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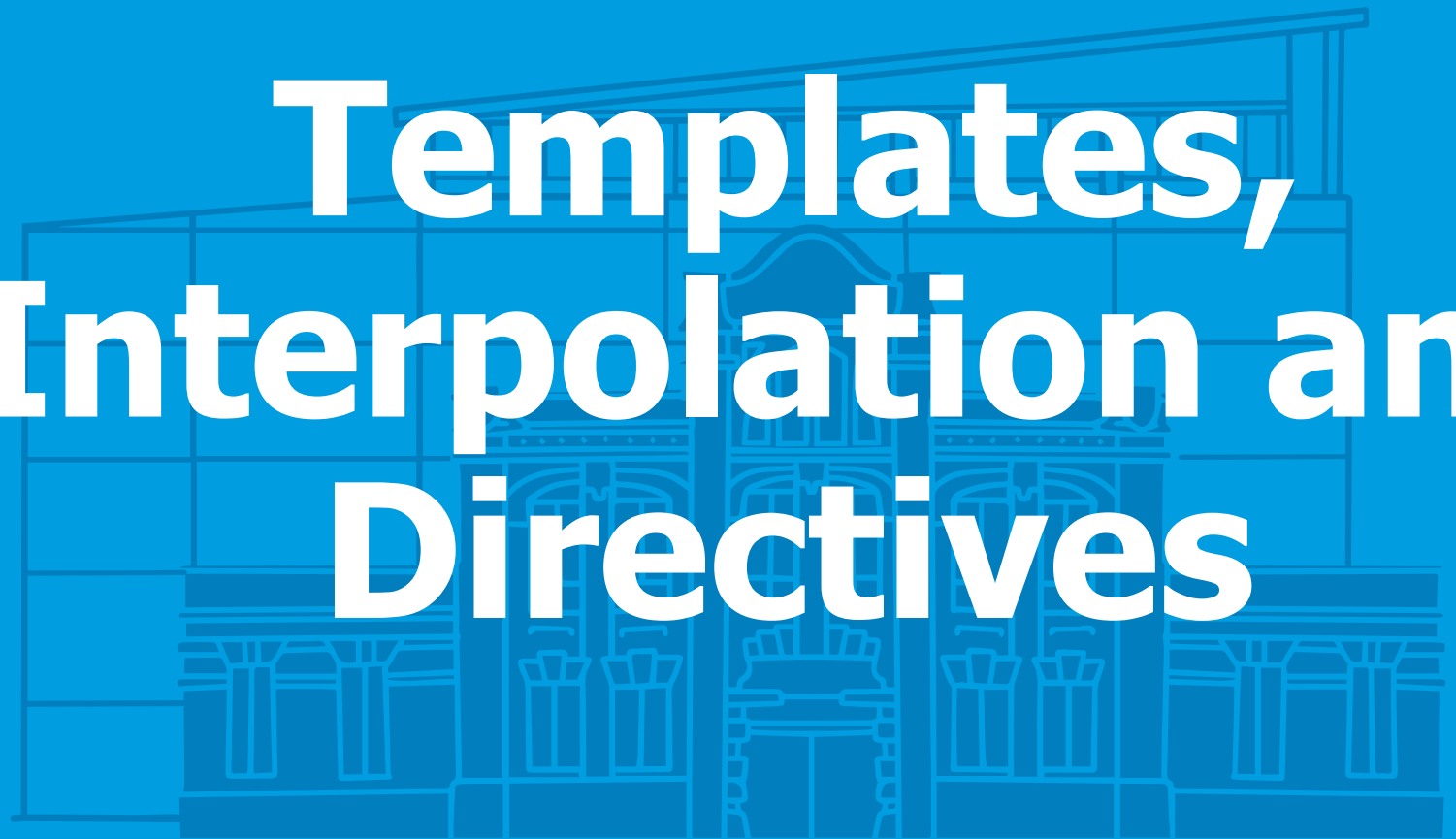
