# DSA Project Report

Home Library

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## Studies

Informatics, semester 6, engineering studies

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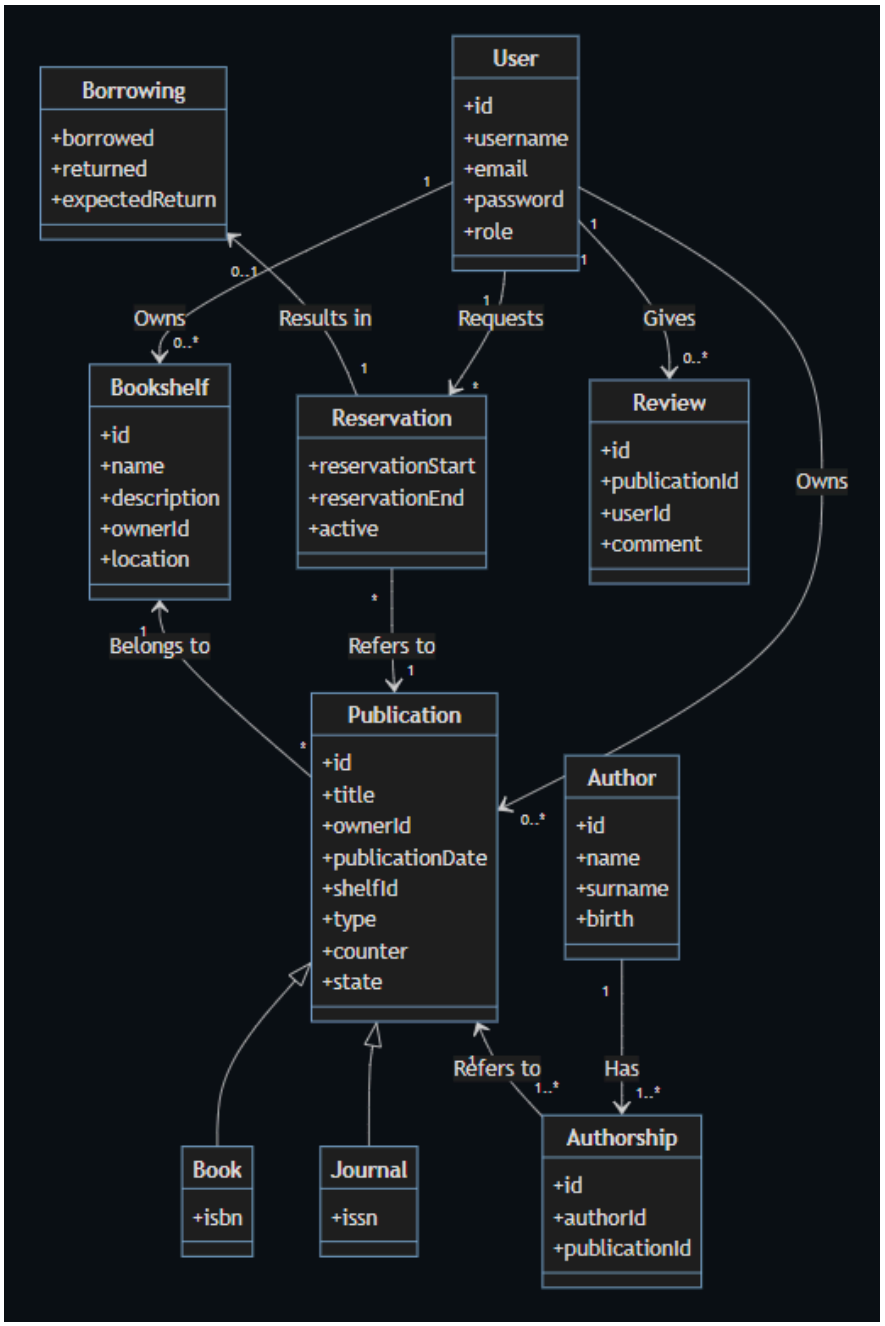
# Task Description

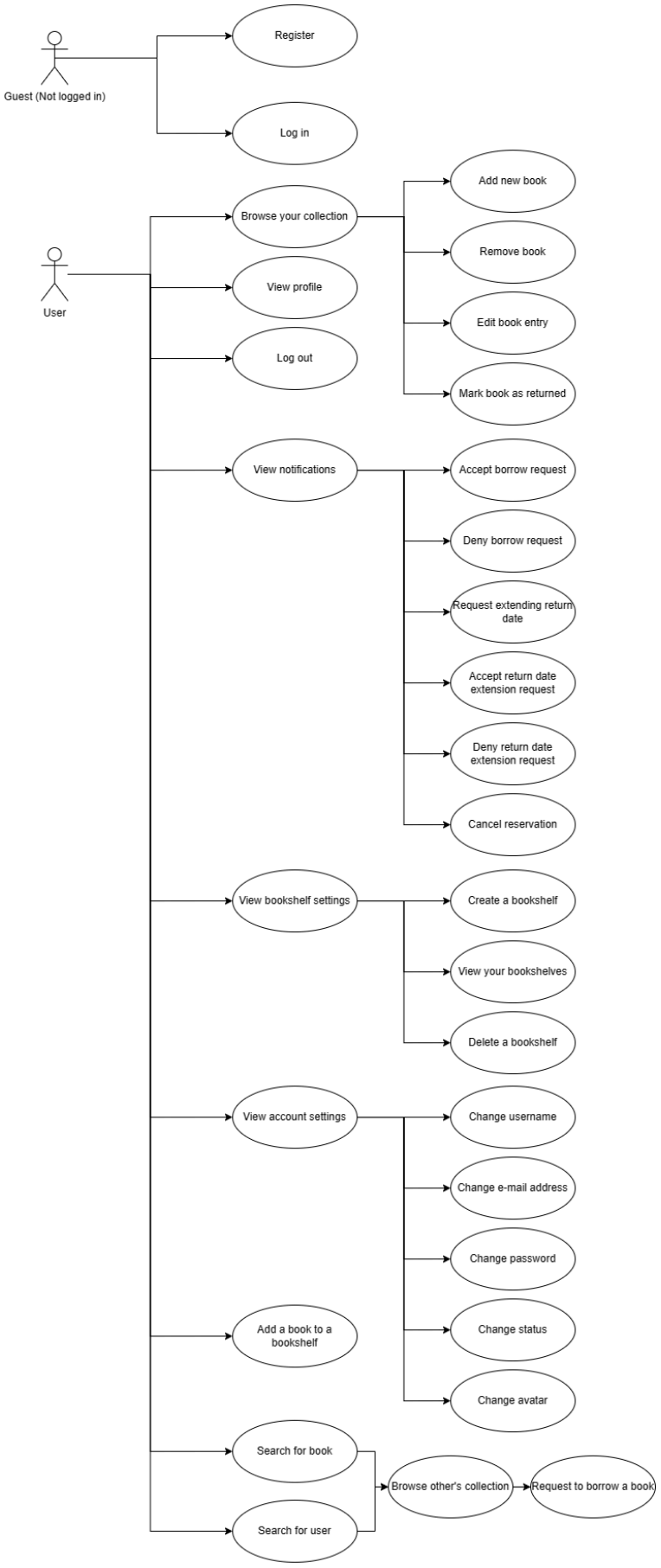
**Topic**: Home library management system
**Description**: The system user is a book lover reading and collecting books and journals. Every bibliographic artifact is registered, also with respect to its location on bookshelves. Books and journals may be lent to friends (other system users), and these facts are registered too. The system should enable users to search over the global collection of the whole community, reserving books, borrowing and returning them.

# Analysis

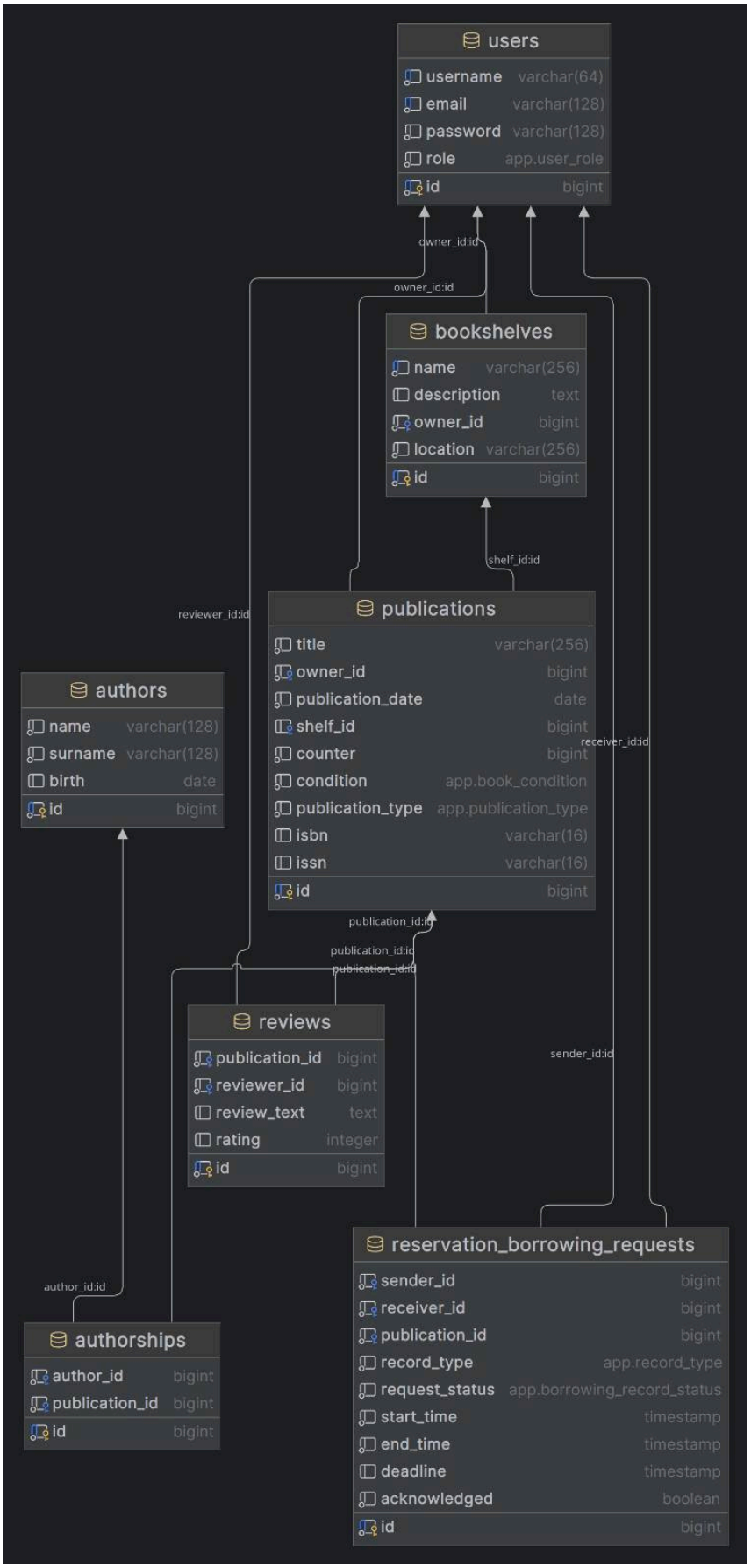
The UML class diagram at the beginning of work at the project is presented below.



