Dictionary Application

Regular Exam [Spring Fundamentals]

Dictionary App is designed to help individuals and language enthusiasts to effortlessly access and explore the vast world of words and their meanings. It provides a user-friendly interface with a comprehensive dictionary that allows users to search for words, browse definitions, and enhance their vocabulary.

Dictionary App is a valuable tool for students, writers, professionals, and anyone seeking to enrich their language skills. It provides an extensive database of words and their meanings, making it a reliable companion for German, French, Spanish and Italian.

There are several requirements you must follow in the implementation:

1. Database Requirements

The **Database** of the **Dictionary** 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
- **Words**
  - The addedWords is a collection that contains all words that the user added. One user may **have many** words and one word can be added by **only one** user.

Word

- **Id** – Accepts **UUID-String** or **Long** values
- **Term**
  - The **length** of the **values** should be **between 2** and **40** characters long (both numbers are **INCLUSIVE**)
- **Translation**
  - The **length** of the **values** should be **between 2** and **80** characters long (both numbers are **INCLUSIVE**)
- **Example**
  - The **length** of the **values** should be **between 2** and **200** characters long (both numbers are **INCLUSIVE**)
- **Input date** – date
  - Past or present date
- **Language**
  - One word **has one** language and one language can have **many words**
- **Added by**

- The user who added the word in the dictionary. One word **has one** user, but one user may **have many** words.

Language

- **Id** – Accepts **UUID-String** or **Long** values
- **Language name**
  - an option between (**GERMAN**, **SPANISH, FRENCH** and **ITALIAN**)
- **Description** (not null)
  - For GERMAN - "A West Germanic language, is spoken by over 90 million people worldwide. Known for its complex grammar and compound words, it's the official language of Germany and widely used in Europe."
  - For SPANISH – "A Romance language, is spoken by over 460 million people worldwide. It boasts a rich history, diverse dialects, and is known for its melodious sound, making it a global cultural treasure."
  - For FRENCH – "A Romance language spoken worldwide, known for its elegance and cultural richness. It's the official language of France and numerous nations, famed for its cuisine, art, and literature."
  - For ITALIAN - "A Romance language spoken in Italy and parts of Switzerland, with rich cultural heritage. Known for its melodious sounds, it's a gateway to Italian art, cuisine, and history."

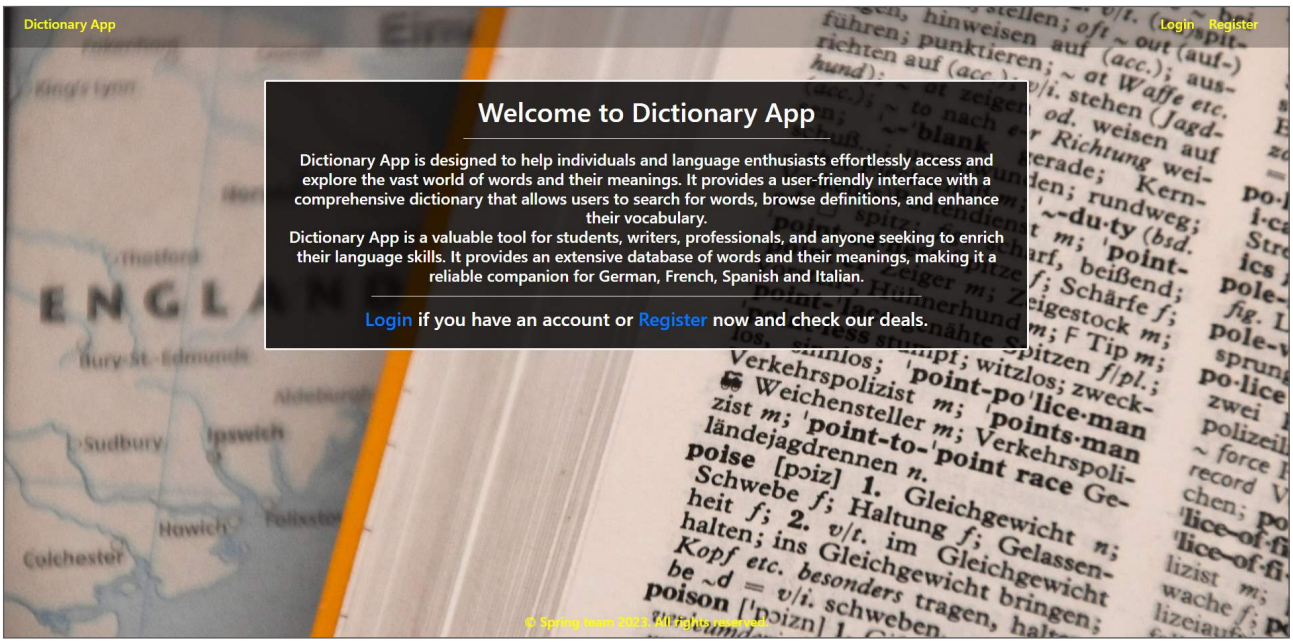
Nullable/Empty/Blank values are not allowed unless explicitly mentioned. Implement the entities with the **correct data types** and implement the **repositories** for them.

