

Building Nested Components



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Using a Component

As a Directive



App
Component
OR Nested
Component

As a Routing target

Product List

Filter by:

Show Image

Product

Code

Available

Price

5 Star Rating

Leaf Rake

gdn-0011

March 19, 2016

\$19.95

★★★★★

Garden Cart

gdn-0023

March 18, 2016

\$32.99

★★★★★

Hammer

tbx-0048

May 21, 2016

\$8.90

★★★★★

Saw

tbx-0022

May 15, 2016

\$11.55

★★★★★

Video Game Controller

gmg-0042

October 15, 2015

\$35.95

★★★★★

Full
page
style
view

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



What Makes a Component Nest-able?



Its template only manages a fragment of a larger view

It has a selector

It optionally communicates with its container

Module Overview



Building a Nested Component

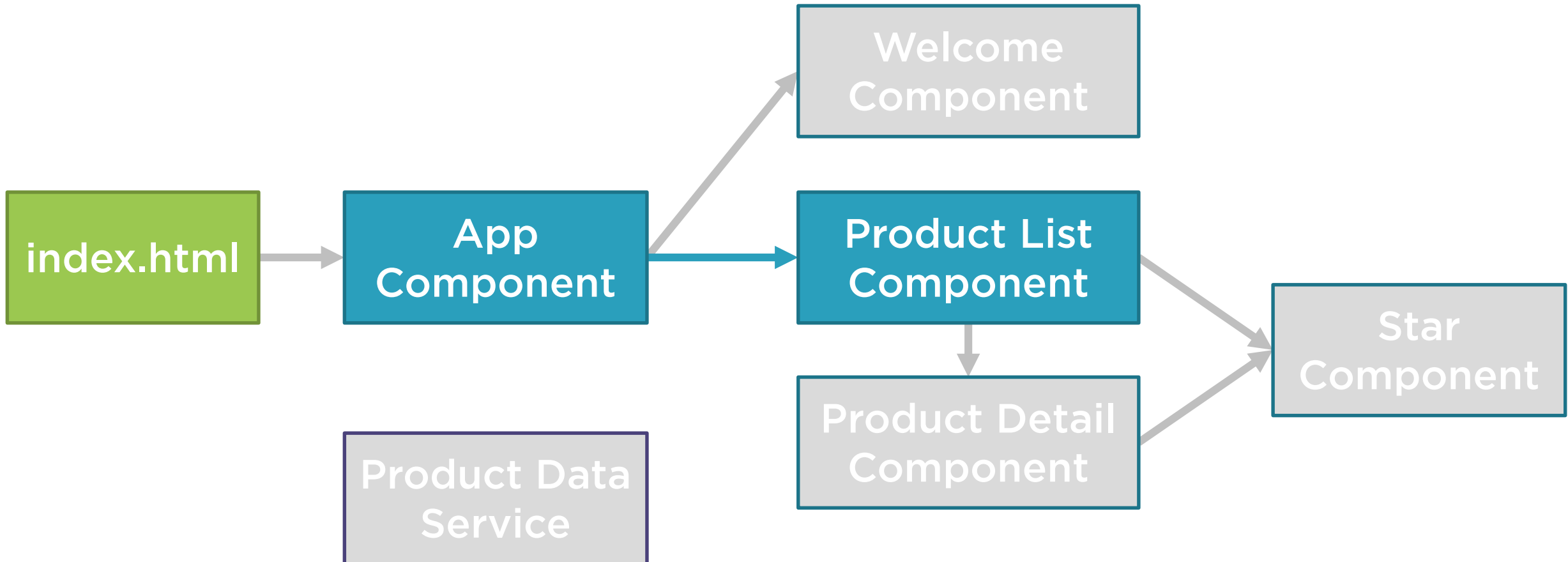
Using a Nested Component

**Passing Data to a Nested Component
Using @Input**

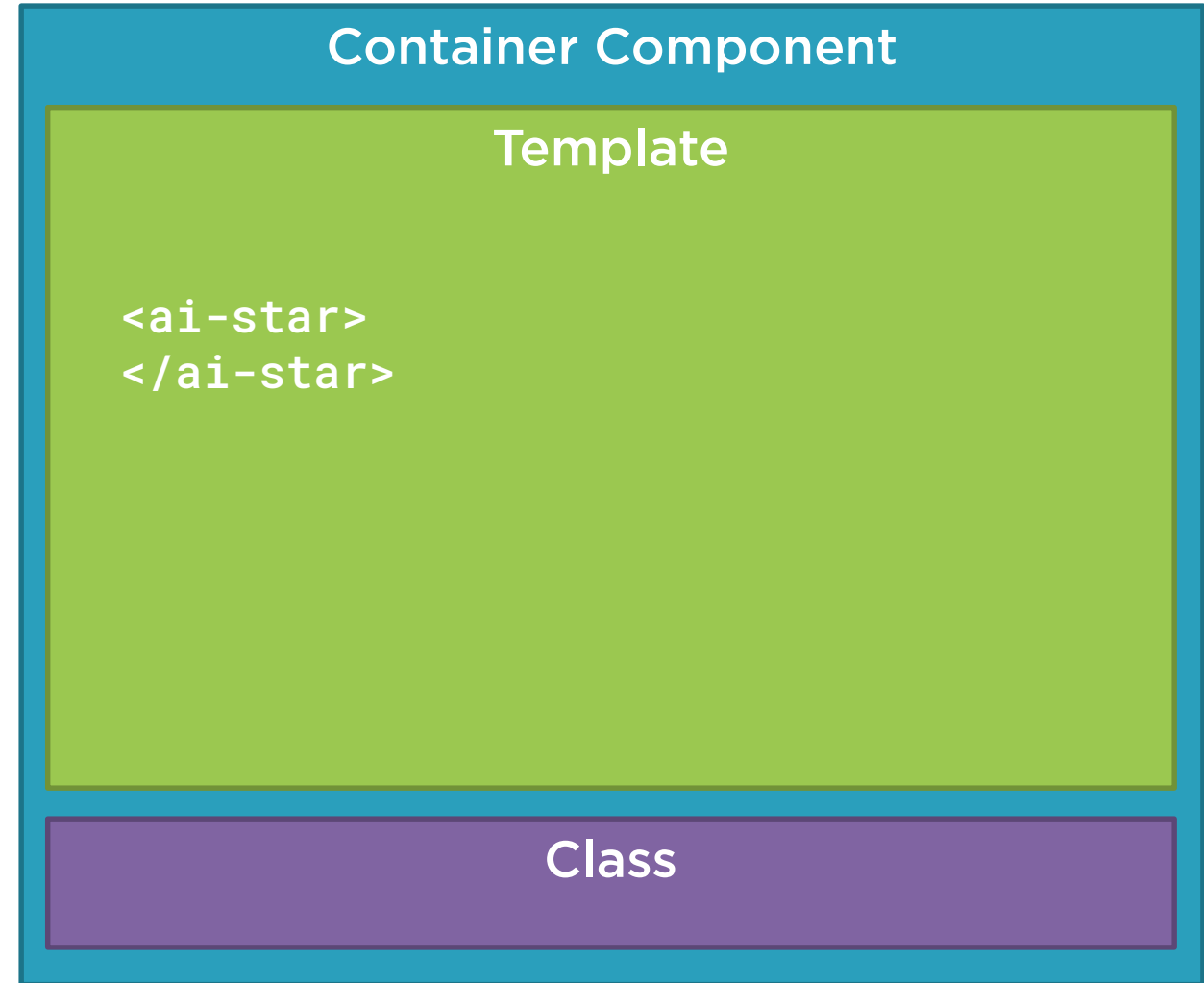
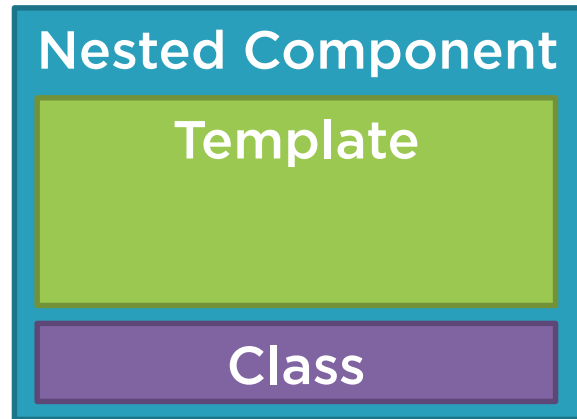
**Raising an Event from a Nested
Component Using @Output**



