# seUsecase 1

## Banking Admin App

### Technologies

* Angular
* Quarkus / Java / Microservices
* Red Hat OpenShift cluster
* RedHat Single Sign-on
* Postgres
* Red Hat AMQ Streams (Apache Kafka)
* Red Hat API Designer (Swagger)
* Red Hat Service Registry
* Red Hat 3scale API Management
* OpenShift Pipelines (CI/CD)

A diagram of a company

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### Features

* Home page / Login screen
  + Use RedHat Single Sign-on (Keycloak) for Authentication and Authorization
  + Login, Logout & Forgot password features.
* Dashboard / Landing page
  + Insights on various metrics
    - Line chart on Year vs Customer count
    - Pie chart on total customer % by City or branch
    - Bar chart on Total Loan products sold by month.
  + Widgets for User account, Savings account, Loan account management
* User Management screen (Name / Email ID /Phone number/Address)
  + Search customer by name / customer id / email / phone
  + CRUD
* Savings Account
  + **Search customer by name / customer id / email / phone**
  + **Create / Read / Update**
  + Approve application/ Reject application / Withdraw application.
  + Activate / Close / Block / Unblock
  + **Withdraw**
  + **Deposit**
  + Post interest payments (Batch?)
  + **Transaction history**
  + **Upload supporting documents.**
* Loan Account
  + **Search customer by name / customer id / email / phone**
  + **CRUD**
  + Calculate Loan schedule.
  + **Approve loan application / Reject loan application.**
  + **Disburse to Savings**
  + **Repayment**
  + **Foreclosure**
  + **Payment history**
  + **Upload supporting documents**.

### API Contract for Reference

<https://fineract.apache.org/docs/legacy/index.html#clients>

### Notes

* Publish data for dashboard insights using Kafka.
* Use cache to store static data like City, State, Branch name and ID.
* Use Reactive programming for DB connection, API calls.

## Epic 1

As a banking application, I would like to have a home page for my banking organization and secure the web application with a Login screen.

### User story 1

As a banking application, I would like to have a home page for my banking organization.

The home page will have a header, body, and a footer section. The home page will open in the browser on invoking the URL https://www.redhatbank.com.

* The header section.
  + A logo image will be shown on the left of the header. On clicking the logo in any screen will redirect the application to the home page.
  + It will have a Sign In buttons on the right of the header.
* The body section.
  + A background image is displayed with text about the bank (Use any image from the internet)
  + 3 widgets (Accounts / Cards / Loans) are shown beneath the background image. Each widget will have some text, icon, and a button. Clicking on button will show up the login popup.
  + See attached home page screenshot for details.
* The footer section.
  + It must be designed like the attached footer section screenshot. Clicking on those icons will take you to a contact us page.
  + The contact us page will have the same above header and footer. The body section will look like the attached contact us page screenshot.

#### Acceptance Criteria

* On invoking the URL <https://www.abcbank.com>, the website is displayed with a header, body, and footer like the attached screenshots.
* All the widgets, icons, images, buttons, and text mentioned in the story description should be available and displayed.
* The website must be responsive and should support 2 layouts (Mobile < 480px; Web > 480px)

### Attachments

A screenshot of a login page

Description automatically generated

**Home Page**

### User story 2

As a banker, I would like to login into the application for using the banking features.

The login page will be shown as a popup by clicking the sign-in button on the header.

* The screen will accept the username (email id), and password as input. A Login button will be placed at the bottom.
* Clicking on the Login button will take the user to the landing screen.

#### Technical Details

* + Use RedHat Single Sign-on (Keycloak) for Authentication and Authorization. Refer <https://github.com/redhat-developer/redhat-sso-quickstarts/blob/7.4.x/app-angular2/README.md>
  + Create an access token and use it for API invocations.

#### Attachments

A screenshot of a login page

Description automatically generated

**Login / Homepage**

#### Acceptance Criteria

* By clicking the Sign In button on the header, the login popup is shown with an icon at the top, and username, a password field, and a Login button.
* Both username and password are mandatory fields. An error message is displayed if there is no input. “Please enter the username and password”.
* The username should be an email field and the standard email validations should be done.
* The password field should be masked. It should accept a minimum of 8 characters as input. It should contain a mix of alphabets, numbers and a $ or @ symbol. The password can start only with an alphabet.
* The website must be responsive and should support 2 layouts (Mobile < 480px; Web > 480px)

#### Prerequisites

* The user credentials must be created in Keycloak beforehand for a successful login.

### User story 3

As a banker, I would like to see a dashboard on successful login.

The dashboard should have the following functionalities by default.

* Insights on below metrics is shown.
  + Line chart on Year vs Customer count
  + Pie chart on total customer % by City or branch
  + Bar chart on Total Loan products sold by month.
  + Widgets for User account, Savings account, Loan account management.
* A button for logout is available at the header on clicking will invalidates the user session and redirects to the home page.
* The page should have both header and footer as the homepage.