2. Initialize languages

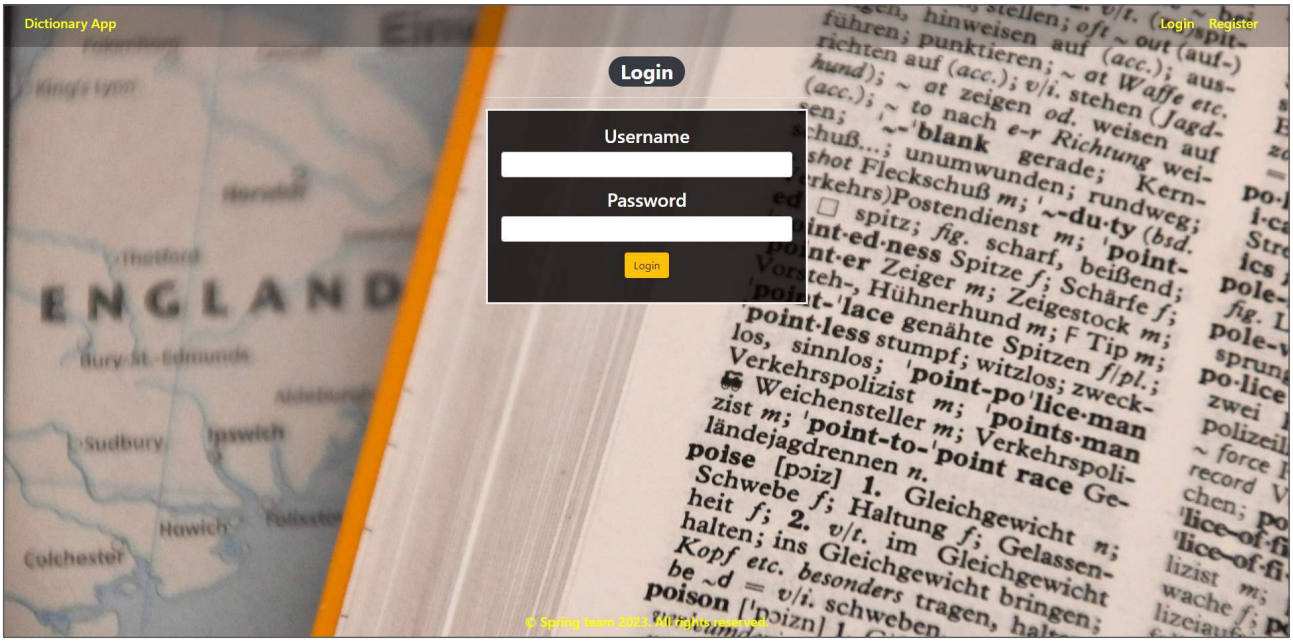
- Implement a method that checks (when app started) if the database does not have any language and initialize them
  - You are free to do this in some different ways
  - You can skip the description if you want

