

# Angular NgRx: Getting Started

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## INTRODUCTION



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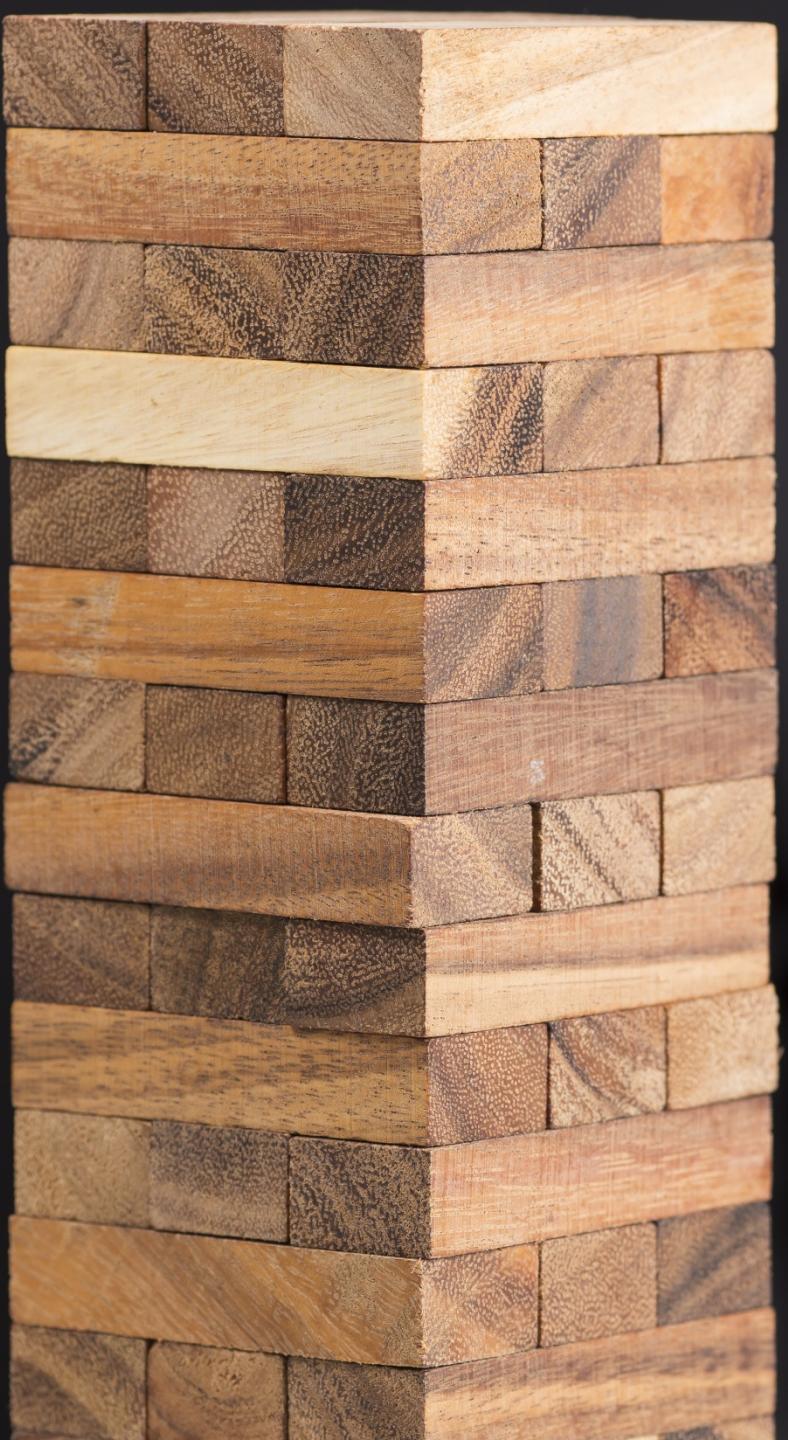












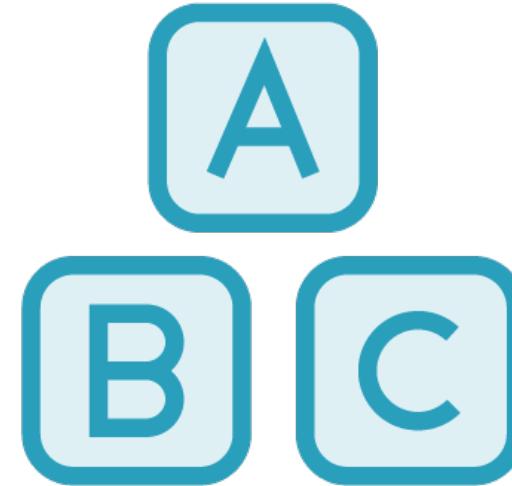
# What Is State?



