Working with Effects

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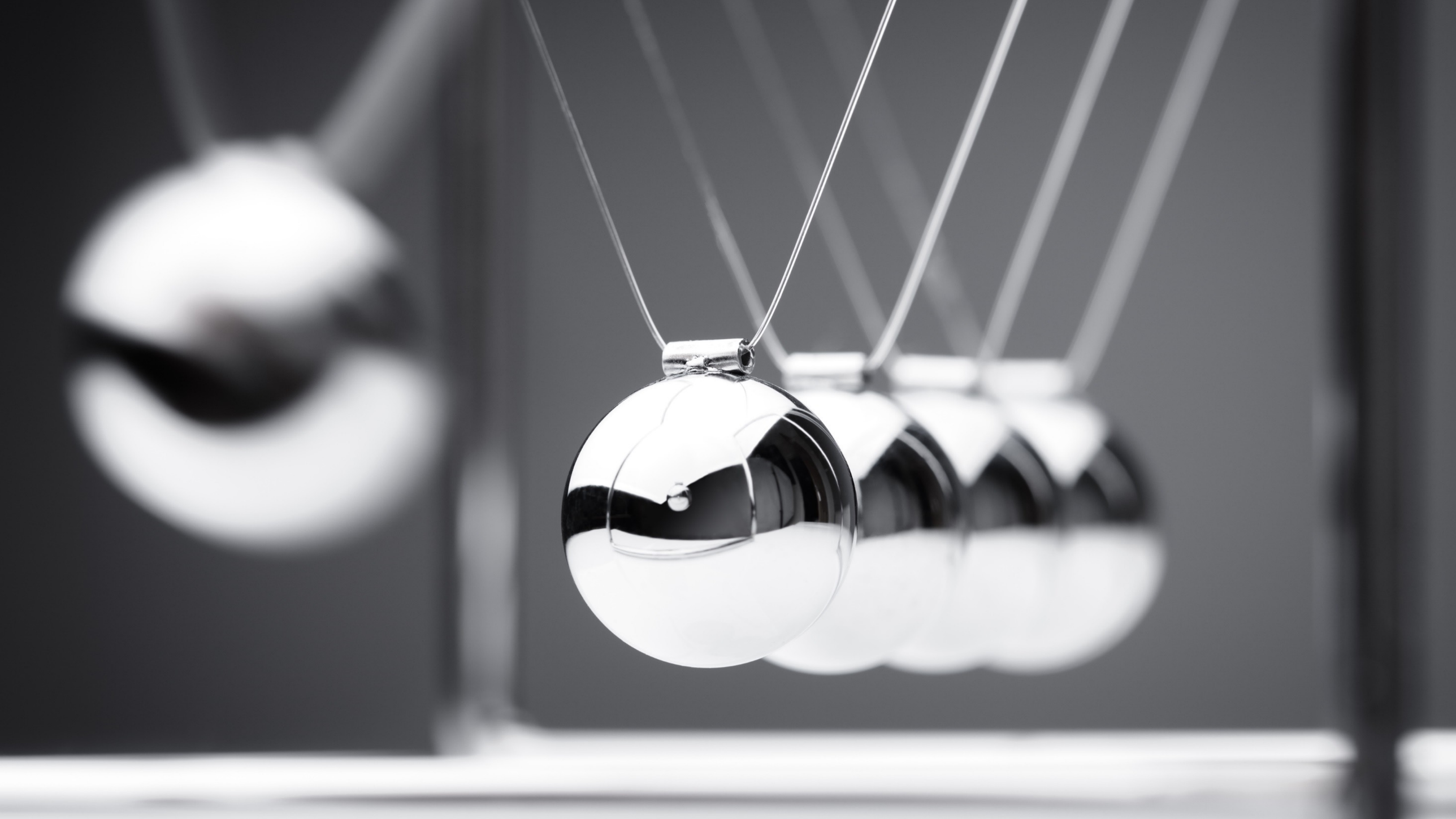


Module Introduction

Why use effects?

