

Routing Basics



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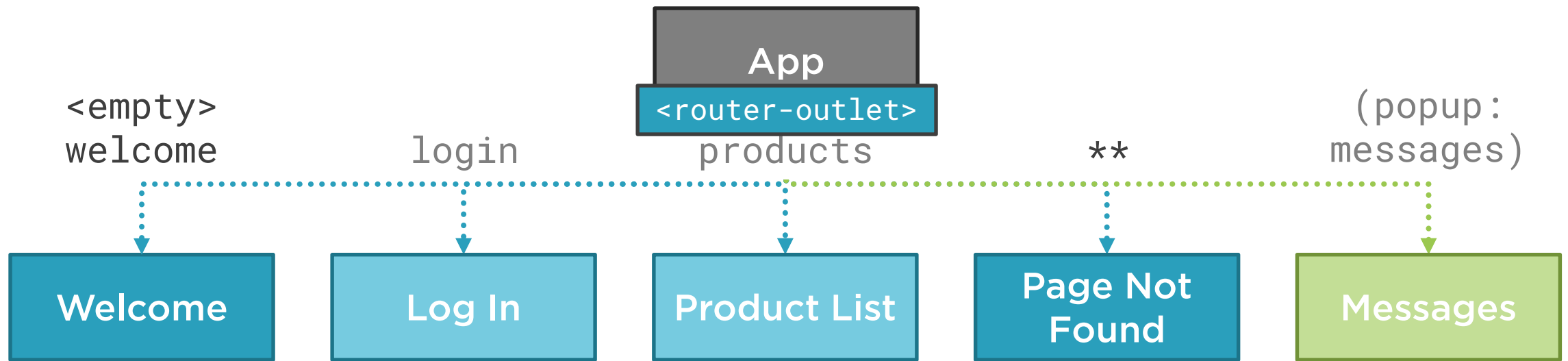
Module Overview



Setting up Basic Routing

HTML 5 vs. Hash-based Urls





- Primary Routes
- Secondary Routes
- Child Routes



Setting up Routing



Define base path

Import Router

Configure routes

Place template

Activate routes



Defining the Base Path

`www.mySite.com/APM/`

Used by the router

- Building the Url for navigation

Used by the browser

- Building the Url for downloading and linking



```
<base href="/">
```

```
<base href="/APM/">
```

◀ **For development:**
<http://localhost:3000>

◀ **For deployment:**
<http://www.mySite.com/APM/>



Resetting the Base Path

`<base href="/">`

(http://localhost:3000)



`<base href="/APM/">`

(www.mySite.com/APM/)

Manually reset the base path

Use a task runner

Use the Angular CLI

- ng build --base-href /APM/
- ng build --bh /APM/

Importing the Angular Router

RouterModule

Service

Configuration

Directives

- RouterLink
- RouterLinkActive
- RouterOutlet



Importing the Angular Router

app.module.ts

```
import { RouterModule } from '@angular/router';
...

@NgModule({
  imports: [
    BrowserModule,
    RouterModule
  ],
  declarations: [
    ...
  ],
  bootstrap: [ AppComponent ]
})
export class AppModule { }
```



Importing the Angular Router

RouterModule.forRoot()

Declares the router directives

Manages our route configuration

Registers the router service

Used once for the application

RouterModule.forChild()

