

The application is a digitalized version of *Buku Kas*, a physical book that records the income, expense and balance per each transaction made by a household or company. Its purpose is to monitor the flow of money within the household or company. This application was created to make it easier for everyone to be able to do so without going through the troublesome effort of writing formulas in Excel. The access a User has to the application depends on the level of authorization they have been granted.

[illegible]

Visualization of all the forms below is made possible thanks to Swing GUI. Data storing and reading is done using Text Files.

File and Scanner are used to read text files that contain serial keys for either Operator, Admin or Superadmin, which are then added into their respective ArrayList<String>. File Writers are then used to store username and password into respective text file based on the serial key input. The user can be returned to the Login Form by either pressing the 'LOGIN' button or submitting the registration.

Login Form

File and Scanner are used to read text files that contain account's username and password, which are then put into a `HashMap<String, String>`. An object of type Operator, Admin or Superadmin will then be created and added into their respective `ArrayList`. A valid login detail will allow the user to be brought to the File Form. If no account exists, the user can press the 'REGISTRY' button to be brought to the Registration Form.

File Form

Inside a Scroll Panel and Table, based off an `ArrayList`, all the books available to be opened will be displayed. The user can create a new book by inputting the desired name in a Text Field and pressing the 'New' button. To open an existing file, select a row in the table and press the 'Open' button, which will bring the user to the Kas Form. The first course of action is the same as opening for file renaming and deletion, except the button to be pressed differs.

Kas Form

The list of buttons (Add, Update, Delete, and Clear) available will depend on the current user's rank. The date can be adjusted by using the available Combo Box, and the same goes for the type of transaction: Debit or Credit. As for money and description, they can be written in the Text Fields. When a button is pressed, it will convert the Combo Boxes' selected item and Text Fields' Text into the appropriate data types.

When a new transaction is to be added, it will check whether the `ArrayList<Transaction>` is empty first. If it is not empty, it will first calculate the appropriate number and index for it to be inserted at. Else If it is empty, it will immediately add the transaction to the `ArrayList`. After either course of flow, it will recalculate every transaction's appropriate number and balance before updating the Table.

Staff Form

This Form is exclusively visible to users whose rank is part of Staff (Admin and Superadmin). All users regardless of ranks will be displayed in a Table, based off `ArrayList<User>`, which data is obtained from the same `HashMap` method Login Form used and iterated using for each loop to be added into the `ArrayList`.

After selecting a user's row, there are several choices to be made: Promote, Demote, Ban and Unban. Promotion and Demotion can only occur if the target's next rank or previous rank is lower than the user's rank. Ban and unban can be done when the target's rank is below the user's rank. It does not remove the account, but simply toggle a Boolean value to make login impossible.

References

[Create Login and Registration Forms Using Java, MySQL and IntelliJ IDEA \(With Source Code\)](#)

<https://www.baeldung.com/java-write-to-file>

https://www.w3schools.com/java/java_hashmap.asp

[https://stackoverflow.com/questions/10960213/how-can-i-read-comma-separated-values-from-a-text-file-in-java#:~:text=You%20may%20use%20the%20String,split\(%22%2C%22\)%3B](https://stackoverflow.com/questions/10960213/how-can-i-read-comma-separated-values-from-a-text-file-in-java#:~:text=You%20may%20use%20the%20String,split(%22%2C%22)%3B)

[Java SWING #19 - How to Exit Program on Button Click in Java Netbeans](#)

<https://www.geeksforgeeks.org/java-program-to-rename-a-file/>