DEVELOPPEMENT WEB COTE CLIENT

ANGULAR AVANCE

ROUTAGE ET NAVIGATION

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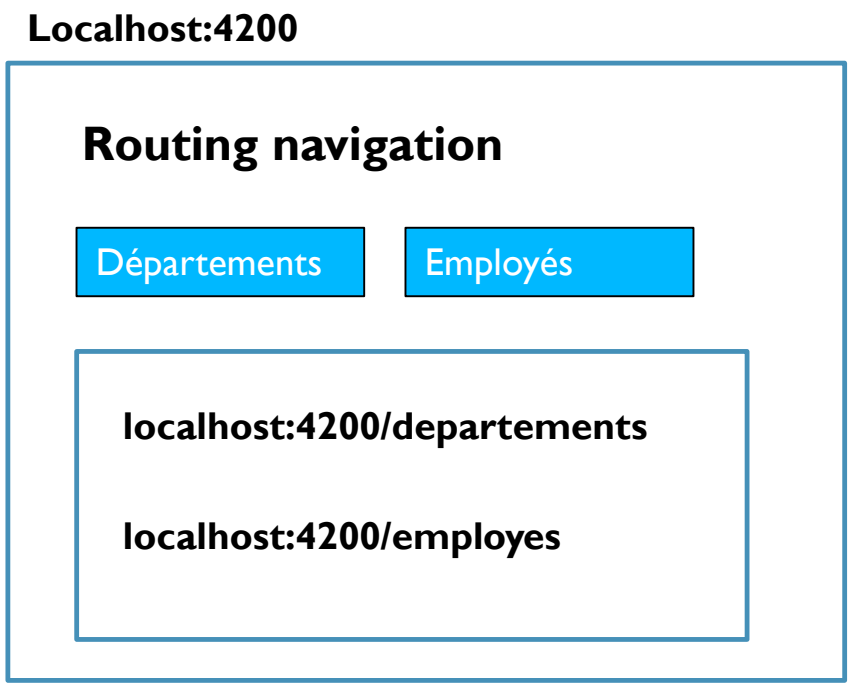
ROUTAGE ET NAVIGATION

- Une application Angular contient plusieurs composants,
- Chaque composant possède une vue (template)
- Il faut pouvoir naviguer entre les vues quand l'utilisateur réalise une action.

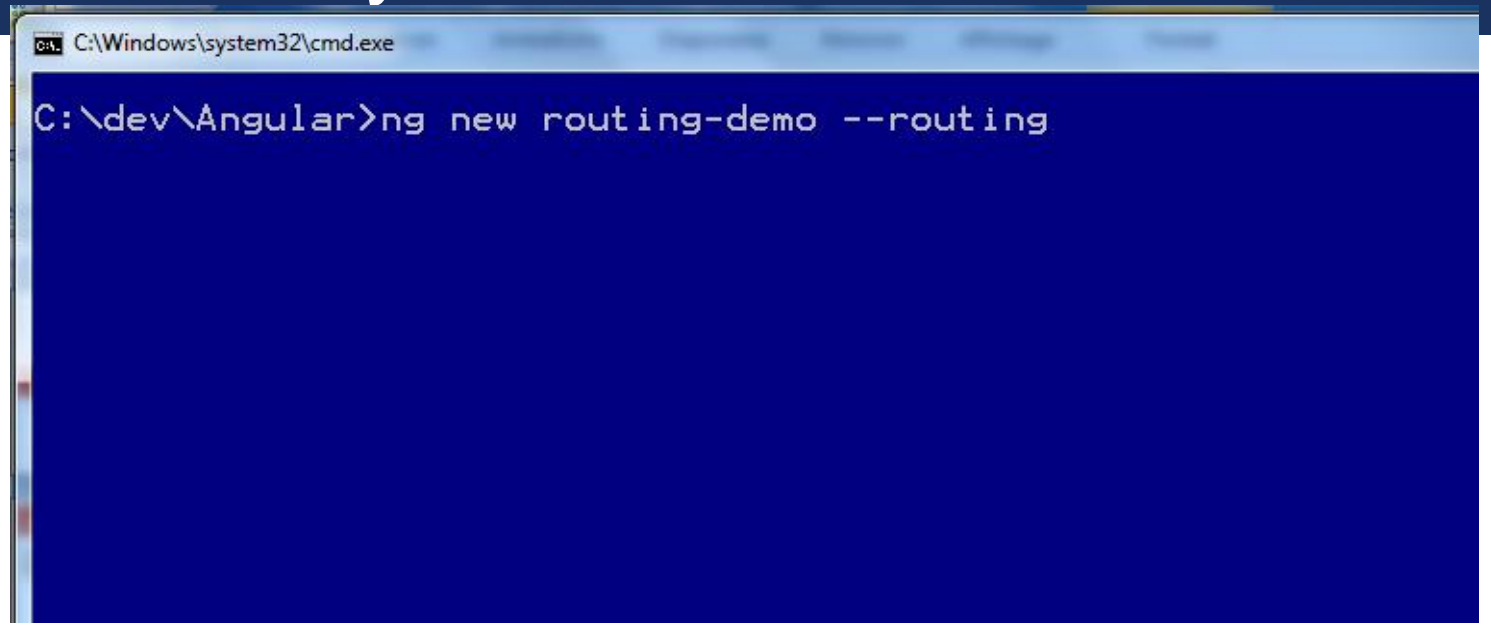
CAS D'UTILISATION: ROUTAGE ET NAVIGATION