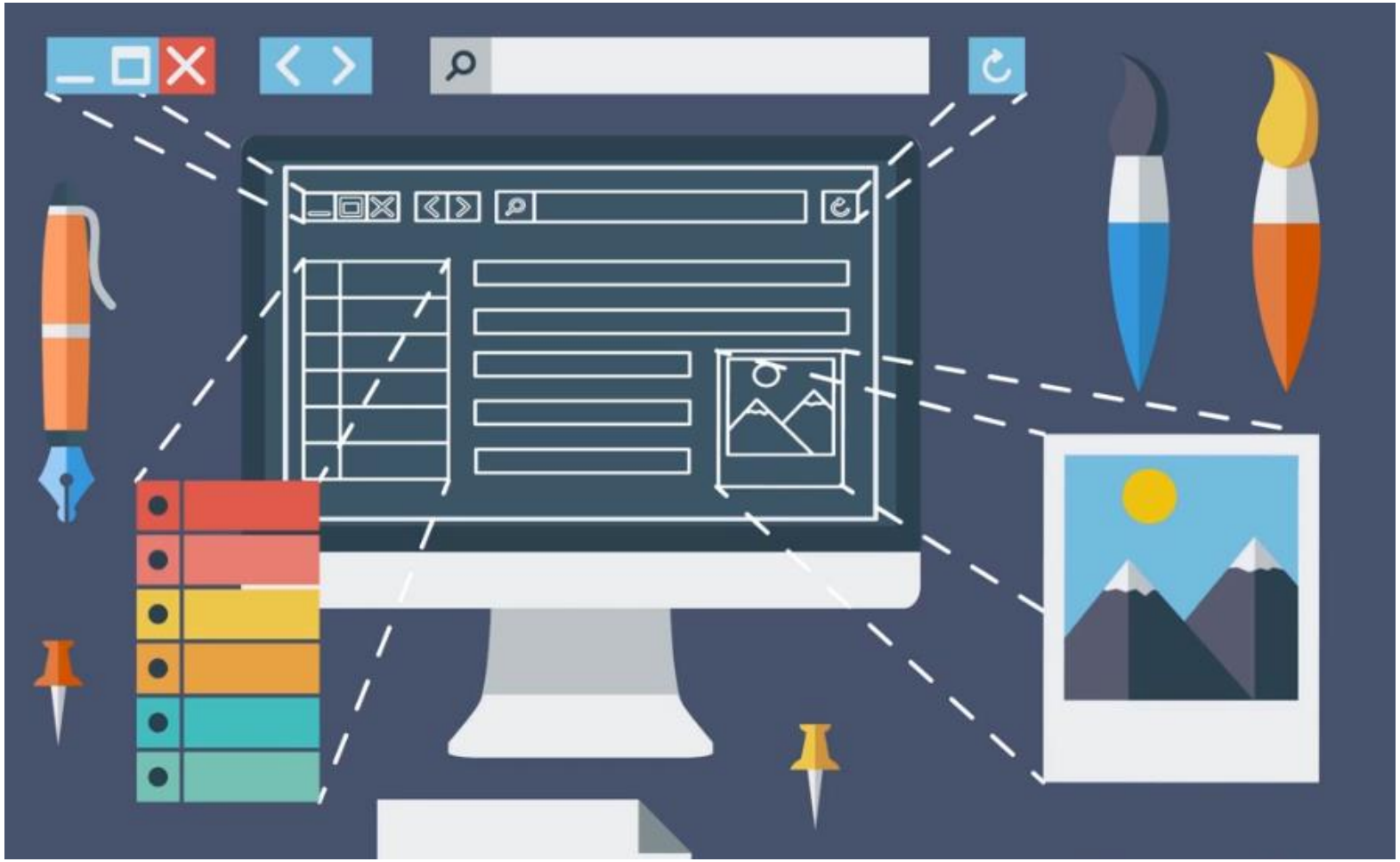
Angular 14 - 06

