Introduction to Components

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Module Overview

What Is a Component?

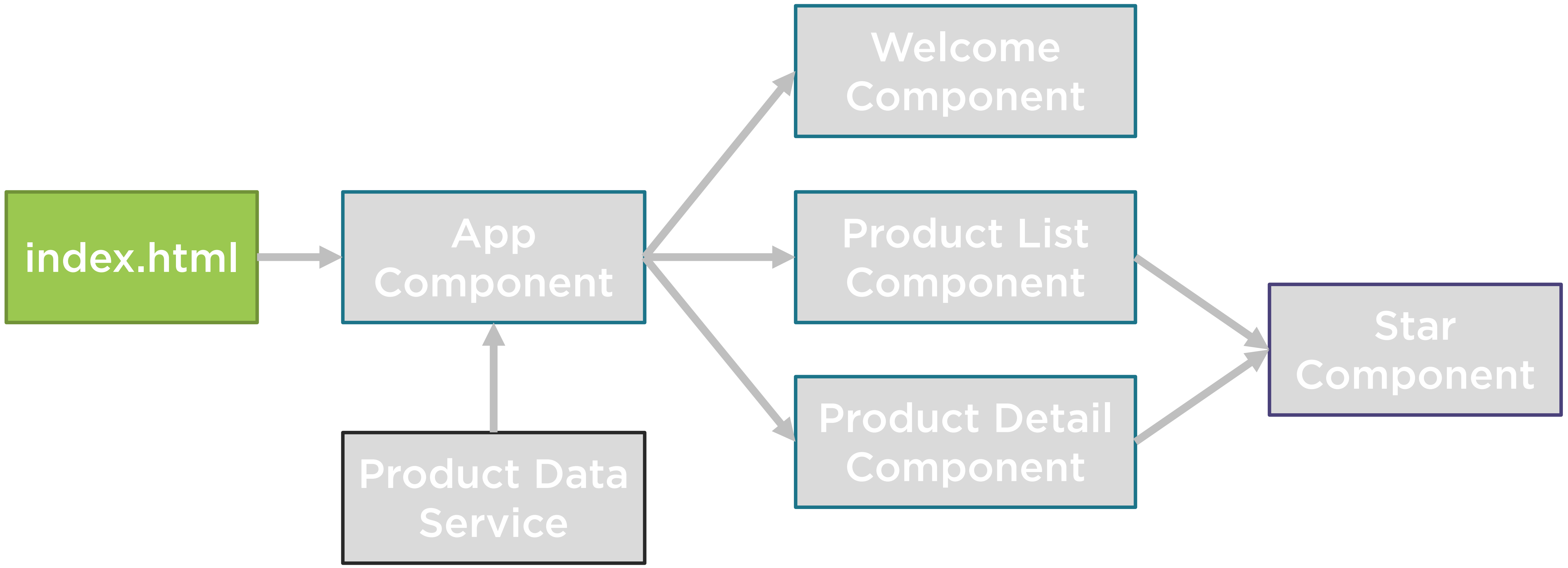
Creating the Component Class

Defining the Metadata with a Decorator

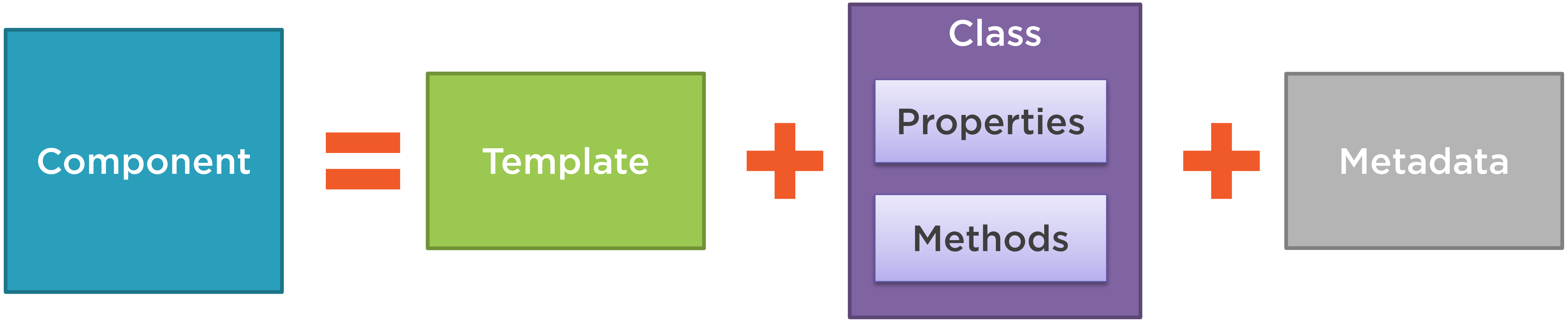
Importing What We Need

Bootstrapping Our App Component

Application Architecture



What Is a Component?



