Directivas: se usa para manipular el DOM, existes tres tipos:

Directivas de componentes:

ng gererate directive

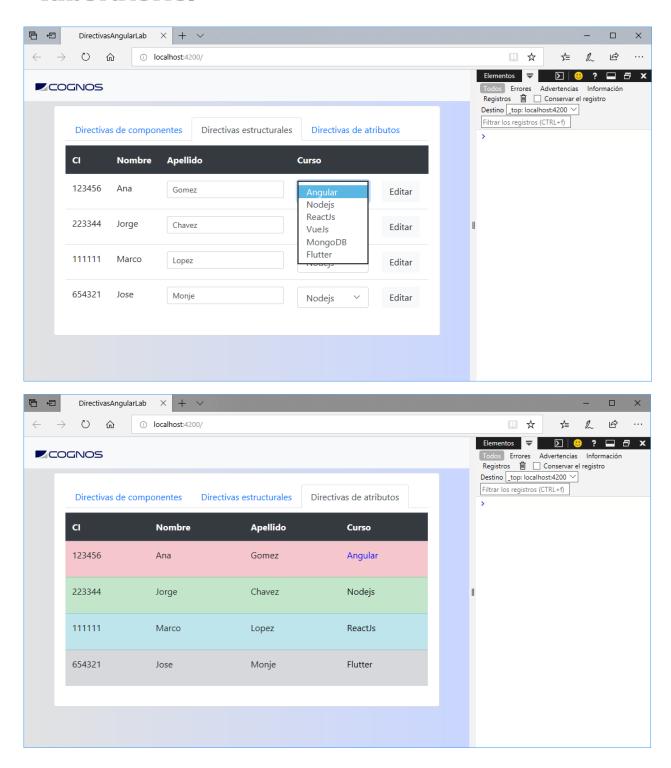## Directivas estructurales:

*ngIf

*ngSwitch
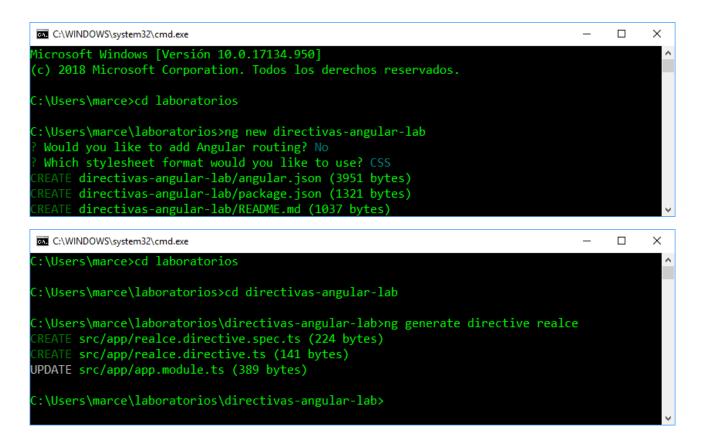
*ngFor

Directivas de atributos:

*ngClass

*ngStyle

```
C:\WINDOWS\system32\cmd.exe                                    —    □    ✕

Microsoft Windows [Versión 10.0.17134.950]
(c) 2018 Microsoft Corporation. Todos los derechos reservados.

C:\Users\marce>cd laboratorios

C:\Users\marce\laboratorios>ng new directivas-angular-lab
? Would you like to add Angular routing? No
? Which stylesheet format would you like to use? CSS
CREATE directivas-angular-lab/angular.json (3951 bytes)
CREATE directivas-angular-lab/package.json (1321 bytes)
CREATE directivas-angular-lab/README.md (1037 bytes)
```

```
C:\WINDOWS\system32\cmd.exe                                    —    □    ✕

C:\Users\marce>cd laboratorios

C:\Users\marce\laboratorios>cd directivas-angular-lab

C:\Users\marce\laboratorios\directivas-angular-lab>ng generate directive realce
CREATE src/app/realce.directive.spec.ts (224 bytes)
CREATE src/app/realce.directive.ts (141 bytes)
UPDATE src/app/app.module.ts (389 bytes)

C:\Users\marce\laboratorios\directivas-angular-lab>
```