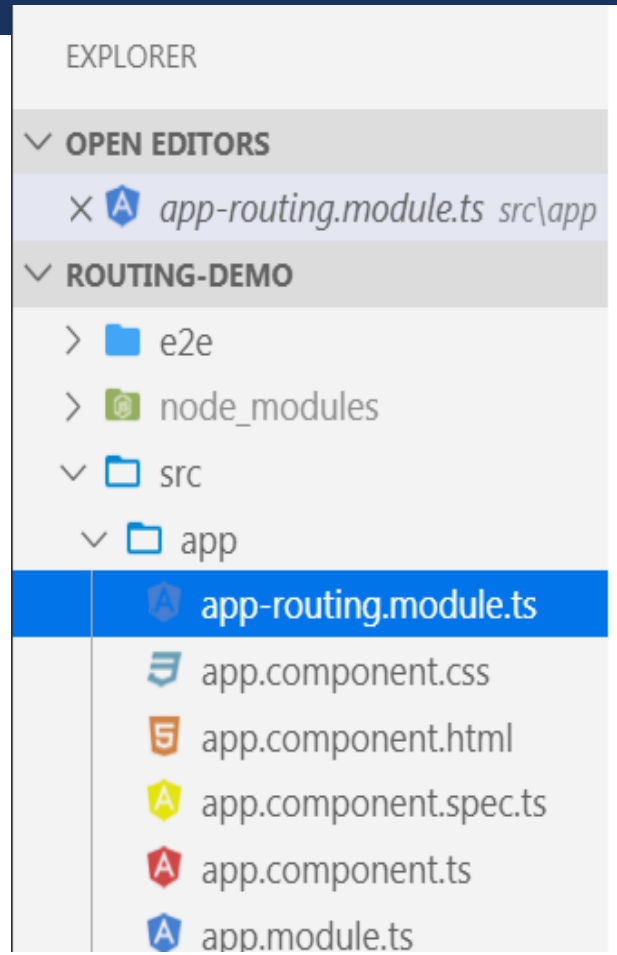
DÉMARCHE

1) Générer un projet Angular avec l'option routing
2) Générer les composants departementList et emplyesList
3) Configurer les routes
4) Ajouter les boutons et utiliser les directives pour naviguer.

CRÉATION DU PROJET AVEC L'OPTION ROUTING



AJOUT DU ROUTING À UN PROJET EXISTANT

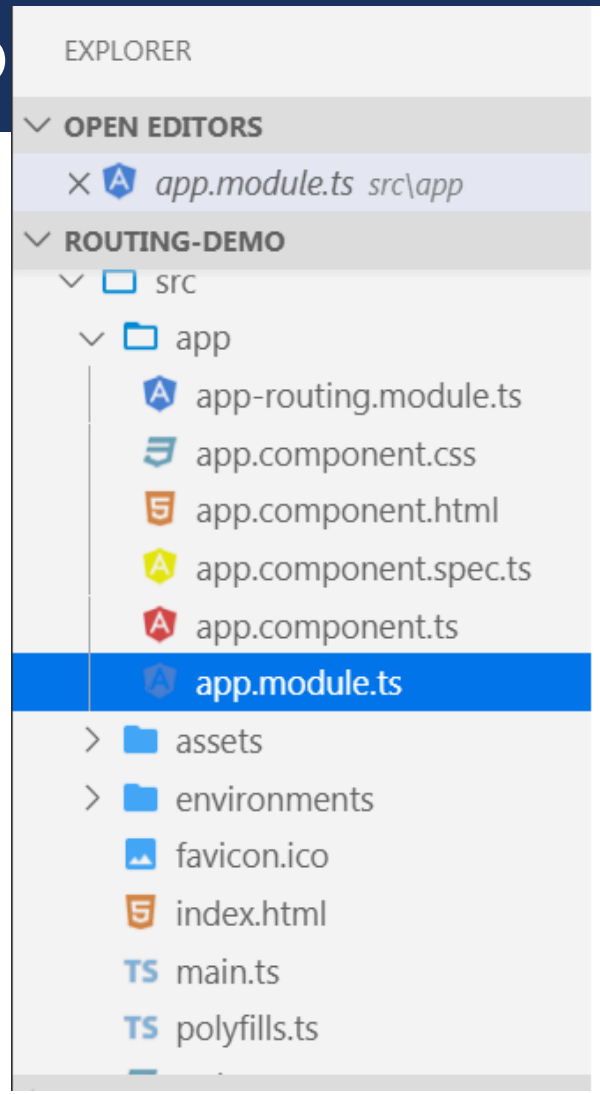


app-routing.module.ts

src > app > app-routing.module.ts > ...

```
1   import { NgModule } from '@angular/core';
2   import { Routes, RouterModule } from '@angular/router';
3
4
5   const routes: Routes = [];
6
7   @NgModule({
8     imports: [RouterModule.forRoot(routes)],
9     exports: [RouterModule]
10  })
11  export class AppRoutingModule { }
12
```

