

# Angular

Vancouver

## Advanced Routing

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**LAURENT DUVEAU**

JUNE 7<sup>TH</sup>, 2018



# Laurent Duveau

**@LaurentDuveau**

**I am based in Montreal, Qc**



**Founder of the Angular Academy  
2-day Angular Classroom Training  
111 classes in 2 years!**

**Montreal, Quebec, Toronto, Ottawa  
Vancouver, Calgary, Winnipeg,  
London, Copenhagen, Helsinki...**



# Agenda

- ▣ Lazy Loading
- ▣ Preloading Modules
- ▣ Router events
- ▣ Diagnostic with traces
- ▣ Auxiliary routes
- ▣ Routes Transitions (Animations)
- ▣ Guards
- ▣ Resolve





# Requirement

- ❖ I assume you already know the basics of Angular Routing...
- ❖ ... do you ?





Lazy Loading

# Lazy Loading ?



# Lazy load the Products Module!

app.routing.ts

```
const routes: Routes = [  
  {path: '', redirectTo: '/home', pathMatch: 'full'},  
  {path: 'products', loadChildren: './products/products.module#ProductsModule'},  
  {path: 'home', component: HomeComponent},  
  {path: 'contact', component: ContactComponent},  
];
```






# Make its routes relative to 'products/'

products.routing.ts

```
const routes: Routes = [  
  { path: 'products', component: ProductListComponent },  
  { path: 'products/:id', component: ProductDetailComponent }  
];
```

products.routing.ts



```
const routes: Routes = [  
  { path: '', component: ProductListComponent },  
  { path: ':id', component: ProductDetailComponent }  
];
```






# Do not import lazy loaded modules!

app.module.ts

```
@NgModule({  
  imports:[BrowserModule, HttpClientModule, ProductsModule]  
})  
export class AppModule { }
```

app.module.ts



```
@NgModule({  
  imports:[BrowserModule, HttpClientModule]  
})  
export class AppModule { }
```



# DEMONSTRATION



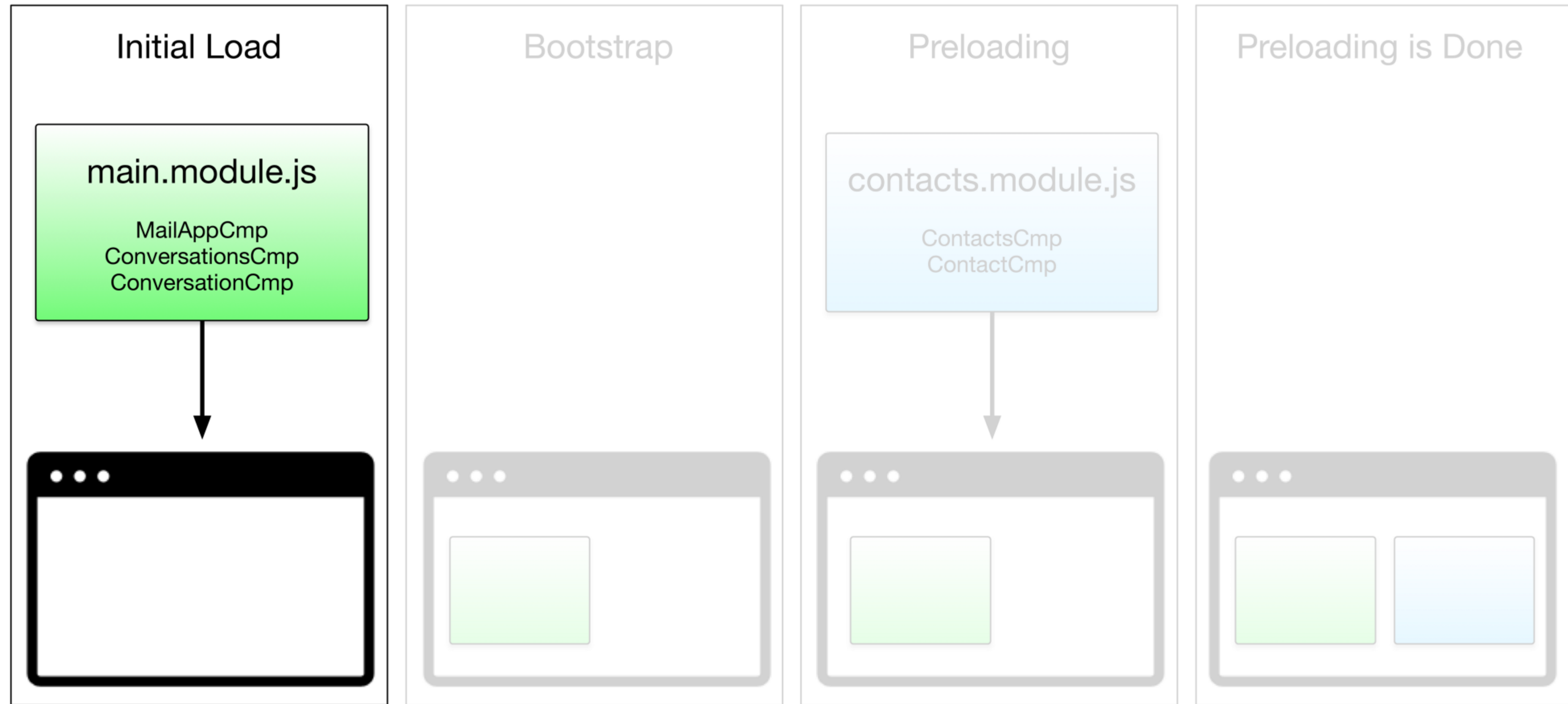
# Preloading Modules!

