Angular Components

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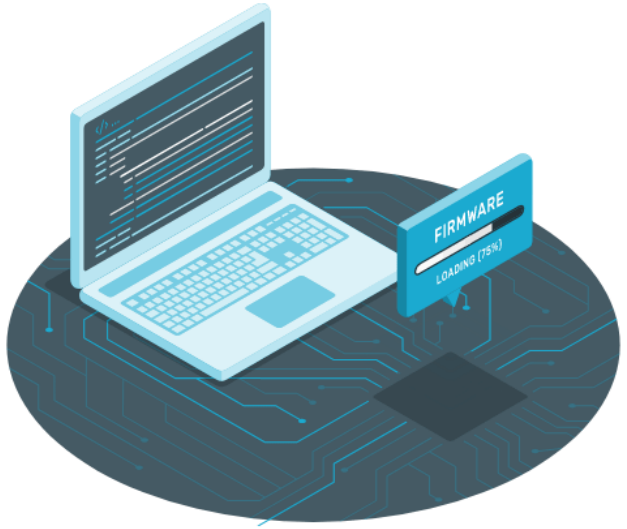
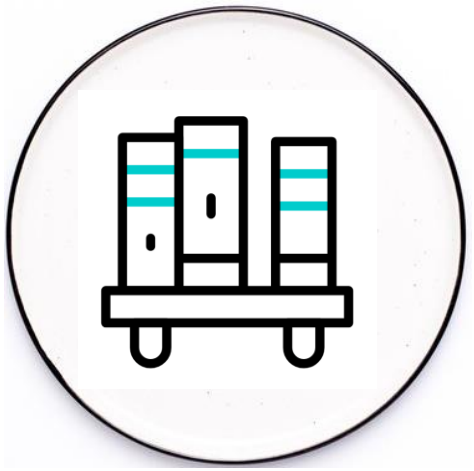


Importing what we Needed

Significance and Role of Components

- UI Building Blocks
- Encapsulation and Reusability
- Component-Based Architecture
- Component Lifecycle Hooks
- Hierarchical Structure

What Are Angular Components?

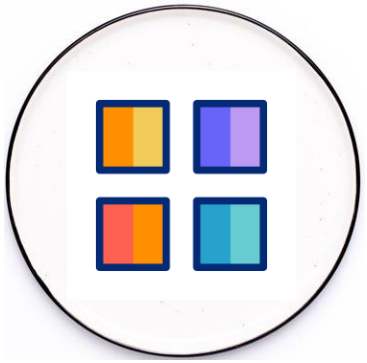


In Angular , “everything is a components.”

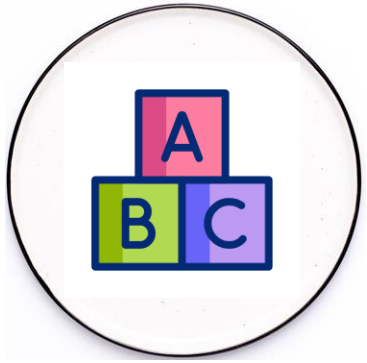
Component is a primary building block of an angular application.

Components are reusable, modular, and encapsulated

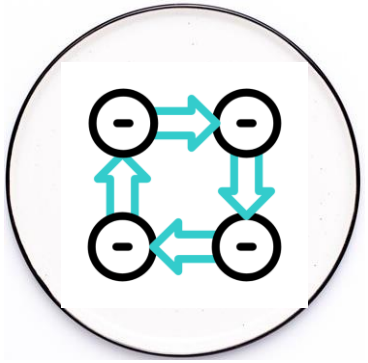
Only one component can be instantiated per element in a template.



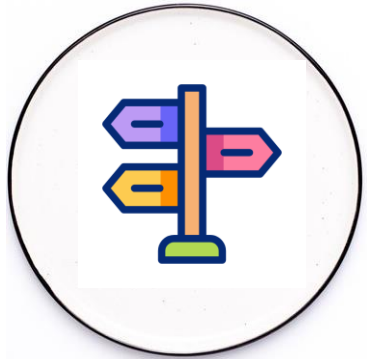
Component must belong to the ng module.



@component-decorator provides additional metadata.