Add @ngrx/effects

Define an effect

Register an effect

Use an effect

Exception handling in effects

Effects are an RxJS powered side effect model for NgRx Store.

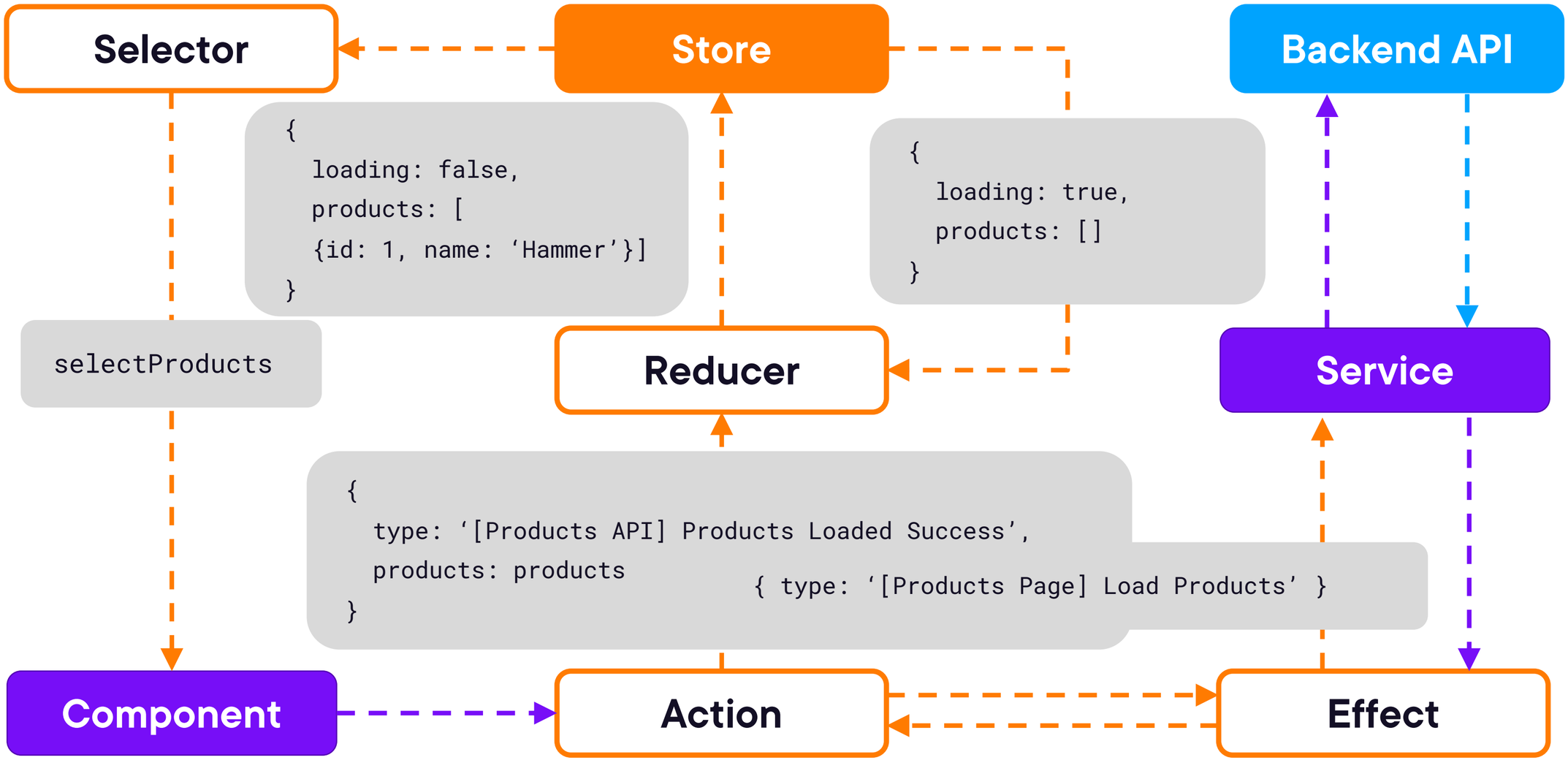
Effects Keep Components Pure

```
constructor(private productsService: ProductsService, private store: Store) {

getProducts() {
  this.store.dispatch(ProductsPageActions.loadProducts());
  this.productsService.getAll().subscribe({
    next: (products) => {
      this.store.dispatch(ProductsAPIActions.productsLoadedSuccess({ products }));
    }
  });
}
```

