Transactions Dispute Portal Project

Project Summary

The **Transactions Dispute Portal** is a comprehensive solution designed to streamline the process of managing and resolving transaction disputes. It provides users with an intuitive interface to view account details, monitor disputable transactions, and initiate disputes efficiently. The portal ensures transparency and accountability by maintaining a complete dispute history, including statuses such as PENDING, APPROVED, or REJECTED.

The system is built using a microservices architecture with **Spring Boot** for backend services (Customer, Payment, and Dispute), and **Angular** for the user interface. **Redis Streams** facilitates real-time event communication between services, while **Docker** ensures seamless deployment and containerized execution of all components.

Key features include:

- Secure login (using JWT) and account overview
- Disputable transaction visibility with dispute initiation
- Real-time dispute status tracking
- Full-cycle dispute management from creation to resolution

How to run and use the application

1. Download the applications from the below bitbucket links:

Customer service: https://bitbucket.org/khayeh253/customer-service/src/master/

Payment service: https://bitbucket.org/khayeh253/payment-service/src/master/

Dispute service: https://bitbucket.org/khayeh253/disputely-dispute-service/src/master/

Disputely UI: https://bitbucket.org/khayeh253/disputely-ui/src/master/

Project infrastructure: https://bitbucket.org/khayeh253/disputely-infrastructure/src/main/

2. Build the applications

Ensure you have docker installed on your machine.

Navigate to the “disputely-infrastructure” directory from the downloaded repositories as shown above; this project contains **docker-compose.yml** file and DB initialization scripts.

Open your command prompt from this path, then run the following docker command:

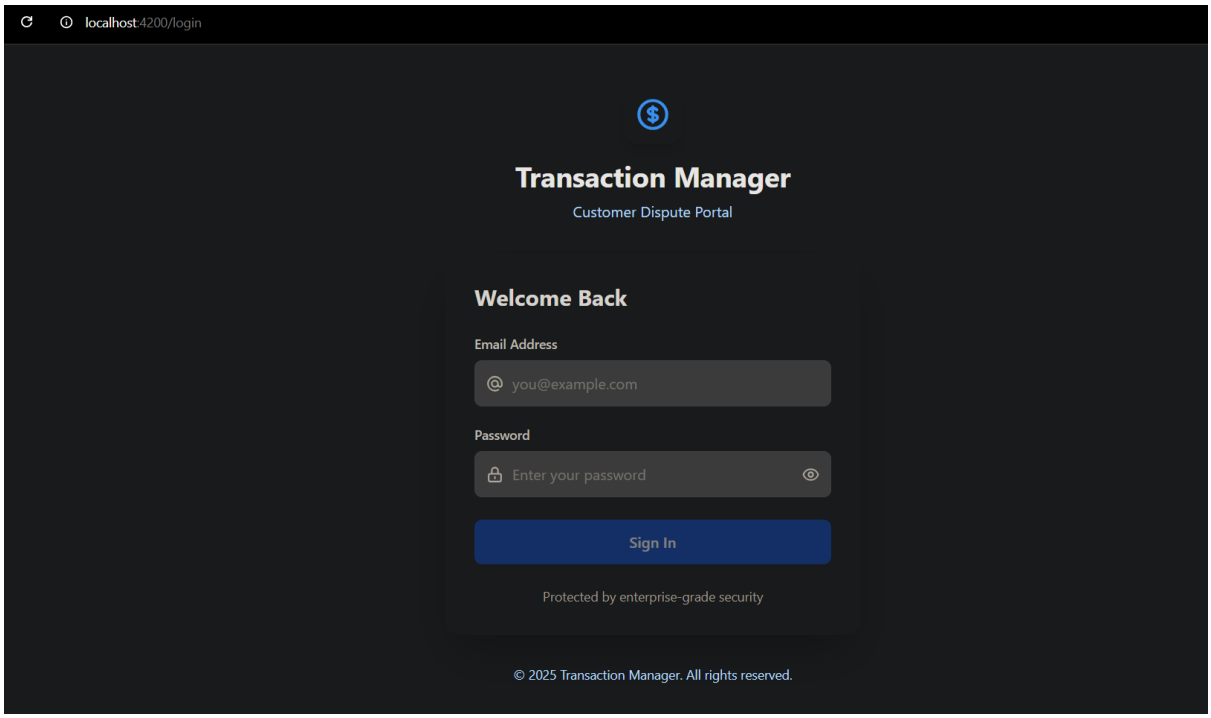
- **docker compose up --build**

This will build and run all the applications for the “**Transactions Dispute Portal**” in the docker container.