Use case diagram:



Database diagram:



# Architecture and Technology

We decided to design the project in Java with the use of servlets framework. As the database, we used PostgreSQL.
We were considering SpringBoot, but it appeared this would require too much time spent for learning the technology itself, so we renounced this idea and chose to use simple Java servlets.

# External Specification

## Logging in

The user is greeted with the welcome page where they can log in. There is also a link leading to the registration page. One may also see the help page.

On login success, the user passes to the homepage.

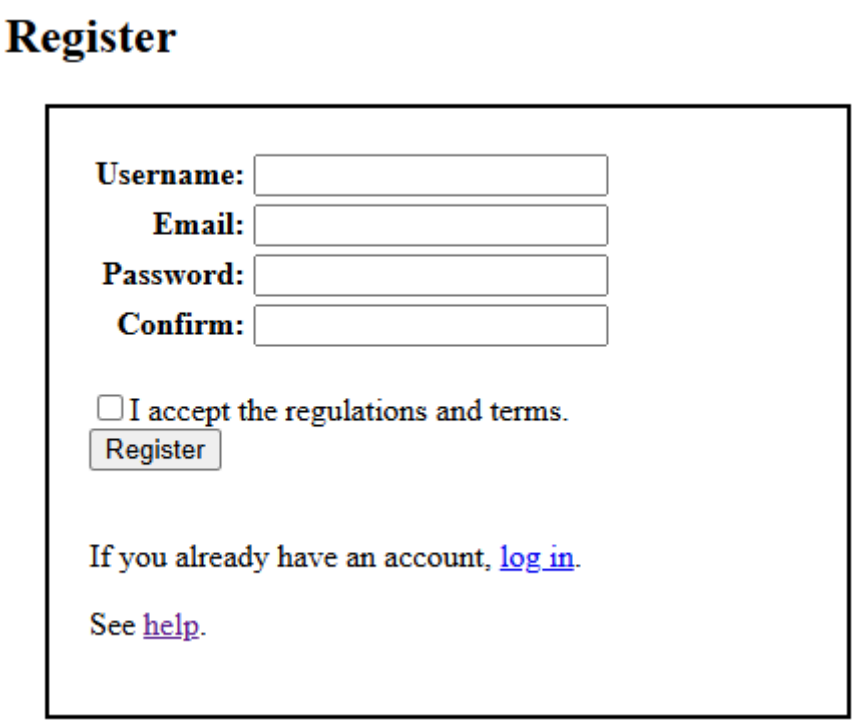
On login failure, one is redirected to the log-in-again page. It looks essentially like that below, so its screenshot was skipped.

## Registration

When the user wants to register a new account, they shall provide the username, the email and the password. The password shall be repeated in order to be confirmed. It is also mandatory to accept the regulations and terms.

On registration success the user passes to the homepage.

On failure, the user is directed back to the same page. They are shown the errors that were made.

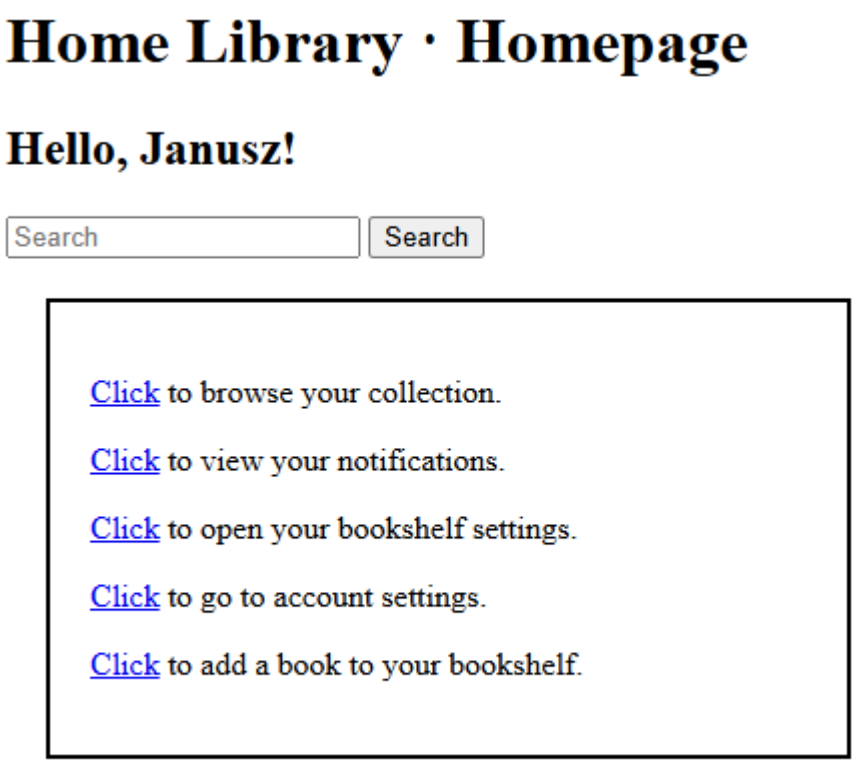



## Homepage

The homepage is whence one may:

- search a publication,
- browse one's collection,
- view one's notification,
- open bookshelf settings,
- go to account settings,
- add a book to one's bookshelf,
- see the help page.

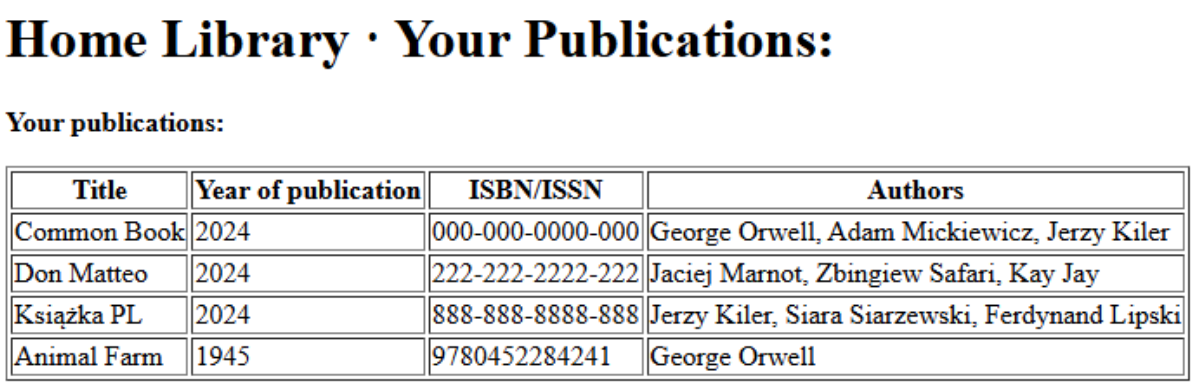
Typically, it is possible to come back home from the other pages. (To avoid redundancy, this information will be skipped while discussing particular pages.)




## Browsing Own Collection

In this page, the user can view their own publications. The data that are shown are: the title, the year of publication, ISBN/ISSN and the authors.

Hence, one may proceed to **adding**, **editing** and **removing** a publication.



# Home Library · Your Publications:

**Your publications:**

| Title | Year of publication | ISBN/ISSN | Authors |
|---|---|---|---|
| Common Book | 2024 | 000-000-0000-000 | George Orwell, Adam Mickiewicz, Jerzy Kiler |
| Don Matteo | 2024 | 222-222-2222-222 | Jaciej Marnot, Zbingiew Safari, Kay Jay |
| Książka PL | 2024 | 888-888-8888-888 | Jerzy Kiler, Siara Siarzewski, Ferdynand Lipski |
| Animal Farm | 1945 | 9780452284241 | George Orwell |

Add a publication.

Edit a publication.

Remove a publication.

