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Upgrade a legacy app to Angular w/ CLI

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@devWithDog

The project

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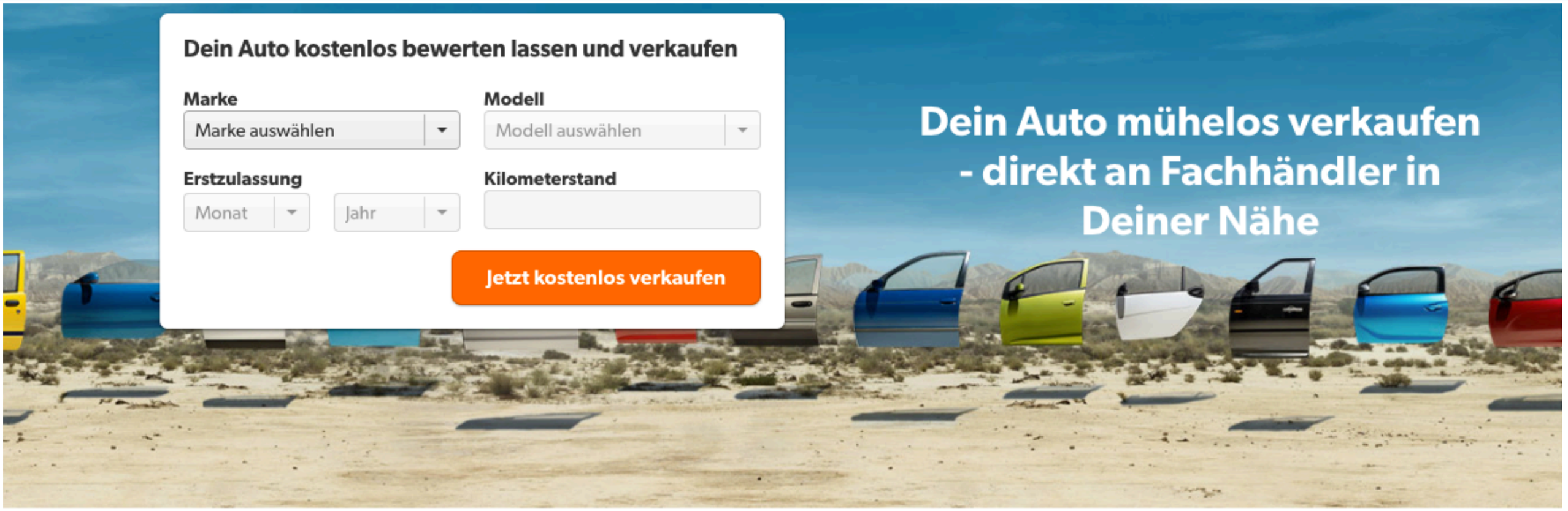

So einfach kann Dein Autoverkauf sein

Kostenlose Preisbewertung

Einfach Autodaten eintragen und kostenlose Preisbewertung für Dein Auto erhalten.

Autofachhändler finden

Vereinbare direkt einen Termin mit einem geprüften Autofachhändler in Deiner Nähe.

Müheloser Verkauf

Kein Verkaufszwang - bei Einigung übernehmen wir die Abmeldung kostenlos.

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Reality eats plans for breakfast. Be prepared.

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Upgrade to Angular w/ CLI

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angular.io

- Follow the Angular Style Guide
- Using a Module Loader
- Migrating to TypeScript
- Using Component Directives

Upgrade to Angular w/ CLI

Upgrade to Angular w/ CLI

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vsavkin.com: 5 Steps to Angular 2

```
import {NgModule, Component} from '@angular/core';
import {BrowserModule} from '@angular/platform-browser';
import {UpgradeModule} from '@angular/upgrade/static';

@Component({
  selector: 'root-cmp',
  template: `
    <div class="ng-view"></div>
  `,
})
export class RootCmp {}

@NgModule({
  imports: [
    BrowserModule,
    UpgradeModule,
  ],

  bootstrap: [RootCmp],
  declarations: [RootCmp]

})

export class Ng2AppModule {

  constructor(public upgrade: UpgradeModule){}

}
```

vsavkin.com: 5 Steps to Angular 2

Now, assuming your Angular 1 root module looks something like this:

```
import * as angular from 'angular'

import 'angular-route'

import {MessagesModule} from './messages';

import {MenuModule} from './menu';

import {SettingsModule} from './menu';

export const Ng1AppModule = angular.module('Ng1AppModule‘,[
                                                'ngRoute',
                                                SettingsModule.name,
                                                MessagesModule.name,
                                                MenuModule.name]);
```