Products Reducer

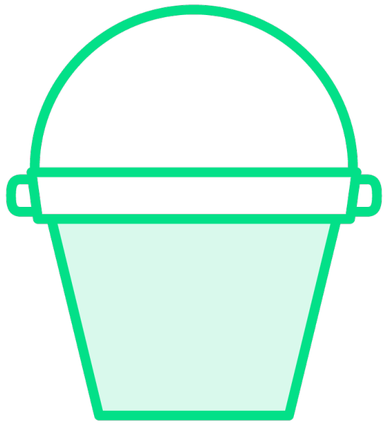
```
import { createReducer, on } from '@ngrx/store';
import { ProductsPageActions } from './products.actions';

this.productsService.getAll().subscribe({
    next: (products) => {
      this.store.dispatch(ProductsAPIActions.productsLoadedSuccess({ products
}))}

export const productsReducer = createReducer(
 initialState,
 on(createAction(ProductsPageActions.loadProducts), (state) => ({
  ...state,
  loading: true,
 }))
);
```

State Lifecycle – Load Products

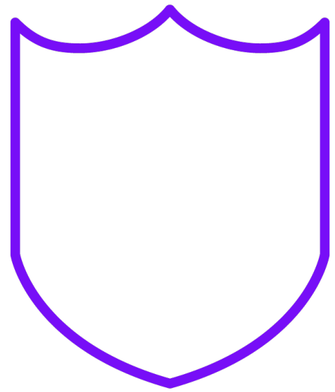


Benefits of Effects

Keep components pure



Isolate side effects



Easier to test

Defining an Effect

```
@Injectable()
export class ProductEffects {

 constructor(private actions$: Actions) {}




};
```

Defining an Effect

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@Injectable()
export class ProductEffects {

 constructor(private actions$: Actions, private productsService: ProductsService) {}




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 loadProducts$ = createEffect(() =>
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Defining an Effect

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Defining an Effect

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export class ProductEffects {

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 loadProducts$ = createEffect(() =>
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   ofType(ProductsPageActions.loadProducts),
   concatMap(

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Defining an Effect

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 loadProducts$ = createEffect(() =>
  this.actions$.pipe(
   ofType(ProductsPageActions.loadProducts),
   concatMap(() => this.productsService.getAll()

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     map((products) => ProductsAPIActions.productsLoadedSuccess({ products })),
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Demo

Install and define an effect

Defining an Effect

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Exception Handling in Effects

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     catchError(
       (error) => of(ProductsAPIActions.productsLoadedFail({ message: error})
     )
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Exception Handling in Reducer

```
export interface ProductsState {
 showProductCode: boolean;
 loading: boolean;
 products: Product[];
 errorMessage: string;
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export interface ProductsState {
 showProductCode: boolean;
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const initalState: ProductsState = {
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 loading: false,
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};

export const productsReducer = createReducer(
 initalState,
 on(ProductsAPIActions.productsLoadedFail, (state, { message }) => ({
  errorMessage: message,
})));
```

Demo

Add exception handling to effect

RxJS Mapping Operators

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Warning – Possible Race Conditions

Operator	When	Possible Race Condition
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switchMap	**Cancels the current subscription/request** Use for get requests or cancelable requests like searches	**Yes**

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switchMap	**Cancels the current subscription/request** Use for get requests or cancelable requests like searches	**Yes**
exhaustMap	**Ignores all subsequent subscriptions/requests until complete** Use when you do not want more requests until the initial one completes	**Yes**

Demo

Add more effects:

- Add
- Update
- Delete