Introduction to Components

Deborah Kurata
CONSULTANT | SPEAKER | AUTHOR | MVP | GDE

@deborahkurata | blogs.msmvps.com/deborahk/

Module Overview

What Is a Component?

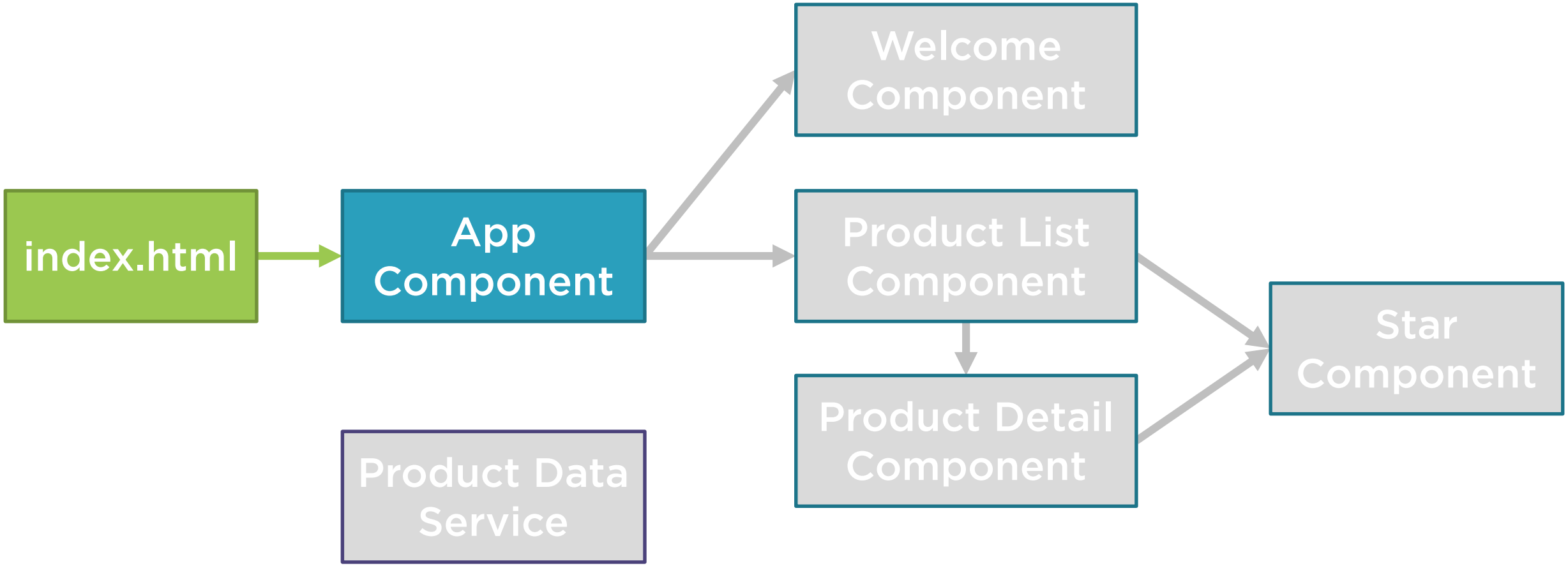
Creating the Component Class

Defining the Metadata with a Decorator

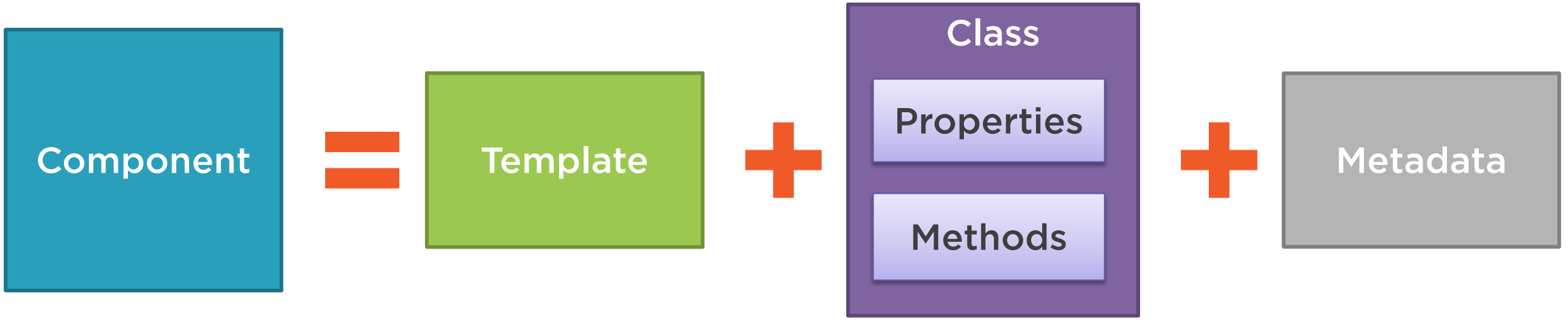
Importing What We Need

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 '@angular/core';

