Angular

Binding, Routing, Directives

.NET CORE

Data-binding is a mechanism for coordinating what users see, specifically with application data values.

[HTTPS://ANGULAR.IO/GUIDE/BINDING-SYNTAX#BINDING-SYNTAX-AN-OVERVIEW](https://angular.io/guide/binding-syntax#binding-syntax-an-overview)

Modeling – Data Binding

https://angular.io/guide/template-syntax#property-binding
https://angular.io/tutorial/toh-pt3#update-the-heroescomponent-template

The double curly braces ({{ }}) are ***Angular's*** interpolation binding syntax. This interpolation binding presents the component's property ***values*** inside the accompanying HTML Doc.
Property binding with [] around the property to be bound. This is one-way.

```
[class.selected]="hero === selectedHero"
```

Event binding based on events like ‘click’ or ‘hover’ to methods in the .ts file) using ().

```
<button (click)="addToCart(product)">Buy</button>
```

Two-Way Binding.

```
<input [(ngModel)]="hero.name" placeholder="name"/>
```

Angular Templates - Data Binding

https://angular.io/tutorial/toh-pt1#two-way-binding

[(ngModel)] is Angular's two-way ***data binding*** syntax. It ***binds*** the property to the HTML so that data can flow in both directions.

@ngModule decorators have the metadata needed for an Angular app to function. The most important ***@NgModule decorator*** annotates the top-level ***AppModule*** class.

To use forms, in app.module.ts import ***FormsModule***, then add ***FormsModule*** to the imports array in the same file.

```
import { FormsModule } from '@angular/forms';
```

```
imports: [
  BrowserModule,
  FormsModule
],
```

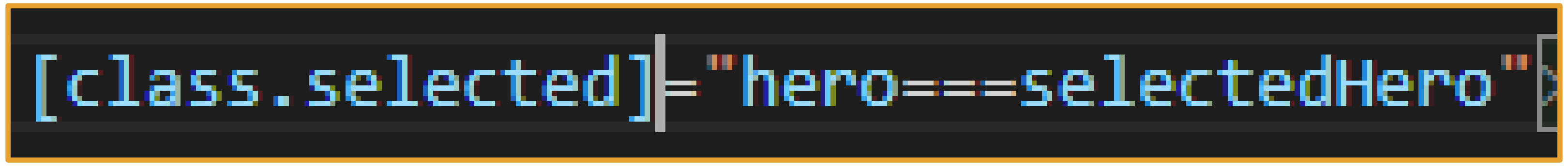
Angular Templates- Class Binding

https://angular.io/guide/template-syntax#class-binding

You can add and remove CSS class designations from an element with ***class binding***.

To create a single ***class binding***, start with the prefix ‘class’ followed by ‘.nameOfCssClass’ ([class.selected]=“condition”) .

Angular adds the class label when the bound expression is ***truthy***, and it removes the class label when the expression is ***falsy***.

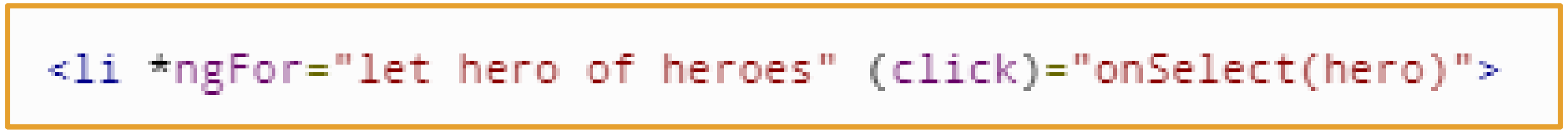


```
[class.selected]="hero===selectedHero"
```

Angular Templates - Event Binding

https://angular.io/tutorial/toh-pt2#add-a-click-event-binding
https://angular.io/guide/template-syntax#event-binding

The parentheses, (), around ***click*** tell ***Angular*** to listen for the ***<li>*** element's click event. When the user clicks in the ***<li>*** element, ***Angular*** executes the onSelect(hero) expression on the element.



```
<li *ngFor="let hero of heroes" (click)="onSelect(hero)">
```

In this example, the ***structural directive*** *ngFor will create a <li> for each ***hero*** object in the ***heroes*** collection. Each <li> will have a click event attached to that particular ***hero*** and submit that ***hero*** as an argument to the onSelect() function.

