Prefetching Data Using Route Resolvers

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Acme Product Management

Home   Product List   Add Product

Product List

Filter by:

Acme Product Management

Home   Product List   Add Product

Show Messages   Log In

Name:

Code:

Description:

Availability:

Price:

5 Star Rating:

Category:

Tags:

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Benefits of Prefetching Data

Prevents display of a partial page

Reuses code

Improves flow when an error occurs

Module Overview

- Providing Data with a Route
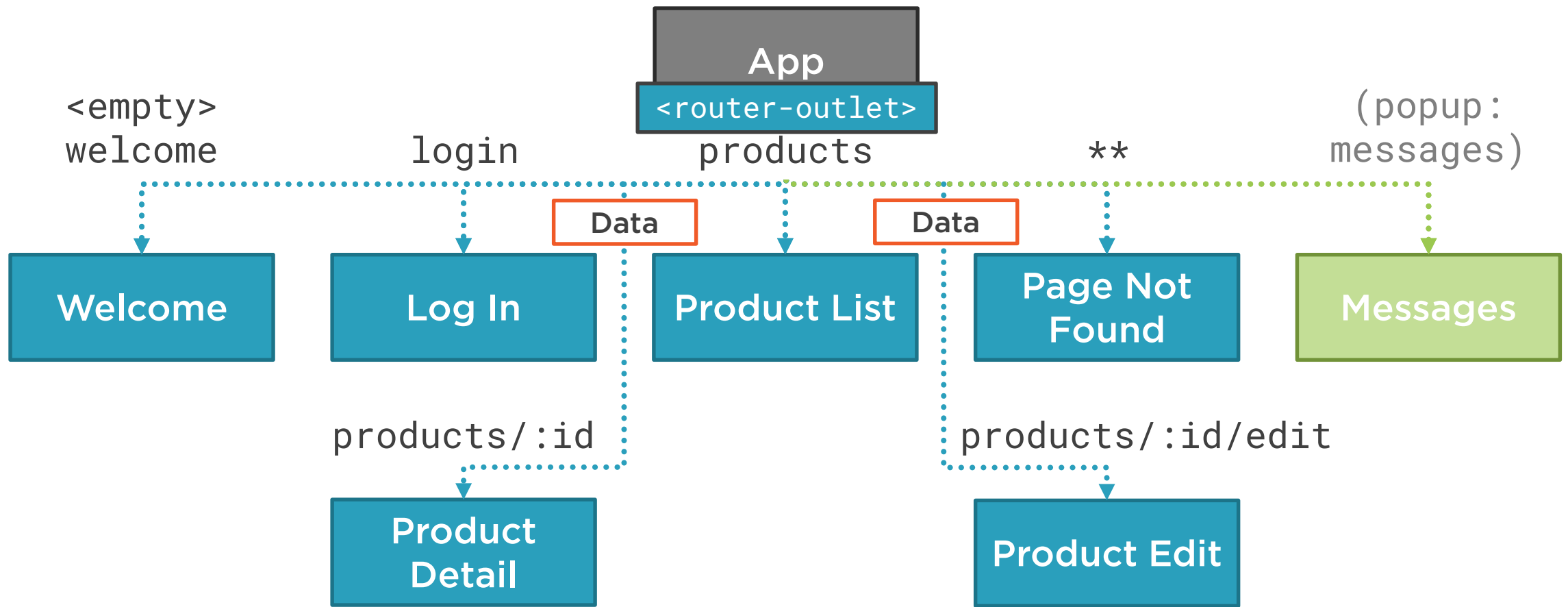- Using a Route Resolver
- Building a Route Resolver Service
- Adding a Resolver to a Route Configuration
- Reading Resolver Data - Snapshot
- Reading Resolver Data - Observable