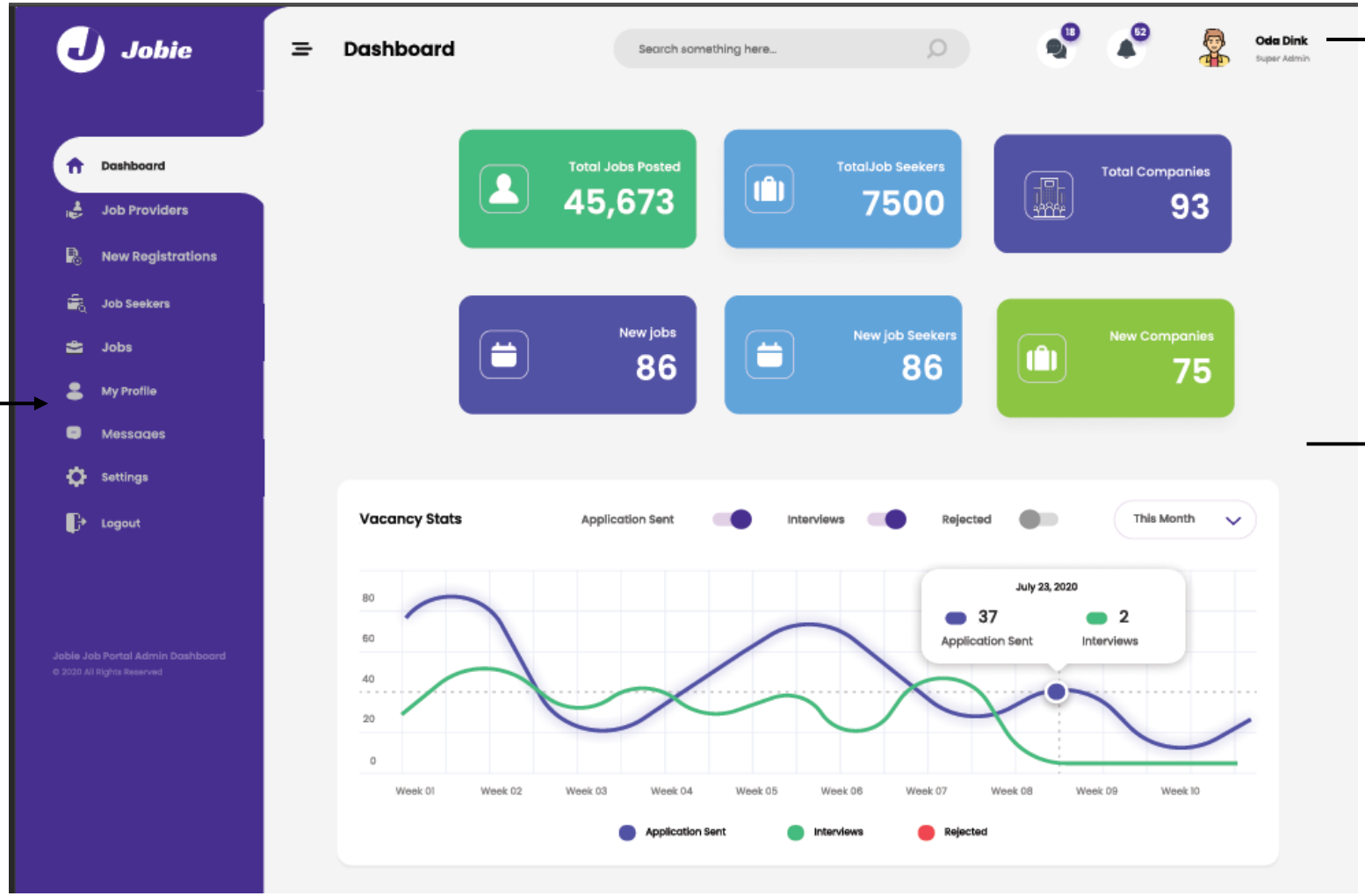
Components implements life cycle hooks.



Angular components are a subset of directives.