Modeling – Decorators

https://angular.io/guide/template-syntax#inputs-outputs
https://angular.io/guide/glossary#decorator--decoration

Decorators attach metadata to classes or properties so that Angular knows what those classes or properties mean and how they should work. They are used to modify/decorate a class without changing the original source code. ***Decorators*** are functions that allow a service, directive or filter to be modified prior to its usage. ***Decorators*** always begin with a @.

Angular has two types of decorators:

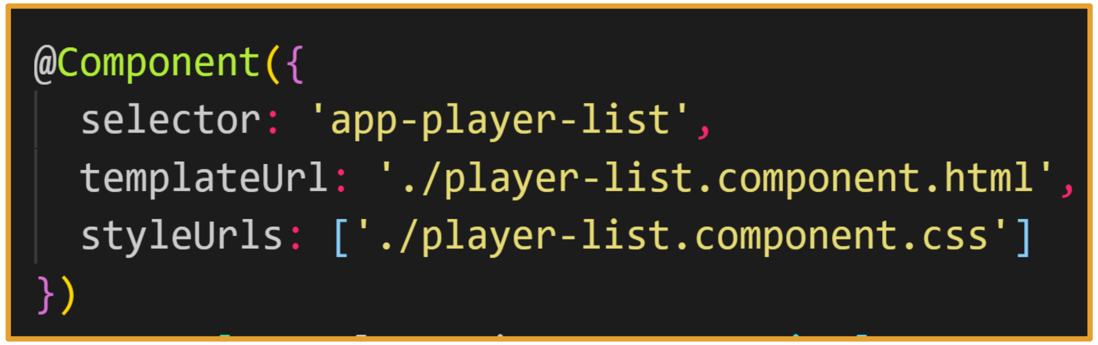
Type	Decorator Name	Purpose
Class Decorators	@Component()	Marks a class as a component and provides config metadata.
	@Directive()	Attaches specific behavior to elements in the DOM
	@Pipe()	Supplies configuration metadata.
	@Injectible()	Marks a class as available to be provided for Dependency Injection.
	@NgModule()	Marks a class as an NgModule and supplies config metadata.
Field Decorators	@Input	Marks class fields as input properties and supplies config metadata. An input property is bound to a DOM property in the template and is updated with the DOM property's value.
	@Output	Marks class fields as output properties and supplies config metadata. The DOM property bound to the output property is auto-updated.

Component Decorator

https://angular.io/guide/template-syntax#inputs-outputs
https://docs.angularjs.org/guide/decorators

@Component - This decorator indicates that the following class is a component. It provides the ***selector***, ***templateUrl***, and ***styleUrls*** metadata.

- The ***selector*** is a unique identifier for the component. It is the name used when the ***component*** is nested in a parent ***component template***.
- The ***templateUrl***, and ***styleUrls*** reference the HTML and CSS file locations generated for the component.



```
@Component({
  selector: 'app-player-list',
  templateUrl: './player-list.component.html',
  styleUrls: ['./player-list.component.css']
})
```

Structural Directives

https://angular.io/api/common/NgIf
https://angular.io/api/common/NgForOf
https://angular.io/guide/template-syntax#ngSwitch
https://angular.io/guide/structural-directives

Structural directives shape or reshape the DOM's structure, typically by adding, removing, and manipulating the elements to which they are attached. Directives with an asterisk, *, are ***structural directives***.

