

Angular Routing

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Deborah Kurata

- Independent Consultant | Developer | Mentor
 - Web (Angular), .NET
- Pluralsight Author
 - AngularJS Line of Business Applications
 - Angular Front to Back with Web API
 - Object-Oriented Programming Fundamentals in C#
- Microsoft MVP

Session Materials & Sample Code

<https://github.com/DeborahK/ab2015>

Rate Yourself on Routing

- New to Angular - no proficiency
- Just starting out - limited proficiency
- Doing it but not fully understanding it - working proficiency
- Been there, done that, can help others - full proficiency

Overview



SPA

Routing

Routing Frameworks

ngRoute

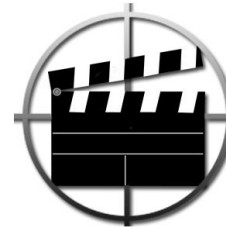
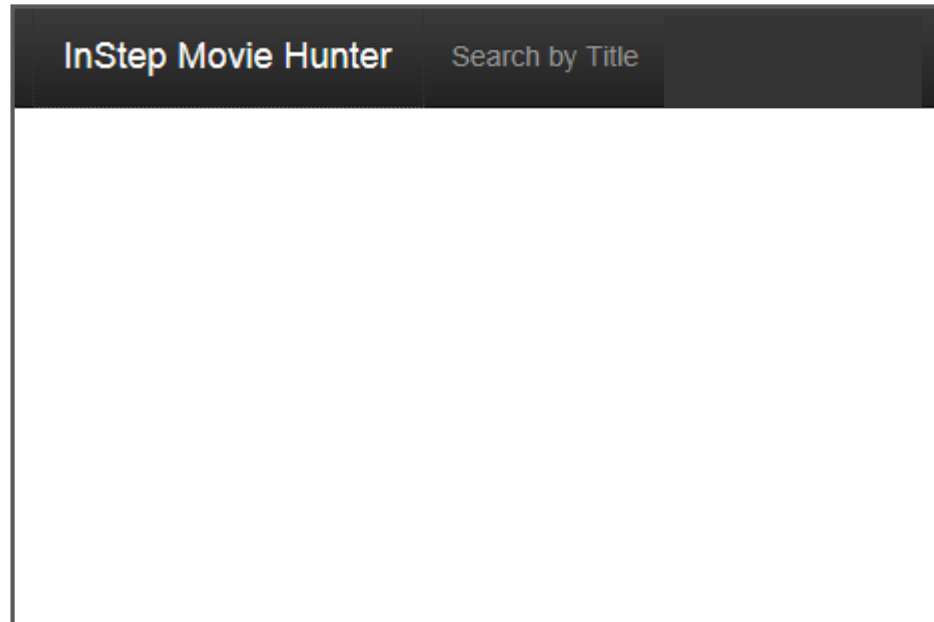
ngNewRouter

Demo: Angular in Action

SPA

- Single Page Application
- Only one page?
 - Only one full HTML page
 - All other pages are HTML fragments called **templates**
 - And are displayed within the one HTML page
- Goals:
 - Enhance user experience
 - Reduce round tripping

Multiple Views



Search by Movie Title				
Filter by:	<input type="text"/>			
Show Poster	Title	Director	Release Date	Rating
	Pirates Of The Caribbean: Curse Of The Black Pearl	Gore Verbinski	Jul 9, 2003	PG-13
	Pirates Of The Caribbean: Dead Man's Chest	Gore Verbinski	Jul 7, 2006	PG-13
	The Lord of the Rings: The Fellowship of the Ring	Peter Jackson	Dec 19, 2001	PG-13
	The Lord of the Rings: The Return of the King	Peter Jackson	Dec 17, 2003	PG-13
	The Lord of the Rings: The Two Towers	Peter Jackson	Dec 18, 2002	PG-13
	The Point	Fred Wolf	Feb 2, 1971	NR

The Fellowship of the Ring	
Description:	A meek hobbit of the Shire and eight companions set out on a journey to Mount Doom to destroy the One Ring and the dark lord Sauron.
Director:	Jackson
Release Date:	Dec 19, 2001
Rating:	PG-13