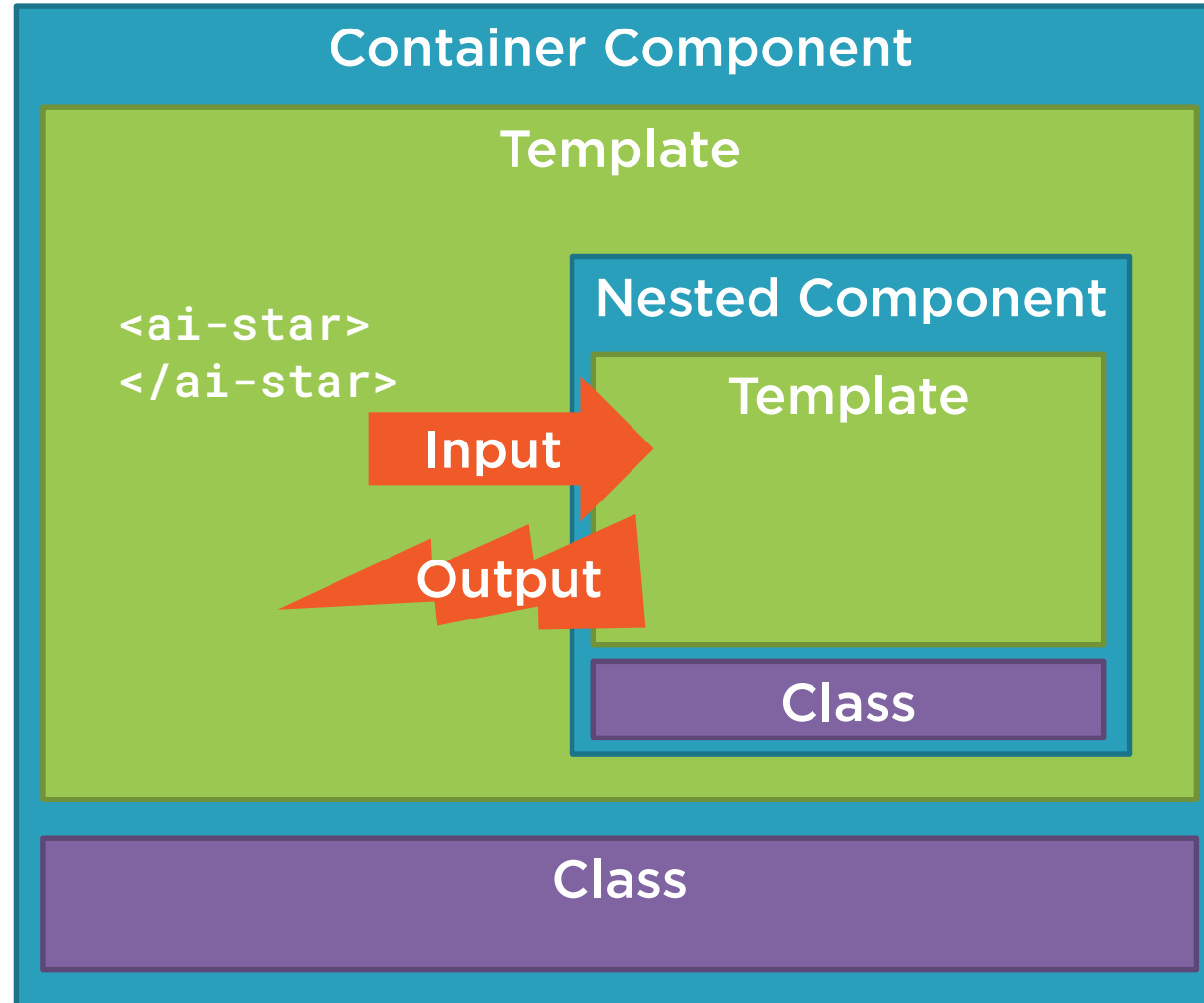
Application Architecture



Building a Nested Component



Building a Nested Component



Product List View

Product List

Filter by:

Show Image

Product

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Available

Price

5 Star Rating

Leaf Rake

GDN-0011

March 19, 2016

\$19.95

3.2

Garden Cart

GDN-0023

March 18, 2016

\$32.99

4.2

Hammer

TBX-0048

May 21, 2016

\$8.9

4.8

Saw

TBX-0022

May 15, 2016

\$11.55

3.7

Video Game Controller

GMG-0042

October 15, 2015

\$35.95

4.6



Product List View

Product List

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Video Game Controller

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Using a Nested Component as a Directive

product-list.component.ts

```
@Component({  
  selector: 'pm-products',  
  templateUrl: 'product-list.component.html'  
})  
export class ProductListComponent { }
```

product-list.component.html

```
<td>  
  {{ product.starRating | number }}  
</td>
```

star.component.ts

```
@Component({  
  selector: 'ai-star',  
  templateUrl: 'star.component.html'  
})  
export class StarComponent {  
  rating: number;  
  starWidth: number;  
}
```



