WordCraft Documentation

Explore, Learn, and Contribute

February 16, 2024

CONTENTS

1   INTRODUCTION

1.1 DESCRIPTION

Welcome to WordCraft version 1.0, an advanced dictionary application tailored for internal use by educational institutions, businesses, or any organization requiring a specialized dictionary. WordCraft offers a comprehensive solution for organizations seeking to enhance internal communication and understanding by providing a platform to manage and explore domain-specific terminology.

With WordCraft, organizations can customize their dictionary by adding words and definitions relevant to their industry, field of study, or specific organizational terminology. This customization ensures that employees have access to a tailored lexicon that aligns with the unique vocabulary used within their workplace.

1.2 PURPOSE OF THIS DOCUMENTATION

This documentation serves a dual purpose:

1.   **End-user documentation**: It provides comprehensive instructions on how to use WordCraft from a user's perspective. Whether you're an administrator managing the dictionary, an editor enriching its content, a teacher leveraging it for educational purposes, or a learner seeking to expand your vocabulary, this guide will walk you through the features and functionality of the application.

2.   **Technical documentation:** It offers detailed insights and instructions for developers who wish to understand the application's architecture, customize its functionality, or contribute to its development. From installation and configuration to extending functionality and troubleshooting, this guide covers all aspects relevant to developers.

1.3 USED TECHNOLOGIES

The Wordcraft application is built using a variety of technologies to ensure robustness, scalability, and maintainability. Below is a list of key technologies used in the development of the application:

1.   **Spring Boot**: Spring Boot provides a powerful framework for building and deploying Java-based applications with ease. It simplifies the setup and configuration of Spring-based projects, allowing for rapid development.

2.   **Spring Data JPA**: Spring Data JPA simplifies data access layer implementation by providing repository support for JPA-based data access.

3.   **Spring AOP (Aspect-Oriented Programming)**: Spring AOP allows for the modularization of cross-cutting concerns such as logging, transaction management, and security.

4.   **Spring REST**: Spring REST provides support for building RESTful web services in Java, facilitating the communication between the frontend and backend components of the application.

5.   **Spring Security**: Spring Security provides comprehensive security features for Java applications, including authentication, authorization, and protection against common security threats.

6.   **Spring Batch**: Spring Batch is a framework for batch processing of data, allowing for the execution of repetitive tasks efficiently and reliably.

7.   **Spring Internationalization (i18n)**: Spring i18n enables the localization of application resources, allowing for the adaptation of the application to different languages and cultures.

8.   **Maven**: Maven is a build automation tool used for managing project dependencies, compiling source code, and packaging applications.

9.   **MockMvc and JUnit**: MockMvc and JUnit are testing frameworks used for writing and executing unit tests and integration tests to ensure the correctness and reliability of the application.

10.   **PostgreSQL**: PostgreSQL is an open-source relational database management system that serves as the backend database for storing word-related data in the Dictionary application.

11.   **Flyway**: Flyway is a database migration tool that simplifies versioning and management of database schema changes. It is used in the application to ensure smooth database migrations.

12.   **Docker**: Docker is used for containerization, allowing for easy deployment and scaling of the application components.

13.   **Jasper Reports**: Jasper Reports is an open-source Java reporting tool used for generating dynamic reports. It is integrated into the application to produce various types of reports for users.

14.   **Caching**: Caching mechanisms are employed to improve application performance and reduce database load by storing frequently accessed data in memory.

15.   **Vaadin**: Vaadin is a Java framework for building modern web applications with ease. It is used to develop the user interface of the application, providing a rich and interactive user experience.

1.4 USER ROLES
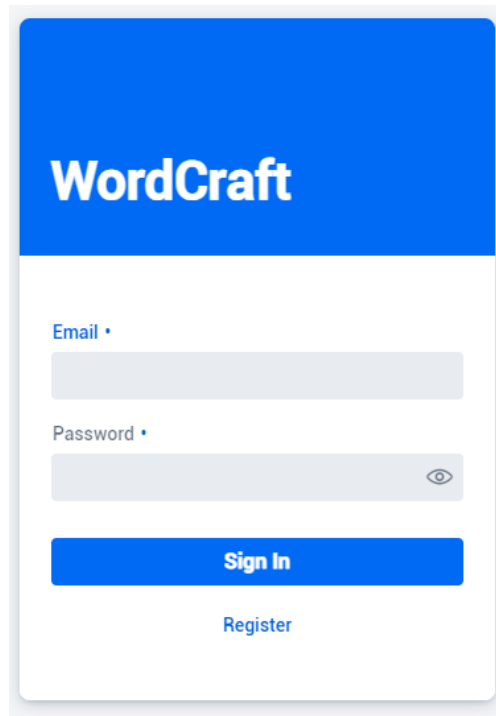
WordCraft offers four distinct user roles:

- **Admin**: Administrators have full control over the dictionary, including the ability to add, edit, and delete words. They can also generate reports and manage user accounts.

- **Editor**: Editors can contribute to the dictionary by adding, editing, and deleting words. They can also take quizzes to test their knowledge.

- **Teacher**: Teachers have access to the dictionary and can take quizzes to reinforce learning within their specific domain or subject area.

- **Learner**: Learners can explore the dictionary and take quizzes to improve their understanding of organizational terminology or subject matter.

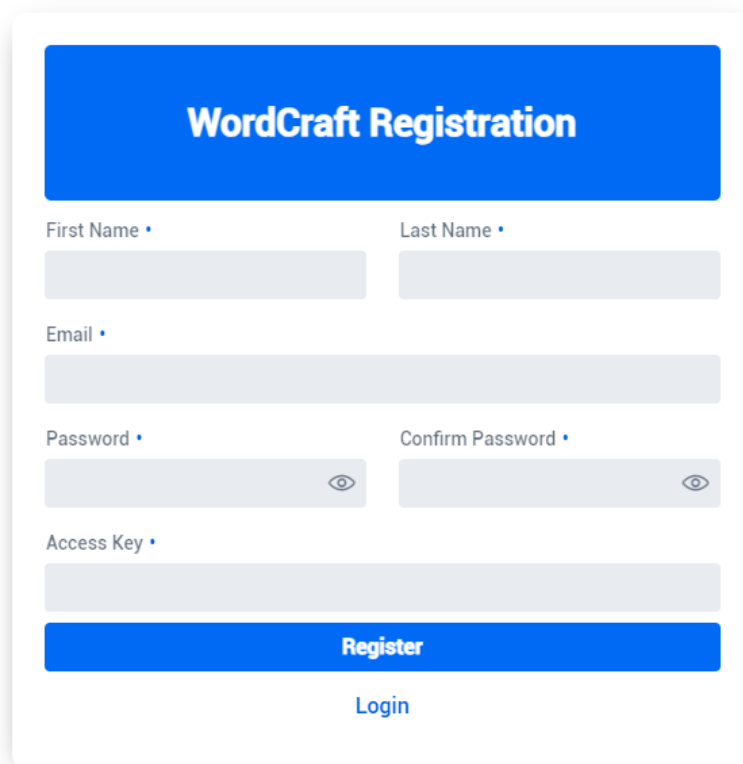# 2   END-USER DOCUMENTATION
2.1 ACCESSING THE APPLICATION
2.1.1 Registration Process

- Open your web browser and navigate to the WordCraft application URL. Upon accessing the app, you will be redirected to the "Login" page automatically (*Figure 2.1*):

Figure 2.1

- Since you are a new user, click on the "Register" button located on the login page. This action will redirect you to the "Registration" page(*Figure 1.2*):

Figure 2.2

- On the registration page, you'll see a form prompting you to provide necessary details such as first name, last name, email address, password, and access key. Fill out all required fields accurately.

- Then, click on the "Register" button to submit your registration request. Upon successful registration, you will be redirected back to the login page automatically.

2.1.2   Login Process

- Enter your username and password in the respective fields on the login form. Make sure to enter the credentials exactly as you provided during registration.
- Once you've entered your credentials, click on the "Login" button to submit the login form.
- If your credentials are correct, you will be authenticated, and upon successful login, you will be redirected to your user "Profile"(*Figure 2.3*) page automatically.

Figure 2.3

2.2 USER-ROLE BASED GUIDE
2.2.1   Learner and Teacher Guide
2.2.1.1   *Profile Page*

- To upload a profile picture, click on the "Upload Profile Image" button and follow the prompts to upload an image from your device(*Figure 2.4*).

Figure 2.4

- To update your first and last names, click on the "Edit Profile"(*Figure 2.5*) button and type in the new information.

Figure 2.5

- After update, click on "v" button if you want to save the new information, or click on "x" button if you want to discard the changes(*Figure 2.6*).

Figure 2.6

2.2.1.2   Words Page

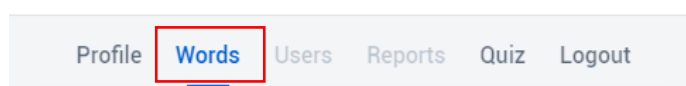- To access "Words" Page click on "Words" tab from menu tab(*Figure 2.7*).

Figure 2.7

- A table with all words from dictionary will be displayed(*Figure 2.8*).

Word ⇕	Category ⇕	Nr. Definitions	Nr. Synonyms	Nr. Antonyms	Nr. Examples	Added At ▾	
examination	noun	1	1	0	0	13-02-2024	♡
test	noun	2	1	0	1	13-02-2024	♡
vestibulum	adjective	1	0	0	1	11-01-2023	♡
donec	pronoun	1	0	0	1	11-01-2023	♡
ut	verb	1	0	0	1	10-01-2023	♡
doynec	adverb	1	0	0	1	10-01-2023	♡
diam	noun	1	0	0	1	09-01-2023	♡
parturient	adjective	1	0	0	1	09-01-2023	♡

Figure 2.8

- The words are sorted by "Added At" column. To sort by other columns, such as "Word" or "Category", click on that column(*Figure 2.9*).

Word ▲	Category ⇕
arcu	verb
curab	noun

Figure 2.9

- To search for a specific word, type it into the search bar located above the table(*Figure 2.10*).

Word ▲	Category ⇕	Nr. Definitions	Nr. Synonyms	Nr. Antonyms	Nr. Examples	Added At ⇕	
test	noun	2	1	0	1	13-02-2024	♡

Figure 2.10

- To add or remove a word from your favorites, click on the heart icon next to the word in the table(*Figure 2.11*).

