Angular 13 to 15

A cornerstone for Angular developers?

Loïc Magnette

Senior Dev & Architect

Aka Carambar

@LoMagnette

ONIRYX

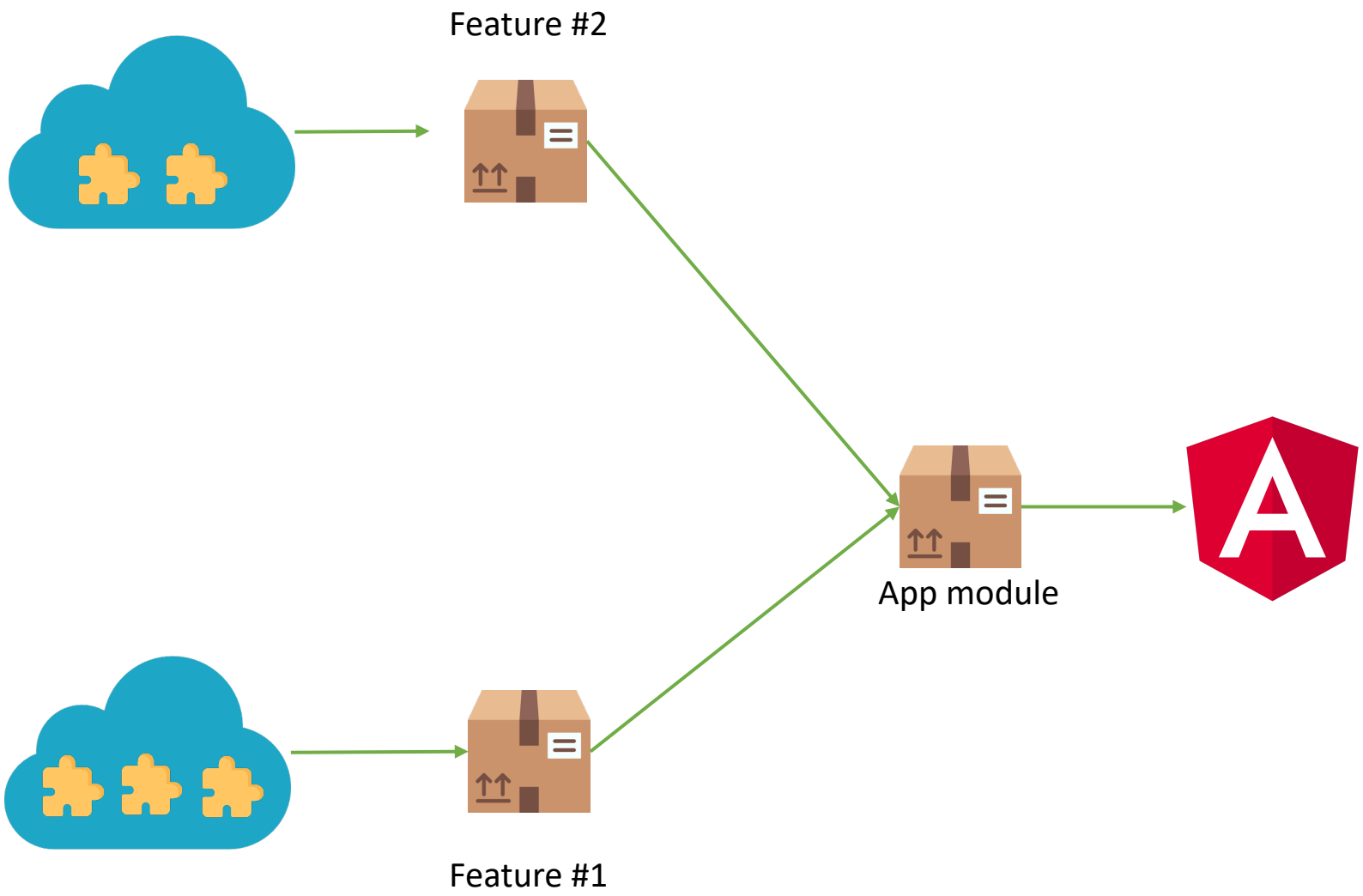
PROUDLY PART OF BLACKSHEEP TRIBES

W
S
E

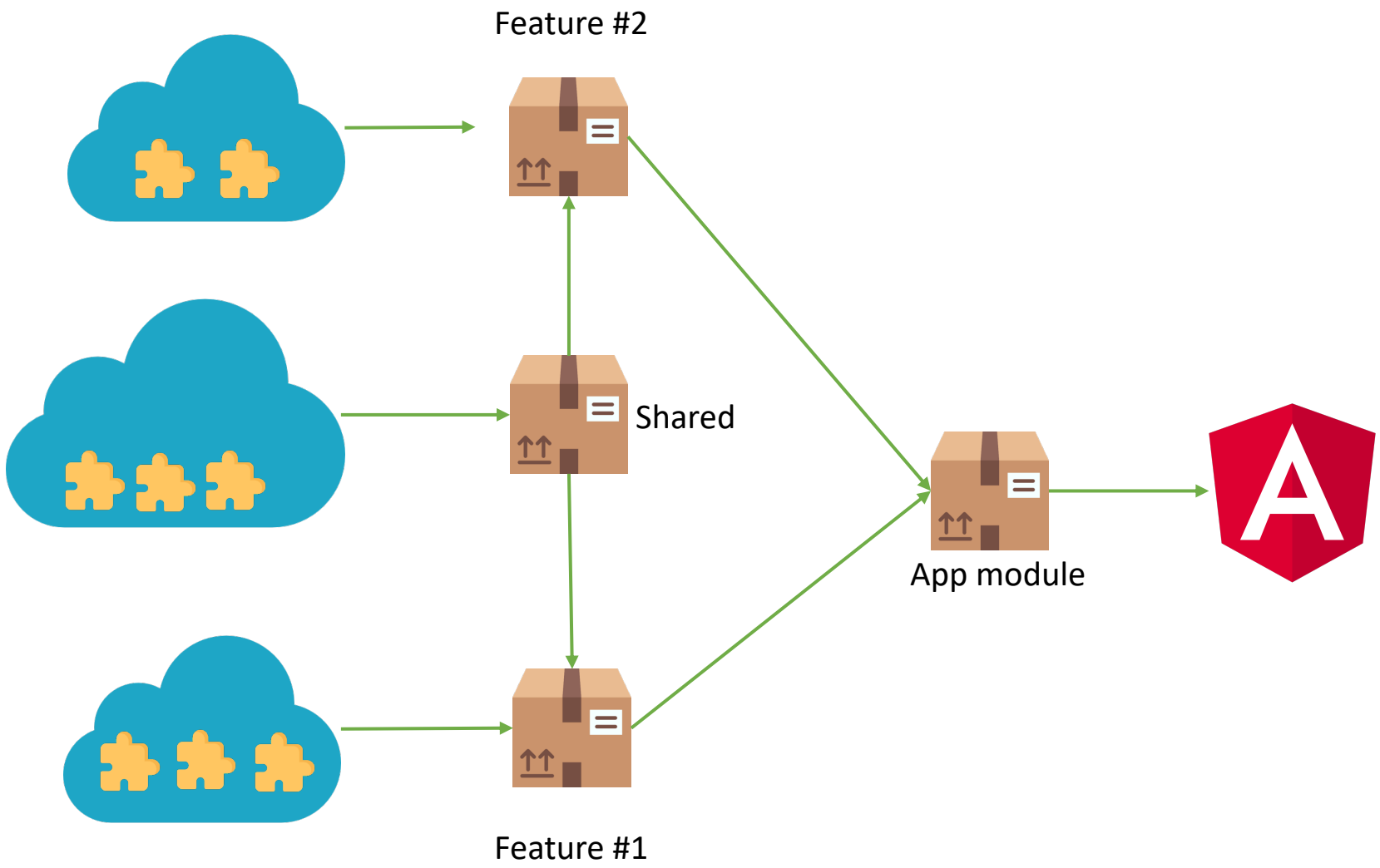
