



Spotify Playlist Application

Regular Exam [Spring Fundamentals]

The **Spotify Playlist Application** is here to help us keep in mind our shopping needs. The application is here for your music taste and aims to make music a more social experience. In Spotify Playlist, you can find hundreds of new songs that people had discovered and then you can add them to your customized playlist or maybe add your favorite songs so other people can listen to them. You can find new musical experiences by searching for styles of music you prefer.

There are several requirements you must follow in the implementation:

1. Database Requirements

The **Database** of the **Spotify Playlist** 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
- **Playlist**
 - The playlist contains songs. One **user** may have many **songs** and one **song** can be **saved** by many **users** to their **playlist**.

Song

- **Id** – Accepts **UUID-String** or **Long** values
- **Performer**
 - The **length** of the **values** should be **between 3 and 20** characters long (both numbers are **INCLUSIVE**)
- **Title**
 - The **length** of the **values** should be **between 2 and 20** characters long (both numbers are **INCLUSIVE**)
- **Duration**
 - Duration in seconds must be **positive integer number**
- **Release date**
 - The Date cannot be in the future
- **Style**
 - One song **has one** style and one style **can have many** songs

Style

- **Id** – Accepts **UUID-String** or **Long** values
- **Style name**
 - The values should be **unique** in the database
 - an option between (**EXCELLENT**, **GOOD** and **ACCEPTABLE**)
- **Description**
 - Fell free to add some description to every classification

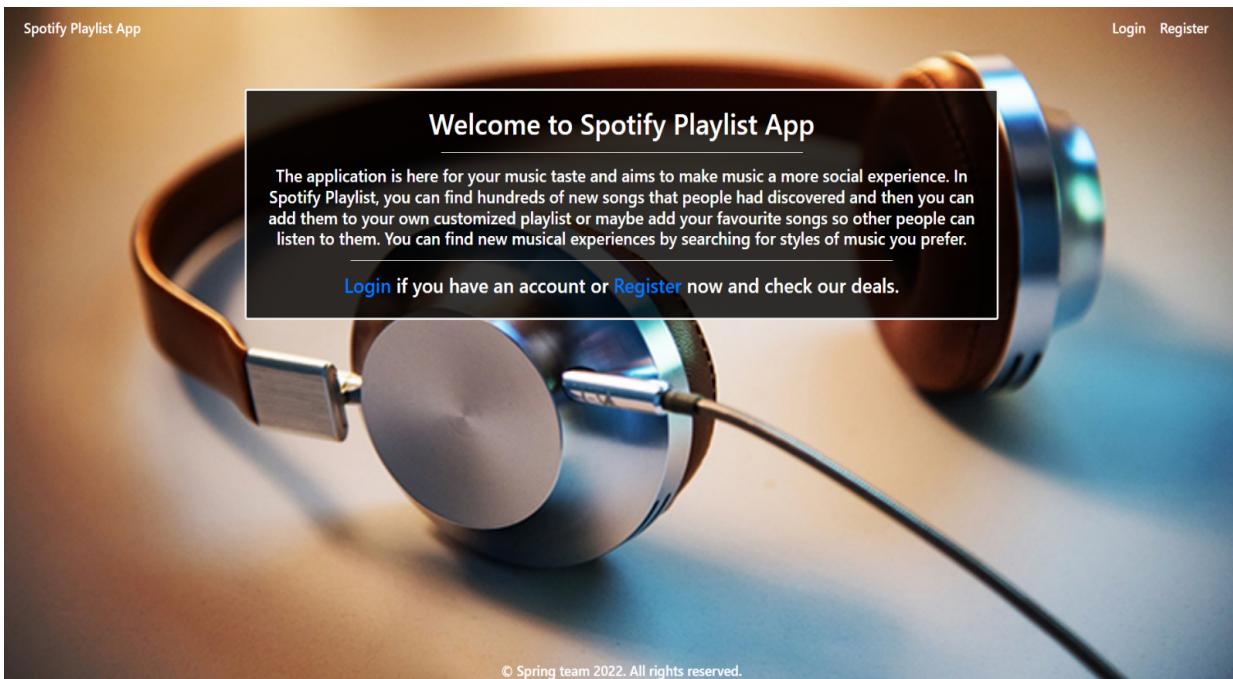
Nullable/Empty/Blank values are not allowed unless explicitly mentioned. Implement the entities with the **correct data types** and implement the **repositories** for them.