- ▀ Preload lazy-loadable modules in the background while the user is interacting with your application

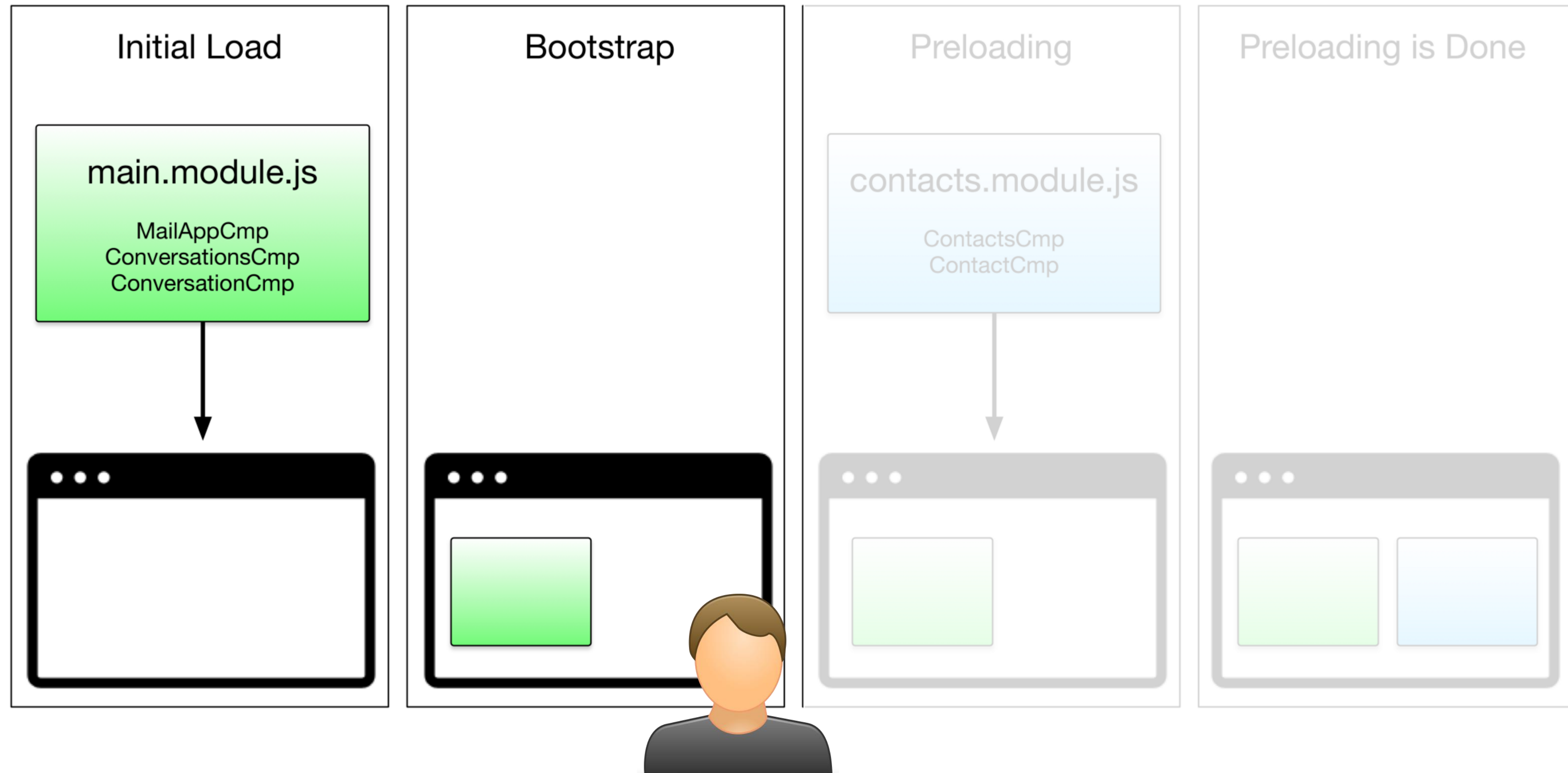




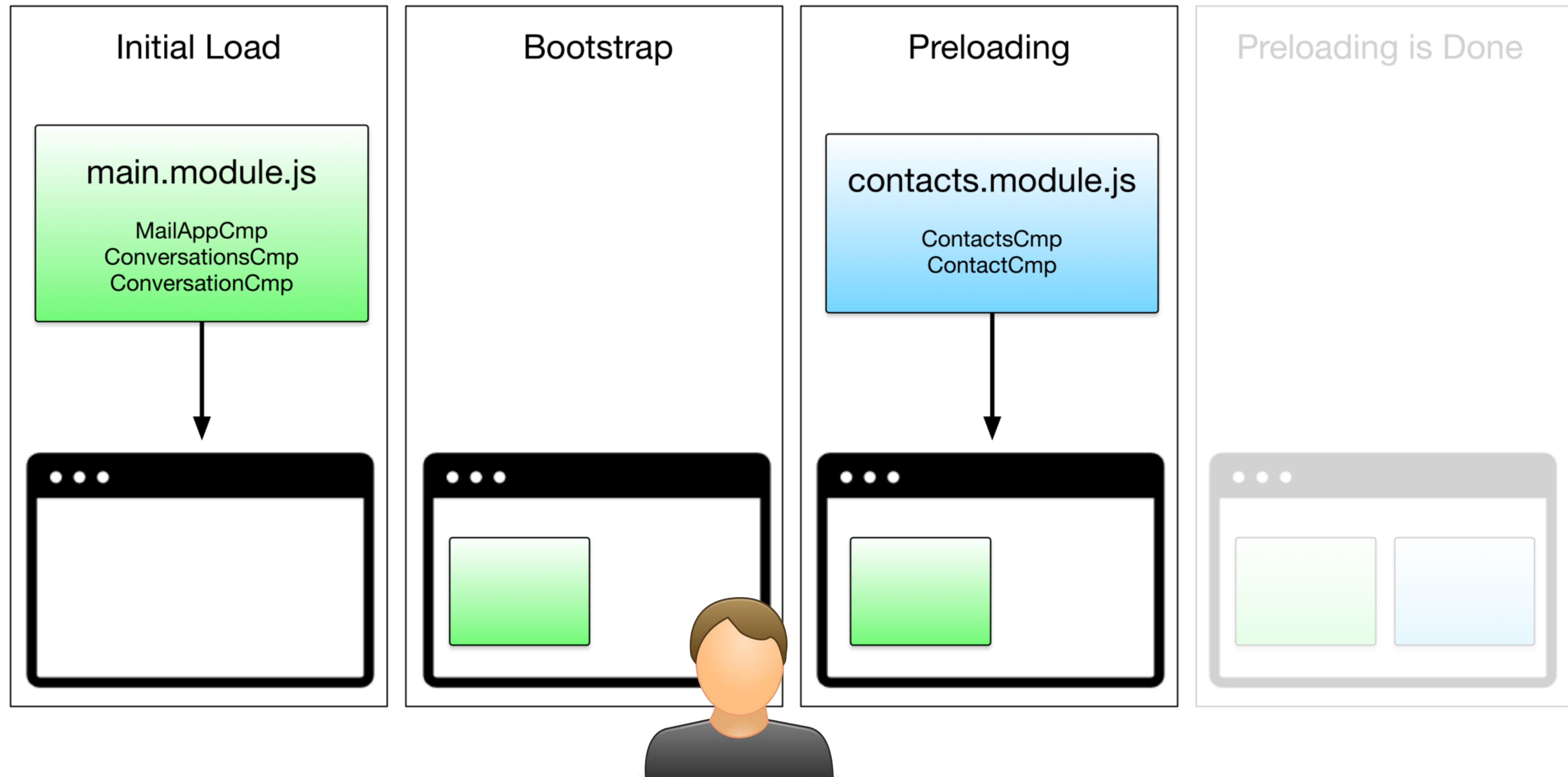
# Preloading Modules!



