

# SYSTÈMES DISTRIBUÉS

MASTER INTELLIGENCE  
ARTIFICIELLE ET ANALYSE  
DES DONNÉES

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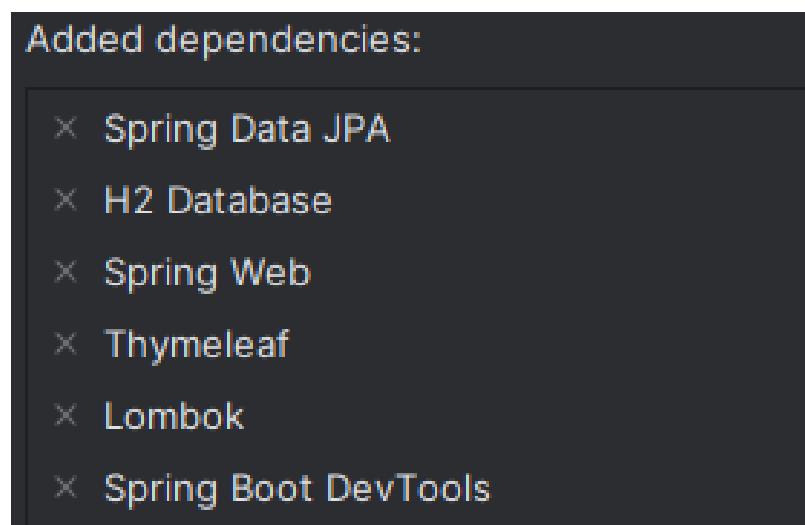
# ACTIVITÉ PRATIQUE N°3

## SPRING MVC SPRING DATA JPA

### THYMELEAF

## PARTIE 1 :

### 1. CRÉER UNE APPLICATION WEB JEE BASÉE SUR SPRING MVC, THYMELEAF ET SPRING DATA JPA



### 2. CLASSE ENTITÉ (PATIENT)

```
@Entity
@Data @NoArgsConstructor @AllArgsConstructor @Builder
public class Patient
{
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Long id;
    private String nom;
    private Date dateNaissance;
    private boolean malade;
    private int score;
}
```

### 3. INTERFACE REPOSITORY (PATIENTREPOSITORY)

```
public interface PatientRepository extends JpaRepository<Patient, Long>
{
    1 usage
    Page<Patient> findByNomContains(String keyword, Pageable pageable);
    no usages
    @Query("select p from Patient p where p.nom like :x")
    Page<Patient> chercher(@Param("x") String keyword, Pageable pageable);
}
```

### 4. MAIN APPLICATION CLASS

```
@SpringBootApplication
public class AnoadaNohaylaTp31Application implements CommandLineRunner
{
    @Autowired
    private PatientRepository patientRepository;

    public static void main(String[] args)
    {
        SpringApplication.run(AnoadaNohaylaTp31Application.class, args);
    }

    @Override
    public void run(String... args) throws Exception
    {
        patientRepository.save(new Patient(id: null, nom: "Mohamed", new Date(), malade: false, score: 34));
        patientRepository.save(new Patient(id: null, nom: "Hanane", new Date(), malade: false, score: 4321));
        patientRepository.save(new Patient(id: null, nom: "Imane", new Date(), malade: true, score: 34));
    }
}
```

### 5. CLASSE CONTRÔLEUR

```
@Controller
@AllArgsConstructor
public class PatientRestController
{
    @Autowired
    private PatientRepository patientRepository;

    @GetMapping("/{}/index")
    public String index(Model model,
                       @RequestParam(name = "page", defaultValue = "0") int p,
                       @RequestParam(name = "size", defaultValue = "4") int s,
                       @RequestParam(name = "keyword", defaultValue = "") String kw)
    {
        Page<Patient> pagePatients=patientRepository.findByNomContains(kw,PageRequest.of(p,s));
        model.addAttribute(attributeName: "ListPatients",pagePatients.getContent());
        model.addAttribute(attributeName: "pages",new int[pagePatients.getTotalPages()]);
        model.addAttribute(attributeName: "currentPage",p);
        model.addAttribute(attributeName: "keyword",kw);
    }
}
```

```

        model.addAttribute( attributeName: "currentPage",p);
        model.addAttribute( attributeName: "keyword",kw);
        return "patients";
    }

    @GetMapping(@RequestMapping("/delete"))
    public String index(@RequestParam(name = "id" ) Long id,
                        @RequestParam(name = "page",defaultValue = "0") int page,
                        @RequestParam(name = "keyword",defaultValue = "") String keyword)
    {
        patientRepository.deleteById(id);
        return "redirect:/index?page="+page+"&keyword="+keyword;
    }

    @GetMapping(@RequestMapping("/"))
    public String index()
    {
        return "redirect:/index";
    }
}