- View layout
- Created with HTML
- Includes binding and directives

- Code supporting the view
- Created with TypeScript
- Properties: data
- Methods: logic

- Extra data for Angular
- Defined with a decorator

Component

app.component.ts

```
import { Component } from 'angular2/core';
```

```
@Component({
    selector: 'pm-app',
    template: `
    <div><h1>{{pageTitle}}</h1>
        <div>My First Component</div>
    </div>
    `
})
```

```
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

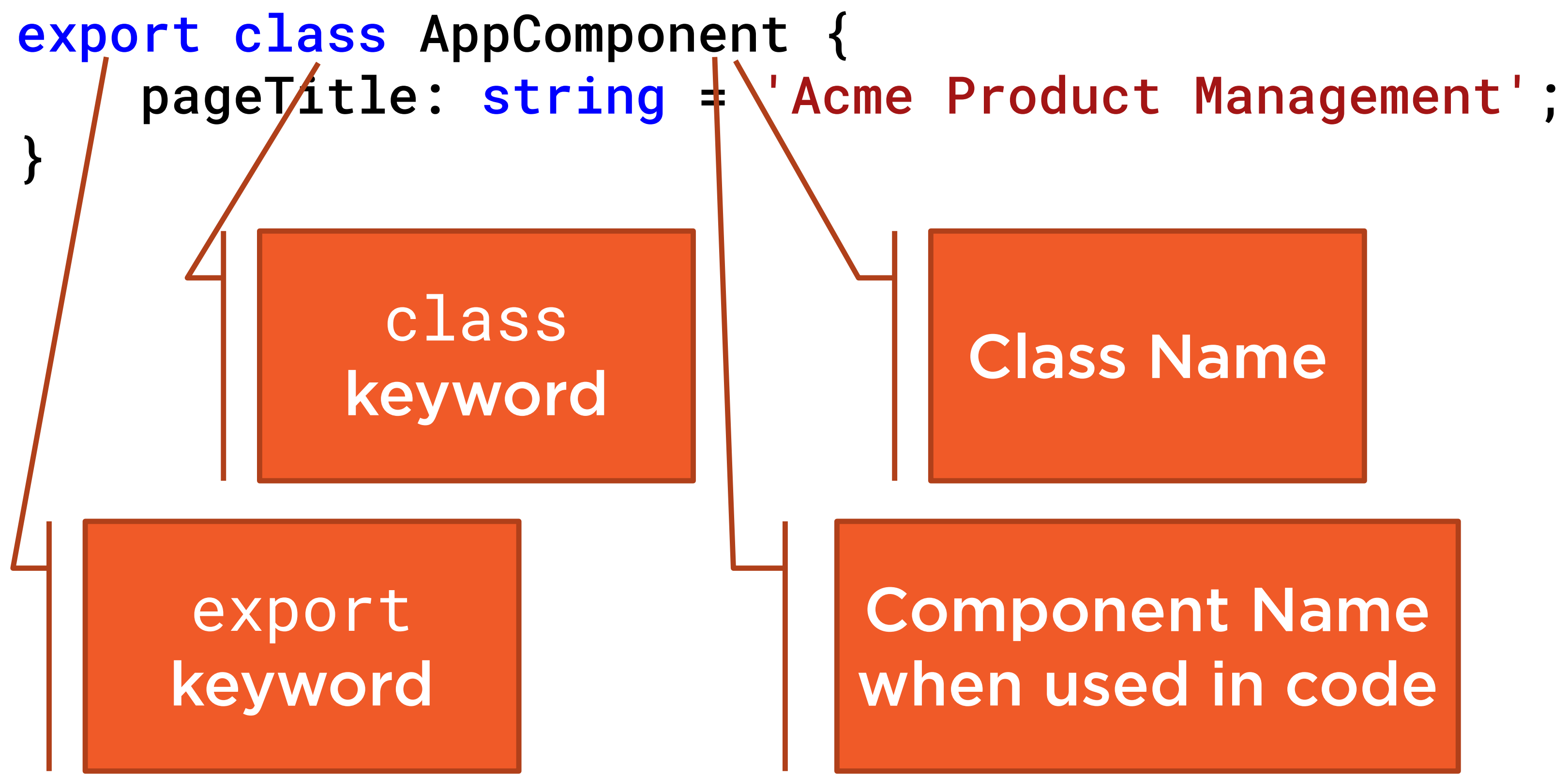
Import

Metadata & Template

Class

Creating the Component Class