Module ruled Angular

- Components are not enough
- Complex for beginners
- Modules become too big

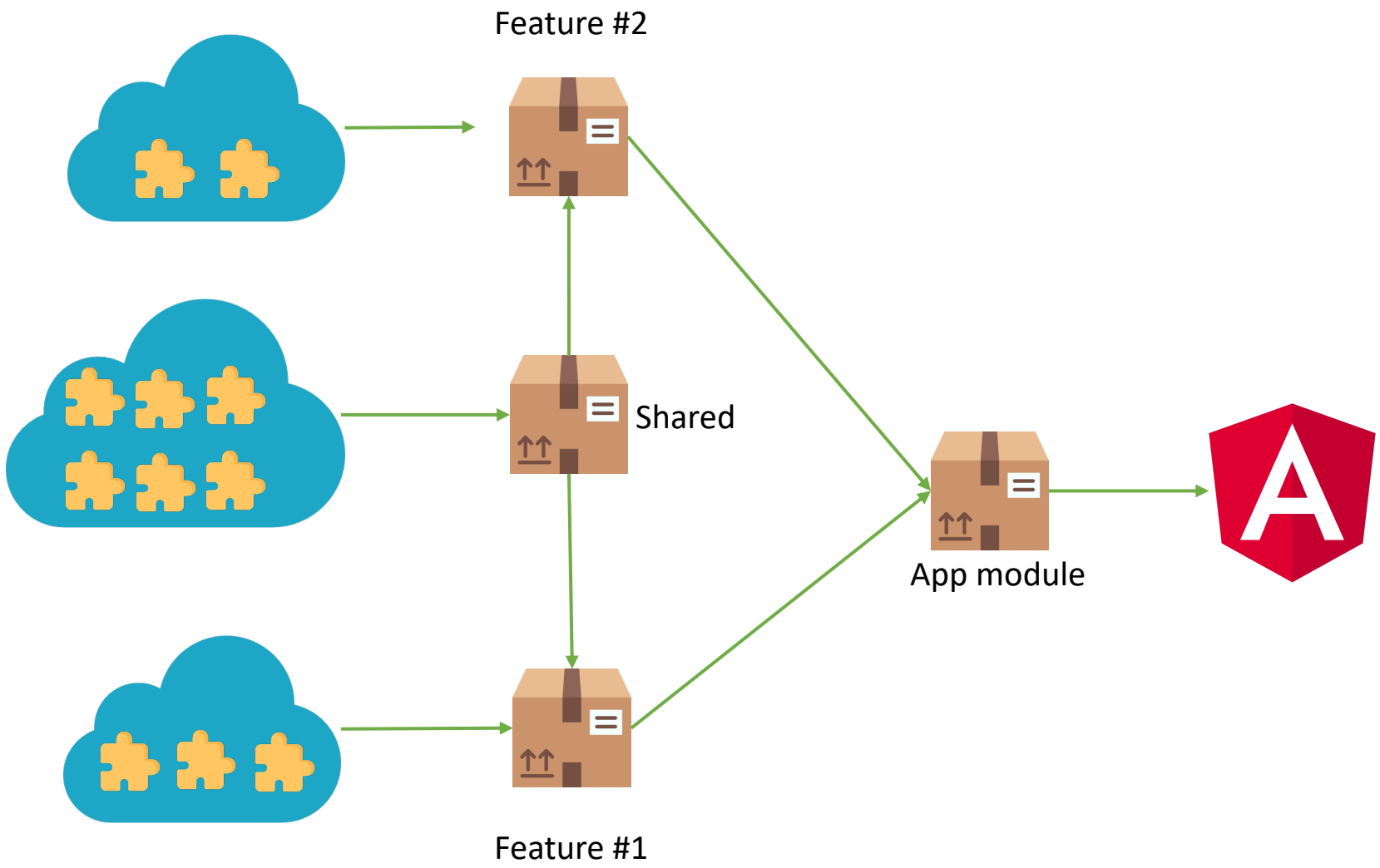
Modules become too big



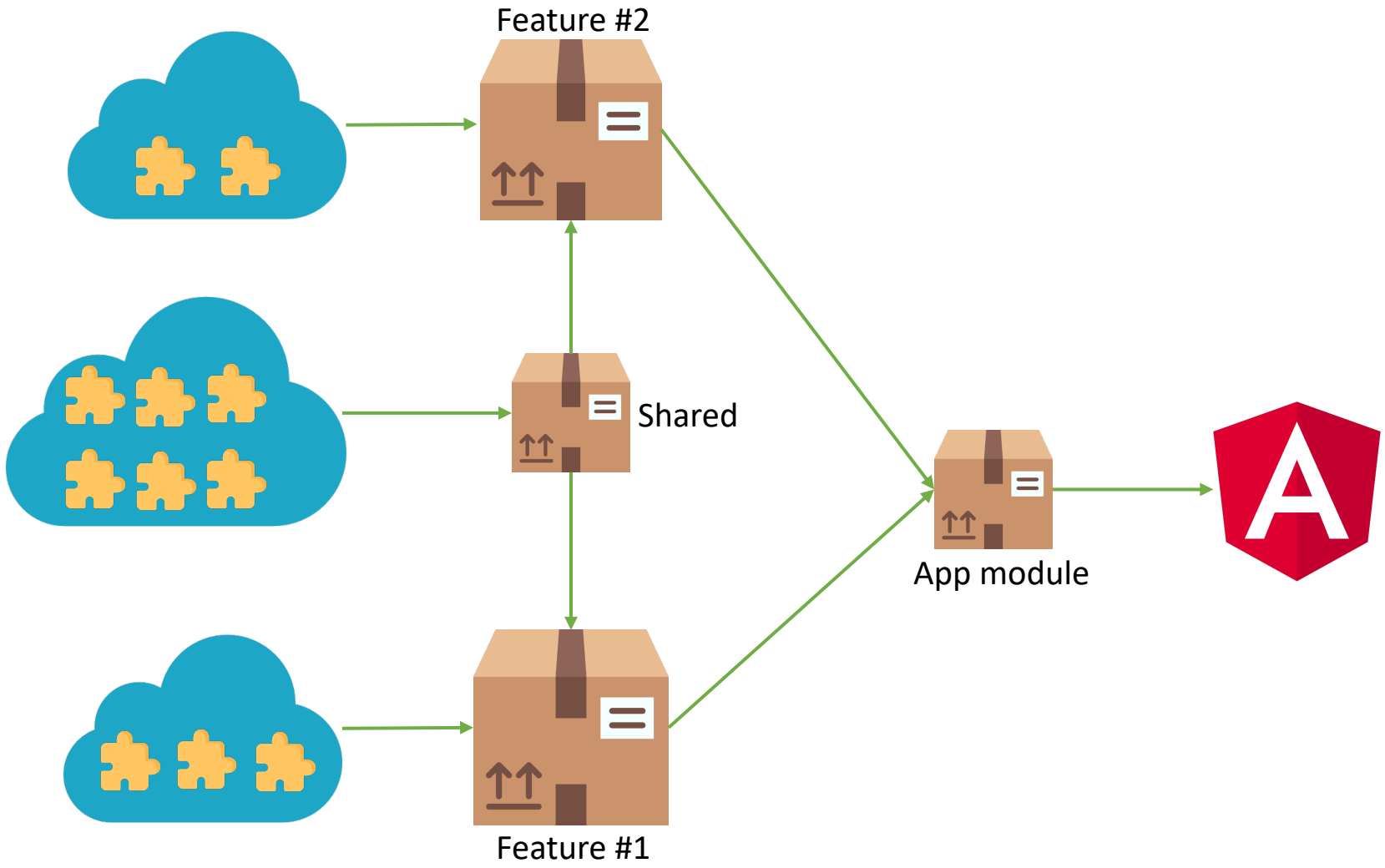
Modules become too big



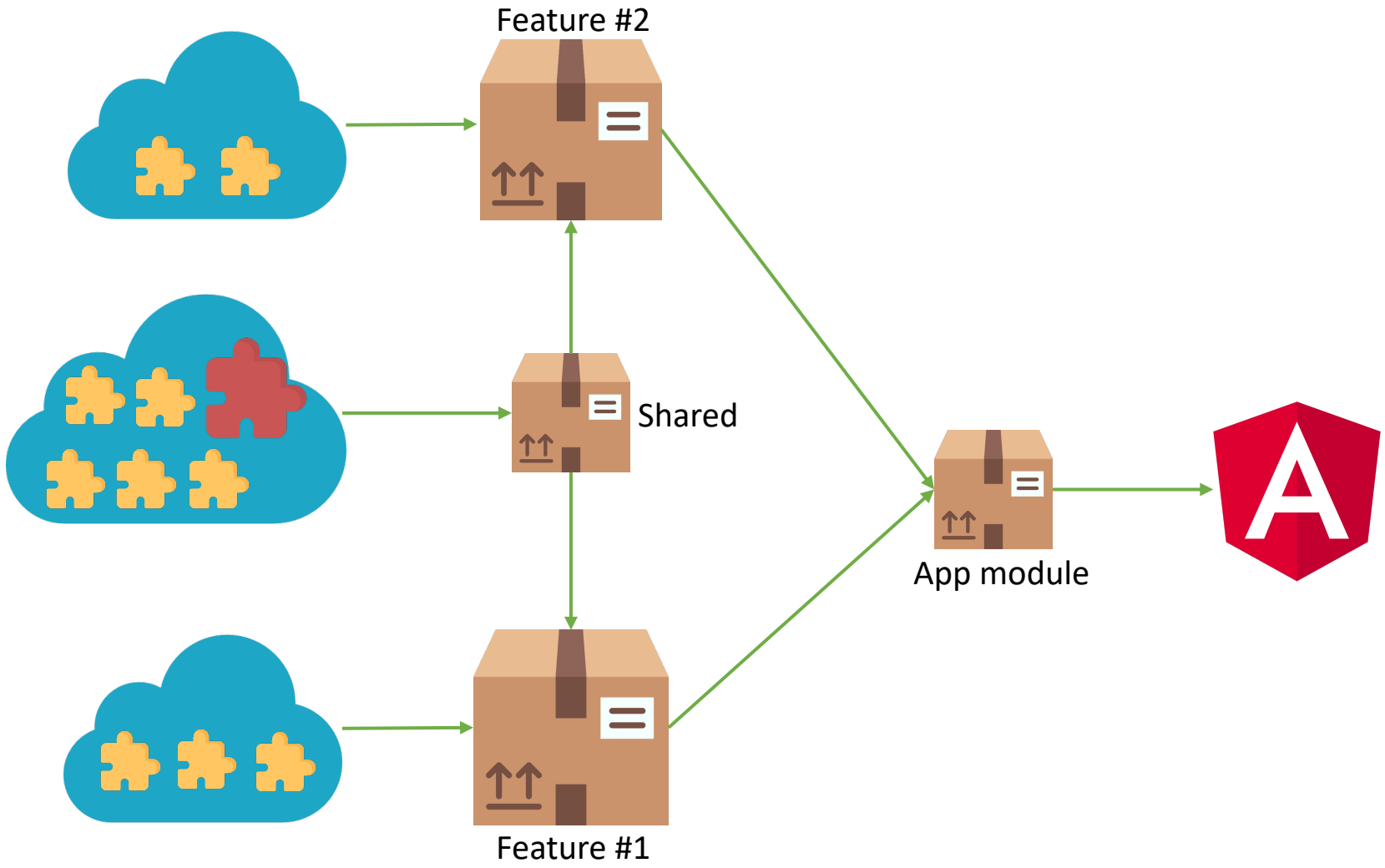
