

CO528 Workshop 2

Users

- Create user (account holder)
- Login (basic auth / JWT later)
- Get all users
- Delete user

Bank Accounts

- Create bank account
- View account details
- View balance

Transactions

- Deposit money
- Withdraw money
- Transfer money between accounts
- View transaction history

User APIs

POST /api/users/register

POST /api/users/login

GET /api/users

DELETE /api/users/{id}

Login (basic now / JWT later)

- **Basic Auth approach:** no dedicated endpoint required (browser/app sends Authorization header)
- **JWT later:**
POST /api/auth/login → returns token

Account APIs

```
POST /api/accounts
```

```
GET /api/accounts/{id}
```

```
GET /api/accounts/user/{userId}
```

Transaction APIs

```
POST /api/transactions/deposit
```

```
POST /api/transactions/withdraw
```

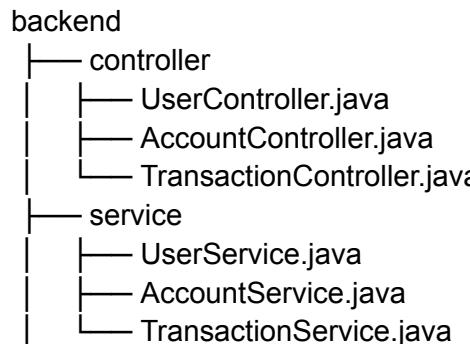
```
POST /api/transactions/transfer
```

```
GET /api/transactions/account/{accountId}
```

DB Entities (high level)

- **User**: id, name, email, passwordHash, createdAt
- **BankAccount**: id, accountNumber, userId, balance, status(ACTIVE/CLOSED), createdAt
- **Transaction**: id, type(DEPOSIT/WITHDRAW/TRANSFER), amount, fromAccountId, toAccountId, timestamp, description

Spring Boot Backend Structure



```
└── repository
    ├── UserRepository.java
    ├── AccountRepository.java
    └── TransactionRepository.java
└── model (Entity)
    ├── User.java
    ├── Account.java
    └── Transaction.java
└── dto
    ├── TransferRequest.java
    ├── DepositRequest.java
    └── WithdrawRequest.java
```

Frontend

```
bank-app-frontend/
├── public/
│   └── index.html
└── src/
    ├── api/
    │   ├── axiosConfig.js
    │   ├── authApi.js
    │   ├── accountApi.js
    │   └── transactionApi.js
    ├── components/
    │   ├── common/
    │   │   ├── Navbar.jsx
    │   │   ├── Footer.jsx
    │   │   └── ProtectedRoute.jsx
    │   ├── accounts/
    │   │   └── AccountCard.jsx
    │   ├── transactions/
    │   │   ├── TransferForm.jsx
    │   │   ├── DepositForm.jsx
    │   │   ├── WithdrawForm.jsx
    │   │   └── TransactionTable.jsx
    └── pages/
        └── Auth/
            └── Login.jsx
```

```
    └── Register.jsx  
    └── Dashboard/  
        └── Dashboard.jsx  
    └── Transactions/  
        ├── TransactionPage.jsx  
        └── TransactionHistory.jsx  
    └── context/  
        └── AuthContext.jsx  
    └── hooks/  
        └── useAuth.js  
    └── utils/  
        └── formatCurrency.js  
    └── App.jsx  
    └── main.jsx  
    └── routes.jsx  
└── package.json  
└── README.md
```