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

Import

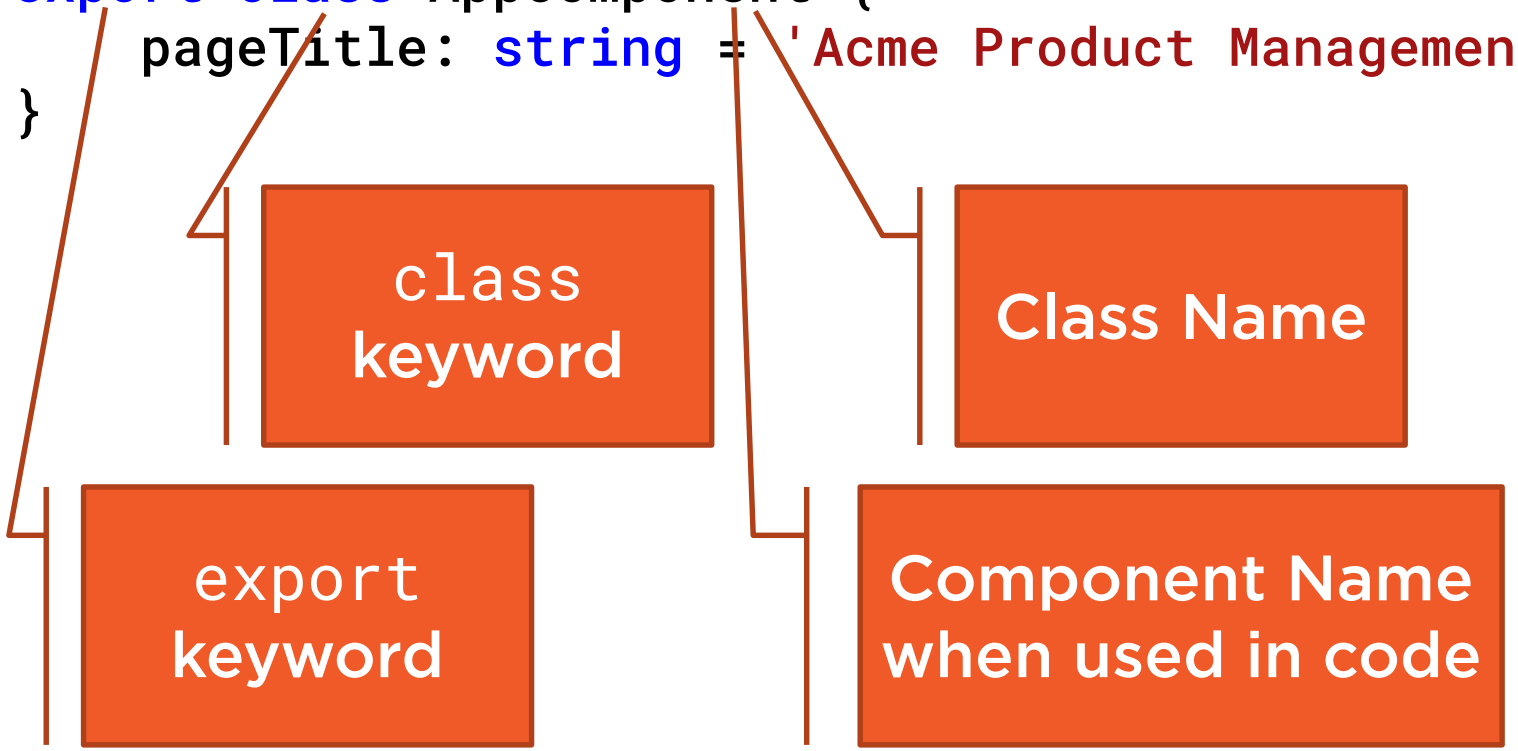
Metadata & Template

Class

Creating the Component Class