```

## G. MODÈLE HTML/THYMELEAF

```

<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org">
<head>
    <meta charset="UTF-8">
    <title>Patients</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>

    <div class="p-3">
        <div class="card">
            <div class="card-header">Liste patients</div>
            <div class="card-body">
                <form method="get" th:action="@{index}">
                    <label>Keyword:</label>
                    <input class="form-control" type="text" name="keyword" th:value="${keyword}">
                    <button type="submit" class="btn btn-info">
                        <i class="bi bi-search"></i>
                    </button>
                </form>
                <table class="table">
                    <thead>
                        <tr>
                            <th>ID</th> <th>Nom</th> <th>Date</th> <th>Malade</th> <th>Score</th> <th>Action</th>
                        </tr>
                    <tr th:each="p:${ListPatients}">
                        <td th:text="${p.id}"></td>
                        <td th:text="${p.nom}"></td>
                        <td th:text="${p.dateNaissance}"></td>
                        <td th:text="${p.malade}"></td>
                        <td th:text="${p.score}"></td>
                        <td>
                            <a onclick="javascript:return confirm('Etes vous sure?')" th:href="@{delete(id=${p.id}, keyword=${keyword}, page=${currentPage})}" class="btn btn-danger">
                                <i class="bi bi-trash"></i>
                            </a>
                        </td>
                    </tr>
                </table>
            </div>
        </div>
    </div>

```

```

        </tr>
    </thead>
</table>
<ul class="nav nav-pills">
    <li th:each="value,item:${pages}">
        <a th:href="@{/index(page=${item.index})}">
            th:class="${(currentPage==item.index)?'btn btn-info ms-1':'btn btn-outline-info ms-1'}"
            th:text="${item.index}"</a>
    </li>
</ul>
</div>
</div>
</body>

```

Liste patients

Keywword:



ID	Nom	Date	Malade	Score	Action
1	Mohamed	2024-04-19 01:44:36.0	false	34	
2	Hanane	2024-04-19 01:44:38.0	false	4321	
3	Imane	2024-04-19 01:44:38.0	true	34	
4	Mohamed	2024-04-19 01:48:45.0	false	34	

0	1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26	
27	28	29	30	31	32	33	34						

## 7. FICHIER DE PROPRIÉTÉS

```

spring.application.name=Anoada_Nohayla_Tp3_1
server.port=8084
spring.datasource.url=jdbc:mysql://localhost:3306/patients_db?createDatabaseIfNotExist=true
spring.datasource.username=root
spring.datasource.password=
spring.jpa.hibernate.ddl-auto=update
spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MariaDBDialect

```

## PARTIE 2 :

### 1. ENTITY CLASS (PATIENT)

LES ANNOTATIONS UTILISÉES AIDENT À DÉFINIR LA STRUCTURE DE LA TABLE DANS LA BASE DE DONNÉES ET À VALIDER LES DONNÉES.

```
@Entity
@Data @NoArgsConstructor @AllArgsConstructor @Builder
public class Patient
{
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Long id;
    @NotEmpty
    @Size(min=4,max=48)
    private String nom;
    @Temporal(TemporalType.DATE)
    @DateTimeFormat(pattern = "yyyy-MM-dd")
    private Date dateNaissance;
    private boolean malade;
    @DecimalMin("100")
    private int score;
}
```