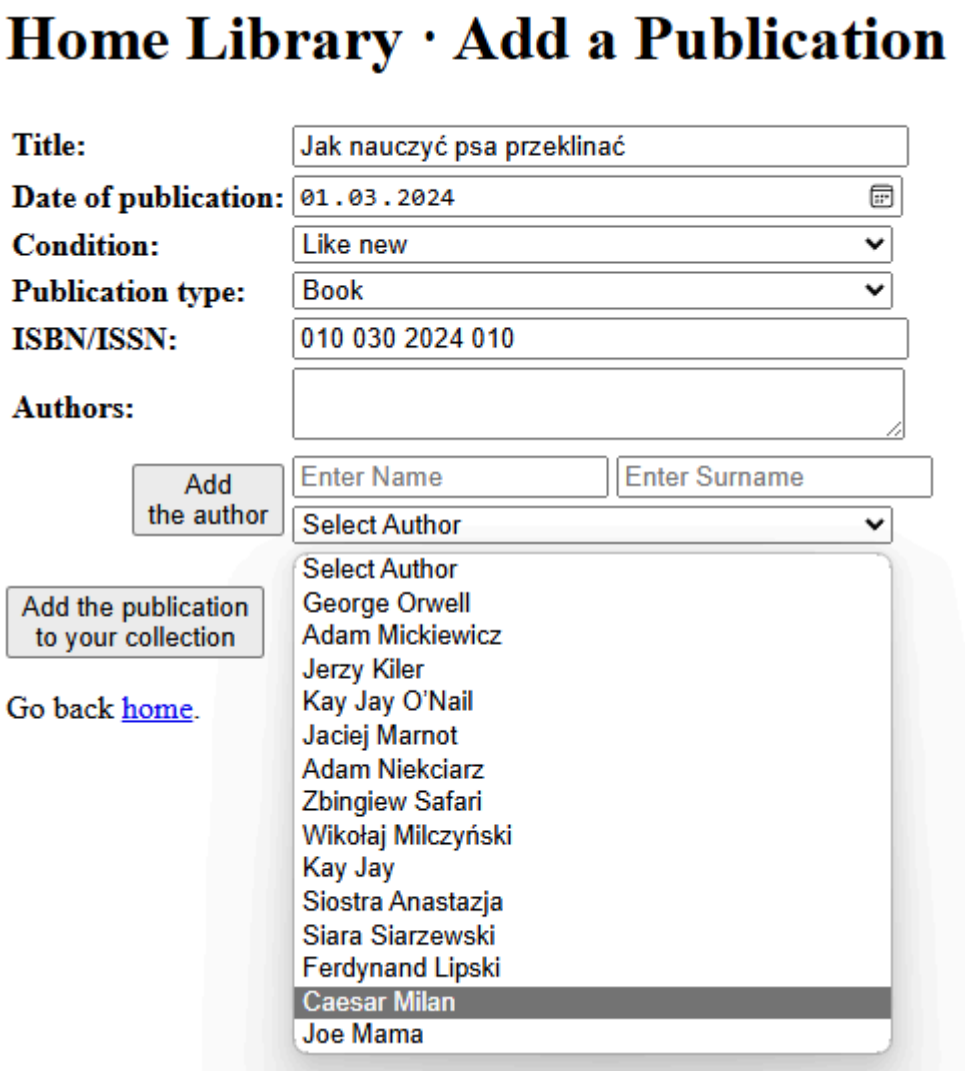
Go back home.

## Adding Publication

To add a new publication, one shall provide its: title (without quotation marks), date of publication, condition (selected from a dropdown list), type (book/journal), ISBN/ISSN and authors. The authors cannot be added directly.

To add an author, one may either input their name and surname, or choose an author from the list of those that are already present in the system. In both cases, one confirms with the button “Add the author”.

Press “Add the publication…” button when all data has been provided.

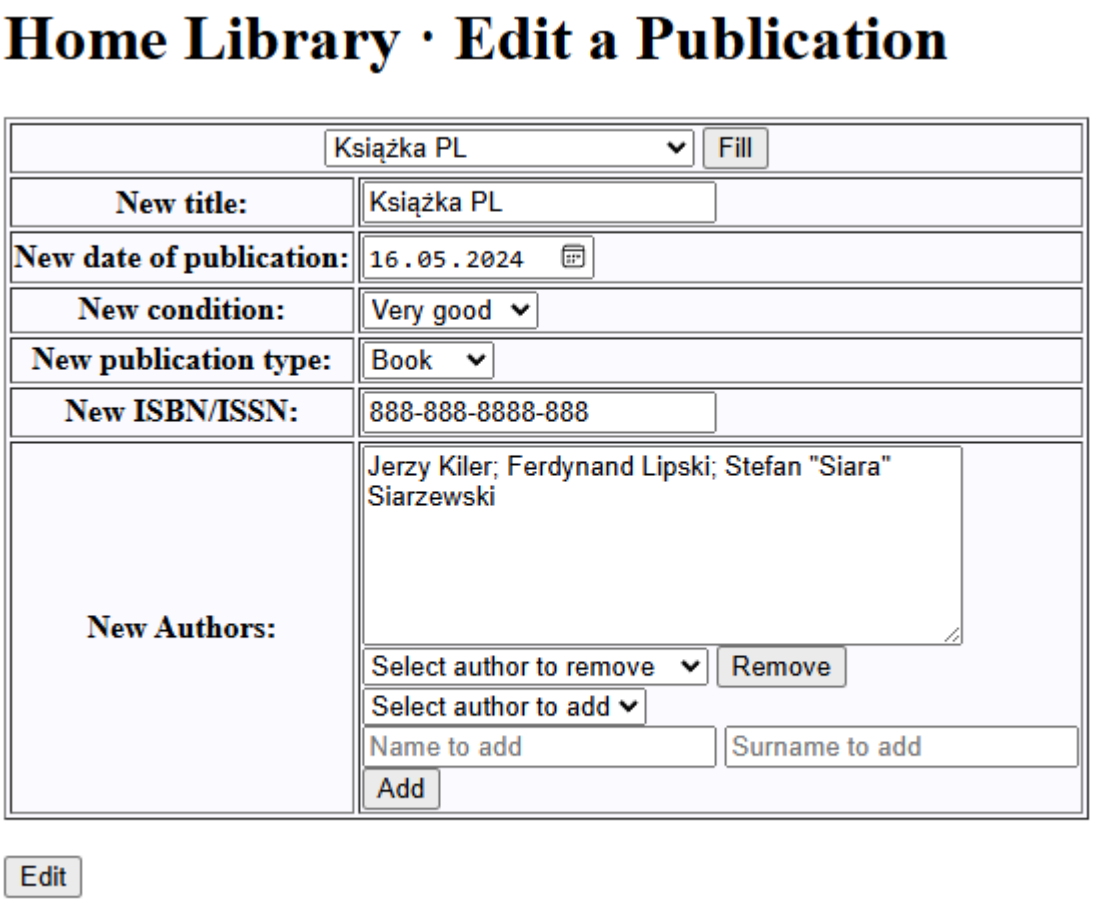



On completion, the user is redirected to the browsing page.

## Editing Publication

To edit a publication, one needs to first select it in the dropdown list on the top of the form. It is mandatory. Optionally, one may press the “Fill” button to have the form filled with the data of the publication (otherwise one would need to fill all the data oneself).

Authors are added in the same manner as discussed in the previous chapter. To remove the author from the list, one needs to select them from the list and press “Remove”.




In the picture, one can see the book “Książka PL” edited so that it is no longer in “Excellent” condition but only “Very good”, and the author “Siara Siarzewski” was corrected to “Stefan "Siara" Siarzewski”.

## Removing Publication

Removing a publication is very simple. The user needs only to press the button “Remove”. Removal can be continued as long as one wishes (the user is not automatically directed back upon removal). When finished, one comes back via the link “Return to browse”.

# Home Library · Your Publications:

**Your publications:**

| Title | Year of publication | ISBN/ISSN | Authors | Action |
|---|---|---|---|---|
| Don Matteo | 2024 | 222-222-2222-222 | Jaciej Marnot, Zbingiew Safari, Kay Jay | Remove |
| Common Book | 2024 | 000-000-0000-000 | George Orwell, Adam Mickiewicz, Jerzy Kiler | Remove |
| Książka PL | 2024 | 888-888-8888-888 | Jerzy Kiler, Siara Siarzewski, Ferdynand Lipski | Remove |
| Animal Farm | 1945 | 9780452284241 | George Orwell | Remove |
| Jak nauczyć psa przeklinać | 2024 | 010 030 2024 010 | Caesar Milan | Remove |

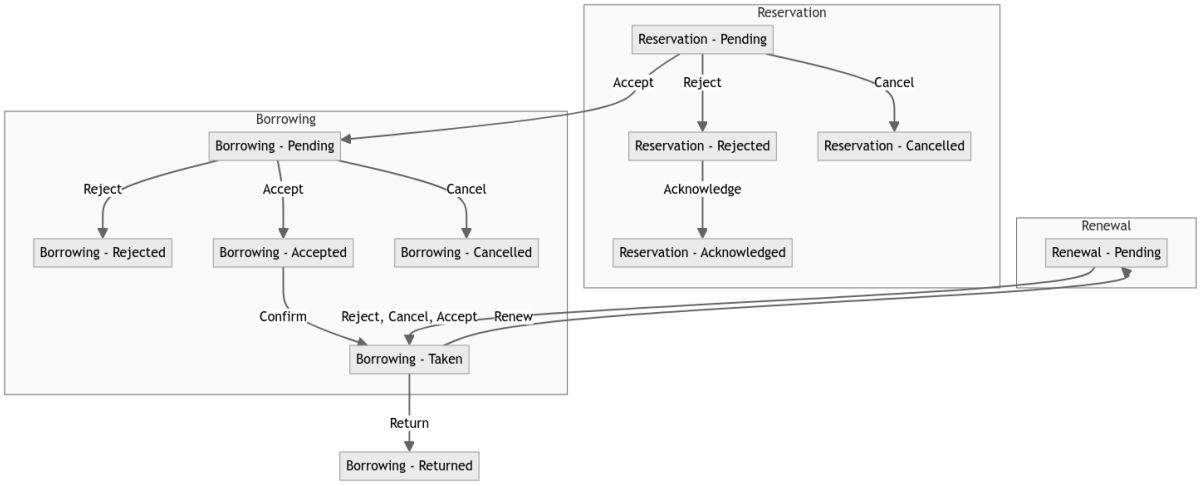
Return to browse.

