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## Lesson Objectives

- Why use routing?

- Defining a route tableNavigation using hyperlink & codeSupplying parameters to a route URL



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### Routing



- Routing means loading sub-templates depending upon the URL of the page.
- We can break out the view into a layout and template views and only show the view which we want to show based upon the URL the user is accessing.
- Routes are a way for multiple views to be used within a single HTML page. This enables you page to look more "app-like" because users are not seeing page reloads happen within the browser.

#### Defining routes in application can:

- · Separate different areas of the app
- · Maintain the state in the app
- · Protect areas of the app based on certain rules

The browser is a familiar model of application navigation:

Enter a URL in the address bar and the browser navigates to a corresponding page. Click links on the page and the browser navigates to a new page.

Click the browser's back and forward buttons and the browser navigates backward and forward through the history of pages you've seen.

The Angular Router ("the router") borrows from this model. It can interpret a browser URL as an instruction to navigate to a client-generated view. It can pass optional parameters along to the supporting view component that help it decide what specific content to present.

import { RouterModule, Routes } from '@angular/router';

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### **AngularJS Routes**



- AngularJS routes enable us to create different URLs for different content in our application.
- Having different URLs for different content enables the user to bookmark URLs to specific content.
- In Angular 2 routes are configured by mapping paths to the component that will handle them.

For instance, let consider an application with 2 routes:

- A main page route, using the /#/home path;
- An about page, using the /#/about path;
- And when the user visits the root path (/#/), it will redirect to the home path.

import { RouterModule, Routes } from '@angular/router';

A router has no routes until you configure it. The following example creates four route definitions, configures the router via the RouterModule.forRoot method, and adds the result to the AppModule's imports array.

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### **Routing Setup**



· To implement Routing to Angular Application

Import RouterModule and Routes from '@angular/router'

import { RouterModule, Routes} from '@angular/router';

Define routes for application

const routes: Routes = [ { path: 'home', component: HomeComponent }];

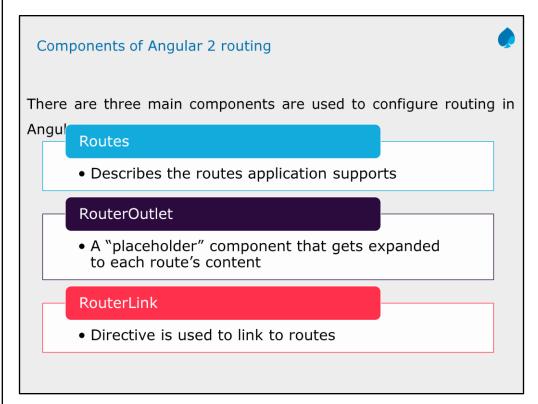
 Install the routes using RouterModule.forRoot(routes) in the imports of NgModule

imports: [ BrowserModule, RouterModule.forRoot(routes)]

A router has no routes until you configure it. The following example creates four route definitions, configures the router via the RouterModule.forRoot method, and adds the result to the AppModule's imports array.

The appRoutes array of *routes* describes how to navigate. Pass it to the RouterModule.forRoot method in the module imports to configure the router. Each Route maps a URL path to a component. There are *no leading slashes* in the *path*. The router parses and builds the final URL for you, allowing you to use both relative and absolute paths when navigating between application views

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#### **Basic Routing Steps**

Set <br/>base href="/"> tag<br/>
Use the RouterConfig on the root component<br/>
Use the RouterOutlet Component as placeholder<br/>
Use the RouterLink directive for Link<br/>
Router outlet

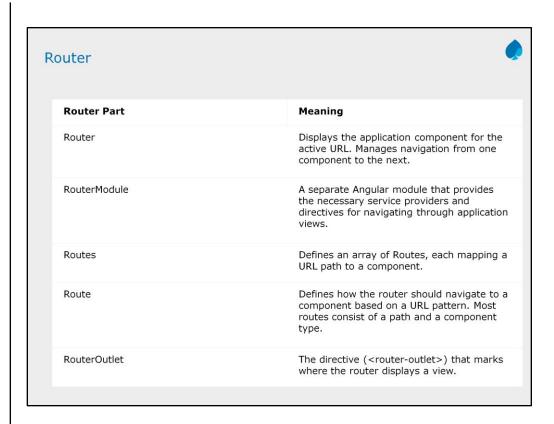
Given this configuration, when the browser URL for this application becomes /heroes, the router matches that URL to the route path /heroes and displays the HeroListComponent *after* a RouterOutlet that you've placed in the host view's HTML.

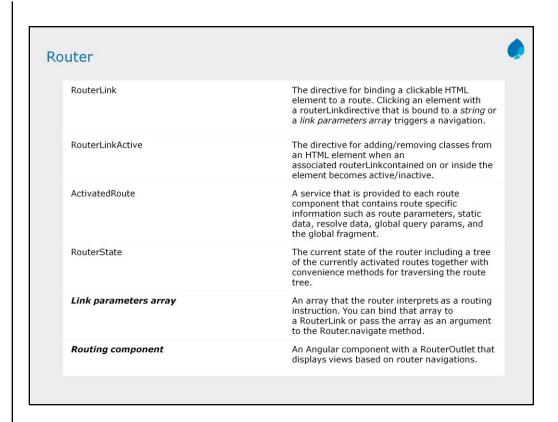
COPY CODE<router-outlet></router-outlet> <!-- Routed views go here --> Router links

Now you have routes configured and a place to render them, but how do you navigate? The URL could arrive directly from the browser address bar. The RouterLink directives on the anchor tags give the router control over those elements. The navigation paths are fixed, so you can assign a string to the routerLink (a "one-time" binding).

