Communicating with a Template

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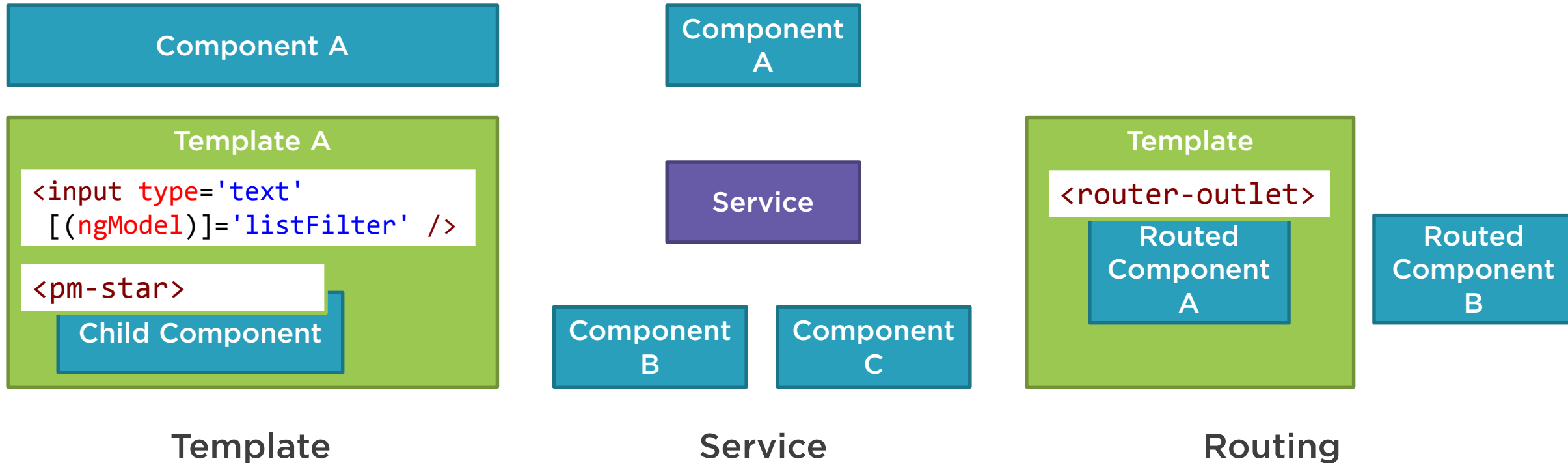CONSULTANT | SPEAKER | AUTHOR | MVP | GDE

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Component Communication

Component A

Template A

```
<input type='text'
  [(ngModel)]='listFilter' />
```

```
<pm-star>
```

Child Component

Template

Component A

Service

Component B   **Component C**

Template

```
<router-outlet>
```

Routed Component A

Routed Component B

Service

Routing

Module Overview

Binding and Structural Directives

Two-way Binding, the Long Way

Getters and Setters

Binding

Template

```
<div>
  {{pageTitle}}
</div>
```

```
<img [style.width.px]=
              'imageWidth'>
```

```
<button
  (click)='toggleImage()'>
    Show Image
</button>
```

```
<input type='text'
  [(ngModel)]='listFilter' />
```

Component

← **Interpolation**

```
pageTitle: string = 'Product List';
```

← **Property Binding**

```
imageWidth: number = 50;
```

→ **Event Binding**

```
toggleImage(): void {
    this.showImage = !this.showImage;
}
```

↔ **Two-way Binding**

```
listFilter: string;
```

Structural Directives

Template

```
<img *ngIf='showImage'
     [src]='product.imageUrl'>
```

```
<tr *ngFor='let product of products'>
```

Component

```
showImage: boolean = false;
```

```
products: IProduct[];
```

Two-way Binding

Template

```
<input type='text'
  [(ngModel)]='listFilter' />
```

Two-way Binding

Component

```
listFilter: string;
```

Two-way Binding

Template

```
<input type='text'
 [(ngModel)]='listFilter' />
```

Two-way Binding

Component

```
listFilter: string = 'Cart';
```

Product List

Filter by: Cart

Two-way Binding

Template

```
<input type='text'
  [(ngModel)]='listFilter' />
```

Two-way Binding

Component

```
listFilter: string = 'Game';
```

Product List

Filter by: Game

Notifying the Component of User Changes

Two-way binding, the long way

Getter and setter

valueChanges observable

Two-way Binding, the Long Way

```
<input type='text' [(ngModel)]='listFilter' />
```

```
<input type='text' [ngModel]='listFilter'
                   (ngModelChange)='listFilter=$event' />
```

```
<input type='text' [ngModel]='listFilter'
                   (ngModelChange)='onFilterChange($event)' />
```

Defining a Property

Property Declaration

```
listFilter: string;
```

Getter and Setter

```
get listFilter(): string {

}

set listFilter(value: string) {

}
```

Specifying a Getter and Setter

Common Pattern

```typescript
private _listFilter: string;

get listFilter(): string {
  return this._listFilter;
}
set listFilter(value: string) {
  this._listFilter = value;
}
```

Notifying the Component of User Changes

- **Two-way binding, the long way**
- **Getter and setter**
- **valueChanges observable**

Guidelines & Summary: Communicating with a Template

Binding & Structural Directives

Template

```
<div>{{pageTitle}}</div>
```

```
<img [style.width.px]=
              'imageWidth'>
```

```
<button
  (click)='toggleImage()'>
    Show Image
</button>
```

```
<input type='text'
  [(ngModel)]='listFilter' />
```

```
<img *ngIf='showImage'
[src]='product.imageUrl'>
```

```
<tr *ngFor=
    'let product of products'>
```

Component

```
pageTitle: string = 'Product List';
```

```
imageWidth: number = 50;
```

```
toggleImage(): void {
    this.showImage = !this.showImage;
}
```

```
listFilter: string;
```

```
showImage: boolean = false;
```

```
products: IProduct[];
```

Interpolation

Property Binding

Event Binding

Two-way Binding

*ngIf

*ngFor

Two-way Binding, the Long Way

```html
<input type='text' [ngModel]='listFilter'
                   (ngModelChange)='onFilterChange($event)' />
```

Plus:

o Notifies the component when the user changes the value

o Allows any logic in the component method

o Caught in the template

Caveats:

o No two-way binding

o Caught in the template

o Uncommon syntax

Getter and Setter

```
private _listFilter: string;
get listFilter(): string {
  return this._listFilter;
}
set listFilter(value: string) {
  this._listFilter = value;
}
```

Plus:

- o Notifies the component when the user changes the value

- o Allows any logic in the setter

- o Caught in the component class

Caveats:

- o One line of code becomes 7

Summary

Binding and Structural Directives

Two-way Binding, the Long Way

Getters and Setters

Component Communication