IMPO

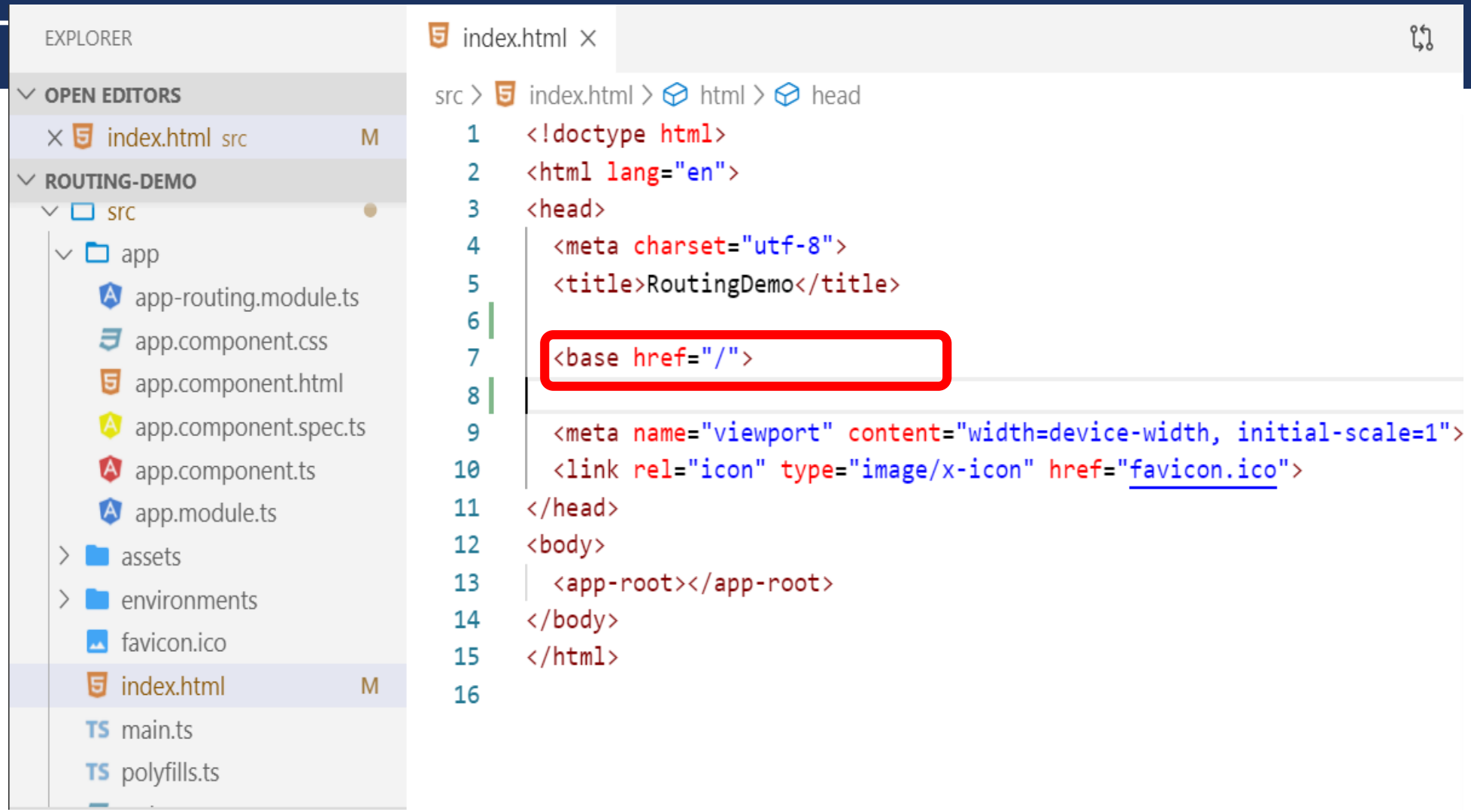


app.module.ts

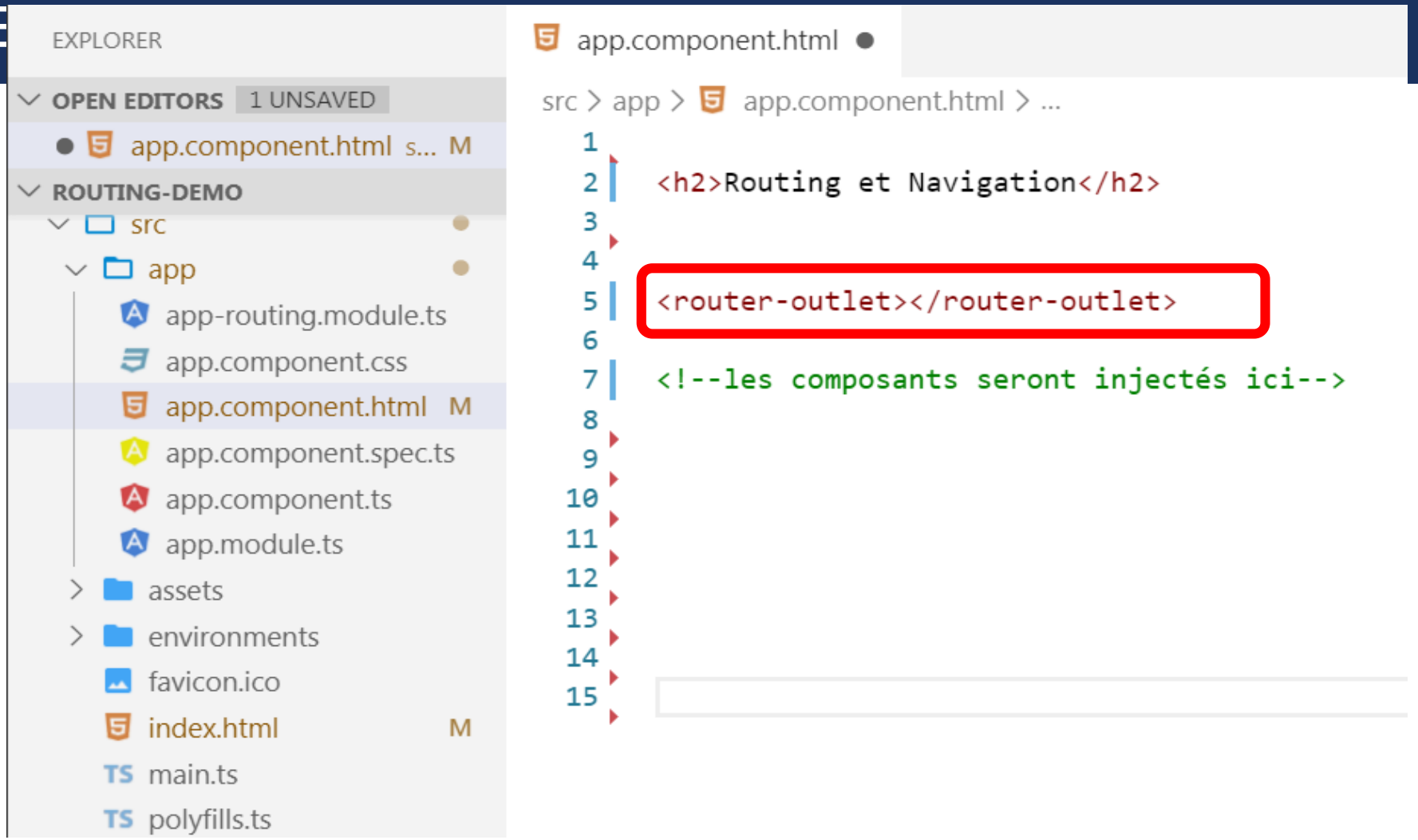
src > app > app.module.ts > ...

```
1   import { BrowserModule } from '@angular/platform-browser';
2   import { NgModule } from '@angular/core';
3
4   import { AppRoutingModule } from './app-routing.module';
5   import { AppComponent } from './app.component';
6
7   @NgModule({
8     declarations: [
9       AppComponent
10    ],
11    imports: [
12      BrowserModule,
13      AppRoutingModule
14    ],
15    providers: [],
16    bootstrap: [AppComponent]
17  })
18  export class AppModule { }
19
```

AJOU


EXPLORER
OPEN EDITORS
index.html src M
ROUTING-DEMO
src
app
app-routing.module.ts
app.component.css
app.component.html
app.component.spec.ts
app.component.ts
app.module.ts
assets
environments
favicon.ico
index.html M
main.ts
polyfills.ts
index.html
src > index.html > html > head
1 <!doctype html>
2 <html lang="en">
3 <head>
4 <meta charset="utf-8">
5 <title>RoutingDemo</title>
6
7 <base href="/">
8
9 <meta name="viewport" content="width=device-width, initial-scale=1">
10 <link rel="icon" type="image/x-icon" href="favicon.ico">
11 </head>
12 <body>
13 <app-root></app-root>
14 </body>
15 </html>
16

