



Regular Exam [Spring Fundamentals]

Introducing the **Bon App-étit**, your culinary companion for exploring new tastes and connecting with fellow food enthusiasts. This app is all about taking your cooking experience to the next level by offering a wide range of recipes to suit your palate. Browse through hundreds of innovative recipes created by passionate chefs and home cooks. You can add your favorite dishes to your personal recipe collection, share your own culinary creations, and discover exciting flavour combinations. Unleash your inner chef and embark on a gastronomic journey with Bon App-étit!

There are several requirements you must follow in the implementation:

1. Database Requirements

The **Database** of the **Bon App-étit** application needs to support **3 entities**:

User

- **Id** – Accepts **UUID-String** or **Long** values
- **Username**
 - The **length** of the **values** should be **between 3 and 20** characters long (both numbers are **INCLUSIVE**)
 - The values should be **unique** in the database
- **Password**
 - The **length** of the **values** should be **between 3 and 20** characters long (**INCLUSIVE**)
- **Email**
 - The values should contain a '@' symbol)
 - The values should be **unique** in the database
- **Added Recipes**
 - A collection that contains all recipes that the user added. One user may **have many** recipes and one recipe can be added by **only one** user.
- **Favourite Recipes**
 - A collection that contains recipes that the user marked as favourite. One user may **have many** recipes and one recipe can be marked as favourite by **many** users.

Recipe

- **Id** – Accepts **UUID-String** or **Long** values
- **Name**
 - The **length** of the **values** should be **between 2 and 40** characters long (both numbers are **INCLUSIVE**)
- **Ingredients**
 - The **length** of the **values** should be **between 2 and 80** characters long (both numbers are **INCLUSIVE**)
- **Category**
 - The **length** of the **values** should be **between 2 and 200** characters long (both numbers are **INCLUSIVE**)
- **Added by**
 - The user who added the recipe in the app. One recipe **has one** user, but one user may **have added many** recipes.

Category

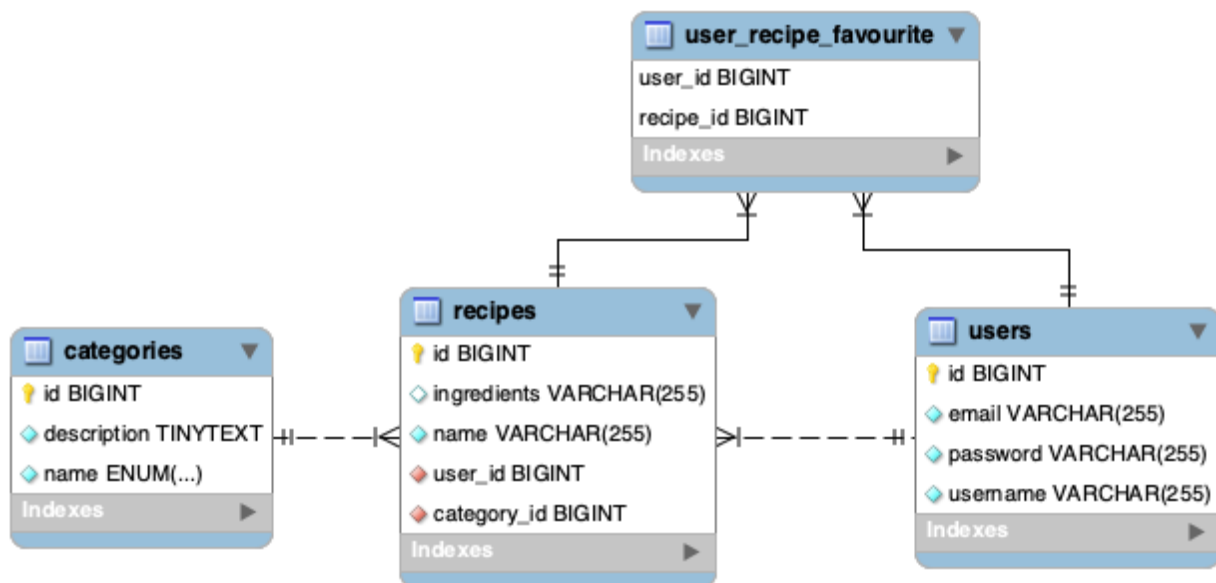
- **Id** – Accepts **UUID-String** or **Long** values
- **Category name**
 - an option between (**MAIN_DISH**, **DESSERT**, **COCKTAIL**)
- **Description**
 - For **MAIN_DISH** - "Heart of the meal, substantial and satisfying; main dish delights taste buds."
 - For **DESSERT** – "Sweet finale, indulgent and delightful; dessert crowns the dining experience with joy."
 - For **COCKTAIL** – "Sip of sophistication, cocktails blend flavours, creating a spirited symphony in every glass."
- **Recipes**
 - One category may **have many** recipes, but one recipe has **only one** category.