Declares the router directives

Manages our route configuration

Does NOT register the router service

Used in feature modules



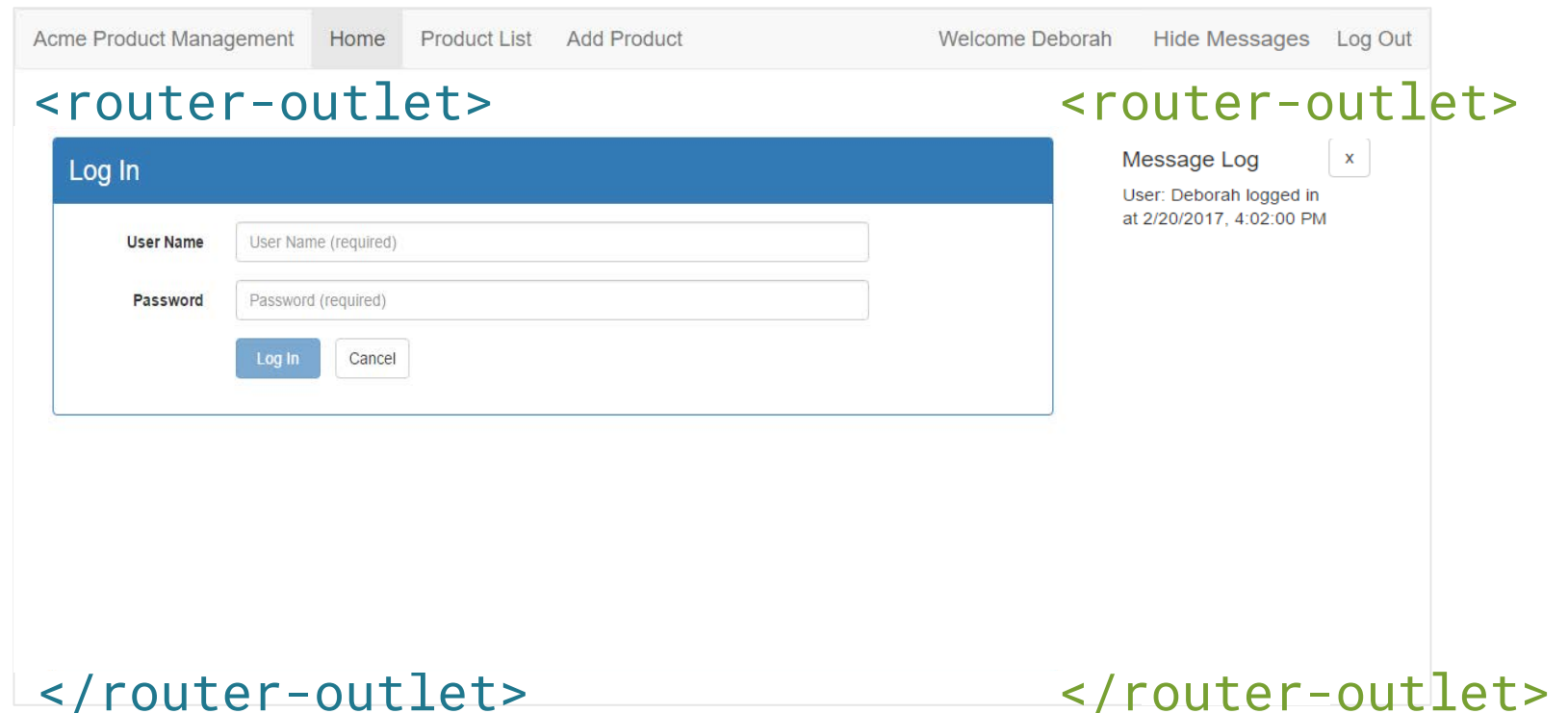
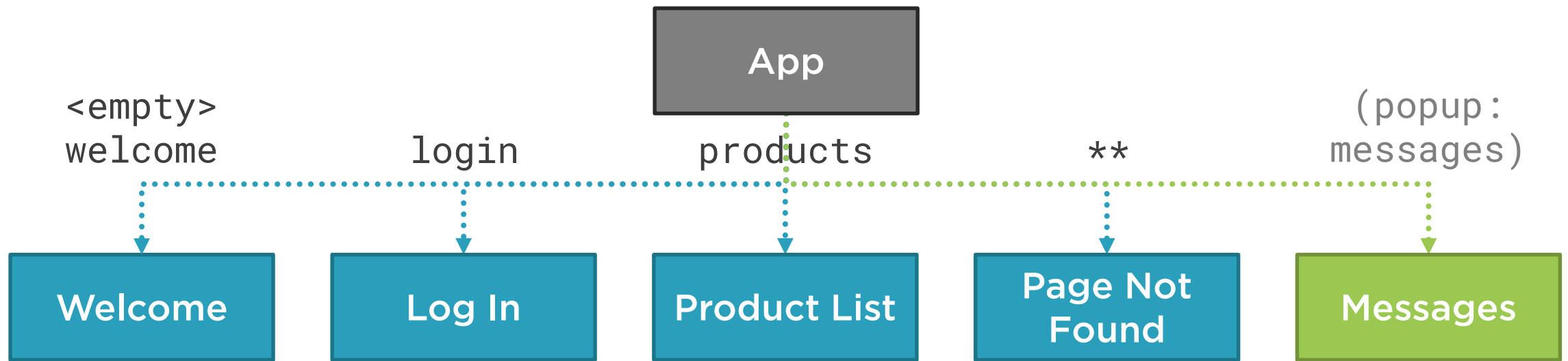
Importing the Angular Router