Figure 2.11

- To access the favorite words, expand the "Favorites" tab from the "Profile" page(*Figure 2.12*).

Figure 2.12

- To view detailed information about a word, double-click on the word in the table.
- On the word page, you'll see the name, category, definitions, examples, synonyms, and antonyms of the word(*Figure 2.13*).

Figure 2.13

- To view the sources from where the word was added, expand the "Source" tab. If a source is available online, you can click the link to visit the source URL(*Figure 2.14*).
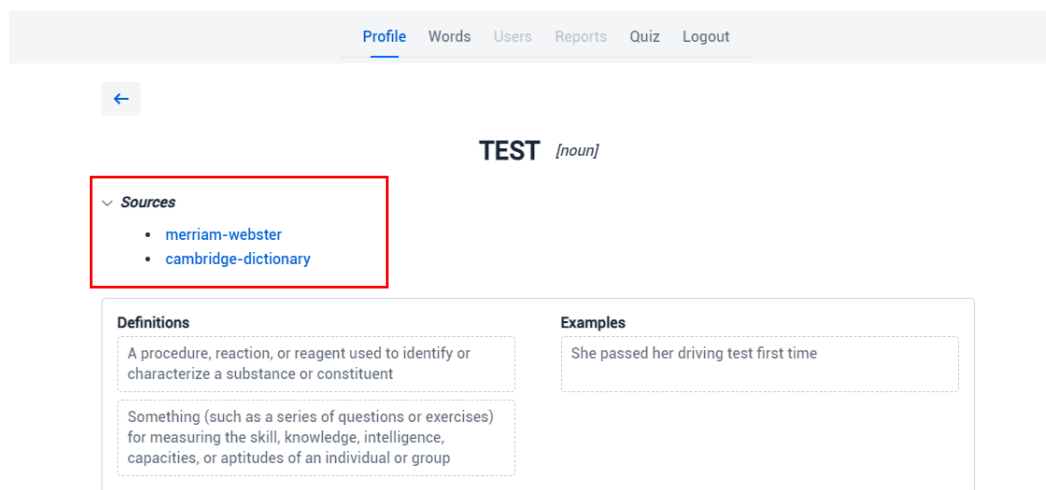
Figure 2.14

- To access the details of synonyms and antonyms, click on them(*Figure 2.15*).
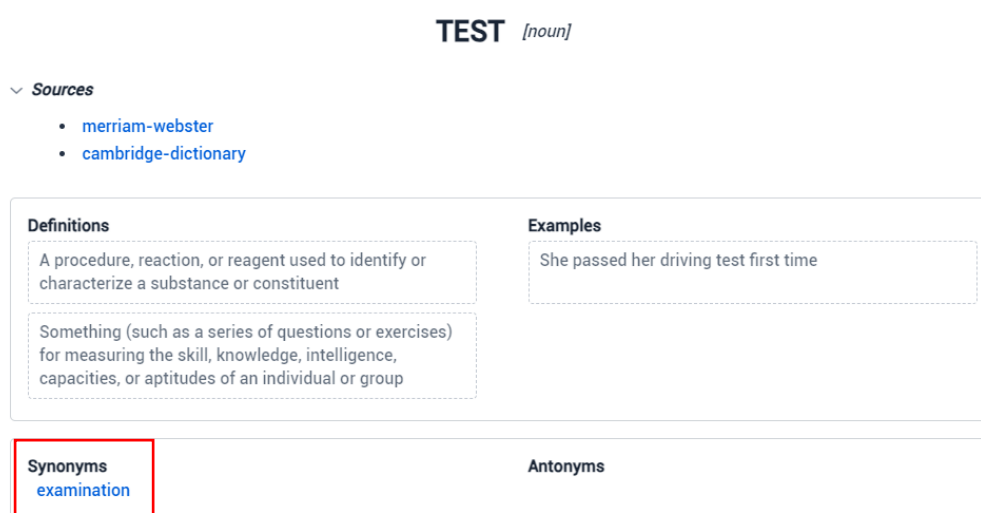
Figure 2.15

- To add comments, click on "+" button in the "Comments" section.
- A form for adding comment will be displayed(*Figure 2.16*).
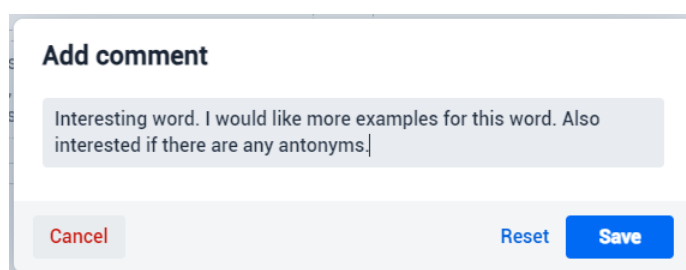
Figure 2.16

- After saving the comment, it will be displayed(*Figure 2.17*).
- To delete the comment, click on "X" button.
- Comments added by other users can not be deleted.

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Comments +

Hendrika Packwood   13 Feb 2024 15:50:43

Interesting word. I would like more examples for this word. Also interested if there are any antonyms.   ✕

Mattias Bulley   13 Feb 2024 15:53:12

Ok, we will work on improving the word details.
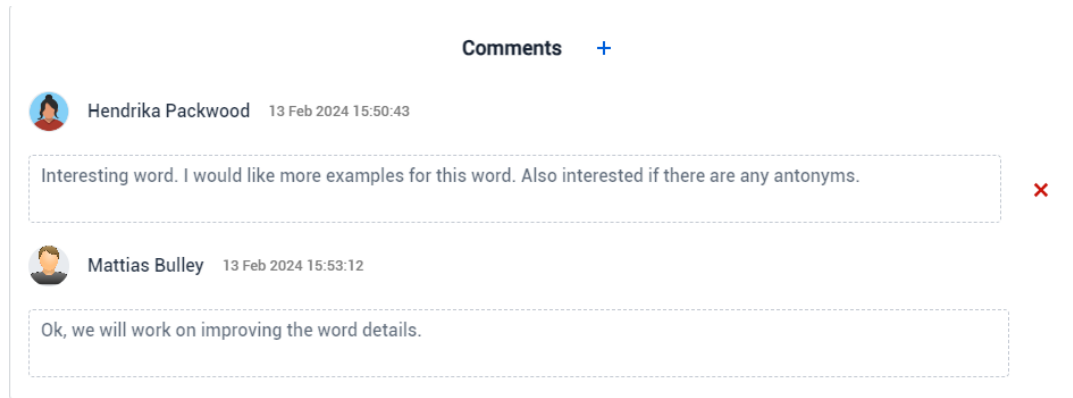
Figure 2.17

- To return to the "Words" page, click the back arrow or navigate using the navigation menu tab "Words"(*Figure 2.18*).

Profile   Words   Users   Reports   Quiz   Logout

←

TEST *[noun]*

Figure 2.18

2.2.1.3   Quiz Page

- Click on the "Quiz" tab in the navigation menu to access the quiz page(*Figure 2.19*).

Profile   Words   Users   Reports   Quiz   Logout
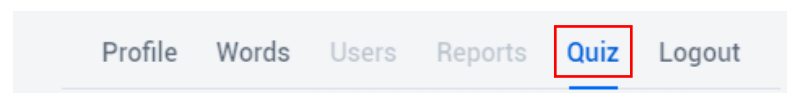
Figure 2.19

- On the quiz page, you'll see five words followed by four different definitions each. Choose the correct definition for each word(*Figure 2.20*).

Select correct definition for each word

diam
- augue vestibulum rutrum rutrum neque aenean auctor
- praesent blandit lacinia erat vestibulum sed magna at
- mi pede malesuada in imperdiet et commodo vulputate
- nunc commodo placerat praesent blandit nam

in
- purus aliquet at feugiat non pretium quis
- amet sapien dignissim vestibulum vestibulum ante
- nisl duis bibendum felis sed interdum venenatis turpis enim
- nunc commodo placerat praesent blandit nam

Figure 2.20

- After selecting your answers, click the "Submit" button to check your responses.
- Your answers will be evaluated, and you'll see labels indicating whether each answer was correct or incorrect(*Figure 2.21*).

quis
- vehicula condimentum curabitur in libero ut massa volutpat convallis
- ● turpis eget elit sodales scelerisque mauris sit amet eros suspendisse
- massa quis augue luctus tincidunt nulla
- ultrices posuere cubilia curae duis faucibus accumsan odio

ⓘ Incorrect

examination
- ● A detailed inspection or study
- risus praesent lectus vestibulum quam sapien varius ut blandit non
- ultrices posuere cubilia curae duis faucibus accumsan odio
- et commodo vulputate justo in blandit
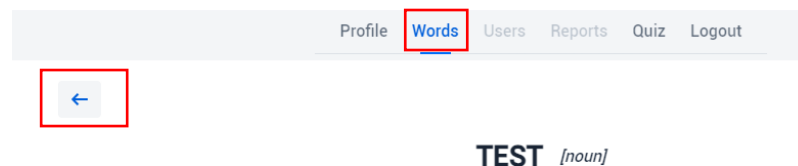
✓ Correct

Submit   Refresh

Figure 2.21

- To request new words for the quiz, click the "Refresh" button.

