

# State Management

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# Module Overview



**The need for state management**

**Exploring state management options**

- Services
- NgRx
- ngrx-data
- Observable Store

**Reviewing the options**

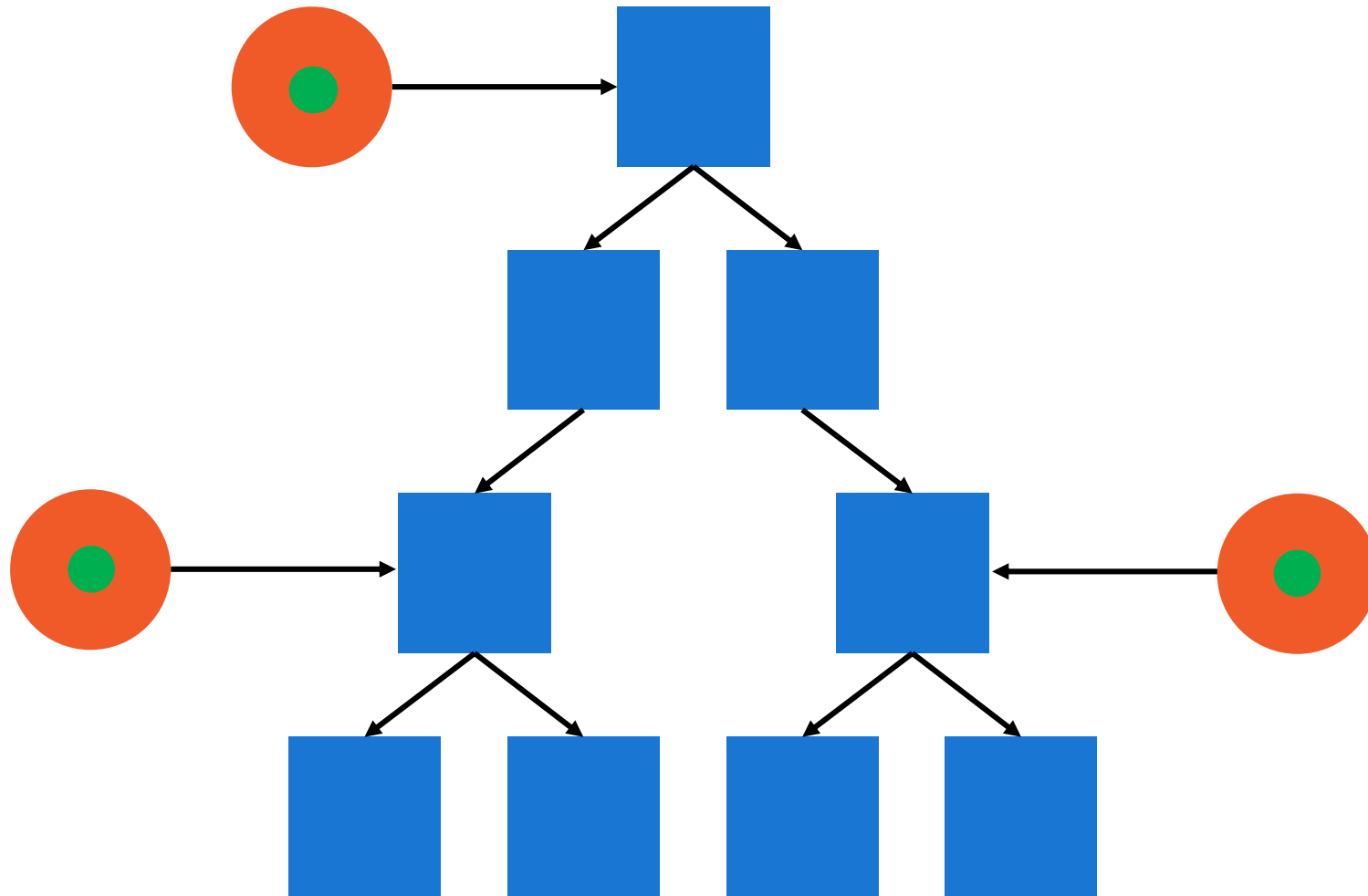


# The Need for State Management

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# The Need for State Management



