

First Things First



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Module Overview



Introduce TypeScript

Install what we need

Set up and run our Angular application

Create an Angular application with the Angular CLI

TypeScript
is the programming language
we use
when building
Angular applications

JavaScript



The language for the Web

ECMAScript (ES)

ES 3/5

ES 2015 (formerly known as ES 6)

- Classes**
- Arrow functions**

Newer JavaScript transpiled to older JavaScript

TypeScript



Open-source language

Superset of JavaScript

Transpiles to plain JavaScript

Strongly typed

Class-based object-orientation

Learning More



TypeScript Playground

<https://www.typescriptlang.org/play>

Pluralsight Course

"TypeScript: Getting Started"

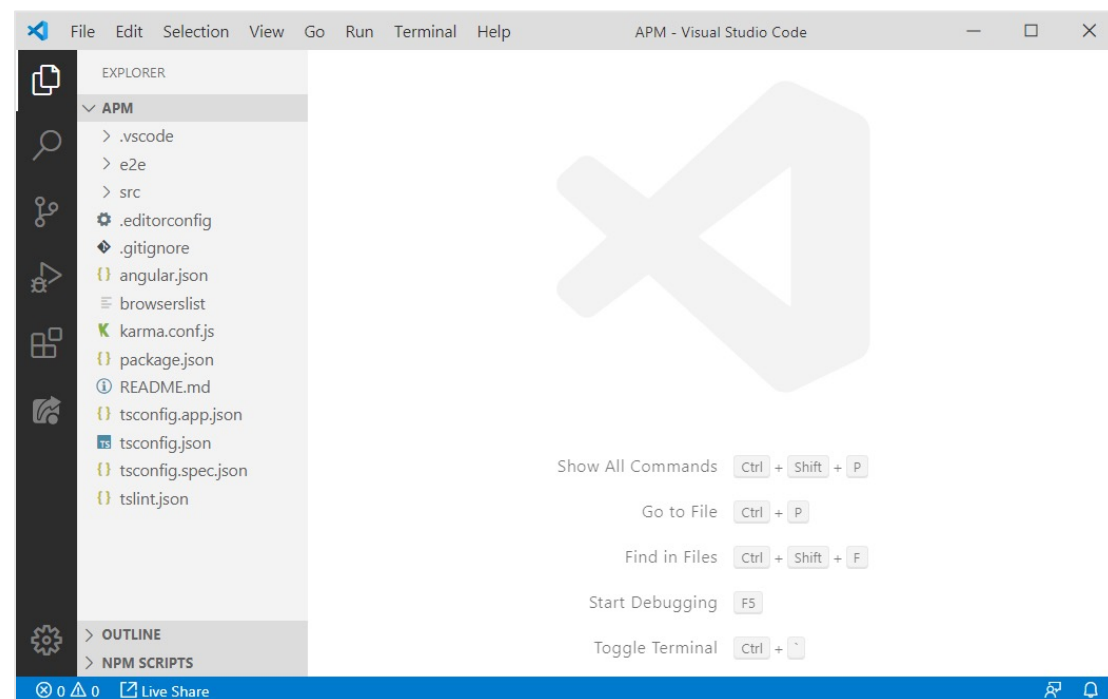
Installing What We Need



Editor

- Visual Studio (VS) Code

VS Code



Created by Microsoft

Runs in Linux, Windows, and OS X

Has numerous features that support TypeScript

- **Auto-completion**
- **Intellisense**
- **Syntax checking**
- **Refactorings**

It's FREE

Visual Studio Code

The image shows the Visual Studio Code website on the left and a screenshot of the Visual Studio Code application interface on the right.

Visual Studio Code Website:

- Header: Visual Studio Code, Docs, Updates, Blog, API, Extensions, FAQ, Learn, Search Docs, Download.
- Main Text: Code editing. Redefined. Free. Built on open source. Runs everywhere.
- Operating System Download Links:
 - Windows: Windows 7, 8, 10
 - Linux: .deb (Debian, Ubuntu), .rpm (Red Hat, Fedora, CentOS)
 - OS X: OS X Yosemite, El Capitan
- Footer: By using VS Code, you agree to its [license and privacy statement](#).