View State



User  
Information



Entity Data

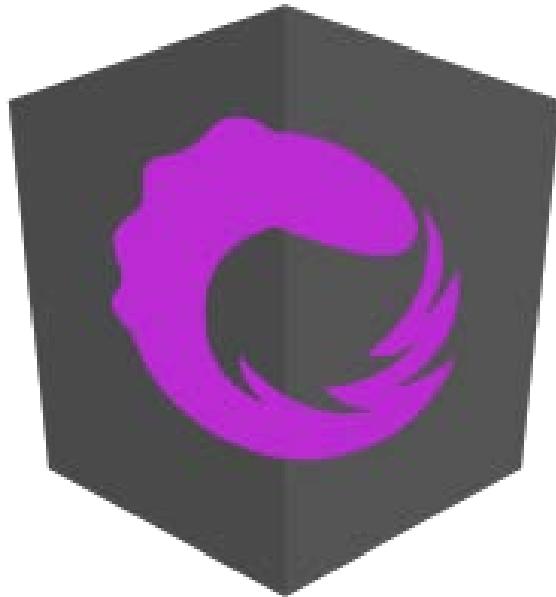


User Selection  
and Input

...



# Purpose of NgRx



**Provide a formal pattern for**

- Organizing state
- Managing state
- Communicating state changes



# Module Overview



**Introduce NgRx**

**Examine the problems it solves**

**Getting the most from this course**

**Sample application**

**Course outline**



Deborah - X

GitHub, Inc. [US] | <https://github.com/ngrx/platform>

README.md

# @ngrx

Reactive libraries for Angular

## Support

backers 50 sponsors 7 chat on gitter commitizen friendly

## Packages

- [@ngrx/store](#) - RxJS powered state management for Angular applications, inspired by Redux
- [@ngrx/effects](#) - Side Effect model for @ngrx/store to model event sources as actions.
- [@ngrx/router-store](#) - Bindings to connect the Angular Router to @ngrx/store
- [@ngrx/store-devtools](#) - Store instrumentation that enables a powerful time-travelling debugger.
- [@ngrx/entity](#) - Entity State adapter for managing record collections.
- [@ngrx/schematics](#) - Scaffolding library for Angular applications using NgRx.