### 2. CONTRÔLEUR (PATIENTRESTCONTROLLER)

CÉ CONTRÔLEUR GÈRE LES REQUÊTES HTTP LIÉES AUX PATIENTS. IL CONTIENT DES MÉTHODES POUR AFFICHER LA LISTE DES PATIENTS, AJOUTER DE NOUVEAUX PATIENTS, MODIFIER DES PATIENTS EXISTANTS, SUPPRIMER DES PATIENTS. LES ANNOTATIONS COMME @GETMAPPING ET @POSTMAPPING SONT UTILISÉES POUR MAPPER LES REQUÊTES HTTP AUX MÉTHODES CORRESPONDANTES.

```

@Controller
@AllArgsConstructor
public class PatientRestController
{
    @Autowired
    private PatientRepository patientRepository;

    @GetMapping("/{index}")
    public String index(Model model,
                        @RequestParam(name = "page",defaultValue = "0") int p,
                        @RequestParam(name = "size",defaultValue = "4") int s,
                        @RequestParam(name = "keyword",defaultValue = "") String kw)
    {
        Page<Patient> pagePatients=patientRepository.findByNomContains(kw,PageRequest.of(p,s));
        model.addAttribute( attributeName: "ListPatients",pagePatients.getContent());
        model.addAttribute( attributeName: "pages",new int[pagePatients.getTotalPages()]);
        model.addAttribute( attributeName: "currentPage",p);
        model.addAttribute( attributeName: "keyword",kw);
        return "patients";
    }
    @GetMapping("/{delete}")
    public String index(@RequestParam(name = "id" ) Long id,
                        @RequestParam(name = "page",defaultValue = "0") int page,
                        @RequestParam(name = "keyword",defaultValue = "") String keyword)
    {
        patientRepository.deleteById(id);
        return "redirect:/index?page="+page+"&keyword="+keyword;
    }

    @GetMapping("/{}")
    public String index() { return "redirect:/index"; }

    @GetMapping("/{patients}")
    @ResponseBody
    public List<Patient> listPatients() { return patientRepository.findAll(); }

    @GetMapping("/{formPatients}")
    public String formPatients(Model model)
    {
        model.addAttribute( attributeName: "patient",new Patient());
        return "formPatients";
    }

    @PostMapping(path={"/save"})
    public String save(Model model, @Valid Patient patient,
                       BindingResult bindingResult,
                       @RequestParam(defaultValue = "0") int page,
                       @RequestParam(defaultValue = "") String keyword)
    {
        if(bindingResult.hasErrors()) return "formPatients";
        patientRepository.save(patient);
        return "redirect:/index?page="+page+"&keyword="+keyword;
    }

    @GetMapping("/{editPatient}")
    public String editPatient(Model model,Long id ,int page,String keyword)
    {
        Patient patient=patientRepository.findById(id).orElse( other: null);
        if(patient==null) throw new RuntimeException("patient introuvable");
        model.addAttribute( attributeName: "patient",patient);
        model.addAttribute( attributeName: "page",page);
        model.addAttribute( attributeName: "keyword",keyword);
        return "editPatient";
    }
}

```

### 3. MODÈLES HTML

#### - TEMPLATE1.HTML

CÉ MODÈLE SERT DE FONDEMENT COMMUN POUR LES AUTRES PAGES, EN INCLUANT UNE BARRE DE NAVIGATION ET UNE MISE EN PAGE STANDARDISÉE.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout">
<head>
    <meta charset="utf-8">
    <title>Patients</title>
    <link rel="stylesheet" type="text/css" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/bootstrap/5.3.3/js/bootstrap.bundle.min.js"></script>
</head>
<body>
    <nav class="navbar navbar-expand-sm bg-dark navbar-dark">
        <div class="container-fluid">
            <ul class="navbar-nav">
                <li class="nav-item">
                    <a class="nav-link active" th:href="@{index}">Home</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="#">Link</a>
                </li>
                <li class="nav-item dropdown">
                    <a class="nav-link dropdown-toggle" href="#" role="button" data-bs-toggle="dropdown">
                        Patient
                    </a>
                    <ul class="dropdown-menu">
                        <li><a class="dropdown-item" th:href="@{/formPatients}">Nouveau</a></li>
                        <li><a class="dropdown-item" th:href="@{index}">Chercher</a></li>
                    </ul>
                </li>
            </ul>
            <ul class="navbar-nav">
                <li class="nav-item dropdown">
                    <a class="nav-link dropdown-toggle" href="#" role="button" data-bs-toggle="dropdown">
                        [Username]
                    </a>
                    <ul class="dropdown-menu">
                        <li><a class="dropdown-item" th:href="@{/formPatients}">Logout</a></li>
                    </ul>
                </li>
            </ul>
        </div>
    <section layout:fragment="content1">
    </section>
</body>
</html>
```

## - PATIENTS.HTML

CETTE PAGE AFFICHE LA LISTE DES PATIENTS AVEC DES FONCTIONNALITÉS DE PAGINATION ET DE RECHERCHE.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultrag.net.nz/thymeleaf/layout"
      layout:decorate="template1">
<head>
    <meta charset="UTF-8">
    <title>Patients</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>
    <div layout:fragment="content1">
        <div class="p-3">
            <div class="card">
                <div class="card-header">Liste patients</div>
                <div class="card-body">
                    <form method="get" th:action="@{index}">
                        <label>Keyword:</label>
                        <input type="text" name="keyword" th:value="${keyword}">
                        <button type="submit" class="btn btn-info">
                            <i class="bi bi-search"></i>
                        </button>
                    </form>
                    <table class="table">
                        <thead>
                            <tr>
                                <th>ID</th> <th>Nom</th> <th>Date</th> <th>Malade</th>
                                <th>Score</th> <th>Delete</th><th>Edit</th>
                            </tr>
                        <tr th:each="p:${ListPatients}">
                            <td th:text="${p.id}"></td>
                            <td th:text="${p.nom}"></td>
                            <td th:text="${p.dateNaissance}"></td>
                            <td th:text="${p.malade}"></td>
                            <td th:text="${p.score}"></td>
                            <td>
                                <a onclick="javascript:return confirm('Etes vous sure?')"
                                   th:href="@{delete(id=${p.id}, keyword=${keyword},
                                   page=${currentPage})}" class="btn btn-danger">
                                    <i class="bi bi-trash"></i>
                                </a>
                            </td>
                            <td>
                                <a th:href="@{editPatient(id=${p.id},
                                   keyword=${keyword}, page=${currentPage})}" class="btn btn-success">
                                    <i class="bi bi-pen"></i>
                                </a>
                            </td>
                        </tr>
                    </thead>
                    <ul class="nav nav-pills">
                        <li th:each="value,item:${pages}">
                            <a th:href="@{/index(page=${item.index})}"
                               th:class="${(currentPage==item.index)?'btn btn-info ms-1':'btn btn-outline-info ms-1'}"
                               th:text="${item.index}"></a>
                        </li>
                    </ul>
                </div>
            </div>
        </div>
    </div>
</body>
</html>
```