2. Initialize categories

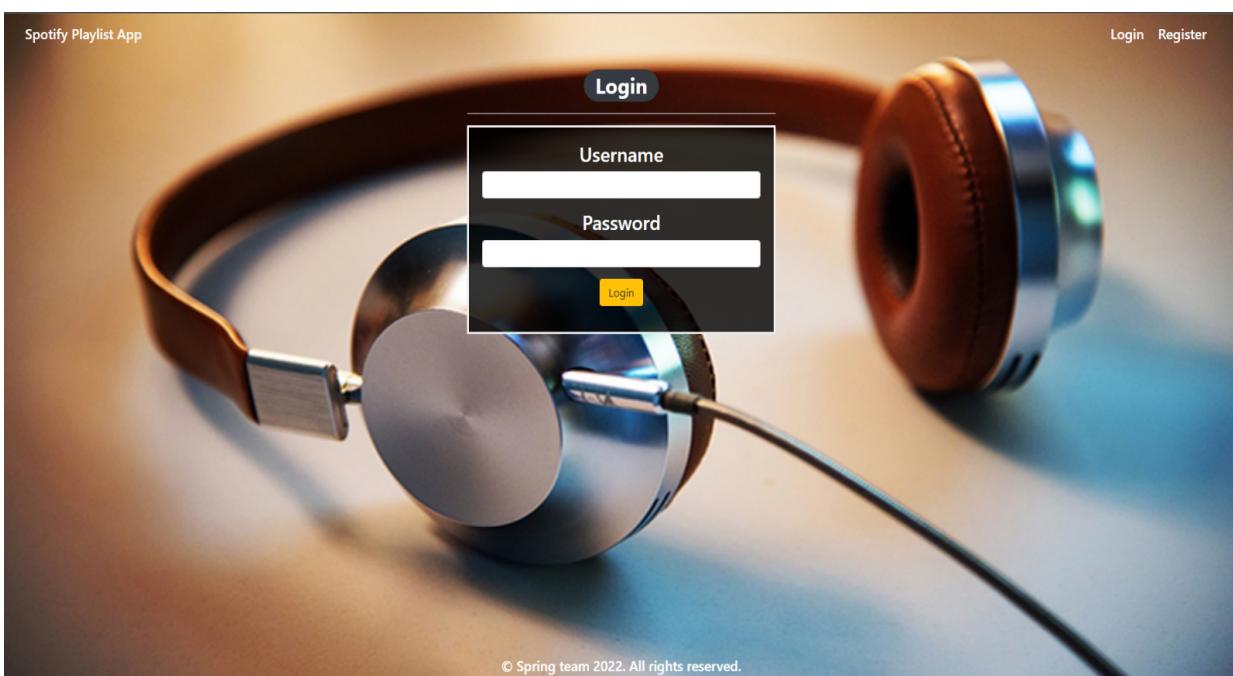
- Implement a method that checks (when app started) if the database does not have any category and initialize them
 - You are free to do this in some different ways
 - You can skip the description if you want

3. Page Requirements

Index Page (logged out user)



Login Page (logged out user)



Login Page validations

The image displays two side-by-side screenshots of a mobile application's login screen. Both screens feature a dark-themed interface with a large, rounded "Login" button at the top. Below it is a "Username" field containing the text "ivan". Underneath the username field is a "Password" field, which is currently empty. At the bottom of the form is a yellow "Login" button.

The left screenshot shows a red error message above the fields: "Incorrect username or password!"

