

Assignment: JPA/Hibernate: Converters, optimistic locking

Goal:

In this assignment, you experiment with converters and optimistic locking.

Instructions:

This assignment deals with just one table depicted below. Add it as an entity in one of your projects, or establish a new project.

Account
-number
-balance

Assignments:

1. Write a converter that transforms a floating point account balance (stored as **double**) into an integer for database persistence. The integer should hold the balance in cents. Thus, the Java instance variable value of 123,45 (**double**) should be stored as integer 12345 in the database. (The goal of storing the balance as an integer is to avoid accumulation of rounding error.) Make **Account** objects, persist them, and verify the correct presentation at the database level.
2. Write a search method into the **Dao** class that retrieves an account's data. Echo the resulting balance on the console and verify that the conversion works correctly also in this direction.
3. Add a method **transfer(int sourceAccountNumber, int destinationAccountNumber, double amount)** that implements a bank transfer and applies optimistic locking (add the version number as an instance variable). Verify that account balances update and their version numbers increase in the database.