Nullable/Empty/Blank values are not allowed unless explicitly mentioned. Implement the entities with the **correct data types** and implement the **repositories** for them.

2. Initialize categories

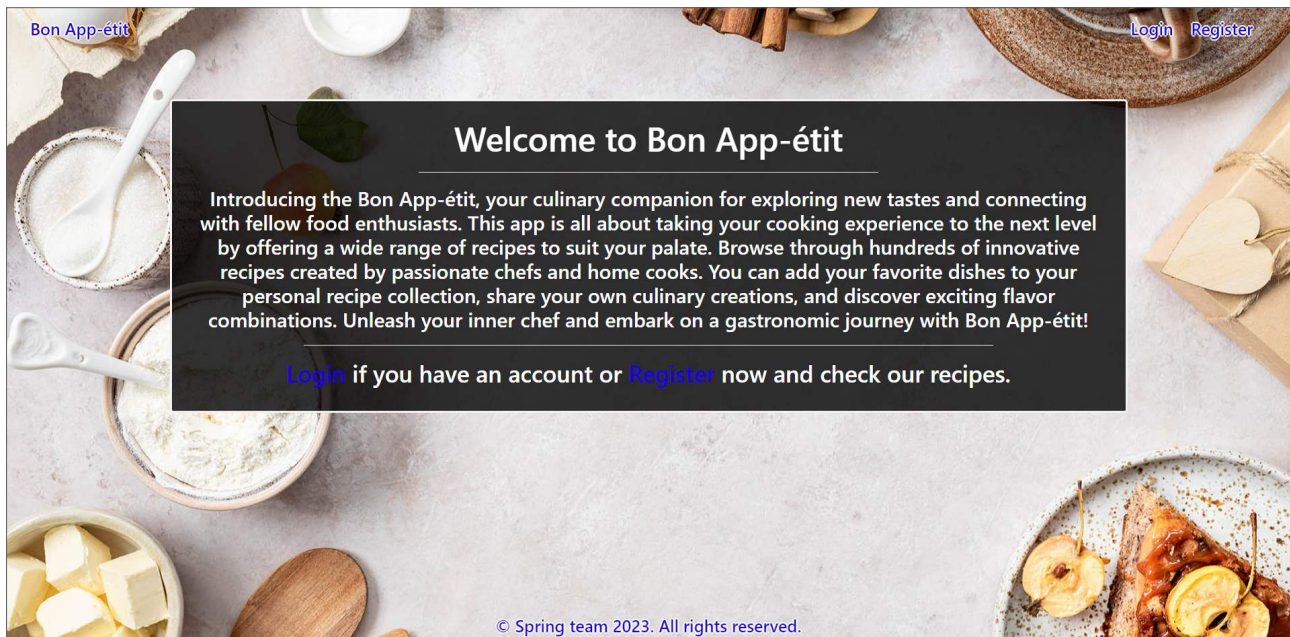
- Implement a method that checks (when app started) if the database does not have any **categories** and initialize them
 - You are free to do this in some different ways
 - You can skip the description if you want

Here is the ER diagram:

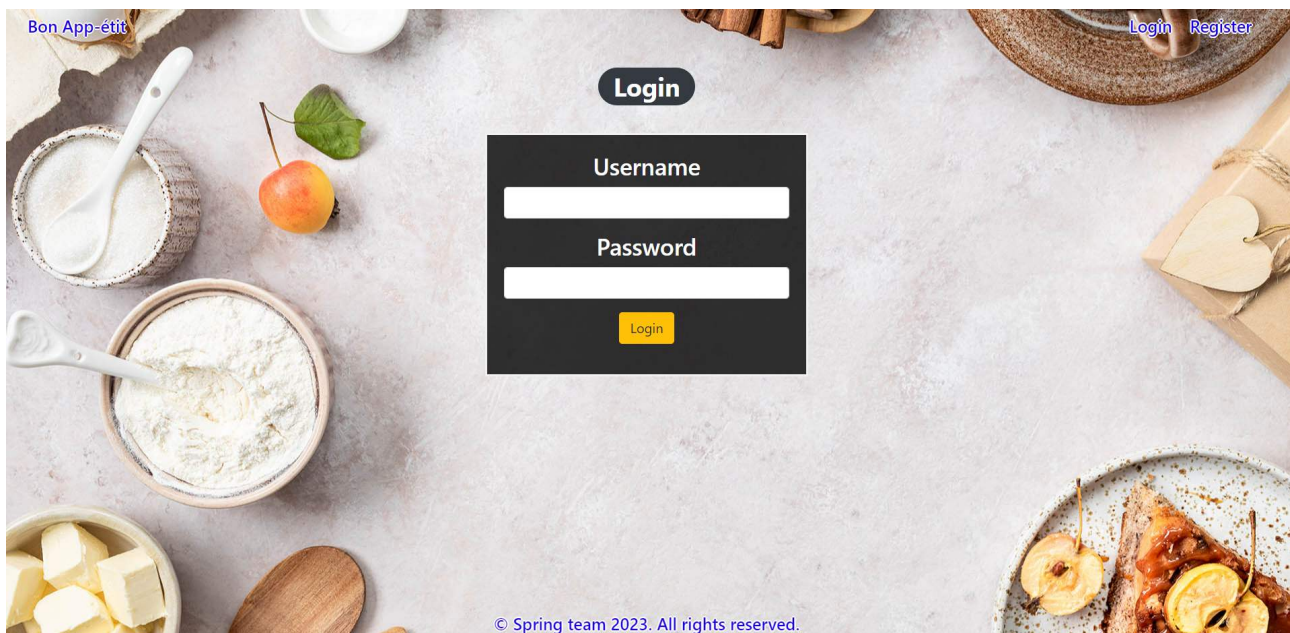


3. Page Requirements

Index Page (logged out user)



Login Page (logged out user)



