# 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.

```xml
<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-maven-plugin</artifactId>
        </plugin>
        <plugin>
            <groupId>org.apache.maven.plugins</groupId>
            <artifactId>maven-compiler-plugin</artifactId>
            <version>3.11.0</version>
            <configuration>
                <annotationProcessorPaths>
                    <path>
                        <groupId>org.mapstruct</groupId>
                        <artifactId>mapstruct-processor</artifactId>
                        <version>1.5.5.Final</version>
                    </path>

                    <path>
                        <groupId>org.projectlombok</groupId>
                        <artifactId>lombok</artifactId>
                        <version>1.18.34</version>
                    </path>

                    <!-- This is needed when using Lombok 1.18.16 and above -->
                    <path>
                        <groupId>org.projectlombok</groupId>
                        <artifactId>lombok-mapstruct-binding</artifactId>
                        <version>0.2.0</version>
                    </path>
                </annotationProcessorPaths>
            </configuration>
        </plugin>
    </plugins>
</build>
```
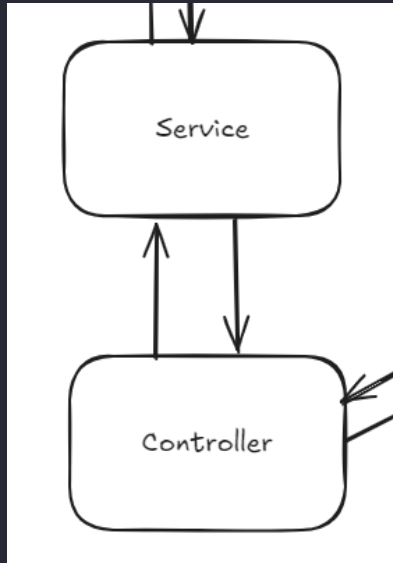
# Controller

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

# 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)

```java
import java.io.Serial;
import org.springframework.http.HttpStatus;
import org.springframework.web.bind.annotation.ResponseStatus;

@ResponseStatus(value = HttpStatus.NOT_FOUND, reason = "The character has not been found")
public class TreeNotFoundException extends RuntimeException {

    @Serial
    private static final long serialVersionUID = -7037004598000605722L;

}
```

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