Visual Studio Code Application Interface:

- File Explorer: Extensions: Marketplace. Search: @sort:installs.
- Extension List:
 - Python: 2019.6.24221, 54.9M, 4.5 stars, Install.
 - GitLens — Git sup...: 9.8.5, 23.1M, 5 stars, Install.
 - C/C++: 0.24.0, 23M, 3.5 stars, Install.
 - ESLint: 1.9.0, 21.9M, 4.5 stars, Install.
 - Debugger for Ch...: 4.11.6, 20.6M, 4 stars, Install.
 - Language Supp...: 0.47.0, 18.7M, 4.5 stars, Install.
 - vscode-icons: 8.8.0, 17.2M, 5 stars, Install.
 - Vetur: 0.21.1, 17M, 4.5 stars, Install.
 - C#: 1.21.0, 15.6M, 4 stars, Install.
- Code Editor: JS serviceWorker.js. Content:

```
src > JS serviceWorker.js > register > window.addEventListener("load") callback
39
40
41   checkValidServiceWorker(swUrl, config);
42
43   // Add some additional logging to localhost, p
44   // service worker/PWA documentation.
45   navigator.serviceWorker.ready.then(() => {
46     product
47     productSub
48     removeSiteSpecificTrackingException
49     removeWebWideTrackingException
50     requestMediaKeySystemAccess
51     sendBeacon
52     serviceWorker (property) Navigator.serviceWorke...
53     storage
54     storeSiteSpecificTrackingException
55     storeWebWideTrackingException
56     userAgent
57     vendor
58   }
59
60   function registerValidSW(swUrl, config) {
61     navigator.serviceWorker
62       .register(swUrl)
63       .then(registration => {
```
- Terminal: 1: node. Output:

```
You can now view create-react-app in the browser.
Local:      http://localhost:3000/
On Your Network: http://10.211.55.3:3000/
Note that the development build is not optimized.
```
- Status Bar: master, 0 errors, 0 warnings, 0 info, Ln 43, Col 19, Spaces: 2, UTF-8, LF, JavaScript.

<https://code.visualstudio.com/>

Learning More



Visual Studio Code Site

<https://code.visualstudio.com/>

Pluralsight Course

"Visual Studio Code"

Installing What We Need



✓ Editor
– VS Code

Installing What We Need



Editor

- VS Code

npm

- Node package manager

npm

Angular
TypeScript
Bootstrap
etc...

Open-source
repository

Command-line utility for
interacting with the repository

```
Command Prompt
Microsoft Windows [Version 10.0.18362.720]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Deborah>npm install abc_

Directory of C:\Users\Deborah

02/07/2020  05:58 PM    <DIR>          newv9app
03/25/2020  04:53 PM    <DIR>          node_modules
01/04/2019  05:33 PM    <DIR>          .nuget
              0 File(s)              0 bytes
              3 Dir(s)  1,371,293,900,800 bytes free

C:\Users\Deborah>
```


npm



Installs libraries, packages, and applications

Executes scripts

<https://nodejs.org/en/download>

Installing What We Need



Editor

– VS Code



npm

– Node package manager

What Else Do We Need?



Angular

- Framework and libraries

Angular CLI

- Command line interface for Angular

TypeScript

- Programming language

Testing tools, linters, etc.

package.json

dependencies

- Packages required for development and deployment

devDependencies

- Packages only required for development

```
12  "dependencies": {
13    "@angular/animations": "~12.0.0",
14    "@angular/common": "~12.0.0",
15    "@angular/compiler": "~12.0.0",
16    "@angular/core": "~12.0.0",
17    "@angular/forms": "~12.0.0",
18    "@angular/platform-browser": "~12.0.0",
19    "@angular/platform-browser-dynamic": "~12.0.0",
20    "@angular/router": "~12.0.0",
21    "rxjs": "~6.6.0",
22    "tslib": "^2.1.0",
23    "zone.js": "~0.11.4"
24  },
25  "devDependencies": {
26    "@angular-devkit/build-angular": "~12.0.0",
27    "@angular/cli": "~12.0.0",
28    "@angular/compiler-cli": "~12.0.0",
29    "@types/jasmine": "~3.6.0",
30    "@types/node": "^12.11.1",
31    "jasmine-core": "~3.7.0",
32    "karma": "~6.3.0",
33    "karma-chrome-launcher": "~3.1.0",
34    "karma-coverage": "~2.0.3",
35    "karma-jasmine": "~4.0.0",
36    "karma-jasmine-html-reporter": "^1.5.0",
37    "typescript": "~4.2.3"
38  }
```

When Setting Up Existing Angular Code

#1

Navigate down to the project folder

The project folder contains the `package.json` file

#2

Run: `npm install`

To install the packages defined in the `package.json` file

#3

Run: `npm start`

To start the installed Angular application

Setting up Our Angular Application



Starter files

<https://github.com/DeborahK/Angular-GettingStarted>

C:\Users\Deborah\Pluralsight\Angular Getting Started\APM

File

Home

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Angular Getting Started > APM

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Name

📁 .vscode

📁 src

📄 .browserslistrc

⚙️ .editorconfig

📄 .gitignore

📄 angular.json

🐛 karma.conf.js

📄 package.json

📄 README.md

📄 tsconfig.app.json

📄 tsconfig.json

📄 tsconfig.spec.json

Date modified

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Type

File folder

File folder

BROWSERSLISTRC...