app.module.ts

```
import { RouterModule } from '@angular/router';
...

@NgModule({
  imports: [
    BrowserModule,
    RouterModule.forRoot([])
  ],
  declarations: [
    AppComponent
  ],
  bootstrap: [AppComponent]
})
export class AppModule { }
```





- Primary Routes
- Secondary Routes
- Child Routes



Configuring Routes

```
[  
  { path: 'welcome', component: WelcomeComponent },  
  { path: '', redirectTo: 'welcome', pathMatch: 'full' },  
  { path: '**', component: PageNotFoundComponent }  
]
```



Redirects

```
[  
  { path: 'home', component: WelcomeComponent },  
  { path: 'welcome', redirectTo: 'home', pathMatch: 'full' },  
  { path: '', redirectTo: 'home', pathMatch: 'full' },  
  { path: '**', component: PageNotFoundComponent }  
]
```



Placing the Templates

app.component.html

```
...  
  
<ul class='nav navbar-nav'>  
  <li><a [routerLink]="['/welcome']">Home</a></li>  
  <li><a [routerLink]="['/products']">Product List</a></li>  
</ul>  
<router-outlet></router-outlet>
```



Navigating the Application Routes



Menu option, link, image or button that activates a route

Typing the Url in the address bar / bookmark

The browser's forward or back buttons

Activating a Route

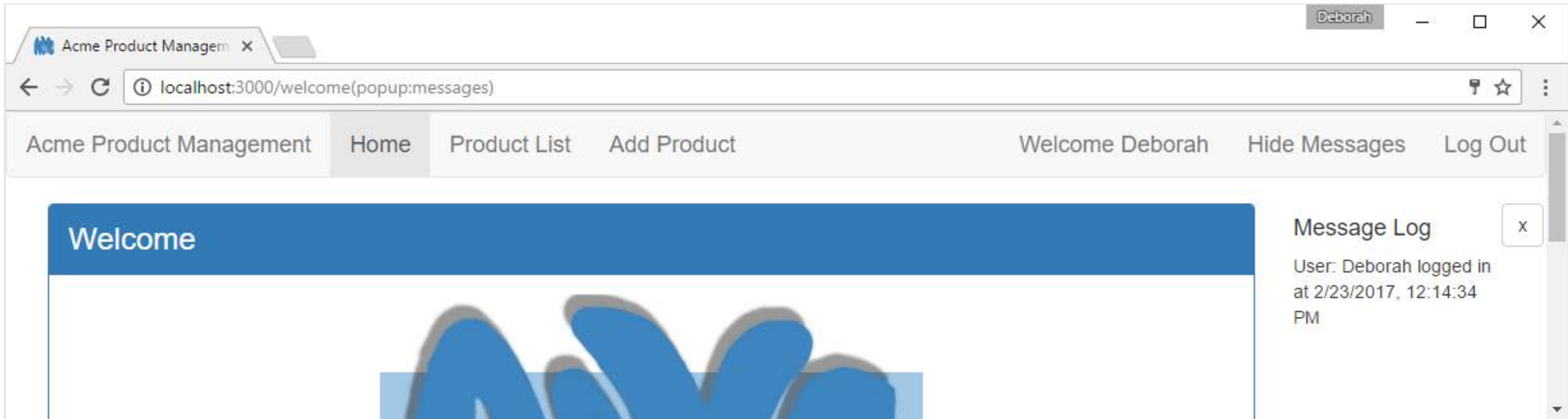
app.component.html

```
...  
  
<ul class='nav navbar-nav'>  
  <li><a [routerLink]="['/welcome']">Home</a></li>  
  <li><a [routerLink]="['/products']">Product List</a></li>  
</ul>  
<router-outlet></router-outlet>
```

```
...  
  
<ul class='nav navbar-nav'>  
  <li><a routerLink="/welcome">Home</a></li>  
  <li><a routerLink="/products">Product List</a></li>  
</ul>  
<router-outlet></router-outlet>
```