# State Management Goals

**Single source of truth**

**Predictable**

**Immutable**

**Track state changes**



# State Management Options

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# Managing State

Application  
State

Session  
State

Entity  
State



# State Management Options

Service

NgRx

ngrx-data

Observable  
Store

Akita

Ngxs

MobX





# Angular Services

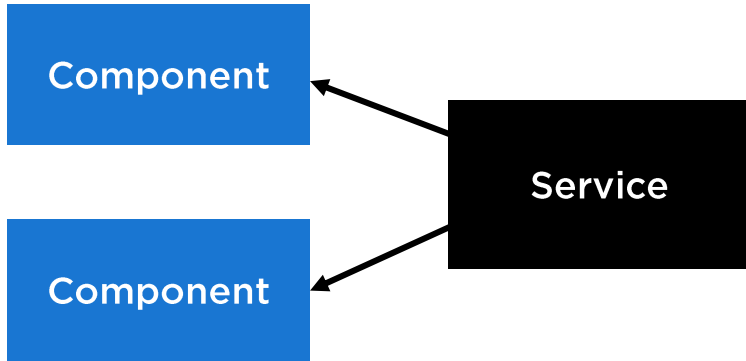
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A service is typically a class with a narrow, well-defined purpose. It should do something specific and do it well.

<https://angular.io/guide/architecture-services>





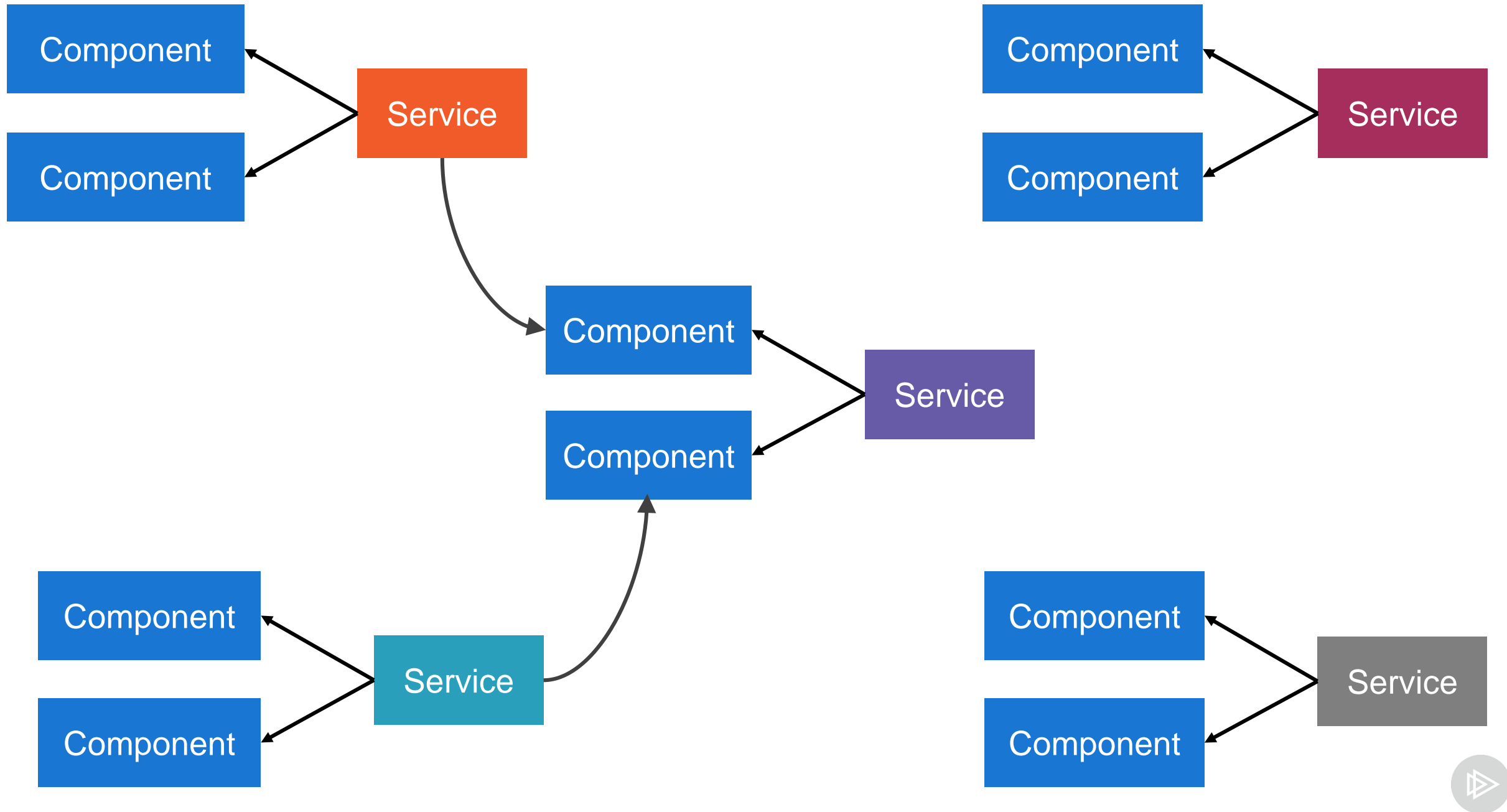
Services

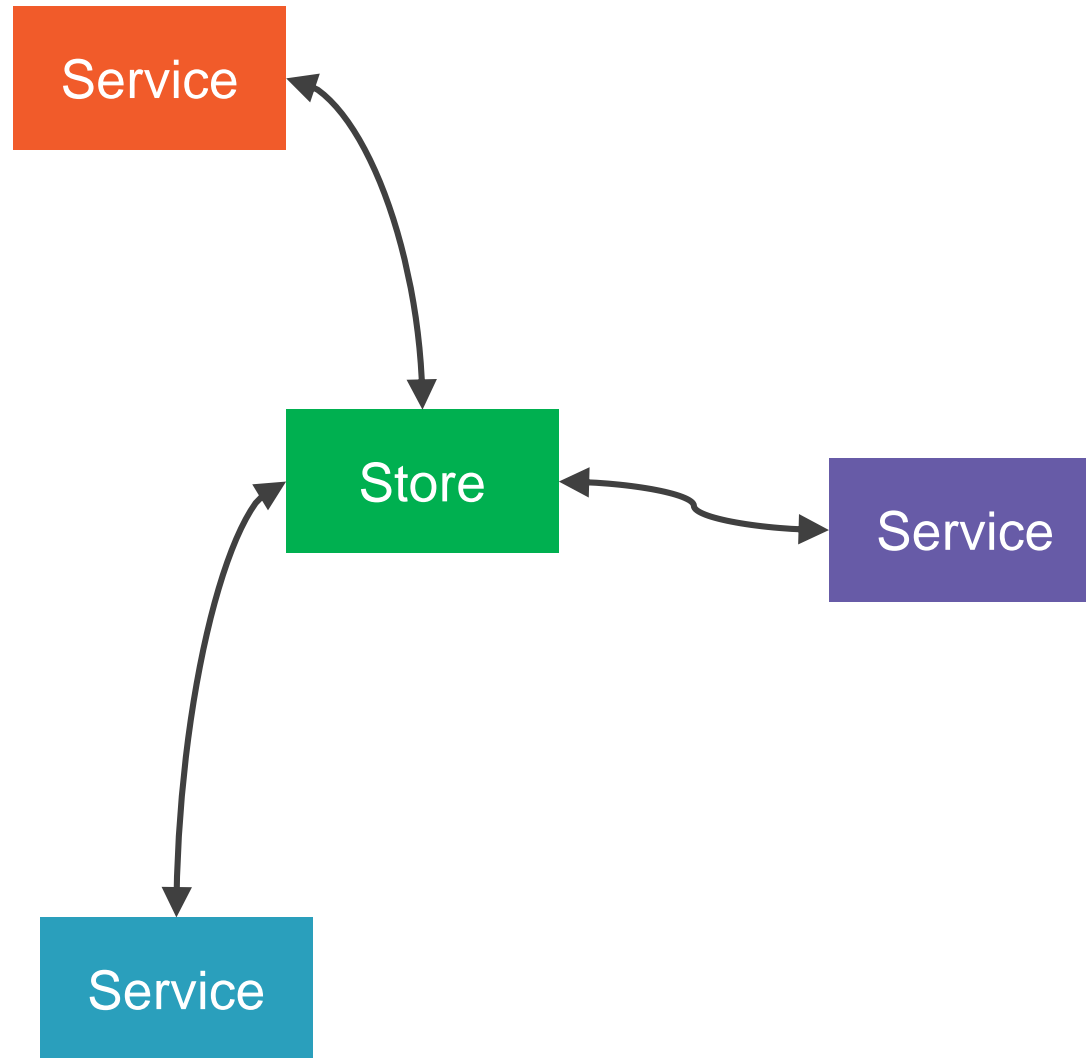
**Simplest approach (start here!)**

**Inject service where needed**

**Provide notifications using a Subject**







NgRx

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NgRx Store provides reactive state management for Angular apps inspired by Redux. Unify the events in your application and derive state using RxJS.