Go back home.

## Viewing Notifications

The application provides a notification system that keeps users informed about the status of their requests related to reservations, borrowing, and renewals of publications. The notification page displays all incoming and outgoing requests, along with their current status and available actions.

### Diagram




### Reservation Notifications

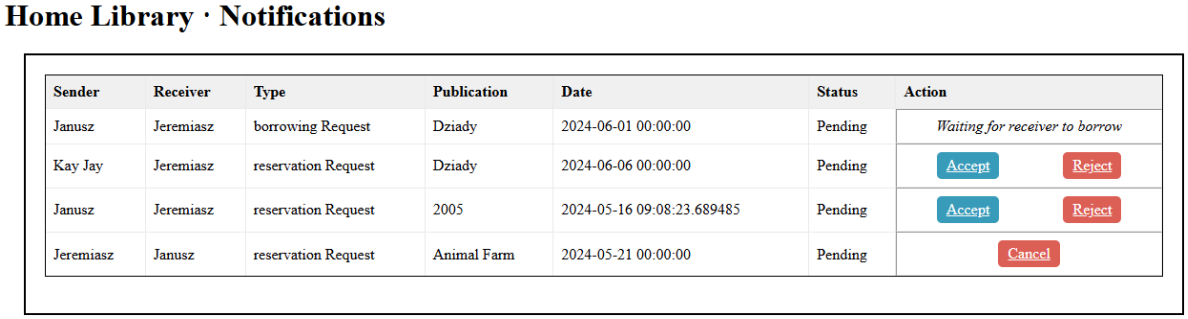
- ➔ Pending: A new reservation request awaiting action. Options: Reject or Cancel the request.
- ➔ Rejected: The reservation request has been rejected. Option: Acknowledge the rejection.

### Borrowing Notifications

- ➔ Pending: A new borrowing request awaiting action. Options: Accept, Reject, or Cancel the request.
- ➔ Accepted: The borrowing request has been accepted. Option: Confirm borrowing to mark the item as Taken.
- ➔ Taken: The publication has been borrowed. Options: Return the item or initiate a Renewal request.

### Renewal Notifications

- ➔ Pending: A renewal request awaiting action. Options: Accept, Reject, or Cancel the renewal.




Users can take appropriate actions on their notifications, such as accepting or rejecting requests, confirming borrowing, returning items, or acknowledging rejections. This system ensures that all parties involved are aware of the current status of their requests and can respond accordingly.

## Account Settings

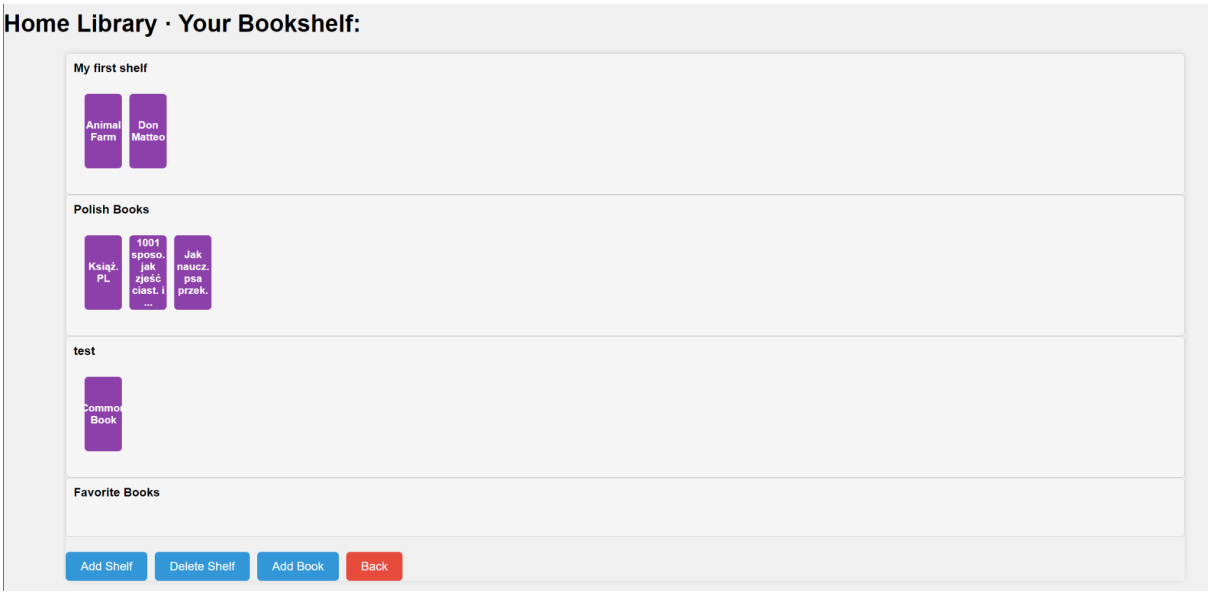
The user can change the following parameters of their account: login, password, email address and status. The screenshot below presents the form for introducing the changes.

In order not to change the username, email address or status unchanged, one needs to leave the values as they are. In order not to change the password, one should leave the fields for the new password proposal and the new password confirmation empty.

To confirm introducing the changes, the user must input the current password.

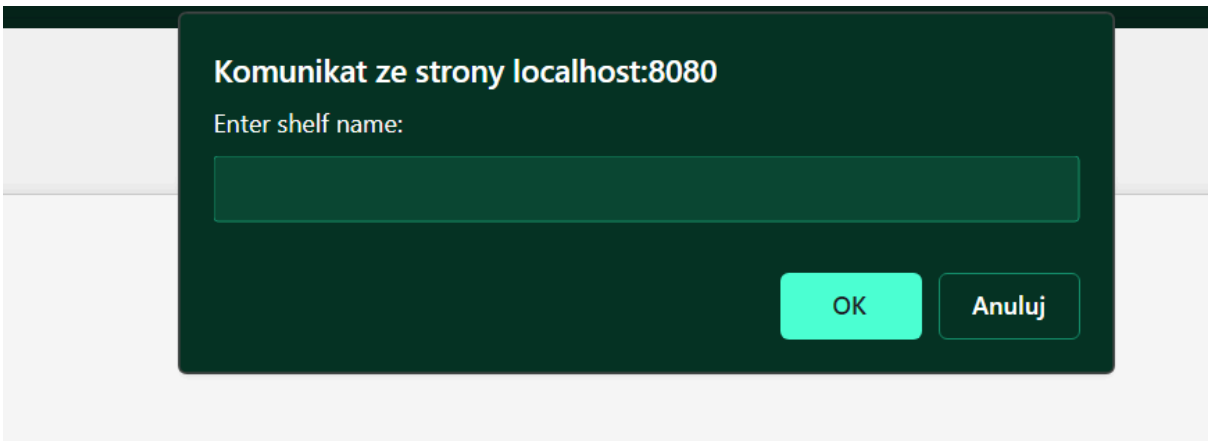
## Bookshelf Settings:

In the Bookshelf settings, users can view all bookshelves with their assigned books, add new shelves, delete shelves, and add books to a bookshelf.



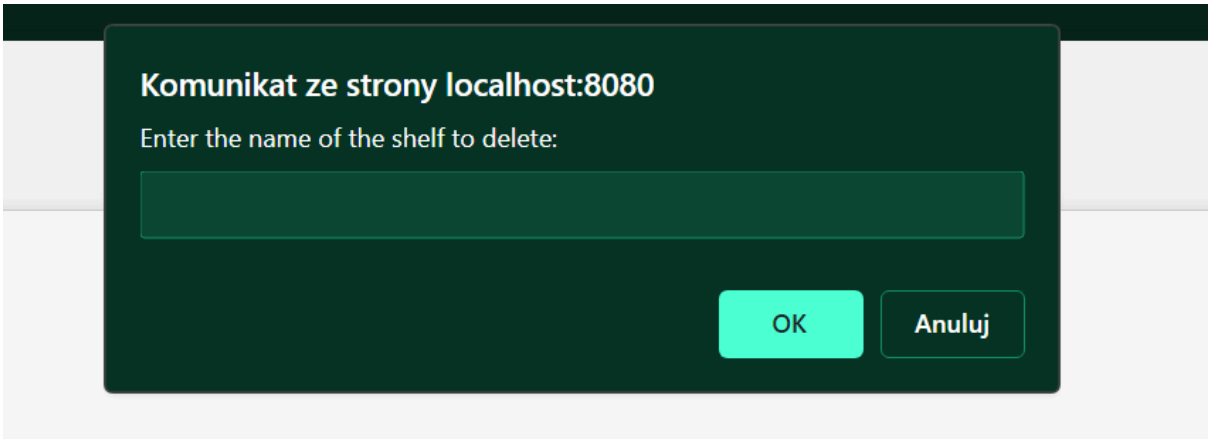

## Adding a new Shelf:

To add a new shelf, click on the "Add Shelf" button. A prompt will appear, requesting the user to enter a name for the new bookshelf. After entering the name, click "OK" to create the shelf.