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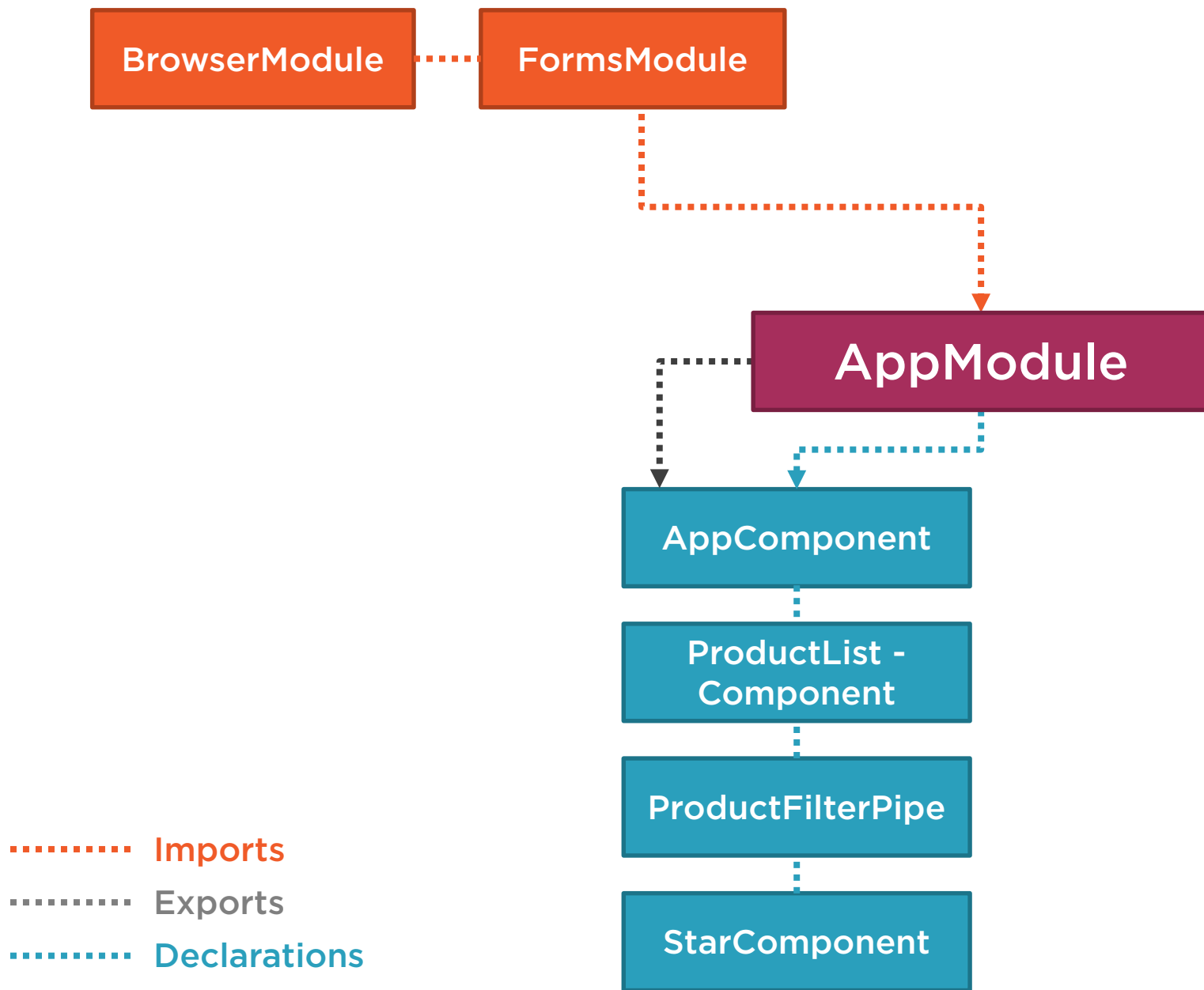
product-list.component.html

```
<td>  
  <ai-star></ai-star>  
</td>
```

star.component.ts

```
@Component({  
  selector: 'ai-star',  
  templateUrl: 'star.component.html'  
})  
export class StarComponent {  
  rating: number;  
  starWidth: number;  
}
```