### Acceptance Criteria

* On successful login, the landing page should display a dashboard.
* The line chart should show year on the x axis and customer count on the y axis.
* Pie chart should show the total customers in percentage by State.
* The bar chart should show the months on the x axis and the total loan products sold on the y axis for the complete financial year.
* All the three charts are available side to side in the first half of the dashboard.
* The following widgets are available on the second half of the dashboard.
  + User account
  + Savings account
  + Loan account management
* The widgets are clickable and navigate to the corresponding screens.
* Whenever logged in, clicking on the header logo should direct the page control to the dashboard page.

A screenshot of a computer

Description automatically generated

### User story 4

As a banker, I would like to search for and act on a savings account of the customer.

* The savings account page is shown on clicking the Manage button in the Savings Account widget of the dashboard.
* The savings account page shows a Search Customer section and a create button.
* Clicking on the Create button will navigate to the Savings Account creation screen.
* The table will show the latest Savings Account records by default.
* The banker enters the customer name / customer id / customer email / customer phone in the search input and clicks on the search button.
  + The search results come up in a table below the Search section. Otherwise, no results message is displayed.
  + Bankers can move through the search results with the help of the previous and next button at the bottom of the table.
  + Banker can also select how many numbers of results to be show in the search results table using the drop down available before the Previous button.
    - Clicking on the Previous button will fetch the Previous ‘N’ records and display it in the table. If it is already in the first page, the Previous button will be disabled.
    - Clicking on the Next button will fetch the next ‘N’ records and display it in the table. If it is in the last page, the Next button will be disabled.
  + The search results include an Action icon (3 dots) for each row in the table. Clicking on the icon will bring up a menu. The banker can Open the Savings Account details page, approve, or reject an application if it is in applied status, and he can block or unblock a savings account.
    - Clicking the Open button will navigate to the selected Savings Account details page.
    - Clicking on the Approve button will update the status of the selected Savings Account as Active. The Approve button is active only if the selected savings account is in Applied status.
    - Clicking on the Reject button will update the status of the selected Savings Account as Rejected. The Reject button is active only if the selected savings account is in Applied status.
    - Clicking on the Blocked button will update the status of the selected Savings Account as Blocked. The Block button is active only if the selected savings account is in Applied status.
    - Clicking on the Unblock button will update the status of the selected Savings Account as Active. The unblock button is active only if the selected savings account is in Blocked status.
* The application can be in one of the below statuses.
  + Applied (On creation of a new savings account)
  + Active (On clicking of Approved or Unblocked action)
  + Rejected (On clicking of Rejected action)
  + Blocked (On clicking of Blocked action)
  + Closed (On clicking of Closed action in the Savings Account Details page)

A screenshot of a computer

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### User story 5

As a banker, I would like to create a savings account for a customer.

The create savings account opens with the below input fields, on click of the Create action button in the Savings Account search results page.

* The customer ID of the customer is entered in an input field. On moving out of customer ID, the name and mobile of the customer is identified and displayed. If the customer id doesn’t return a result an error message is displayed. “Please enter a valid customer id”.
* The Interest Compounding is a drop-down menu with options Monthly, Quarterly and Annually. Quarterly selected by default.
* The Minimum Opening balance is a drop-down menu with options 1000, 2000, 5000 and 10000. The 5000 option is selected by default.
* A check box selected by default for the Allow Overdraft
* Overdraft Limit is a drop-down menu with options 2000, 5000, 8000 and 10000. The 5000 option is selected by default.
* The banker can upload ID Proof as a JPEG image using the upload button. The file must be a maximum of 1 MB in size and should accept only JPEG format.
* Clicking on the create button will create a savings account for the user. The Savings Account number is shown with a success message, or an error message is shown if the savings account creation fails.

A screenshot of a computer

Description automatically generated

### User story 6

As a banker, I would like to open a savings account details page for a customer.

The banker clicks Open action from the search results of Savings Account screen. The Savings Account Details screen will show up with the below details.

* The Modify section will display the customer id and name of the customer. The banker can update the Allow overdraft and Overdraft limits and click on Modify button to update the savings account configuration.
* The banker can click on Close / Block / Unblock to change the status of the savings account. The Close and Block button is enabled only if the account is in Active status. The Unblock button is enabled only if the account is in blocked status.
* The banker can execute a cash withdrawal or deposit by entering the corresponding amount and clicking the Withdraw or Deposit button. The Withdraw will reduce the requested amount from the customer’s savings account. The Deposit will add the specified amount to the customers' savings account.
* The transaction history of the customer’s savings account is shown in a table with fields Date / Description / Amount / Type / Balance.
  + - The description will show the branch of the banker who made the deposit or withdrawal action.
    - The previous and Next button will allow the banker to navigate through the transaction history. The previous button is disabled in the first page and the next button is disabled in the last page of the table results.

A screenshot of a computer

Description automatically generated

### User story 7

As a banker, I would like to search and manage the customer details.

