# Lab: Spring Boot and Spring Data

# MobiLeLeLe web application

MobiLeLeLe is an application in which you register cars, with several properties.

You will have to create a simple application which has several pages and some object entities.

## 1. Data

This is the data layer of the application. There are some data object for you to implement.

## Brand

Create a **Brand** class, which holds the following properties:

- **id** – a **uuid or number**.
- **name** – a **name of brand**.
- **created** – a **date and time**.
- **modified** – a **date and time**.

## Model

Create a **Model** class, which holds the following properties:

- **id** – **uuid or number**.
- **name** – a **model name**.
- **category** – an enumeration (Car, Buss, Truck, Motorcycle)
- **imageUrl** – the **url of image** with size between 8 and 512 characters.
- **startYear** – a **number**.
- **endYear** – a **number**.
- **created** – a **date and time**.
- **modified** – a **date and time**.
- **brand** – a **model brand**.

# Offer

Create a **Model** class, which holds the following properties:

- **id** – **uuid or number**.
- **description** – some **text**.
- **engine** – **enumerated** value (GASOLINE, DIESEL, ELECTRIC, HYBRID).
- **imageUrl** – the **url of image**.
- **mileage** – a **number**.
- **price** – the **price of the offer**.
- **transmission** – **enumerated** value (MANUAL, AUTOMATIC).
- **year** – the **year** of offered car.
- **created** – a **date and time**.
- **modified** – a **date and time**.
- **model** – the **model of a car**.
- **seller** – a **user that sells the car.**

# User

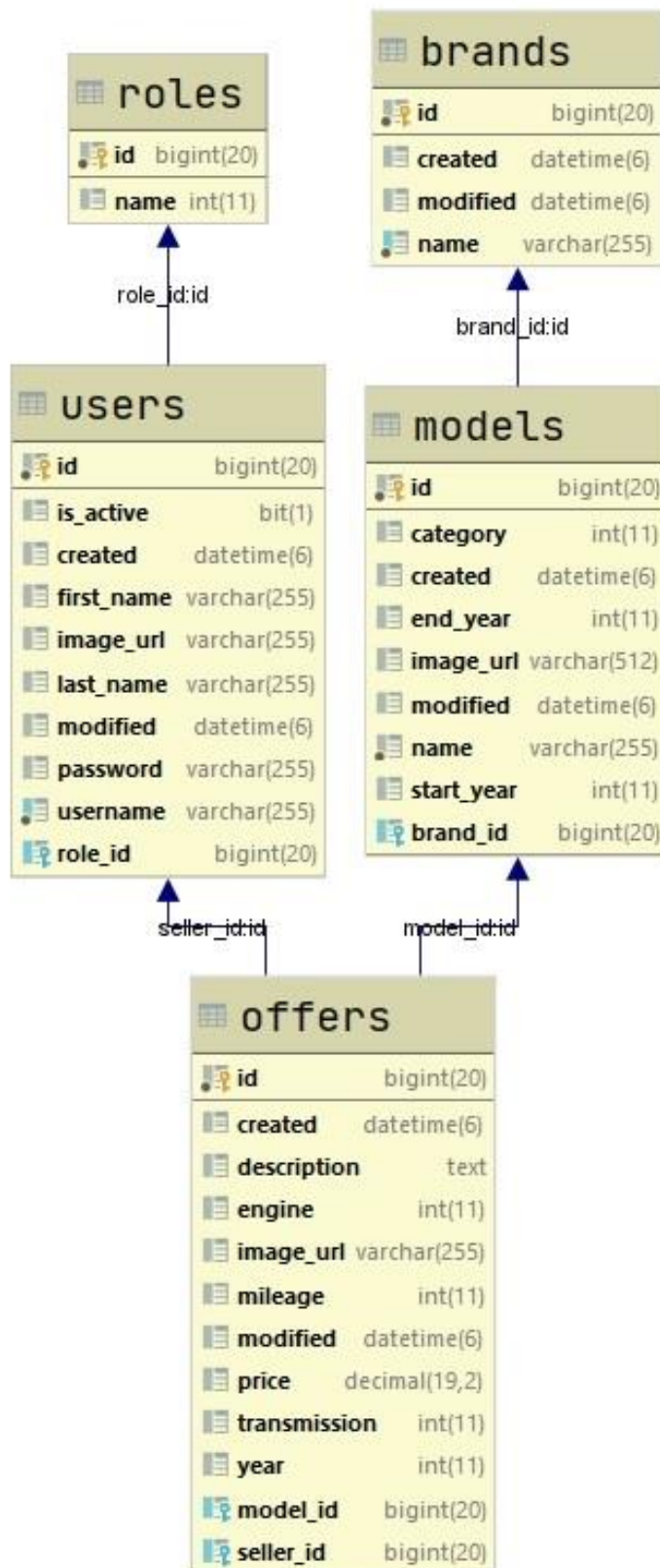Create a **User** class, which holds the following properties:

- **id** – **uuid or number**.
- **username** – username of the **user**.
- **password** – password of the **user**.
- **firstName** – first name of the **user**.
- **lastName** – last name of the **user**.
- **isActive** – **true OR false**.
- **role** – **user's role (User or Admin)**.
- **imageUrl** – a **url of user's picture.**
- **created** – a **date and time**.
- **modified** – a **date and time**.

# UserRole

Create a **UserRole** class, which holds the following properties:

- **id** – **uuid or number**.
- **role** – **enumerated** value.

**This is an example of ER Diagram**

## roles

| | | |
|---|---|---|
| 🔑 id | bigint(20) |
| name | int(11) |

*role_id:id*

## brands

| | | |
|---|---|---|
| 🔑 id | bigint(20) |
| created | datetime(6) |
| modified | datetime(6) |
| name | varchar(255) |

*brand_id:id*

## users

| | | |
|---|---|---|
| 🔑 id | bigint(20) |
| is_active | bit(1) |
| created | datetime(6) |
| first_name | varchar(255) |
| image_url | varchar(255) |
| last_name | varchar(255) |
| modified | datetime(6) |
| password | varchar(255) |
| username | varchar(255) |
| role_id | bigint(20) |

## models

| | | |
|---|---|---|
| 🔑 id | bigint(20) |
| category | int(11) |
| created | datetime(6) |
| end_year | int(11) |
| image_url | varchar(512) |
| modified | datetime(6) |
| name | varchar(255) |
| start_year | int(11) |
| brand_id | bigint(20) |

*seller_id:id*

*model_id:id*

## offers

| | | |
|---|---|---|
| 🔑 id | bigint(20) |
| created | datetime(6) |
| description | text |
| engine | int(11) |
| image_url | varchar(255) |
| mileage | int(11) |
| modified | datetime(6) |
| price | decimal(19,2) |
| transmission | int(11) |
| year | int(11) |
| model_id | bigint(20) |
| seller_id | bigint(20) |

## 2. Populate DB

- Create Data Initializer class, that populate the DB with information about cars when application starts for the first time.

Hint:

```
@Component
public class DataInitializer implements CommandLineRunner {
```

## 3. Prepare All needed layers

- Repositories
  - If you want, you can implement some common methods
- Services and their implementations
  - If you want, you can implement some common methods in implementations
- ServiceModels, that contains the same fields as the entity

In the next Lab, we continue working on this application

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