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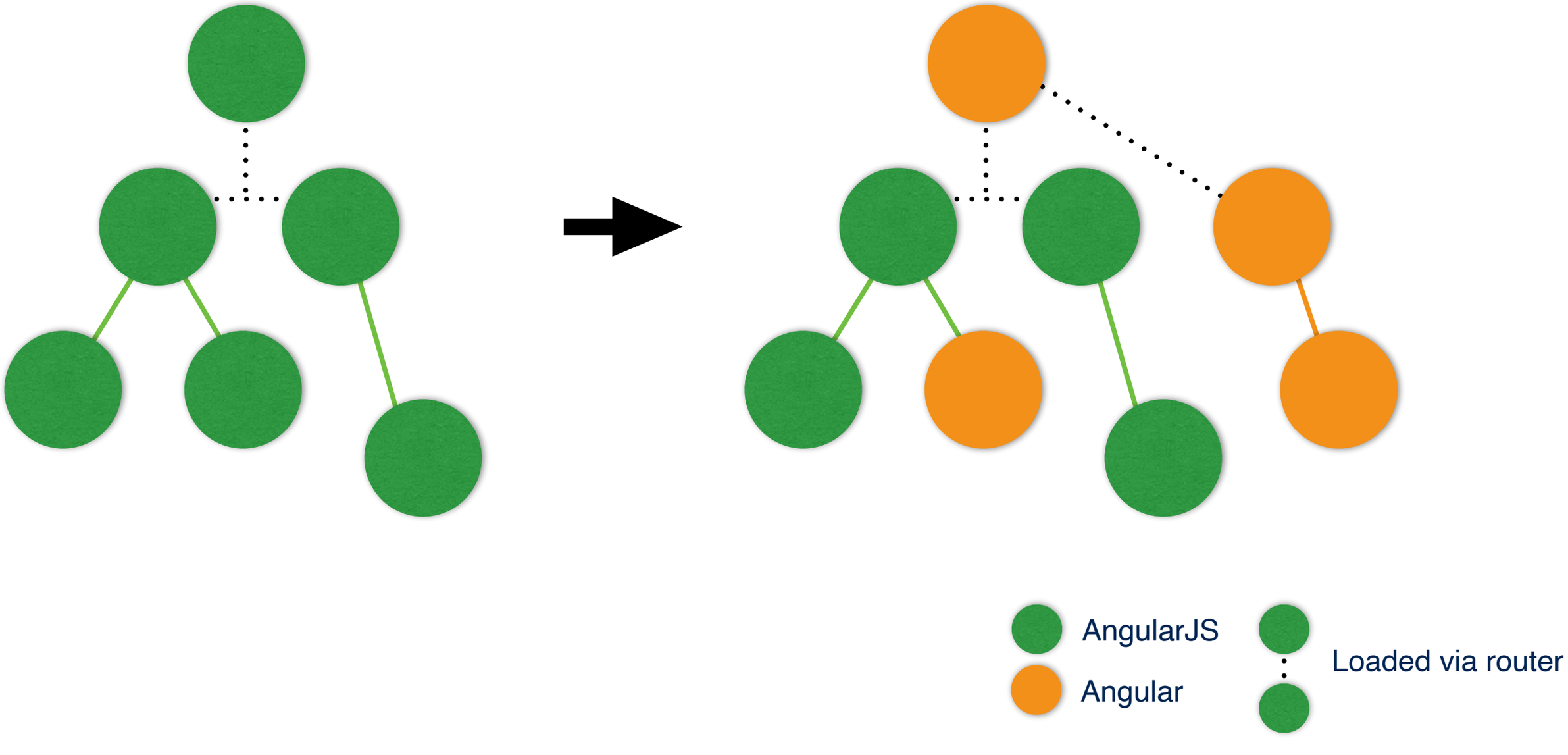
The Upgrade Shell Strategy