Templates, Interpolation and Directives



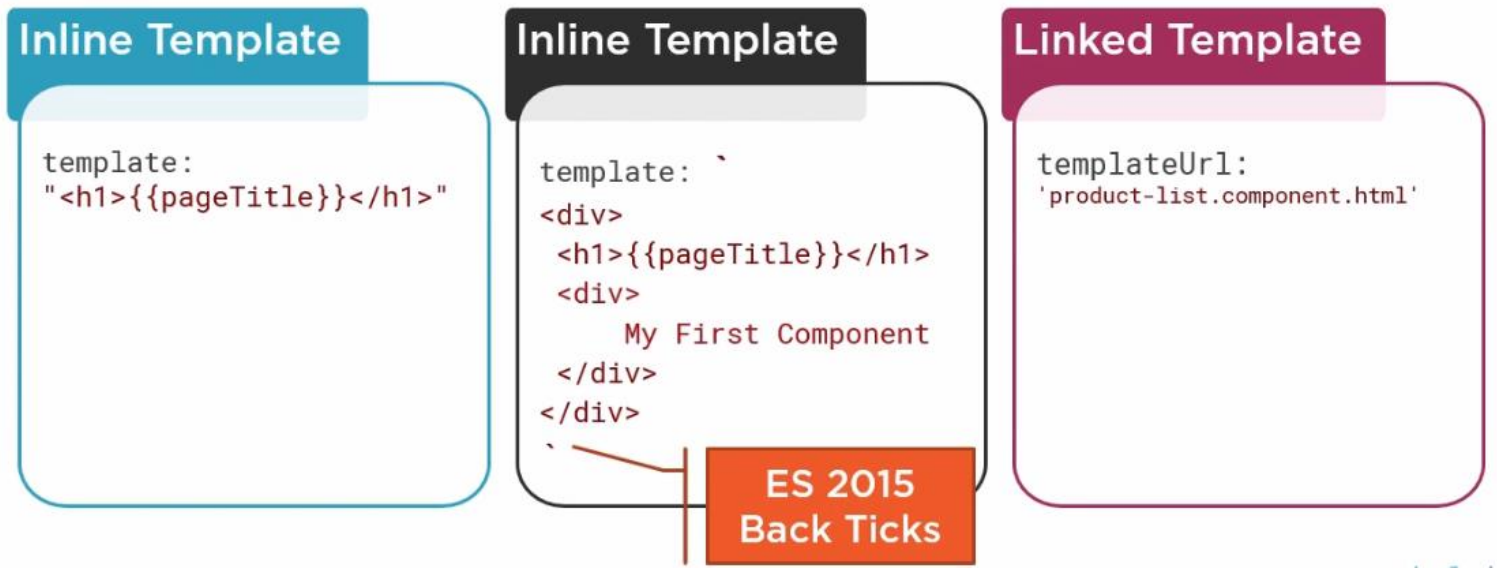
Composition of a view

The app will be a set of UI elements, which will be integrated like a puzzle



Template types

- We can distinguish 3 ways of creating templates:



- Although the first two are useful, in real projects we will tend to use the 3rd option.

Template interpolation

- If we add a property to the component class, we can **interpolate** its content from the template using **mustache** syntax .
- This is the one-way write-only binding of view models.

```
// component class
...
export class AppComponent {
  title = 'my-new-app';
}
```

```
// tmmplate
...
<span>{{ title }} app is running!</span>
...
```

Component selector

- By convention, a directory layout is used that follows the DDD principles (Domain Driven Design):
- Each main section of the application has its own directory, within the app directory
- We define a selector (product-list) and a template.

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

@Component({
  selector: 'app-products-list',
  templateUrl: './products-list.component.html',
  styleUrls: ['./products-list.component.scss']
})
export class ProductsListComponent implements OnInit {

}
```

Linking components

- In order for our component and its template to be recognized by the component that hosts them, we use their selector on the parent component.

```
<section>
  <h1>{{title}}</h1>
  <app-products-list></app-products-list>
</section>
```

Built-in directives

- In addition to creating our own directives, Angular includes a set of built-in directives.
  - https://angular.io/guide/built-in-directives
- Structural directives modify the structure of the DOM /View:
  - https://angular.io/guide/structural-directives

```
@Component(...)
export class ProductsListComponent {
  show_text = false;
  text = 'this is a text';
}
```

```
    <div *ngIf="show_text">{{text}}</div>
```

- Syntactically, they are distinguished from the rest by the presence of the asterisk (*) in front of the directive definition.

Built-in directives

- We can test this by adding that directive to a table, since at the moment, it doesn't contain any elements.
- The directive has to refer to some accessible object in the component, so we create a products input , indicating that it is an array of type any .