# What Is NgRx?



=



+



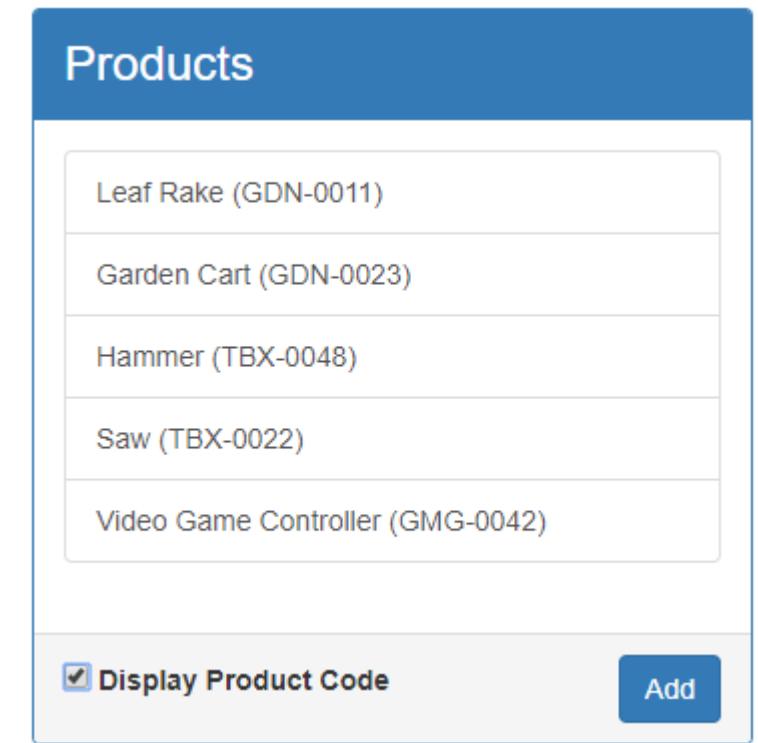
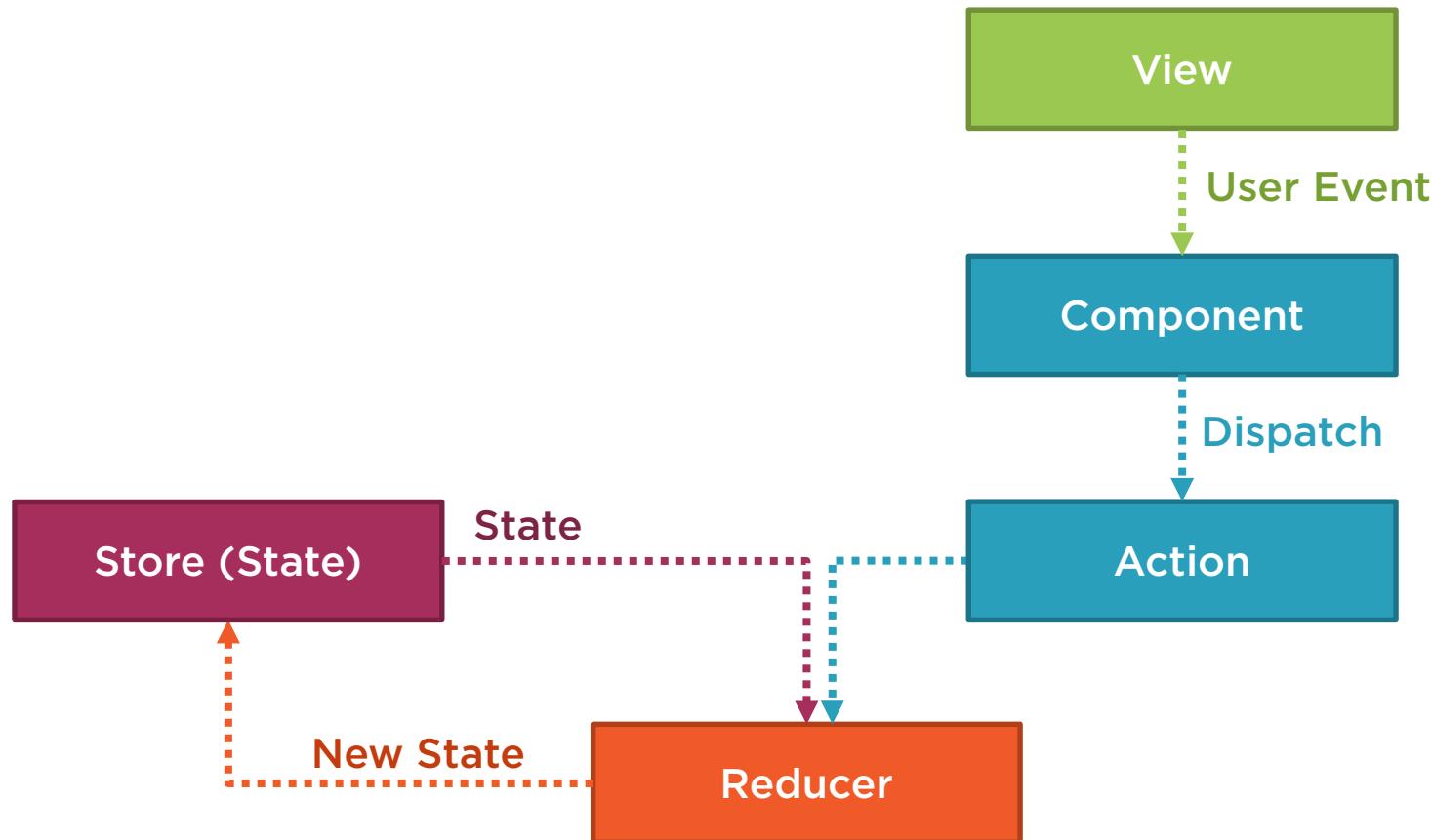
NgRx