# Preloading Modules!

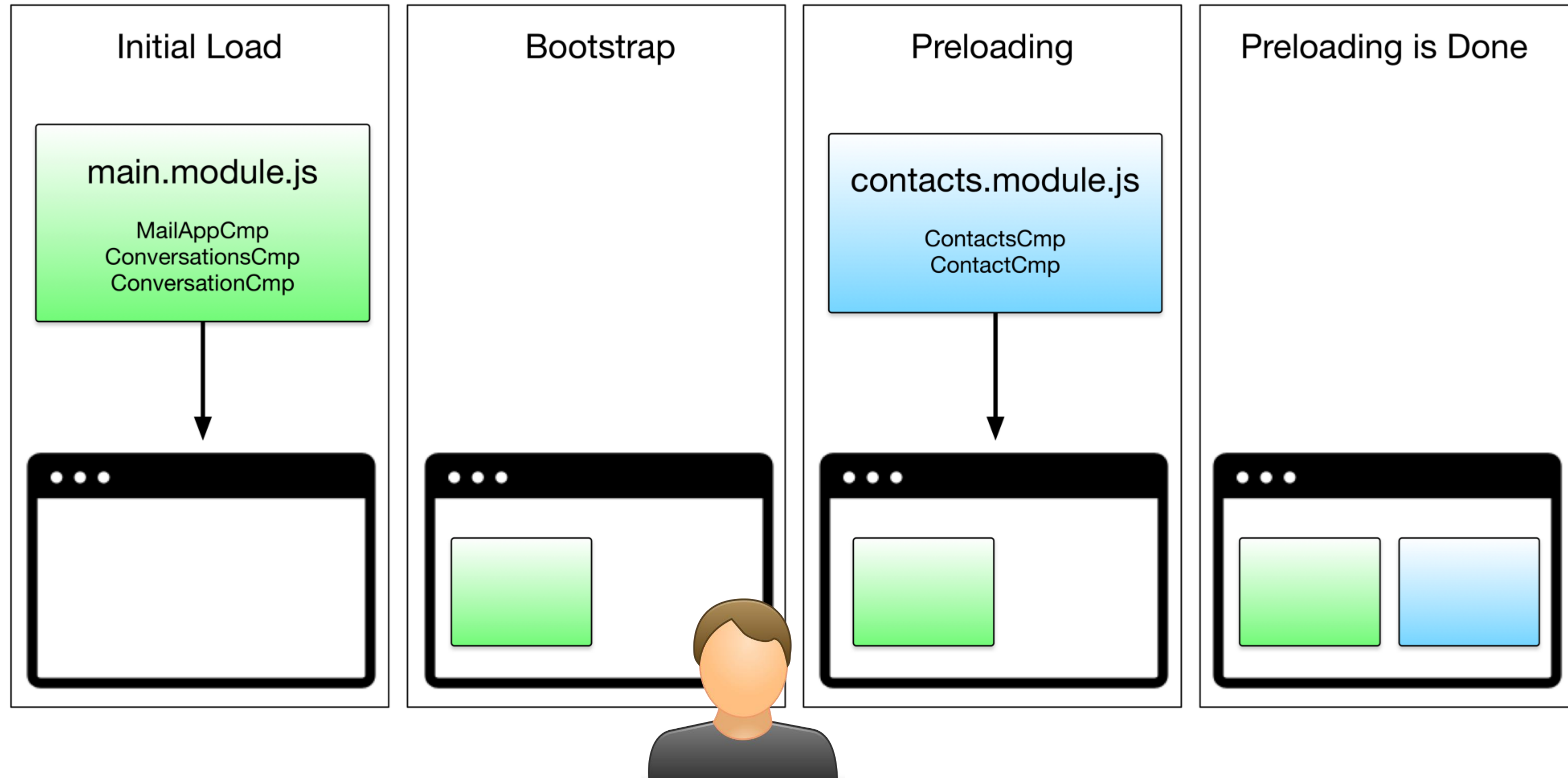


# Preloading Modules!





# Preloading Modules!



# Preloading Modules!

One built-in preloading strategy: **PreloadAllModules**

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

Create your Custom Preloading Strategy!