Editor Config Sour...

Text Document

JSON Source File

JavaScript File

JSON Source File

Markdown Source...

JSON Source File

JSON Source File

JSON Source File

Size

1 KB

1 KB

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4 KB

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2 KB

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12 items

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When Setting Up Existing Angular Code

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Demo



**Create an Angular app using the
Angular CLI**

Summary



Introduced TypeScript

Installed what we need

- **Editor (VS Code)**
- **npm (node)**

Set up and ran our Angular application

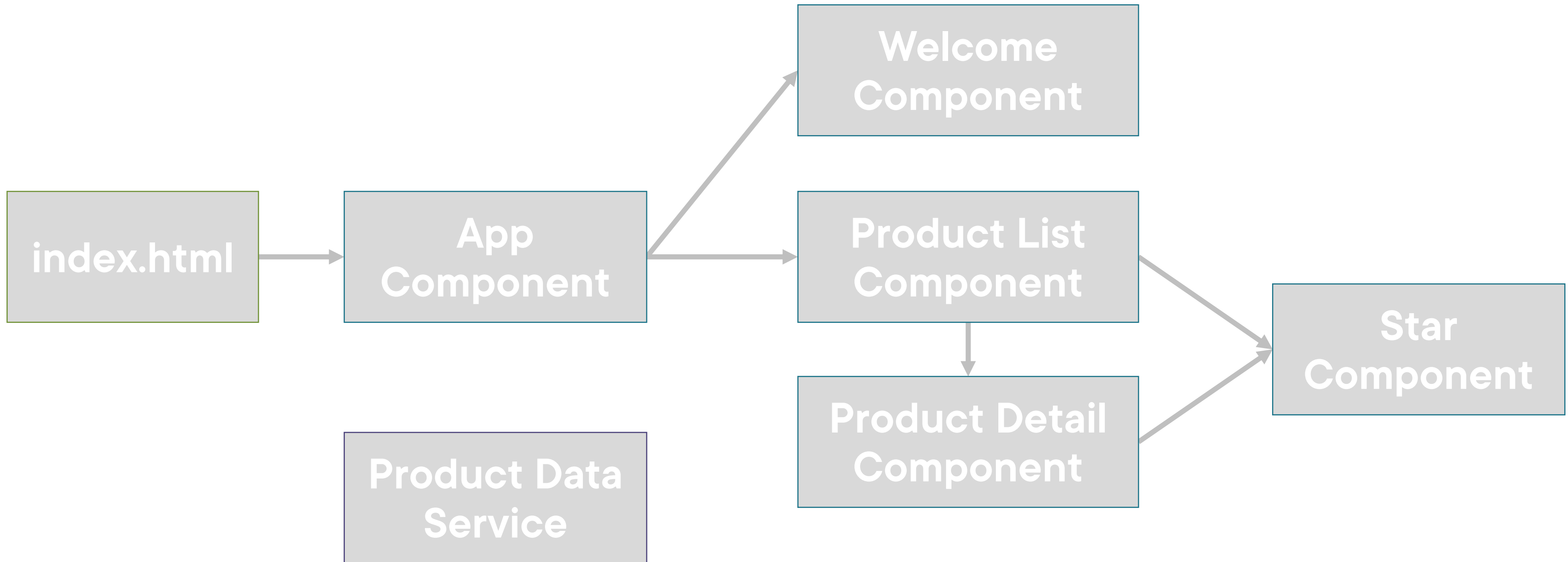
Used the Angular CLI to create a new Angular application