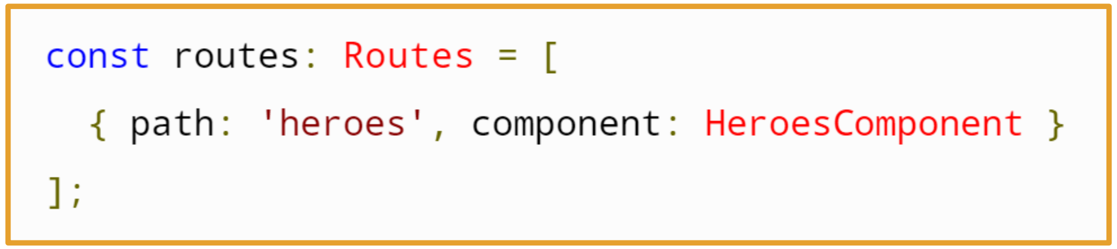
```
<div *ngIf="hero" class="name">{{hero.name}}</div>

<ul>
  <li *ngFor="let hero of heroes">{{hero.name}}</li>
</ul>

<div [ngSwitch]="hero?.emotion">
  <app-happy-hero    *ngSwitchCase="'happy'"    [hero]="hero"></app-happy-hero>
  <app-sad-hero      *ngSwitchCase="'sad'"      [hero]="hero"></app-sad-hero>
  <app-confused-hero *ngSwitchCase="'confused'" [hero]="hero"></app-confused-hero>
  <app-unknown-hero  *ngSwitchDefault           [hero]="hero"></app-unknown-hero>
</div>
```

Angular Routing

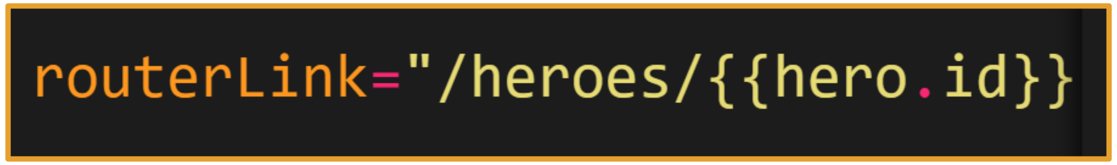
https://angular.io/start/start-routing
https://angular.io/guide/router
https://angular.io/start/start-data#services

A route associates one (or more) URL paths with a component. Register a new route in ***app.module.ts*** or in an ***app-routing.module*** file.

The ***routerLink*** directive in the component .html template gives the ***router*** control over the ***anchor*** element. Insert ***routerLink*** into an element when you want to redirect to another (registered) URL.



```
const routes: Routes = [
  { path: 'heroes', component: HeroesComponent }
];
```



```
routerLink="/heroes/{{hero.id}}
```

Angular Routing

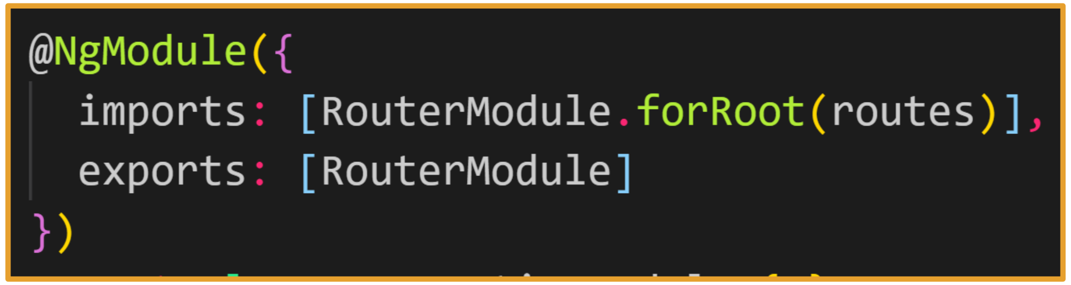
https://angular.io/start/start-routing
https://angular.io/guide/router

Routes tell the ***Router*** which view to display when a user clicks a link.