▀ Class that implements **PreloadingStrategy**



# DEMONSTRATION







# Router Events

# Router Events

Event	Description
NavigationStart	Navigation starts
RoutesRecognized	Router parses the URL and the routes are recognized
RouteConfigLoadStart	Before the Router lazy loads a route configuration
RouteConfigLoadEnd	After a route has been lazy loaded
NavigationEnd	Navigation ends successfully
NavigationCancel	Navigation is canceled. This is due to a Route Guard returning false during navigation
NavigationError	Navigation fails due to an unexpected error



# Router Events

```
@Component({
  selector: 'my-app',
  template: `<router-outlet></router-outlet>`
})
export class AppComponent {
  constructor(private router: Router) {}

  ngOnInit() {
    this.router.events
      .subscribe((event) => {
        if (event instanceof NavigationEnd) {
          console.log('NavigationEnd:', event);
        }
      });
  }
}
```





# DEMONSTRATION





Diagnostic with traces

# Activate traces

app.module.ts

```
@NgModule({  
  imports: [RouterModule.forRoot(routes,  
    { enableTracing: environment.production ? false : true }  
  )]  
})  
export class AppModule { }
```



# DEMONSTRATION







# Auxiliary Routes

# Auxiliary Routes

- Navigation happens in a **`<router-outlet></router-outlet>`**
- We can have more than one!
- So we can navigate to several routes at the same time



# Auxiliary Routes

## ❖ Create a named router-outlet

```
<router-outlet></router-outlet>  
<router-outlet name="popup"></router-outlet>
```

## ❖ Add a route to target this outlet

```
{path: 'contact', component: ContactComponent, outlet: 'popup'}
```

## ❖ Link to navigate to the outlet

```
<a [routerLink]="[{outlets: {popup: ['contact']}}]">Contact</a>
```



# DEMONSTRATION







# Routes Transitions (Animations)

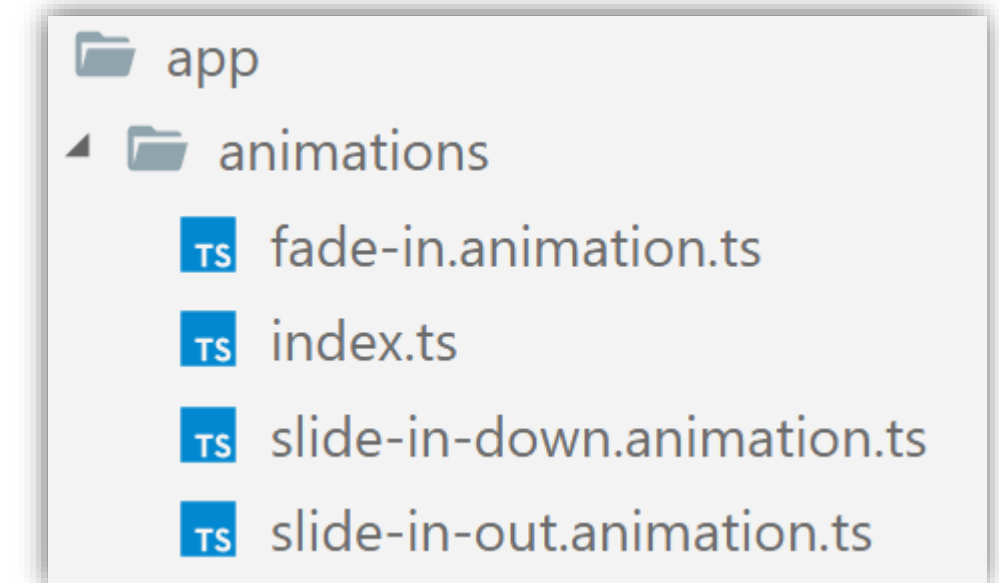
# Animations

## Define animations files

fade-in.animation.ts

```
import { trigger, animate, transition, style } from '@angular/animations';

export const fadeInAnimation =
  // trigger name for attaching this animation to an element using the
  // [@triggerName] syntax
  trigger('fadeInAnimation', [
    // route 'enter' transition
    transition(':enter', [
      // css styles at start of transition
      style({ opacity: 0 }),
      // animation and styles at end of transition
      animate('.5s', style({ opacity: 1 }))
    ]),
  ]);
```