AJOUTE


EXPLORER
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ROUTING-DEMO
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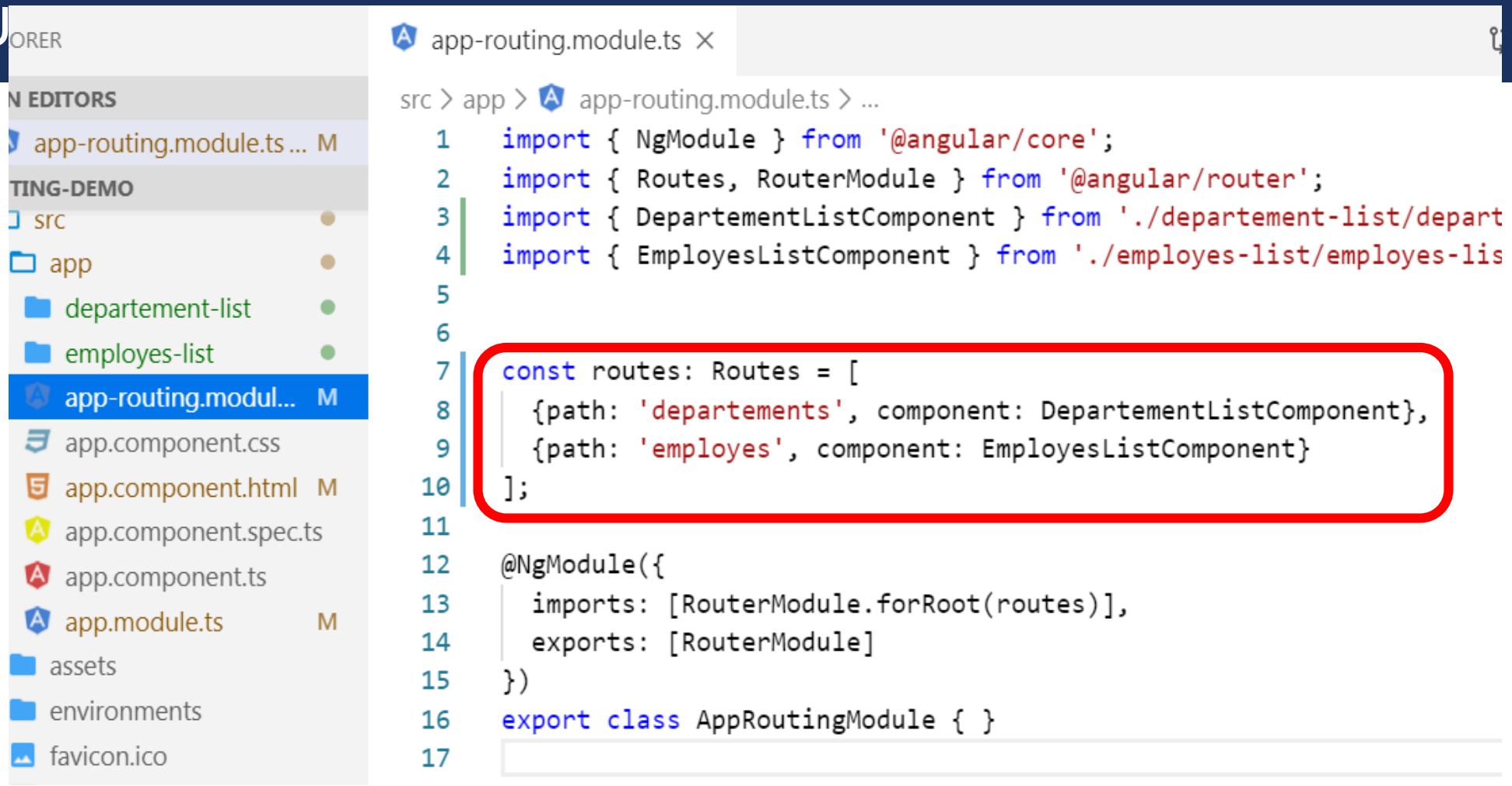
app-routing.module.ts
app.component.css
app.component.html M
app.component.spec.ts
app.component.ts
app.module.ts
assets
environments
favicon.ico
index.html M
main.ts
polyfills.ts
app.component.html
src > app > app.component.html > ...
1
2 <h2>Routing et Navigation</h2>
3
4
5 <router-outlet></router-outlet>
6
7 <!--les composants seront injectés ici-->
8
9
10
11
12
13
14
15

GÉNÉRER LES COMPOSANTS

- ng generate component departementList
- ng generate component emplyestList

AJOU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TING-DEMO
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departement-list
employes-list
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app.component.css
app.component.html M
app.component.spec.ts
app.component.ts
app.module.ts M
assets
environments
favicon.ico
app-routing.module.ts
src > app > app-routing.module.ts > ...
1 import { NgModule } from '@angular/core';
2 import { Routes, RouterModule } from '@angular/router';
3 import { DepartementListComponent } from './departement-list/depart
4 import { EmployesListComponent } from './employes-list/employes-lis
5
6
7 const routes: Routes = [
8 {path: 'departements', component: DepartementListComponent},
9 {path: 'employes', component: EmployesListComponent}
10];
11
12 @NgModule({
13 imports: [RouterModule.forRoot(routes)],
14 exports: [RouterModule]
15 })
16 export class AppRoutingModule { }
17

BONNE PRATIQUE

app-routing.module.ts

src > app > app-routing.module.ts > ...

```ts
import { NgModule } from '@angular/core';
import { Routes, RouterModule } from '@angular/router';
import { DepartementListComponent } from './departement-list/departement-list.component';
import { EmployesListComponent } from './employes-list/employes-list.component';

const routes: Routes = [
  {path: 'departements', component: DepartementListComponent},
  {path: 'employes', component: EmployesListComponent}
];
@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})
export class AppRoutingModule { }

export const listComponents = [DepartementListComponent, EmployesListComponent]

```

BONI

app.module.ts

src > app > app.module.ts > AppModule

```
1   import { BrowserModule } from '@angular/platform-browser';
2   import { NgModule } from '@angular/core';
3
4   import { AppRoutingModule, listComponents } from './app-routing.module';
5   import { AppComponent } from './app.component';
6   //import { DepartementListComponent } from './departement-list/departement-list.component';
7   //import { EmployesListComponent } from './employes-list/employes-list.component';
8
9   @NgModule({
10    declarations: [
11      AppComponent,
12      //DepartementListComponent,
13      //EmployesListComponent
14      listComponents
15    ],
16    imports: [
17      BrowserModule,
18      AppRoutingModule
19    ],
20    providers: [],
21    bootstrap: [AppComponent]
```

BONNI

app.module.ts

src > app > app.module.ts > ...

```
1   import { BrowserModule } from '@angular/platform-browser';
2   import { NgModule } from '@angular/core';
3
4   import { AppRoutingModule, listComponents } from './app-routing.module';
5   import { AppComponent } from './app.component';
6
7   @NgModule({
8     declarations: [
9       AppComponent,
10      listComponents
11    ],
12    imports: [
13      BrowserModule,
14      AppRoutingModule
15    ],
16    providers: [],
17    bootstrap: [AppComponent]
18  })
19  export class AppModule { }
20
```