3. Accessing and using the application

Open a web browser of your choice, then access the UI using this link: http://localhost:4200/

This will redirect you to the login screen as show on the screenshot below:



You will need to login using the any of the following credentials (created during DB initialization):

Alice Johnson

- username: alice@example.com
- password: password1

Bob Smith

- username: bob@example.com
- password: password2

Carol Lee

- username: carol@example.com
- password: password3

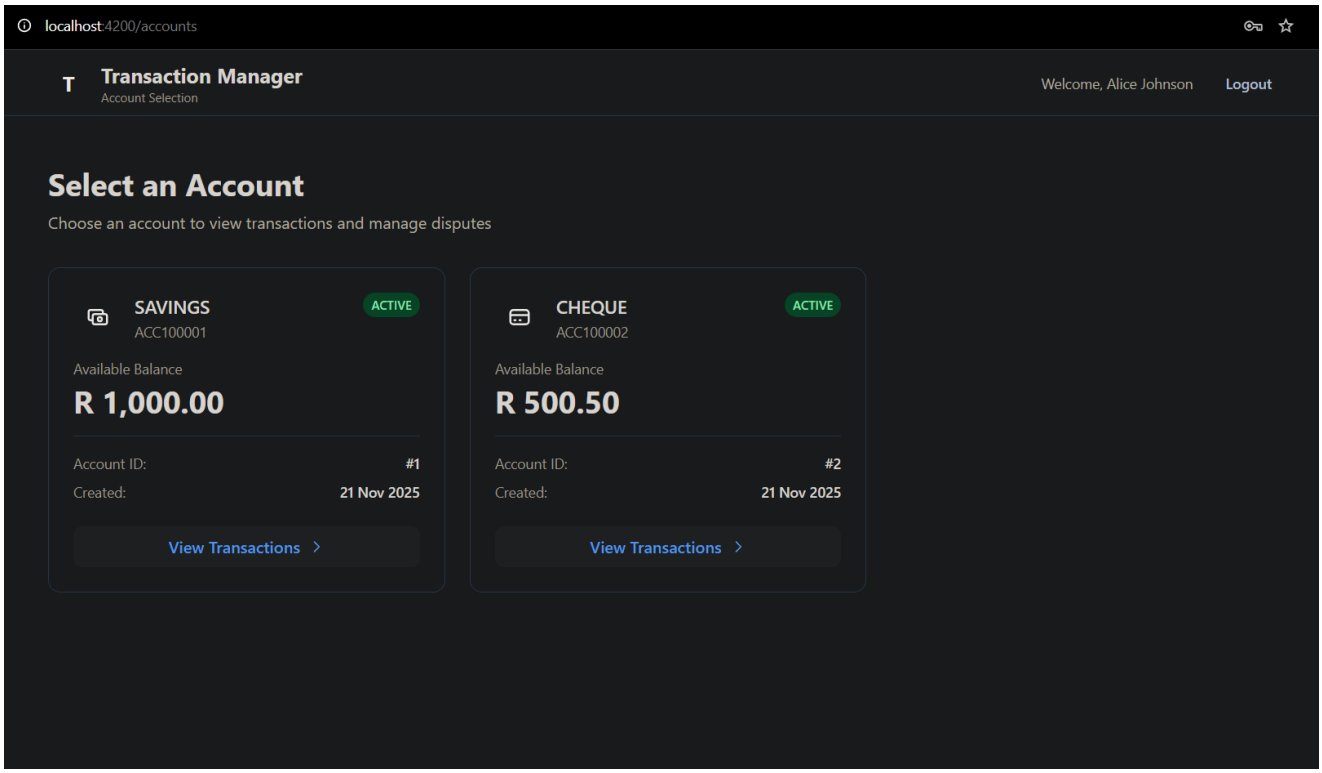
David Brown

- username: david@example.com
- password: password4

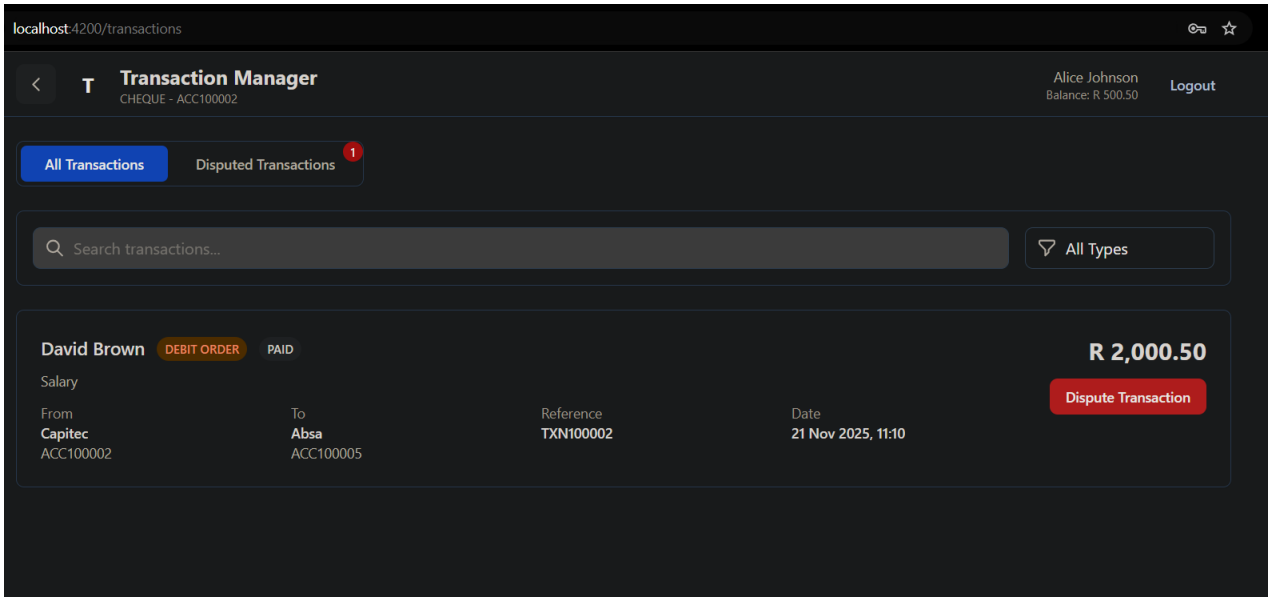
Eve Davis

- username: eve@example.com
- password: password5

Once logged in you will see accounts for the logged in user, and account related information such as account number, balance, account type, etc; see example below:

