

Java Enterprise Edition and Design Patterns

Exercise 7 – The Course Manager

For the rest of the JEE exercises you will realize a bigger enterprise application. The system you will plan and develop in groups, will be used to manage students, courses, groups and deliverables. Your system has to fulfill the following tasks:

- Manage student data including pcn, firstname, lastname, email and cohort
- Manage course data including id, name, description, tutor
- Manage group lists of students
- Manage deliverables, e.g. source code and PDFs

There will be two different kinds of clients. First a webclient for students to attend to courses, take part in groups and deliver documents. And second a Java Swing client for the tutor to view and manage the data and work with the deliverables.

In the last exercises you made up a UML Class diagram containing the EJBs, Entity Beans and Utility Classes needed in the Business Tier of the application. Furthermore you began to implement the application starting with the needed Entity Beans.

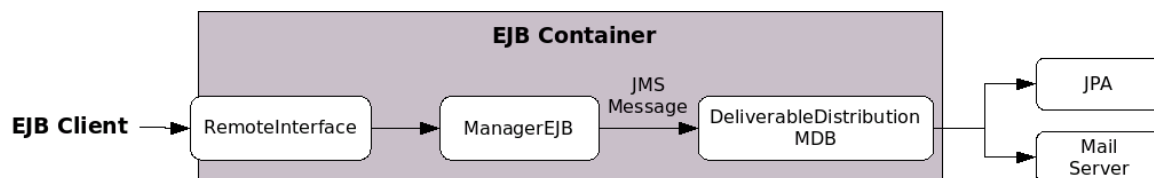


Illustration 1: Message Linking via MDBs

For this exercise have a look at the illustration. It shows how the storage of the deliverables is decoupled from the Manager Session beans you all used in your applications.

- 1) What are the advantages of such a construction in contrast to a solution without MDBs?
- 2) Would you use a topic or a queue for your implementation? What are the differences?
- 3) Adopt this solution in your applications for the student and group deliverables. Update your class diagram. Omit the delivery to the mail server, use the JPA and your existing entity beans instead.
- 4) Implement your Swingclient facade session bean including an authorization mechanism. Furthermore implement the *DeliverablesManager* Bean including the MDB example.

Your deliverables for this exercise are the answers to the questions, a the revised class diagram and the source code of your implementations.

Have fun!