inspired by Victor Savkin

failing forward

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The solution

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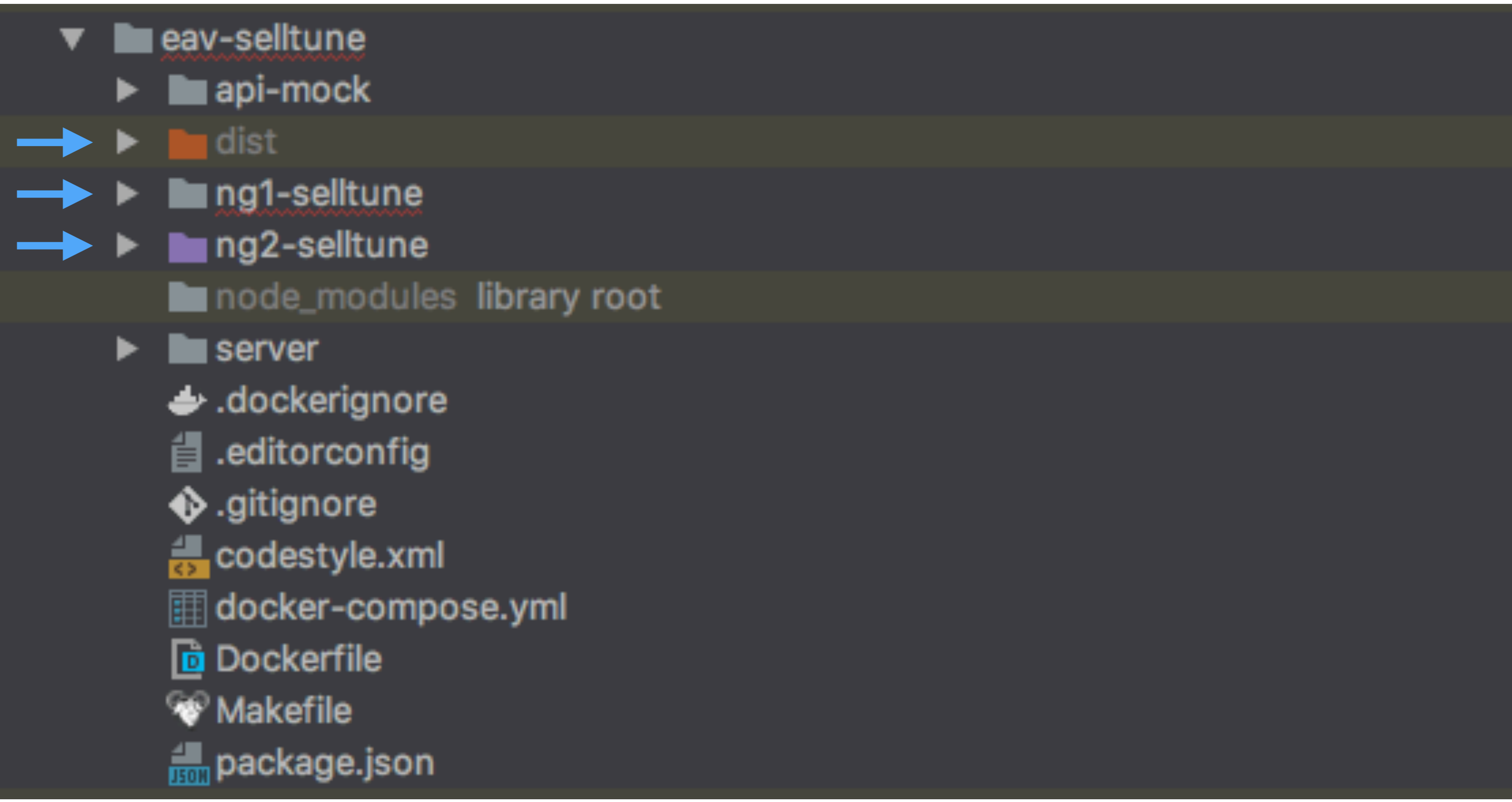
Directory structure



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Legacy app

```
module.exports = function (grunt) {
    grunt.initConfig({
        pkg         : grunt.file.readJSON('package.json'),
        dist        : '../ng2-selltune/src/dist-ng1',
```

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Angular CLI

```
"apps": [
    {
        "root": "src",
        "outDir": "dist",
        "assets": [
            "assets",
            "assets/fonts",
            "assets/icons",
            "assets/images",
            "favicon.ico",
            "dist-ng1/icons/font"
        ],
        "index": "index.html",
        "main": "main.ts",
        "polyfills": "polyfills.ts",
        "test": "test.ts",
        "tsconfig": "tsconfig.app.json",
        "testTsconfig": "tsconfig.spec.json",
        "prefix": "mobps",
        "styles": [
            "dist-ng1/icons/css/fontello.css",
            "dist-ng1/app_all.css",
            "scss/styles.scss"
        ],
        "scripts": [
            "dist-ng1/vendor_all.min.js",
            "dist-ng1/SellTune.min.js"
        ],
```