Liste patients						
Keyword: ha	<input type="button" value="🔍"/>					
ID	Nom	Date	Malade	Score	Delete	Edit
1	Mohamed	2024-04-19	false	34		
2	Hanane	2024-04-19	false	4321		
4	Mohamed	2024-04-19	false	340		
5	Hanane	2024-04-19	false	4321		
0	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						
29						

## - FORMPATIENTS.HTML

### CE FORMULAIRE PERMET D'AJOUTER DE NOUVEAUX PATIENTS OU DE MODIFIER DES PATIENTS EXISTANTS.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout"
      layout:decorate="template1">
<head>
    <meta charset="UTF-8">
    <title>Patients</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>
    <div layout:fragment="content1">
        <div class="col-md-6 offset-3">
            <form method="post" th:action="@{save}">
                <div>
                    <label for="nom">Nom</label>
                    <input id="nom" class="form-control" type="text" name="nom" th:value="${patient.nom}">
                    <span class="text-danger" th:errors="${patient.nom}"></span>
                </div>
                <div>
                    <label>Date Naissance</label>
                    <input class="form-control" type="date" name="dateNaissance" th:value="${patient.dateNaissance}">
                    <span class="text-danger" th:errors="${patient.dateNaissance}"></span>
                </div>
                <div>
                    <label>Malade</label>
                    <input type="checkbox" name="malade" th:checked="${patient.malade}">
                    <span class="text-danger" th:errors="${patient.malade}"></span>
                </div>
                <div>
                    <label>Score</label>
                    <input class="form-control" type="text" name="score" th:value="${patient.score}">
                    <span class="text-danger" th:errors="${patient.score}"></span>
                </div>
                <button type="submit" class="btn btn-primary">Save</button>
            </form>
        </div>
    </div>
</body>
</html>
```

The screenshot shows a web-based form titled 'EditPatient.html'. It includes fields for 'Nom' (Name), 'Date Naissance' (Birth Date) with a date input field and a calendar icon, a 'Malade' (Ill) checkbox, a 'Score' (Score) text input field containing '0', and a blue 'Save' button.

## - EDITPATIENT.HTML

CÉ FORMULAIRE EST UTILISÉ POUR MODIFIER LES DÉTAILS D'UN PATIENT EXISTANT.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout"
      layout:decorate='template1">
<head>
    <meta charset="UTF-8">
    <title>Patients</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>
    <div layout:fragment="content1">
        <div class="col-md-6 offset-3">
            <form method="post" th:action="@{save(page=${page}, keyword=${keyword})}">
                <div>
                    <label for="id">ID</label>
                    <label th:text="${patient.id}">ID</label>
                    <input id="id" class="form-control" type="hidden" name="id" th:value="${patient.id}">
                </div>
                <div>
                    <label for="nom">Nom</label>
                    <input id="nom" class="form-control" type="text" name="nom" th:value="${patient.nom}">
                    <span class="text-danger" th:errors="${patient.nom}"></span>
                </div>
                <div>
                    <label>Date Naissance</label>
                    <input class="form-control" type="date" name="dateNaissance" th:value="${patient.dateNaissance}">
                    <span class="text-danger" th:errors="${patient.dateNaissance}"></span>
                </div>
                <div>
                    <label>Malade</label>
                    <input type="checkbox" name="malade" th:checked="${patient.malade}">
                    <span class="text-danger" th:errors="${patient.malade}"></span>
                </div>
                <div>
                    <label>Score</label>
                    <input class="form-control" type="text" name="score" th:value="${patient.score}">
                    <span class="text-danger" th:errors="${patient.score}"></span>
                </div>
                <button type="submit" class="btn btn-primary">Save</button>
            </form>
        </div>
    </div>
</body>
</html>
```