2.2.1.4   Logout

- To log out of your account, click on the "Logout" tab located in the navigation menu(*Figure 2.22*).
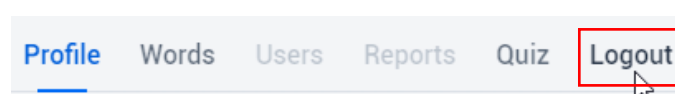
Figure 2.22

2.2.1.5   Language

- To switch between languages, use the dropdown menu located in the upper right corner of the screen. Choose your preferred language from the available options: English or Italian(*Figure 2.23*).
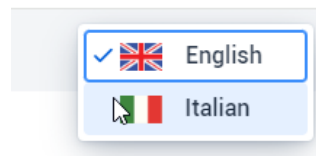
Figure 2.23

- Once the language is changed, the application is displayed in selected language(*Figure 2.24*).
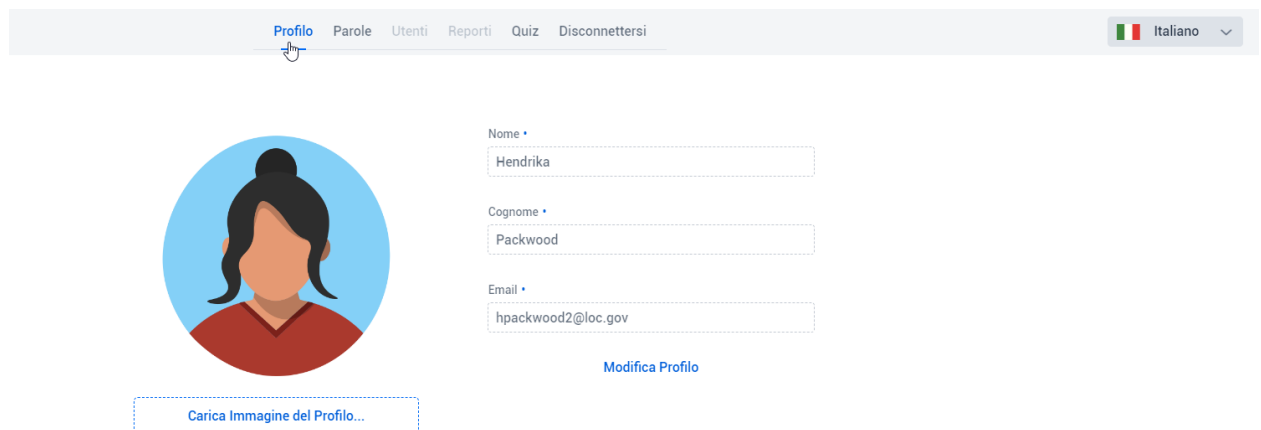
Figure 2.24

2.2.2   Editor Guide
2.2.2.1   Profile Page

- Editors have access to the same features as teachers and learners on the profile page. Additionally, they have a new section displaying their contributions to words and achievements based on the number of contributions(*Figure 2.25*).

Una

Last Name •

Seery

Email •

useery0@techcrunch.com

Edit profile

Upload Profile Image...

Number of contributions to words: **11**

Achievements:

Word Pioneer

Linguist Novice

Word Explorer

Vocab Builder

Language Scholar

Lexicon Master

Word Connoisseur

Language Maestro
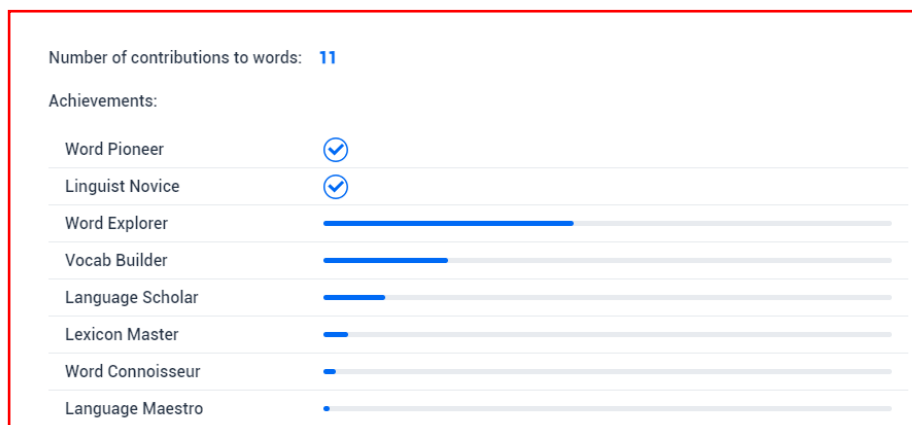
Figure 2.25

- Hove the mouse over each achievement name to display the number of contributions needed to achieve the specific milestone(*Figure 2.26*).

Word Pioneer

Linguist Novice

Word Explorer

Vocab Builde 25

Language Scholar

Lexicon Master

Word Connoisseur

Language Maestro
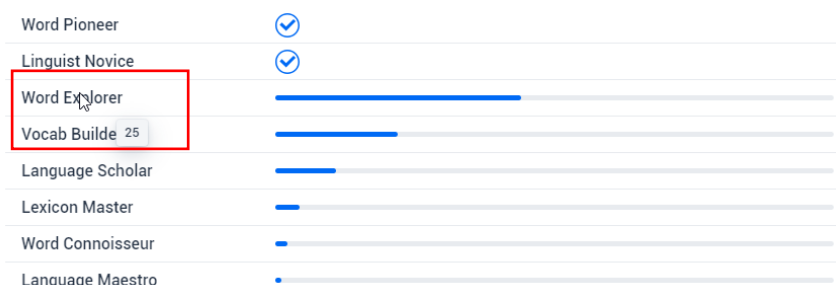
Figure 2.26

- Achievements that have been attained are marked with a check(*Figure 2.27*).

Word Pioneer

Linguist Novice

Figure 2.27

2.2.2.2   Words Page

- Editors have access to two additional buttons on the words page: the "Upload" button and the "Add Word" button(*Figure 2.28*).

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Figure 2.28

- To upload a file containing words, click on the "Upload" button and select a CSV(*Figure 2.29*) or JSON(*Figure 2.30*) file.
- The file should include data such as word name, category, definition, example (optional), source, and source URL (optional).

Figure 2.29

Figure 2.30

- Upon successful upload, three types of files are generated: processed, success, and failure, each containing specific information about the uploaded words. The files location will be opened(*Figure 2.31*).
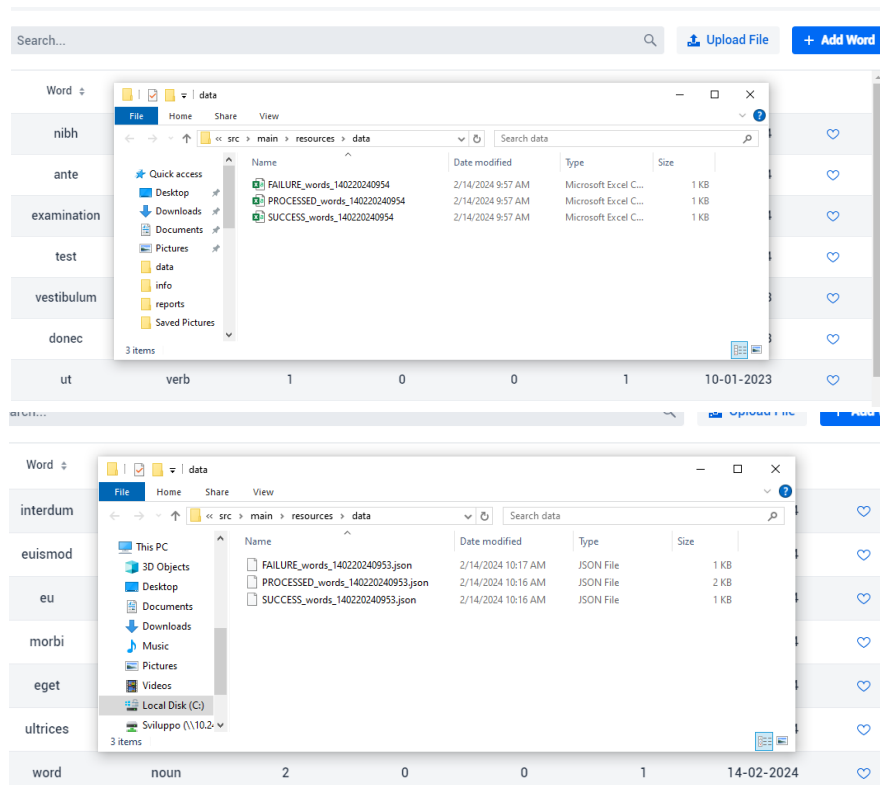
Figure 2.31

- Success file contains successfully uploaded words(*Figure 2.32*).

Figure 2.32

- Failure file contains failed words with a new column that displayed the cause of the failure(*Figure 2.33*).

Figure 2.33

- A form will appear with required fields such as name, category, definition, and source. Additionally, there is an optional section for examples(*Figure 2.34*).

Figure 2.34

- After completing the form, to save the word click on "Save" button(*Figure 2.35*).

Figure 2.35

- The recently added word will is displayed first.

Figure 2.36

- To add a new source, click on "+" button in the source section from the word form.
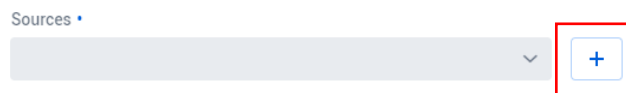
Figure 2.37

- A "New Dictionary Source" form will be displayed, with required "Dictionary Name" field and optional "Dictionary URL Source"(*Figure 2.38*).

Figure 2.38

2.2.2.3   Word Page

- To delete word, click on "Delete" button located in the upper right corner(*Figure 2.29*).