Modules become too big

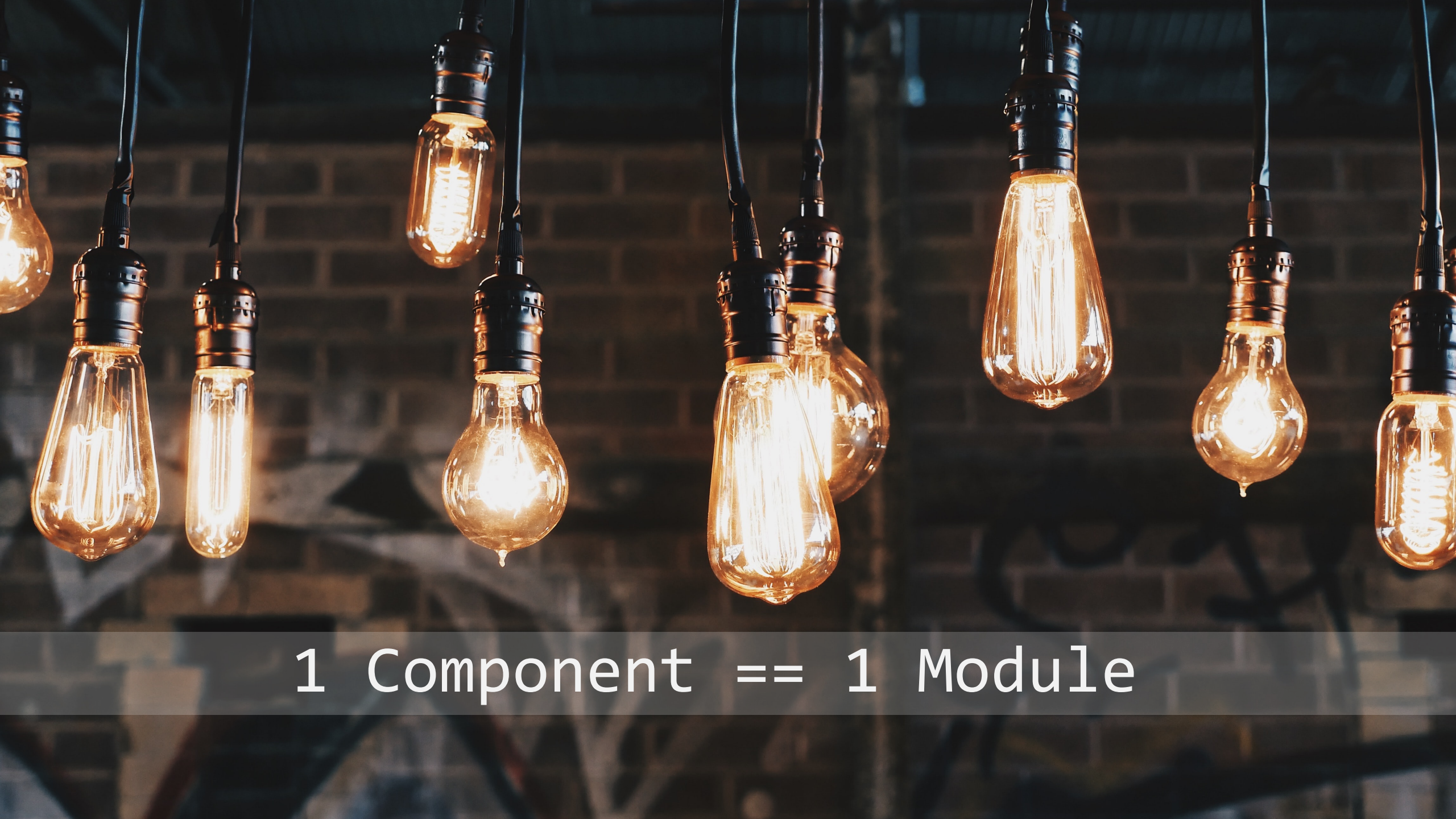


Modules become too big



Modules become too big





1 Component == 1 Module

1 Module

Standalone components

Impacts - Bootstrapping

Impacts

- Bootstrapping
- Module injector

Impacts

- Bootstrapping
- Environment injector

Impacts

- Bootstrapping
- Environment injector
- Routing

Routing

- Lazyload a module
- Navigate to a component

Routing

- Lazyload a module
- Navigate to a component and standalone component

Routing

- Lazyload a module
- Navigate to a component and standalone component
- Lazyload a standalone component
- Lazyload a route

Guards

```
export const ADMIN_ROUTES:Routes =[
  {
    path: '',
    component: UserListComponent
  },
  {
    path: '',
    component: UserListV2Component
  }
]
```