redux  
pattern

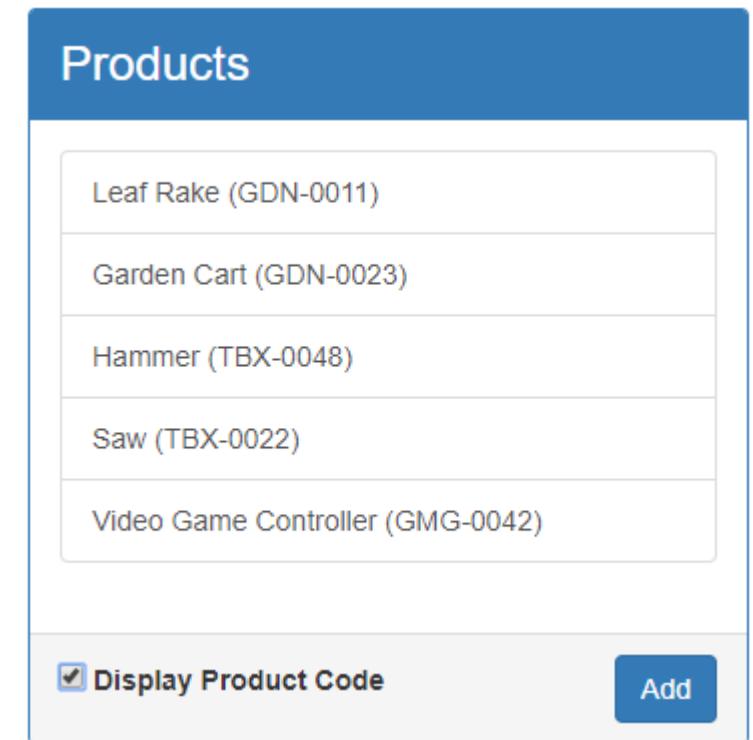
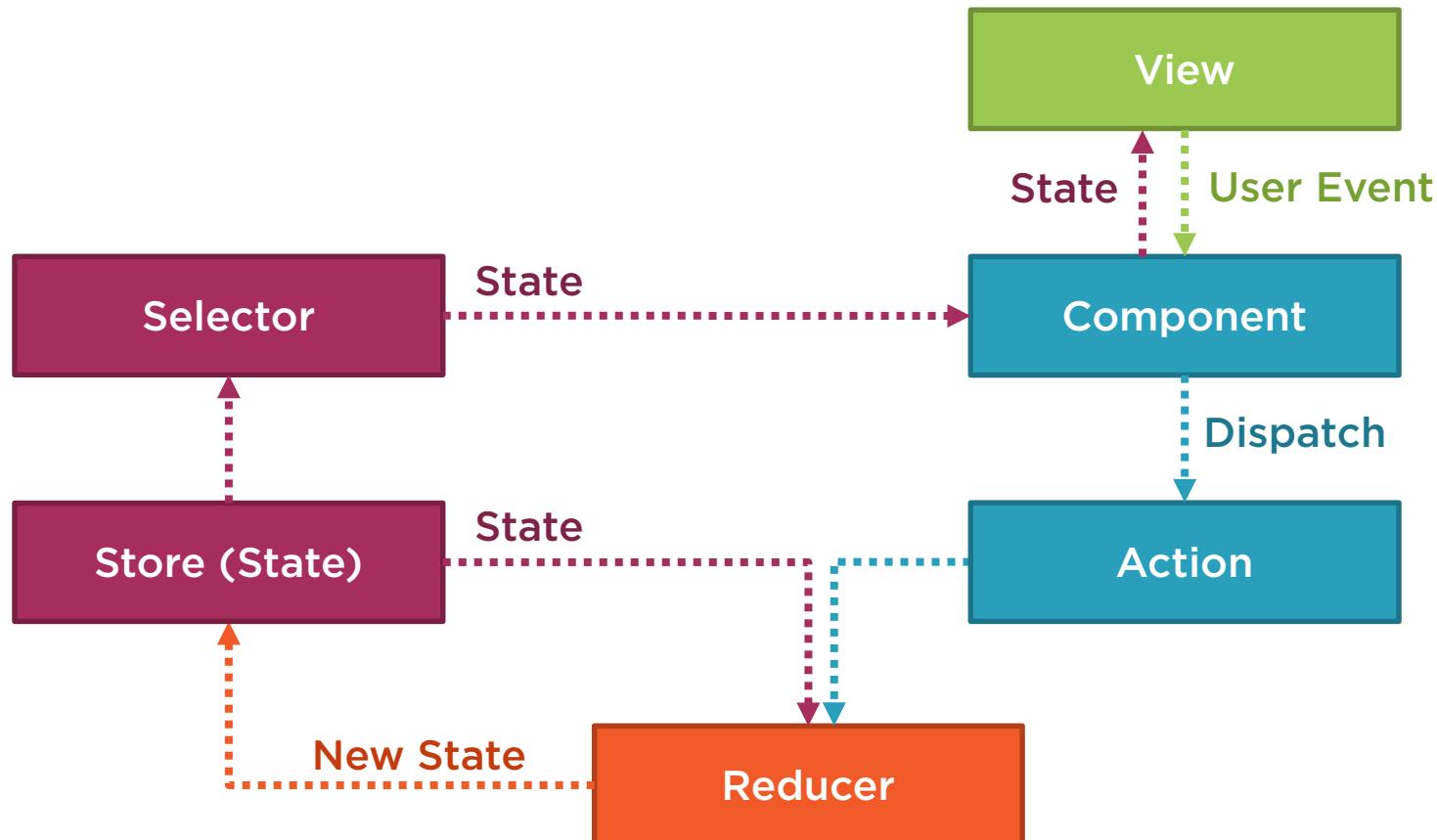
Angular