<https://ngrx.io>



# NgRx

Redux + RxJS = NgRx

Single source of truth for state

Immutable data

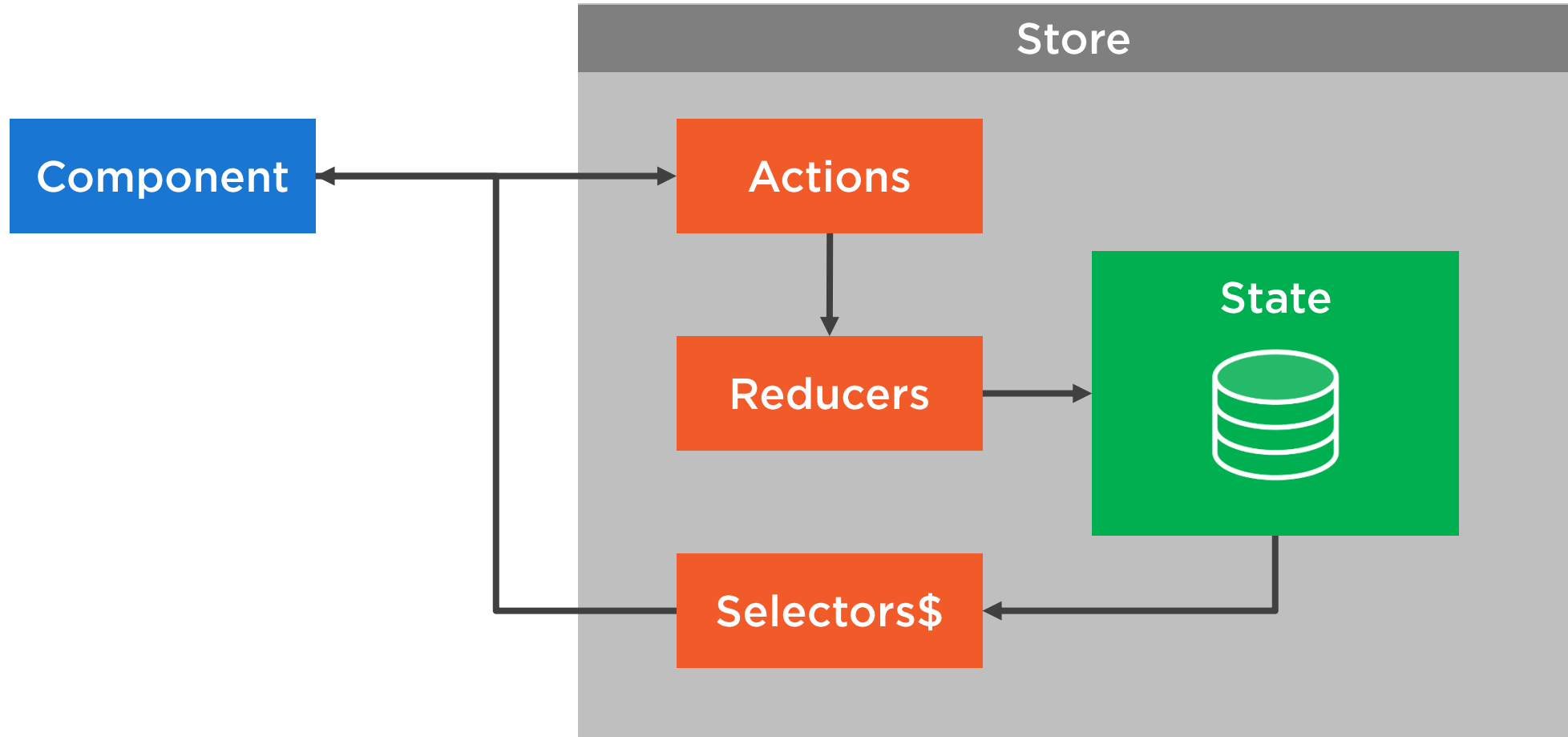
Provide consistency across a team

Diagnostic tool to watch store

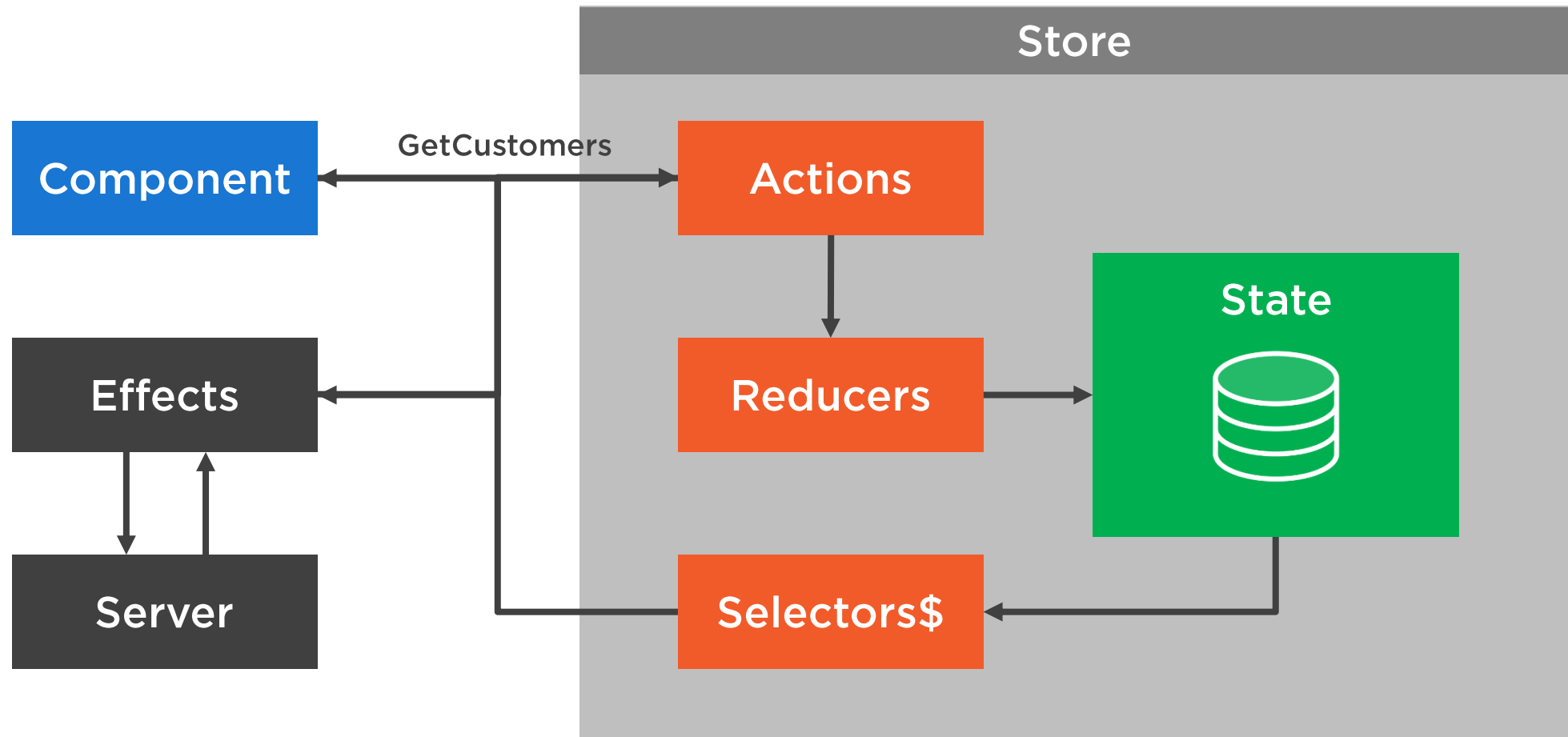




# NgRx State Flow



# NgRx and Effects



# NgRx in Action

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# ngrx-data

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ngrx-data is an NgRx extension that offers a gentle introduction to ngrx/redux without the boilerplate.