Example

Sidebar Component



Header Component

Content Component

Component Structure

Template

HTML code that defines. the component's UI

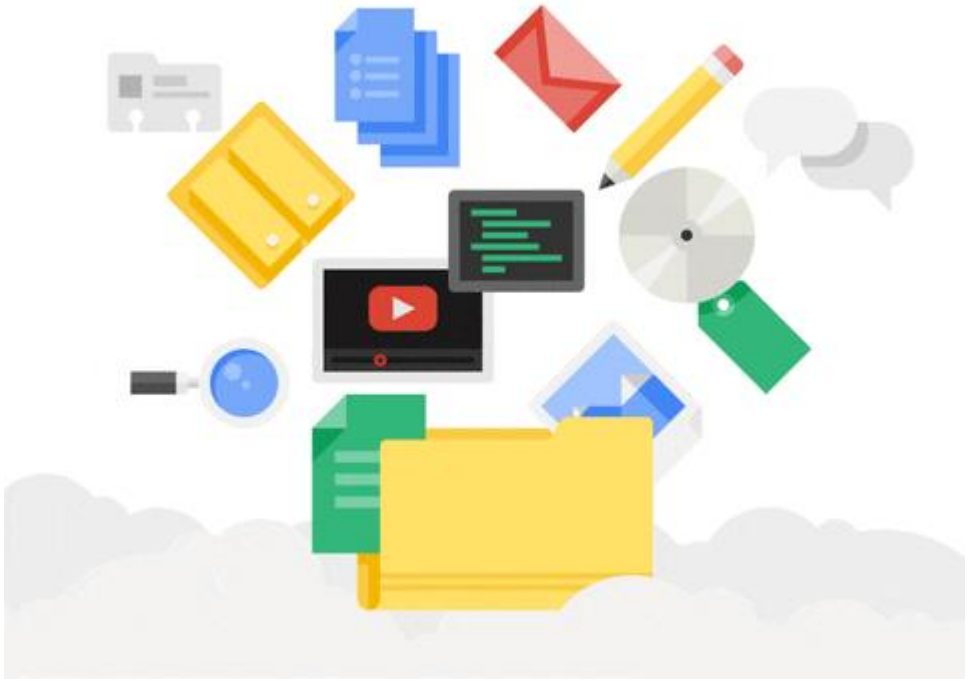
Class

TypeScript code that handles the component's logic and data.

Metadata

Information about the component, such as selector, styles, etc.