- Imports
- Exports
- Declarations
- Providers
- Bootstrap



Telling Angular About Our Component

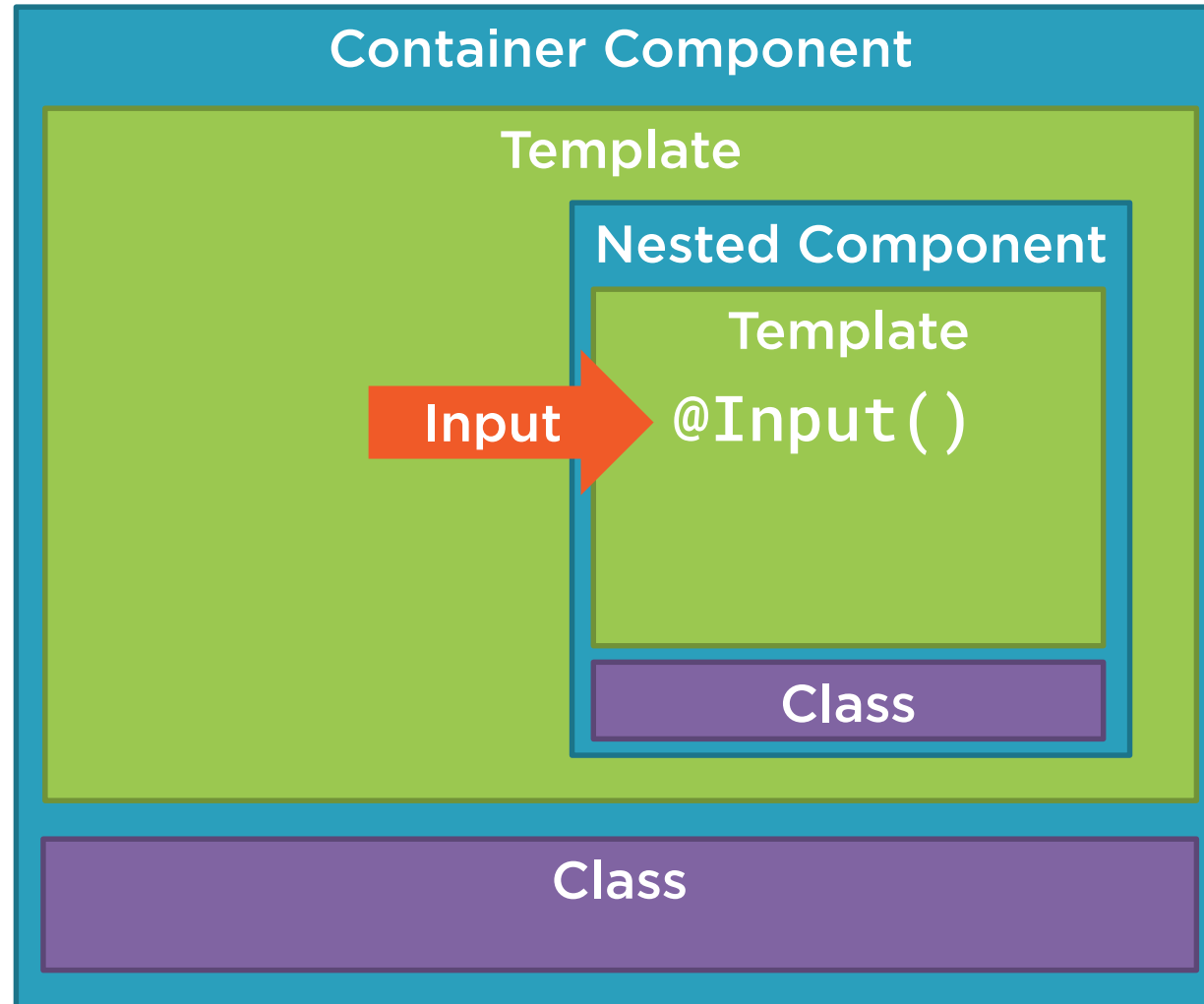
app.module.ts

```
...
import { StarComponent } from '../shared/star.component';

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



Passing Data to a Nested Component (@Input)



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product-list.component.html