The screenshot shows a web-based application interface for managing patient data. At the top, there is a navigation bar with links for Home, Link, Patient, and a dropdown for [Username]. Below the navigation, there is a form for editing a patient record. The form has the following fields:

- ID 2: ID 2
- Nom: Hanane
- Date Naissance: 19/04/2024
- Malade: checked
- Score: 4321
- Save button

## PARTIE 3 :

### 1. CONFIGURATION DE LA SÉCURITÉ AVEC SPRING SECURITY (SECURITYCONFIG)

- CETTE CLASSE CONFIGURE LA SÉCURITÉ DE L'APPLICATION EN UTILISANT SPRING SECURITY.
- ELLE GÈRE L'AUTHENTIFICATION DES UTILISATEURS ET L'AUTORISATION D'ACCÈS AUX DIFFÉRENTES PARTIES DE L'APPLICATION EN FONCTION DES RÔLES.
- LA CONFIGURATION INCLUT LA PAGE DE LOGIN, LES AUTORISATIONS POUR LES URLs, ET LA GESTION DES SESSIONS.

```
@Configuration
@EnableWebSecurity
@EnableMethodSecurity(prePostEnabled = true)
public class SecurityConfig
{
    @Autowired
    private PasswordEncoder passwordEncoder;
    * nohayla *
    @Bean
    public InMemoryUserDetailsManager inMemoryUserDetailsManager()
    {
        return new InMemoryUserDetailsManager(
            User.withUsername("nohayla").password(passwordEncoder.encode("1234"))
                .roles("USER").build(),
            User.withUsername("user2").password(passwordEncoder.encode("1234"))
                .roles("USER").build(),
            User.withUsername("admin").password(passwordEncoder.encode("1234"))
                .roles("USER", "ADMIN").build()
        );
    }
}
```

```

± nohayla
@Bean
public SecurityFilterChain securityFilterChain(HttpSecurity httpSecurity) throws Exception
{
    httpSecurity.formLogin().loginPage("/login").permitAll();
    httpSecurity.authorizeRequests().requestMatchers(④ "/webjars/**").permitAll();
    httpSecurity.rememberMe();
    // httpSecurity.authorizeRequests().requestMatchers("/user/**").hasRole("USER");
    // httpSecurity.authorizeRequests().requestMatchers("/admin/**").hasRole("ADMIN");
    httpSecurity.authorizeRequests().anyRequest().authenticated();
    httpSecurity.exceptionHandling().accessDeniedPage( accessDeniedUrl: "/notAuthorized");
    return httpSecurity.build();
}

```

## 2. CONTRÔLEURS (PATIENTRESTCONTROLLER ET SECURITYCONTROLLER)

### - PATIENTRESTCONTROLLER

CE CONTRÔLEUR GÈRE LES REQUÊTES LIÉES AUX PATIENTS COMME L'AFFICHAGE, L'AJOUT, LA MODIFICATION ET LA SUPPRESSION.

```

@Controller
@AllArgsConstructor
public class PatientRestController
{
    @Autowired
    private PatientRepository patientRepository;
    ± nohayla
    @GetMapping(④ "/user/index")
    public String index(Model model,
                        @RequestParam(name = "page",defaultValue = "0") int p,
                        @RequestParam(name = "size",defaultValue = "4") int s,
                        @RequestParam(name = "keyword",defaultValue = "") String kw)
    {
        Page<Patient> pagePatients=patientRepository.findByNomContains(kw,PageRequest.of(p,s));
        model.addAttribute( attributeName: "ListPatients",pagePatients.getContent());
        model.addAttribute( attributeName: "pages",new int[pagePatients.getTotalPages()]);
        model.addAttribute( attributeName: "currentPage",p);
        model.addAttribute( attributeName: "keyword",kw);
        return "patients";
    }
    ± nohayla
    @GetMapping(④ "/admin/delete")
    @PreAuthorize("hasRole('ROLE_ADMIN')")
    public String index(@RequestParam(name = "id" ) Long id,
                        @RequestParam(name = "page",defaultValue = "0") int page,
                        @RequestParam(name = "keyword",defaultValue = "") String keyword)
    {
        patientRepository.deleteById(id);
        return "redirect:/user/index?page="+page+"&keyword="+keyword;
    }
    ± nohayla
    @GetMapping(④ "/")
    public String index() { return "redirect:/user/index"; }

