

NgRx

- ngrx-data: no longer have to write actions/reducers/selectors again...
- Reducers
 - Should always be pure. Input = Output
- Selectors
 - Should always be pure.
 - Can use Snapshot testing.
- Actions
- Side Effects
 - Can use Jasmine Marbles to verify input actions
- Components
 - Given set of inputs = same outputs
 - Has no global observable dependencies: (modifying global vars, global state, rendering other side effect components)
 1. create component fixture
 2. beforeEach: `async() + await fixture.compile({book});`
 3. Should Compile: `expect(fixture).toMatchSnapshot();`
- Container Tests
 - Store aware components
 - Verify they work correctly
 - Verify they dispatch the right actions

NgRx Entity

- Provides set of the functions for CRUD operations
- @ngrx/entity lets you create entity adapters for different kinds of entities. Using an entity adapter, you can quickly write reducer operations and automatically generate selectors.

```
interface Book {
```

```
  id: string;
```

```
  title: string;
```

```
}
```

```
import { createEntityAdapter } from '@ngrx/entity';
```

```
const bookAdapter = createEntityAdapter<Book>();
```

```
export const {
```

```
  selectIds, selectEntities, selectAll, selectTotal,
```

```
} = bookAdapter.getSelectors();
```

```
[ { id: 1, name: "Foo" },  
  { id: 2, name: "Bar" }  
]
```

vs.

```
{  
  entities: {  
    1: { id: 1, name: "Foo" },  
    2: { id: 2, name: "Bar" }  
  },  
  ids: [1, 2]  
}
```


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