

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend -Routing -Services -Forms November Session 20 Juneth, 2020
---	--

1. Step 1: Create a component that represents the navigation Bar

```
Amine-PC@DESKTOP-70FJBG MINGW64 ~/Desktop/SIP/Formations_SIP_10_10_2019/2020_Angular9/PDF/amsv4 (master)
$ ng g c navbar
CREATE src/app/navbar/navbar.component.html (21 bytes)
CREATE src/app/navbar/navbar.component.spec.ts (628 bytes)
CREATE src/app/navbar/navbar.component.ts (269 bytes)
CREATE src/app/navbar/navbar.component.css (0 bytes)
UPDATE src/app/app.module.ts (799 bytes)
```

Then in the app.component.html update:

```
<h1 align="center">Gestion des Providers</h1>

<!--app-posts-->
<app-navbar></app-navbar>
```

App-routing file

```
import { NgModule } from '@angular/core';
import { Routes, RouterModule } from '@angular/router';
import { AddProviderComponent } from './add-provider/add-provider.component';
import { ListProviderComponent } from './list-provider/list-provider.component';
import { UpdateProviderComponent } from './update-provider/update-provider.component';

const routes: Routes = [
  { path: "", pathMatch: "full", redirectTo: "app-navbar" },
  { path: "listProvider", component: ListProviderComponent },
  { path: "addProvider", component: AddProviderComponent },
  { path: "updateProvider/:id", component: UpdateProviderComponent },
];

@NgModule({
```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend -Routing -Services -Forms November Session 20 Juneth, 2020
---	--

```
imports: [RouterModule.forRoot(routes)],
exports: [RouterModule]
})
export class AppRoutingModule { }
```

Then the app-module file

```
import { BrowserModule } from '@angular/platform-browser';
import { NgModule } from '@angular/core';
import { FormsModule } from '@angular/forms';
import { HttpClientModule } from '@angular/common/http';

import { AppRoutingModule } from './app-routing.module';
import { AppComponent } from './app.component';
import { ContactFormComponent } from './contact-form/contact-form.component';
import { PostsComponent } from './posts/posts.component';
import { NavbarComponent } from './navbar/navbar.component';
import { AddProviderComponent } from './add-provider/add-provider.component';
import { ListProviderComponent } from './list-provider/list-provider.component';
import { UpdateProviderComponent } from './update-provider/update-
provider.component';

@NgModule({
  declarations: [
    AppComponent,
    ContactFormComponent,
    PostsComponent,
    NavbarComponent,
    AddProviderComponent,
    ListProviderComponent,
    UpdateProviderComponent
  ],
  imports: [
    BrowserModule,
```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend -Routing -Services -Forms November Session 20 Juneth, 2020
---	---

```

    AppRoutingModule,
    FormsModule,
    HttpClientModule
  ],
  providers: [],
  bootstrap: [AppComponent]
})
export class AppModule { }

```

Next, in the navbar.component.html, add

```

<nav class="navbar navbar-expand-lg navbar-dark bg-dark">
  <a class="navbar-brand" href="#">Providers</a>

  <div class="collapse navbar-collapse" id="navbarNavAltMarkup">
    <div class="navbar-nav">
      <a class="nav-item nav-
link" routerLink="/listProvider" routerLinkActive="active">Liste</a>
      <a class="nav-item nav-
link" routerLink="/addProvider" routerLinkActive="active">Ajouter</a>
    </div>
  </div>
</nav>
<!-- * * * * * -->

<router-outlet></router-outlet>

```

2. Step 2: Create addProvider, listProvider, updateProvider Components

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend -Routing -Services -Forms November Session 20 Juneth, 2020
---	---

```

Amine-PC@DESKTOP-70FJBG MINGW64 ~/Desktop/SIP/Formations_SIP_10_10_2019/2020_Angular9/PDF/amsv4 (master)
$ ng g c addProvider
CREATE src/app/add-provider/add-provider.component.html (27 bytes)
CREATE src/app/add-provider/add-provider.component.spec.ts (664 bytes)
CREATE src/app/add-provider/add-provider.component.ts (292 bytes)
CREATE src/app/add-provider/add-provider.component.css (0 bytes)
UPDATE src/app/app.module.ts (903 bytes)

Amine-PC@DESKTOP-70FJBG MINGW64 ~/Desktop/SIP/Formations_SIP_10_10_2019/2020_Angular9/PDF/amsv4 (master)
$ ng g c listProvider
CREATE src/app/list-provider/list-provider.component.html (28 bytes)
CREATE src/app/list-provider/list-provider.component.spec.ts (671 bytes)
CREATE src/app/list-provider/list-provider.component.ts (296 bytes)
CREATE src/app/list-provider/list-provider.component.css (0 bytes)
UPDATE src/app/app.module.ts (1011 bytes)

Amine-PC@DESKTOP-70FJBG MINGW64 ~/Desktop/SIP/Formations_SIP_10_10_2019/2020_Angular9/PDF/amsv4 (master)
$ ng g c updateProvider
CREATE src/app/update-provider/update-provider.component.html (30 bytes)
CREATE src/app/update-provider/update-provider.component.spec.ts (685 bytes)
CREATE src/app/update-provider/update-provider.component.ts (304 bytes)
CREATE src/app/update-provider/update-provider.component.css (0 bytes)
UPDATE src/app/app.module.ts (1127 bytes)