ng g c componentes/editar-alumnos

ng g c componentes/listar-alumnos

ng gererate directive realce

/src/index.html

```html
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>DirectivasAngularLab</title>
  <base href="/">

  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="icon" type="image/x-icon" href="favicon.ico">
  <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
integrity="sha384-ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T" crossorigin="anony-
mous">
</head>
<body>
  <app-root></app-root>
  <script src="https://code.jquery.com/jquery-3.3.1.slim.min.js" integrity="sha384-
q8i/X+965DzO0rT7abK41JStQIAqVgRVzpbzo5smXKp4YfRvH+8abtTE1Pi6jizo" crossorigin="anonymous"></script>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js" integrity="sha384-
UO2eT0CpHqdSJQ6hJty5KVphtPhzWj9WO1clHTMGa3JDZwrnQq4sF86dIHNDz0W1" crossorigin="anonymous"></script>
  <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js" integrity="sha384-
JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFf/nJGzIxFDsf4x0xIM+B07jRM" crossorigin="anonymous"></script>
</body>
</html>
```

/src/style.css

```css
body {
    background: #C9D6FF;
    background: -webkit-linear-gradient(to right, #E2E2E2, #C9D6FF);
    background: linear-gradient(to right, #E2E2E2, #C9D6FF);
}
```

`/src/app/app.module.ts`

```typescript
import { BrowserModule } from '@angular/platform-browser';
import { NgModule } from '@angular/core';

import { AppComponent } from './app.component';
import { RealceDirective } from './realce.directive';
import { EditarAlumnosComponent } from './componentes/editar-alumnos/editar-alumnos.component';
import { ListarAlumnosComponent } from './componentes/listar-alumnos/listar-alumnos.component';

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

/src/app/app.component.html

```html
<nav class="navbar navbar-light bg-light">
  <span class="navbar-brand mb-0 h1">
    <img src="assets/logocognos.png" alt="">
  </span>
</nav>

<div class="container">

  <div class="row mt-2">
    <div class="col-12">

      <div class="card">
        <div class="card-body">

          <ul class="nav nav-tabs" id="myTab" role="tablist">
            <li class="nav-item">
              <a class="nav-link active" id="tab1-tab" data-toggle="tab" href="#tab1" role="tab" aria-con-
trols="home"
                aria-selected="true">Directivas de componentes</a>
            </li>
            <li class="nav-item">
              <a class="nav-link" id="tab2-tab" data-toggle="tab" href="#tab2" role="tab" aria-con-
trols="profile"
                aria-selected="false">Directivas estructurales</a>
            </li>
            <li class="nav-item">
              <a class="nav-link" id="tab3-tab" data-toggle="tab" href="#tab3" role="tab" aria-con-
trols="contact"
                aria-selected="false">Directivas de atributos</a>
            </li>
          </ul>

          <div class="tab-content" id="myTabContent">
            <div class="tab-pane fade show active" id="tab1" role="tabpanel" aria-labelledby="tab1-tab">

              <div class="p-4">
                <p appRealce>Texto con realce</p>
              </div>
```

```html
        </div>
            <div class="tab-pane fade" id="tab2" role="tabpanel" aria-labe-
lledby="tab2-tab">
                <app-editar-alumnos></app-editar-alumnos>
            </div>
            <div class="tab-pane fade" id="tab3" role="tabpanel" aria-labe-
lledby="tab3-tab">
                <app-listar-alumnos></app-listar-alumnos>
            </div>
        </div>

        </div>
    </div>

    </div>
  </div>

</div>
```

/src/app/realce.directive.ts

```typescript
import { Directive, ElementRef, HostListener, Input } from '@angular/core';

@Directive({
  selector: '[appRealce]'
})
export class RealceDirective {

  @Input('appRealce') colorSet: string;

  constructor(private el: ElementRef) { }

  @HostListener('mouseenter') onMouseEnter() {
    this.realce('yellow');
  }

  @HostListener('mouseleave') onMouseLeave() {
    this.realce(null);
  }

  private realce(color: string) {
    this.el.nativeElement.style.backgroundColor = color;
  }