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Bootstrapping

```
// bootstrap Angular, then bootstrap legacy app
platformBrowserDynamic().bootstrapModule(AppModule).then(platformRef => {
    (<any>platformRef.instance).upgrade.bootstrap(document.body, ['SellTune']);
});
```

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Url handling

```
@NgModule({
    imports:    [
        RouterModule.forRoot(routes, {useHash: true})
    ],
    exports:    [
        RouterModule
    ],
    // provide custom UrlHandlingStrategy to separate AngularJs from Angular routes
    providers: [
        {
            provide:  UrlHandlingStrategy,
            useClass: Ng1Ng2UrlHandlingStrategy
        }
    ]
})
export class AppRoutingModule {
}
```

The solution

Url handling

```
export class Ng1Ng2UrlHandlingStrategy implements UrlHandlingStrategy {
    private ng1Urls: string[];

    constructor() {
        this.ng1Urls = [
            // ...
        ];
    }

    shouldProcessUrl(url) {
        url = url.toString();
        return this.ng1Urls.findIndex(
                    ng1Url => new RegExp(`^\/${ng1Url}([|\?|\/](.*)){0,1}$`).test(url)
        ) === -1;
    }

    extract(url) {
        return url;
    }

    merge(url, whole) {
        return url;
    }
}
```

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Template

```
<!-- app.component.html -->
<mobps-header></mobps-header>
<router-outlet></router-outlet>
<div class="ng-view"></div>
```

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Downgrading

```
// downgrading services and components for ng1
if (window['angular']) {
    window['angular'].module('SellTune.service')
        .factory(
            'Ng2PageTitleService',
            downgradeInjectable(PageTitleService));

    window['angular'].module('SellTune.service')
        .factory(
            'EnvService',
            downgradeInjectable(EnvService));

    window['angular'].module('SellTune')
        .directive(
            'search',
            downgradeComponent({component: SearchComponent, outputs: ['search']})
        );

    window['angular'].module('SellTune')
        .directive(
            'carPrice',
            downgradeComponent({component: CarPriceComponent, inputs: ['carPrice']})
        );
}
```

The result

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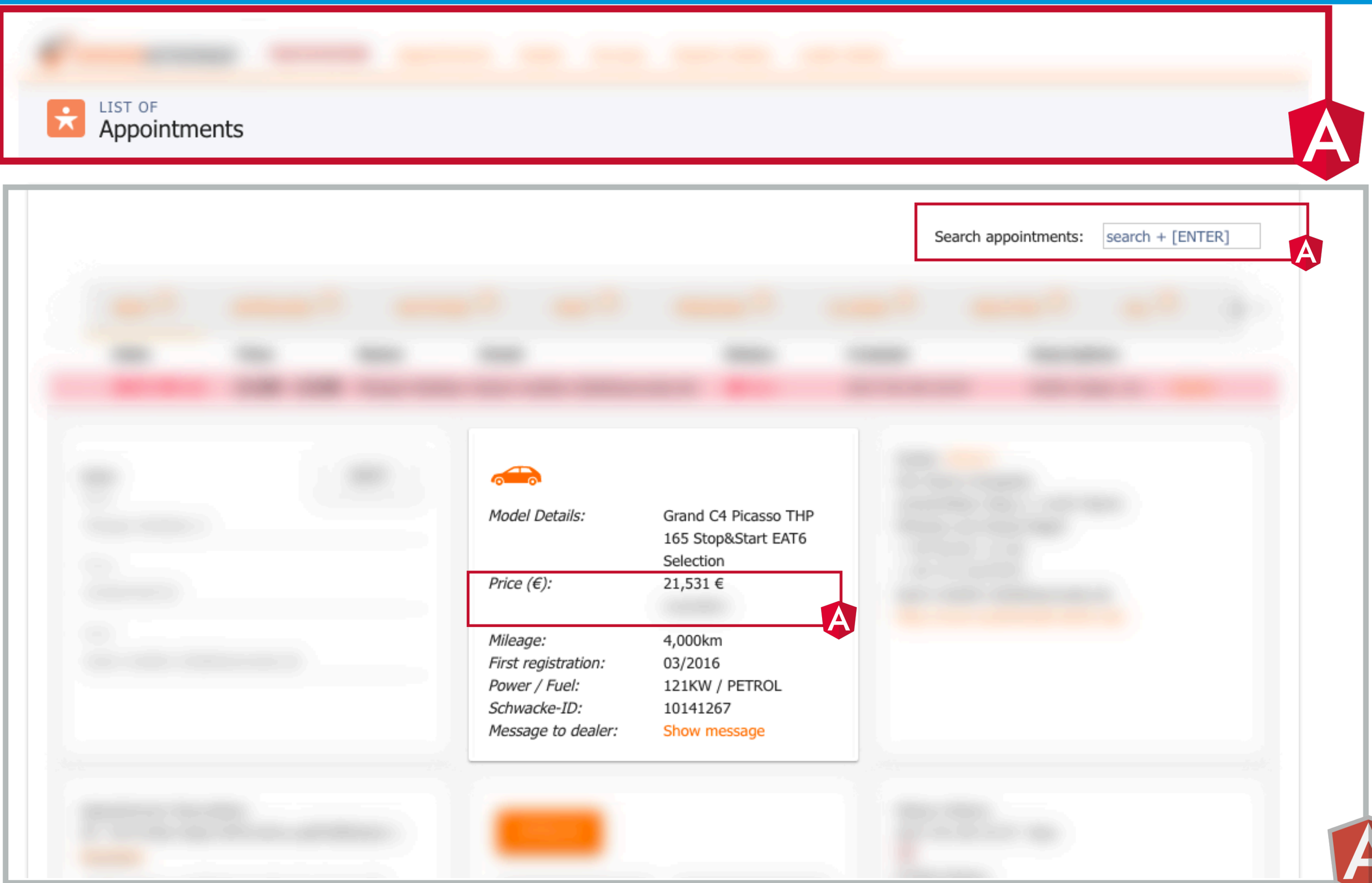