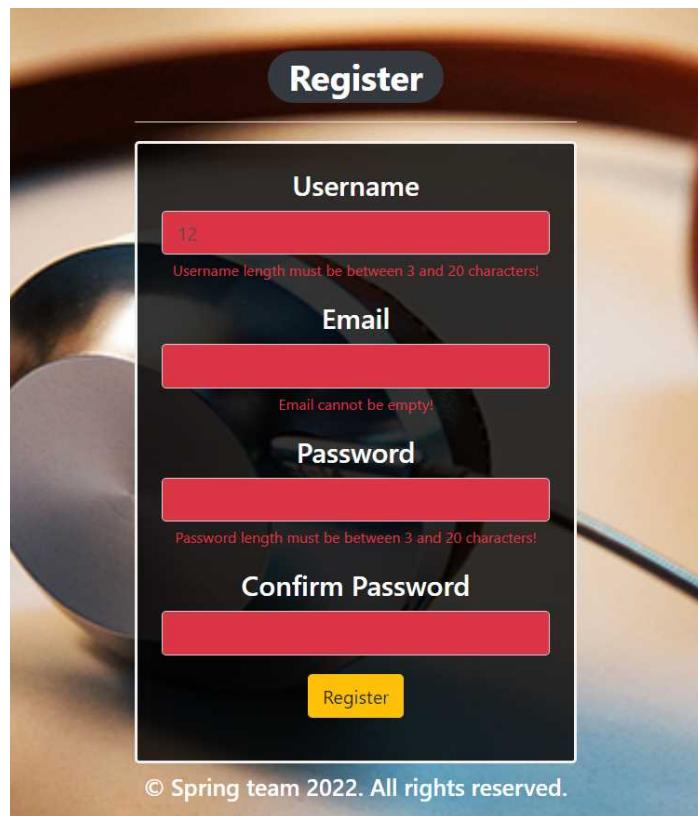
The right screenshot shows two red error messages: "Password length must be between 3 and 20 characters!" and "Username length must be between 3 and 20 characters!"

Registration Page (logged out user)

The image shows a registration page for a "Spotify Playlist App". The background features a pair of headphones. At the top left is the app name "Spotify Playlist App", and at the top right are "Login" and "Register" buttons. In the center is a "Register" button. Below it is a registration form with five fields: "Username", "Email", "Password", "Confirm Password", and a "Register" button at the bottom. The entire registration form is contained within a dark rectangular box.

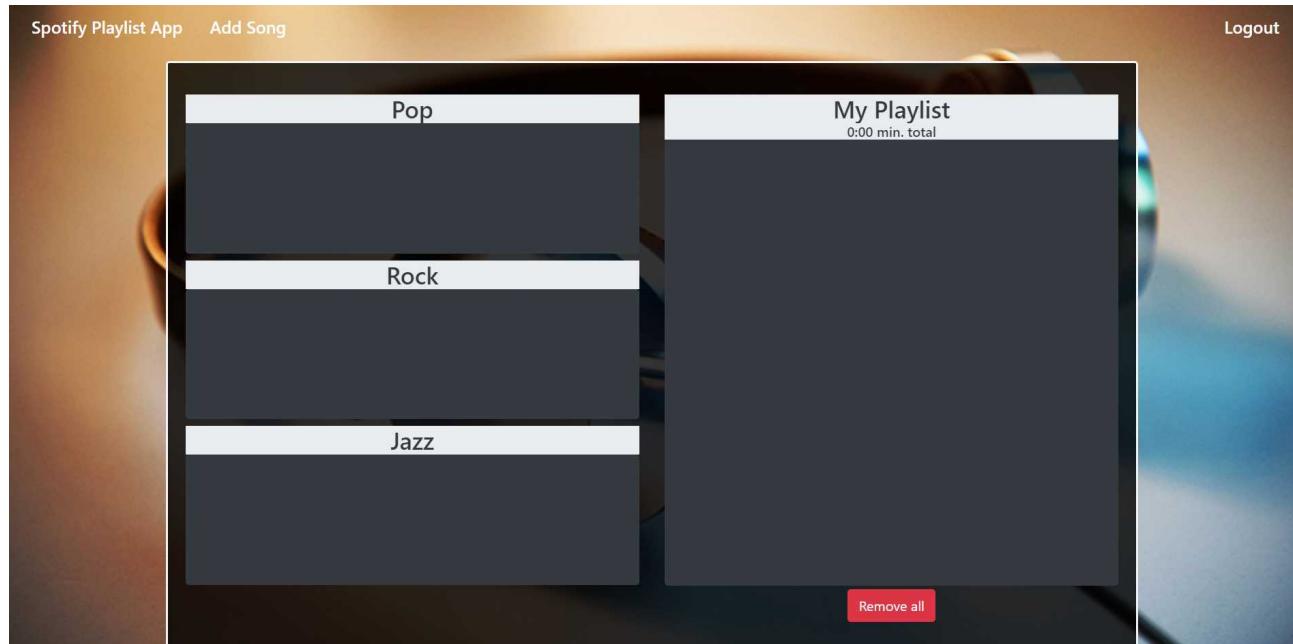
At the bottom of the page, there is a copyright notice: "© Spring team 2022. All rights reserved."