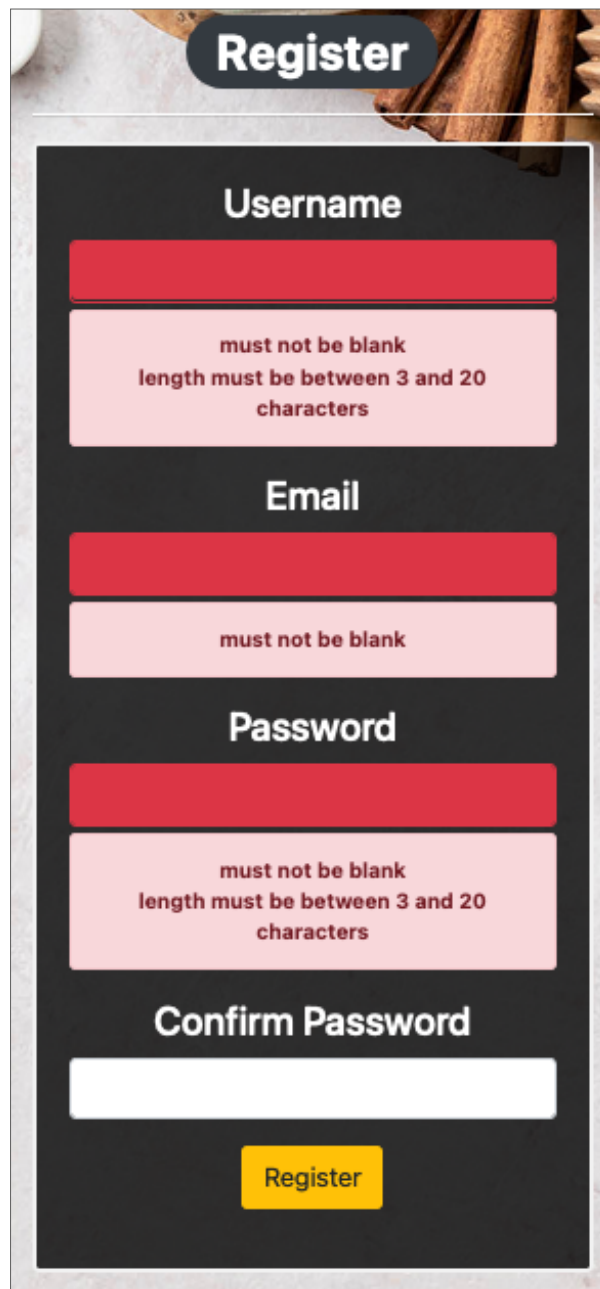
Login Page validations

The image shows two versions of a login form overlaid on a background of cinnamon sticks and a bowl of yellow liquid. The left version is a clean login form with a dark grey header containing a 'Login' button. Below it are two white input fields labeled 'Username' and 'Password', followed by a yellow 'Login' button. The right version shows the same form but with validation error messages. The 'Username' field has a red error message: 'must not be blank' and 'length must be between 3 and 20 characters'. The 'Password' field has a red error message: 'must not be blank', 'invalid username and password combination', and 'length must be between 3 and 20 characters'. A yellow 'Login' button is at the bottom.

Registration Page (logged out user)

The image shows a registration form on a background of various baking ingredients like flour, butter, and fruit. The form has a dark grey header with a 'Register' button. Below it are four white input fields labeled 'Username', 'Email', 'Password', and 'Confirm Password', followed by a yellow 'Register' button. In the top left corner, there is a link 'Bon App-étit' and in the top right corner, there are links 'Login' and 'Register'. At the bottom center, there is a copyright notice: '© Spring team 2023. All rights reserved.'

Registration Page validations



The image shows a mobile app registration screen. At the top, there's a dark blue button labeled 'Register'. Below it, the form is divided into sections for 'Username', 'Email', 'Password', and 'Confirm Password'. Each input field is a red rectangle. Below the 'Username' and 'Password' fields, there are pink boxes containing validation rules: 'must not be blank' and 'length must be between 3 and 20 characters'. The 'Confirm Password' field is a white rectangle. At the bottom, there's a yellow button labeled 'Register'.