<https://github.com/ngrx>



ngrx-data

**NgRx – but simplified**

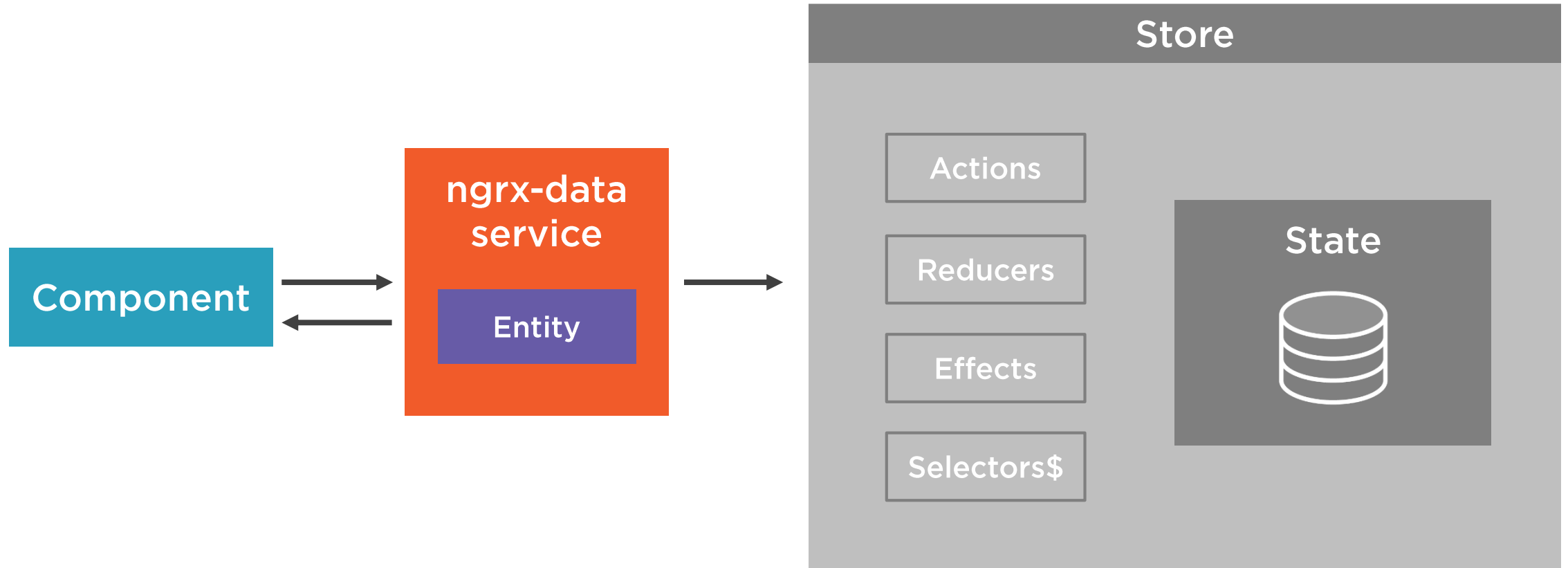
**Eliminate NgRx boilerplate code**

**1 line of code per entity**

**Customize as needed**



# ngrx-data State Flow



# ngrx-data in Action

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# Observable Store

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Observable Store provides a simple way to manage state in a front-end application while achieving many of the key goals offered by more complex state management options.