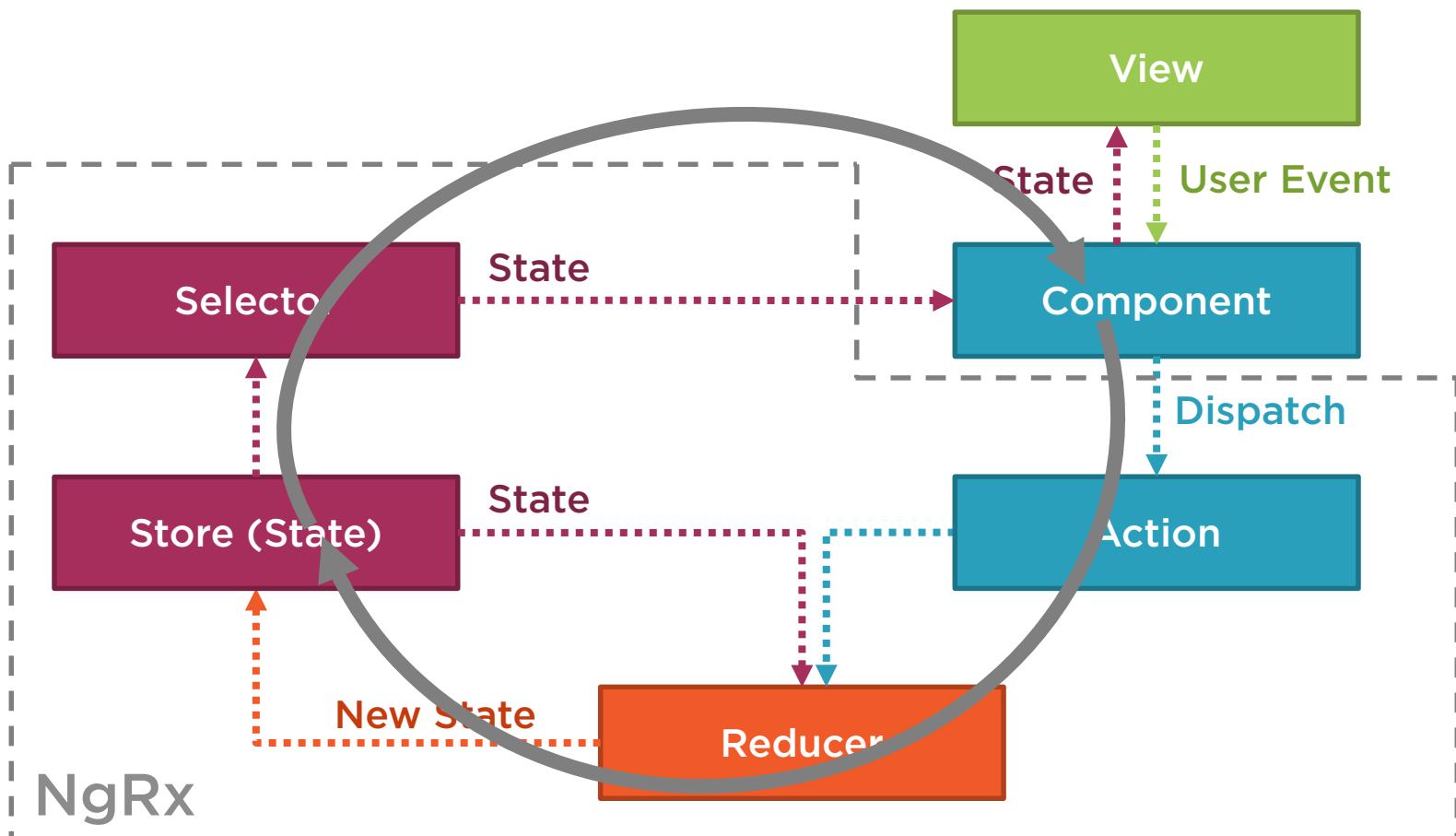
# Redux Pattern



# Redux Pattern



# Redux Pattern



Products

Leaf Rake (GDN-0011)
Garden Cart (GDN-0023)
Hammer (TBX-0048)
Saw (TBX-0022)
Video Game Controller (GMG-0042)