```

```

@GetMapping("/user/patients")
@ResponseBody
public List<Patient> listPatients() { return patientRepository.findAll(); }
▲ nohayla
@GetMapping("/admin/formPatients")
@PreAuthorize("hasRole('ROLE_ADMIN')")
public String formPatients(Model model)
{
    model.addAttribute( attributeName: "patient",new Patient());
    return "formPatients";
}
▲ nohayla
@PostMapping(path="/admin/save")
@PreAuthorize("hasRole('ROLE_ADMIN')")
public String save(Model model, @Valid Patient patient,
                   BindingResult bindingResult,
                   @RequestParam(defaultValue = "0") int page,
                   @RequestParam(defaultValue = "") String keyword)
{
    if(bindingResult.hasErrors()) return "formPatients";
    patientRepository.save(patient);
    return "redirect:/user/index?page="+page+"&keyword="+keyword;
}
▲ nohayla
@GetMapping("/admin/editPatient")
@PreAuthorize("hasRole('ROLE_ADMIN')")
public String editPatient(Model model,Long id ,int page,String keyword)
{
    Patient patient=patientRepository.findById(id).orElse( other: null);
    if(patient==null) throw new RuntimeException("patient introuvable");
    model.addAttribute( attributeName: "patient",patient);
    model.addAttribute( attributeName: "page",page);
    model.addAttribute( attributeName: "keyword",keyword);
    return "editPatient";
}
}

```

## - SECURITYCONTROLLER

CE CONTRÔLEUR GÈRE LES PAGES DE LOGIN ET D'ACCÈS NON AUTORISÉ.

```

@Controller
public class SecurityController
{
    ▲ nohayla
    @GetMapping("/notAuthorized")
    public String notAuthorized()
    {
        return "notAuthorized";
    }

    ▲ nohayla
    @GetMapping("/Login")
    public String login() { return "login"; }
}

```

### 3. VUES THYMELEAF

#### - LOGIN.HTML

#### UNE VUE POUR L'AUTHENTIFICATION DES UTILISATEURS.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org">
<head>
    <meta charset="UTF-8">
    <title>Login</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>
    <div class="row mt-3">
        <div class="row t-3">
            <div class="col-ad-6 offset-3">
                <div class="card">
                    <div class="card-header">Authentication</div>
                    <div class="card-body">
                        <form method="post" th:action="@{/login}">
                            <div class="mb-3 at-3" ...>
                            <div class="mb-3 at-3" ...>
                            <div class="form-check mb-3">
                                <div class="form-check-label">
                                    <input type="checkbox" class="form-check-input" name="remember-me">
                                    Remember me
                                </div>
                            </div>
                            <button type="submit" class="btn btn-primary">Login</button>
                        </form>
                    </div>
                </div>
            </div>
        </div>
    </div>
</body>
</html>
```

The screenshot shows a web application's login interface. The title bar says "Authentication". Below it is a "Username:" label with an input field containing "nohayla". Underneath is a "Password:" label with an input field containing "\*\*\*\*". There is a "Remember me" checkbox followed by a blue "Login" button.

## - TEMPLATE1.HTML

UN TEMPLATE DE BASE UTILISÉ POUR D'AUTRES PAGES AVEC UNE BARRE DE NAVIGATION COMMUNE.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout">
<head>
    <meta charset="utf-8">
    <title>Patients</title>
    <link rel="stylesheet" type="text/css" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/bootstrap/5.3.3/js/bootstrap.bundle.min.js"></script>
</head>
<body>
    <nav class="navbar navbar-expand-sm bg-dark navbar-dark">
        <div class="container-fluid">
            <ul class="navbar-nav">
                <li class="nav-item">
                    <a class="nav-link active" th:href="@{/user/index}">Home</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="#">Link</a>
                </li>
                <li class="nav-item dropdown">
                    <a class="nav-link dropdown-toggle" href="#" role="button" data-bs-toggle="dropdown">
                        Patient
                    </a>
                    <ul class="dropdown-menu">
                        <li><a class="dropdown-item" th:if="${#authorization.expression('hasRole(''ADMIN''))}" th:href="@{/admin/formPatients}">Nouveau</a></li>
                        <li><a class="dropdown-item" th:href="@{/user/index}">Chercher</a></li>
                    </ul>
                </li>
            </ul>
            <ul class="navbar-nav">
                <li class="nav-item dropdown">
                    <a class="nav-link dropdown-toggle"
                       href="#" role="button" data-bs-toggle="dropdown" th:text="${#authentication.name}">
                        </a>
                    <ul class="dropdown-menu">
                        <li>
                            <form method="post" th:action="@{/logout}">
                                <button class="dropdown-item" type="submit">Logout</button>
                            </form>
                        </li>
                    </ul>
                </li>
            </ul>
        </div>
        <section layout:fragment="content1">
        </section>
    </nav>
</body>
</html>
```