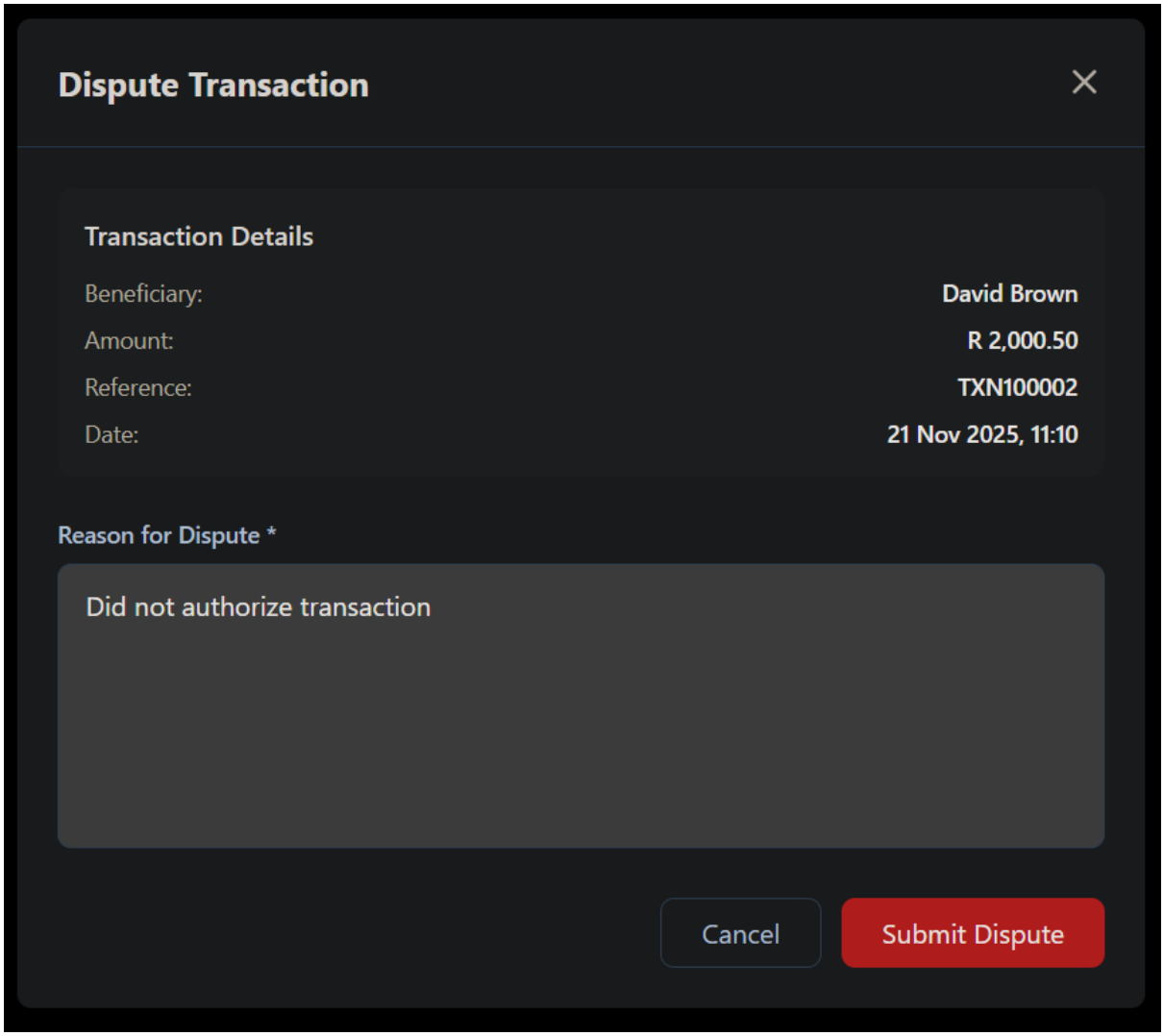


From the accounts shown, you can view account transactions by clicking “View Transactions” on an account. This will show only **disputable transactions** (transactions that have been disputed before are not visible) as well as **dispute history** “Disputed Transactions” tab. See example below:

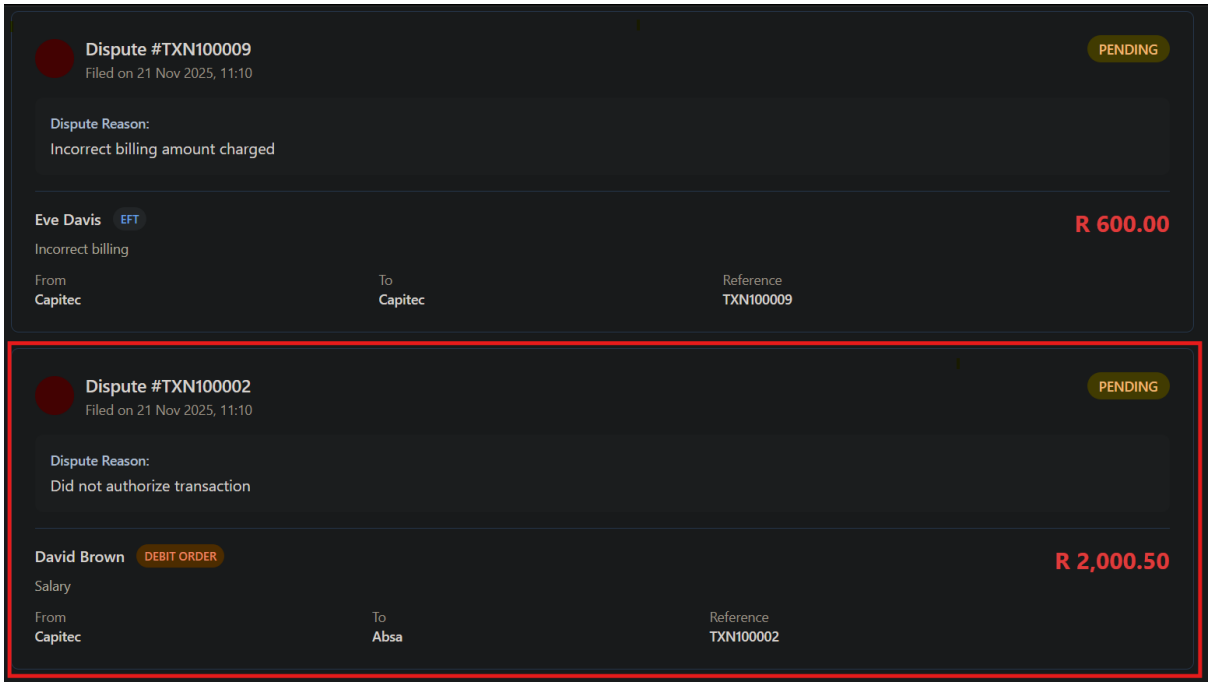


This is where the user can dispute a transaction, by clicking on the “Dispute Transaction” button displayed on each transaction.

After clicking the dispute transaction button, the user will be provided with the below screen where they can enter the dispute reason and submit the dispute; see example below:



This dispute will then be viewable on the dispute history tab (Disputed Transactions), with dispute details such as dispute status (PENDING, APPROVED or REJECTED) as well as disputed transaction details; see example below



This creates a full cycle for creating and managing disputes.

After the user is done they can click on the Logout button on the top right-hand corner to logout.

Key technologies used and their roles

Application specific:

Spring boot: for back-end micro services (customer service, dispute service and payment service)

Angular: for user interface

Redis Streams: for publishing (from dispute service) and consuming (by payment service) dispute creation events.

Infrastructure:

Docker: for deploying and running all the applications and their dependencies.