Routing

Technique for
navigating
between views

Routes defined
by rules

Each route
represents a
specific view

Activating a
route navigates
to that view

Routing Frameworks

ngRoute

UI Router

ngNewRouter

ngRoute

Available
from

- Angular Web Site
- <https://angularjs.org/>
- angular-route.js

Based on

- URL fragment identifiers
- <http://localhost:64492/index.html#/searchByTitle>

Each route
has

- URL fragment identifier
- View template
- Optional Controller

UI Router

Available
from

- Third-party Angular UI Library
- <https://github.com/angular-ui/ui-router>
- angular-ui-router.js

Based on

- Application states

Each state
has

- Optional URL fragment identifier
- View template
- Optional Controller

ngNewRouter

Available
from

- Angular 1.4
- <https://github.com/angular/router>
- Router.es5.js

Based on

- URL fragment identifiers
- <http://localhost:64492/index.html#/searchByTitle>

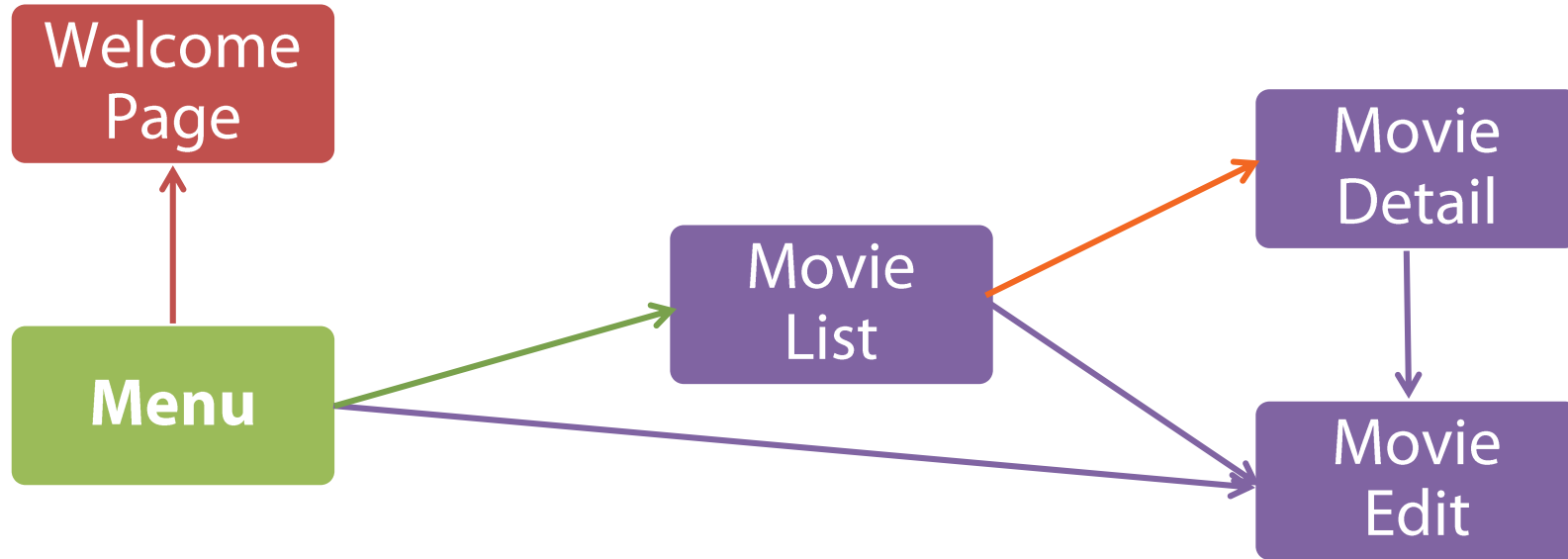
Each route
has

- URL fragment identifier (path)
- Component

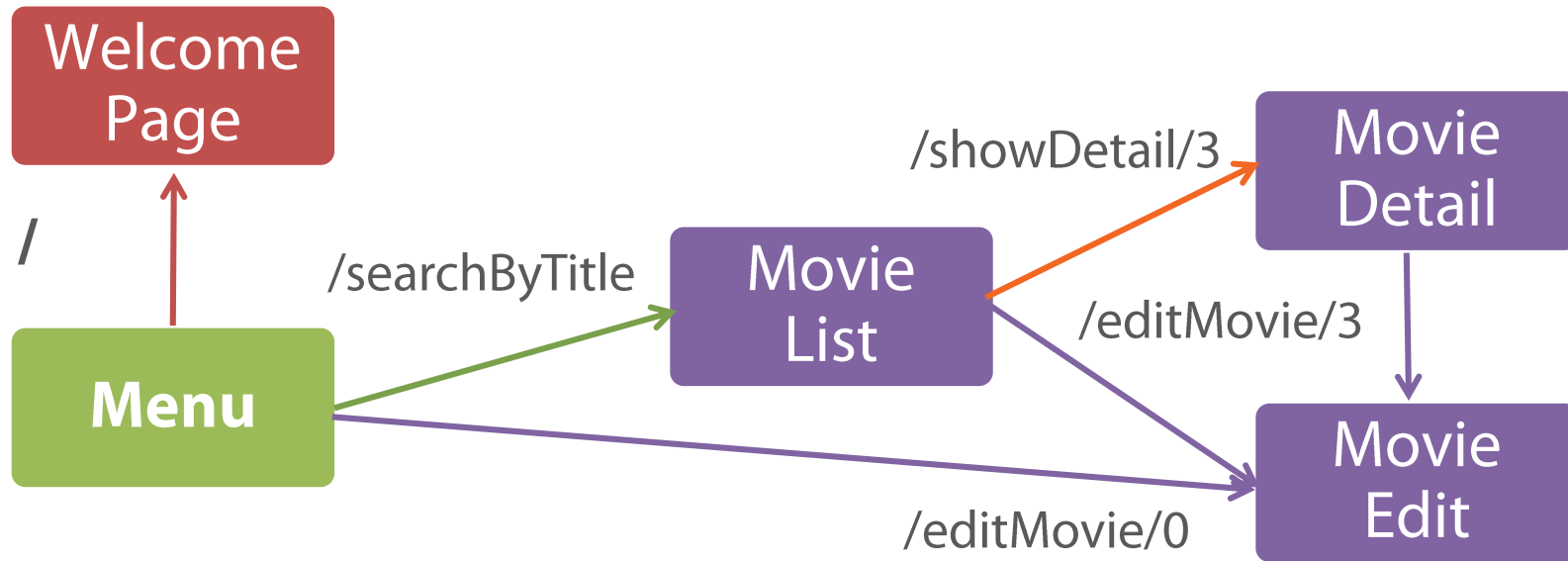
ngRoute

<https://docs.angularjs.org/api/ngRoute>

Site Map



Routes

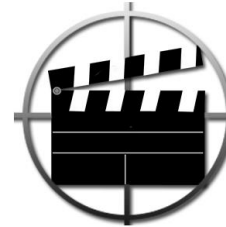


Routing URL Fragments

<mysite>/index.html#/showDetail/3

InStep Movie Hunter

Search by Title



Search by Movie Title

Filter by:

Show Poster

Title	Director	Release Date	Rating
Pirates Of The Caribbean: Curse Of The Black Pearl	Gore Verbinski	Jul 9, 2003	PG-13
Pirates Of The Caribbean: Dead Man's Chest	Gore Verbinski	Jul 7, 2006	PG-13
The Lord of the Rings: The Fellowship of the Ring	Peter Jackson	Dec 19, 2001	PG-13
The Lord of the Rings: The Return of the King	Peter Jackson	Dec 17, 2003	PG-13
The Lord of the Rings: The Two Towers	Peter Jackson	Dec 18, 2002	PG-13
The Point	Fred Wolf	Feb 2, 1971	NR