# - PATIENTS.HTML

## UNE VUE POUR AFFICHER LA LISTE DES PATIENTS AVEC DES FONCTIONNALITÉS DE RECHERCHE, D'ÉDITION ET DE SUPPRESSION.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout"
      layout:decorate="template1">
<head>
    <meta charset="UTF-8">
    <title>Patients</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>
    <div layout:fragment="content1">
        <div class="p-3">
            <div class="card">
                <div class="card-header">Liste patients</div>
                <div class="card-body">
                    <form method="get" th:action="@{/user/index}">
                        <label>Keyword:</label>
                        <input type="text" name="keyword" th:value="${keyword}">
                        <button type="submit" class="btn btn-info">
                            <i class="bi bi-search"></i>
                        </button>
                    </form>
                    <table class="table">
                        <thead>
                            <tr>
                                <th>ID</th> <th>Nom</th> <th>Date</th> <th>Malade</th><th>Score</th>
                                <th th:if="#authorization.expression('hasRole(''ADMIN''))">Delete</th>
                                <th th:if="#authorization.expression('hasRole(''ADMIN''))">Edit</th>
                            </tr>
                        <tr th:each="p:${ListPatients}">
                            <td th:text="${p.id}"></td>
                            <td th:text="${p.nom}"></td>
                            <td th:text="${p.dateNaissance}"></td>
                            <td th:text="${p.malade}"></td>
                            <td th:text="${p.score}"></td>
                            <td th:if="#authorization.expression('hasRole(''ADMIN''))">
                                <a onclick="javascript:return confirm('Etes vous sure?')"
                                   th:href="@{/admin/delete(id=${p.id}, keyword=${keyword},
                                   page=${currentPage})}" class="btn btn-danger">
                                    <i class="bi bi-trash"></i>
                                </a>
                            </td>
                            <td th:if="#authorization.expression('hasRole(''ADMIN''))">
                                <a th:href="@{/admin/editPatient(id=${p.id},
                                   keyword=${keyword}, page=${currentPage})}" class="btn btn-success">
                                    <i class="bi bi-pen"></i>
                                </a>
                            </td>
                        </tr>
                    </thead>
                    <tbody>
                        <tr th:each="value, item:${pages}">
                            <td th:each="value, item:${pages}">
                                <a th:href="@{/user/index(page=${item.index})}">
                                    th:class="${(currentPage==item.index)?'btn btn-info ms-1':'btn btn-outline-info ms-1'}"
                                    th:text="${item.index}"></a>
                            </td>
                        </tr>
                    </tbody>
                </table>
                <ul class="nav nav-pills">
                    <li th:each="value, item:${pages}">
                        <a th:href="@{/user/index(page=${item.index})}">
                            th:class="${(currentPage==item.index)?'btn btn-info ms-1':'btn btn-outline-info ms-1'}"
                            th:text="${item.index}"></a>
                    </li>
                </ul>
            </div>
        </div>
    </div>
</body>
</html>
```

# SI ROLE EST UN UTILISATEUR

Home Link Patient ▾ nohayla ▾

ID	Nom	Date	Malade	Score
1	Mohamed	2024-04-19	false	34
2	Hanane	2024-04-19	false	4321
3	Imane	2024-04-19	true	34
4	Mohamed	2024-04-19	false	340

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28  
29 30 31 32 33 34 35 36 37 38 39 40 41 42 43

# SI ROLE EST UN ADMIN

Home Link Patient ▾ admin ▾

ID	Nom	Date	Malade	Score	Delete	Edit
1	Mohamed	2024-04-19	false	34		
2	Hanane	2024-04-19	false	4321		
3	Imane	2024-04-19	true	34		
4	Mohamed	2024-04-19	false	340		

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28  
29 30 31 32 33 34 35 36 37 38 39 40 41 42 43

## - FORMPATIENTS.HTML

UNE VUE POUR AJOUTER LES INFORMATIONS D'UN PATIENT AVEC DES FONCTIONNALITÉS DE VALIDATION.

```
<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout"
      layout:decorate="template1">
<head>
    <meta charset="UTF-8">
    <title>Patients</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>
    <div layout:fragment="content1">
        <div class="col-md-6 offset-3">
            <form method="post" th:action="@{/admin/admin/save}">
                <div>
                    <label for="nom">Nom</label>
```