app.component.ts

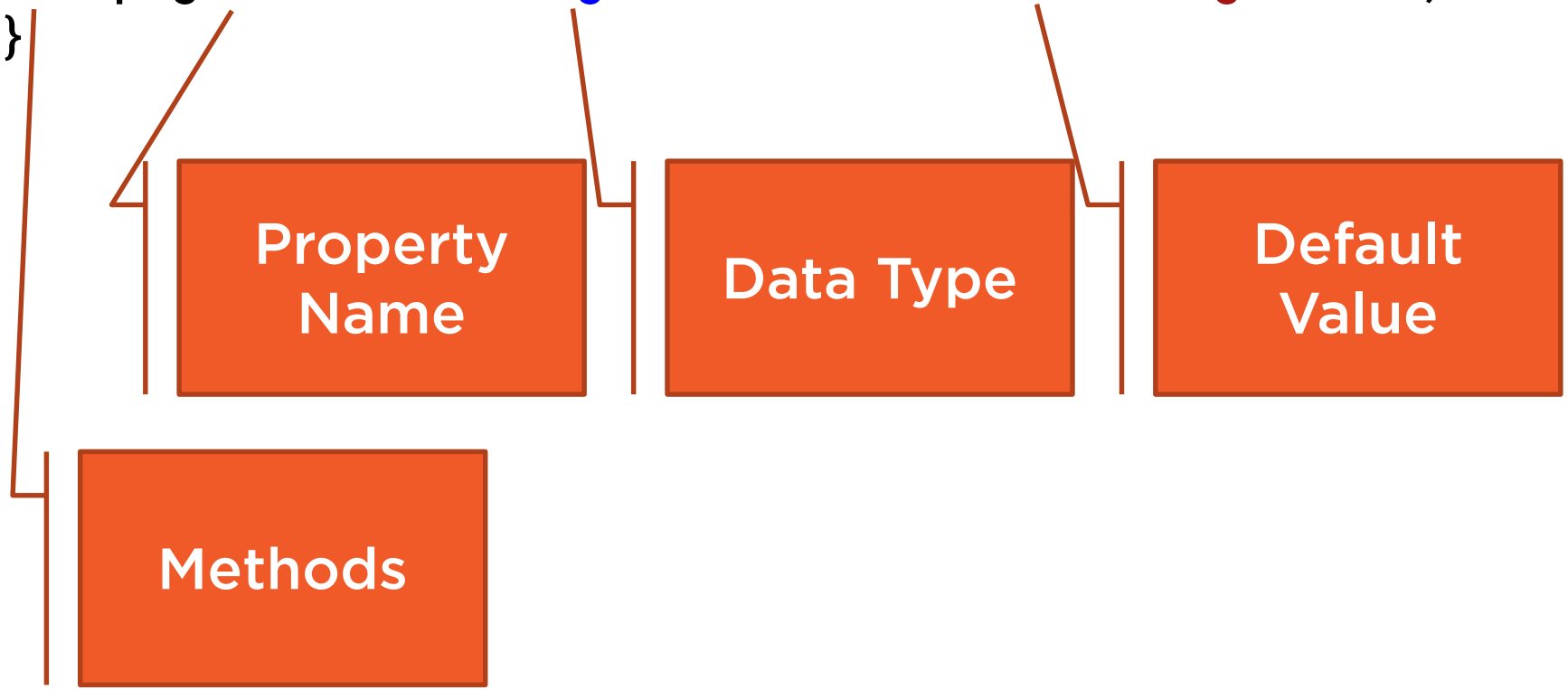
```
export class AppComponent {
    pageTitle: string = 'Acme Product Management';
}
```



