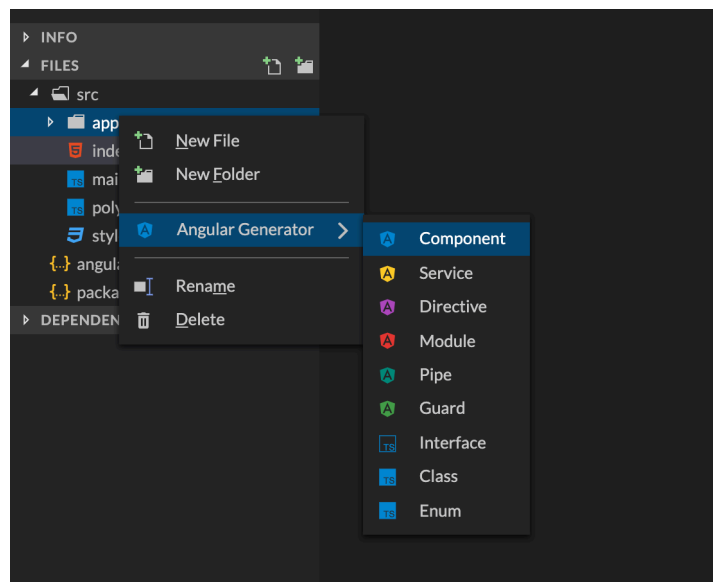
2. go to app.component.html, write code to make my todo list page showed up.
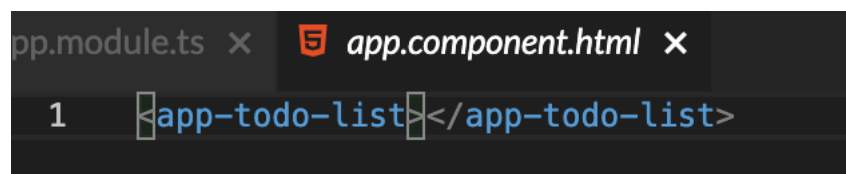
3. generate a component called header, and code in todo-list.component.html to make header page showed up, and write some css in the todo-list.component.css to style the general style of the 'header' part, such as position.

4. generate a component called todo-input to handle the input from user
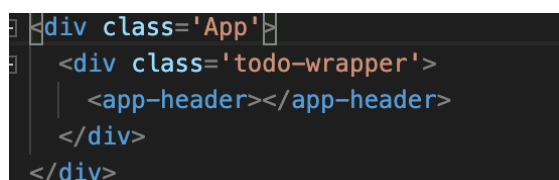
```
<div class='App'>
  <div class='todo-wrapper'>
    <app-header></app-header>
    <app-todo-input></app-todo-input>
  </div>
</div>
```

Todo List

Add

5. generate a component called todo-item to display and remove each todo-item

6. generate a service to handle all functions and use them between different components

```
▲ 📁 todo-list
  ▷ 📁 header
  ▷ 📁 todo-input
  ▷ 📁 todo-item
    📄 todo-list.component.css
    📄 todo-list.component.htm
    📄 todo-list.component.ts
    📄 todo.service.ts
    📄 todo.ts
  📄 app.component.css
  📄 app.component.html
  📄 app.component.ts
  📄 app.module.ts
```

Writeup
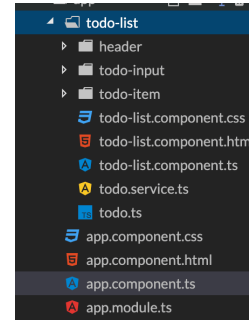
LINKS TO YOUR CODE RUNNING

https://angular-lt.stackblitz.io

WHAT FRAMEWORK DID YOU CHOOSE AND WHY?

I chose Angular because I have no prior experience with framework, and I think Angular is a good start point. Angular is a popular framework and since we're going to learn it further in class, I want to make my further study a little bit easier, and may get more time to learn Angular deeply.

What did you learn about this framework?

I learned how to use typescript first, which is the language Angular based on. Then I learned about setup stackblitz, which is a sandbox for using Angular. Finally, I began to learn Angular by developing some applications. I followed a tutorial about how to get start with angular, and watched some videos talking about Angular. I know that Angular is a framework helping developers manage code and is a good way to achieve MVC model. I also know that components are basic module/part in angular to handle pages. Communicating with different components' functions using service, I can make my website really clear and neat. I made a todo list using Angular, and I think it looks good.

What resources did you utilize?

I used several resources, including videos, documentantions, blogs and so on.

- This article is awesome for those who do not familiar with several concepts: What a framework is & What Angular is & Differences between Angular and AngularJS & Why we should use Angular: https://www.sitepoint.com/angular-introduction/
- A video talking about basic knowledge about using Angular: https://www.youtube.com/watch?v=k5E2AVpwsko

- TypeScript in 5 minutes https://www.typescriptlang.org/docs/handbook/typescript-in-5-minutes.html

- Getting Started with Angular: Your First App: https://angular.io/start

- Making a todo list with Angular: https://www.youtube.com/watch?v=Gx6F69YJOCo

- Directives: https://angular.io/guide/attribute-directives#directives-overview

- Component: https://angular.io/api/core/Component

- Template Syntax: https://angular.io/guide/template-syntax

- Routing: https://angular.io/guide/router

What do you still want to learn about this framework?

I want to go deeper on how to communicate between different components. I know how to use service basically, but I do not think I can handle some complex stuff. Also, I want to learn about how to use angular to build an application with multiple pages with get/post requests and Ajax because I only know how to build one page application. And, I think how to use Angular with some back-end framework is very important, which gives me a view of how an industry standard website works. So, I also want to learn that part. Finally, it could be good if I can learn more about how to achieve MVC Model using Angular and how Angular is designed.

What problems did you run into?

I met trouble when I trying to get user input. Syntax is different between html/javascript and typescript. I finally came up with ng-Model, which is a powerful directive in Angular. It takes time for me to understand how this directive works. Another trouble I met is

how to use functions defined in one component in another component. I came up with

Service, which is a middle guy to pass functions.

Trouble Shooting

- How to receive users input and display them in angular: https://angular.io/guide/user-input#user-input

- How to communicate/pass variables between different components: https://stackoverflow.com/questions/39325503/how-to-pass-data-between-two-components-in-angular-2

- How to make html form with Angular: https://angular.io/guide/forms#create-an-initial-html-form-template