Providing Data with a Route

Amount of data

Scope of data sharing
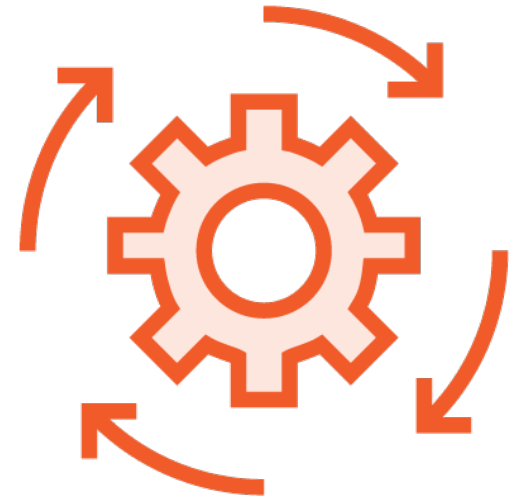
How data is used

Route's Data Property
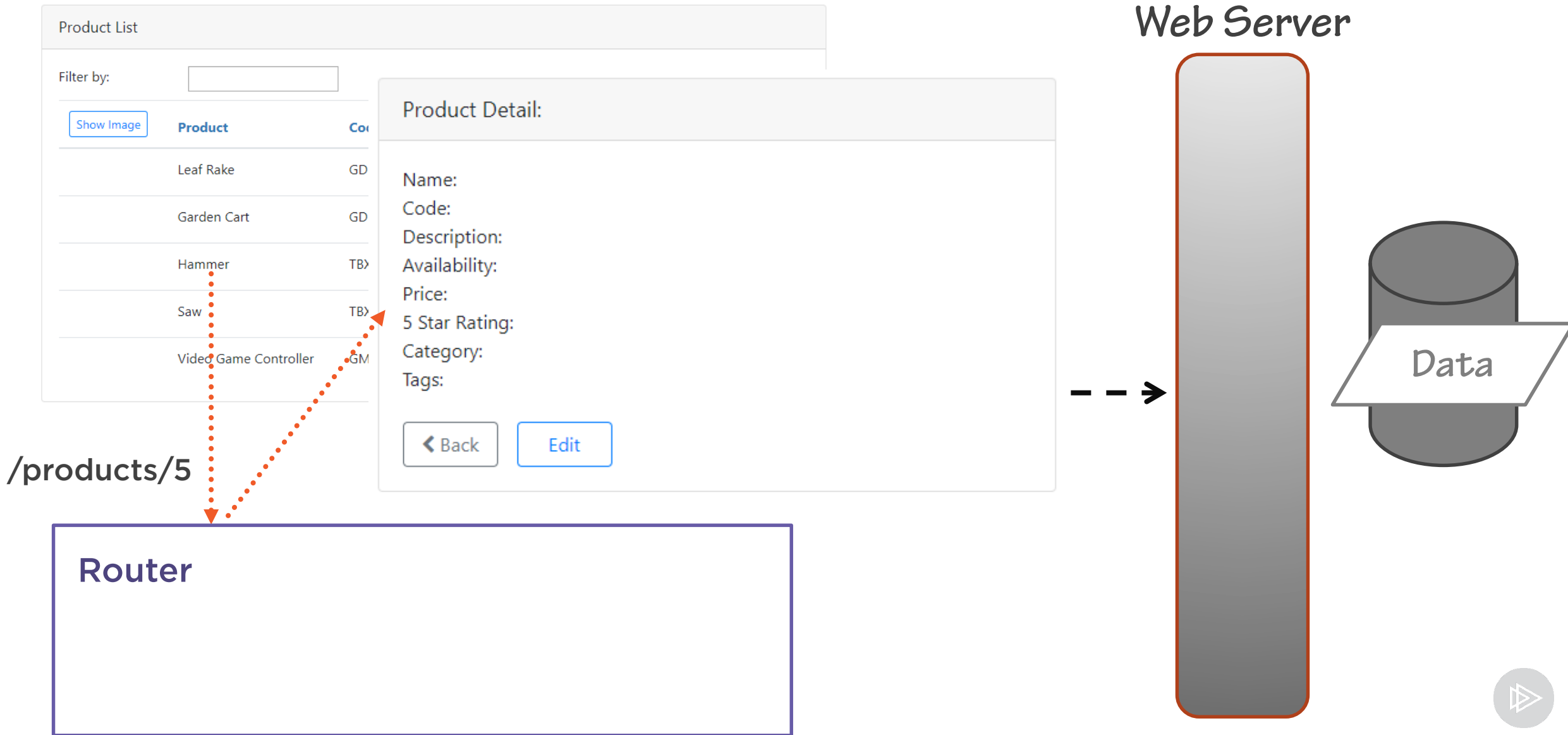
```
@NgModule({
  imports: [
    RouterModule.forChild([
      {
        path: 'products',
        component: ProductListComponent,