NAVIGATION

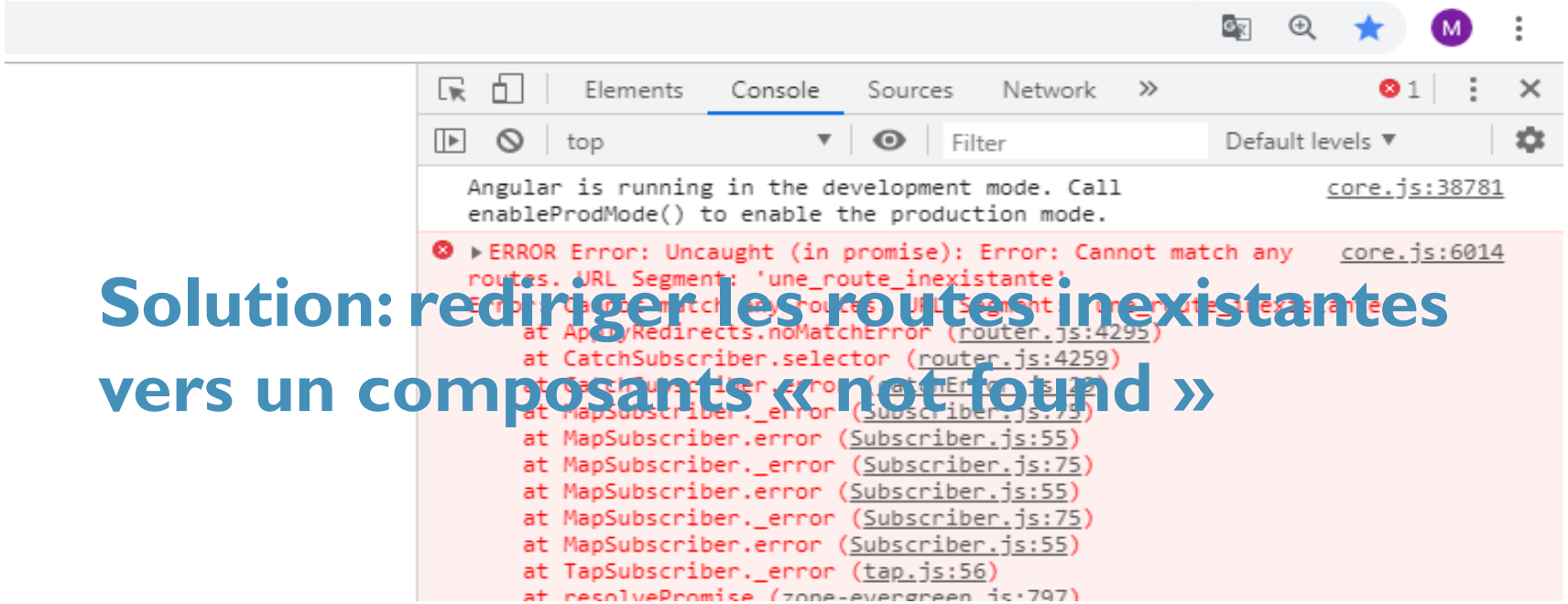
app.component.html

src > app > app.component.html > ...

```
1
2   <h2>Routing et Navigation</h2>
3   <nav>
4     <a [routerLink]="['/departements']" routerLinkActive="active" >Departements</a>
5     <a [routerLink]="['/employes']" routerLinkActive="active" >Employés</a>
6   </nav>
7
8   <router-outlet></router-outlet>
9
10  <!--les composants seront injectés ici-->
11
12
```

