

USE-CASE - Saving Account Banking System

Title: Designing a Saving Account Banking System with REST API.

Requirements -

The system will have three roles: Customer, Admin, and Super-admin.

Super-admin Privileges:

1. Manage, view, and update Admin roles.
2. Control all customer-related operations.

Admin Privileges:

1. Limited roles with specific branches to manage customers.
2. Create, view, update, and delete customers of particular branches.

Customer Privileges:

1. View their account statement.
2. Create an account (Sign-Up).
3. Individual login with valid details.
4. Deposit money.
5. Withdraw money.
6. View balance.

General Features:

1. Both admin and customer can create their own account specifying their role.
2. Only one super-admin who monitors all admin and customer activities.

In a nutshell,

we're building a Saving Account Banking System with three roles: Super-admin, Admin, and Customer.

Super-admin has all the powers, Admins manage branches, and Customers can do basic banking stuff. We'll start by planning, setting up, and securing the project.

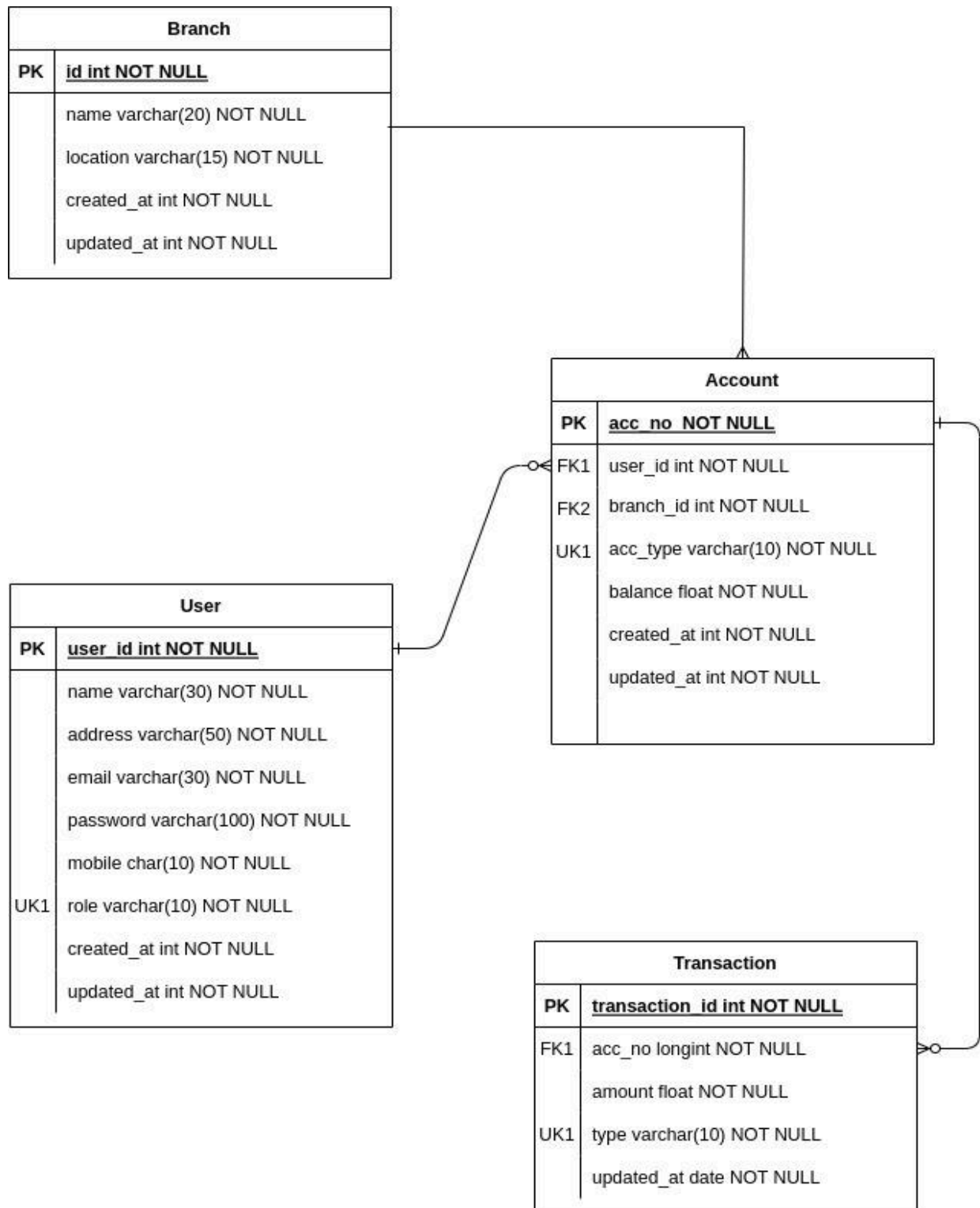
Then, we'll handle logins, signups, and operations for both Admins and Customers. Finally, we'll make sure everything runs smoothly, fix any issues, and thoroughly unit test the whole system.

