



Architecture and framework web

Création d'une application web CRUD
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2016 – Licence Informatique
2018 – Master INIS
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2017 – Diplôme BTS SIO
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Mise en place d'une API Java Spring

Plan

TP 1 : Mise en place d'un projet Spring, des objets métiers et d'une base de données

TP2 : Mise en place de repositories et de services manipulant les objets métiers

TP3 : Mise en place de la couche d'exposition



DTO & Mapstruct

Créer les DTO dont vous aurez besoin et utilisez mapstruct pour générer les mappers correspondant.

```
1 <build>
2   <plugins>
3     <plugin>
4       <groupId>org.springframework.boot</groupId>
5       <artifactId>spring-boot-maven-plugin</artifactId>
6     </plugin>
7     <plugin>
8       <groupId>org.apache.maven.plugins</groupId>
9       <artifactId>maven-compiler-plugin</artifactId>
10      <version>3.11.0</version>
11      <configuration>
12        <annotationProcessorPaths>
13          <path>
14            <groupId>org.mapstruct</groupId>
15            <artifactId>mapstruct-processor</artifactId>
16            <version>1.5.5.Final</version>
17          </path>
18
19          <path>
20            <groupId>org.projectlombok</groupId>
21            <artifactId>lombok</artifactId>
22            <version>1.18.34</version>
23          </path>
24
25          <!-- This is needed when using Lombok 1.18.16 and above -->
26          <path>
27            <groupId>org.projectlombok</groupId>
28            <artifactId>lombok-mapstruct-binding</artifactId>
29            <version>0.2.0</version>
30          </path>
31        </annotationProcessorPaths>
32      </configuration>
33    </plugin>
34  </plugins>
35 </build>
```

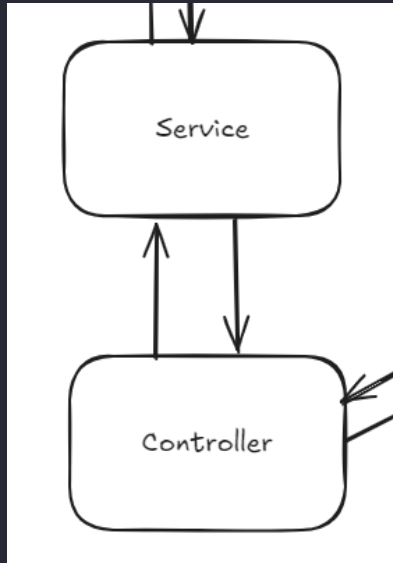


Controller

Créer un @Controller Spring pour la gestion des utilisateurs et un pour celle des objets métier de votre projet.

Ceux-ci doivent permettre d'accéder aux méthodes du services et renvoyer une ResponseEntity englobant un DTO ou une liste de DTO.

Celles-ci doivent permettre d'accéder aux opérations CRUD du Service en utilisant les actions HTTP appropriées.





Outils type bruno // postman

The screenshot displays the Postman web interface. At the top, there's a navigation bar with 'Home', 'Workspaces', and 'Explore' tabs, a search bar, and 'Sign In' and 'Create Account' buttons. The left sidebar shows a 'History' panel with a list of requests, including 'GET localhost:8081/api/utilisateur'. The main panel shows the details of this request. The URL is 'localhost:8081/api/utilisateur' and the method is 'GET'. Below the URL bar, there are tabs for 'Params', 'Authorization', 'Headers (8)', 'Body', 'Pre-request Script', 'Tests', and 'Settings'. The 'Params' tab is active, showing a table for 'Query Params' with columns 'Key', 'Value', and 'Bulk Edit'. Below this, the 'Body' tab is active, showing a JSON response. The response is formatted as 'Pretty' and shows a JSON object with fields like 'id', 'mail', 'username', 'password', and 'reservations'. The status bar at the bottom indicates 'Status: 200 OK', 'Time: 12 ms', and 'Size: 843 B'. A 'Save Response' button is also visible.

Home Workspaces Explore Search Postman Sign In Create Account

History New Import GET localhost:8081/api/utilisateur

localhost:8081/api/utilisateur

GET localhost:8081/api/utilisateur Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

Query Params

Key	Value	Bulk Edit
Key	Value	

Body Cookies (1) Headers (14) Test Results Status: 200 OK Time: 12 ms Size: 843 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "id": 1,
3   "mail": "bob@hotmail.fr",
4   "username": "bob",
5   "password": "bob",
6   "reservations": [
7     {
8       "id": {
9         "boiteId": 38,
10        "utilisateurId": 1
11      },
12      "boite": {
13        "id": 38,
14        "nom": "Boite à lire du CEST",
15        "description": "CEST (Centre d'Education Sportive de Tours)",
16        "quantite": 12,
17        "pointGeo": "47.3903436256, 0.6961206773",
18        "reservations": null
19      }
20    }
21  ]
22 }
```

Create collections in Postman
Use collections to save your requests and share them with others.
Create a Collection



Gestion d'une exception

Vous devez mettre en place au moins une exception permettant de retourner un Message HTTP de code 400 (https://developer.mozilla.org/fr/docs/Web/HTTP/Status#r%C3%A9ponses_derreur_c%C3%B4t%C3%A9_client)

```
1 import java.io.Serial;
2 import org.springframework.http.HttpStatus;
3 import org.springframework.web.bind.annotation.ResponseStatus;
4
5 @ResponseStatus(value = HttpStatus.NOT_FOUND, reason = "The character has not been found")
6 public class TreeNotFoundException extends RuntimeException {
7
8     @Serial
9     private static final long serialVersionUID = -7037004598000605722L;
10
11 }
```


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