3. Page Requirements

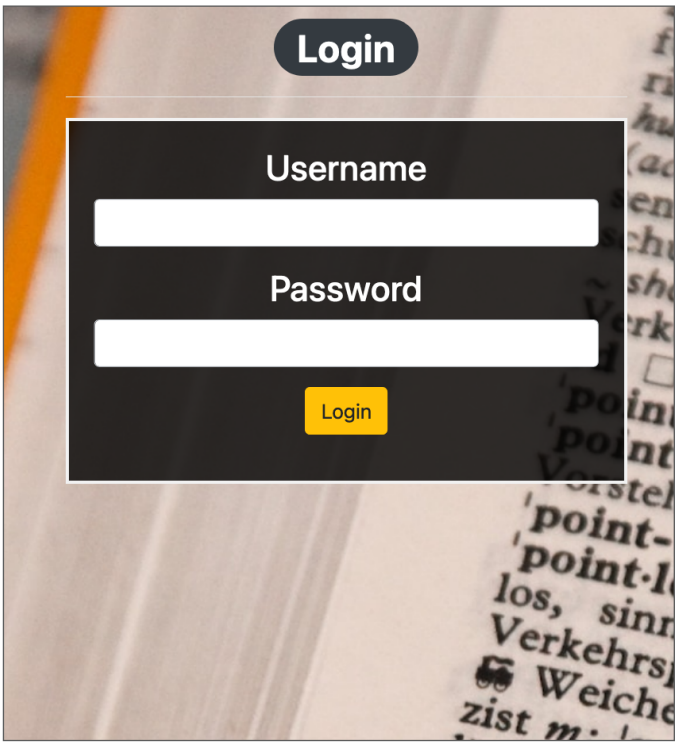
Index Page (logged out user)

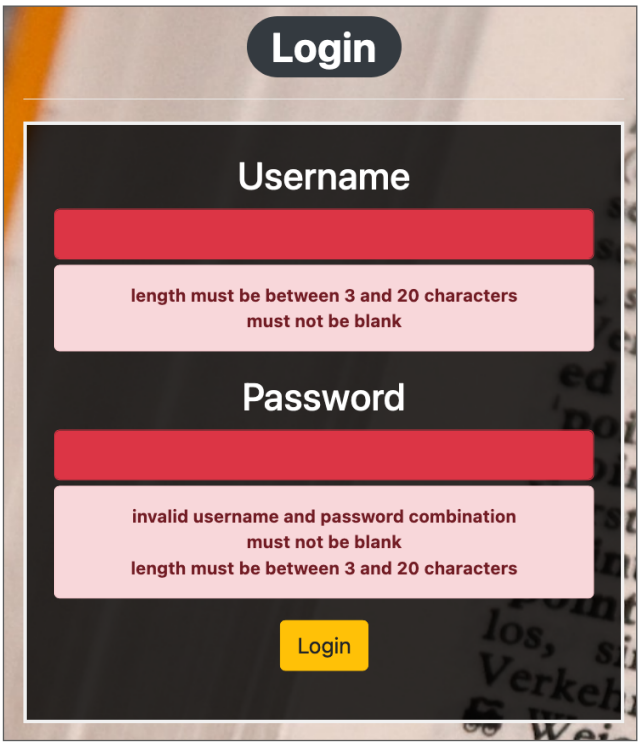


Login Page (logged out user)