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<td>  
  <ai-star></ai-star>  
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```

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product-list.component.html

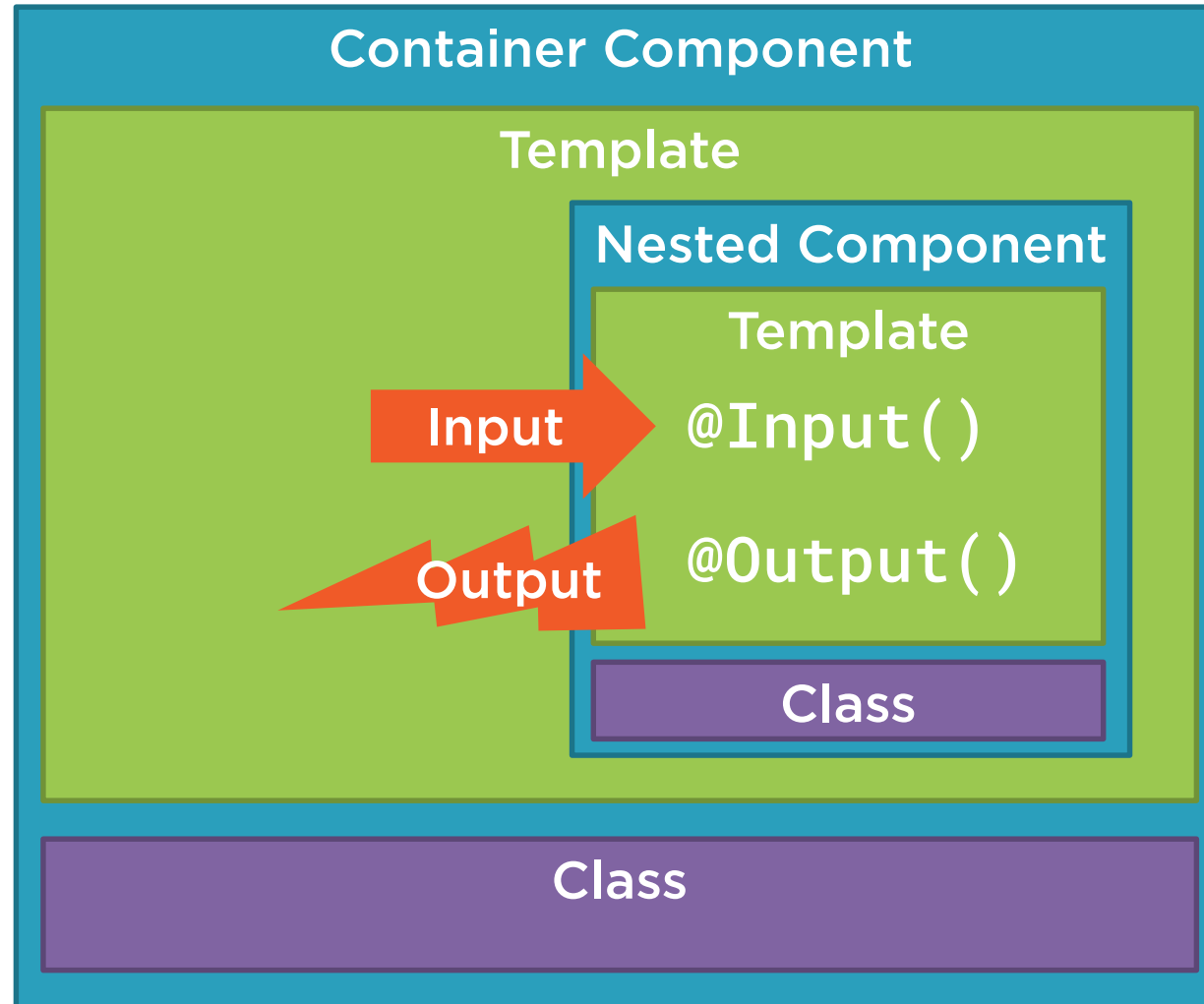
```
<td>  
  <ai-star [rating]='product.starRating'>  
  </ai-star>  
</td>
```

star.component.ts