        data: { pageTitle: 'Product List' }
      },
      { path: 'products/:id', component: ProductDetailComponent },
      { path: 'products/:id/edit', component: ProductEditComponent }
    ])
  ], ...
```
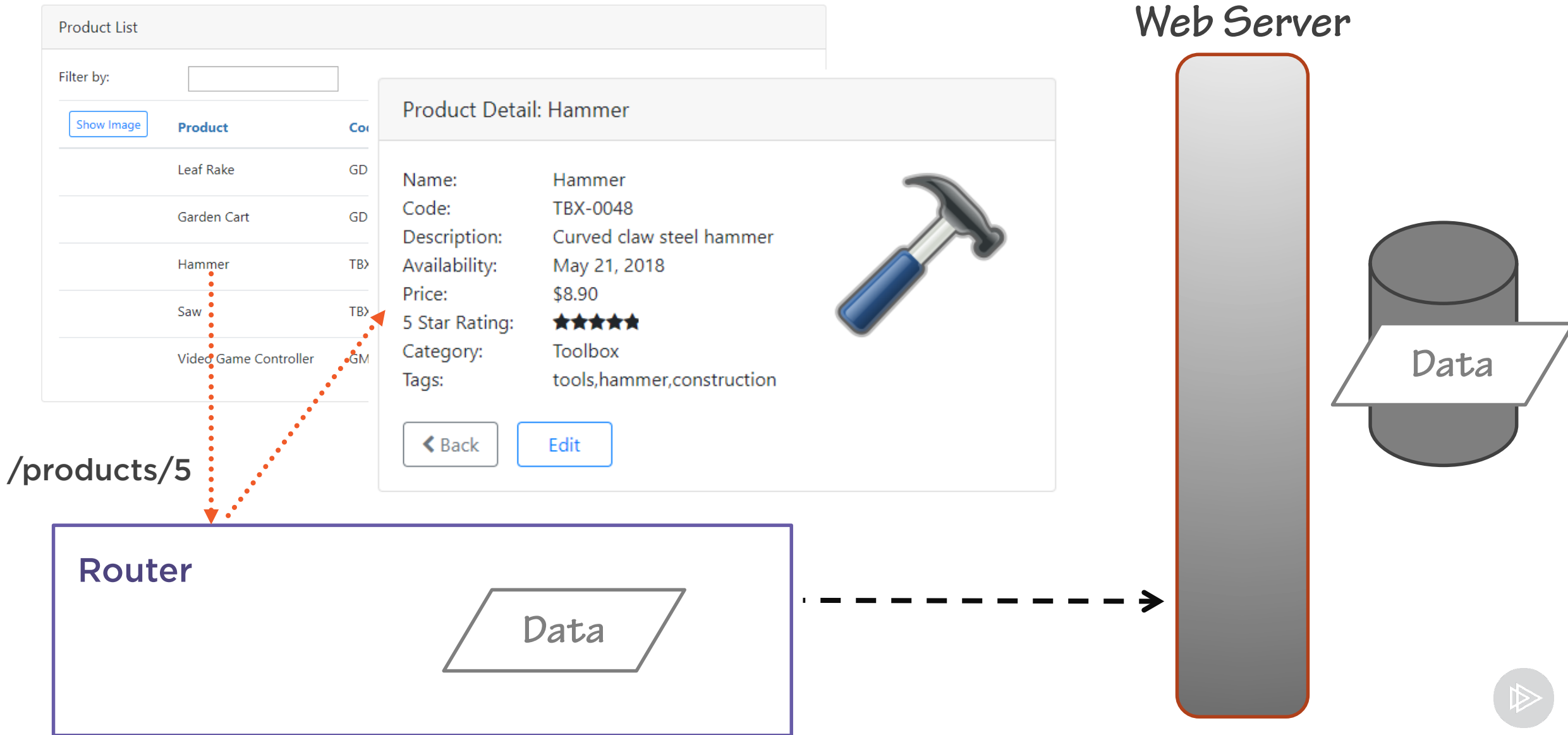
Component Class

```
this.pageTitle = this.route.snapshot.data['pageTitle'];
```