Display Product Code

Add



# Why use NgRx?



Without NgRx

# They're Everywhere!

## Product Criteria Service

```
export class ProductCriteriaService {  
  showImage: boolean;  
  listFilter: string;  
  
  Cart Manager  
  export class CartManager {  
    allowGuest: boolean;  
    includeAds: boolean;  
    displayCustomerDetails: boolean;  
  }  
  
  Shipping Criteria  
  export class ShippingCriteria {  
    allowEdit: boolean;  
    listFilter: string;  
    displayAddress: boolean;  
  }
```

## Price Criteria Service

```
House Criteria Service  
export class WarehouseCriteriaService {  
  showImage: boolean;  
  listFilter: string;  
  displayCustomerDetails: boolean;  
  order: string,  
  phone: string;  
  phoneNumber: boolean;
```



Without NgRx

# Do We Need to Get It Again?

## Product Service

```
export class ProductService {  
  private productUrl = 'api/products';  
  
  constructor(private http: HttpClient) { }  
  
  getProducts(): Observable<Product[]> {  
    return this.http.get<Product[]>(this.productUrl)  
  }  
}
```

## Product List Component

```
export class ProductListComponent {  
  products: Product[] = [];  
  
  constructor(private productService: ProductService) { }  
  
  ngOnInit(): void {  
    this.productService.getProducts()  
      .subscribe(products => this.products = products)  
  }  
}
```



Without NgRx

# Don't Forget to Tell Everyone!

Acme Product Management   Home   Product List   Add Product   Welcome Deborah   Log Out

Number of months on the market: 9

**Products**

- Garden Cart (GDN-0023)
- Hammer (TBX-0048)
- Leaf Rake (GDN-0011)
- Saw (TBX-0022)
- Video Game Controller (GMG-0042)

**Product Detail: Garden Cart**

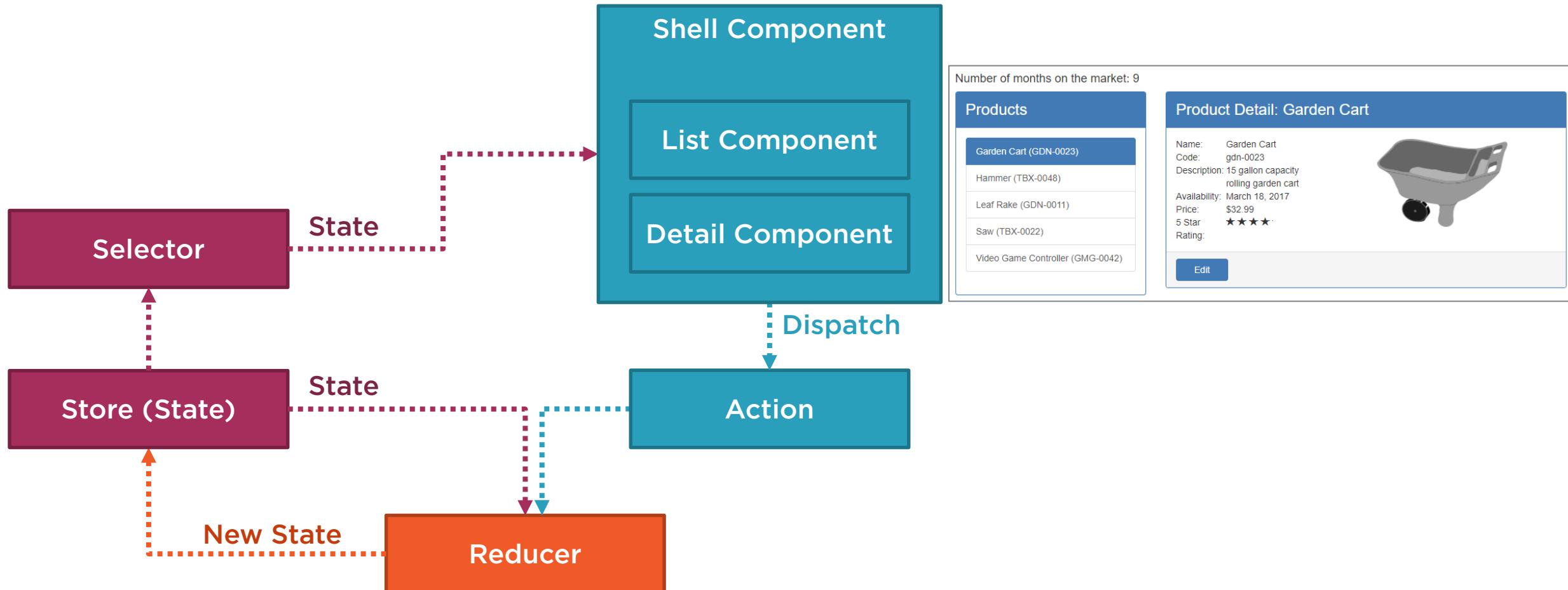
Name: Garden Cart  
Code: gdn-0023  
Description: 15 gallon capacity rolling garden cart  
Availability: March 18, 2017  
Price: \$32.99  
5 Star   
Rating:

[Edit](#)





# NgRx



# What's Going On?

The screenshot shows the APM Demo App DevTools interface, specifically the Redux tab. The left panel, titled "Inspector", lists recent actions:

- @ngrx/store/init
- @ngrx/effects/init
- @ngrx/store/update-reducers
- [Product] Load
- [Product] Load Success
- [Product] Set Current Product

Each action entry includes a timestamp (e.g., 3:16:07.65) and a "Commit" button. The right panel, titled "APM Demo App DevTools", displays the selected action: "[Product] Set Current Product". It shows the payload and type of the action.

Action	Action	State	Diff
Tree	Chart	Raw	
▶ payload (pin): { id: 1, productName: "Leaf Rake", productCode: "GDN-0011", ... }			
type (pin): "[Product] Set Current Product"			

At the bottom, there is a "this." input field and a "Dispatch" button. Below these are several tool buttons: Pause recording, Persist, Dispatcher, Slider, Import, Export, Remote, and Settings.



# Use NgRx When...

**There is state everywhere!**

- The store provides a place for UI state to retain it between router views

**Getting data again and again!**

- The store provides a client-side cache to use as needed

**Notify everyone!**

- The reducer updates the store and the store notifies all subscribers

**Something isn't working!**

- It has great tooling



# Don't Use NgRx When...

**Your team is new to Angular**

- Ramp up with Angular and RxJS Observables first

**The application is simple**

- The extra code required for NgRx may not be worth the effort

**Your team has a good pattern**

- No need to change if you already have a good state management pattern in place



# Prerequisites

## Required

- Angular modules
- Components
- Services
- RxJS Observables

## Suggested

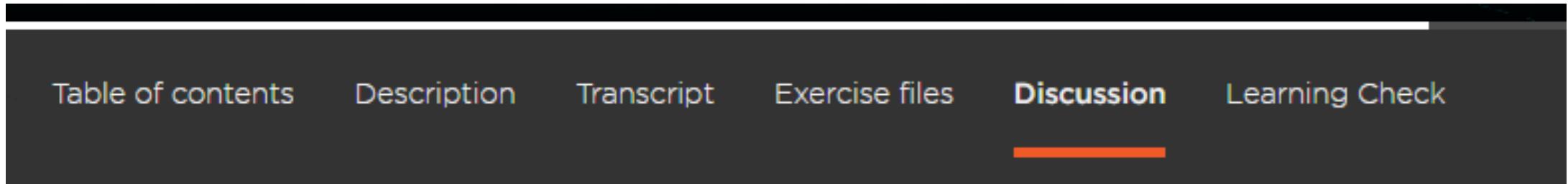
- Angular: Getting Started
- Angular: First Look
- Angular Component Communication

## Not Required

- NgRx experience



# Thoughts? Comments? Questions?



@deborahkurata

@dunchunter



# Blog Post

[https://blogs.msmvps.com/deborahk/  
angular-ngrx-getting-started-problem-solver/](https://blogs.msmvps.com/deborahk/angular-ngrx-getting-started-problem-solver/)

## Deborah's Developer MindScape

### "Angular NgRx: Getting Started" Problem Solver

Filed under: Angular,Angular Course Problem Solver — deborahk @ 12:58 pm Edit This

Tags: Angular, NgRx

This blog post supports the sample code for the "Angular NgRx: Getting Started" course on Pluralsight, identifying common issues along with their solutions.



# Checklists



- Review module concepts**
- Code along assistance**
- Revisit as you build**



# GitHub Repository

<https://github.com/DeborahK/Angular-NgRx-GettingStarted>

Materials for my Pluralsight course: Angular NgRx: Getting Started.

[Edit](#)

Add topics

63 commits 1 branch 0 releases 2 contributors MIT

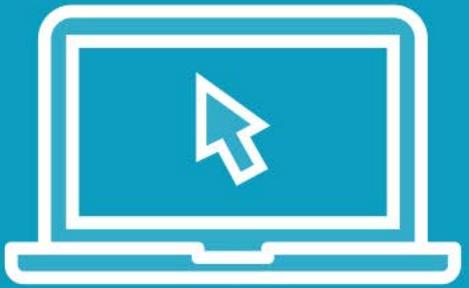


Branch: master ▾ New pull request Create new file Upload files Find file Clone or download ▾