<https://github.com/DanWahlin/Observable-Store>



# Observable Store Goals

**Single source of truth**

**State is read-only/immutable**

**Provide state change notifications to any subscriber**

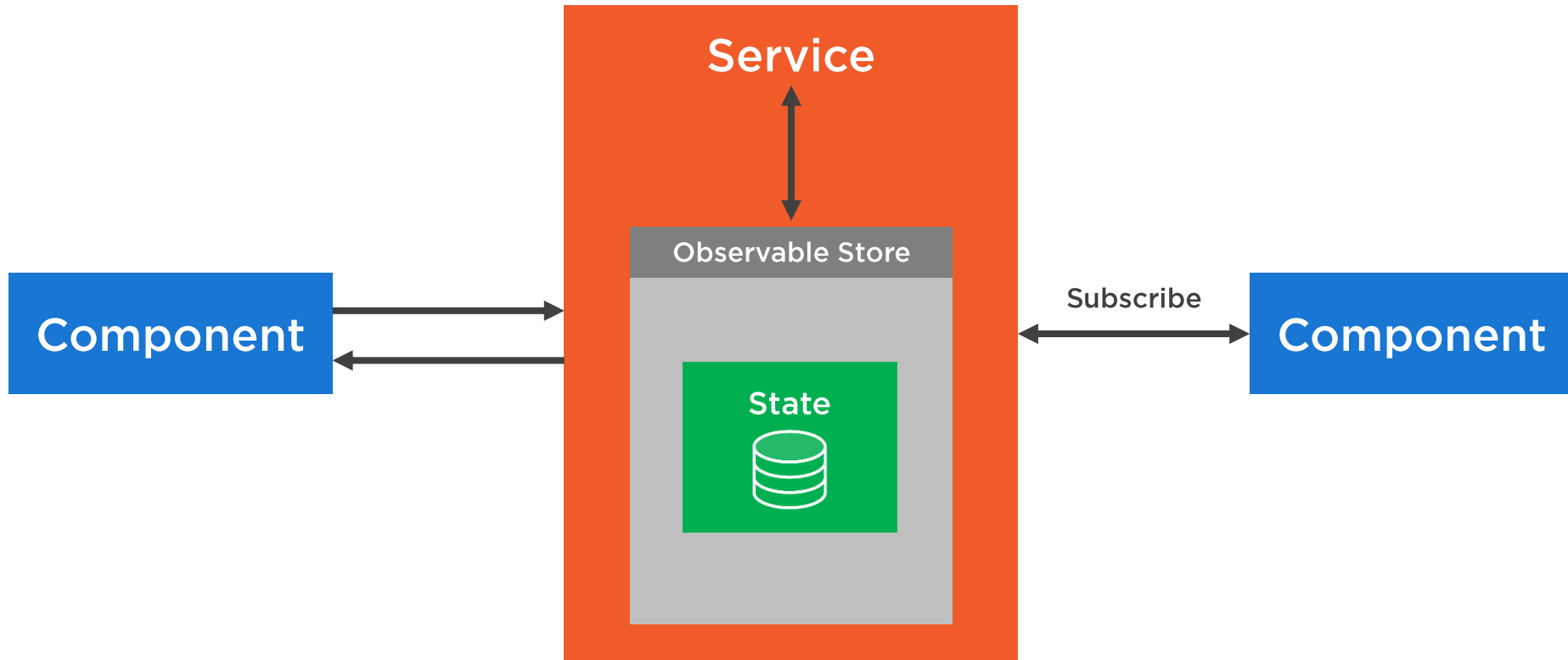
**Track state change history**

**Minimal amount of code required**

**Works with any library/framework**



# Observable Store State Flow



# Observable Store in Action

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# State Management Review

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# State Management Options

Service

NgRx

ngrx-data

Observable  
Store

Akita

Ngxs

MobX



# Comparing State Management Options

Goal	NgRx	ngrx-data	Observable Store	Services
Provides store				
Immutable data				
Debugging				
State history				
Change notifications				
Simple				





# Comparing State Management Options

Goal	NgRx	ngrx-data	Observable Store	Services
Provides store	✓	✓	✓	✗
Immutable data				
Debugging				
State history				
Change notifications				
Simple				



# Comparing State Management Options

Goal	NgRx	ngrx-data	Observable Store	Services
Provides store	✓	✓	✓	✗
Immutable data	✓	✓	✓	✗
Debugging				
State history				
Change notifications				
Simple				



# Comparing State Management Options

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Provides store	✓	✓	✓	✗
Immutable data	✓	✓	✓	✗
Debugging	✓	✓	✗	✗
State history				
Change notifications				
Simple				



# Comparing State Management Options

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Change notifications				
Simple				



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State history	✓	✓	✓	✗
Change notifications	✓	✓	✓	✗
Simple				