```
@Component({  
  selector: 'ai-star',  
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})  
export class StarComponent {  
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Raising an Event (@Output)



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})  
export class StarComponent {  
  @Input() rating: number;  
  starWidth: number;  
  @Output() notify: EventEmitter<string> =  
    new EventEmitter<string>();  
}
```

product-list.component.html

```
<td>  
  <ai-star [rating]='product.starRating'>  
  </ai-star>  
</td>
```



Raising an Event (@Output)

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  selector: 'ai-star',
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})
export class StarComponent {
  @Input() rating: number;
  starWidth: number;
  @Output() notify: EventEmitter<string> =
    new EventEmitter<string>();

  onClick() {
    this.notify.emit('clicked!');
  }
}
```

star.component.html

```
<div (click)='onClick()'>
  ... stars ...
</div>
```



Raising an Event (@Output)

product-list.component.ts

```
@Component({  
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  templateUrl: 'product-list.component.html'  
})  
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```

product-list.component.html

```
<td>  
  <ai-star [rating]='product.starRating'  
           (notify)='onNotify($event)'>  
  </ai-star>  
</td>
```

star.component.ts

```
@Component({  
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}
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star.component.html

```
<div (click)='onClick()'>  
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```



Raising an Event (@Output)

product-list.component.ts

```
@Component({
  selector: 'pm-products',
  templateUrl: 'product-list.component.html'
})
export class ProductListComponent {
  onNotify(message: string): void { }
}
```

product-list.component.html

```
<td>
  <ai-star [rating]='product.starRating'
           (notify)='onNotify($event)'>
  </ai-star>
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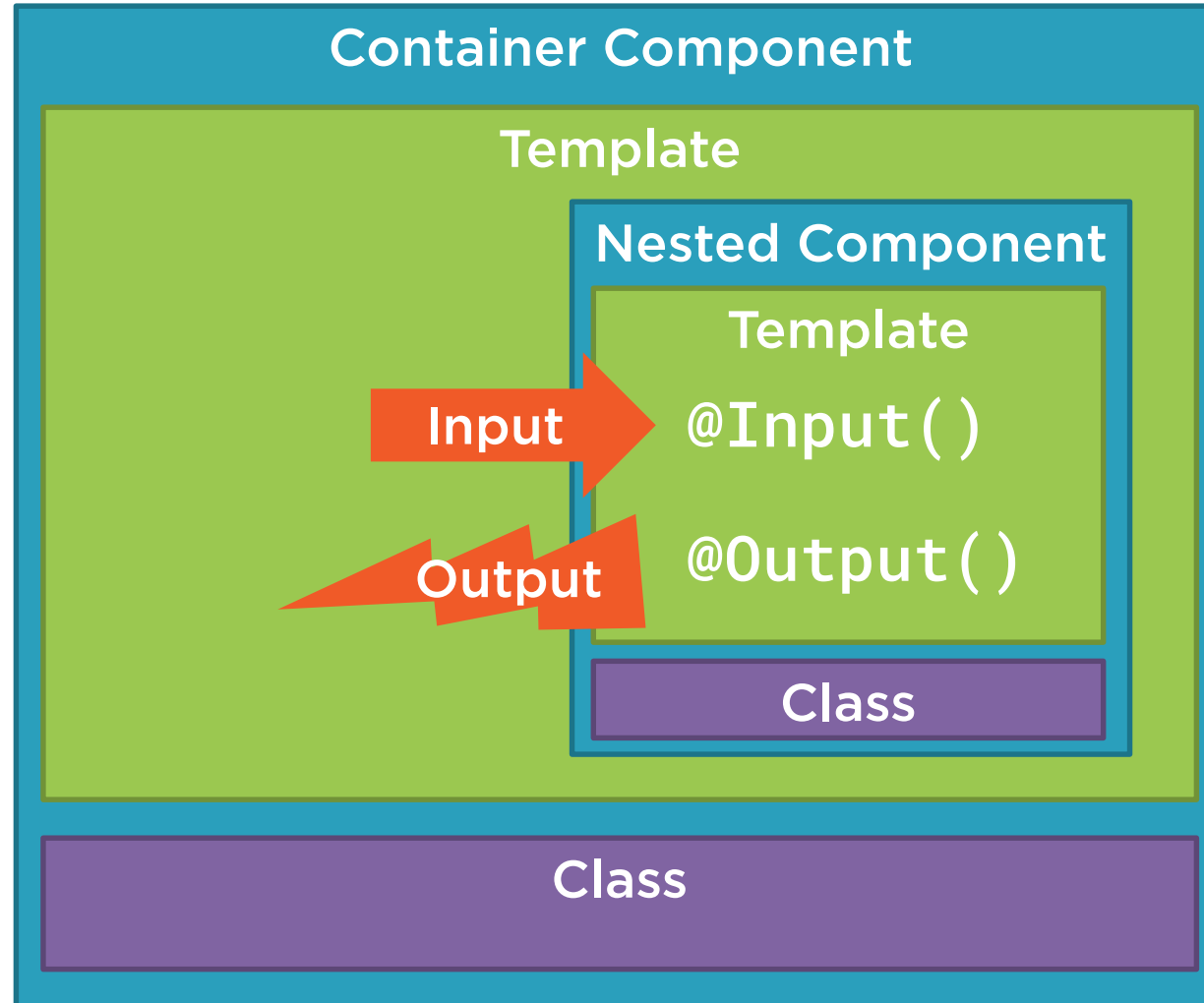
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star.component.html