Register

Username

must not be blank
length must be between 3 and 20
characters

Email

must not be blank

Password

must not be blank
length must be between 3 and 20
characters

Confirm Password

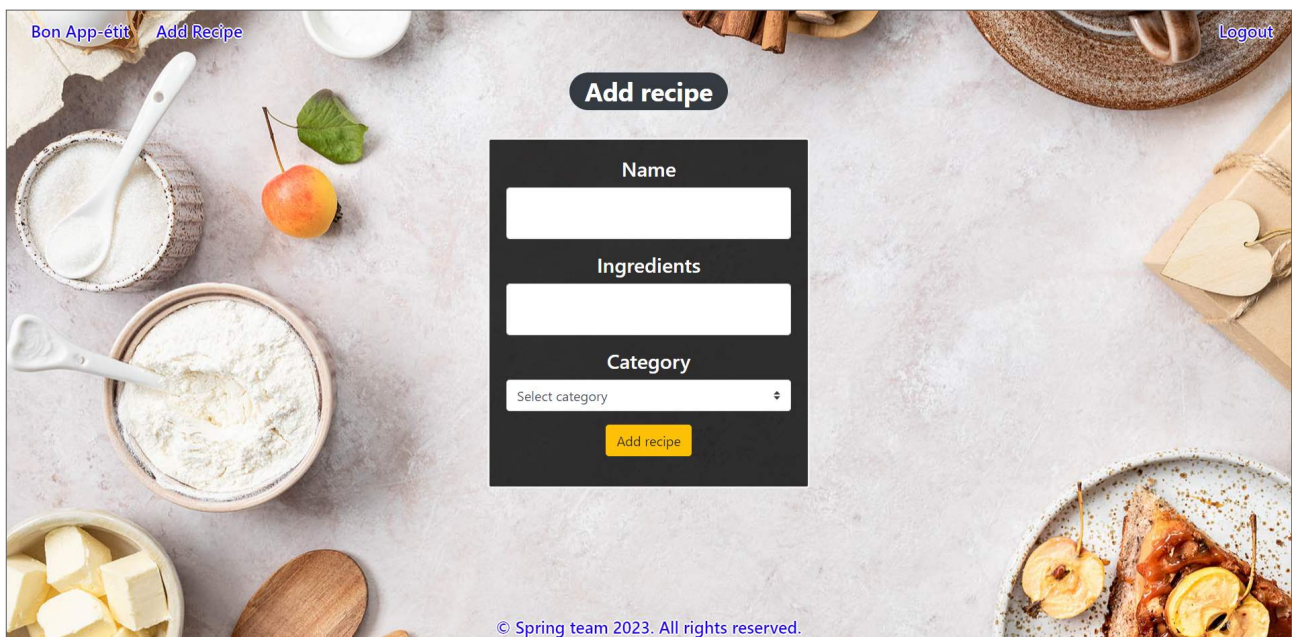
Register

Home Page (without having any recipes)

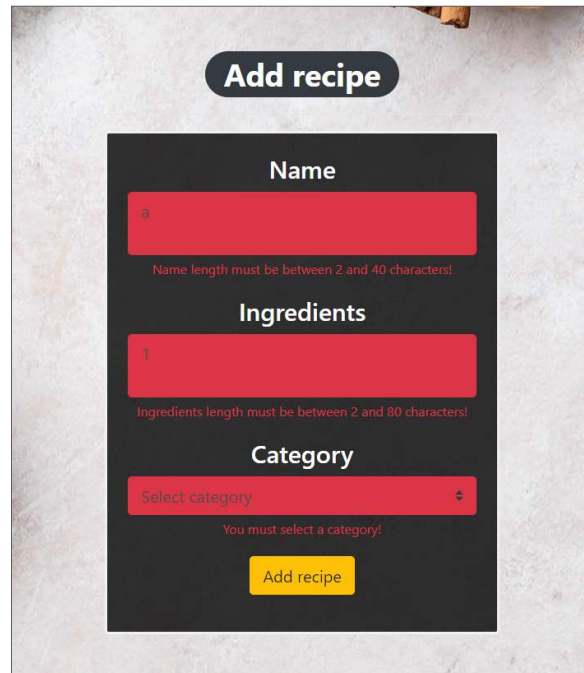
- The upper left section (Desserts) of the page should display **all of the added recipes for Desserts** from the database from all users.
- The upper right section (Main Dishes) of the page should display **all of the added recipes for Main Dishes** from the database from all users.
- The bottom left section (Cocktails) of the page should display **all of the added recipes for Cocktails** from the database from all users.
- The bottom right section (Favourites) of the page should display **all recipes marked as favourites** in the database by users.



Add Recipe



Add Recipe Validation



The image shows a mobile app interface for adding a recipe. The form has three sections: Name, Ingredients, and Category. Each section has a red input field and a red error message below it. The Name field contains 'a' and the error is 'Name length must be between 2 and 40 characters!'. The Ingredients field contains '1' and the error is 'Ingredients length must be between 2 and 80 characters!'. The Category field is a dropdown menu with 'Select category' and the error is 'You must select a category!'. At the bottom is a yellow 'Add recipe' button.

Add recipe

Name

a

Name length must be between 2 and 40 characters!

Ingredients

1

Ingredients length must be between 2 and 80 characters!

Category

Select category

You must select a category!