A typical Angular ***Route*** has two properties:

- path: a string that matches the URL in the browser address bar.
- component: the component that the router should create when navigating to this route.

@NgModule metadata initializes the router and starts it listening for browser location changes.



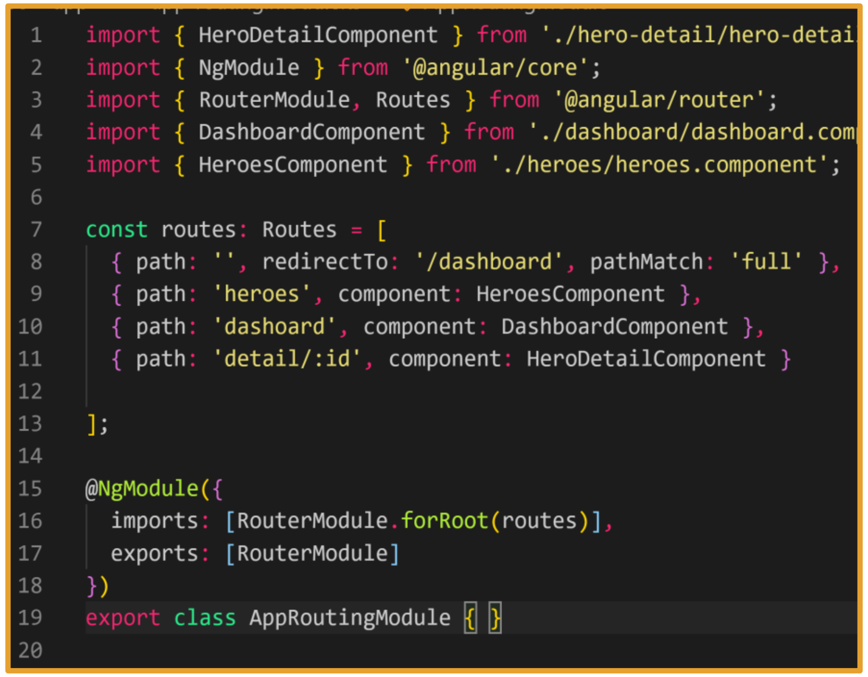
```
@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})
```

The forRoot() method supplies the service providers and directives needed for routing and performs the initial navigation based on the current browser URL

Routing Step-by-step

https://angular.io/tutorial/toh-pt5#add-the-approutingmodule

1. Add a module called app-routing with
   - ng generate module app-routing --flat --module=app
2. Make sure ***RouterModule*** and ***Routes*** are imported into app-routing.module with
   - import { RouterModule, Routes } from '@angular/router';
   - Also import whatever ***component*** (from its relative location) you will be routing to into app-routing.module.ts
3. Delete CommonModule references and Declarations array.
4. Configure routes in const routes: Routes = [{ path:'link', component: AssociatedComponent }]; in ***app-routing.module***
5. Add imports: [RouterModule.forRoot(routes)], under @NgModule.
6. Under @NgModule add exports: [RouterModule].
7. In app.component.html, where you want all route html templates to appear, add:
   - <router-outlet></router-outlet>
8. Add <a routerLink="/[link]">NameOfLink</a> to whatever page you want to add a link to.



```
import { HeroDetailComponent } from './hero-detail/hero-detai
import { NgModule } from '@angular/core';
import { RouterModule, Routes } from '@angular/router';
import { DashboardComponent } from './dashboard/dashboard.com
import { HeroesComponent } from './heroes/heroes.component';

const routes: Routes = [
  { path: '', redirectTo: '/dashboard', pathMatch: 'full' },
  { path: 'heroes', component: HeroesComponent },
  { path: 'dashoard', component: DashboardComponent },
  { path: 'detail/:id', component: HeroDetailComponent }

];

@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})
export class AppRoutingModule { }
```