```

3. Step 3: Update the app-routing.module.ts

```

import { NgModule } from '@angular/core';
import { Routes, RouterModule } from '@angular/router';
import { AddProviderComponent } from './add-provider/add-provider.component';
import { ListProviderComponent } from './list-provider/list-provider.component';
import { UpdateProviderComponent } from './update-provider/update-provider.component';

const routes: Routes = [
  { path: "", pathMatch: "full", redirectTo: "app-navbar" },
  { path: "listProvider", component: ListProviderComponent },
  { path: "addProvider", component: AddProviderComponent },
  { path: "updateProvider/:id", component: UpdateProviderComponent },
];

@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})

```

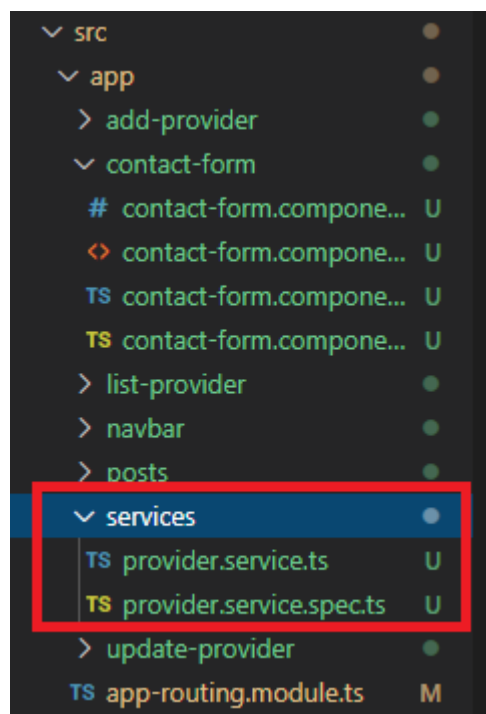
Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend -Routing -Services -Forms November Session 20 Juneth, 2020
---	---

```
export class AppRoutingModuleModule { }
```

4. Step 4: Create providerService under services folder

a. Angular Services

```
Amine-PC@DESKTOP-70FJ8GG MINGW64 ~/Desktop/SIP/Formations_SIP_10_10_2019/2020_Angular9/PDF/amsv4 (master)
$ ng g s provider
CREATE src/app/provider.service.spec.ts (343 bytes)
CREATE src/app/provider.service.ts (137 bytes)
```



```
import { Injectable } from '@angular/core';
import { HttpClient } from '@angular/common/http';
@Injectable({
  providedIn: 'root'
})
```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend - Routing - Services - Forms November Session 20 Juneth, 2020
---	---

```

export class ProviderService {

  urlProviders = 'http://127.0.0.1:8086/providers';
  provider: any;

  constructor(private Http: HttpClient) { }

  listProviders() {
    return this.Http.get(this.urlProviders + '/list');
  }

  createProvider(myform) {
    this.provider = {
      'name': myform.value.providerName,
      'email': myform.value.providerEmail,
      'address': myform.value.providerAddress
    }
    return this.Http.post(this.urlProviders + '/add', this.provider);
  }

  updateProvider(myObj) {
    return this.Http.put(this.urlProviders + '/' + myObj['id'], myObj);
  }

  deleteProvider(myObj) {

    return this.Http.delete(this.urlProviders + '/' + myObj['id'], myObj)
  }

  getProvider(id) {

    return this.Http.get(this.urlProviders + '/' + id)
  }

}

```

Trainning: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of trainning : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend - Routing - Services - Forms November Session 20 Juneth, 2020
---	---

b. Spring Boot-Services

b.1-Entity Provider

```

package com.sip.ams.entities;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.validation.constraints.NotBlank;
@Entity
public class Provider {
    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private long id;

    @NotBlank(message = "Name is mandatory")
    @Column(name = "name")
    private String name;

    @NotBlank(message = "Address is mandatory")
    @Column(name = "address")
    private String address;

```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend - Routing - Services - Forms November Session 20 Juneth, 2020
---	---

```

@NotBlank(message = "Email is mandatory")
@Column(name = "email")
private String email;

public Provider() {}

public Provider(String name, String address, String email) {
    this.name = name;
    this.address = address;
    this.email = email;
}

public void setId(long id) {
    this.id = id;
}

public long getId() {
    return id;
}

public void setName(String name) {
    this.name = name;
}