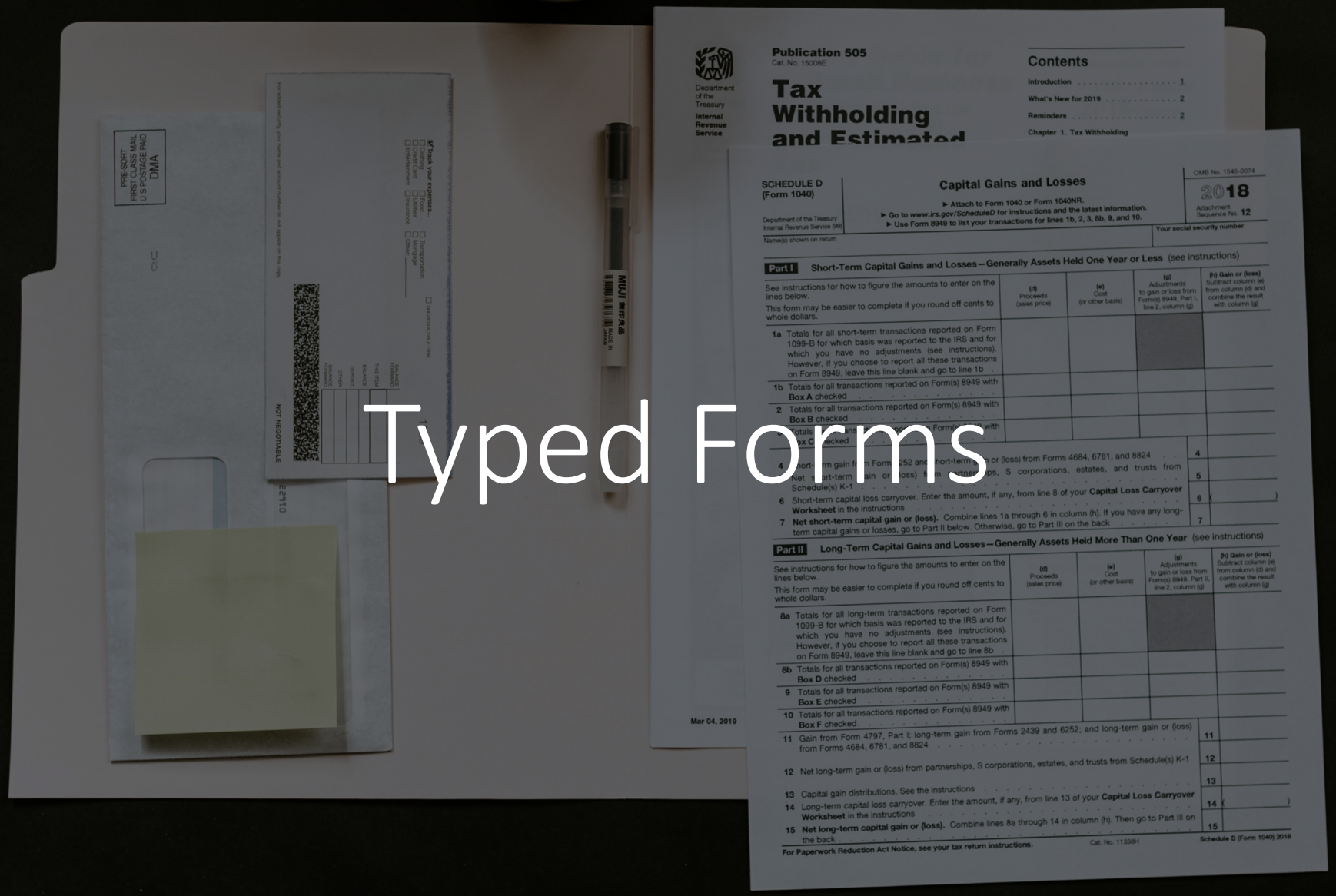
CanMatch

```
export const ADMIN_ROUTES:Routes =[
  {
    path: '',
    component: UserListComponent,
    canMatch: [AdminGuard]
  },
  {
    path: '',
    component: UserListV2Component
  }
]
```

CanMatch

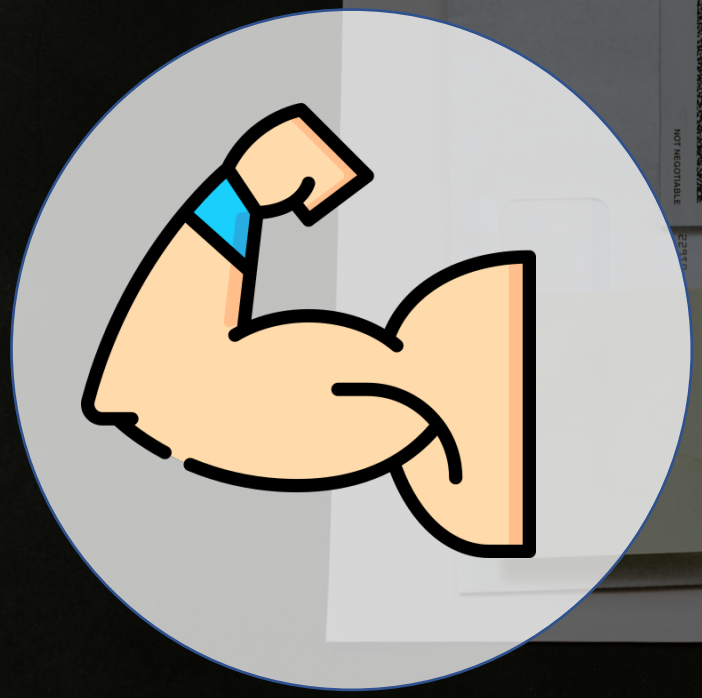
```
@Injectable({
  providedIn: 'root',
})
export class AdminGuard implements CanMatch{

  no usages  Ima
  constructor(private userService:UserService) {
  }

  no usages  Ima
  canMatch( route: Route, segments: UrlSegment[] ): Observable<boolean>|boolean {
    return this.userService.isAdmin();
  }
}
```