Figure 2.39

- A dialog box will be displayed for confirmation. Once you click on "Delete" button from this dialog box, you will be redirected to "Words" page(*Figure 2.40*).
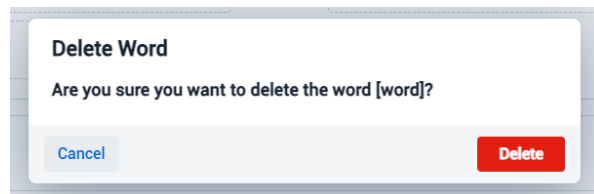
Figure 2.40

- Click on "+" button in the "Definitions" section to add definition(*Figure 2.41*).
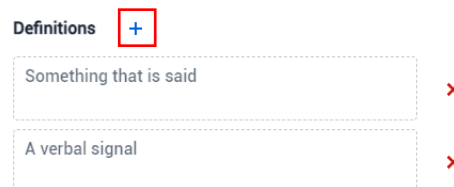
Figure 2.41

- "Add definition" form will be displayed.
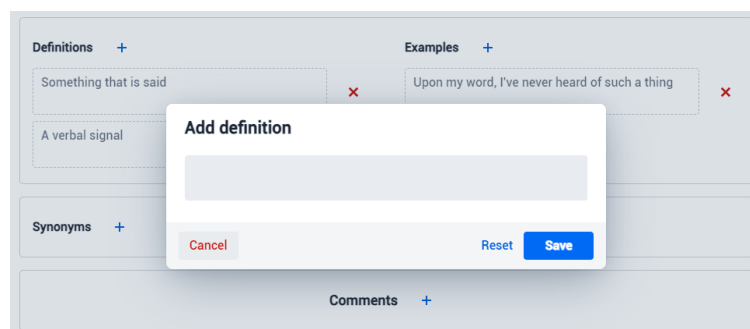
Figure 2.42

- Click on "x" button to remove the definition(*Figure 2.43*).
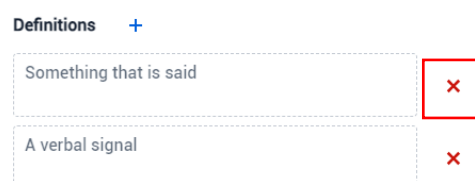
Figure 2.43

- "Delete definition" confirmation dialog box will be displayed(*Figure 2.44*).
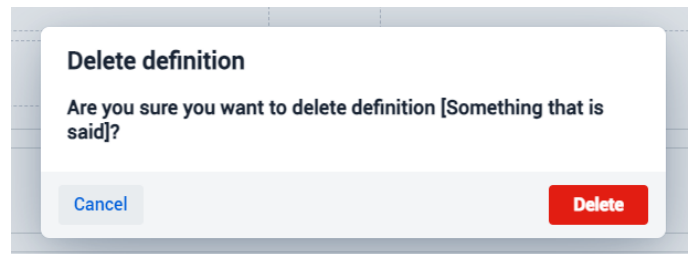
Figure 2.44

- The same steps are applied to "Examples", "Synonyms" and "Antonyms" sections, to add them click on "+" buttons displayed in their own section, and to delete them click on "x" buttons displayed next to them.

2.2.3 Admin Guide

- Admins have the same accessibilities as teachers, learners, and editors across all presented pages.

2.2.3.1 Users Page

- To access the users page, click on the "Users" tab from the navigation menu(*Figure 2.45*).
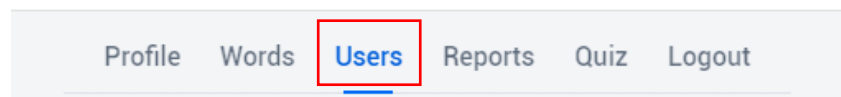
Figure 2.45

- A table with users will be displayed, featuring columns such as user icon, first name, last name, email, registered at, and role(*Figure 2.46*).

Figure 2.46

- To search user by first or last name, use "Search" bar displayed above the table(*Figure 2.47*).

Figure 2.47

- To sort users by each column, click on the column name(*Figure 2.48*).

Figure 2.48

2.2.3.2 Reports Page

- Click on the "Reports" tab from the navigation menu to display the reports page(*Figure 2.49*).

Figure 2.49

- Upon accessing the reports page, a select box will appear, allowing selection of the desired report type(*Figure 2.50*).

Figure 2.50

- Generating Words Contributions Report:
  o Choose "Words Contributions Report" from the select box(*Figure 2.51*).

Figure 2.51

o A brief description of the report will be displayed(*Figure 2.52*).

Figure 2.52

o Click on the "Generate Report" button to initiate report generation. After successful generation, the report location will be displayed(*Figure 2.52*).

Figure 2.53

o The report contains information about users and the words they contributed(*Figure 2.54*).

Figure 2.54

- Generating Word Statistics Report:

o Select "Word Statistics Report" from the select box(*Figure 2.55*).
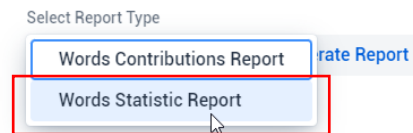
Figure 2.55

o Select the desired year and month(*Figure 2.56*).
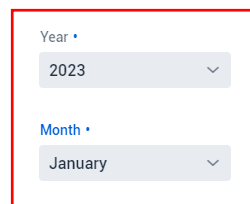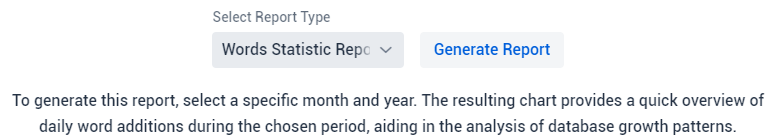
Figure 2.56

o Click on the "Generate Report" button. Once generated, the report location will be displayed(*Figure 2.57*).
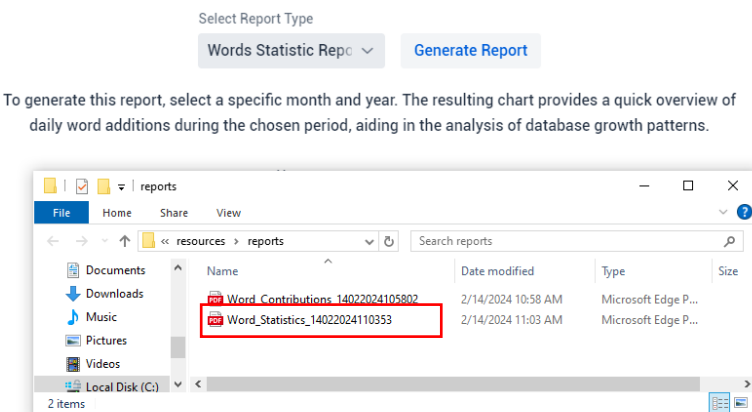
Figure 2.57

o The report includes a graphic displaying the number of words added for each day in the selected year and month(*Figure 2.58*).
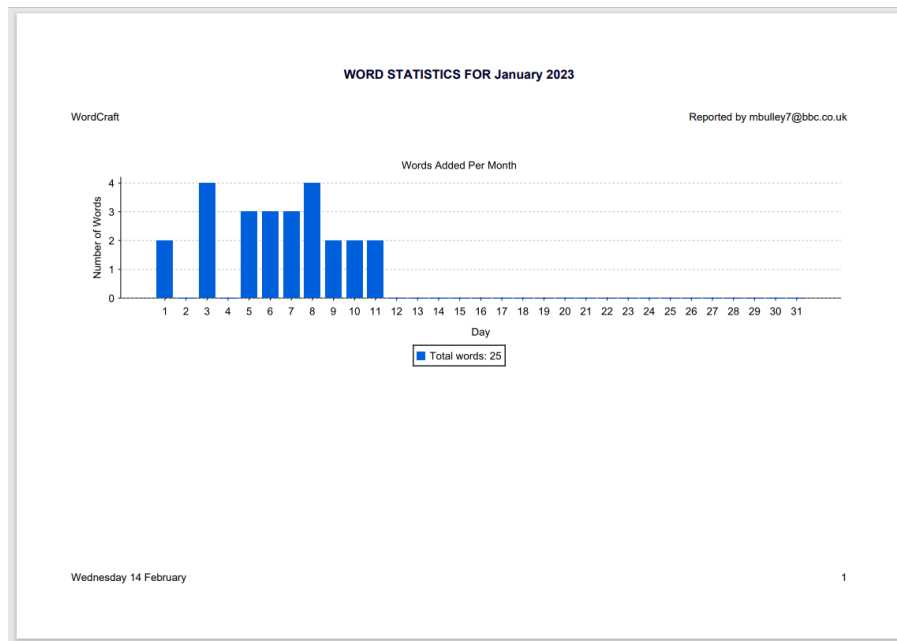
Figure 2.58

3   TEHNICAL DOCUMANTATION

3.1   APPLICATION STRUCTURE

3.1.1   Entity-Relationship Diagram (ERD)

The Entity-Relationship Diagram is presented in *Figure 3.1:*
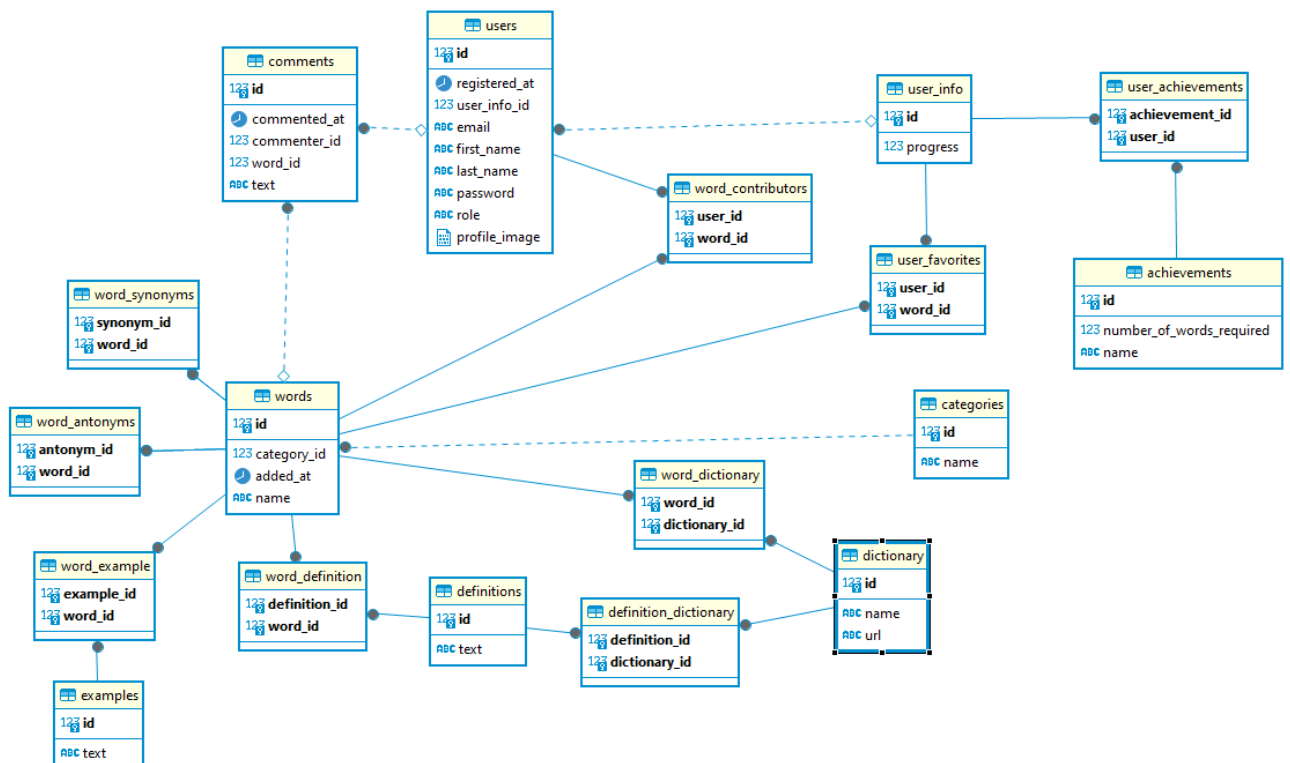
Figure 3.1

3.1.2   Application Entities

1. Word:

Represents a word in the dictionary.