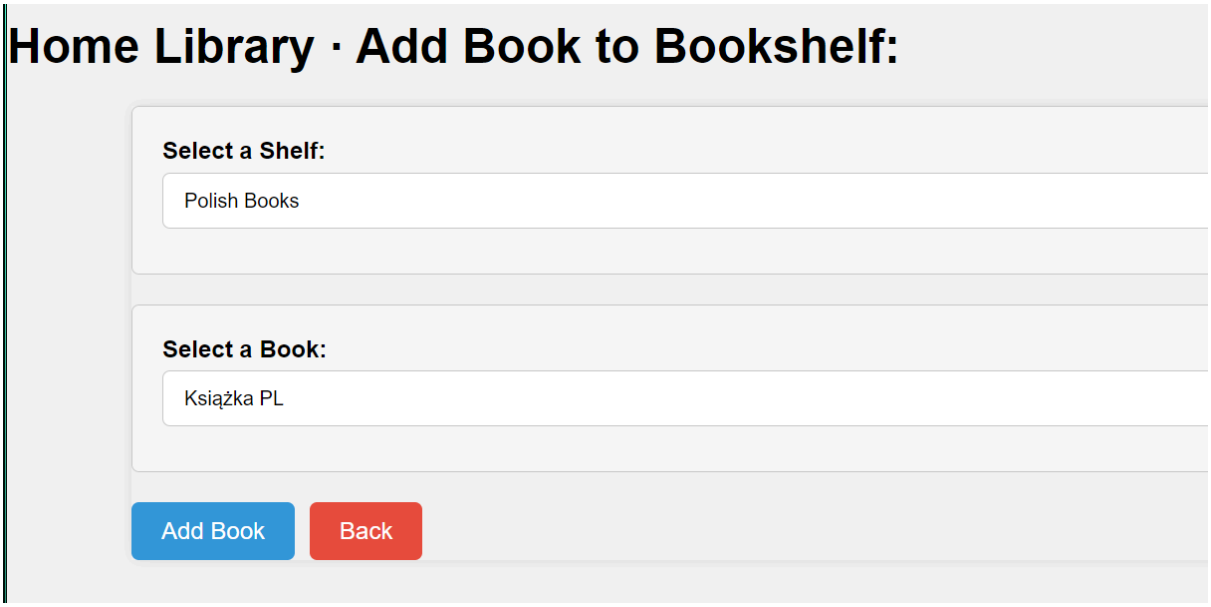

## Deleting a Shelf:

To delete a shelf, click on the "Delete Shelf" button. A prompt will appear, requesting the user to enter the name of the shelf to be deleted. After entering the name, click "OK" to delete the shelf.




## Adding a Book to a Bookshelf:

To add a book to a bookshelf, click the "Add Book" button in the bookshelf settings or button in the Homepage. The user will then need to select a bookshelf from the list of available bookshelves and choose the book to be added. After making the selections, click "OK" to add the book to the selected shelf.




# Internal Specification

Description of functions and classes is moved to the appendix.

# Conclusions

The development of our Home Library Management System successfully created an intuitive solution for book enthusiasts to manage their collections and facilitate borrowing among friends. The system supports cataloging bibliographic artifacts, tracking their physical location, and managing the lending process efficiently.

We achieved a user-friendly interface, efficient data management with Java servlets and PostgreSQL, and core functionalities such as search, reservation, borrowing, and returning.

This project has established a solid foundation for a functional, user-centric library management system, balancing simplicity and efficiency while providing opportunities for future improvements.

# Internal Specification
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Generated by Doxygen 1.11.0

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# Chapter 1

# Namespace Index

## 1.1 Package List

Here are the packages with brief descriptions (if available):

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# Chapter 2

# Hierarchical Index

## 2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:


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# Chapter 3

# Class Index

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# Chapter 4

# Namespace Documentation

## 4.1 Package homelibrary.main

### Classes

- class JakartaRestConfiguration

### 4.1.1 Detailed Description

This package contains the main class of the application.

## 4.2 Package homelibrary.servlets

### Classes

- class AddBookToBookshelf
- class AddingServlet
- class AddServlet
- class Author
- class Bookshelf
- class BrowseServlet
- class ChangeAccountSettingsServlet
- class ChangingAccountSettingsServlet
- class **Data**
- class DatabaseConnectionData
- class DSAServlet
- class EditServlet
- class EdittingServlet
- class HomeServlet
- class ImageServlet
- class LoginServlet
- class NotificationManagementServlet
- class NotificationServlet
- enum PublicationType
- class RegisterServlet
- class RemoveServlet
- class RemovingServlet
- class ReserveServlet
- class ReservingServlet
- class **SearchingResult**
- class SearchServlet

### 4.2.1 Detailed Description

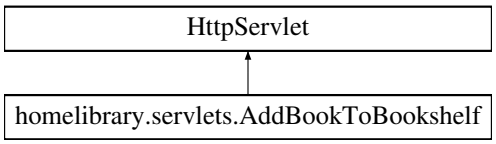
This package contains servlets for the HomeLibrary application.

# Chapter 5

# Class Documentation

## 5.1 homelibrary.servlets.AddBookToBookshelf Class Reference

Inheritance diagram for homelibrary.servlets.AddBookToBookshelf:




**Public Member Functions**

- AddBookToBookshelf ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.1.1 Detailed Description

Servlet for adding a book to a bookshelf.

### 5.1.2 Constructor & Destructor Documentation

#### 5.1.2.1 AddBookToBookshelf()

```
homelibrary.servlets.AddBookToBookshelf.AddBookToBookshelf ()
```

Default constructor.

### 5.1.3 Member Function Documentation

#### 5.1.3.1 doGet()

```
void homelibrary.servlets.AddBookToBookshelf.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.1.3.2 doPost()

```
void homelibrary.servlets.AddBookToBookshelf.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.1.3.3 getServletInfo()

```
String homelibrary.servlets.AddBookToBookshelf.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.1.3.4 processRequest()

```
void homelibrary.servlets.AddBookToBookshelf.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP GET and POST methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

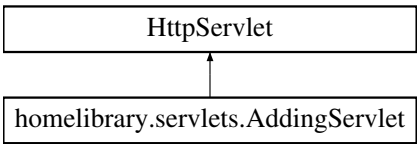
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/AddBookToBookshelf.↩ java

## 5.2 homelibrary.servlets.AddingServlet Class Reference

Inheritance diagram for homelibrary.servlets.AddingServlet:




### Public Member Functions

- AddingServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.2.1 Detailed Description

The servlet executing addition of a book, in response to the site printed by AddServlet.

## 5.2.2 Constructor & Destructor Documentation

### 5.2.2.1 AddingServlet()

```
homelibrary.servlets.AddingServlet.AddingServlet ()
```

Default constructor.

## 5.2.3 Member Function Documentation

### 5.2.3.1 doGet()

```
void homelibrary.servlets.AddingServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.2.3.2 doPost()

```
void homelibrary.servlets.AddingServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.2.3.3 getServletInfo()

```
String homelibrary.servlets.AddingServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.2.3.4 processRequest()

```
void homelibrary.servlets.AddingServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Adds a book to the database. In case of success, redirects to BrowseServlet. Otherwise, adds errors as request attribute and redirects back to AddServlet.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

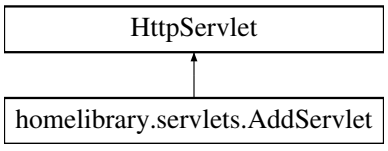
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/AddingServlet.java

## 5.3 homelibrary.servlets.AddServlet Class Reference

Inheritance diagram for homelibrary.servlets.AddServlet:




### Public Member Functions

- AddServlet ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.3.1 Detailed Description

Servlet responsible for preparing the site with form for adding a book.

**Author**

Kay Jay O'Nail

### 5.3.2 Constructor & Destructor Documentation

#### 5.3.2.1 AddServlet()

```
homelibrary.servlets.AddServlet.AddServlet ()
```

Default constructor.

### 5.3.3 Member Function Documentation

#### 5.3.3.1 doGet()

```
void homelibrary.servlets.AddServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.3.3.2 doPost()

```
void homelibrary.servlets.AddServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.3.3.3 getServletInfo()

```
String homelibrary.servlets.AddServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.3.3.4 processRequest()

```
void homelibrary.servlets.AddServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Writes the HMTL site to the response. The site contains a form for adding a book.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/AddServlet.java

## 5.4 homelibrary.servlets.Author Class Reference

### Public Member Functions

- Author (String name, String surname)

**Public Attributes**

- final String name
- final String surname

### 5.4.1 Detailed Description

Class representing an author.

### 5.4.2 Constructor & Destructor Documentation

#### 5.4.2.1 Author()

```
homelibrary.servlets.Author.Author (
            String name,
            String surname)
```

Constructor. Assigns the final values to the properties.

**Parameters**

| | |
|---|---|
| *name* | Name of the author. |
| *surname* | Surname of the author. |

### 5.4.3 Member Data Documentation

#### 5.4.3.1 name

```
final String homelibrary.servlets.Author.name
```

Name of the author.

#### 5.4.3.2 surname

```
final String homelibrary.servlets.Author.surname
```

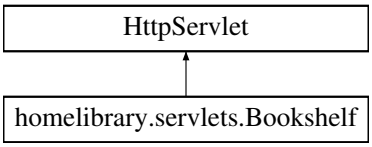
Surname of the author.