Guard as a Function


Publication 505
Cat. No. 15008E
Department of the Treasury
Internal Revenue Service
Tax Withholding and Estimated
Contents
Introduction 1
What's New for 2019 2
Reminders 2
Chapter 1. Tax Withholding
Mar 04, 2019
SCHEDULE D (Form 1040)
Capital Gains and Losses
OMB No. 1545-0074
2018
Attachment Sequence No. 12
Your social security number
Part I Short-Term Capital Gains and Losses—Generally Assets Held One Year or Less (see instructions)
Part II Long-Term Capital Gains and Losses—Generally Assets Held More Than One Year (see instructions)
For Paperwork Reduction Act Notice, see your tax return instructions.
Cat. No. 11338H
Schedule D (Form 1040) 2018
PRE-SORT FIRST CLASS MAIL U.S POSTAGE PAID DMA
NOT NEGOTIABLE

Typed Forms

Typed Forms: Goals



Typed Forms

```
todoForm:FormGroup<{
  title: FormControl<string>,
  id: FormControl<number>,
  completed: FormControl<boolean>
}>;
```

Typed Forms

```
const id : number = this.todoForm.value.id;
const title : string | undefined = this.todoForm.value.title;
```

Typed Forms

```
this.todoForm = formBuilder.group( controls: {
  title: '',
  id: 0,
  completed: formBuilder.control( formState: false),
  anotherThing: formBuilder.control( formState: ''),
})
```

FormRecord

```
const langs : FormRecord<FormControl<string>...  = new FormRecord<FormControl<string>>( controls: { });

langs.addControl( name: 'keyName',
  new FormControl( value: 'English',  opts: { nonNullable: true })
);
```

Directive composition

Directive composition

```
@Directive({
  selector: '[basicTooltip]',
  standalone: true
})
export class BasicTooltipDirective {

  @Input() tooltipText: string = '';
  @Input() tooltipPlacement: string = 'top';
  @Input() tooltipDelay: number = 100;
```

Directive composition

```
@Directive({
  selector: '[appTooltip]',
  standalone: true,
  hostDirectives:[
    {
      directive: BasicTooltipDirective,
      inputs: [
        'tooltipText: tooltip',
        'tooltipPlacement: placement',
        'tooltipDelay: delay'
      ]
    }
  ]
})
export class AppTooltipDirective {

  no usages  Ima
  constructor() { }
```

Migration

Migration

Angular Update Guide

Select the options that match your update

Angular versions

From v. 14.0 To v. 15.0

Application complexity

Basic Medium Advanced

Shows information that's of interest to more advanced Angular developers.

Other dependencies

- [ ] I use ngUpgrade to combine AngularJS & Angular
- [x] I use Angular Material
- [ ] I use Windows

Show me how to update!

Guide to update your Angular application v14.0 -> v15.0 for medium applications

Migration

```
>ng g @angular/core:standalone
? Choose the type of migration: (Use arrow keys)
> Convert all components, directives and pipes to standalone
  Remove unnecessary NgModule classes
  Bootstrap the application using standalone APIs
```

Migration

```
>ng g @angular/core:standalone
? Choose the type of migration: (Use arrow keys)
> Convert all components, directives and pipes to standalone
  Remove unnecessary NgModule classes
  Bootstrap the application using standalone APIs
```

```
>ng g @angular/core:standalone
? Choose the type of migration: Convert all components,
directives and pipes to standalone
? Which path in your project should be migrated? (./)
```

Migration

```
>ng g @angular/core:standalone
? Choose the type of migration:
  Convert all components, directives and pipes to standalone
> Remove unnecessary NgModule classes
  Bootstrap the application using standalone APIs
```

Migration

```
>ng g @angular/core:standalone
? Choose the type of migration:
  Convert all components, directives and pipes to standalone
  Remove unnecessary NgModule classes
> Bootstrap the application using standalone APIs
```

The future

Signals

[Watch This Space] Angular Reactivity with Signals #49090

alxhub announced in RFCs

alxhub 3 weeks ago Collaborator

tl;dr: we've begun some prototyping work around adding signals as a reactive primitive in Angular, in advance of a formal Request For Comments (RFC) which we plan to open soon. Prototyping early and in the open aligns with our team values and allows us to get the most out of an RFC.

If you've seen our talk from ng-conf 2022, Angular: A Design Review 10 Years Later, you know we've been thinking long and hard about some fundamental design decisions of the framework. Last year, we kicked off a long-term research project with an ambitious goal: to embrace fine-grained reactivity in the core of the framework.

In a fine-grained reactive web framework, components track which parts of the application's data model they depend on, and are only synchronized with the UI when that model changes. This is fundamentally different from how Angular works today, where it uses zone.js to trigger global top-down change detection for the whole application.

We believe adding built-in reactivity to Angular unlocks many new capabilities, including:

- A clear and unified model for how data flows through an application.
- Built-in framework support for declarative derived state (a common feature request).
- Synchronizing only the parts of the UI that needs updated, at or even below the granularity of individual components.
- Significantly improved interoperability with reactive libraries such as RxJS.
- Better guardrails to avoid common pitfalls that lead to poor change detection performance and avoid common pain points such as `ExpressionChangedAfterItHasBeenChecked` errors.
- A viable path towards writing fully zoneless applications, eliminating the overhead, pitfalls, and quirks of zone.js.
- Simplification of many framework concepts, such as queries and lifecycle hooks.