Without a Route Resolver

Product List

Filter by:

Show Image	Product	Co
	Leaf Rake	GD
	Garden Cart	GD
	Hammer	TB
	Saw	TB
	Video Game Controller	GM

Product Detail:

Name:
Code:
Description:
Availability:
Price:
5 Star Rating:
Category:
Tags:

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Router

Web Server

Data

With a Route Resolver

Web Server

Data

Product List

Filter by:

| Show Image | Product | Co... |

Leaf Rake — GD

Garden Cart — GD

Hammer — TBX

Saw — TBX

Video Game Controller — GM

Product Detail: Hammer

Name:	Hammer
Code:	TBX-0048
Description:	Curved claw steel hammer
Availability:	May 21, 2018
Price:	$8.90
5 Star Rating:	★★★★★
Category:	Toolbox
Tags:	tools,hammer,construction

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Router

Data

Using a Route Resolver

1. Build a route resolver service

2. Add resolve to the route configuration

3. Read the data from ActivatedRoute

Use a Snapshot

Product List

Filter by: [   ]

Show Image	Product	Code	Available	Price	5 Star Rating
	Leaf Rake	GDN-0011	March 19, 2018	$19.95	★★★
	Garden Cart	GDN-0023	March 18		
	Hammer	TBX-0048	May 21,		
	Saw	TBX-0022	May 15,		
	Video Game Controller	GMG-0042	October		

Product Detail: Hammer

Name: Hammer
Code: TBX-0048
Description: Curved claw steel hammer
Availability: May 21, 2018
Price: $8.90
5 Star Rating: ★★★★★
Category: Toolbox
Tags: tools,hammer,construction

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Use an Observable

Building a Route Resolver Service

```typescript
import { Injectable } from '@angular/core';
import { Resolve, ActivatedRouteSnapshot, RouterStateSnapshot } from '@angular/router';
import { Observable } from 'rxjs';

import { Product } from './product';

@Injectable({
  providedIn: 'root'
})
export class ProductResolver implements Resolve<Product> {

    resolve(route: ActivatedRouteSnapshot,
            state: RouterStateSnapshot): Observable<Product> {
        ...
    }
}
```

Demo

Resolver Error Handling

Adding a Resolver to a Route Configuration

```
[

 { path: 'products', component: ProductListComponent },

 { path: 'products/:id', component: ProductDetailComponent,

                    resolve: { product: ProductResolver }},

 { path: 'products/:id/edit', component: ProductEditComponent,

                    resolve: { product: ProductResolver }}

]
```

Adding a Resolver to a Route Configuration

```
[
 { path: 'products', component: ProductListComponent },
 { path: 'products/:id', component: ProductDetailComponent,
                    resolve: { product: ProductResolver }},
 { path: 'products/:id/edit', component: ProductEditComponent,
                    resolve: { product: ProductResolver,
                               categories: CategoryResolver }}
]
```

Reading Resolver Data: Snapshot

Component Class

```typescript
import { ActivatedRoute } from '@angular/router';
...
  product: Product;

  constructor(private route: ActivatedRoute) {
    this.product = this.route.snapshot.data['product'];
  }
```
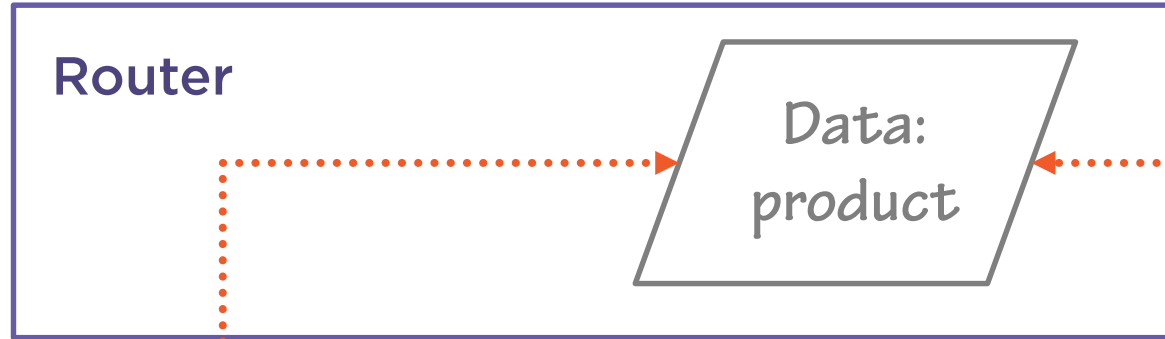
Angular Module

```typescript
{ path: 'products/:id', component: ProductDetailComponent,
  resolve: { product: ProductResolver } }
```

Resolver Service

```typescript
export class ProductResolver implements Resolve<Product> { }
```

Sharing the Data Instance

Router

Data:
product

Component Class 1

```
this.product = this.route.snapshot.data['product'];
```

Component Class 2

```
this.product = this.route.snapshot.data['product'];
```

Reading Resolver Data: Observables

Component Class

```typescript
import { ActivatedRoute } from '@angular/router';
...
    product: Product;
    constructor(private route: ActivatedRoute) {
        this.route.data.subscribe(
            data => this.product = data['product'];
        );
    }
```