* The Customer Accounts page is shown on clicking the Manage button in the Customer Accounts widget of the dashboard.
* The Customer Accounts page shows a Search Customer section and a create button.
* Clicking on the Create button will navigate to the Customer Account creation screen.
* The table will show the latest customer records by default.
* The banker enters the customer name / customer id / customer email / customer phone in the search input and clicks on the search button.
  + The search results come up in a table below the Search section. Otherwise, no results message is displayed.
  + Bankers can move through the search results with the help of the previous and next button at the bottom of the table.
  + Banker can also select how many numbers of results to be show in the search results table using the drop down available before the Previous button.
    - Clicking on the Previous button will fetch the Previous ‘N’ records and display it in the table. If it is already in the first page, the Previous button will be disabled.
    - Clicking on the Next button will fetch the next ‘N’ records and display it in the table. If it is in the last page, the Next button will be disabled.
  + The search results include an Action icon (3 dots) for each row in the table. Clicking on the icon will bring up a menu. The banker can Open the Customer Account details page for modification.
    - Clicking the Modify button will navigate to the selected Customer Account details page.

A screenshot of a computer

Description automatically generated

### User story 8

As a banker, I would like to create or modify a customer’s account.

* + - The Modify screen will be shown by clicking Modify in the action menu in the search results of the Customer Accounts screen. It will look like the Create Customer Account screen.
      * The customer ID, first name, last name is prepopulated and disabled. The email ID, phone number and city are editable.
      * The standard email validation is applicable on the email id field.
      * The phone number must be numeric and 10 characters in length.
      * The list of cities will be listed in a drop down and the default value of ‘Select a city’ is displayed.
      * Clicking on the Update button will save the modifications and shows up in the Customer Accounts table.
    - The Create Customer screen will be shown by clicking the Create Customer button in Customer Accounts screen. It will look like the Create Customer Account screen.
      * The First name, Last name, Email ID, Phone number and city are editable input fields.
      * The first name and last name are mandatory and would accept a minimum of 3 characters and maximum of 25 characters as input.
      * The standard email validation is applicable on the email id field.
      * The phone number must be numeric and 10 characters in length.
      * The list of cities will be listed in a drop down and the default value of ‘Select a city’ is displayed.
      * Clicking on the Create button will create the customer account and show up in the Customer Accounts table.

A screenshot of a computer

Description automatically generated

### User story 9

As a banker, I would like to search for and act on a loan account of the customer.

* The Loan Account page is shown on clicking the Manage button in the Loan Accounts widget of the dashboard.
* The loan account page shows a Search Customer section and a create button.
* Clicking on the Create button will navigate to the Loan Accounts creation screen.
* The table will show the latest Loan Account records by default.
* The banker enters the customer name / customer id / customer email / customer phone in the search input and clicks on the search button.
  + The search results come up in a table below the Search section. Otherwise, no results message is displayed.
  + Bankers can move through the search results with the help of the previous and next button at the bottom of the table.
  + Banker can also select how many numbers of results to be show in the search results table using the drop down available before the Previous button.
    - Clicking on the Previous button will fetch the Previous ‘N’ records and display it in the table. If it is already in the first page, the Previous button will be disabled.
    - Clicking on the Next button will fetch the next ‘N’ records and display it in the table. If it is in the last page, the Next button will be disabled.
  + The search results include an Action icon (3 dots) for each row in the table. Clicking on the icon will bring up a menu. The banker can Open the Loan Account details page, approve, or reject a loan application if it is in applied status, and he can withdraw an loan account.
    - Clicking the Open button will navigate to the selected Loan Account details page.
    - Clicking on the Approve button will update the status of the selected Loan Account as Active. The Approve button is active only if the selected savings account is in Applied status.
    - Clicking on the Reject button will update the status of the selected Loan Account as Rejected. The Reject button is active only if the selected loan account is in Applied or Closed status.
    - Clicking on the Withdraw button will update the status of the selected Loan Account as Withdrawn. The Withdraw button is active only if the selected loan account is in Applied status.
* The application can be in one of the below statuses.
  + Applied (On creation of a new loan account)
  + Active (On clicking of Approved action)
  + Rejected (On clicking of Rejected action)
  + Withdrawn (On clicking of Withdraw action)
  + Closed (On clicking of closed button in the Loan Account details page)

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### User story 10

As a banker, I would like to create or modify a loan account for the customer.

* The create loan account popup opens by clicking the Create Loan button in the Loan Accounts page.
  + The create loan account page will take customer id as an input and populates the name and phone number on entering a valid customer id.
  + The loan amount, No of EMIs are taken as mandatory numeric inputs.
  + Clicking on Create button will creates the loan account for the customer
* The modify loan account popup opens by clicking the Modify action button in the search results of the Loan Accounts page.
  + The modify loan account page will show customer id, name, phone number, and loan amount and disabled by default.
  + The No of EMIs are taken as mandatory numeric inputs and can only be greater than the existing EMI.
  + Clicking on Modify button will creates the loan account for the customer.
  + The payment history for the loan account is shown in a table.

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[Internal Banking App - Think Next Batch (adobe.com)](https://xd.adobe.com/view/9c0f4ca0-f0d6-4553-98cb-8f3ac4e98efd-c95c/?fullscreen)