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/Author.java

## 5.5 homelibrary.servlets.Bookshelf Class Reference

Inheritance diagram for homelibrary.servlets.Bookshelf:




**Public Member Functions**

- Bookshelf ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.5.1 Detailed Description

Servlet for handling the bookshelf.

### 5.5.2 Constructor & Destructor Documentation

#### 5.5.2.1 Bookshelf()

```
homelibrary.servlets.Bookshelf.Bookshelf ()
```

Default constructor.

### 5.5.3 Member Function Documentation

#### 5.5.3.1 doGet()

```
void homelibrary.servlets.Bookshelf.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.5.3.2 doPost()

```
void homelibrary.servlets.Bookshelf.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.5.3.3 getServletInfo()

```
String homelibrary.servlets.Bookshelf.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.5.3.4 processRequest()

```
void homelibrary.servlets.Bookshelf.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

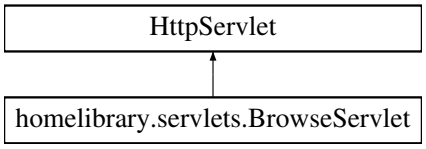
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/Bookshelf.java

## 5.6 homelibrary.servlets.BrowseServlet Class Reference

Inheritance diagram for homelibrary.servlets.BrowseServlet:




### Public Member Functions

- BrowseServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.6.1 Detailed Description

Servlet that prints the site with the collection of the user's publications and provides links to other pages.

## 5.6.2 Constructor & Destructor Documentation

### 5.6.2.1 BrowseServlet()

```
homelibrary.servlets.BrowseServlet.BrowseServlet ()
```

Default constructor.

## 5.6.3 Member Function Documentation

### 5.6.3.1 doGet()

```
void homelibrary.servlets.BrowseServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.6.3.2 doPost()

```
void homelibrary.servlets.BrowseServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.6.3.3 getServletInfo()

```
String homelibrary.servlets.BrowseServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.6.3.4 processRequest()

```
void homelibrary.servlets.BrowseServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Prints the site with the collection of the user's publications and provides links to other pages.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

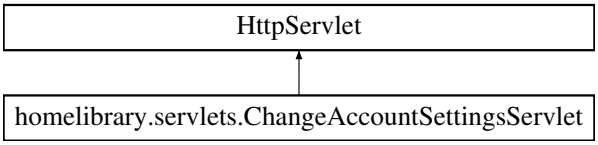
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/BrowseServlet.java

## 5.7 homelibrary.servlets.ChangeAccountSettingsServlet Class Reference

Inheritance diagram for homelibrary.servlets.ChangeAccountSettingsServlet:




### Public Member Functions

- ChangeAccountSettingsServlet ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

## 5.7.1 Detailed Description

Servlet that prepares the page for changing settings of the user's account.

## 5.7.2 Constructor & Destructor Documentation

### 5.7.2.1 ChangeAccountSettingsServlet()

```
homelibrary.servlets.ChangeAccountSettingsServlet.ChangeAccountSettingsServlet ()
```

Default constructor.

## 5.7.3 Member Function Documentation

### 5.7.3.1 doGet()

```
void homelibrary.servlets.ChangeAccountSettingsServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.7.3.2 doPost()

```
void homelibrary.servlets.ChangeAccountSettingsServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.7.3.3 getServletInfo()

```
String homelibrary.servlets.ChangeAccountSettingsServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.7.3.4 processRequest()

```
void homelibrary.servlets.ChangeAccountSettingsServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Writes the page for changing account settings.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

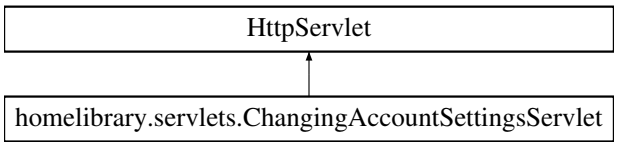
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/ChangeAccount↩ SettingsServlet.java

## 5.8 homelibrary.servlets.ChangingAccountSettingsServlet Class Reference

Inheritance diagram for homelibrary.servlets.ChangingAccountSettingsServlet:




### Public Member Functions

- ChangingAccountSettingsServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.8.1 Detailed Description

Servlet that executes the change of the user's account settings.

### 5.8.2 Constructor & Destructor Documentation

#### 5.8.2.1 ChangingAccountSettingsServlet()

```
homelibrary.servlets.ChangingAccountSettingsServlet.ChangingAccountSettingsServlet ()
```

Default constructor.

### 5.8.3 Member Function Documentation

#### 5.8.3.1 doGet()

```
void homelibrary.servlets.ChangingAccountSettingsServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.8.3.2 doPost()

```
void homelibrary.servlets.ChangingAccountSettingsServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.8.3.3 getServletInfo()

```
String homelibrary.servlets.ChangingAccountSettingsServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.8.3.4 processRequest()

```
void homelibrary.servlets.ChangingAccountSettingsServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Connects with the database and updates the data that are required to be changed.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/ChangingAccount↩ SettingsServlet.java

## 5.9 homelibrary.servlets.DatabaseConnectionData Class Reference

**Public Member Functions**

- DatabaseConnectionData ()

**Static Public Attributes**

- static final String DATABASE_URL = "jdbc:postgresql://dsa-sec04.postgres.database.azure.com↩ :5432/home_library"
- static final String DATABASE_USERNAME = "dsa"
- static final String DATABASE_PASSWORD = "b^&!78ieyvcKKzAce4tkNZi4qcrivKsA9@9W4Koms↩ S$$B5yEmoCx#XpJmWSZn2msRxbo^B#toja∗rWipEFDhquDp8rTvtbw7dxMie4%9gYqKTzr%&ht$hB$↩ RXSA4p∗&&"

### 5.9.1 Detailed Description

Class for storing database connection data.

### 5.9.2 Constructor & Destructor Documentation

#### 5.9.2.1 DatabaseConnectionData()

```
homelibrary.servlets.DatabaseConnectionData.DatabaseConnectionData ()
```

Default constructor.

### 5.9.3 Member Data Documentation

#### 5.9.3.1 DATABASE_PASSWORD

```
final String homelibrary.servlets.DatabaseConnectionData.DATABASE_PASSWORD = "b^&!78ieyvcKKz↩
Ace4tkNZi4qcrivKsA9@9W4KomsS$$B5yEmoCx#XpJmWSZn2msRxbo^B#toja*rWipEFDhquDp8rTvtbw7dxMie4%9g↩
YqKTzr%&ht$hB$RXSA4p*&&"  [static]
```

Database password

#### 5.9.3.2 DATABASE_URL

```
final String homelibrary.servlets.DatabaseConnectionData.DATABASE_URL = "jdbc:postgresql↩
://dsa-sec04.postgres.database.azure.com:5432/home_library"  [static]
```

Database URL

#### 5.9.3.3 DATABASE_USERNAME

```
final String homelibrary.servlets.DatabaseConnectionData.DATABASE_USERNAME = "dsa"  [static]
```

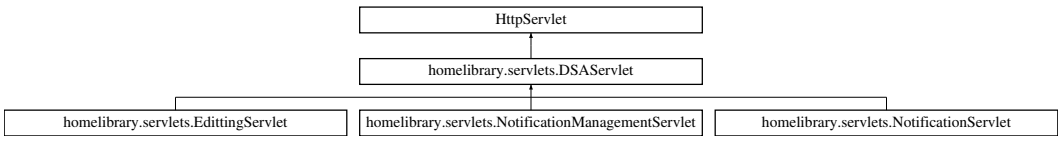
Database username

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/DatabaseConnection↩
  Data.java

## 5.10 homelibrary.servlets.DSAServlet Class Reference

Inheritance diagram for homelibrary.servlets.DSAServlet:




#### Public Member Functions

- DSAServlet ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- String getOwnerId (HttpServletRequest request)
- String getNickname (HttpServletRequest request)
- void executeUpdate (String query) throws SQLException
- ResultSet executeQuery (String query) throws SQLException

## 5.10.1 Detailed Description

Base class for servlets in the application

## 5.10.2 Constructor & Destructor Documentation

### 5.10.2.1 DSAServlet()

```
homelibrary.servlets.DSAServlet.DSAServlet ()
```

Default constructor.

## 5.10.3 Member Function Documentation

### 5.10.3.1 doGet()

```
void homelibrary.servlets.DSAServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.10.3.2 doPost()

```
void homelibrary.servlets.DSAServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.10.3.3 executeQuery()

```
ResultSet homelibrary.servlets.DSAServlet.executeQuery (
            String query) throws SQLException  [protected]
```

Execute a query and return the result set

**Parameters**

| | |
|---|---|
| *query* | the query to execute |

**Returns**

the result set

**Exceptions**

| | |
|---|---|
| *SQLException* | if an error occurs |

#### 5.10.3.4 executeUpdate()

```
void homelibrary.servlets.DSAServlet.executeUpdate (
            String query) throws SQLException  [protected]
```

Execute an update query

**Parameters**

| | |
|---|---|
| *query* | the query to execute |

**Exceptions**

| | |
|---|---|
| *SQLException* | if an error occurs |

#### 5.10.3.5 getNickname()

```
String homelibrary.servlets.DSAServlet.getNickname (
            HttpServletRequest request)  [protected]
```

Get the nickname from the session

**Parameters**

| | |
|---|---|
| *request* | the request object |

**Returns**

the nickname

#### 5.10.3.6 getOwnerId()

```
String homelibrary.servlets.DSAServlet.getOwnerId (
            HttpServletRequest request)  [protected]
```

Get the owner id from the session

**Parameters**

| | |
|---|---|
| *request* | the request object |

**Returns**

the owner id

#### 5.10.3.7 getServletInfo()

```
String homelibrary.servlets.DSAServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.10.3.8 processRequest()

```
void homelibrary.servlets.DSAServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

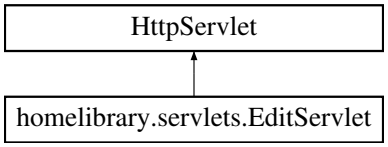
Reimplemented in homelibrary.servlets.EdittingServlet, homelibrary.servlets.NotificationManagementServlet, and homelibrary.servlets.NotificationServlet.

