

(a) Discuss the pros and cons of using EJB components. Illustrate your answer using the lab exercise. Think about the meaning of an arbitrary EJB on its own, identifying required and provided services, coupling between components, etc. (5 marks)

Object as Components using simple Java classes and EJB.

For example, account is entity bean in the lab exercise. It is Serializable, have a no-arg constructor, have setters/getters for all properties, and it is also indifferent to the order in which setters are invoked. It is not necessary to have any special tools, just follow some conventions. It provides corresponding service based on required service which are various method call and retrieve result from database in this case. Only its interface is exposed to other beans for method call. And it is independent as well as other beans in EJB container.

pros: EJB container does a lot work, saving code. Only various beans need to be implemented based on requirements and business logic. It is loose coupling.

cons: application deployment and environment setting is complicated. There are some constraints using EJB.

(b) Discuss the pros and cons of method call as a composition mechanism. Illustrate your answer using the lab exercise. Think about the result of a composition, the structure of a composition, who performs the composition, etc. (5 marks)

Direct message passing.

pros: By using direct message passing, it makes the workflow simple and ensures the correctness. It also makes the whole application loose coupling.

cons: Some of the function requires multiple calls for direct message passing. For example, `accountFacade.find()` are called under every action method like balance, deposit and withdraw in BANK class. In this case, the effectiveness is reduced.