app.component.ts

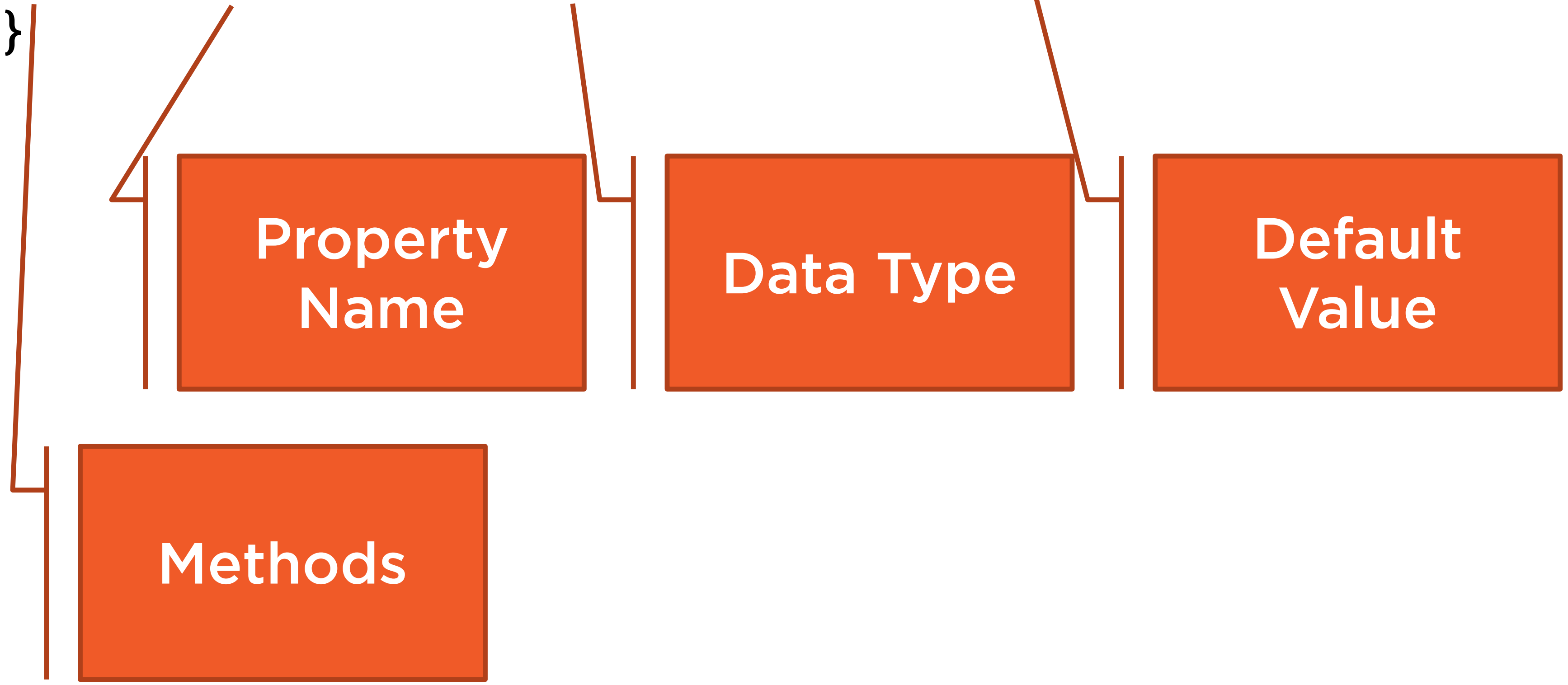


```
export class AppComponent {
    pageTitle: string = 'Acme Product Management';
}
```

Creating the Component Class

app.component.ts

```
export class AppComponent {
    pageTitle: string = 'Acme Product Management';
}
```



Defining the Metadata

app.component.ts

```
@Component({
    selector: 'pm-app',
    template: `
    <div><h1>{{pageTitle}}</h1>
        <div>My First Component</div>
    </div>
    `
})
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

Decorator

A function that adds metadata to a class, its members, or its method arguments.