Registration Page validations

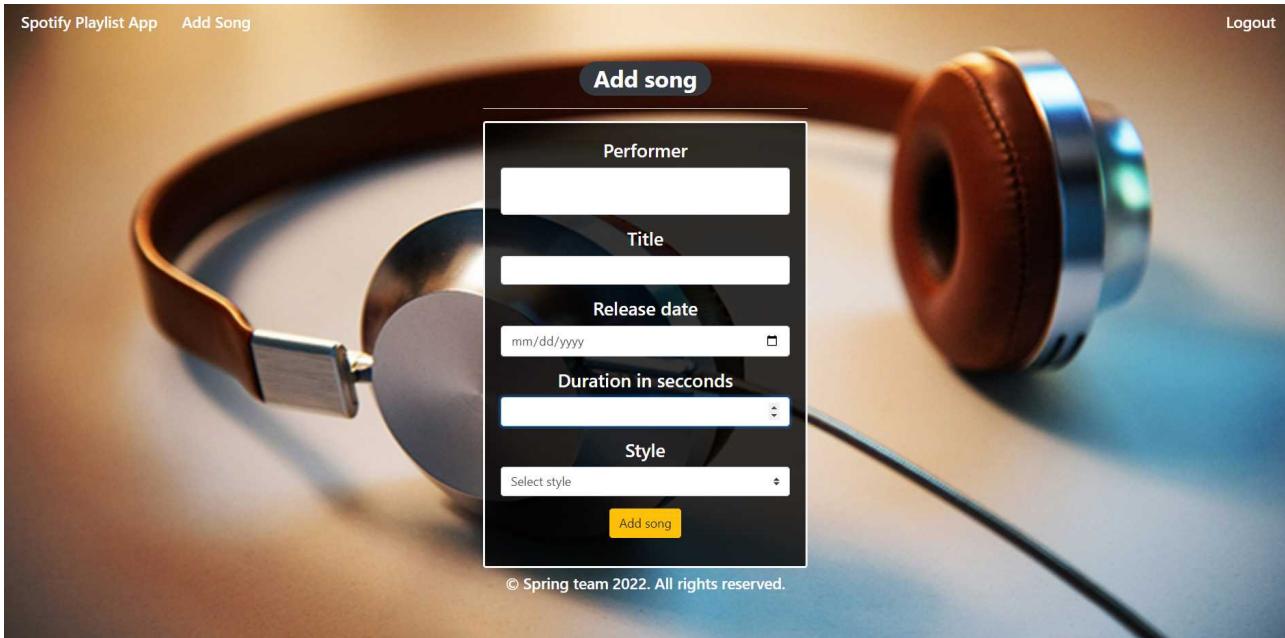


Home Page (without having any songs)

- The left section of the page should visualize **all of the songs** from the database.
- The right section (My Playlist) of the page should visualize **only songs** from the playlist of the **current logged user**.