# Animations

- ❖ Import **BrowserAnimationsModule**
- ❖ Use component decorator

```
@Component({  
  selector: 'app-product-list',  
  animations: [fadeInAnimation],  
  host: { '@fadeInAnimation': '' }  
})  
export class MyComponent {
```

animation to use

attached to host to run  
animation when  
component is activated



# DEMONSTRATION

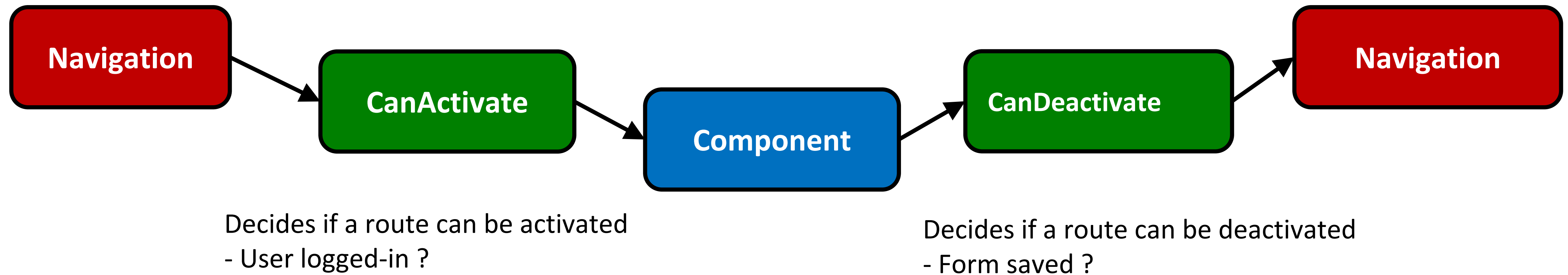




Guards



# Routes Guards



# Routes Guards

login-route-guard.service.ts

```
export class LoginRouteGuard implements CanActivate {  
  constructor(  
    private loginService: LoginService,  
    private router: Router) {}  
  
  canActivate() {  
    if(!this.loginService.isLoggedIn()) {  
      this.router.navigateByUrl("/login");  
      return false;  
    }  
    return true;  
  }  
}
```

app-routing.module.ts

```
{ path: 'admin', component: AdminComponent, canActivate: [LoginRouteGuard] },
```



# DEMONSTRATION





# Route Resolver

# Route Resolver

- ❖ Pre-fetching component data before navigating
- ❖ Avoid a blank component while waiting for the data to be returned from the server
- ❖ Pre-fetch data from the server so it's ready the moment the route is activated!
- ❖ Create a service and implement the **Resolve** interface





# DEMONSTRATION





Victor Savkin [Follow](#)

Co-founder of Narwhal Technologies (nrwl.io), where we provide Angular consulting to large teams who wa...

