

Seminar #2

Petr Křemen

1 Goal

You will get experience with JPA, and namely with ORM.

2 Getting Ready

- Ensure you have available the software stack installed during the first lab (PostgreSQL server, PgAdmin, Netbeans 8.2).
- Download ZIP file with project from the seminar pages.
- Open the project in IDE and resolve any warnings/errors in configuration.

The GIT repo <https://gitlab.fel.cvut.cz/ear/reporting-tool-seminars> will contain a branch `WS2017-seminar-2-solution` at the end of the current week, where you can check your solutions.

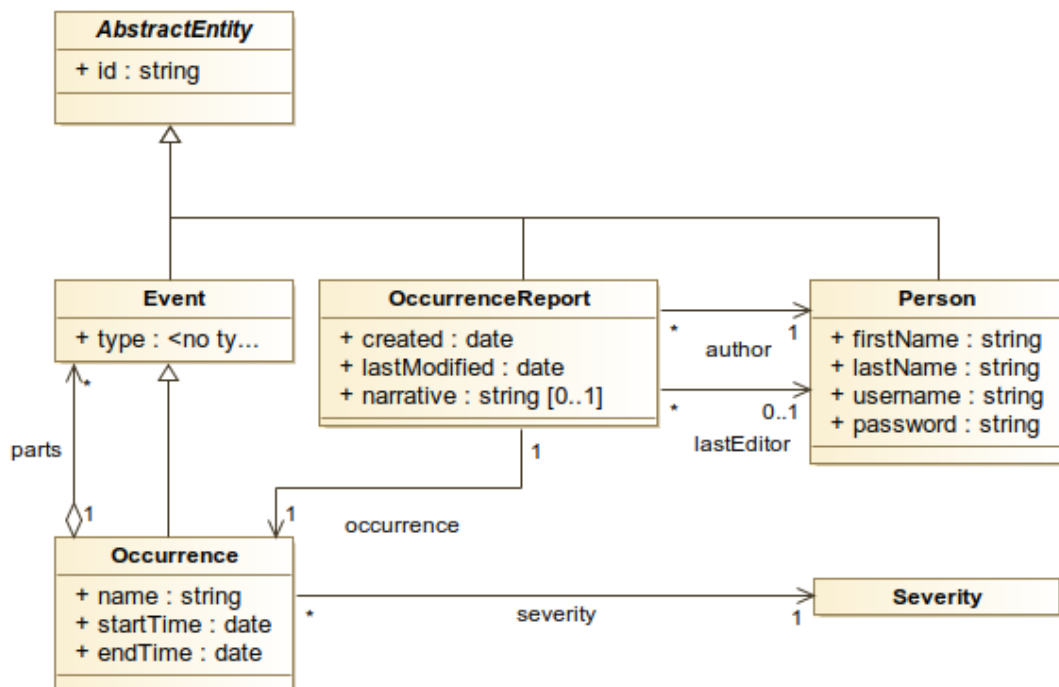
3 Familiarization with the Project

The project is a small and JPA-ized excerpt of a bigger one developed for safety management in the czech aviation industry. The system allows to create safety reports and classify them. The system is based on JPA, Spring, and ReactJS. First, clean and build the project.

Before proceeding, configure database connection (e.g. at your local PostgreSQL server), Also go through the structure of pom.xml, Java sources at src/main/java and resources at src/main/resource.

4 (1pt) Task 1: Repair the project

Try to run the project in Apache Tomcat. The deploy of the project fails. The package `cz.cvut.kbss.reporting.model` contains JPA entities (depicted in the following diagram), but they are broken - some annotations are missing.



Repair the project and make it running by extending the source code (no deletion is necessary) .

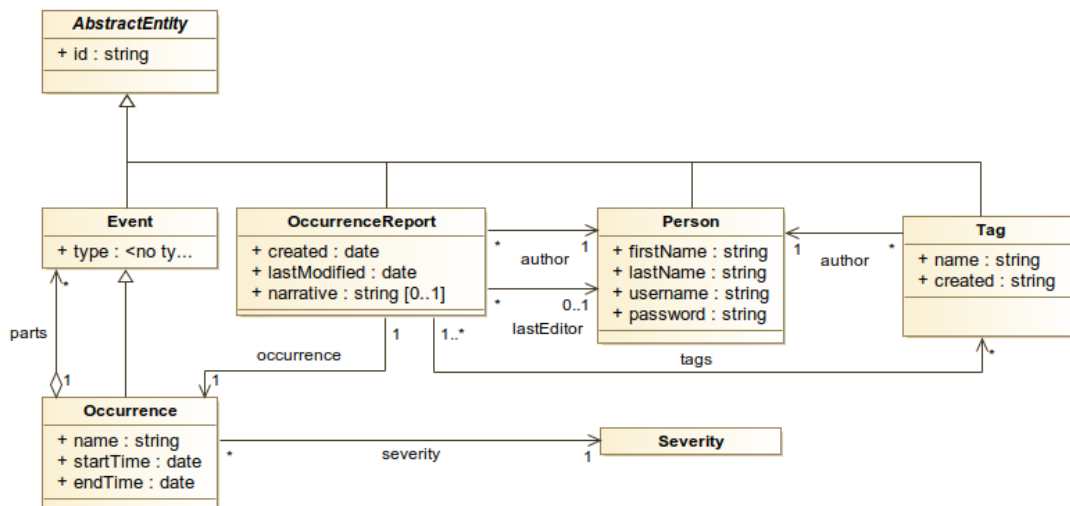
As a reference for available annotations, you can use https://cw.fel.cvut.cz/wiki/_media/courses/b6b33ear/lecture-02-jpa-h.pdf or JPA 2 reference <http://www.objectdb.com/api/java/jpa/annotations>

During this task, you might need some database client to explore the current state of the database. Once you successfully deploy the repaired application, you should be able to see database tables created in the database.

Now, you can safely experiment with the application – create a user account and create a few reports.

5 (2pt) Task 2: Design Tag Model

Your next task would be to extend the JPA model to support report tagging, as shown in the following diagram.



Uncomment all single-line comments in the test classes

- `cz.cvut.kbss.reporting.persistence.dao.TagDaoTest` and
- `cz.cvut.kbss.reporting.environment.Generator`

Extend the model (no deletion is necessary) and make the application compilable and deployable. At the end, the test `TagDaoTest` should succeed.