```


Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend - Routing - Services - Forms November Session 20 Juneth, 2020
---	---

```

public String getName() {
    return name;
}
public void setEmail(String email) {
    this.email = email;
}
public String getEmail() {
    return email;
}
public void setAddress(String address) {
    this.address = address;
}

public String getAddress() {
    return address;
}
}

```

b.2-Repository

```

package com.sip.ams.repositories;

import org.springframework.data.repository.CrudRepository;
import org.springframework.stereotype.Repository;

```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend -Routing -Services -Forms November Session 20 Juneth, 2020
---	---

```
import com.sip.ams.entities.Provider;

@Repository
public interface ProviderRepository extends CrudRepository<Provider, Long> {
}
```

b.3-Rest Controller

```
package com.sip.ams.controllers;

import java.util.List;
import java.util.Optional;

import javax.validation.Valid;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.CrossOrigin;
import org.springframework.web.bind.annotation.DeleteMapping;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.PutMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;

import com.sip.ams.entities.Provider;
import com.sip.ams.exception.ResourceNotFoundException;
import com.sip.ams.repositories.ProviderRepository;

@RestController
@RequestMapping("/{providers}")
@CrossOrigin(origins = "*")
```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend - Routing - Services - Forms November Session 20 Juneth, 2020
---	--

```

public class ProviderRestController {
    @Autowired
    private ProviderRepository providerRepository;

    @GetMapping("/list")
    public List<Provider> getAllProvider() {
        return (List<Provider>) providerRepository.findAll();
    }

    @GetMapping("/{providerId}")
    public Optional<Provider> getProvider(@PathVariable Long providerId) {
        return providerRepository.findById(providerId);
    }

    @PostMapping("/add")
    public Provider createProvider(@Valid @RequestBody Provider provider) {
        return providerRepository.save(provider);
    }

    @PutMapping("/{providerId}")
    public Provider updateProvider(@PathVariable Long providerId, @Valid
    @RequestBody Provider providerRequest) {
        return providerRepository.findById(providerId).map(
            provider -> {

                provider.setName(providerRequest.getName());
                provider.setEmail(providerRequest.getEmail());
                provider.setAddress(providerRequest.getAddress());

                return providerRepository.save(provider);
            }
        ).orElseThrow(() -> new ResourceNotFoundException("ProviderId " +
        providerId + " not found"));
    }
}

```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend - Routing - Services - Forms November Session 20 Juneth, 2020
---	--

```

@DeleteMapping("/{providerId}")
public ResponseEntity<?> deleteProvider(@PathVariable Long providerId) {
    return providerRepository.findById(providerId).map(provider -> {
        providerRepository.delete(provider);
        return ResponseEntity.ok().build();
    }).orElseThrow(() -> new ResourceNotFoundException("ProviderId " + providerId
+ " not found"));
}
}

```

5. Step 5: Develop html part of each component

a. Let's start with the "Providers-List" component

```

<h2>Liste des providers</h2>
<table class="table" border="2">
    <tr>
        <th>Id</th>
        <th>Name</th>
        <th>Email</th>
        <th>Adress</th>
        <th>Suppression</th>
        <th>Modification</th>
    </tr>
    <tr *ngFor="let provider of providers">
        <td>{{provider.id}}</td>
        <td>{{provider.name}}</td>

```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend - Routing - Services - Forms November Session 20 Juneth, 2020
---	--

```

        <td>{{provider.address}}</td>
        <td>{{provider.email}}</td>
        <td><button (click)="deleteProvider(provider)" class="btn btn-
danger">Supprimer</button></td>
        <td><button (click)="updateProvider(provider)" class="btn btn-
warning">Modifier</button></td>
    </tr>
</table>

```

```

import { ProviderService } from '../services/provider.service';
import { Component, OnInit } from '@angular/core';
import { Router } from '@angular/router';

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

  providers: any;

  constructor(private service: ProviderService, private router: Router) { }

  ngOnInit() {
    this.service.listProviders().subscribe(
      response => {
        this.providers = response;
      }
    );
  }
}

```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend -Routing -Services -Forms November Session 20 Juneth, 2020
---	--

```

deleteProvider(myObj) {
  //console.log(this.provider);
  this.service.deleteProvider(myObj).subscribe(response => {
    console.log(response);
    this.refreshListProviders();
  })
}

refreshListProviders() {
  this.service.listProviders().subscribe(
    response => {
      this.providers = response;
    }
  );
}

updateProvider(myObj) {
  this.router.navigate(['updateProvider' + '/' + myObj['id']]);
}
}