Prefixed with an @.

Angular provides built-in decorators.

```
@Component()
```

Defining the Metadata

app.component.ts

```
@Component({
    selector: 'pm-app',
    template: `
    <div><h1>{{pageTitle}}</h1>
        <div>My First Component</div>
    </div>
    `
})
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

Component decorator

Directive Name used in HTML

View Layout

Binding

Importing What We Need

Before we use an external function or class, we define where to find it

`import` statement

`import` allows us to use exported members from external modules

Import from a third-party library, our own modules, or from Angular

Angular Is Modular

- angular2/core
- angular2/animate
- angular2/http
- angular2/router

Importing What We Need

app.component.ts

```
@Component({
    selector: 'pm-app',
    template: `
    <div><h1>{{pageTitle}}</h1>
        <div>My First Component</div>
    </div>
    `
})
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

Importing What We Need

app.component.ts

```
import { Component } from 'angular2/core';

@Component({
    selector: 'pm-app',
    template: `
    <div><h1>{{pageTitle}}</h1>
        <div>My First Component</div>
    </div>
    `
})
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

import keyword

Angular library module name

Member name

Completed Component

app.component.ts

```
import { Component } from 'angular2/core';

@Component({
    selector: 'pm-app',
    template: `
    <div><h1>{{pageTitle}}</h1>
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    `
})
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

Demo

Creating the App Component

Bootstrapping Our App Component

Load the root component (bootstrapping)

Host the application

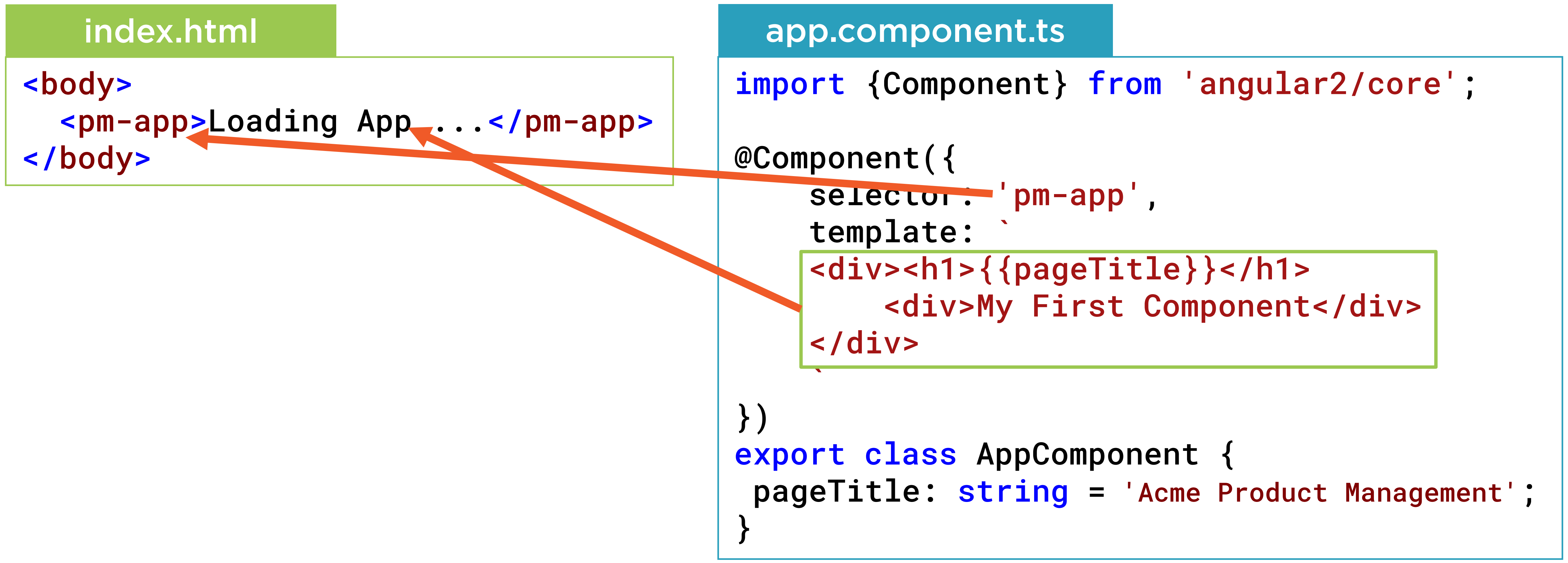
Single Page Application (SPA)