Add Song



Spotify Playlist App Add Song Logout

Add song

Performer

Title

Release date

mm/dd/yyyy

Duration in seconds

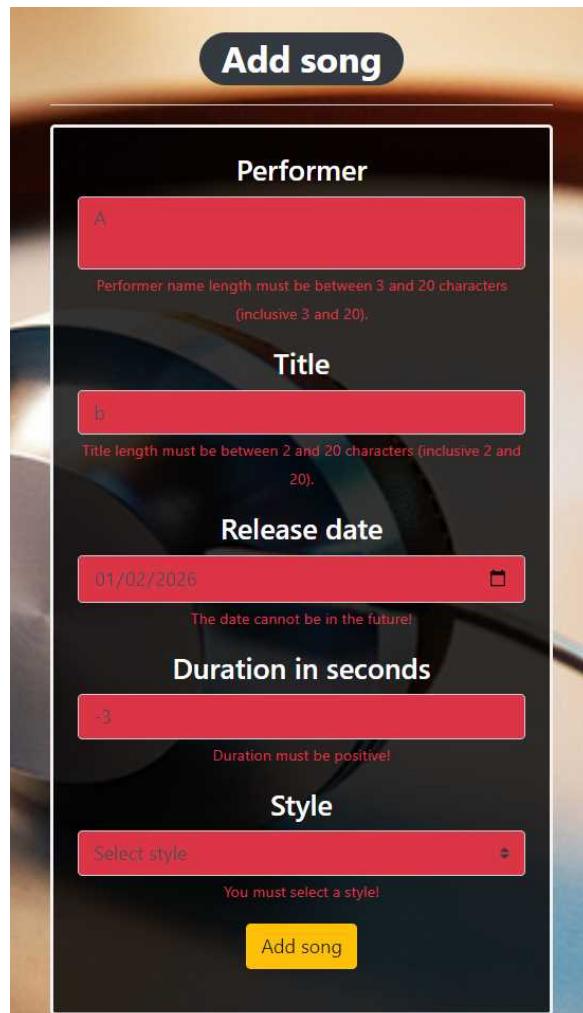
Select style

Add song

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This screenshot shows the 'Add Song' form on a Spotify Playlist App. The form is titled 'Add song' and contains fields for 'Performer' (with placeholder 'A'), 'Title' (with placeholder 'b'), 'Release date' (set to '01/02/2026'), 'Duration in seconds' (set to '-3'), and 'Style' (with placeholder 'Select style'). A yellow 'Add song' button is at the bottom. The background features a close-up of a pair of headphones.

Add Offer Validation



Add song

Performer

A

Performer name length must be between 3 and 20 characters
(inclusive 3 and 20).

Title

b

Title length must be between 2 and 20 characters (inclusive 2 and 20).

Release date

01/02/2026

The date cannot be in the future!

Duration in seconds

-3

Duration must be positive!