Creating the Component Class

app.component.ts

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



Defining the Metadata

app.component.ts

```
@Component({
    selector: 'pm-root',
    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-root',
    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 ES modules

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

Angular Is Modular

@angular/core

@angular/animate

@angular/http

@angular/router

https://www.npmjs.com/~angular

Importing What We Need

app.component.ts

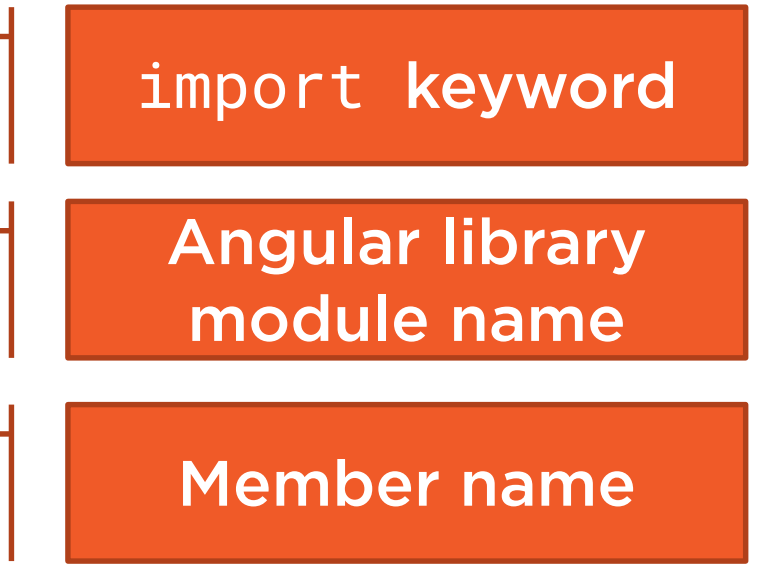
```
@Component({
    selector: 'pm-root',
    template: `
    <div><h1>{{pageTitle}}</h1>
        <div>My First Component</div>
    </div>
    `
})
export class AppComponent {
 pageTitle: string = 'Acme Product Management';
}
```

Importing What We Need

app.component.ts

```
import { Component } from '@angular/core';