Had the navigation path been more dynamic, you could have bound to a template expression that returned an array of route link parameters (the *link parameters array*). The router resolves that array into a complete URL.

The **RouterLinkActive** directive on each anchor tag helps visually distinguish the anchor for the currently selected "active" route. The router adds the active CSS class to the element when the associated *RouterLink* becomes active. You can add this directive to the anchor or to its parent element.





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#### Routes



- To define routes for application, create a Routes configuration and then use RouterModule.forRoot(routes) to provide application with the dependencies necessary to use the router.
  - · path specifies the URL this route will handle
  - · component maps to the Component and its template
  - · optional redirectTo is used to redirect a given path to an existing route

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#### RouterOutlet



- The router-outlet element indicates where the contents of each route component will be rendered.
- RouterOutlet directive is used to describe to Angular where in our page we want to render the contents for each route

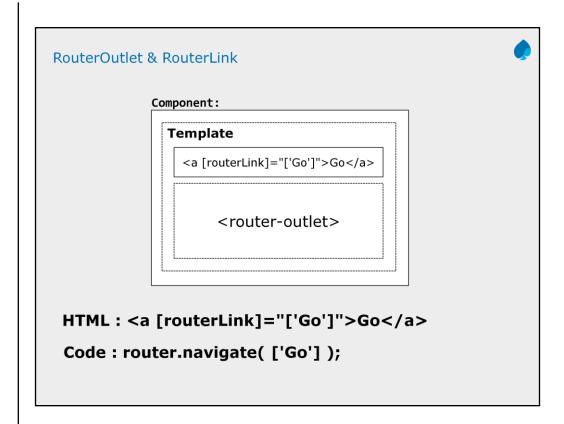
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### RouterLink

- It generates link based on the route path.
- routerLink navigates to a route

```
<div>
    <a [routerLink]="['Home']">Home</a>
    <a [routerLink]="['About']">About
Us</a>
</div>
```

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### **Routing Strategies**



The way the Angular application parses and creates paths from and to route definitions is now location strategy.

HashLocationStrategy ('#/')

PathLocationStrategy (HTML 5 Mode Default)

```
//import LocationStrategy and HashLocationStrategy import {LocationStrategy, HashLocationStrategy} from '@angular/common'; 
//add that location strategy to the providers of NgModule providers: [
{ provide: LocationStrategy, useClass: HashLocationStrategy }
]
```

### HTML5 client-side routing

With the introduction of HTML5, browsers acquired the ability to programmatically create new browser history entries that change the displayed URL without the need for a new request. This is achieved using the history.pushState method that exposes the browser's navigational history to JavaScript.

So now, instead of relying on the anchor hack to navigate routes, modern frameworks can rely on pushState to perform history manipulation without reloads.

This way of routing already works in Angular 1, but it needs to be explicitly enabled using \$locationProvider.html5Mode(true).

In Angular 2, the HTML5 is the default mode.

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#### **Route Parameters**



Route Parametes helps to navigate to a specific resource. For instance product with id 3

/products/3

route takes a parameter by putting a colon : in front of the path segment  $% \left( 1\right) =\left( 1\right) +\left( 1\right) +$ 

/route/:param

To add a parameter to router configuration and to access the value refer the code given below

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#### ActivatedRoute



In order to access route parameter value in Components, we need to import ActivatedRoute

```
import { ActivatedRoute } from
'@angular/router'
```

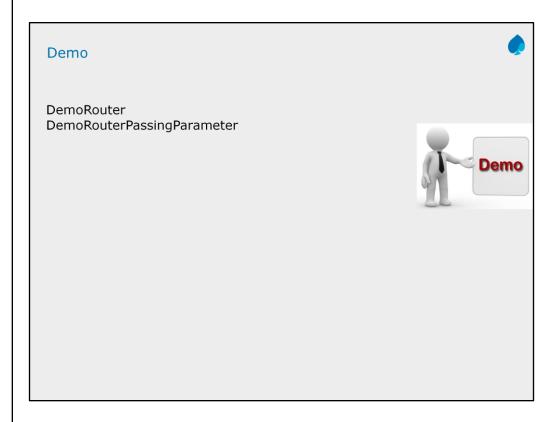
inject the ActivatedRoute into the constructor of our component

```
export class ProductComponent {
    id: string;

constructor(private route: ActivatedRoute) {
    route.params.subscribe(params => { this.id = params['id'];
    });
    }
}
```

Notice that route.params is an observable. We can extract the value of the param into a hard value by using .subscribe.

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## Summary



- Routing means loading sub-templates depending upon the URL of the page.
- To implement Routing to Angular Application

Import RouterModule and Routes from '@angular/router'



import { RouterModule, Routes} from '@angular/router';