- Attributes:

- o *id*: Unique identifier for the word.
- o *name*: The actual word.
- o *definitions*: Set of definitions associated with the word.
- o *examples*: Set of examples illustrating the usage of the word.
- o *synonyms*: Set of synonyms for the word.
- o *antonyms*: Set of antonyms for the word.
- o *category*: Category to which the word belongs.
- o *contributors*: Set of users who contributed to the word.
- o *comments*: List of comments associated with the word.
- o *addedAt*: Date and time when the word was added.
- o *dictionaries*: Set of dictionaries in which the word is included.
- Relationships:
  - o Many-to-many relationship with Definition for definitions.
  - o Many-to-many relationship with Example for examples.
  - o Many-to-many relationship with itself for synonyms and antonyms.
  - o Many-to-one relationship with Category for category.
  - o Many-to-many relationship with User for contributors.
  - o One-to-many relationship with Comment for comments.
  - o Many-to-many relationship with Dictionary for dictionaries.

2. Category:
Represents a category to which words can belong.
- Attributes:
  - o *id*: Unique identifier for the category.
  - o *name*: Name of the category.
- Relationships:
  - o One-to-many relationship with Word for words.

3. Definition:
Represents a definition of a word.
- Attributes:
  - o *id*: Unique identifier for the definition.
  - o *text*: The actual definition text.
  - o *words*: Set of words associated with the definition.
  - o *dictionaries*: Set of dictionaries in which the definition is included.
- Relationships:
  - o Many-to-many relationship with Word for words.
  - o Many-to-many relationship with Dictionary for dictionaries.

4. Example:
Represents an example illustrating the usage of a word.
- Attributes:
  - o *id*: Unique identifier for the example.
  - o *text*: The actual example text.
  - o *words*: Set of words associated with the example.
- Relationships:

o   Many-to-many relationship with Word for words.

5. Dictionary:

Represents a dictionary or source where words and definitions are sourced from.

- Attributes:
    - *id*: Unique identifier for the dictionary.
    - *name*: Name of the dictionary.
    - *url*: URL of the dictionary.
    - *words*: List of words included in the dictionary.
    - *definitions*: List of definitions included in the dictionary.
- Relationships:
    - Many-to-many relationship with Word for words.
    - Many-to-many relationship with Definition for definitions.

6. Comment:

Represents a comment made on a word.

- Attributes:
    - *id*: Unique identifier for the comment.
    - *text*: The actual comment text.
    - *commenter*: User who made the comment.
    - *commentedAt*: Date and time when the comment was made.
    - *word*: Word associated with the comment.
- Relationships:
    - Many-to-one relationship with Word for word.
    - Many-to-one relationship with User for commenter.

7. User:

Represents a user of the application.

- Attributes:
    - *id*: Unique identifier for the user.
    - *firstName*: First name of the user.
    - *lastName*: Last name of the user.
    - *email*: Email address of the user.
    - *password*: Password of the user.
    - *role*: Role of the user (e.g., admin, editor, learner).
    - *profileImage*: Profile image of the user.
    - *userInfo*: Additional information about the user.
    - *registeredAt*: Date when the user registered.
- Relationships:
    - One-to-one relationship with UserInfo for additional information.
    - Many-to-many relationship with Achievement for achievements.
    - Many-to-many relationship with Word for favorites.

8. UserInfo:

Represents additional information about a user.

- Attributes:

- o *id*: Unique identifier for the user info.
- o *progress*: Progress of the user.
- o *achievements*: Set of achievements associated with the user.
- o *favorites*: Set of favorite words associated with the user.
- Relationships:
    - o Many-to-many relationship with Achievement for achievements.
    - o Many-to-many relationship with Word for favorites.

9. Achievement:

Represents an achievement that users can earn.

- Attributes:
    - o *id*: Unique identifier for the achievement.
    - o *name*: Name of the achievement.
    - o *numberOfWordsRequired*: Number of words required to achieve this.

3.2 DEVELOPER GUIDE

3.2.1 System Requirements

Before you begin contributing to the WordCraft application, ensure that your development environment meets the following requirements:

1.   **Java Development Kit (JDK) 17:**

Java 17 is required to build and run the WordCraft application.

Ensure that Java 17 is installed on your system and properly configured.

2.   **Apache Maven:**

Apache Maven is used for building and managing dependencies of the WordCraft project.

Install Maven on your system to compile, test, and package the application.

3.   **Docker:**

Docker is required for containerization and running the WordCraft database in a containerized environment.

Install Docker on your system to create, deploy, and manage containers.

4.   **Environment Variables:**

Configure the following environment variables for database connection and server setup:

- PSQL_URL: URL of the PostgreSQL database.
- PSQL_PORT: Port number of the PostgreSQL database.
- PSQL_DATABASE: Name of the PostgreSQL database.
- PSQL_USERNAME: Username for connecting to the PostgreSQL database.
- PSQL_PASSWORD: Password for connecting to the PostgreSQL database.
- PGADMIN_PORT: Port number for accessing pgAdmin or other database management tools.
- SERVER_PORT: Port number on which the WordCraft server should run.

3.2.2 Project Setup

Here are the steps to set up the project:

1.   Open Git Bash on your local machine.

2.   Clone the Repository:

git clone https://github.com/Anisoara23/dictionary.git

3.   Navigate to the project folder:

cd dictionary/

4.   Start the PostgreSQL database using Docker, assuming that he environment variables are set correctly:

PSQL_PORT=${PSQL_PORT} PSQL_DATABASE=${PSQL_DATABASE}
PSQL_USERNAME=${PSQL_USERNAME} PSQL_PASSWORD=${PSQL_PASSWORD}
PGADMIN_PORT=${PGADMIN_PORT} docker-compose up -d

There are two profiles:

a)   "**view**" - with the "view" profile active, you can interact with the application using its user interface built with Vaadin. You can perform various actions, such as browsing words, taking quizzes, and managing your user profile, directly through the UI.

b)   "**rest**" - with the "rest" profile active, you can interact with the application using RESTful endpoints. You can send requests via tools like Postman and receive responses from the application.

3.2.3   User Interface(UI)

To interact with the UI part of the application, follow the steps:

1.   Run the application with "view" profile active:

mvn spring-boot:run -Dspring.profiles.active=view

2.   Open your web browser and navigate to the following URL:

http://localhost:{SERVER_PORT}/api/v1.0/wordcraft

3.   Open new web browser and navigate to the following URL:

http://localhost:{PGADMIN_PORT}/browser/

4.   Set the master password for PGADMIN(*Figure 3.2*):
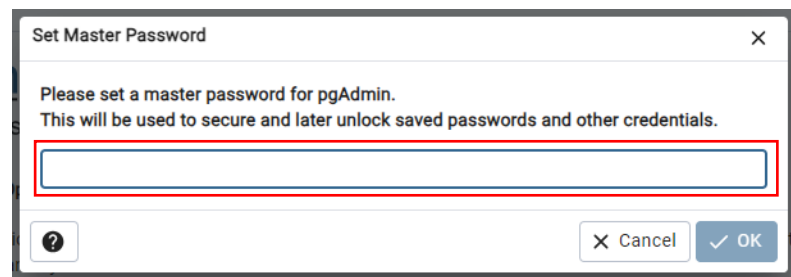
Figure 3.2

5.   Add a new server(*Figure 3.3*):
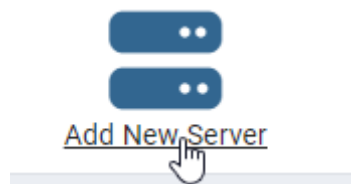
Figure 3.3

6.   Give a name to the server(*Figure 3.4*):
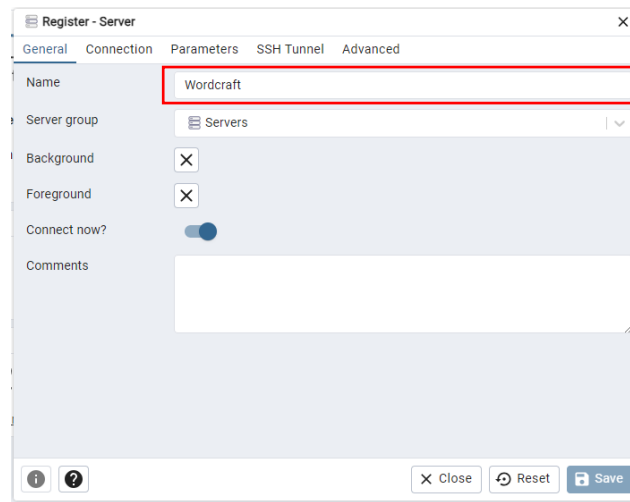
Figure 3.4

7. Navigate to "Connection" tab(*Figure 3.5*):
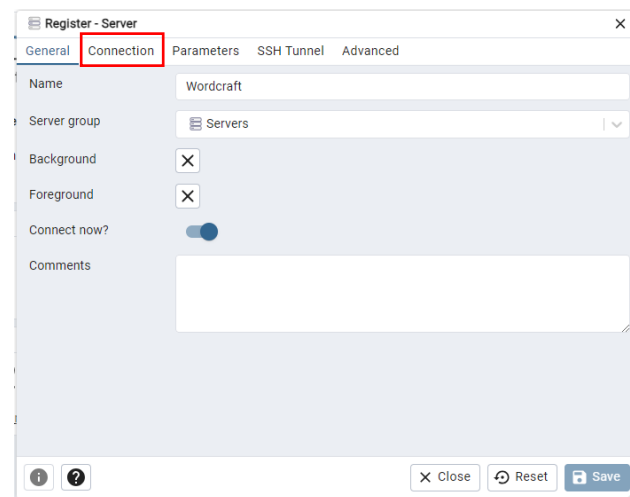
Figure 3.5

8. Fill fields with the data specified in the environment variables(*Figure 3.6*):

Figure 3.6

9. Click "Save" button.
10. Select all data from the "users" table, and choose an email to login the application(*Figure 3.7*):