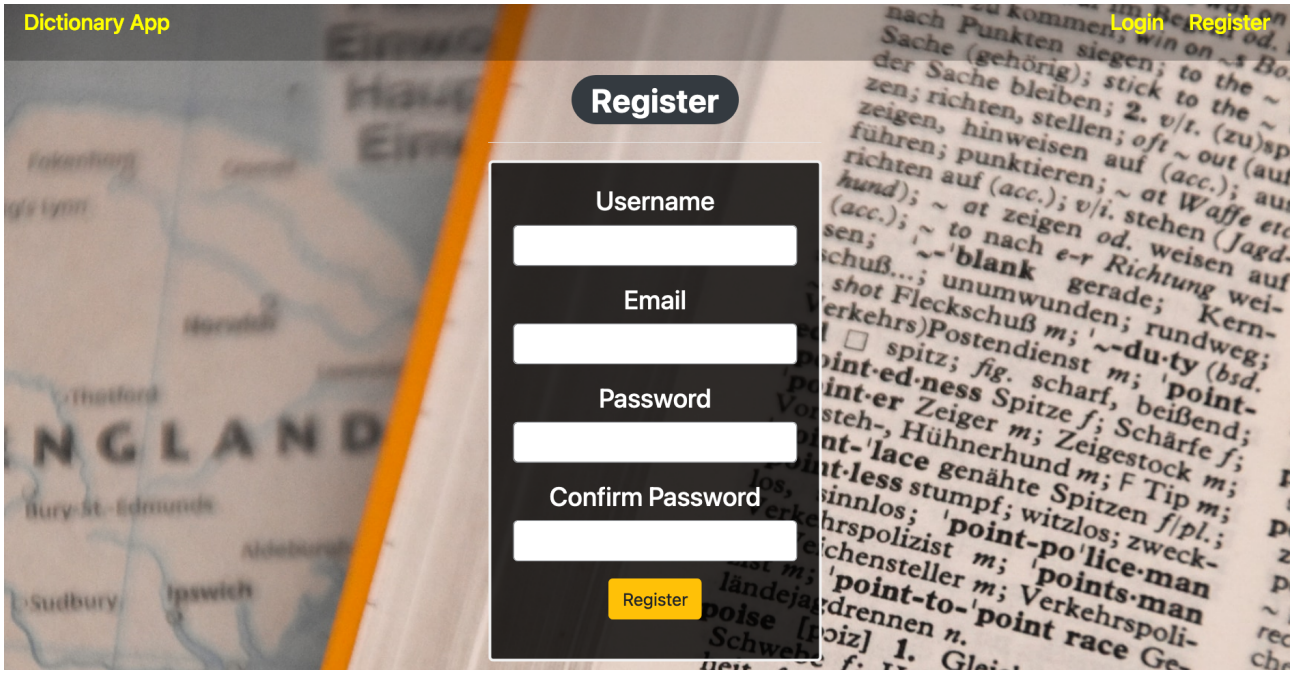


Login Page validations

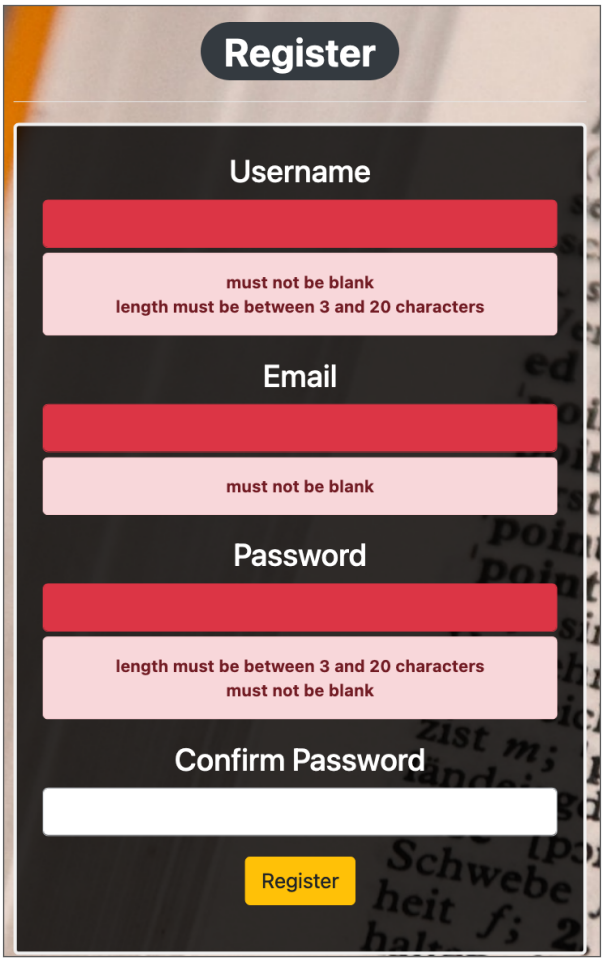




Registration Page (logged out user)