Changing the reactivity model of an established framework like Angular is a significant project, with numerous challenges. Our plan for this project is broken out into multiple phases:

1. Research and development, experimenting with different approaches to reactivity.
2. Selection of a candidate design.
3. Prototyping of the initial design to demonstrate feasibility.

Category

RFCs

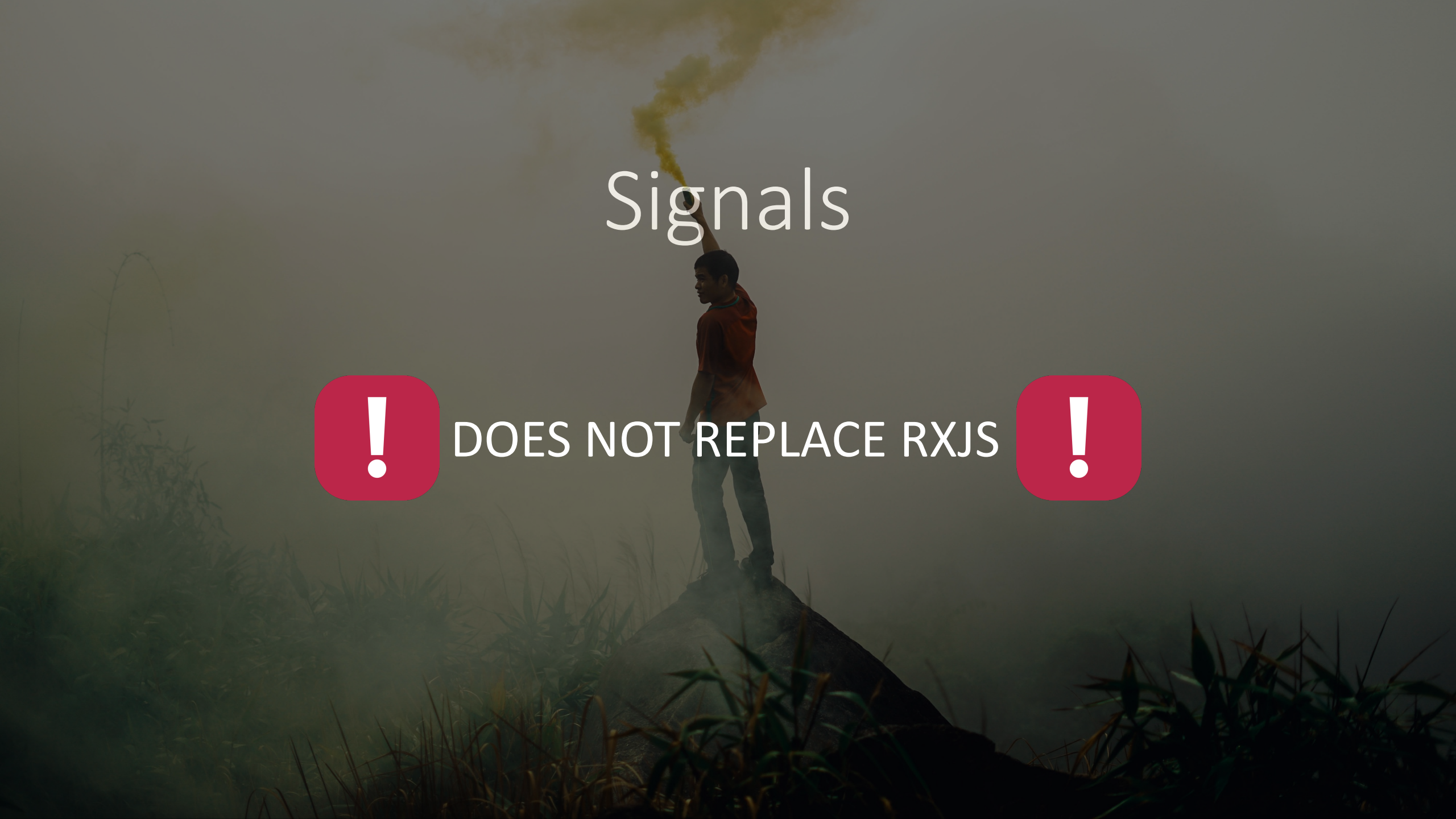
Labels

core: reactivity

95 participants

and others

Signals



! DOES NOT REPLACE RXJS !

Signals

- Used for ASYNC
- Async Orchestration
- Latest response
- Cancellation

Signals

- Used for ASYNC
- Async Orchestration
- Latest response
- Cancellation

- Are Sync
- Derived state
- Local component reactive state

Signals

- Used for ASYNC
- Async Orchestration
- Latest response
- Cancellation

- Are Sync
- Derived state
- Local component reactive state

Future

- Zoneless
- More granularity in reactivity
- Goodbye Webpack ?

The end

Give me a feedback

THANK YOU !

GAMING1

ONIRYX

i'groove

PROUDLY PART OF BLACKSHEEP TRIBES

GENESIS CONSULT
IT Consultancy Services

BuSI

nsi
A CEGEKA COMPANY

MIRAHI
ミラヒ
COMPANY

delaware

[sfeir]

devday
GET INSPIRED