Figure 3.7

11. The password is the same for all the users: "Pass_1234".
12. You can also register a new user, assuming that the keys are: "learner", "teacher", "editor" and "admin". The keys are defined static in KeyRoleExtractor class(*Figure 3.8*):

```
2 usages   ± Ana +1
public class KeyRoleExtractor {

    5 usages
    private final static Map<String, Role> KEY_ROLE_MAP = new HashMap<>();

    static {
        KEY_ROLE_MAP.put("admin", Role.ADMIN);
        KEY_ROLE_MAP.put("editor", Role.EDITOR);
        KEY_ROLE_MAP.put("teacher", Role.TEACHER);
        KEY_ROLE_MAP.put("learner", Role.LEARNER);
    }

    1 usage   ± Ana +1
    public static Role getRole(String key) {
        LocaleConfig localeConfig = new LocaleConfig();
        MessageSource messageSource = localeConfig.messageSource();
        Role role = KEY_ROLE_MAP.get(key);
        if (role == null) {
            throw new ResourceNotFoundException(messageSource
                    .getMessage( code: "registration.key.invalid",  args: null, Locale.getDefault()));
        }

        return role;
    }
}
```

Figure 3.8

3.2.4   API Documentation

To interact with APIs, run the application with "rest" profile active, that is the default one:

mvn spring-boot:run

3.2.4.1   Base URL

The most current version of the API is v3, with the following base URL

http://localhost:{SERVER_PORT}/api/v1.0/wordcraft.

3.2.4.2   Caching

The standard cache time is one hour for words and users entities.

3.2.4.3   Authorization

APIs use Basic Auth, where you should provide username and password of the user, where the username is the email address of the user. The default credentials can be found in the "users" table, and the encrypted password is the same for all default users: "Pass_1234".

3.2.4.4   Language

All APIs in the WordCraft application accept the following common parameter:
- lang (string, optional):
  - Description: Specifies the language of the data to be returned.
  - Accepted values:
    - en: English language.
    - it: Italian language.
  - Default value: en if not provided.

3.2.4.5   User Object

User

Field	Unique	Type	Description

id	true	integer	Id of the user, is generated automatically using IDENTITY strategy.
firstName	false	string	First Name of the user.
lastName	false	string	Last Name of the user.
email	true	string	Email of the user that follows the correct email format.
password	false	string	Password that contains at least: 8 chars, one uppercase, one lowercase, one number, and one special char.
key	false	string	User key used for authorization: learner, teacher, editor and admin.
profileImage	false	byte[]	Byte array representing the compressed image.
userInfo	false	UserInfo object	
registeredAt	false	date	The date user is registered, with "dd-MM-yyyy" format

UserInfo

Field	Unique	Type	Description
id	true	integer	Id of the user, is generated automatically using IDENTITY strategy.
progress	false	integer	The number of words user contributed at.
achievements	false	list of strings	The achievements for the user depending on progress.
favorites	false	list of strings	The favorite words of the user.

3.2.4.5.1 Register a User

- **POST** *http://localhost: {SERVER_PORT}/api/v1.0/wordcraft/register*
- Required body attributes: fisrtName, lastName, email, password, key.
- Response status: 201 CREATED
- Request body example:

```
{
   "firstName":"john",
   "lastName":"smith",
   "email":"johns1@gmail.com",
   "password":"Pass1234_",
   "key":"admin"
}
```

- Response body example:

```
{
   "id": 11,
   "firstName": "John",
   "lastName": "Smith",
   "email": "johns1@gmail.com",
   "password": "$2a$10$1XyKD6c/SuinSO55m84M3.ngVWL4i0vxTAJ9N.4Y41rPK.0S8CtzW",
   "key": "ADMIN",
```

```
  "profileImage": null,
  "userInfo": {
    "id": 11,
    "progress": 0,
    "achievements": [],
    "favorites": []
  },
  "registeredAt": "15-02-2024"
}
```

3.2.4.5.2   Get User Profile Details

- **GET** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/profile
- Basic Auth required.
- Response status: 200 OK
- Response body example:

```
{
  "id": 11,
  "firstName": "John",
  "lastName": "Smith",
  "email": "johns1@gmail.com",
  "password": "$2a$10$1XyKD6c/SuinSO55m84M3.ngVWL4i0vxTAJ9N.4Y41rPK.0S8CtzW",
  "key": "ADMIN",
  "profileImage": null,
  "userInfo": {
    "id": 11,
    "progress": 0,
    "achievements": [],
    "favorites": []
  },
  "registeredAt": "15-02-2024"
}
```

3.2.4.5.3   Upload User Profile Image

- **POST** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/profile
- Request param: image file.
- To perform the request in Postman, click on "Body" for the request, then select "form-data", write the key as "logo", choose the type as file, and upload the file(*Figure 3.9*):
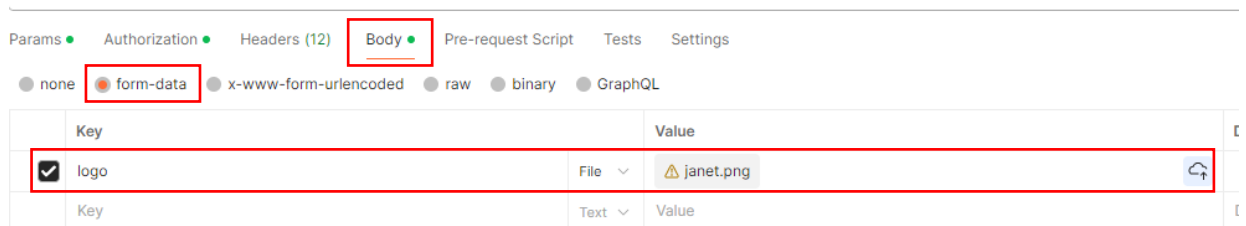
Figure 3.9

- Response status: 200 OK
- Response body example:

```
{
    "id": 11,
    "firstName": "John",
    "lastName": "Smith",
    "email": "johns1@gmail.com",
    "password": "$2a$10$1XyKD6c/SuinSO55m84M3.ngVWL4i0vxTAJ9N.4Y41rPK.0S8CtzW",
    "key": "ADMIN",
    "profileImage":
"iVBORw0KGgoAAAANSUhEUgAAAgAAAAIACAYAAAD0eNT6AAB6vklEQVR42u3dd3gc1bkG8Pf
MbF+VVa+2LEuWi2zzLHTdM770ZQhJ6S4MUQjNOFGxjEnJJgJsCJCFAbiBOKKAk9GDDvUmy5W7LX
b1r++6c+4eprLuzJyZ3e/3PPHnuxWhn3lmsnW/…
    "userInfo": {
        "id": 11,
        "progress": 0,
        "achievements": [],
        "favorites": []
    },
    "registeredAt": "15-02-2024"
}
```

3.2.4.5.4   Add Word to Favorites

- **POST** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/favorites?word=[word]
- Request param: word
- Response status: 200 OK
- Request param example: word=justo
- Response body example:

```
[
    "in",
    "justo"
]
```

3.2.4.5.5   Remove Word from Favorites

- **DELETE** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/favorites?word=[word]
- Request param: word
- Response status: 200 OK
- Request param example: word=justo
- Response body example:

```
[
    "in"
]
```

3.2.4.6   Word Object

Word

Field	Unique	Type	Description
id	true	integer	Id of the word, is generated automatically using IDENTITY strategy.

name	true	string	Name of the word.
definitions	false	list of Definition objects	A list of definitions for the word. Is required at least one definition.
examples	false	list of Example objects	A list of examples for the word. It is not required. The example should contain the word itself.
synonyms	false	list of Word objects	The synonyms of the word. It is not required.
antonyms	false	list of Word objects	The antonyms of the word. It is not required.
category	false	Category object	The category of the word, like noun, verb … It is required.
contributors	false	list of User objects	A list of users that contribute to the word.
comments	false	list of Comment objects	The comments given by users for each word.
addedAt	false	date	The word added date.
dictionaries	false	list of Dictionary objects	The list of sources the word details were taken from.

Definition

Field	Unique	Type	Description
id	true	integer	Id of the definition, is generated automatically using IDENTITY strategy.
text	true	string	Word definition. It is required.
dictionaries	false	list of Dictionary objects	The list of sources the definition was taken from.

Example

Field	Unique	Type	Description
id	true	integer	Id of the example, is generated automatically using IDENTITY strategy.
text	true	string	Word example. It is required.

Category

Field	Unique	Type	Description
id	true	integer	Id of the category, is generated automatically using IDENTITY strategy.
name	true	string	Word category. It is required.

Comment

Field	Unique	Type	Description
id	true	integer	Id of the comment, is generated automatically using IDENTITY strategy.
text	false	string	Text of the comment added by user for a word. It is required.

commenter	false	User object	User that leaves the comment.
commentedAt	false	date	The date user leaves the comment.

Dictionary

Field	Unique	Type	Description
id	true	long	Id of the dictionary, is generated automatically using IDENTITY strategy.
name	true	string	Name of the dictionary. It is required.
url	true	string	Dictionary source url. Is optional.
words	false	list of Word objects	Words contained in the dictionary.
definitions	false	list of Definition objects	Definitions contained in the dictionary.