Creating Angular Component

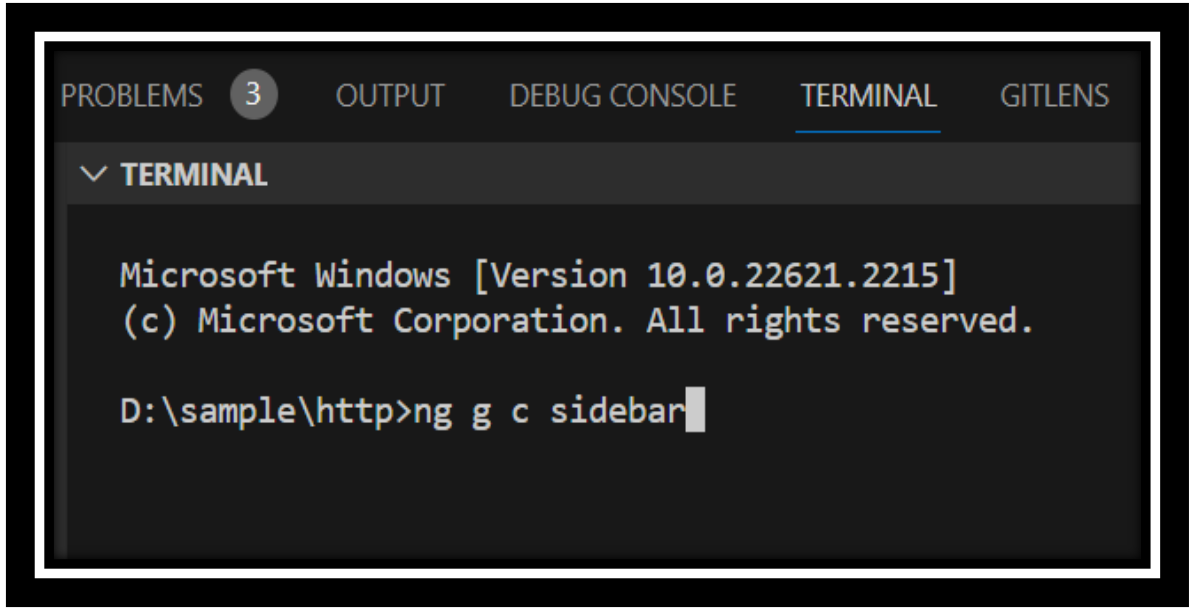


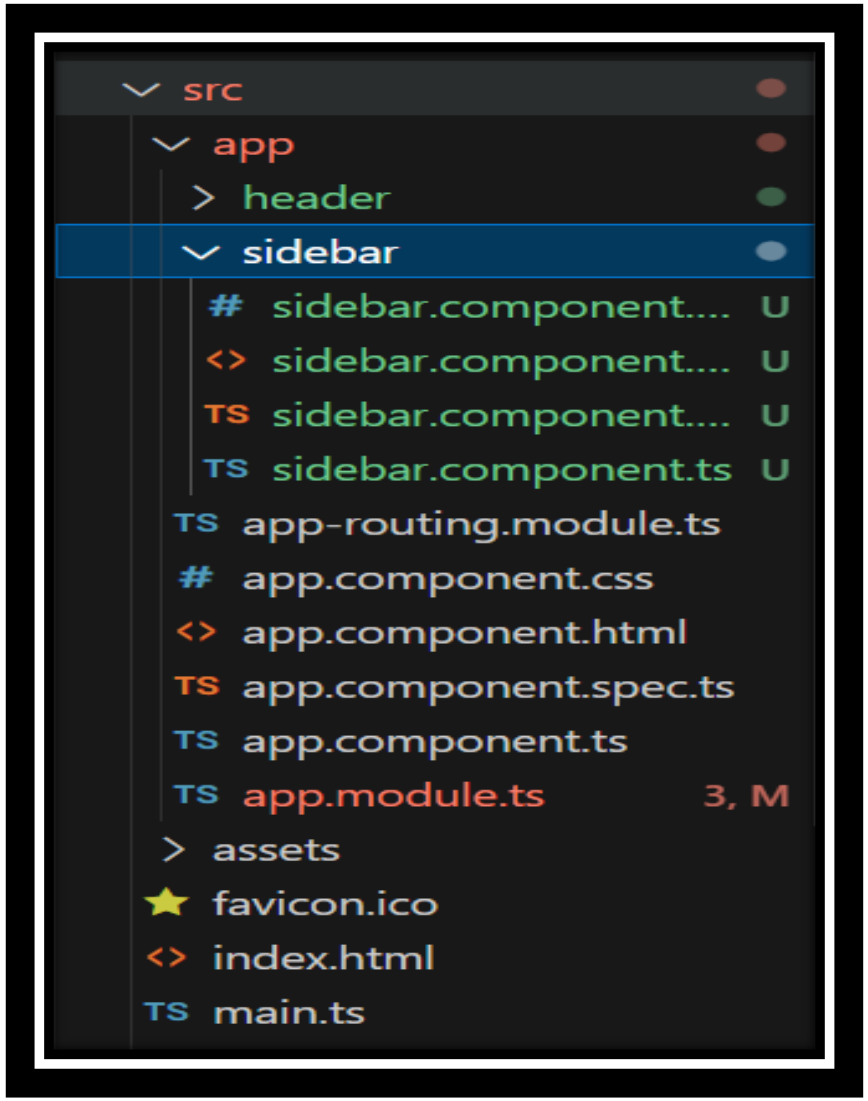
To create a component, use the Angular CLI (Command Line Interface) or create the files manually.

This generates the necessary files for the component: HTML, CSS, TypeScript, and a spec file.

The command for creating a component using the Angular CLI: ng generate component component-name

Example



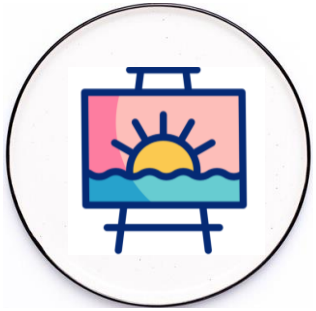


Component Decorator : Metadata

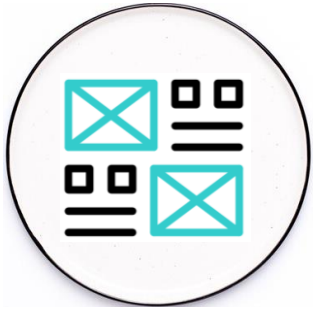
- Metadata is defined using the @Component decorator.
- It provides information about the component such as selector, template URL, style URLs, etc.
- Decorator always start with @ symbol.
- Selector is used to create an instance of the component where it finds <my-app> tag in parent HTML, that is index.html file.
- Template tells Angular how to display the component.

Selector

Template



Template URL



Styles

Providers

Animations

Style URLs

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Example

src > app > second-header > TS second-header.component.ts > ...

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

@Component({
  selector: 'app-second-header',
  templateUrl: './second-header.component.html',
  styleUrls: ['./second-header.component.css']
})
export class SecondHeaderComponent {

}

```

Template Syntax

Templates can be defined in two ways

1. Inline Template

Created within the component file itself using the `template` property. Suitable for small templates or when the HTML is simple.

```typescript
@Component({
  selector: 'app-example',
  template: '<h1>Inline Template</h1>'
})
```

2. External Template

Defined in a separate HTML file.
Ideal for larger templates or when you want to maintain a separation of concerns.