Worth mentioning

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Cross app communication

```
angular.module('SellTune.appointment').controller('AppointmentsNg1Ctrl',
AppointmentCtrl);

function AppointmentCtrl(... ,Ng2PageTitleService, ...) {
    var am = this;
    // ...
    am.$onInit = function() {
        // ...
        Ng2PageTitleService.setTitle({
            title: 'Appointments',
            subTitle: 'List of',
            icon: {
                icon: 'lead', category: 'standard'
            }
        });
    };
    // ...
}
```

Worth mentioning

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Cross app communication

```
// page-title.service.ts
@Injectable()
export class PageTitleService {
    private pageTitleSource = new ReplaySubject<PageTitle>();

    setTitle(pageTitle: PageTitle) {
        this.pageTitleSource.next(pageTitle);
    }

    pageTitle(): Observable<PageTitle> {
        return this.pageTitleSource.asObservable();
    }
}

// header.component.ts
this.pageTitleSubscription = pageTitleService.pageTitle$
    .subscribe((pageTitle: PageTitle) => {
        titleService.setTitle(`${pageTitle.subTitle} ${pageTitle.title}`);
        this.currentNavItem = pageTitle;
        this.cd.markForCheck();
    });
```

Worth mentioning

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Pitfalls

- Only hash urls work out of the box
  - The Angular apps don't empty their router outlets
- ng1 *otherwise* must not be used
- Initial redirect to ng1 route:
  - There has to be a „fake“ Angular route