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/DSAServlet.java

## 5.11 homelibrary.servlets.EditServlet Class Reference

Inheritance diagram for homelibrary.servlets.EditServlet:




### Classes

- class **PublicationData**

### Public Member Functions

- EditServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.11.1 Detailed Description

The servlet that writes page for editting a publication.

## 5.11.2 Constructor & Destructor Documentation

### 5.11.2.1 EditServlet()

```
homelibrary.servlets.EditServlet.EditServlet ()
```

Default constructor.

## 5.11.3 Member Function Documentation

### 5.11.3.1 doGet()

```
void homelibrary.servlets.EditServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.11.3.2 doPost()

```
void homelibrary.servlets.EditServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.11.3.3 getServletInfo()

```
String homelibrary.servlets.EditServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.11.3.4 processRequest()

```
void homelibrary.servlets.EditServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Prints the page for editting a publication.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

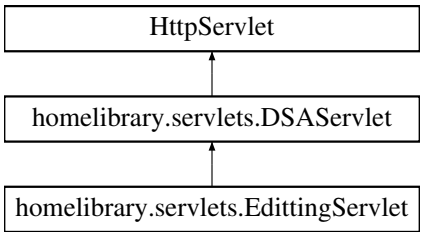
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/EditServlet.java

## 5.12 homelibrary.servlets.EdittingServlet Class Reference

Inheritance diagram for homelibrary.servlets.EdittingServlet:




### Public Member Functions

- EdittingServlet ()

### Public Member Functions inherited from homelibrary.servlets.DSAServlet

- DSAServlet ()
- String getServletInfo ()

#### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException

### Protected Member Functions inherited from homelibrary.servlets.DSAServlet

- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- String getOwnerId (HttpServletRequest request)
- String getNickname (HttpServletRequest request)
- void executeUpdate (String query) throws SQLException
- ResultSet executeQuery (String query) throws SQLException

## 5.12.1 Detailed Description

Servlet for executing the editting of a book.

## 5.12.2 Constructor & Destructor Documentation

### 5.12.2.1 EdittingServlet()

```
homelibrary.servlets.EdittingServlet.EdittingServlet ()
```

Default constructor.

## 5.12.3 Member Function Documentation

### 5.12.3.1 processRequest()

```
void homelibrary.servlets.EdittingServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

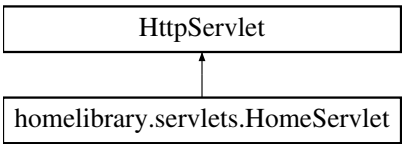
Reimplemented from homelibrary.servlets.DSAServlet.

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/EdittingServlet.java

## 5.13 homelibrary.servlets.HomeServlet Class Reference

Inheritance diagram for homelibrary.servlets.HomeServlet:




**Public Member Functions**

- HomeServlet ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.13.1 Detailed Description

Servlet that prints the homepage.

### 5.13.2 Constructor & Destructor Documentation

#### 5.13.2.1 HomeServlet()

```
homelibrary.servlets.HomeServlet.HomeServlet ()
```

Default constructor.

### 5.13.3 Member Function Documentation

#### 5.13.3.1 doGet()

```
void homelibrary.servlets.HomeServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.13.3.2 doPost()

```
void homelibrary.servlets.HomeServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.13.3.3 getServletInfo()

```
String homelibrary.servlets.HomeServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.13.3.4 processRequest()

```
void homelibrary.servlets.HomeServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Prints the homepage.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

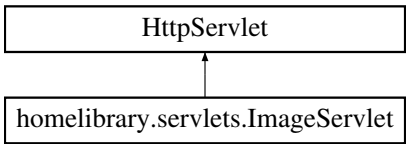
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/HomeServlet.java

## 5.14 homelibrary.servlets.ImageServlet Class Reference

Inheritance diagram for homelibrary.servlets.ImageServlet:




### Public Member Functions

- ImageServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.14.1 Detailed Description

Servlet for handling user's avatar image.

## 5.14.2 Constructor & Destructor Documentation

### 5.14.2.1 ImageServlet()

```
homelibrary.servlets.ImageServlet.ImageServlet ()
```

Default constructor.

## 5.14.3 Member Function Documentation

### 5.14.3.1 doGet()

```
void homelibrary.servlets.ImageServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.14.3.2 doPost()

```
void homelibrary.servlets.ImageServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.14.3.3 getServletInfo()

```
String homelibrary.servlets.ImageServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.14.3.4 processRequest()

```
void homelibrary.servlets.ImageServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/ImageServlet.java

## 5.15 homelibrary.main.resources.JakartaEE10Resource Class Reference

**Public Member Functions**

- JakartaEE10Resource ()
- Response ping ()

### 5.15.1 Detailed Description

Jakarta EE 10 Resource

**Since**

Jakarta EE 10

### 5.15.2 Constructor & Destructor Documentation

#### 5.15.2.1 JakartaEE10Resource()

```
homelibrary.main.resources.JakartaEE10Resource.JakartaEE10Resource ()
```

Default constructor.

### 5.15.3 Member Function Documentation

#### 5.15.3.1 ping()

```
Response homelibrary.main.resources.JakartaEE10Resource.ping ()
```

Ping Jakarta EE

**Returns**

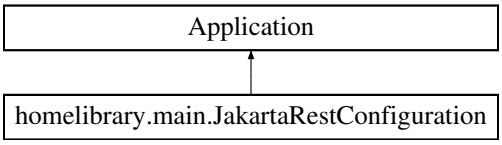
a response

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/main/resources/JakartaEE10↩ Resource.java

## 5.16 homelibrary.main.JakartaRestConfiguration Class Reference

Inheritance diagram for homelibrary.main.JakartaRestConfiguration:




**Public Member Functions**

- JakartaRestConfiguration ()

### 5.16.1 Detailed Description

Configures Jakarta RESTful Web Services for the application.

**Author**

Juneau

### 5.16.2 Constructor & Destructor Documentation

#### 5.16.2.1 JakartaRestConfiguration()

```
homelibrary.main.JakartaRestConfiguration.JakartaRestConfiguration ()
```

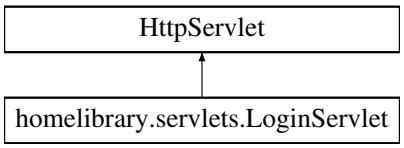
Default constructor.

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/main/JakartaRestConfiguration.↩ java

## 5.17 homelibrary.servlets.LoginServlet Class Reference

Inheritance diagram for homelibrary.servlets.LoginServlet:




#### Public Member Functions

- LoginServlet ()
- String getServletInfo ()

#### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.17.1 Detailed Description

Servlet that

### 5.17.2 Constructor & Destructor Documentation

#### 5.17.2.1 LoginServlet()

```
homelibrary.servlets.LoginServlet.LoginServlet ()
```

Default constructor.

### 5.17.3 Member Function Documentation

#### 5.17.3.1 doGet()

```
void homelibrary.servlets.LoginServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.17.3.2 doPost()

```
void homelibrary.servlets.LoginServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.17.3.3 getServletInfo()

```
String homelibrary.servlets.LoginServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.17.3.4 processRequest()

```
void homelibrary.servlets.LoginServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP GET and POST methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

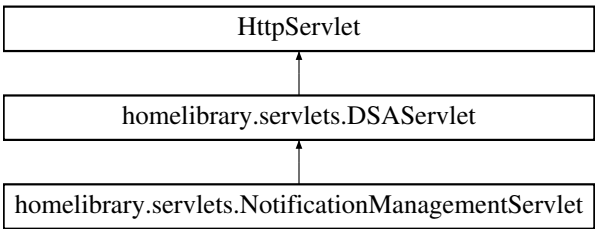
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/LoginServlet.java

## 5.18 homelibrary.servlets.NotificationManagementServlet Class Reference

Inheritance diagram for homelibrary.servlets.NotificationManagementServlet:




### Public Member Functions

- NotificationManagementServlet ()

### Public Member Functions inherited from homelibrary.servlets.DSAServlet

- DSAServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException

### Protected Member Functions inherited from homelibrary.servlets.DSAServlet

- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- String getOwnerId (HttpServletRequest request)
- String getNickname (HttpServletRequest request)
- void executeUpdate (String query) throws SQLException
- ResultSet executeQuery (String query) throws SQLException

## 5.18.1 Detailed Description

Servlet for executing the management of a notification.

## 5.18.2 Constructor & Destructor Documentation

### 5.18.2.1 NotificationManagementServlet()

```
homelibrary.servlets.NotificationManagementServlet.NotificationManagementServlet ()
```

Default constructor.

## 5.18.3 Member Function Documentation

### 5.18.3.1 processRequest()

```
void homelibrary.servlets.NotificationManagementServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP GET and POST methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

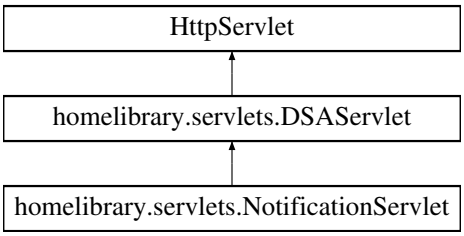
Reimplemented from homelibrary.servlets.DSAServlet.