```

b. The “Create-Provider” component

```

<form #myform="ngForm" (ngSubmit)="createProvider(myform)">

  <div class="form-group">
    <label for="providerName">Provider Name </label>
    <input ngModel name="providerName" size="20" type="text" class="form-
control" id="providerName" />

```

<p>Training: Springboot & Angular 8</p> <p>Trainer: Dr. Mohamed Amine MEZGHICH</p> <p>Period of training :30 Hours</p> <p>Email : ma.mezghich@smart-it-partner.com</p> <p>Phone : +216 51 36 36 34</p>	<p>Workshop n° 5: Angular 8</p> <p>Goals: Linking frondend with bakend</p> <ul style="list-style-type: none"> -Routing -Services -Forms <p>November Session 20 Juneth, 2020</p>
---	--

```

</div>

<div class="form-group">
  <label for="providerEmail">Provider Email </label>
  <input ngModel name="providerEmail" size="20" type="text" class="form-control" id="providerEmail" />
</div>

<div class="form-group">
  <label for="providerAdress">Provider Adresse </label>
  <input ngModel name="providerAdress" size="20" type="text" class="form-control" id="providerAdress" />
</div>
<button class="btn btn-primary">Ajouter</button>
</form>

```

```

import { Component, OnInit } from '@angular/core';
import { ProviderService } from '../services/provider.service';
import { Router } from '@angular/router';

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

  provider: any;

  constructor(private service: ProviderService, private router : Router) { }

  ngOnInit() {
  }
}

```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend -Routing -Services -Forms November Session 20 Juneth, 2020
---	---

```

createProvider(myform) {

  this.service.createProvider(myform).subscribe(
    response => {
      console.log(response);
    }
  );

  this.router.navigate(['listProvider']);
}
}

```

c. The “Update-Provider” component

```

<p>Mise à jour d'un provider</p>

<form (ngSubmit)="updateProvider()">

  <div class="form-group">
    <label for="providerName">Provider Name </label>
    <input [(ngModel)] = "name" name="providerName" size="20" type="text" class="form-control" id="providerName" />
  </div>

  <div class="form-group">
    <label for="providerEmail">Provider Email </label>
    <input [(ngModel)] = "email" name="providerEmail" size="20" type="text" class="form-control" id="providerEmail" />
  </div>

```


Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frondend with bakend - Routing - Services - Forms November Session 20 Juneth, 2020
---	---

```

</div>

<div class="form-group">
  <label for="providerAdress">Provider Adresse </label>
  <input [(ngModel)] = "adress" name="providerAdress" size="20" type="text"
" class="form-control" id="providerAdress" />
</div>
<input [(ngModel)]="id" name="providerId" type="hidden"/>
<button class="btn btn-primary">Mise à jour</button>
</form>

```

```

import { Component, OnInit } from '@angular/core';
import { ProviderService } from '../services/provider.service';
import { Router } from '@angular/router';
import { ActivatedRoute } from '@angular/router';
import { Console } from 'console';
@Component({
  selector: 'app-update-provider',
  templateUrl: './update-provider.component.html',
  styleUrls: ['./update-provider.component.css']
})
export class UpdateProviderComponent implements OnInit {

  private id;
  private providerToUpdate;
  private name;
  private email;
  private adress;

  constructor(private service: ProviderService, private router: Router, private route: ActivatedRoute ) { }

```

Training: Springboot & Angular 8 Trainer: Dr. Mohamed Amine MEZGHICH Period of training : 30 Hours Email : ma.mezghich@smart-it-partner.com Phone : +216 51 36 36 34	Workshop n° 5: Angular 8 Goals: Linking frontend with backend -Routing -Services -Forms November Session 20 Juneth, 2020
---	---

```

ngOnInit() {
  this.route.paramMap.subscribe(
    params => {
      this.id = params.get('id');
    }
  );

  this.providerToUpdate = this.service.getProvider(this.id).subscribe(
    response => {
      //console.log(response);
      this.name = response["name"];
      this.email = response["email"];
      this.adress = response["address"];

    }
  );

  // this.initFormUpdateProvider(myform);
}

updateProvider() {

  this.providerToUpdate = {
    'name': this.name,
    'email': this.email,
    'address': this.adress,
    'id': this.id
  }

  this.service.updateProvider(this.providerToUpdate).subscribe(
    response => {
      console.log(response);
    }
  );
}

```

Trainning: Springboot & Angular 8	Workshop n° 5: Angular 8
Trainer: Dr. Mohamed Amine MEZGHICH	Goals: Linking frondend with bakend
Period of training : 30 Hours	-Routing
Email : ma.mezghich@smart-it-partner.com	-Services
Phone : +216 51 36 36 34	-Forms
	November Session 20 Juneth, 2020

```
this.router.navigate(['listProvider']);  
}  
  
}
```