Style

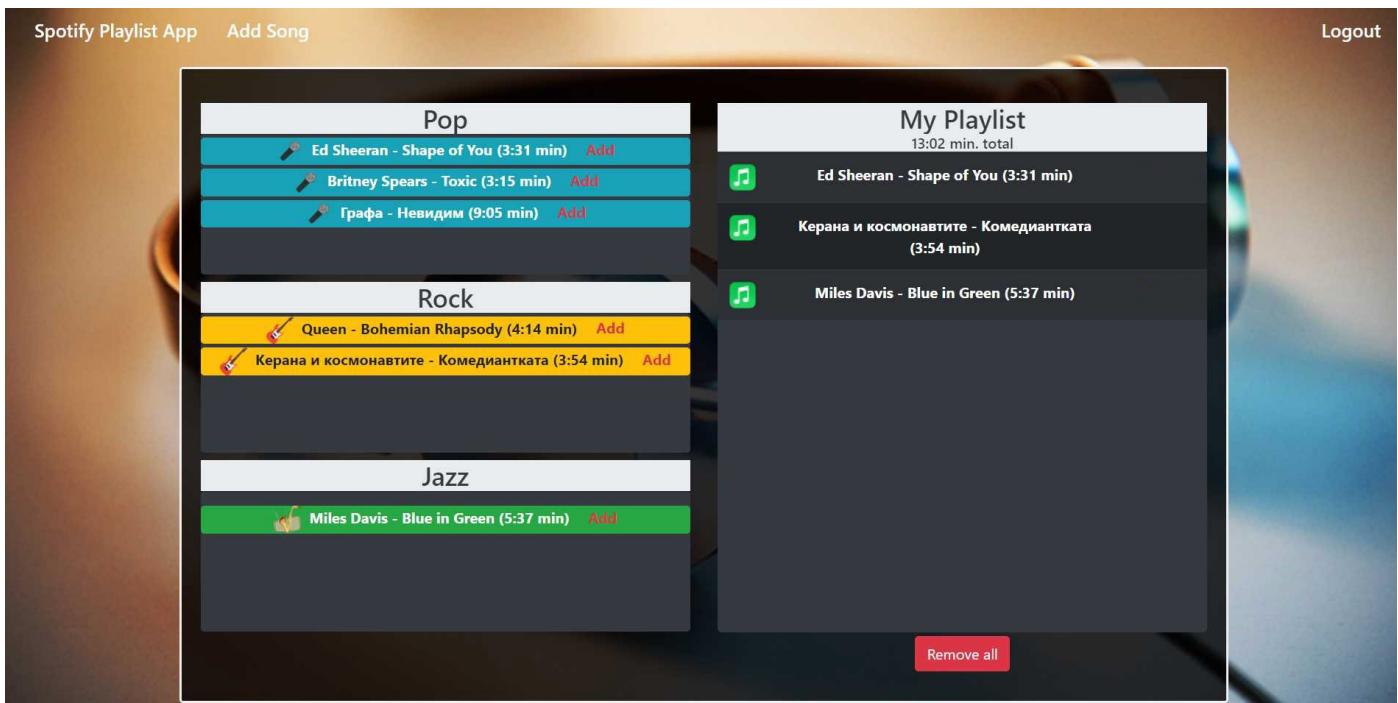
Select style

You must select a style!

Add song

This screenshot shows the 'Add song' form with validation errors. The 'Performer' field ('A') and 'Title' field ('b') are highlighted in red with error messages: 'Performer name length must be between 3 and 20 characters (inclusive 3 and 20)' and 'Title length must be between 2 and 20 characters (inclusive 2 and 20)'. The 'Release date' field ('01/02/2026') is also highlighted in red with the message 'The date cannot be in the future!'. The 'Duration in seconds' field ('-3') is highlighted in red with the message 'Duration must be positive!'. The 'Style' field ('Select style') is also highlighted in red with the message 'You must select a style!'. The background features a close-up of a pair of headphones.

Home Page (with songs)



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 song** (**Add song page**), **view all songs** (**Home page**) and **add the songs to My Playlist** or **Remove All songs from My Playlist**.

Spotify Playlist App in navbar should **redirect** to the appropriate URL depending on that if the **user is logged in**. The application should provide functionality for **adding songs** with styles of **Pop, Rock, or Jazz**.

The songs should be separated into different sections according to their styles. The image also depends on the item's category.

When the user clicks on the **Add button of some song**, he saves the song to **his playlist**. You should not **delete** this song from DB. When he clicks on **Remove all songs**, just delete all songs in the **user's playlist** in DB and again redirect to the home page.

The Remove all songs button should remove all songs only from the current user's playlist.

Bellow the My Playlist banner is located an info bar that shows the **sum of the duration** of all added songs in My Playlist.

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 Song** page;
 - **Logout** functionality.