Angular Module

```typescript
{ path: 'products/:id/edit', component: ProductEditComponent,
    resolve: { product: ProductResolver } }
```

Resolver Service

```typescript
export class ProductResolver implements Resolve<Product> { }
```

Route Resolvers Checklist: Building

- [x] ——————— **Create an Angular service**

- [x] ——————— **Implement the Resolve<> interface**

- [x] ——————— **Add a resolve method**

```
export class ProductResolver implements Resolve<Product> { }
```

```
resolve(route: ActivatedRouteSnapshot,
        state: RouterStateSnapshot): Observable<Product> { }
```

Route Resolvers Checklist: Configuring

Configure using resolve

Give each type of data a logical name

Specify a reference to the route resolver

```
{
 path: 'products/:id',
 component: ProductDetailComponent,
 resolve: { product: ProductResolver }
}
```

Route Resolvers Checklist: Reading

Read the data from the route

- Snapshot

```
this.product = this.route.snapshot.data['product'];
```

- Data Observable

```
this.route.data.subscribe(
    data => this.product = data['product'];
);
```

Summary

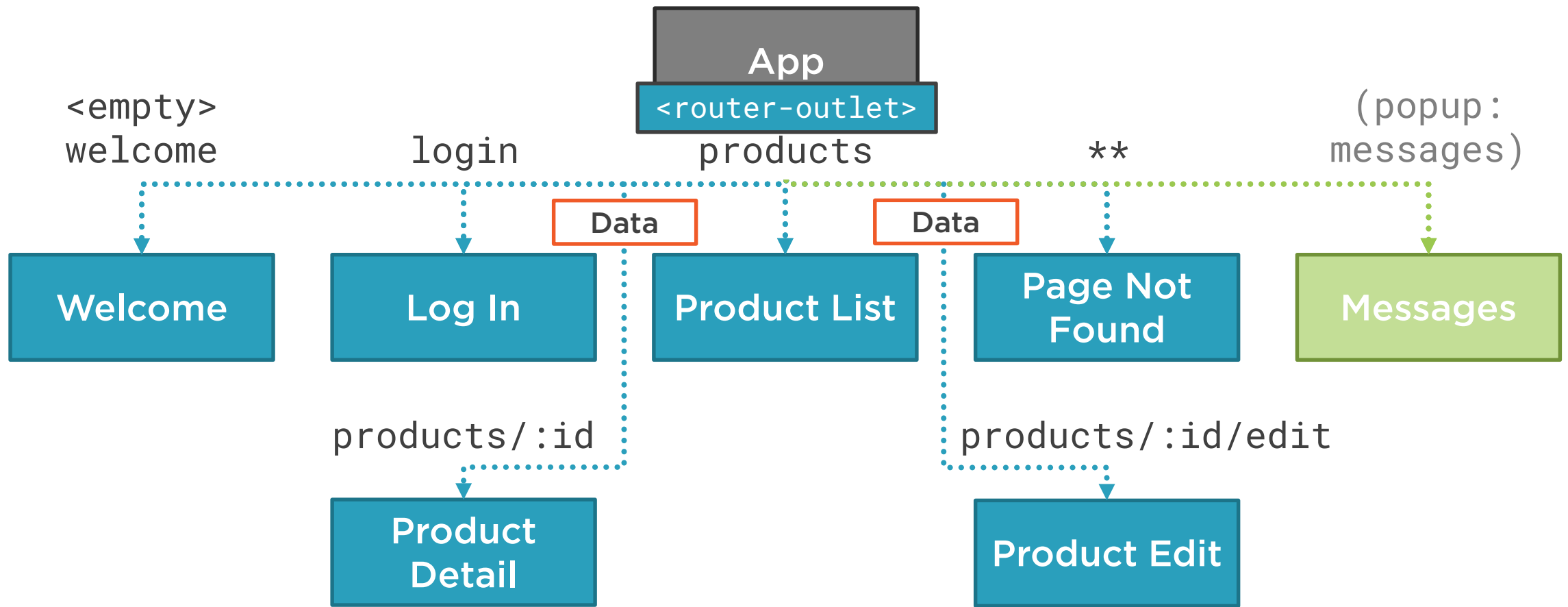**Providing Data with a Route**

Using a Route Resolver

Building a Route Resolver Service

Adding a Resolver to a Route Configuration

Reading Resolver Data - Snapshot

Reading Resolver Data - Observable