```
@Component(...)
export class ProductsListComponent {
  show_text = true;
  text = 'Available products';

  no_products: string = 'No products at the moment...';
  products: any[] | null = [];
}
```

- And to the <table> tag , we add a *ngIf directive, so that it only shows the table if there is a product definition and it is not empty.

```
<table *ngIf="products" class="products">... </table>
```

- If you view after this, you will see that the table does not appear.

Built-in directives

- We can do a first data presentation test, which looks like the final result, by adding elements to that product definition.
- To do this, we simply add a couple of elements to the component in the definition
- You just have to remember the names of the fields afterwards, to include them exactly as they are in the view.

```
@Component(...)
export class ProductsListComponent {
   ...
   products: any[] | null = [
    {
      name: 'Leaf Rake',
      code: 'GUN-0611',
      date: 'March 19, 2916',
      price: 19.95,
      stars: 3.2,
    },
    {
      name: 'Garden Cart',
      code: 'GUN-0023',
      date: 'March 21, 2916',
      price: 32.99,
      stars: 4.2,
    },
  ];

}
```

Built-in directives

- We can also use the *ngFor directive to generate repetition of directives
- For example, we add a global row entry to the table and tell it to iterate through the collection and create as many elements as the data array has.

```
<section>
    <h3 *ngIf="show_text">{{text}}</h3>
    <div *ngIf="!products" class="red">{{no_products}}</div>
    <table *ngIf="products" class="products">
        <thead>
            <tr>
                <th>Product</th>
                <th>Code</th>
                <th>Date</th>
                <th>Price</th>
                <th>Stars</th>
            </tr>
        </thead>
        <tbody>
            <tr *ngFor="let product of products">
                <td>{{product.name}}</td>
                <td>{{product.code}}</td>
                <td>{{product.date}}</td>
                <td>{{product.price}}</td>
                <td>{{product.stars}}</td>
            </tr>
        </tbody>
    </table>
</section>
```

Built-in directives

- With all those changes, the final output of the list would only have a couple of elements, but we can already get an idea of the final result.
- It should look similar to the following:

Products store

Available products

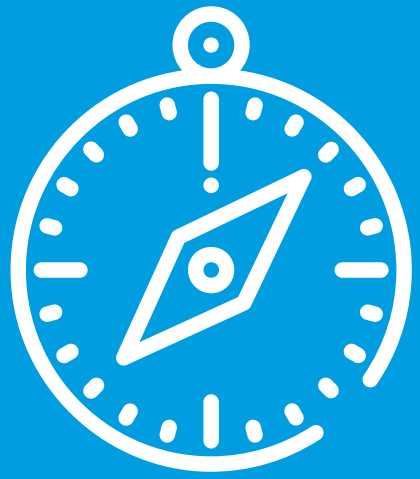
Product	Code	Date	Price	Stars
Leaf Rake	GUN-0611	March 19, 2916	19.95	3.2
Garden Cart	GUN-0023	March 21, 2916	32.99	4.2

Let's put it into practice: Tasks/Projects App

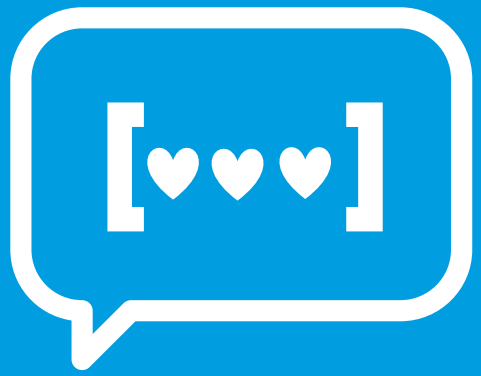
Create a template for tasks and projects lists components:

1. Task Model
    - tid:number
    - description:string
    - time:number
    - project:number
2. Project Model
    - pid:number
    - name:string
    - date:Date

Make the two lists display on one page using tables and HTML lists



Next steps



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