Online Banking Systems on AWS

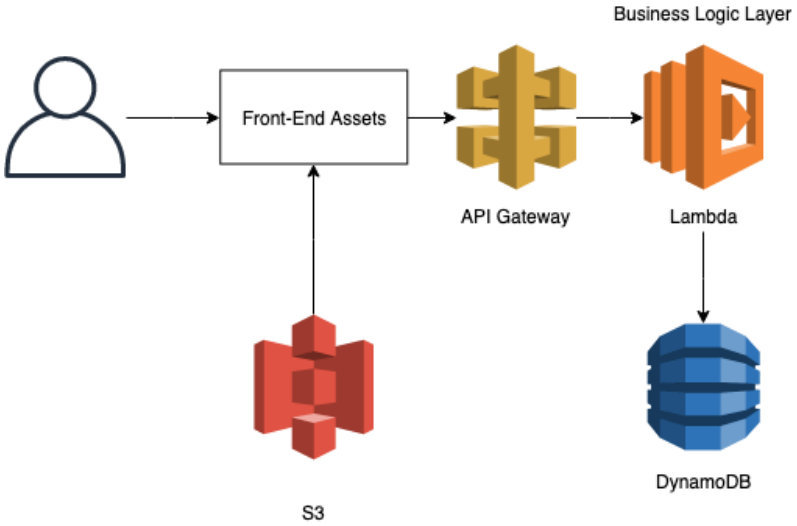
Overview

The purpose of this project is to familiarize students with building modern applications on Cloud Platform. In this project, students will build an online banking system from scratch, including low level design, database schema design, infrastructure setup, implementation, testing and monitoring.

High Level Design

The banking system consists of three major components

- A user front end where customer can sign up, login, make transfers and deposit money.
- A back-end service which handles and process users transactions
- A Database which stores balance, transaction details and audit trail



Use Case

1 Sign-Up, Login

User can access the website and sign up an account. The account data and its credentials should be securely stored in the system database. After sign-up, user can use the credentials to login into the account.

2 Account Summary

After user successfully logins into his account, he should be able to view

- Account balance
- Account Transaction Detail
- Account Actions Audit Trail (e.g. Last login-in time)

3 Transfer Money

User can transfer money to any account that exists in the system.

4 Deposit Money

User can deposit money into its bank account. Based on the scope of this project, the deposition of the money will not be real. We could use an offline deposition model, where user submit a deposition request and system owner verifies the request, then whether approve it or deny it.

Next Step

1. Low Level Design

Including,

- System Architecture Design
- UI Mock-up
- Service API designs
- Database Schema Design

Things to notice,

- We need to make sure all transactions have ACID properties
- We need to make sure all data are stored and transmitted securely (at least needs to be encrypted)