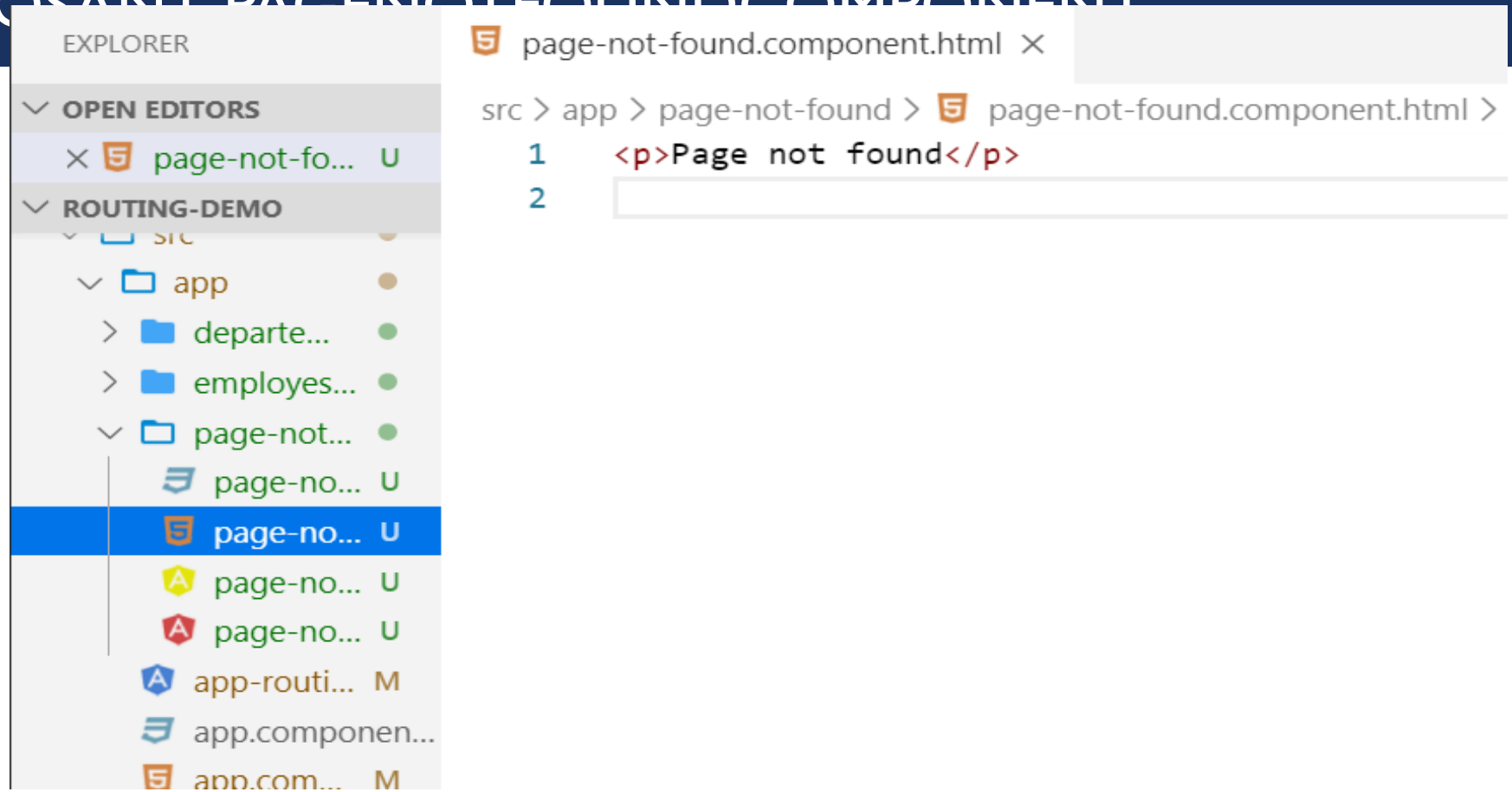
ROUTE DE REDIRECTION

- Très souvent, un utilisateur essaye de naviguer vers une route qui n'est pas configurée.
- Cela génère une exception.



Solution: rediriger les routes inexistantes vers un composants « not found »

COMPOSANT PAGENOTFOUNDCOMPONENT



COM

app-routing.module.ts

src > app > app-routing.module.ts > listComponents

```
1   import { NgModule } from '@angular/core';
2   import { Routes, RouterModule } from '@angular/router';
3   import { DepartementListComponent } from './departement-list/departement-list
4   import { EmployesListComponent } from './employes-list/employes-list.componen
5   import { PageNotFoundComponent } from './page-not-found/page-not-found.compon
6
7   const routes: Routes = [
8     {path: 'departements', component: DepartementListComponent},
9     {path: 'employes', component: EmployesListComponent},
10    {path: '**', component: PageNotFoundComponent}
11  ];
12  @NgModule({
13    imports: [RouterModule.forRoot(routes)],
14    exports: [RouterModule]
15  })
16  export class AppRoutingModule { }
17
18  export const listComponents = [DepartementListComponent,
19                                 EmployesListComponent,
20                                 PageNotFoundComponent]
```

ROUT

app-routing.module.ts

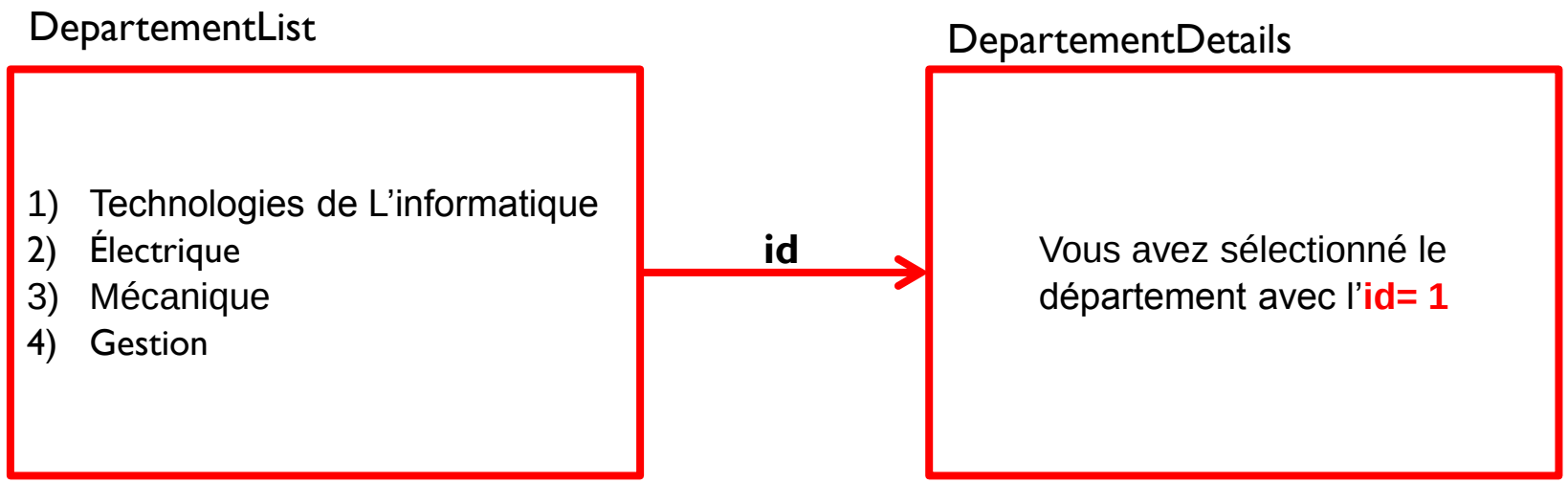
src > app > app-routing.module.ts > ...

```ts
import { NgModule } from '@angular/core';
import { Routes, RouterModule } from '@angular/router';
import { DepartementListComponent } from './departement-list/departement-list.component';
import { EmployesListComponent } from './employes-list/employes-list.component';
import { PageNotFoundComponent } from './page-not-found/page-not-found.component';

const routes: Routes = [
  {path: '', redirectTo:'/departements', pathMatch:'full'},
  {path: 'departements', component: DepartementListComponent},
  {path: 'employes', component: EmployesListComponent},
  {path: '**', component: PageNotFoundComponent}
];
@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})
export class AppRoutingModule { }