The Fellowship of the Ring

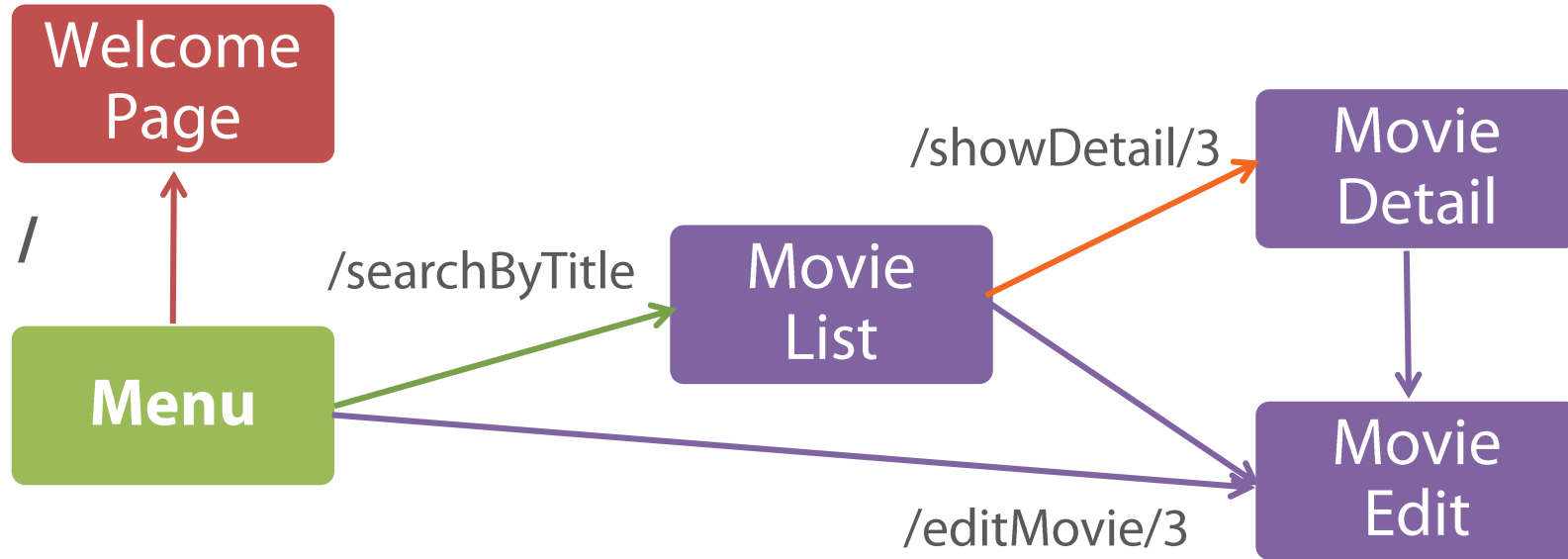
Description: A meek hobbit of the Shire and eight companions set out on a journey to Mount Doom to destroy the One Ring and the dark lord Sauron.

Director: Jackson
Release Date: Dec 19, 2001
Rating: PG-13

ngRoute: index.html

```
<div class="container">  
  <div ng-view></div>  
</div>
```

Routes



ngRoute: app.js

```
var app = angular.module("movieHunter", ["ngRoute"]);

app.config(['$routeProvider',
  function ($routeProvider) {
    $routeProvider
      .when("/", {
        templateUrl: "app/welcomeview.html"
      })
      .when("/searchByTitle", {
        templateUrl: "app/movies/movieListView.html",
        controller: "MovieListCtrl as vm"
      })
      .when("/showDetail/:movieId", {
        templateUrl: "app/movies/movieDetailView.html",
        controller: "MovieDetailCtrl as vm"
      })
      .otherwise("/");
  }
]);
```