`index.html` contains the main page for the application

This is often the only Web page of the application

Hence an Angular application is often called a Single Page Application (SPA)

Hosting the Application



index.html

```html
<body>
  <pm-app>Loading App ...</pm-app>
</body>
```

app.component.ts

```typescript
import {Component} from 'angular2/core';

@Component({
    selector: 'pm-app',
    template: `
    <div><h1>{{pageTitle}}</h1>
        <div>My First Component</div>
    </div>
    `
})
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

Angular 2 Application Startup

index.html

```
System.import('app/main');
```

```
<body>
  <pm-app>Loading App ...
  </pm-app>
</body>
```

main.ts (bootstrapper)

```
import { bootstrap }
 from 'angular2/
   platform/browser';

import { AppComponent }
 from './app.component';

bootstrap(AppComponent);
```

app.component.ts

```
@Component({
 selector: 'pm-app',
 template: `
 <div>{{pageTitle}}</div>
 `
})
export class AppComponent
{ }
```

Demo

Bootstrapping the App Component

Component Checklist

Class -> Code

Decorator -> Metadata

Import what we need

Component Checklist: Class

Clear name

- Use PascalCasing
- Append "Component" to the name

`export` **keyword**

Data in properties

- Appropriate data type
- Appropriate default value
- camelCase with first letter lowercase

Logic in methods

- camelCase with first letter lowercase

Component Checklist: Metadata

Component decorator

- Prefix with @; Suffix with ()

`selector`: Component name in HTML

- Prefix for clarity

`template`: View's HTML

- Correct HTML syntax

Component Checklist: Import

Defines where to find the members that this component needs

`import` **keyword**

Member name

- Correct spelling/casing

Module path

- Enclose in quotes
- Correct spelling/casing

Summary

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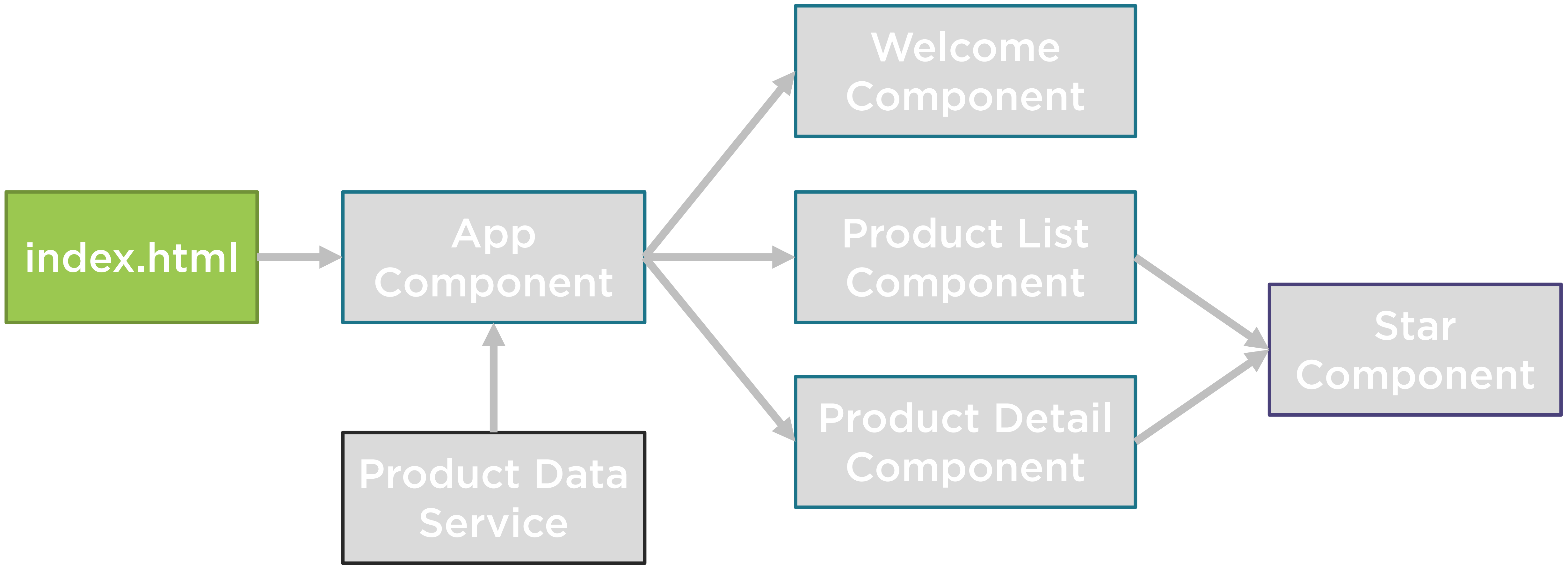
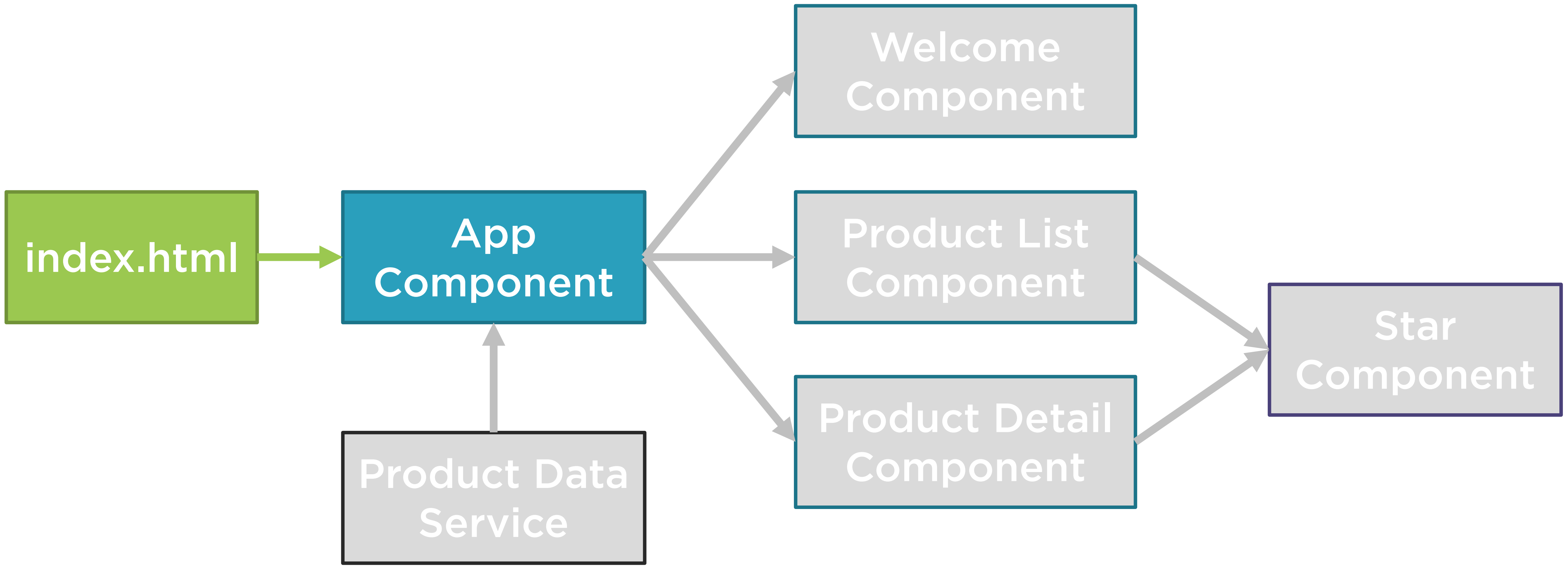
Application Architecture



Application Architecture


index.html
App Component
Product Data Service
Welcome Component
Product List Component
Product Detail Component
Star Component