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



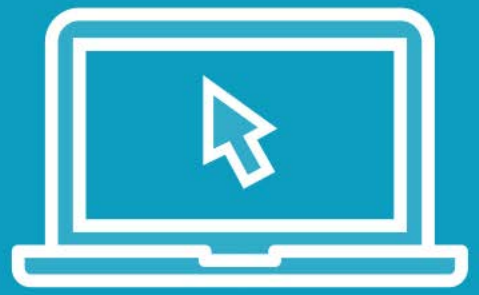
Completed Component

app.component.ts

```
import { Component } from '@angular/core';

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

Demo



Creating the App Component

Bootstrapping Our App Component

Host the application

Defining the Angular module

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

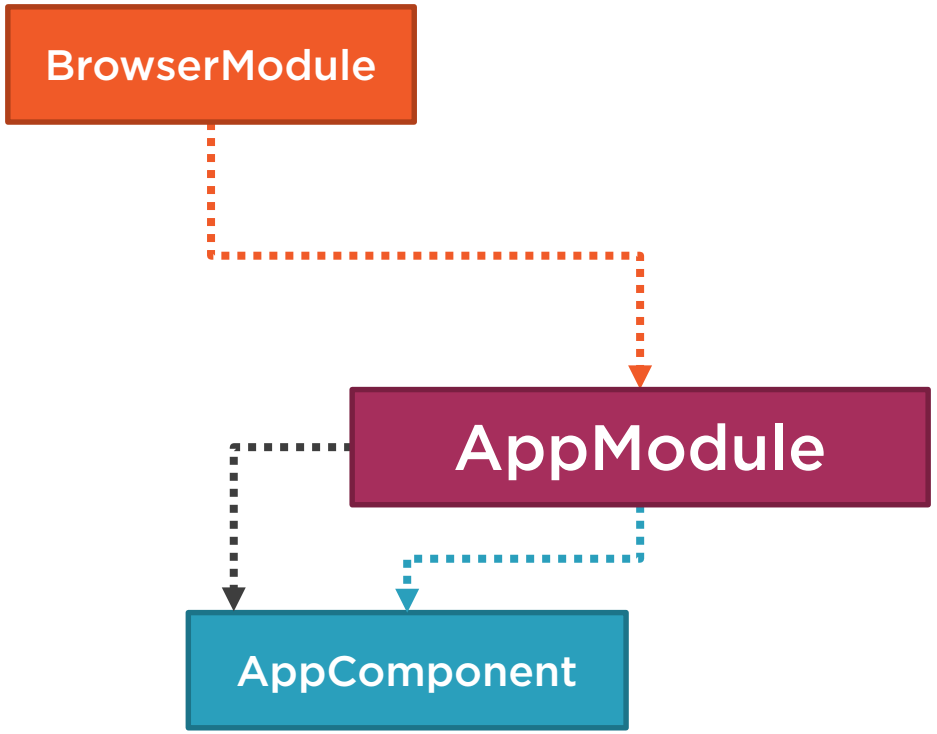
index.html

```
<body>
 <pm-root></pm-root>
</body>
```

app.component.ts

```
import { Component } from '@angular/core';

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



Organization

Boundaries

Template resolution environment

Imports

Exports

Declarations

Providers

Bootstrap

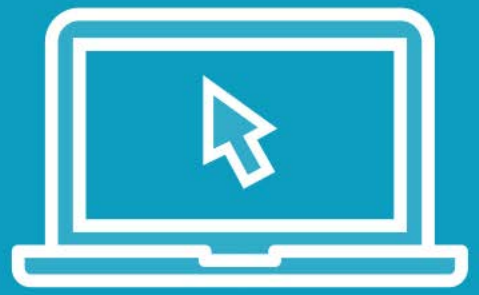
Defining the Angular Module

app.module.ts

```
import { NgModule } from '@angular/core';
import { BrowserModule } from '@angular/platform-browser';
import { AppComponent }  from './app.component';

@NgModule({
  imports: [ BrowserModule ],
  declarations: [ AppComponent ],
  bootstrap: [ AppComponent ]
})
export class AppModule { }
```

Demo



Bootstrapping Our 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

Something's Wrong! Checklist

F12 is your friend

Recheck your code

- HTML
  - Close tags
  - Angular directives are case sensitive
- TypeScript
  - Close braces
  - TypeScript is case sensitive

Something's Wrong! Checklist (cont.)

Check my blog for a solution

- http://blogs.msmvps.com/deborahk/angular-2-getting-started-problem-solver/

Post to the course discussion

- https://app.pluralsight.com/library/courses/angular-2-getting-started-update/discussion

Summary

- What Is a Component?
- Creating the Component Class
- Defining the Metadata with a Decorator
- Importing What We Need
- Hosting Our App Component

Application Architecture