```

ROUTES AVEC PARAMÈTRES



DÉMARCHE

- Générer un composant DepartementDetails
- Configurer le routage avec paramètres vers DepartementDetails
- Dans le composant DepartementList, programmer la navigation vers DepartementDetails
- Dans le composant DepartementDetails, extraire l'id de la route active.

GÉNÉRER DEPARTEMENTDETAILS

- ng generate component departementDetails

CONF

app-routing.module.ts

src > app > app-routing.module.ts > ...

```
1   import { NgModule } from '@angular/core';
2   import { Routes, RouterModule } from '@angular/router';
3   import { EmployesListComponent } from './employes-list/employes-list.component';
4   import { PageNotFoundComponent } from './page-not-found/page-not-found.component';
5   import { DepartementListComponent } from './departement-list/departement-list.component';
6   import { DepartementDetailsComponent } from './departement-details/departement-details.component';
7
8   const routes: Routes = [
9     {path: '', redirectTo:'/departements', pathMatch:'full'},
10    {path: 'departements', component: DepartementListComponent},
11    {path: 'departements/:id', component: DepartementDetailsComponent},
12    {path: 'employes', component: EmployesListComponent},
13    {path: '**', component: PageNotFoundComponent}
14  ];
15  @NgModule({
16    imports: [RouterModule.forRoot(routes)],
17    exports: [RouterModule]
18  })
19  export class AppRoutingModule { }
20
21  export const listComponents = [DepartementListComponent,
22                                 EmployesListComponent,
23                                 PageNotFoundComponent,
24                                 DepartementDetailsComponent]
25
```

PROGRAM

departement-list.component.ts

src > app > departement-list > departement-list.component.ts > DepartementListComponent

```ts
import { Component, OnInit } from '@angular/core';
import { Router } from '@angular/router';

@Component({
  selector: 'app-departement-list',
  templateUrl: './departement-list.component.html',
  styleUrls: ['./departement-list.component.css']
})
export class DepartementListComponent implements OnInit {

  departements = [
    {id: 1, nom: 'Technologies de l\'informatique'},
    {id: 2, nom: 'Electrique'},
    {id: 3, nom: 'Mecanique'},
    {id: 4, nom: 'Gestion'}
  ];

  constructor(private _router:Router) { }

  ngOnInit() {
  }
  onSelectDep(departement){
    this._router.navigate(['/departements', departement.id]);
  }

}
```

Injecter le service de routage Router

PROGRAMMER LA NAVIGATION: SERVICE ROUTER

departement-list.component.html

src > app > departement-list > departement-list.component.html > ...

```
1   <div>
2   liste des départements:
3   </div>
4   <div>
5   <ul class="items">
6     <li (click)="onSelectDep(departement)" *ngFor="let departement of departements">
7       <span class="badge">{{departement.id}}</span>{{departement.nom}}
8     </li>
9   </ul>
10  </div>
11
```

PROGRAMMER LA NAVIGATION: SERVICE ROUTER

DEPAR D

departement-details.component.ts

src > app > departement-details > departement-details.component.ts > ...

```ts
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, ParamMap} from '@angular/router';

@Component({
  selector: 'app-departement-details',
  templateUrl: './departement-details.component.html',
  styleUrls: ['./departement-details.component.css']
})
export class DepartementDetailsComponent implements OnInit {

  public departementId;

  constructor(private _activateRoute : ActivatedRoute)

   }

  ngOnInit() {

    this._activateRoute.paramMap.subscribe((params: ParamMap) => {
      this.departementId = parseInt(params.get('id'));
    });

  }

}
```

departement-details.component.html

src > app > departement-details > departement-details.component.html > ...

```html
<h3>le département sélectionné est {{departementId}}</h3>
```

ANGULAR

MERCI