 DeborahK	Update README.md	Latest commit 77f790e 13 minutes ago
 APM-Demo0	Merge Demo3 -> Demo4	2 days ago
 APM-Demo1	Merge Demo3 -> Demo4	2 days ago
 APM-Demo2	Merge Demo3 -> Demo4	2 days ago
 APM-Demo3	Merge Demo3 -> Demo4	2 days ago
 APM-Demo4	Merge Demo4->Demo5	2 days ago
 APM-Demo5	Merge Demo4->Demo5	2 days ago



# Demo

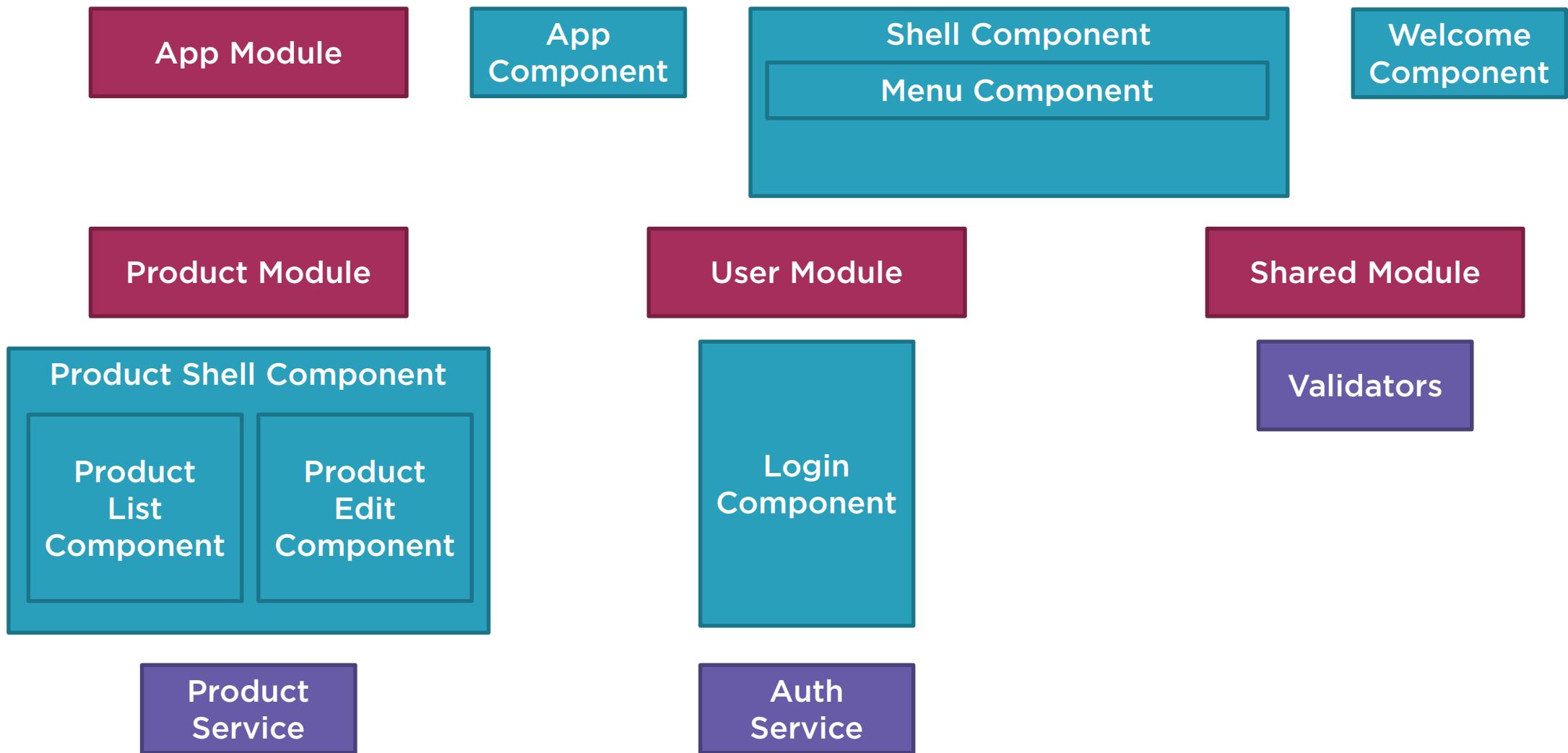


## Sample application in action

- Complex: state management requirements
- Simple: Implement within the course
- Existing: Focus on NgRx



# Sample Application Architecture



# Course Outline



**The redux pattern**

**First look at NgRx**

**Developer tools and debugging**

**Strongly typing the state**

**Strongly typing actions with action creators**

**Working with effects**

**Performing update operations**

**Architectural considerations**

**Final words**