Worth mentioning

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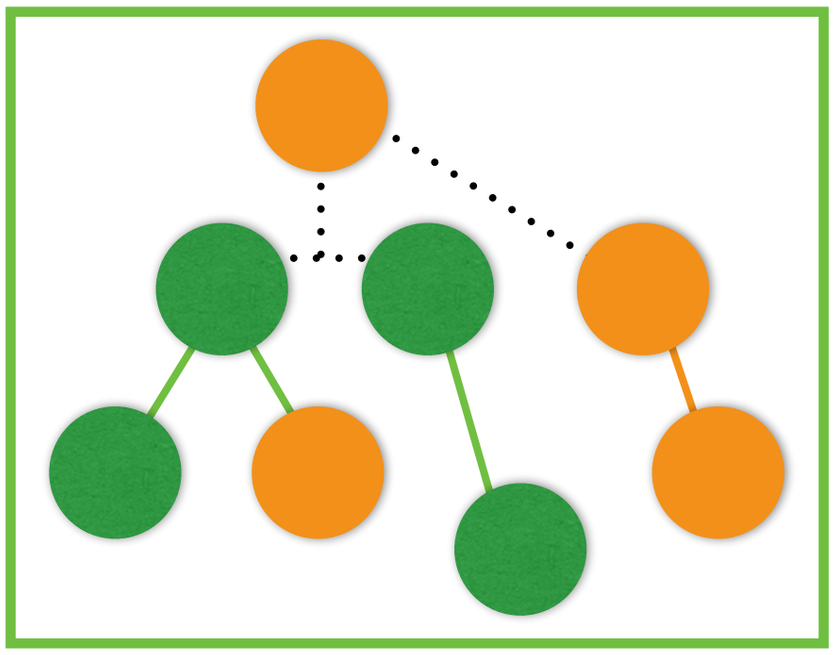
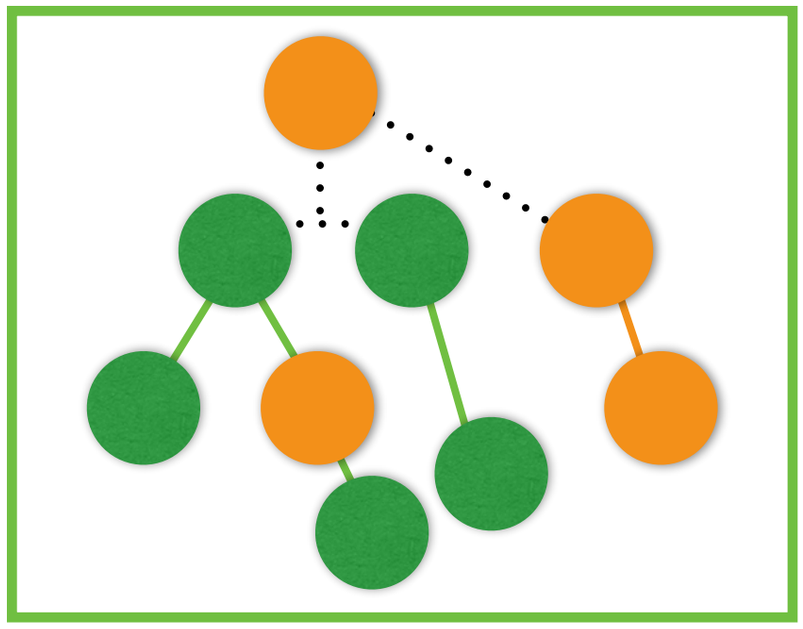
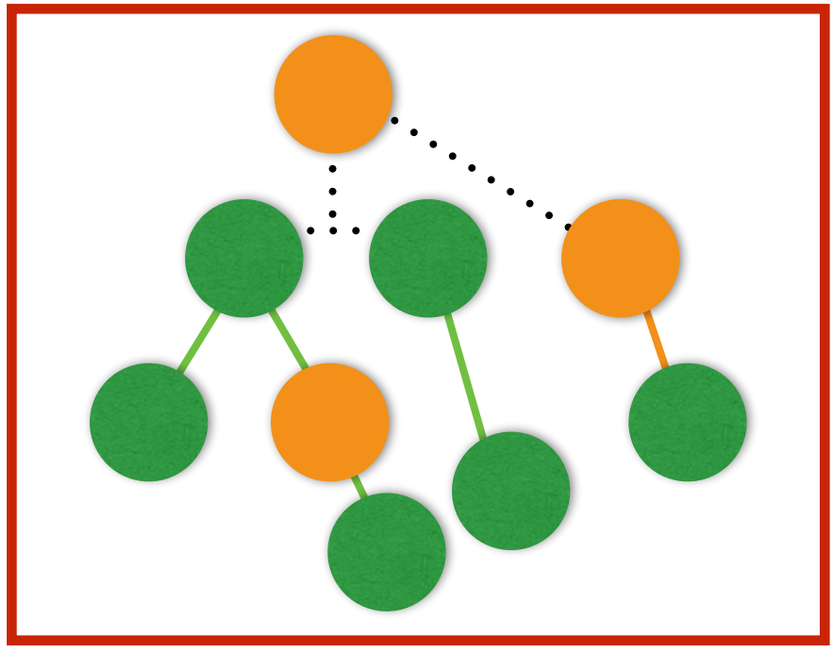
Pitfalls







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Questions?