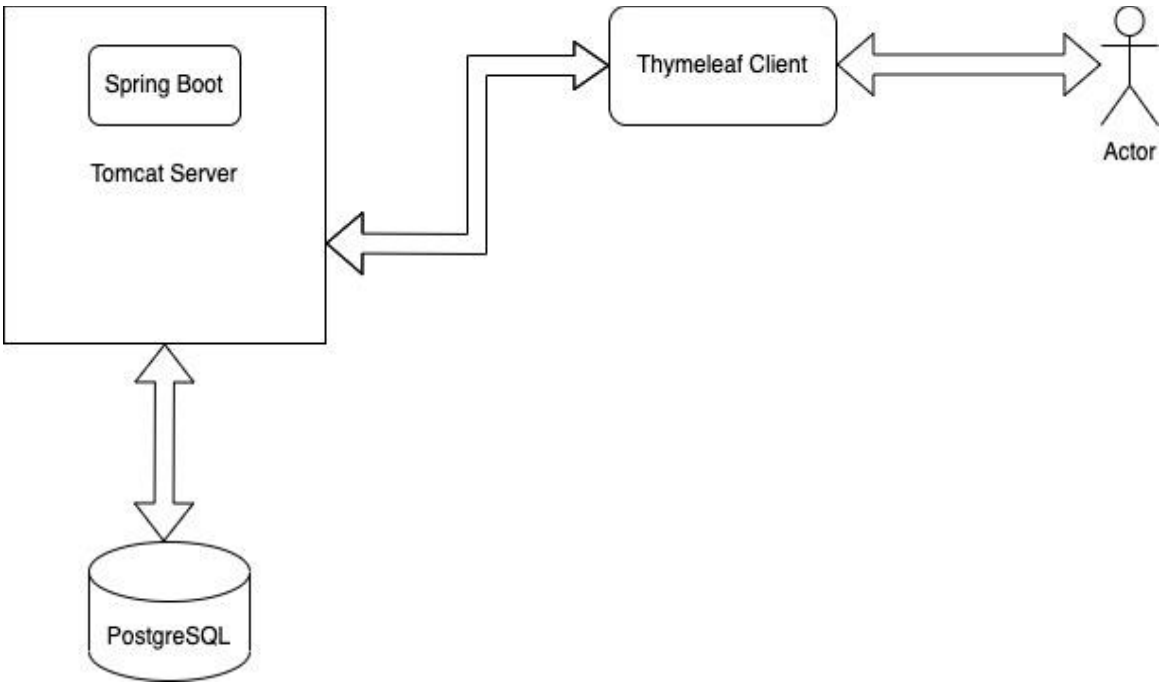
EXPENSES TRACKER

Introduction

With the Expense Tracker System, users can track their credit and debit history along with savings. During the first phase, we implemented only the savings component. When an amount is credited or debited, it is stored in the backend system and can be retrieved as needed. The savings get changed each time a credit/debit transaction is made. An enhancement includes the ability to limit the amount which is specified by the user and when the limit is exceeded, the user will receive a notification.

Design Overview



How to deploy the application:

1. Install Docker from the link based on your system preference.

   https://docs.docker.com/get-docker/

2. You can download the source code and unzip it.
3. Navigate to the parent path of the downloaded source code in Terminal
4. This project uses 5432, 8080 ports on your local system hence ensure these ports are free.
5. To build and deploy the image, run the command
   - docker build –t userexpenes .
   - docker-compose up
6. To see the application running, open a browser and enter http://localhost:8080/userexpenses.

Implementation

Tech stacks used:

Front end: Thymeleaf

Back end: Spring Boot

Database: PostgreSQL

We have used MVC architecture with Spring Boot for the project and defined routes for each of the operation (@GetMapping @PostMapping,...) with corresponding HTTP calls GET,POST,…

For this phase, we have an HTML Page where user can enter their details along with their credit and debit amounts. The savings of the user are calculated at the back-end along with saving their credit and debit details. The details are retrieved whenever required.

Validation

docker-compose.yml | application.properties | Dockerfile | UserExpensesController.java

```java
import org.springframework.stereotype.Controller;

@Controller
public class UserExpensesController {

    private UserExpensesService userExpensesService;

    public UserExpensesController(UserExpensesService userExpensesService) {
        super();
        this.userExpensesService = userExpensesService;
    }

    @GetMapping("/userexpenses")
    public String listUserExpenses(Model model) {
        model.addAttribute("userexpenses", userExpensesService.getListOfUserExpenses());
        return "userexpenses";
    }

    @GetMapping("/userexpenses/new")
    public String createUserForm(Model model) {

        UserExpensesEntity ue = new UserExpensesEntity();
        model.addAttribute("userexpenses", ue);
        return "createuser";

    }

    @PostMapping("/userexpenses")
    public String saveUser(@ModelAttribute("userexpenses") UserExpensesEntity ue) {
```

docker-compose.yml | application.propertie | Dockerfile | UserExpensesController | userexpenses.html

```html
        <a class="nav-link" th:href="@{/userexpenses}">Expenses Tracker</a>
      </li>
    </ul>
  </div>
</nav>
<div class ="container">
        <div class = "row">
            <h1>User Expenses</h1>
        </div>
<div class = "row">
            <div class = "col-lg-3">
                <a th:href = "@{/userexpenses/new}" class = "btn btn-primary btn-sm mb-3"> Add User</a>
            </div>
        </div>

<table class = "table table-striped table-bordered">
            <thead class = "table-dark">
                <tr>
                    <th> User First Name</th>
                    <th> User Last Name</th>
                    <th> User  Email</th>
                    <th> Actions</th>
                    <th> Credit </th>
                    <th> Debit </th>
                    <th> Total Savings </th>

                </tr>
            </thead>
            <tbody>
                <tr th:each = "userexpense: ${userexpenses}">
```

References

https://docs.spring.io/spring-boot/docs/current/reference/htmlsingle/

https://getbootstrap.com/docs/4.0/content/tables/

https://www.thymeleaf.org/documentation.html

https://getbootstrap.com/docs/4.0/components/navbar/