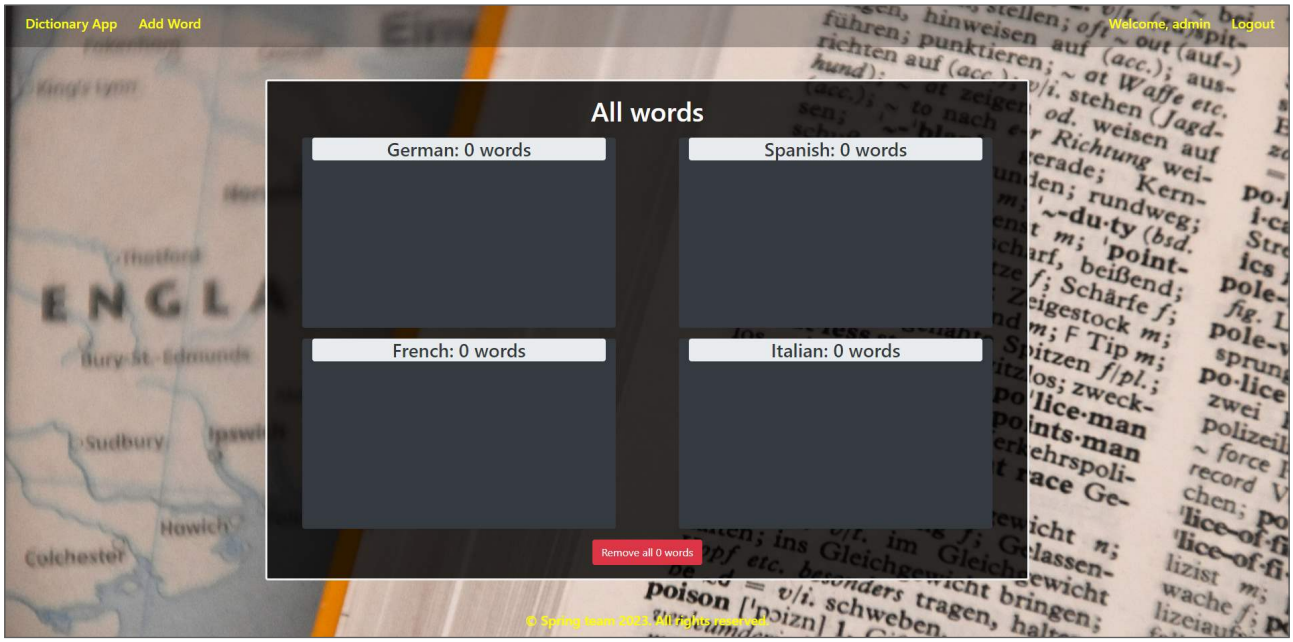


Registration Page validations

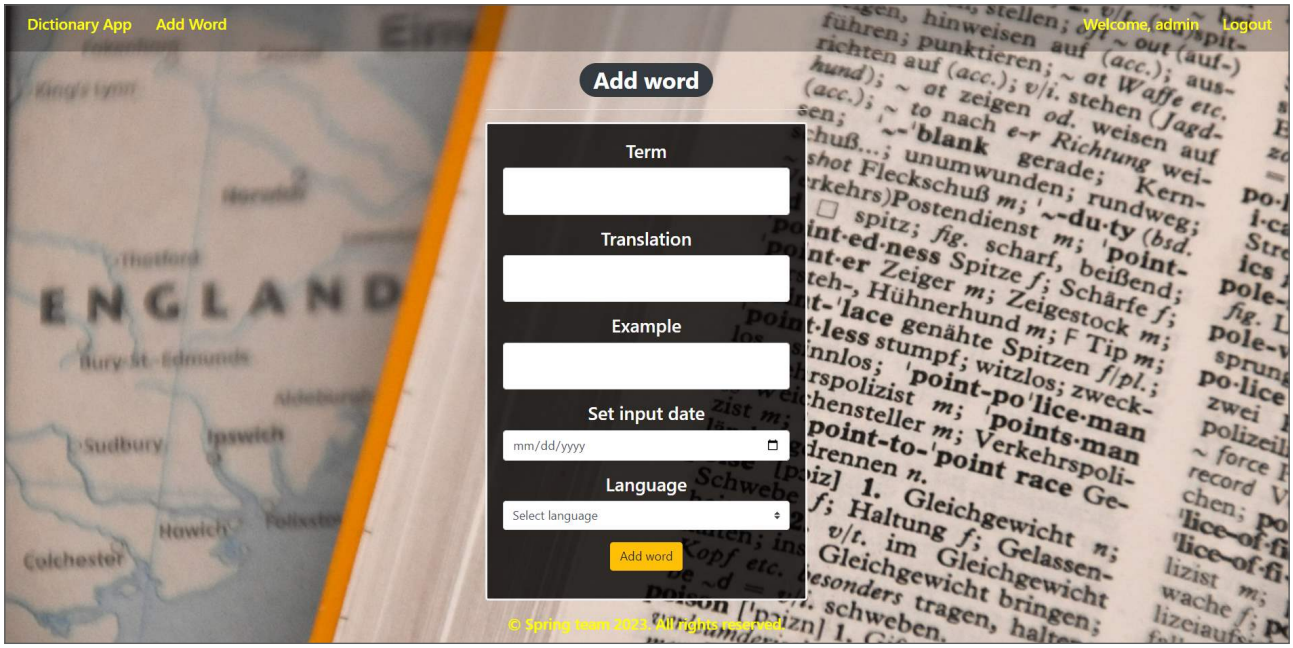


Home Page (without having any words)

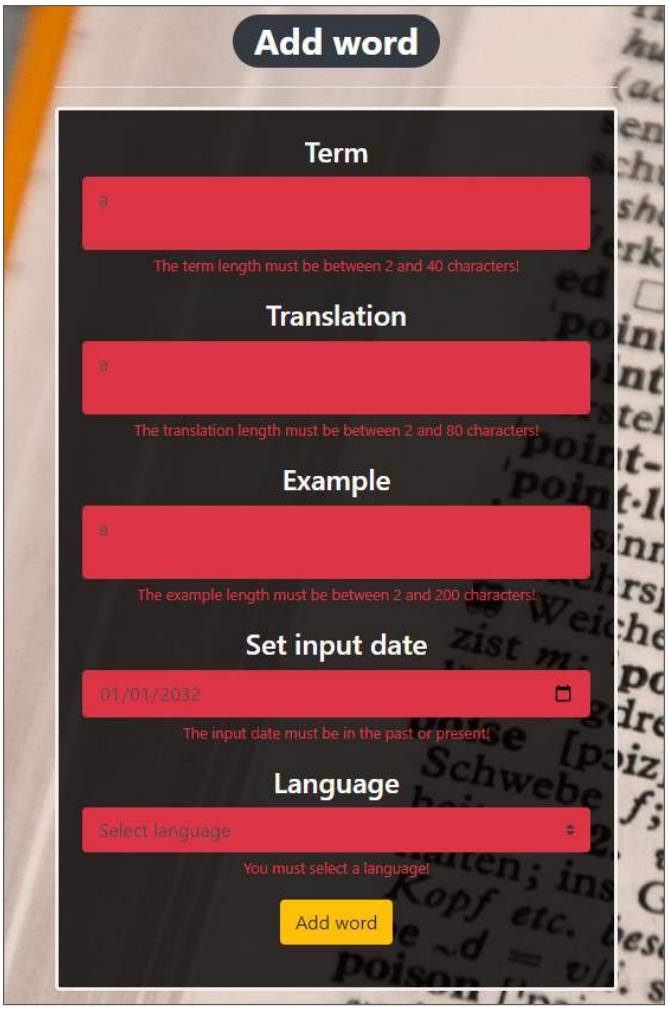
- The upper left section (German) of the page should visualize **all of the added German words** from the database from all users.
- The upper right section (Spanish) of the page should visualize **all of the added Spanish words** from the database from all users.
- The bottom left section (French) of the page should visualize **all of the added French words** from the database from all users.
- The bottom right section (Italian) of the page should visualize **all of the added Italian words** from the database from all users.