Angular CLI

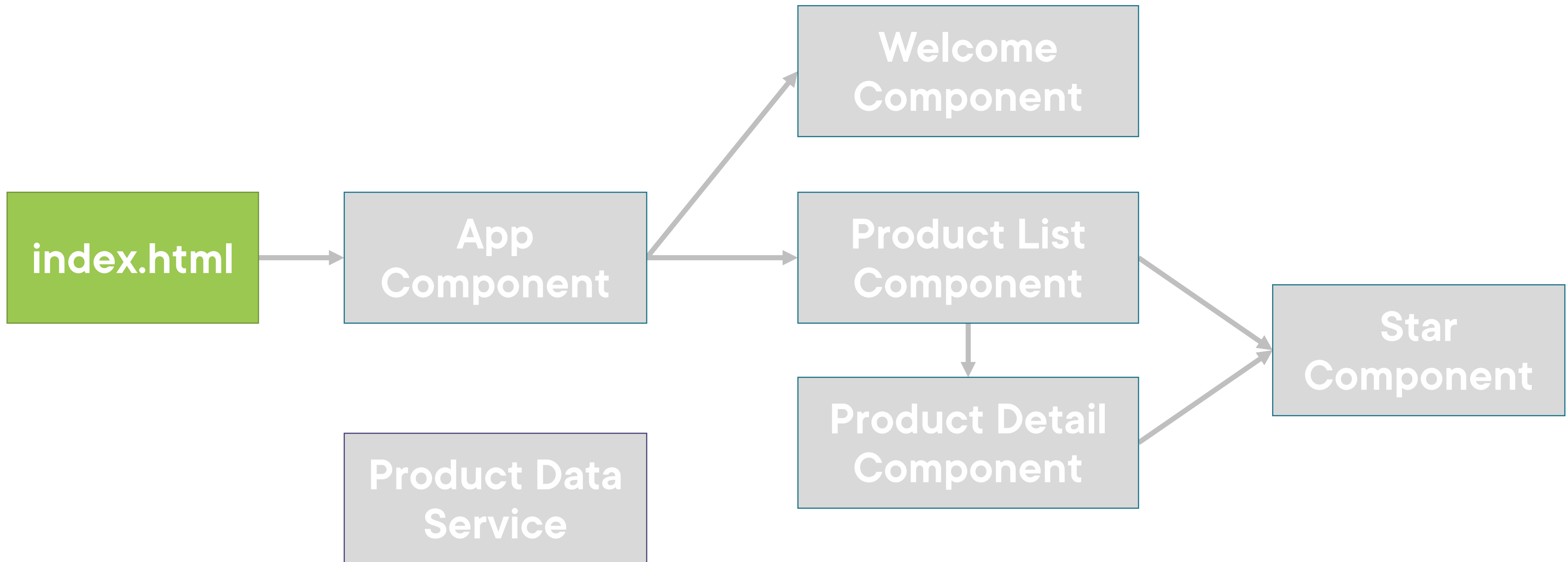
Global Angular CLI



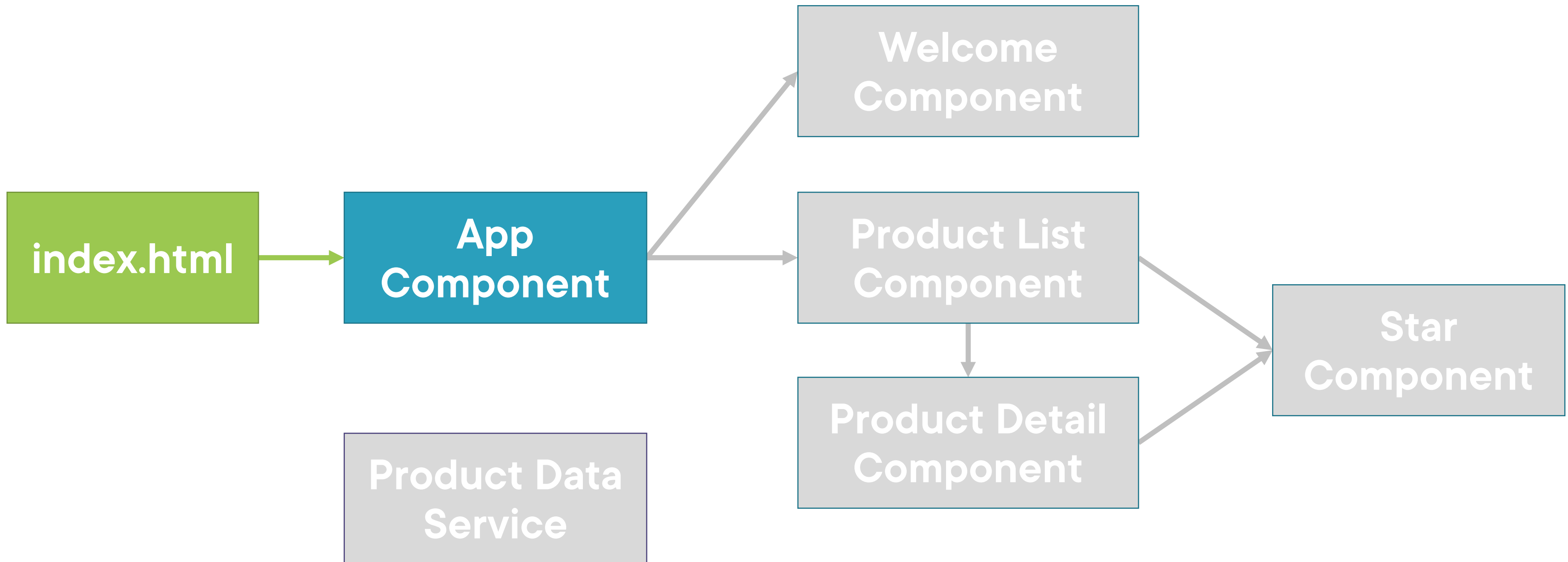
Application Architecture



Application Architecture



Application Architecture





Coming up next ...

Introduction to Components