}
```

/src/app/componentes/editar-alumnos/editar-alumnos.component.ts

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

@Component({
  selector: 'app-editar-alumnos',
  templateUrl: './editar-alumnos.component.html',
  styleUrls: ['./editar-alumnos.component.css']
})
export class EditarAlumnosComponent implements OnInit {

  alumno: Alumno;
  alumnos: Alumno[];
  cursos: string[];
  editar: boolean;

  constructor() { }

  ngOnInit() {
    this.cargarCursos();
    this.cargarAlumnos();
    this.editar = false;
  }

  cargarCursos() {
    this.cursos = ['Angular', 'Nodejs', 'ReactJs', 'VueJs', 'MongoDB', 'Flutter'];
  }

  cargarAlumnos() {

    this.alumnos = [
      { ci: 123456, nombre: "Ana", apellido: "Gomez", curso: "Angular" },
      { ci: 223344, nombre: "Jorge", apellido: "Chavez", curso: "Angular" },
      { ci: 111111, nombre: "Marco", apellido: "Lopez", curso: "Nodejs" },
      { ci: 654321, nombre: "Jose", apellido: "Monje", curso: "Nodejs" }
    ]

  }

}

interface Alumno {
  ci: number,
```

```
  nombre: string,
  apellido: string,
  curso: string
}
```

```
/src/app/componentes/editar-alumnos/editar-alumnos.component.html
```

```html
<div class="row mt-2">
    <div class="col-12">
        <table class="table">
            <thead class="thead-dark">
                <tr>
                    <th scope="col">CI</th>
                    <th scope="col">Nombre</th>
                    <th scope="col">Apellido</th>
                    <th scope="col">Curso</th>
                    <th></th>
                </tr>
            </thead>
            <tbody>
                <tr *ngFor="let alumno of alumnos">
                    <td>{{ alumno.ci }}</td>
                    <td>{{ alumno.nombre }}</td>
                    <td>
                        <div *ngIf="!editar;else divApellido">
                            {{ alumno.apellido }}
                        </div>
                        <ng-template #divApellido>
                            <input type="text" class="form-control form-control-sm" [value]="alumno.apellido">
                        </ng-template>
                    </td>
                    <td>
                        <div *ngIf="!editar;else divCurso">
                            {{ alumno.curso }}
                        </div>
                        <ng-template #divCurso>
                            <select [value]="alumno.curso" name="uso_garantia" class="form-control">
                                <option *ngFor="let curso of cursos">
                                    {{ curso }}
                                </option>
                            </select>
                        </ng-template>
                    </td>
                    <td><button class="btn btn btn-light" (click)="editar=true">Editar</button></td>
                </tr>
            </tbody>
        </table>
```

```
    </div>
</div>
```

/src/app/componentes/editar-alumnos/listar-alumnos.component.ts

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

@Component({
  selector: 'app-listar-alumnos',
  templateUrl: './listar-alumnos.component.html',
  styleUrls: ['./listar-alumnos.component.css']
})
export class ListarAlumnosComponent implements OnInit {

  alumno: Alumno;
  alumnos: Alumno[];
  cursos: string[];


  constructor() { }

  ngOnInit() {
    this.cargarCursos();
    this.cargarAlumnos();

  }

  cargarCursos() {
    this.cursos = ['Angular', 'Nodejs', 'ReactJs', 'VueJs', 'MongoDB', 'Flut-
ter'];
  }

  cargarAlumnos() {

    this.alumnos = [
      { ci: 123456, nombre: "Ana", apellido: "Gomez", curso: "Angular" },
      { ci: 223344, nombre: "Jorge", apellido: "Chavez", curso: "Nodejs" },
      { ci: 111111, nombre: "Marco", apellido: "Lopez", curso: "ReactJs" },
      { ci: 654321, nombre: "Jose", apellido: "Monje", curso: "Flutter" }
    ]

  }

}

interface Alumno {
```

```
  ci: number,
  nombre: string,
  apellido: string,
  curso: string
}
```

/src/app/componentes/editar-alumnos/listar-alumnos.component.html

```html
<div class="row mt-2">
  <div class="col-12">
    <table class="table">
      <thead class="thead-dark">
        <tr>
          <th scope="col">CI</th>
          <th scope="col">Nombre</th>
          <th scope="col">Apellido</th>
          <th scope="col">Curso</th>
        </tr>
      </thead>
      <tbody>
        <tr *ngFor="let alumno of alumnos" [ngClass]="{
          'table-danger': alumno.curso === 'Angular',
          'table-success': alumno.curso === 'Nodejs',
          'table-info': alumno.curso === 'ReactJs',
          'table-secondary': alumno.curso === 'Flutter' }">
          <td>{{ alumno.ci }}</td>
          <td>{{ alumno.nombre }}</td>
          <td>{{ alumno.apellido }}</td>
          <td>
            <p [ngStyle]="{'color':alumno.curso === 'Angular' ? 'blue' : 'black' }">
              {{ alumno.curso }}
            </p>
          </td>
        </tr>
      </tbody>
    </table>
  </div>
</div>
```