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/NotificationManagement↩ Servlet.java

## 5.19 homelibrary.servlets.NotificationServlet Class Reference

Inheritance diagram for homelibrary.servlets.NotificationServlet:




#### Public Member Functions

- NotificationServlet ()

### Public Member Functions inherited from homelibrary.servlets.DSAServlet

- DSAServlet ()
- String getServletInfo ()

#### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException

### Protected Member Functions inherited from homelibrary.servlets.DSAServlet

- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- String getOwnerId (HttpServletRequest request)
- String getNickname (HttpServletRequest request)
- void executeUpdate (String query) throws SQLException
- ResultSet executeQuery (String query) throws SQLException

### 5.19.1 Detailed Description

Servlet for managing notifications

### 5.19.2 Constructor & Destructor Documentation

#### 5.19.2.1 NotificationServlet()

```
homelibrary.servlets.NotificationServlet.NotificationServlet ()
```

Default constructor.

### 5.19.3 Member Function Documentation

#### 5.19.3.1 processRequest()

```
void homelibrary.servlets.NotificationServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP GET and POST methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

Reimplemented from homelibrary.servlets.DSAServlet.

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/NotificationServlet.java

## 5.20 homelibrary.servlets.PublicationType Enum Reference

**Public Attributes**

- BOOK
- JOURNAL

### 5.20.1 Detailed Description

Enumeration type representing type of publication.

### 5.20.2 Member Data Documentation

#### 5.20.2.1 BOOK

```
homelibrary.servlets.PublicationType.BOOK
```

Book.

#### 5.20.2.2 JOURNAL

`homelibrary.servlets.PublicationType.JOURNAL`

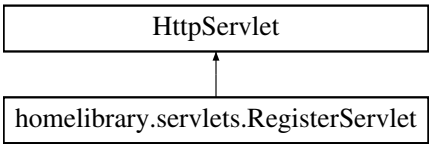
Journal.

The documentation for this enum was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/AddServlet.java

## 5.21 homelibrary.servlets.RegisterServlet Class Reference

Inheritance diagram for homelibrary.servlets.RegisterServlet:




### Public Member Functions

- RegisterServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.21.1 Detailed Description

Servlet for registering a new user

### 5.21.2 Constructor & Destructor Documentation

#### 5.21.2.1 RegisterServlet()

`homelibrary.servlets.RegisterServlet.RegisterServlet ()`

Default constructor.

### 5.21.3 Member Function Documentation

#### 5.21.3.1 doGet()

```
void homelibrary.servlets.RegisterServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.21.3.2 doPost()

```
void homelibrary.servlets.RegisterServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.21.3.3 getServletInfo()

```
String homelibrary.servlets.RegisterServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.21.3.4 processRequest()

```
void homelibrary.servlets.RegisterServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

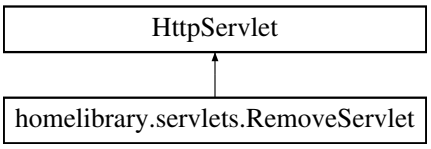
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/RegisterServlet.java

## 5.22 homelibrary.servlets.RemoveServlet Class Reference

Inheritance diagram for homelibrary.servlets.RemoveServlet:




### Public Member Functions

- RemoveServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.22.1 Detailed Description

Servlet for removing a book from the database

## 5.22.2 Constructor & Destructor Documentation

### 5.22.2.1 RemoveServlet()

```
homelibrary.servlets.RemoveServlet.RemoveServlet ()
```

Default constructor.

## 5.22.3 Member Function Documentation

### 5.22.3.1 doGet()

```
void homelibrary.servlets.RemoveServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.22.3.2 doPost()

```
void homelibrary.servlets.RemoveServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.22.3.3 getServletInfo()

```
String homelibrary.servlets.RemoveServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.22.3.4 processRequest()

```
void homelibrary.servlets.RemoveServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

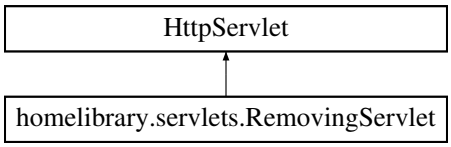
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/RemoveServlet.java

## 5.23 homelibrary.servlets.RemovingServlet Class Reference

Inheritance diagram for homelibrary.servlets.RemovingServlet:




**Public Member Functions**

- RemovingServlet ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

## 5.23.1 Detailed Description

Servlet for executing the removal of a book.

## 5.23.2 Constructor & Destructor Documentation

### 5.23.2.1 RemovingServlet()

```
homelibrary.servlets.RemovingServlet.RemovingServlet ()
```

Default constructor.

## 5.23.3 Member Function Documentation

### 5.23.3.1 doGet()

```
void homelibrary.servlets.RemovingServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.23.3.2 doPost()

```
void homelibrary.servlets.RemovingServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.23.3.3 getServletInfo()

```
String homelibrary.servlets.RemovingServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.23.3.4 processRequest()

```
void homelibrary.servlets.RemovingServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

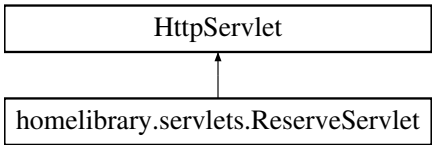
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/RemovingServlet.java

## 5.24 homelibrary.servlets.ReserveServlet Class Reference

Inheritance diagram for homelibrary.servlets.ReserveServlet:




### Classes

- class **PublicationData**

### Public Member Functions

- ReserveServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.24.1 Detailed Description

Servlet for reserving a publication

### 5.24.2 Constructor & Destructor Documentation

#### 5.24.2.1 ReserveServlet()

```
homelibrary.servlets.ReserveServlet.ReserveServlet ()
```

Default constructor.

### 5.24.3 Member Function Documentation

#### 5.24.3.1 doGet()

```
void homelibrary.servlets.ReserveServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.24.3.2 doPost()

```
void homelibrary.servlets.ReserveServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.24.3.3 getServletInfo()

```
String homelibrary.servlets.ReserveServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.24.3.4 processRequest()

```
void homelibrary.servlets.ReserveServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

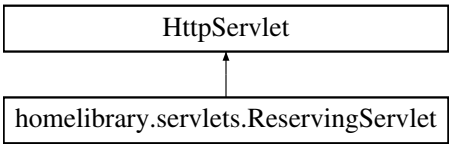
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/ReserveServlet.java

## 5.25 homelibrary.servlets.ReservingServlet Class Reference

Inheritance diagram for homelibrary.servlets.ReservingServlet:




### Public Member Functions

- ReservingServlet ()
- String getServletInfo ()

### Protected Member Functions

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

### 5.25.1 Detailed Description

Servlet for executing the reserving of a publication.

## 5.25.2 Constructor & Destructor Documentation

### 5.25.2.1 ReservingServlet()

```
homelibrary.servlets.ReservingServlet.ReservingServlet ()
```

Default constructor.

## 5.25.3 Member Function Documentation

### 5.25.3.1 doGet()

```
void homelibrary.servlets.ReservingServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.25.3.2 doPost()

```
void homelibrary.servlets.ReservingServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.25.3.3 getServletInfo()

```
String homelibrary.servlets.ReservingServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.25.3.4 processRequest()

```
void homelibrary.servlets.ReservingServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

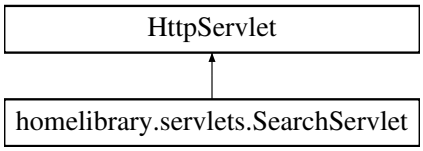
| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/ReservingServlet.java

## 5.26 homelibrary.servlets.SearchServlet Class Reference

Inheritance diagram for homelibrary.servlets.SearchServlet:




### Public Member Functions

- SearchServlet ()
- String getServletInfo ()

**Protected Member Functions**

- void processRequest (HttpServletRequest request, HttpServletResponse response) throws Servlet↩ Exception, IOException
- void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
- void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

## 5.26.1 Detailed Description

Servlet for searching publications.

## 5.26.2 Constructor & Destructor Documentation

### 5.26.2.1 SearchServlet()

```
homelibrary.servlets.SearchServlet.SearchServlet ()
```

Default constructor.

## 5.26.3 Member Function Documentation

### 5.26.3.1 doGet()

```
void homelibrary.servlets.SearchServlet.doGet (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `GET` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

### 5.26.3.2 doPost()

```
void homelibrary.servlets.SearchServlet.doPost (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Handles the HTTP `POST` method.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

#### 5.26.3.3 getServletInfo()

```
String homelibrary.servlets.SearchServlet.getServletInfo ()
```

Returns a short description of the servlet.

**Returns**

a String containing servlet description

#### 5.26.3.4 processRequest()

```
void homelibrary.servlets.SearchServlet.processRequest (
            HttpServletRequest request,
            HttpServletResponse response) throws ServletException, IOException  [protected]
```

Processes requests for both HTTP `GET` and `POST` methods.

**Parameters**

| | |
|---|---|
| *request* | servlet request |
| *response* | servlet response |

**Exceptions**

| | |
|---|---|
| *ServletException* | if a servlet-specific error occurs |
| *IOException* | if an I/O error occurs |

The documentation for this class was generated from the following file:

- C:/Users/user/Git/2024_DSA_S4_GWOZDZ/app/src/main/java/homelibrary/servlets/SearchServlet.java

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