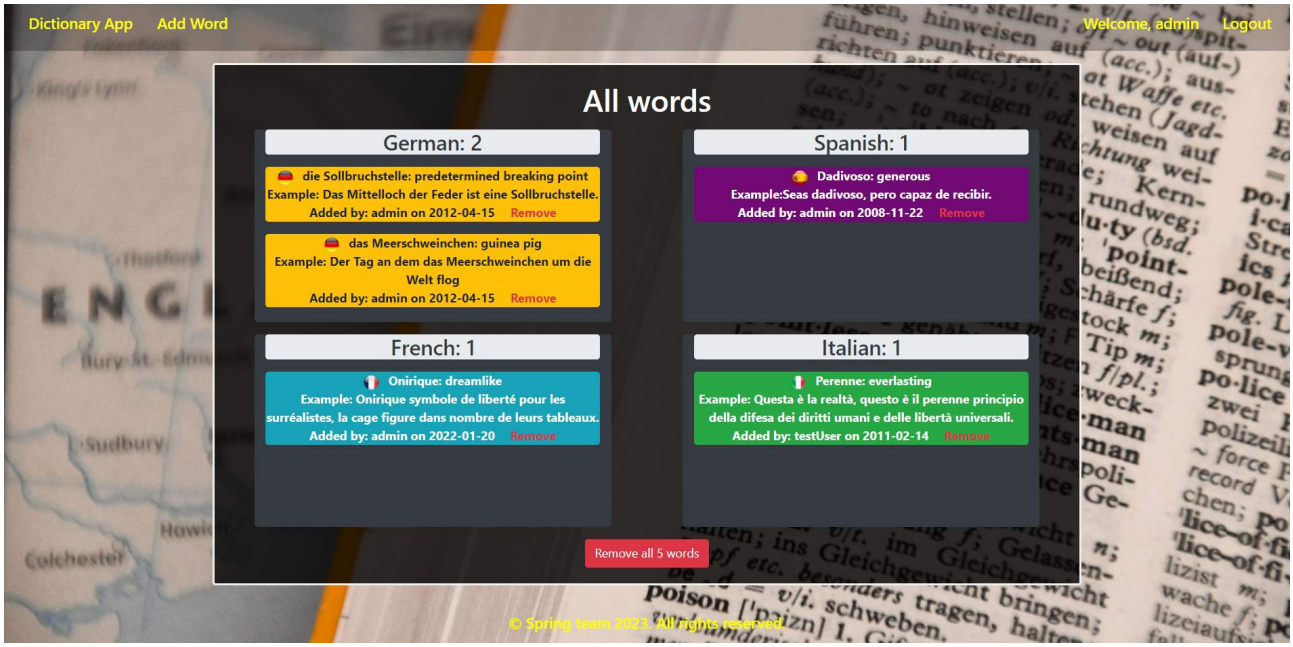
Add Word



Add Word Validation



Home Page (with words)



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 word (Add Word page), view all words (Home page) and remove one word with the "Remove" button, or remove all words from the dictionary with the "Remove all words" button.**

Dictionary Application in navbar should redirect to the appropriate URL depending on that if the user is logged in. The application should provide functionality for adding words with language of **German, Spanish, French, or Italian**.

The words should be separated into their own categories. All German words in the German section, all French words in the French section, etc.

The **Remove** button next to the word **should remove the word** from DB.

Below the language sections is located a button "Remove all words {total count of words}" with an info that shows the **total count of all words**.

Below each word is located an info bar that shows the **username of the user who added the word and the input date** (in the format yyyy-MM-dd).

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 Word** 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.