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<div (click)='onClick()'>
  ... stars ...
</div>
```



Nest-able Component's Public API



Checklist: Nested Component



Input decorator

- Attached to a property of any type
- Prefix with @; Suffix with ()

Output decorator

- Attached to a property declared as an EventEmitter
- Use the generic argument to define the event payload type
- Use the new keyword to create an instance of the EventEmitter
- Prefix with @; Suffix with ()

Checklist: Container Component



Use the directive

- Directive name -> nested component's selector

Use property binding to pass data to the nested component

Use event binding to respond to events from the nested component

- Use \$event to access the event payload passed from the nested component

Summary



Building a Nested Component

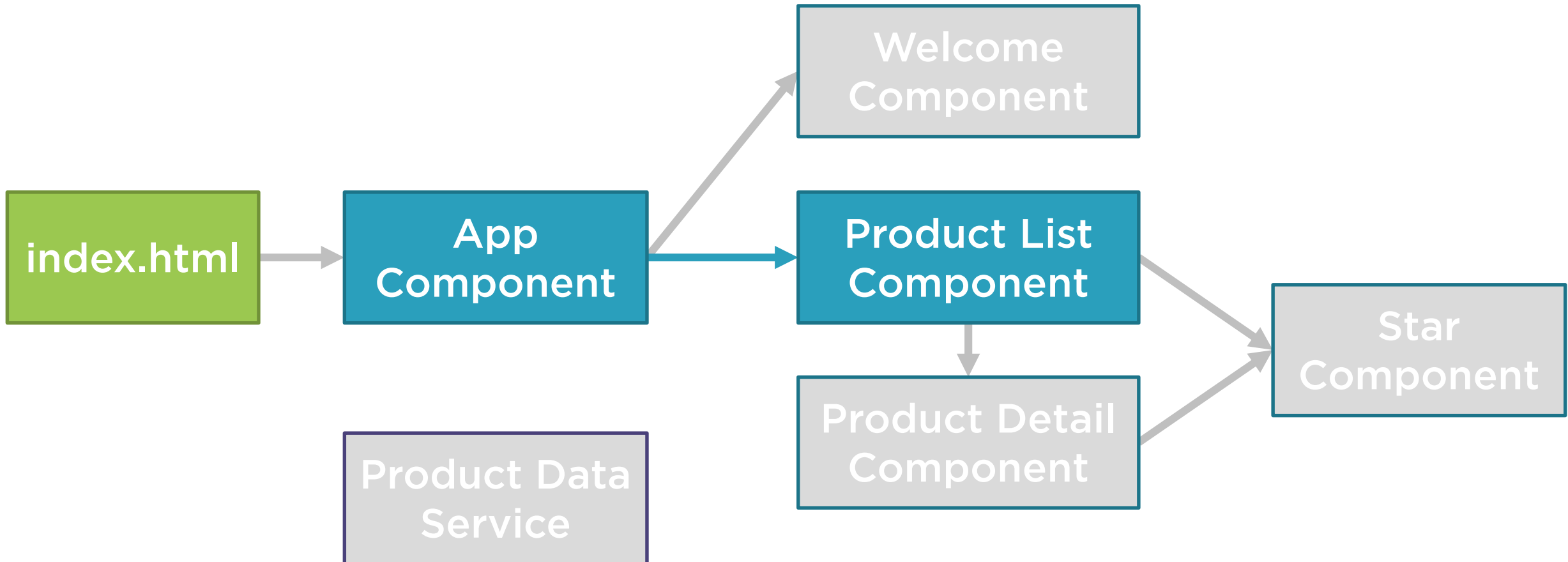
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Application Architecture



Application Architecture

