

Angular Router Events

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The [Angular Router](#) raises events when it navigates from one route to another route. It raises several events such as `NavigationStart`, `NavigationEnd`, `NavigationCancel`, `NavigationError`, `ResolveStart`, etc. You can listen to these events and find out when the state of the route changes. Some of the useful events are route change start (`NavigationStart`) and route change end (`NavigationEnd`). In this tutorial, we learn what is router events are and how to listen to them using Example code.

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Router Events

The [Angular Routers](#) triggers several events starting with when the Navigation starts (`NavigationStart`) and also when the Navigation end (`NavigationEnd`) successfully. It is triggered when the navigation is canceled either by the user (`NavigationCancel`) or due to an error in the navigation (`NavigationError`). The Events trigger when the lazy loaded modules are about to load and when they finish loading. They trigger before and after the guards like [canActivate](#), [canActivateChild](#). Events fire before and after the Angular runs the [Route Resolvers](#)..

The following are the list of events that are fire by the Angular Router.

Router Event	The Event triggered when
NavigationStart	the Angular router stats the navigation.
RouteConfigLoadStart	the Router lazy loads a route configuration.
RouteConfigLoadEnd	after a route has been lazy-loaded.
RoutesRecognized	the Router parses the URL and the routes are recognized.
GuardsCheckStart	the Router begins the Guards phase of routing.
ChildActivationStart	the Router begins activating a route's children.
ActivationStart	the Router begins activating a route.
GuardsCheckEnd	the Router finishes the Guards phase of routing successfully.
ResolveStart	the Router begins the Resolve phase of routing.
ResolveEnd	the Router finishes the Resolve phase of routing successfully.
ChildActivationEnd	the Router finishes activating a route's children.
ActivationEnd	the Router finishes activating a route.
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.
Scroll	An event that represents a scrolling event.

How to Listen to Router Events

First, we need to import the event, which we want to listen to. The following example imports `NavigationStart`. We also need to import the `NavigationEvent` & `router`.

```
1
2
3 import { Router, NavigationStart, Event as NavigationEvent } from '@angular/router';
4
5
```

And inject the `Router` in the constructor

```
1
2
3 constructor(private router:Router) {
4 }
5
6
```

And finally in you can listen to events by subscribing to the `router.events` observable.

The `router.events` is an `Observable` that gets triggered when the route changes. We receive `NavigationEvent` as the parameter in the callback. We check the `NavigationEvent` instance to check the Type of event fired.

```
1
2 this.router.events
3 .subscribe(
4   (event: NavigationEvent) => {
5     if(event instanceof NavigationStart) {
6       console.log(event);
7     }
8   });
9
```

Or you can make use of the rxjs filter operator to filter out the required events as shown below.

```
1
2 import { filter } from 'rxjs/operators';
3 import { Router, NavigationStart, Event as NavigationEvent } from '@angular/router';
4
5 this.router.events
6   .pipe(
7     filter( event => event instanceof NavigationStart)
8   )
9   .subscribe(
10    (event: NavigationEvent) => {
11      console.log(event);
12    }
13  )
14
```

Summary

The Router events allow us to watch for the router state changes and run some custom logic. One of the use case scenarios is to show the loading indicator when the user navigates from one route to another. You can listen to NavigationStart and NavigationEnd events to achieve this result

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