Navigation

- Anchor tags

- Link to the appropriate route

```
<a ng-href="#searchByTitle">
```

- \$location service

```
$location.path("/searchByTitle");
```

ngRoute: index.html

```
<div class="navbar-collapse collapse">
  <ul class="nav navbar-nav">
    <li>
      <a ng-href="#searchByTitle">Search by Title</a>
    </li>
    <li>
      <a ng-href="#editMovie/0">
        <i class="glyphicon glyphicon-plus"></i>
        Add Movie
      </a>
    </li>
  </ul>
</div>
```

ngRoute: movieDetailView.html

```
<div class="panel-footer">
  <a class="btn btn-default"
    ng-href="#searchByTitle"
    style="width:80px">
    <i class="glyphicon glyphicon-chevron-left"></i>
    Back
  </a>
  <a class="btn btn-primary"
    ng-href="#editMovie/{{vm.movie.movieId}}"
    style="width:80px;margin-left:10px">
    Edit
  </a>
</div>
```

Demo: ngRoute

ngNewRouter

<https://github.com/angular/router>

<https://angular.io/>

ngNewRouter: index.html

```
<div class="container">  
  <div ng-viewport></div>  
</div>
```

ngNewRouter : app.js

```
var app = angular.module("movieHunter", ["ngNewRouter"]);
```

```
app.controller('AppController', ['$router', AppController]);
```

```
function AppController ($router) {
```

```
  $router.Config([
```

```
    { path: '/', component: 'welcome' },  
    { path: '/searchByTitle', component: 'movieList' },  
    { path: '/showDetail/:movieId', component: 'movieDetail' },  
    { path: '/editMovie/:movieId', component: 'movieEdit' }
```

```
  ]);
```

```
}
```

Routeable Component in 1.4+

Defined by the directory structure

components/

Or configure with
`$componentLoader`

welcome/

welcome.html

movieList/

movieList.html

movieList.js

movieEdit/

movieEdit.html

movieEdit.js

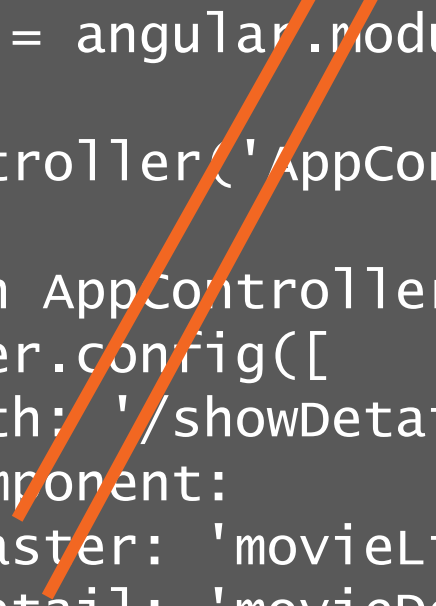
ngNewRouter: movieDetailView.html

```
<div class="panel-footer">
  <a class="btn btn-default"
    ng-link="movieList"
    style="width:80px">
    <i class="glyphicon glyphicon-chevron-left"></i>
    Back
  </a>
  <a class="btn btn-primary"
    ng-link="movieEdit({movieId: vm.movie.movieId})"
    style="width:80px;margin-left:10px">
    Edit
  </a>
</div>
```

Multiple Viewports: Sibling Components

```
<div ng-viewport="master"></div>  
<div ng-viewport="detail"></div>
```

```
var app = angular.module("movieHunter", ["ngNewRouter"]);  
app.controller('AppController', ['$router', AppController]);  
  
function AppController($router) {  
  $router.config([  
    { path: '/showDetail/:movieId',  
      component:  
        master: 'movieList',  
        detail: 'movieDetail' }  
  ]);  
}
```



Child Views

```
<div class="panel-body">  
  <div class="wizard">  
    <a ng-link="movie">  
      Movie Details  
    </a>  
    <a ng-link="actors">  
      Actors  
    </a>  
    <a ng-link="tags">  
      Search Tags  
    </a>  
  </div>  
  <div ng-viewport></div>  
</div>
```

Lifecycle Hooks

- canActivate
 - Before switch to component
 - Example: authorization

```
MovieEditController.prototype.canActivate = function()  
    { return this.user.isAdmin; };
```

- activate
 - Before navigation finishes
 - Example: retrieve data

```
MovieEditController.prototype.activate = function()  
    { return movieResource.get(...); };
```