Browser Url Styles



Browser Url Styles

HTML 5 Style (.../welcome)

Leverages HTML 5 history pushState

Default

More natural Url

Requires Url rewriting

Hash-based (.../#/welcome)

Leverages Url fragments



Browser Url Styles

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Leverages Url fragments

Must be set with { useHash: true }



Browser Url Styles

HTML 5 Style (.../welcome)

Leverages HTML 5 history pushState

Default

More natural Url

Requires Url rewriting

Hash-based (.../#/welcome)

Leverages Url fragments

Must be set with { useHash: true }

Does not require Url rewriting



Using Hash-based Urls

app.module.ts

```
import { RouterModule } from '@angular/router';
...

@NgModule({
  imports: [
    BrowserModule,
    RouterModule.forRoot([...], { useHash: true })
  ],
  declarations: [
    ...
  ],
  bootstrap: [ AppComponent ]
})
export class AppModule { }
```



Basics Checklist: Setting Up



Define the base path

```
<base href="/">
```

Import RouterModule

- Use RouterModule.forRoot() for app routes (one time only!)
- Use RouterModule.forChild() for features

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



Basics Checklist: Configuring Routes







path: Url segment(s) for the route

- No leading slash
- '' for default route; '**' for wildcard route
- Casing matters

component

- Not string name; not enclosed in quotes
- Component must be imported

Order matters!

```
{ path: 'welcome', component: WelcomeComponent },  
{ path: '', redirectTo: 'welcome', pathMatch: 'full' },  
{ path: '**', component: PageNotFoundComponent }
```



Basics Checklist: Placing the Template



Add the RouterOutlet directive

- Identifies where to display the routed component's template
- Primary RouterOutlet normally specified in the App component's template

```
<router-outlet></router-outlet>
```

Basics Checklist: Activating a Route



Add the RouterLink directive as an attribute

- Clickable element
- Enclose in square brackets

Bind to a link parameters array

- First element is the root Url segment
- All other elements are route parameters or additional Url segments

```
<a [routerLink]="[' /welcome' ]">Home</a>
```



Summary

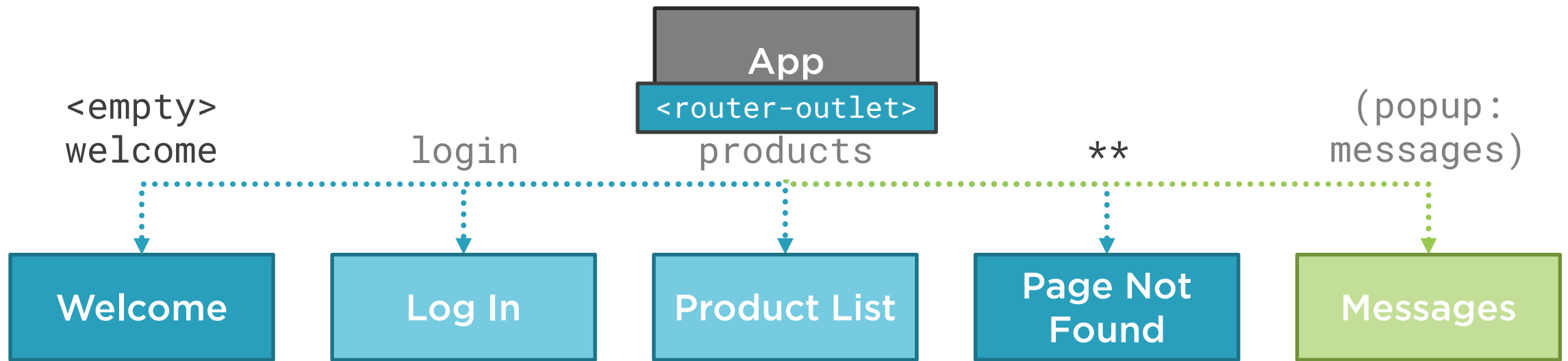


Setting up Routing

- Defining the Base Path
- Importing RouterModule
- Configuring Application Routes
- Placing the Template (RouterOutlet)
- Activating Routes (RouterLink)

HTML 5 vs. Hash-based Urls





- Primary Routes
- Secondary Routes
- Child Routes