```

        <label for="nom">Nom</label>
        <input id="nom" class="form-control" type="text" name="nom" th:value="${patient.nom}">
        <span class="text-danger" th:errors="${patient.nom}"/></span>
    </div>
    <div>
        <label>Date Naissance</label>
        <input class="form-control" type="date" name="dateNaissance" th:value="${patient.dateNaissance}">
        <span class="text-danger" th:errors="${patient.dateNaissance}"/></span>
    </div>
    <div>
        <label>Malade</label>
        <input type="checkbox" name="malade" th:checked="${patient.malade}">
        <span class="text-danger" th:errors="${patient.malade}"/></span>
    </div>
    <div>
        <label>Score</label>
        <input class="form-control" type="text" name="score" th:value="${patient.score}">
        <span class="text-danger" th:errors="${patient.score}"/></span>
    </div>
    <button type="submit" class="btn btn-primary">Save</button>
</form>
</div>
</div>
</body>
</html>

```

The screenshot shows a web application interface for editing patient information. At the top, there is a navigation bar with links for Home, Link, Patient, and admin. Below the navigation bar is the main content area containing a form for editing a patient's details. The form includes fields for Nom (name), Date Naissance (date of birth), Malade (checkbox indicating if the patient is sick), and Score (numerical score). A Save button is located at the bottom of the form.

## - EDITPATIENTS.HTML

UNE VUE POUR MODIFIER LES INFORMATIONS D'UN PATIENT AVEC DES FONCTIONNALITÉS DE VALIDATION.

```

<!DOCTYPE html>
<html lang="en" xmlns:th="http://www.thymeleaf.org"
      xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout"
      layout:decorate="template1">
<head>
    <meta charset="UTF-8">
    <title>Patients</title>
    <link rel="stylesheet" href="/webjars/bootstrap/5.3.3/css/bootstrap.min.css">
    <script src="/webjars/jquery/3.7.1/jquery.min.js"></script>
    <link rel="stylesheet" href="/webjars/bootstrap-icons/1.11.3/font/bootstrap-icons.css">
</head>
<body>
    <div layout:fragment="content1">
        <div class="col-md-6 offset-3">
            <form method="post" th:action="@{/admin/save(page=${page}, keyword=${keyword})}">
                <div>
                    <label for="id">ID</label>
                    <label th:text="${patient.id}">ID</label>
                    <input id="id" class="form-control" type="hidden" name="id" th:value="${patient.id}">
                </div>
                <div>
                    <label for="nom">Nom</label>
                    <input id="nom" class="form-control" type="text" name="nom" th:value="${patient.nom}">
                    <span class="text-danger" th:errors="${patient.nom}"/></span>
                </div>
                <div>

```

```

        </div>
        <div>
            <label>Date Naissance</label>
            <input class="form-control" type="date" name="dateNaissance" th:value="${patient.dateNaissance}">
            <span class="text-danger" th:errors="${patient.dateNaissance}"></span>
        </div>
        <div>
            <label>Malade</label>
            <input type="checkbox" name="malade" th:checked="${patient.malade}">
            <span class="text-danger" th:errors="${patient.malade}"></span>
        </div>
        <div>
            <label>Score</label>
            <input class="form-control" type="text" name="score" th:value="${patient.score}">
            <span class="text-danger" th:errors="${patient.score}"></span>
        </div>
        <button type="submit" class="btn btn-primary">Save</button>
    </form>
</div>
</div>
</body>
</html>

```

The screenshot shows a web page with a header containing 'Home', 'Link', 'Patient', and 'admin'. Below the header is a form for a patient. The form has fields for ID (set to 1), Nom (set to Mohamed), Date Naissance (set to 19/04/2024), Malade (checkbox is unchecked), and Score (set to 34). At the bottom of the form is a blue 'Save' button.

## - NOTAUTHORIZED.HTML

**UNE VUE AFFICHÉE LORSQU'UN UTILISATEUR TENTÉ D'ACCÉDER À UNE PAGE NON AUTORISÉE.**



## 4. CLASSE PRINCIPALE DE L'APPLICATION SPRING BOOT (ANOADANOHAYLATP31APPLICATION)

- CETTE CLASSE EST LE POINT D'ENTRÉE DE L'APPLICATION SPRING BOOT.**

- ELLE INITIALISE L'APPLICATION, CONFIGURE LA BASE DE DONNÉES ET DÉFINIT UN BEAN POUR LE CRYPTAGE DES MOTS DE PASSE.

```
@SpringBootApplication
public class AnoadaNohaylaTp31Application implements CommandLineRunner
{
    @Autowired
    private PatientRepository patientRepository;
    ± nohayla
    public static void main(String[] args) { SpringApplication.run(AnoadaNohaylaTp31Application.class, args); }
    ± nohayla
    @Override
    public void run(String... args) throws Exception
    {
        /*
        patientRepository.save(new Patient(null,"Mohamed",new Date(),false,34));
        patientRepository.save(new Patient(null,"Hanane",new Date(),false,4321));
        patientRepository.save(new Patient(null,"Imane",new Date(),true,34));
        */
    }
    ± nohayla
    @Bean
    PasswordEncoder passwordEncoder() { return new BCryptPasswordEncoder(); }
}
```