Aug 15, 2016 · 7 min read

# Angular Router



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ROUTER



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# Angular Router

The Complete Authoritative Reference

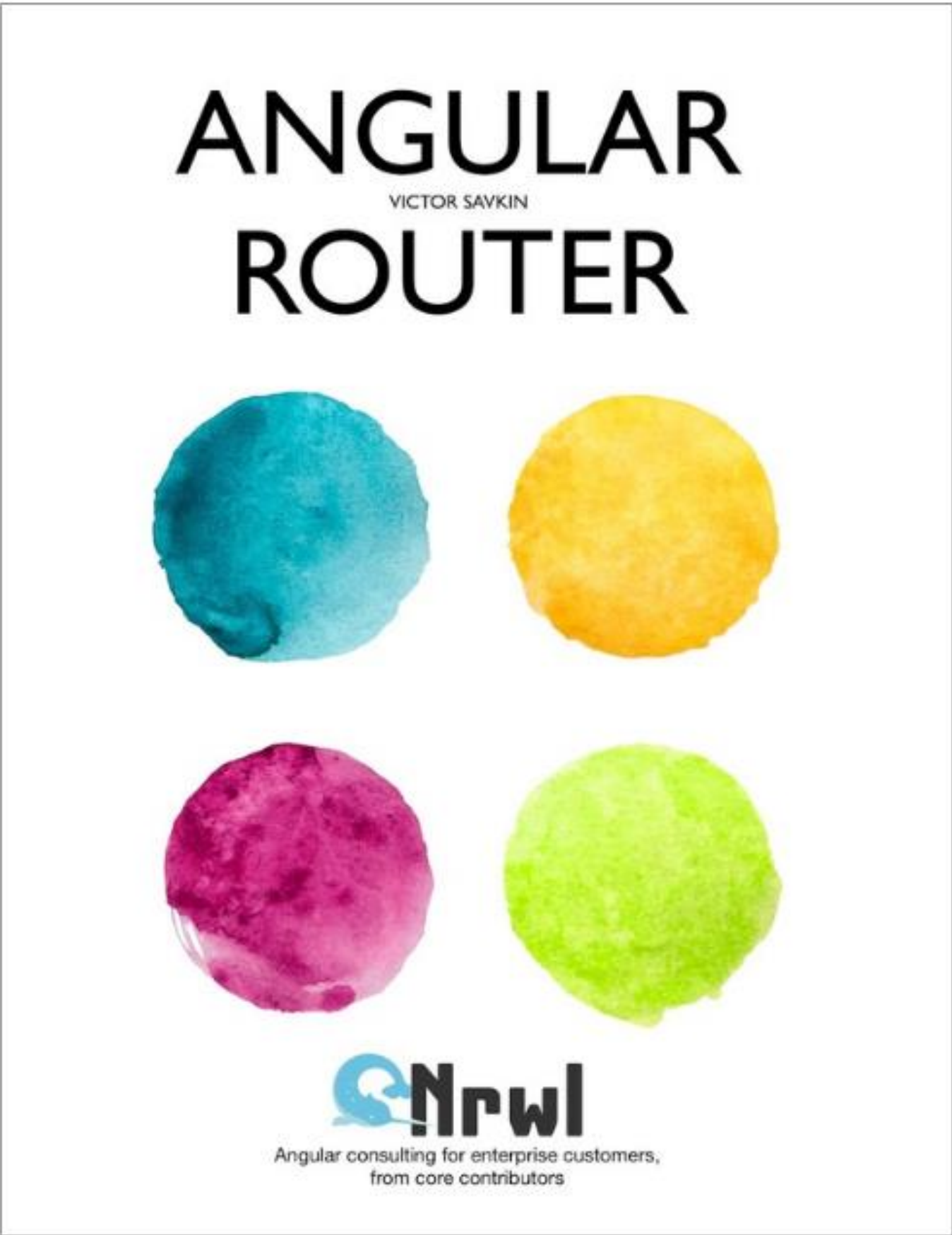


This book is a comprehensive guide to the Angular router written by its designer, who is a co-founder **Nrwl - Angular Consulting for enterprise customers, from core contributors.**

The book explores the library in depth, including the mental model, design constraints, subtleties of the API.

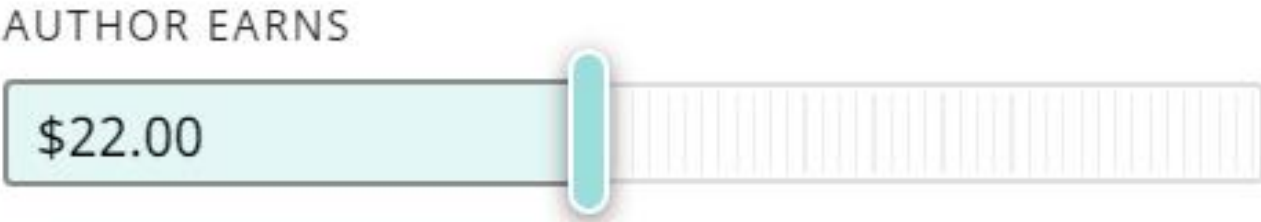
Reading the book will make you an Angular router expert.

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Thank you!