

PI Exchange Spring User System report

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1 Introduction

A multi-tenancy system developed with Spring Boot, Spring Data JPA, JSP and MySQL.

2 Design

2.1 Architecture

Data Persistence \Rightarrow *MySQL + SpringJPA*

FrontEnd \Rightarrow *JSP*

Application \Rightarrow *SpringMVC*

2.2 Tables

3 tables: User, Client and Role. User and Role have many-to-many relationship, this gives more flexibility. A user can have many roles. Client to User is one-to-many relationship, as indicated in the documentation. For now status is just an attribute label that doesn't relate to anything. I defined Type as an aggregate of roles: so a type of a user would be an aggregate of all its roles, and the type of a Client would be an aggregate of all roles that its users have.

2.3 Functionality

Currently just user login, authorisation and registration, listing clients and users can be added easily.

2.4 Security

Password is securely stored with Spring Security.

2.5 Scalability

Not taken into consideration at this stage.

2.6 Version Control

<https://github.com/tengr/SpringUserSystem>

2.7 To do

Add page to list client and users, which should be easy with JpaRepository interface. Other things might include adding a table for user logins and then display some statistics of user logins and registrations.

3 Conclusion

Please note that I only had a day during the weekend to do this. It's not finished.