Online Banking System Report

1. Introduction

1.1 Overview

The Online Banking System is a robust Java-based application designed to facilitate a seamless and secure online banking experience for users. Developed using Java and JDBC, this system incorporates key features essential for modern banking operations, including account balance inquiries, fund transfers, and transaction history tracking.

1.2 Purpose

The primary purpose of this project is to showcase the application of Java programming language and JDBC (Java Database Connectivity) in developing an efficient and user-friendly online banking platform. By implementing key banking functionalities, the system aims to provide a practical example of how technology can enhance and simplify financial transactions.

1.3 Scope

This system covers essential banking operations, including account balance inquiries, fund transfers, and transaction history.

1.4 Target Audience

- Developers
- Future contributors
- End-users

2. System Architecture

2.1 High-level Architecture

The system follows a three-tier architecture, consisting of the presentation layer (User Interface (Console)), application layer (Java JDBC Application), and data layer (Oracle Database). This architecture ensures a clear separation of concerns, making the system modular and scalable.

2.2 Key Components

- Java Application: The core of the system responsible for implementing banking functionalities.
- Oracle Database: A secure and reliable database management system for data storage.
- JDBC: Facilitates seamless connectivity between the Java application and the Oracle Database.

2.3 Technologies Used

- Java 16 SE
- JDBC 4

- Oracle Database 19c

3. Database Design

3.1 Database Schema

Bankcust : To store data of customer

```
Name                                      Null?    Type
----------------------------------------- -------- ----------------------------
ACCNO                                     NOT NULL NUMBER(38)
CUSTNAME                                  NOT NULL VARCHAR2(255)
USERNAME                                  NOT NULL VARCHAR2(20)
PASSWORD                                  NOT NULL VARCHAR2(8)
ACCBAL                                    NOT NULL NUMBER
```

Transaction : To store transaction history

```
Name                                      Null?    Type
----------------------------------------- -------- ----------------------------
USERNAME                                           VARCHAR2(20)
TRANTYPE                                           VARCHAR2(10)
AMOUNT                                             NUMBER
TDATE                                              VARCHAR2(15)
```

4. Features

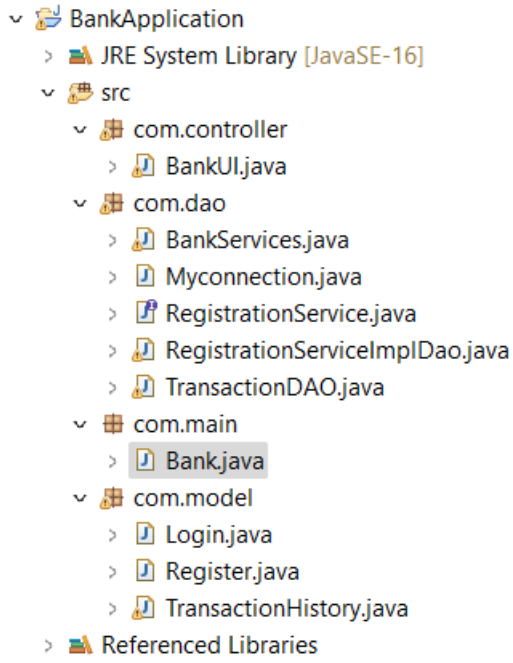
- **Account Balance Inquiry**
  Users can check their account balances with ease, providing them with real-time financial information.
- **Fund Transfers**
  The system allows users to transfer funds between accounts securely, ensuring accurate and timely transactions.
- **Transaction History**
  Users can view a comprehensive transaction history, providing insights into their financial activities.

5. Implementation

5.1 Technology Stack

- Java
- JDBC
- Oracle Database

5.2 Project Structure



5.3 Classes and Modules

5.3.1 Register.java

Basic structure for user-registration data.

5.3.2 Login.java

Basic structure for login .

5.3.3 TransactionHistory.java

Handles transaction details.

5.3.4 BankServices.java ,RegistrationServicesImplDa.java, TransactionDao.java

Data access objects for interacting with the database.

5.3.5 BankUI.java

Implements banking services such as balance inquiry, fund transfer, and transaction history.

5.3.6 MyConnection.java

Provides database connectivity.

5.3.7 Bank.java

This class has main method

6. Output

```
--------------------------------------------------------------------------------
                Welcome to Bank
--------------------------------------------------------------------------------
1.Register
2.Login
3. Exit
Enter your choice
1
Enter Account no.:
1200
Enter Customer name:
Arjun Nanaware
Enter User ID:
arjun12
Enter Password:
arjun@20
Enter Account balance:
50000
You have registered successfully
--------------------------------------------------------------------------------
                Welcome to Bank
--------------------------------------------------------------------------------
1.Register
2.Login
3. Exit
Enter your choice
2
Enter User ID:
arjun12
Enter Password:
arjun@20
Login Successfully
```

```
------------------------------------------------------------------
                Welcome arjun12
------------------------------------------------------------------

1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
1
Enter Amount you want to deposit:
5000
Amount credited successfully

1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
4
Your current balance is : 55000.0


1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
2
Enter amount you want to debit :
3000
 Amount Debited successfully

1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
4
Your current balance is : 52000.0
```

```
1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
3
Enter username of receiver :
Arti12
Enter Amount :
3000
 Transaction Successful

1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
4
Your current balance is : 49000.0

1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
5
-----------------------------------------------------------------
Transaction Type  Amount                Date
-----------------------------------------------------------------
Credit          5000.0          2024-02-04
Debit           3000.0          2024-02-04
Debit           3000.0          2024-02-04
```

```
1. Credit
2. Debit
3.Money Transfer
4.Show Balance
5.Transaction History
6.Log out
Enter your choice:
6
Log out successfully
-------------------------------------------------------------------------
                Welcome to Bank
-------------------------------------------------------------------------
1.Register
2.Login
3. Exit
Enter your choice
```

7. Conclusion

In concluding the development and implementation of the Java JDBC Online Banking System, it is evident that the project has successfully achieved its objectives.