

# ABC Banking Application Use Case

## Use Case Description

The ABC banking application allows users to register, login, perform withdrawals, deposits, and transfer funds between accounts within the same bank. The system's interaction is facilitated through a ReactJS frontend and a Maven Spring Boot backend, with data stored in a relational database.

## UI Screens (ReactJS)

## User Registration

ABC Bank Portal		
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-----		
User Registration		
-----		
First Name:	[_____]	
Last Name:	[_____]	
Age:	[_____]	
Gender:	<input type="checkbox"/> Male	<input type="checkbox"/> Female <input type="checkbox"/> Other

Mobile Number: [_____]		
Email: [_____]		
Bank Branch: [_____]		
(Dropdown/Select Option)		
Account Type: ( ) Savings ( ) Current ( ) Other		
[ Register ]		
-----		
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### Explanation of the Elements:

- **Header:** "ABC Bank Portal" is prominently displayed at the top, indicating the application.
- **Main Section Title:** "User Registration" clearly labels the purpose of the screen.
- **Input Fields:**
  - **First Name:** A text input field for the user's first name.
  - **Last Name:** A text input field for the user's last name.
  - **Age:** A smaller text input field for the user's age (likely expecting a numerical input).
  - **Gender:** Radio buttons allowing the user to select their gender (Male, Female, Other).

- **Mobile Number:** A text input field for the user's mobile phone number.
- **Email:** A text input field for the user's email address.
- **Bank Branch:** A text input field, with a note suggesting it could be implemented as a dropdown or select option for better user experience and data consistency.
- **Account Type:** Radio buttons allowing the user to select the desired account type (Savings, Current, Other).
- **Button:** A "Register" button for the user to submit their registration details.
- **Footer:** The copyright information "© 2025 ABC Bank. All rights reserved." is displayed at the bottom.

### Visual Considerations for a Mock Screen Image:

When creating an actual mock screen image, consider the following:

- **Layout:** Ensure a clean and organized layout with appropriate spacing between elements.
- **Typography:** Use clear and readable fonts for labels and input fields.
- **Input Field Styling:** Use visual cues (borders, placeholders) to indicate interactive elements.
- **Button Styling:** Make the "Register" button visually prominent.
- **Branding:** Incorporate the ABC Bank's color scheme or logo (if available) for a more branded look.
- **Responsiveness (Optional):** If you're aiming for a more advanced mock-up, you could show how the layout might adapt to different screen sizes.

## User Login

---

ABC Bank Portal	
-----	

-----		
	User Login	
-----		
Username / Email: [_____]		
Password: [_____]		
<input type="checkbox"/> Remember Me		
<input type="button" value="Login"/>		
<input type="button" value="Forgot Password?"/>		
Don't have an account? <input type="button" value="Register Here"/>		
-----		
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**Explanation of the Elements:**

- **Header:** Consistent with the registration screen, "ABC Bank Portal" is at the top.
- **Main Section Title:** "User Login" clearly indicates the screen's purpose.
- **Input Fields:**

- **Username / Email:** A single input field that can accept either the user's registered username or their email address. This provides flexibility.
- **Password:** A password input field (typically masking the entered characters with dots or asterisks).
- **Checkbox:** "Remember Me" allows users to stay logged in for future sessions (implementation-dependent).
- **Button:** A prominent "Login" button to submit the login credentials.
- **Links:**
  - **Forgot Password?:** A link to a password recovery or reset process.
  - **Don't have an account? Register Here:** A clear call to action linking to the user registration screen you requested earlier.
- **Footer:** The same copyright information as the registration screen ensures consistency.

### Visual Considerations for a Mock Screen Image:

When creating a visual mock-up of this login screen, consider:

- **Layout:** Keep it clean and simple. Login screens usually have fewer elements.
- **Typography:** Use readable fonts for labels and input fields.
- **Input Field Styling:** Clearly indicate the input areas. The password field should visually suggest it's for sensitive information.
- **Button Styling:** Make the "Login" button the primary focus.
- **Link Styling:** Differentiate the "Forgot Password?" and "Register Here" links visually (e.g., using different colors or underlining).
- **Placement:** Consider the placement of the "Register Here" link. It should be easily noticeable for new users.
- **Branding:** Maintain the ABC Bank's visual identity.

## Withdrawal

add logout on the right top corner

```
-----
|                                     |
|      ABC Bank Portal                |
|      -----                      |
|                                     |
| -----|
| |      Welcome, [User Name]!      | |
| -----|
|                                     |
| <----- Left Navigation -----> | [Logout] | |
| |                                     | |
| | [WITHDRAWAL] (Inactive/Highlighted) | |
| | [Deposit]                        | |
| | [Fund Transfer]                  | |
| |                                     | |
| -----|
|                                     |
| -----|
| |      Withdrawal                  | |
| -----|
|                                     |
| Account To Withdraw From:          | |
| [_____] (Dropdown/Select Account) | |
|                                     | |
| Withdrawal Amount:                 | |
| ₹ [_____]                         | |
```

	[ Withdraw ]		
-----			
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### Changes Made:

- **[Logout] Link:** A "[Logout]" link has been added to the top right corner of the main content area, aligned with the "Welcome, [User Name]!" message.

### Visual Considerations for the Mock Screen Image (Addition):

- **Logout Styling:** Style the "Logout" link in a way that makes it clearly interactive (e.g., using a different color, underlining, or an icon). Its placement in the top right corner is a common convention for logout functionality.
- **Alignment:** Ensure the "Welcome" message and the "Logout" link are visually balanced on the top section.

## Deposit

## Fund Transfer

# H2 Database Schema

## Tables

- Users:
- user\_id INT PRIMARY KEY AUTO\_INCREMENT
- username VARCHAR(50) UNIQUE
- password VARCHAR(255)
- age

- gender
- mobile number
- email

Bank Branch:

- Id
- Branch name
- Branch city
- Ifsc code

Accounts:

account\_id INT PRIMARY KEY AUTO\_INCREMENT

user\_id INT

balance DECIMAL(15, 2)

account type

FOREIGN KEY (user\_id) REFERENCES Users(user\_id)

Transactions:

transaction\_id INT PRIMARY KEY AUTO\_INCREMENT

account\_id INT

type ENUM('withdrawal', 'deposit', 'transfer')

amount DECIMAL(15, 2)

timestamp DATETIME

FOREIGN KEY (account\_id) REFERENCES Accounts(account\_id)

## Sample Insert Statements

```
```sql
```

```
INSERT INTO Users (username, password) VALUES ('john_doe', 'password123');
```

```
INSERT INTO Accounts (user_id, balance) VALUES (1, 5000.00);
```

```
INSERT INTO Transactions (account_id, type, amount, timestamp) VALUES (1, 'deposit', 5000.00, NOW());
```



...

## Maven Spring Boot Webservice

Backend web services (Controller, Service and Repository):

User Service – For User registration and User login functionality

Account Service – For account creation, withdraw, deposit and fund transfer.

Exception handling, return proper error message back to ReactJS UI for user to correct and resubmit any forms/pages.