3.2.4.6.1   Get All Words

- **GET** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/all
- Response status: 200 OK
- By default the words are sorted by added date, descending, from the most recent added word.
- Response body example:

```
[
  {
    "id": 3,
    "name": "vestibulum",
    "definitions": [
      {
        "id": null,
        "text": "purus aliquet at feugiat non pretium quis",
        "dictionaries": []
      }
    ],
    "examples": [
      {
        "id": 3,
        "text": "amet nulla quisque arcu libero rutrum ac"
      }
    ],
    "synonyms": [],
    "antonyms": [],
    "category": {
      "id": 3,
      "name": "adjective"
    },
    "contributors": [
      {
        "id": null,
```

```json
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Una",
        "lastName": "Seery",
        "email": "useery0@techcrunch.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "16-05-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-11T21:09:23",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
        "url": "https://dexonline.ro/definitie/",
        "words": [],
        "definitions": []
      }
    ]
  },
  {
    "id": 15,
    "name": "donec",
    "definitions": [
      {
        "id": null,
        "text": "quam nec dui luctus rutrum nulla tellus in",
        "dictionaries": []
      }
    ],
    "examples": [
      {
        "id": 15,
```

```json
        "text": "varius integer ac leo pellentesque ultrices mattis odio donec"
      }
    ],
    "synonyms": [],
    "antonyms": [],
    "category": {
      "id": 5,
      "name": "pronoun"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Jeanette",
        "lastName": "Tuckie",
        "email": "jtuckie1@marriott.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "24-02-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-11T14:28:00",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
        "url": "https://dexonline.ro/definitie/",
        "words": [],
        "definitions": []
      }
    ]
  }
]
```

3.2.4.6.2 Get Words with Pagination and Sort

- **GET** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words
- Request params:
  - page – page number, default is 0
  - pageSize – the number of words for the page, default is 10
  - sortBy – the field that the words will be displayed sorted, default is addedAt, and the sort is in descending order
- Response status: 200 OK
- Request URL example:
  - http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words?page=2&pageSize=2&sortBy=name
- Response body example:

```json
[
  {
    "id": 17,
    "name": "ut",
    "definitions": [
      {
        "id": null,
        "text": "turpis eget elit sodales scelerisque mauris sit amet eros suspendisse",
        "dictionaries": []
      }
    ],
    "examples": [
      {
        "id": 17,
        "text": "venenatis tristique fusce congue diam id ornare imperdiet sapien urna"
      }
    ],
    "synonyms": [],
    "antonyms": [],
    "category": {
      "id": 2,
      "name": "verb"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Kerry",
        "lastName": "Warman",
        "email": "kwarman4@privacy.gov.au",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
```

```json
      "registeredAt": "08-09-2023"
    },
    {
      "id": null,
      "firstName": "Mattias",
      "lastName": "Bulley",
      "email": "mbulley7@bbc.co.uk",
      "password": null,
      "key": null,
      "profileImage": null,
      "userInfo": null,
      "registeredAt": "29-01-2023"
    }
  ],
  "comments": [],
  "addedAt": "2023-01-10T03:49:53",
  "dictionaries": [
    {
      "id": null,
      "name": "dexonline.ro",
      "url": "https://dexonline.ro/definitie/",
      "words": [],
      "definitions": []
    }
  ]
},
{
  "id": 1,
  "name": "rutrum",
  "definitions": [
    {
      "id": null,
      "text": "nulla quisque arcu libero rutrum ac lobortis vel dapibus at",
      "dictionaries": []
    }
  ],
  "examples": [
    {
      "id": 1,
      "text": "ligula vehicula consequat morbi a ipsum integer a nibh in"
    }
  ],
  "synonyms": [],
  "antonyms": [],
  "category": {
    "id": 5,
```

```
      "name": "pronoun"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Una",
        "lastName": "Seery",
        "email": "useery0@techcrunch.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "16-05-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-06T05:04:31",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
        "url": "https://dexonline.ro/definitie/",
        "words": [],
        "definitions": []
      }
    ]
  }
]
```

3.2.4.6.3 Get Word by Name

- **GET** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]
- Path variable: word name
- Response status: 200 OK
- Request URL example:
  - http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo

- Response body example:

```
{
  "id": 2,
  "name": "justo",
  "definitions": [
    {
      "id": null,
      "text": "mi pede malesuada in imperdiet et commodo vulputate",
      "dictionaries": []
    }
  ],
  "examples": [
    {
      "id": 2,
      "text": "nisi at nibh in hac habitasse platea dictumst"
    }
  ],
  "synonyms": [],
  "antonyms": [],
  "category": {
    "id": 4,
    "name": "adverb"
  },
  "contributors": [
    {
      "id": null,
      "firstName": "Mattias",
      "lastName": "Bulley",
      "email": "mbulley7@bbc.co.uk",
      "password": null,
      "key": null,
      "profileImage": null,
      "userInfo": null,
      "registeredAt": "29-01-2023"
    },
    {
      "id": null,
      "firstName": "Una",
      "lastName": "Seery",
      "email": "useery0@techcrunch.com",
      "password": null,
      "key": null,
      "profileImage": null,
      "userInfo": null,
      "registeredAt": "16-05-2023"
    }
```

```
    ],
    "comments": [],
    "addedAt": "2023-01-01T18:43:11",
    "dictionaries": [
        {
            "id": null,
            "name": "dexonline.ro",
            "url": "https://dexonline.ro/definitie/",
            "words": [],
            "definitions": []
        }
    ]
}
```

3.2.4.6.4   Add Word

- **POST** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words
- Required body attributes: name, definitions, category, dictionaries.
- Response status: 201 CREATED
- Request body example:

```
{
    "name": "new",
    "definitions": [
        {
            "text": "mi pede malesuada in imperdiet et commodo vulputate"
        }
    ],
    "examples": [
        {
            "text": "new nisi at nibh in hac habitasse platea dictumst"
        }
    ],
    "category": {
        "name": "adverb"
    },
    "dictionaries":[
        {
            "name": "dexonline.ro",
            "url": "https://dexonline.ro/definitie/"
        }
    ]
}
```

- Response body example:

```
{
    "id": 29,
    "name": "new",
    "definitions": [
        {
            "id": null,
            "text": "mi pede malesuada in imperdiet et commodo vulputate",
```

```
        "dictionaries": []
      }
    ],
    "examples": [
      {
        "id": 20,
        "text": "new nisi at nibh in hac habitasse platea dictumst"
      }
    ],
    "synonyms": [],
    "antonyms": [],
    "category": {
      "id": 4,
      "name": "adverb"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      }
    ],
    "comments": [],
    "addedAt": "2024-02-16T11:52:49.0849655",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
        "url": "https://dexonline.ro/definitie/",
        "words": [],
        "definitions": []
      }
    ]
}
```

3.2.4.6.5   Delete Word

- **DELETE** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]
- Path variable: word name
- Response status: 204 NO CONTENT
- Request URL example:
  - o http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo

3.2.4.6.6   Add Definition to Word

- **PUT** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/definitions
- Path variable: word name

- Required body attributes: text
- Response status: 200 OK
- Request body example:

```
{
    "text":"mi pede malesuada in imperdiet"
}
```

- Response body example:

```
{
    "id": 2,
    "name": "justo",
    "definitions": [
        {
            "id": null,
            "text": "mi pede malesuada in imperdiet et commodo vulputate",
            "dictionaries": []
        },
        {
            "id": null,
            "text": "mi pede malesuada in imperdiet",
            "dictionaries": []
        }
    ],
    "examples": [
        {
            "id": 2,
            "text": "nisi at nibh in hac habitasse platea dictumst"
        }
    ],
    "synonyms": [],
    "antonyms": [],
    "category": {
        "id": 4,
        "name": "adverb"
    },
    "contributors": [
        {
            "id": null,
            "firstName": "Mattias",
            "lastName": "Bulley",
            "email": "mbulley7@bbc.co.uk",
            "password": null,
            "key": null,
            "profileImage": null,
            "userInfo": null,
            "registeredAt": "29-01-2023"
```

```
      },
      {
         "id": null,
         "firstName": "Una",
         "lastName": "Seery",
         "email": "useery0@techcrunch.com",
         "password": null,
         "key": null,
         "profileImage": null,
         "userInfo": null,
         "registeredAt": "16-05-2023"
      }
   ],
   "comments": [],
   "addedAt": "2023-01-01T18:43:11",
   "dictionaries": [
      {
         "id": null,
         "name": "dexonline.ro",
         "url": "https://dexonline.ro/definitie/",
         "words": [],
         "definitions": []
      }
   ]
}
```

3.2.4.6.7 Remove Definition from Word

- **DELETE** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/definitions
- Path variable: word name
- Required body attributes: text
- Response status: 200 OK
- Request body example:

```
{
   "text":"mi pede malesuada in imperdiet"
}
```

- Response body example:

```
{
   "id": 2,
   "name": "justo",
   "definitions": [
      {
         "id": null,
         "text": "mi pede malesuada in imperdiet et commodo vulputate",
         "dictionaries": []
      }
   ],
```

```
    "examples": [
      {
        "id": 2,
        "text": "nisi at nibh in hac habitasse platea dictumst"
      }
    ],
    "synonyms": [],
    "antonyms": [],
    "category": {
      "id": 4,
      "name": "adverb"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Una",
        "lastName": "Seery",
        "email": "useery0@techcrunch.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "16-05-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-01T18:43:11",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
        "url": "https://dexonline.ro/definitie/",
        "words": [],
        "definitions": []
      }
```

```
    ]
}
```

3.2.4.6.8   Add Example To Word

- **PUT** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/examples
- Path variable: word name
- Required body attributes: text
- Response status: 200 OK
- Request body example:

```
{
  "text":"justo e una mui buono"
}
```

- Response body example:

```
{
  "id": 2,
  "name": "justo",
  "definitions": [
    {
      "id": null,
      "text": "mi pede malesuada in imperdiet et commodo vulputate",
      "dictionaries": []
    }
  ],
  "examples": [
    {
      "id": 21,
      "text": "justo e una mui buono"
    },
    {
      "id": 2,
      "text": "justo nisi at nibh in hac habitasse platea dictumst"
    }
  ],
  "synonyms": [],
  "antonyms": [],
  "category": {
    "id": 4,
    "name": "adverb"
  },
  "contributors": [
    {
      "id": null,
      "firstName": "Mattias",
      "lastName": "Bulley",
      "email": "mbulley7@bbc.co.uk",
      "password": null,
```

```
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Una",
        "lastName": "Seery",
        "email": "useery0@techcrunch.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "16-05-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-01T18:43:11",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
        "url": "https://dexonline.ro/definitie/",
        "words": [],
        "definitions": []
      }
    ]
}
```