Lifecycle Hooks (cont)

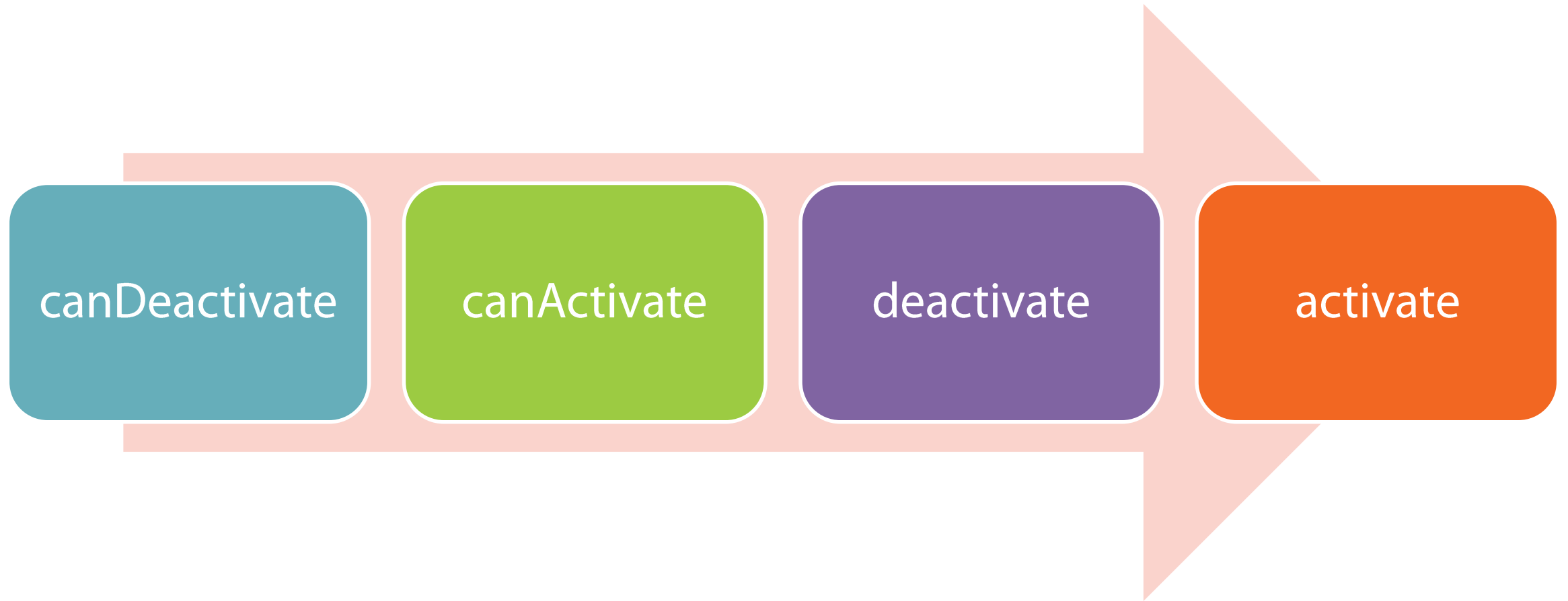
- canDeactivate
 - Before switch to component
 - Example: ensure data is saved

```
MovieEditController.prototype.canDeactivate = function()  
  { return this.isDataSaved; };
```

- deactivate
 - Before switch to component
 - Example: clean up work

```
MovieEditController.prototype.deactivate = function()  
  { return ...; };
```

Lifecycle Hooks Sequence



Demo: ngNewRouter

<https://github.com/angular/router/tree/master/examples/angular-1/wizard>

Which to Use?

- Use ngNewRouter
 - If you can use Angular 1.4
 - And are OK with the directory structure (or `$componentLoader` service)
- Use ngRoute
 - If app is <1.4
 - And only need simple routing
- Use ui-Router
 - If app is <1.4
 - And you need complex routing (nesting, etc)

Thank You!

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- <http://blogs.msmvps.com/deborahk>
- <https://github.com/DeborahK/ab2015>