

## **Java Enterprise Edition and Design Patterns**

### **Exercise 2 – EJBs – Architectural Overview**

During the lecture you heard something about the architecture of EJB based JEE applications. In this exercise you will repeat some of the topics. The results will be checked during the next practical lesson.

- 1) As in every technology, it is important to be familiar with the common technical terms used when talking about **JEE**. Describe the following terms briefly in your own words. If you experience problems, use the course book or internet resources to fill the knowledge gaps.

- MDB
- JMS
- Asynchronous communication
- Local Interface
- Annotations
- Business method
- Endpoint Interface
- Bean Class
- Component Interface
- Proxy
- Proxy-stub
- Stateful Session Bean
- Remote method invocation
- Life cycle of an EJB

- 2) Describe the main differences between Session Beans and Message-Driven-Beans.
- 3) Describe the main differences between Stateful- and Stateless Session Beans. Give a typical example for each type.
- 4) Give reasons for the fact that Proxy and Proxy-stub are used by the EJB-container, even if a bean's Local Component Interface is involved.
- 5) Extend the *ArbitraryOracle*-Example from the last exercise, so that it accesses a second **Stateless** Session Bean via it's Local Interface.