Add recipe

Home Page (with recipes)



The image shows the home page of the Bon App-étit app. The page has a dark theme with a light blue header. The header contains the text 'Bon App-étit' and 'Add Recipe' on the left, and 'Logout' on the right. Below the header is a white bar with the text 'Welcome, admin'. The main content area is divided into four sections: Desserts (4), Main Dishes (2), Cocktails (3), and Favourites (1). Each section contains a list of recipes with their names, ingredients, and a star icon. The recipes are: Kaiserschmarren (Flour, Egg, Sugar, Milk, Butter), Souffle (Cream, egg whites, butter, milk, egg yolks), Creme Brulee (Cream, sugar, egg or egg yolks, vanilla), Cheesecake (Cream cheese, sour cream, graham cracker crumbs, lemon juice, vanilla extract), Goulash (Meat, stock, noodles, vegetables (especially potatoes), paprika, spices), Moussaka (Eggplant or potatoes, minced meat), Whiskey Sour (Bourbon, simple syrup, egg white, lemon juice, angostura bitters), Mojito (Club soda, simple syrup, ice, white rum, lime juice), Margarita (Triple sec, ice cube, lime juice, sea salt, white tequila), and Kaiserschmarren (Flour, Egg, Sugar, Milk, Butter). The page is set against a background image of various food items.

Bon App-étit Add Recipe Logout

Welcome, admin

Desserts (4)

Kaiserschmarren	Flour, Egg, Sugar, Milk, Butter	★
Souffle	Cream, egg whites, butter, milk, egg yolks	★
Creme Brulee	Cream, sugar, egg or egg yolks, vanilla	★
Cheesecake	Cream cheese, sour cream, graham cracker crumbs, lemon juice, vanilla extract	★

Cocktails (3)

Whiskey Sour	Bourbon, simple syrup, egg white, lemon juice, angostura bitters	★
Mojito	Club soda, simple syrup, ice, white rum, lime juice	★
Margarita	Triple sec, ice cube, lime juice, sea salt, white tequila	★

Main Dishes (2)

Goulash	Meat, stock, noodles, vegetables (especially potatoes), paprika, spices	★
Moussaka	Eggplant or potatoes, minced meat	★

Favourites (1)

Kaiserschmarren	Flour, Egg, Sugar, Milk, Butter	★
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The templates have been given to you in the application skeleton, so make sure you implement the pages correctly.

NOTES:

- The templates should look **EXACTLY** as shown above
- The templates do **NOT** require additional CSS for you to write. Only **bootstrap** and the **given CSS** are enough.

4. Functional Requirements

The Functionality Requirements describe the functionality that the application must support. The application should provide **Guest** (not logged in) users with the functionality to log in, register and view the Index page.

The application should provide **Users** (logged in) with the functionality to **log out, add a new recipe (Add Recipe page), view all recipes (Home page) and add recipes to Favourites section**.

BonAppetit in navbar should redirect to the appropriate URL depending on that if the user is logged in. The application should provide functionality for adding recipes with category of **Main Dish, Dessert, or Cocktail**.

On the **Home Page**, recipes should be **organized** into their respective categories: main dish recipes in the **Main Dishes** section, dessert recipes in the **Desserts** section, cocktail recipes in the **Cocktails** section, and favorite recipes in the **Favourites** section.

Above these sections, a **greeting text** displaying the current user's username is located: "Welcome, {username}".

Next to the name of each section on the **Home page** is a **counter** indicating the **number of recipes** in the current section.

Each recipe is accompanied by a **star with a plus icon**. When **clicked**, the selected recipe stays in the current section but is also added to the current user's **favourite recipes** collection. If the recipe is already present in the favourites collection, no action should be taken.

The application should store its data in a MySQL database.

5. Security Requirements

The Security Requirements are mainly access requirements. Configurations about which users can access specific functionalities and pages.

- **Guest** (not logged in) users can access:
 - **Index** page;
 - **Login** page;
 - **Register** page.
- **Users** (logged in) can access:
 - **Home** page;
 - **Add Recipe** page;
 - **Logout** functionality.

6. Submitting

- When submitting a solution it is necessary to make an **archived file** of **src + pom.xml/build.gradle** and **settings.gradle**.
- The judge's usual behavior is to return a "Compile time error" as a response when a solution is successfully uploaded.
- Only the **last** file submitted will be checked and evaluated.