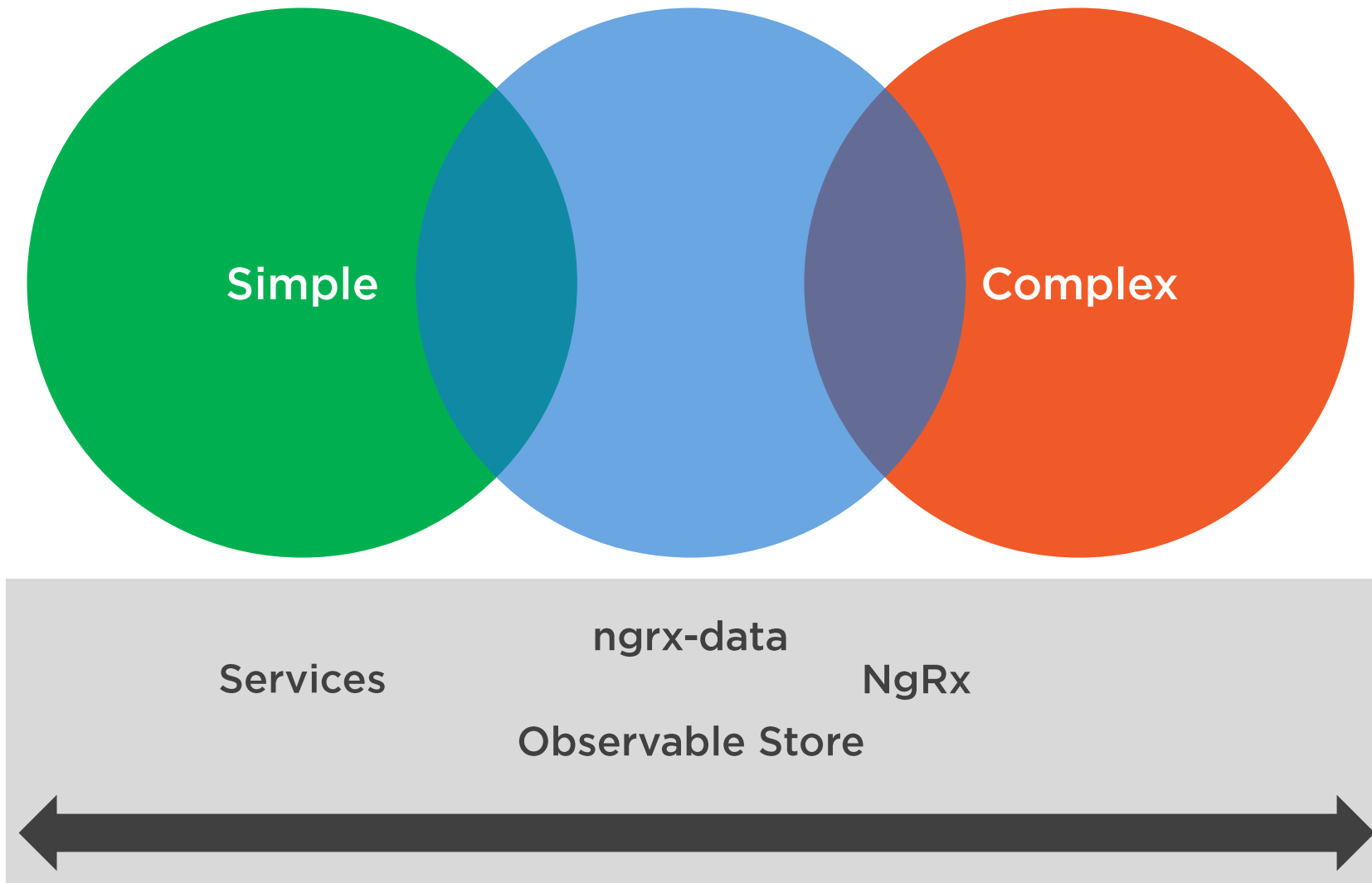


# Comparing State Management Options

Goal	NgRx	ngrx-data	Observable Store	Services
Provides store	✓	✓	✓	✗
Immutable data	✓	✓	✓	✗
Debugging	✓	✓	✗	✗
State history	✓	✓	✓	✗
Change notifications	✓	✓	✓	✗
Simple	✗	✓	✓	✓



# Choosing a State Management Option



KEEP

IT

SIMPLE





# Summary



Several state management options exist

NgRx provides an established pattern for managing state

ngrx-data provides NgRx support with a minimal amount of code

Observable Store provides a simple option that meets key goals

Explore different state management options before deciding on one