```typescript
@Component({
  selector: 'app-example',
  templateUrl: './example.component.html'
})
```

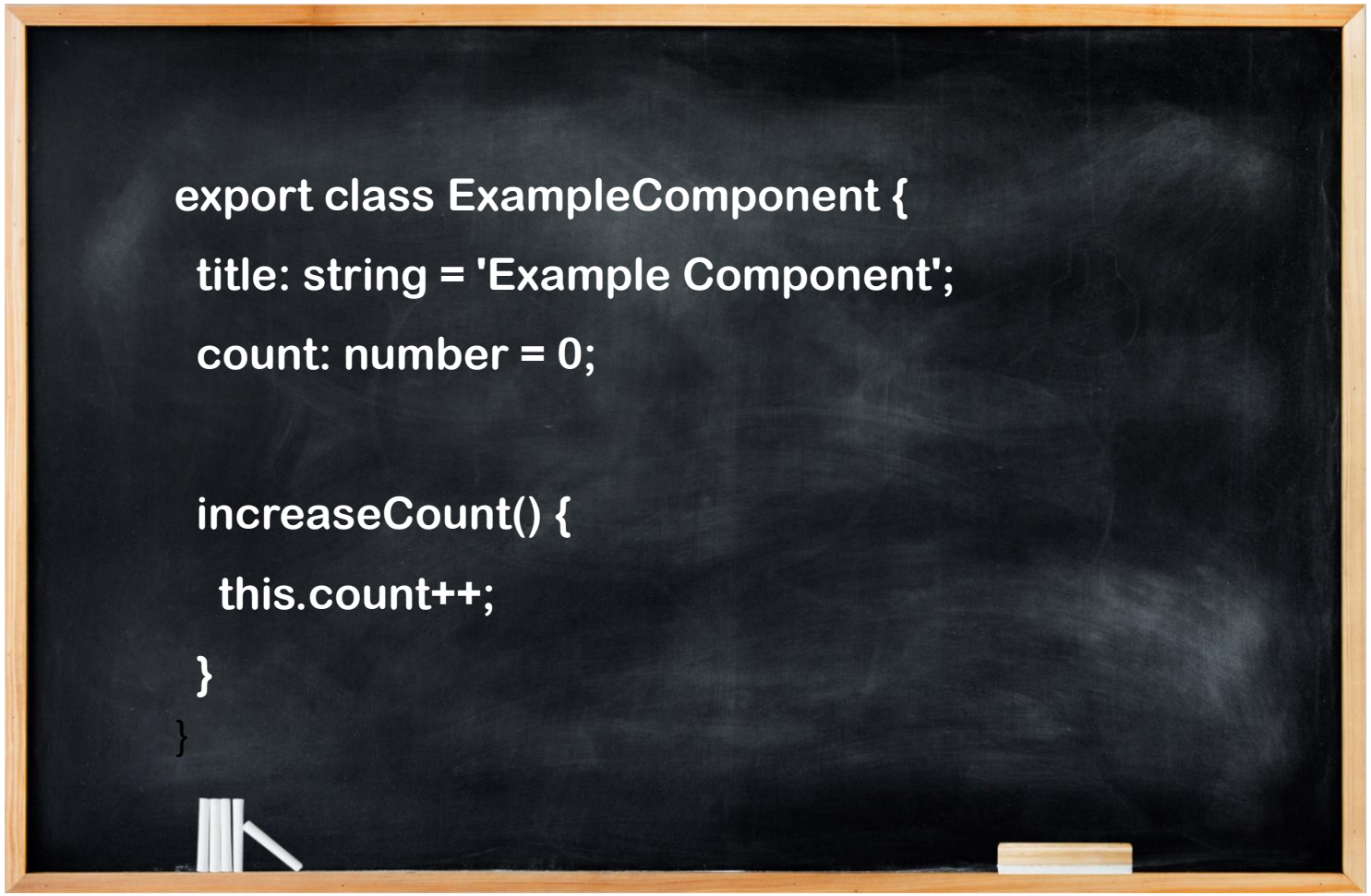

Component Class

The component's class is written in TypeScript.

It contains the logic and data for the component.

Properties and methods are defined in the class..

Example



Component Lifecycle Hooks

Angular provides lifecycle hooks to perform actions at different stages of a component's life.

Examples: ngOnInit, ngOnDestroy, ngOnChanges, etc.

These hooks allow you to initialize data, make API calls, handle subscriptions, and more.

To use a component, you can include its selector in another component's template.

```
<app-example></app-example>
```


Summary

- Angular components are essential for building Angular applications.
- They consist of a template, class, and metadata.
- Components are reusable, modular, and encapsulated.
- They handle the UI and user interactions.
- Component lifecycle hooks provide additional control over a component's behavior.

Questions?

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