

Functionality:

Uses:

- JDBC
- Networking
- File IO (pdf generation)

Server:

- Authentication of users that login to the system
- Log of logins in DB
- Processing of transactions/validation (allowed with sufficient balance or not)
- Transaction logs in DB (central log)

Client

- Pdf report generation of account statements
- Login
- Registration
- View balance
- Deposit funds
- Withdraw funds
- Transfers between accounts

Database table design:

```
CREATE TABLE user (  
  account_num int PRIMARY KEY AUTO_INCREMENT,  
  first_name varchar(255) NOT NULL,  
  last_name varchar(255) NOT NULL,  
  username varchar(255) NOT NULL,  
  password varchar(255) NOT NULL,  
  balance int NOT NULL DEFAULT 0  
);
```

```
CREATE TABLE transaction (  
  trans_id int PRIMARY KEY AUTO_INCREMENT,  
  account_num int NOT NULL,  
  amount int NOT NULL,  
  type varchar(255) NOT NULL,  
  date date NOT NULL,  
  time time NOT NULL,  
  FOREIGN KEY (account_num) REFERENCES user(account_num)  
);
```

```
CREATE TABLE login (  
  login_id int PRIMARY KEY AUTO_INCREMENT,  
  account_num int NOT NULL,
```

```
date_time timestamp NOT NULL,  
FOREIGN KEY (account_num) REFERENCES user(account_num)  
);
```