3.2.4.6.9 Remove Example From Word

- **DELETE** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/examples
- Path variable: word name
- Required body attributes: text
- Response status: 200 OK
- Request body example:

```
{
  "text":"justo e una mui buono"
}
```

- Response body example:

```
{
  "id": 2,
  "name": "justo",
  "definitions": [
    {
      "id": null,
```

```
        "text": "mi pede malesuada in imperdiet et commodo vulputate",
        "dictionaries": []
      }
    ],
    "examples": [
      {
        "id": 2,
        "text": "justo nisi at nibh in hac habitasse platea dictumst"
      }
    ],
    "synonyms": [],
    "antonyms": [],
    "category": {
      "id": 4,
      "name": "adverb"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Una",
        "lastName": "Seery",
        "email": "useery0@techcrunch.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "16-05-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-01T18:43:11",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
```

```
      "url": "https://dexonline.ro/definitie/",
      "words": [],
      "definitions": []
    }
  ]
}
```

3.2.4.6.10   Get Word Synonyms

- **GET** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/synonyms
- Path variable: word name
- Response status: 200 OK
- Request URL example:
  - http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/synonyms
- Response body example:

```
[
  {
    "id": 1,
    "name": "rutrum",
    "definitions": [
      {
        "id": null,
        "text": "nulla quisque arcu libero rutrum ac lobortis vel dapibus at",
        "dictionaries": []
      }
    ],
    "examples": [
      {
        "id": 1,
        "text": "ligula vehicula consequat morbi a ipsum integer a nibh in"
      }
    ],
    "synonyms": [
      {
        "id": null,
        "name": "justo",
        "definitions": [],
        "examples": [],
        "synonyms": [],
        "antonyms": [],
        "category": null,
        "contributors": [],
        "comments": [],
        "addedAt": null,
        "dictionaries": []
      }
    ],
```

```json
    "antonyms": [],
    "category": {
      "id": 5,
      "name": "pronoun"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Una",
        "lastName": "Seery",
        "email": "useery0@techcrunch.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "16-05-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-06T05:04:31",
    "dictionaries": [
      {
        "id": null,
        "name": "dexonline.ro",
        "url": "https://dexonline.ro/definitie/",
        "words": [],
        "definitions": []
      }
    ]
  }
]
```

3.2.4.6.11   Add Synonym to Word

- **PUT** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/synonyms
- Path variable: word name

- Request body attributes: name, that represent the name of the synonym
- Response status: 201 CRAETED
- Request URL example:
  o http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/synonyms
- Request body example:

```json
{
  "name": "in"
}
```

3.2.4.6.12 Remove Synonym from Word

- **DELETE** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/synonyms
- Path variable: word name
- Request body attributes: name, that represent the name of the synonym
- Response status: 204 NO CONTENT
- Request URL example:
  o http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/synonyms
- Request body example:

```json
{
  "name": "in"
}
```

3.2.4.6.13 Get Word Antonyms

- **GET** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/antonyms
- Path variable: word name
- Response status: 200 OK
- Request URL example:
  o http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/antonyms
- Response body example:

```json
[
  {
    "id": 12,
    "name": "nam",
    "definitions": [
      {
        "id": null,
        "text": "cubilia curae duis faucibus accumsan odio curabitur convallis duis",
        "dictionaries": []
      }
    ],
    "examples": [
      {
        "id": 12,
        "text": "aenean lectus pellentesque eget nunc donec quis orci"
      }
    ],
    "synonyms": [],
```

```json
    "antonyms": [
      {
        "id": null,
        "name": "justo",
        "definitions": [],
        "examples": [],
        "synonyms": [],
        "antonyms": [],
        "category": null,
        "contributors": [],
        "comments": [],
        "addedAt": null,
        "dictionaries": []
      }
    ],
    "category": {
      "id": 1,
      "name": "noun"
    },
    "contributors": [
      {
        "id": null,
        "firstName": "Mattias",
        "lastName": "Bulley",
        "email": "mbulley7@bbc.co.uk",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "29-01-2023"
      },
      {
        "id": null,
        "firstName": "Jeanette",
        "lastName": "Tuckie",
        "email": "jtuckie1@marriott.com",
        "password": null,
        "key": null,
        "profileImage": null,
        "userInfo": null,
        "registeredAt": "24-02-2023"
      }
    ],
    "comments": [],
    "addedAt": "2023-01-06T12:32:41",
    "dictionaries": [
```

```
          {
            "id": null,
            "name": "dexonline.ro",
            "url": "https://dexonline.ro/definitie/",
            "words": [],
            "definitions": []
          }
      ]
    }
]
```

3.2.4.6.14   Add Antonym to Word

- **PUT** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/antonyms
- Path variable: word name
- Request body attributes: name, that represent the name of the antonym
- Response status: 201 CRAETED
- Request URL example:
  o http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/antonyms
- Request body example:

```
{
  "name":"arcu"
}
```

3.2.4.6.15   Remove Antonym from Word

- **DELETE** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/antonyms
- Path variable: word name
- Request body attributes: name, that represent the name of the antonym
- Response status: 204 NO CONTENT
- Request URL example:
  o http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/antonyms
- Request body example:

```
{
  "name":"arcu"
}
```

3.2.4.6.16   Add Comment To Word

- **PUT** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/comments
- Path variable: word name
- Request body attributes: text, that represent the comment text
- Response status: 201 CRAETED
- Request URL example:
  o http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/ comments
- Request body example:

```
{
  "text":"comment for justo word"
```

}

3.2.4.6.17 Remove Comment From Word

- **DELETE** http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/[word]/comments?commentId=[commentId]
  - Path variable: word name
  - Request param: commentId, that represent the id of the comment
  - Response status: 204 NO CONTENT
  - Request URL example:
    - http://localhost: *{SERVER_PORT}*/api/v1.0/wordcraft/words/justo/comments commentId=1

3.2.4.6.18 Generate Word Contributions Report

- **GET** *http://localhost: {SERVER_PORT}/api/v1.0/wordcraft/words/report/contributions*
- Response status: 201 CRAETED

3.2.4.6.19 Generate Word Statistics Report

- **GET** *http://localhost: {SERVER_PORT}/api/v1.0/wordcraft/words/ report/statistics?year=[year]&month=[month]*
  - Request params:
    - year – requested year for reporting
    - month – requested month for reporting
  - Response status: 201 CRAETED
  - Request URL example:
    - *http://localhost: {SERVER_PORT}/api/v1.0/wordcraft/words/ report/statistics?year=2023&month=January*

3.3 ERROR AND STATUS MESSAGES
3.3.1 400 Bad Request

- **First Name is required**: Indicates that the "First Name" field is mandatory for user registration. Users must provide a valid first name to proceed with the registration process.
- **Last Name is required**: Indicates that the "Last Name" field is mandatory for user registration. Users must provide a valid last name to complete the registration process.
- **Password is required**: Indicates that the "Password" field is mandatory for user registration. Users need to create a password to secure their account.
- **Key is required**: Indicates that the "Key" field is required for the specified operation. Users must provide a valid key to proceed with the request.
- **Email is required**: Indicates that the "Email" field is mandatory for user registration. Users need to provide a valid email address to complete the registration process.
- **Incorrect email format**: Indicates that the provided email address does not adhere to the required format for an email address. The email format should include an "@" symbol and a domain name, such as "example@example.com".
- **Password should have at least 8 chars**: Indicates that the password should be at least 8 characters long.
- **Password should have at least one lowercase char**: Indicates that the password should contain at least one lowercase character.

- **Password should have at least one uppercase char**: Indicates that the password should contain at least one uppercase character.
- **Password should have at least one number**: Indicates that the password should contain at least one numeric character.
- **Password should have at least one special char**: Indicates that the password should contain at least one special character (e.g., !@#$%^&*).
- **Word name must not be empty**: Indicates that the word name field is required and must not be empty.
- **Category must not be empty**: Indicates that the category field is required and must not be empty.
- **Word [WORD] should have at least one definition**: Indicates that the word does not have any associated definitions.
- **Definition must not be empty**: Indicates that the definition text is empty or null.
- **Word [WORD] has only one definition that is required**: Indicates that the specified word has only one definition and that at least one definition is required for the word when trying to delete the definition.
- **Provided example does not contain the word [WORD]**: Indicates that the provided example does not contain the word, when trying to add example.
- **Comment text must not be empty**: The error message indicates that the comment text must not be empty.

3.3.2 404 Not Found
- **Invalid key**: Indicates that the provided key is invalid.
- **Word [WORD] not found**: Indicates that the requested word with the specified name was not found in the database.
- **Word [WORD] not found in favorites**: Indicates that the requested word with the specified name is not found in the user's favorites list.
- **Definition [DEFINITION] not found**: Indicates that the specified definition with the given text was not found in the database.
- **Example [EXAMPLE] not found for the word [WORD]**: Indicates that the specified example is not found for the given word's example, when trying to delete example.
- **Synonym or Antonym [SYNONYM/ANTONYM] is not present**: Indicates that the word [SYNONYM/ANTONYM] is not present as a synonym or antonym.
- **No comment found**: Indicates that the comment was not found, when trying to delete the comment.

3.3.3 409 Conflict
- **Email [EMAIL] is already taken**: Indicates that the provided email address is already associated with an existing account.
- **Word [WORD] already exists**: Indicates that a word with the specified name already exists in the system.
- **Definition [DEFINITION] is already present in word definitions**: Indicates that the specified definition is already associated with the word's definitions, when trying to add definition.

- **Example [EXAMPLE] is already present in word examples**: Indicates that the specified example is already associated with the word's examples, when trying to add example.
- **Synonym or Antonym [SYNONYM/ANTONYM] is already linked with word [WORD]**: The error message indicates that the word [SYNONYM/ANTONYM] is already linked as a synonym or antonym with the word [WORD].

3.3.4 401 Unauthorized

- Indicates that the request lacks valid authentication credentials or the provided credentials are insufficient to access the requested resource.

4 WRAPPING UP

Thank you for choosing Wordcraft as your go-to application for exploring, learning, and contributing to the world of words. We hope this documentation has been helpful in guiding you through the setup, usage, and customization of Wordcraft.

If you have any questions, feedback, or suggestions, please don't hesitate to reach out to me. I'm constantly striving to improve Wordcraft and provide the best possible experience for the users.

Happy wordcrafting!