Following this plan will result in a well-functioning and secure banking application.

Task Breakout Plan-

Sr. No	Day	Task Description
1.	Day-1	Design the DB Schema and API Specs
2.	Day-2	Primary Setup of Project and Overview of JWT Token
3.	Day-3	Login and Signup Activity
4.	Day-4	Customer's CRUD Operation
5.	Day-5	Admin's CRUD Operation
6.	Day-6	Overall Application Flow and Optimize the application
7.	Day-7	End to End Testing

Schema Diagram -



Expected API endpoints

Title	Login API
Description	Login API to get the Authorized token
URL	/login
HTTP method	POST
Auth role type	Super-admin/Admin/Customer
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "email": "sample@gmail.com", "password": "Pass@1008" }</pre>
Success response	<pre>{ "request_id": "1234567890qwertyuiop", "error_code": 0, "error_description": "", "data": { "login_token": "eyJhbGciOiJSUzI1NiIsImtpZCI6Ii5yJhbGciOiJSUzI1NiIsImtpZCI6ImF" } }</pre>
Error response	<pre>{ "request_id": "1234567890qwertyuiop", "error_code": 400, "error_description": "error description", "data": null }</pre>

Sign-Up

Title	Create User Account
Description	Customer can create own Account via Signup
URL	/signup
HTTP method	POST
Auth role type	1.Admin 2.customer
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "name": "Shyam Shinde", "mobile": 9595959595, "email": shyam@gmail.com, "password": "encrypted_password", "address": "FC Road, Shivajinagar, Pune", "role": "customer" }</pre>
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "user_id": "123e45t678765432", "name": "Shyam Shinde", "mobile": 9595959595, "email": shyam@gmail.com, "password": "encrypted_password", "address": "FC Road, Shivajinagar Pune", "role": "customer", } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null } }</pre>

Create Account

Title	Create Account
Description	Customer can create various Account
URL	/account/create
HTTP method	POST
Auth role type	1.Admin 2.customer
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "user_id": 101, "branch_id": 001, "acc_type": "savings", }</pre>
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "user_id": 101, "acc_no": 4455668090, "acc_type": "savings", "branch_id": 001 } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null }</pre>

Deposit Money

Title	Deposit Money in Account
Description	To update the account balance information
URL	/account/deposit/
HTTP method	PUT
Auth role type	customer
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "acc_no": "123456789" "amount": 1000.00, "acc_type": "Saving" }</pre>
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "Current Total Balance": 2000.00 } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null }</pre>

Withdraw Money

Title	Withdraw Money in Account
Description	To update the account balance information
URL	/account/withdraw
HTTP method	PUT
Auth role type	customer
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "acc_no": "123456789", "amount": 1000.00, "acc_type": "Saving", }</pre>
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "Current Total Balance": 1000.00 } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null }</pre>

Delete Account

Title	Delete Account
Description	Delete information of user's Account with valid credentials
URL	/account/delete
HTTP method	DELETE
Auth role type	1.Admin 2.customer
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "acc_no": "123456789", "user_id": "987456321", } }</pre>
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "Msg": "Account Deleted Successfully !!" } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null }</pre>

View Balance

Title	View Money in Account
Description	To View the account balance information
URL	/account/balance
HTTP method	GET
Auth role type	1.customer 2.Admin
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "acc_no": "123456789", "acc_type": "Saving" }</pre>
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "Total Balance": 250000.00 } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null }</pre>

View Account Statement

Title	View Account Statement
Description	To View the account balance information for particular date period
URL	/account/statement
HTTP method	GET
Auth role type	1.customer 2.ADMIN
Path Parameters	N/A
Query Parameters	N/A
Request Body	<pre>{ "acc_no": "123456789", "acc_type": "Saving", "from_date": 05/12/2024, "to_date": 05/02/2024 }</pre>
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "statement": {your_data_of_all_transaction} } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null }</pre>

NOTE :

All above operations can also be performed by Admin as well with valid credentials and proper authorization, authentication BUT for Particular branch only.

View All details at Super-admin level

Title	View details of Accounts
Description	To View the account information with resp user
URL	/superAdmin/getInfo{user_id:"101"}
HTTP method	GET
Auth role type	1.Super-admin
Path Parameters	N/A
Query Parameters	N/A
Request Body	N/A
Success response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 0, "error_description": "", "data": { "Data": "{data_with_respective_filter}" } }</pre>
Error response	<pre>{ "request_id": "123456787654asdfghgfds", "error_code": 400, "error_description": "error description", "data": null }</pre>

Thank You...!!