

Java EE Feedback

Distributed Systems



General

In general, concepts understood.

But recommended to check (🚫 indicates popular errors):

1. Packaging

2. Transport

3. Entities

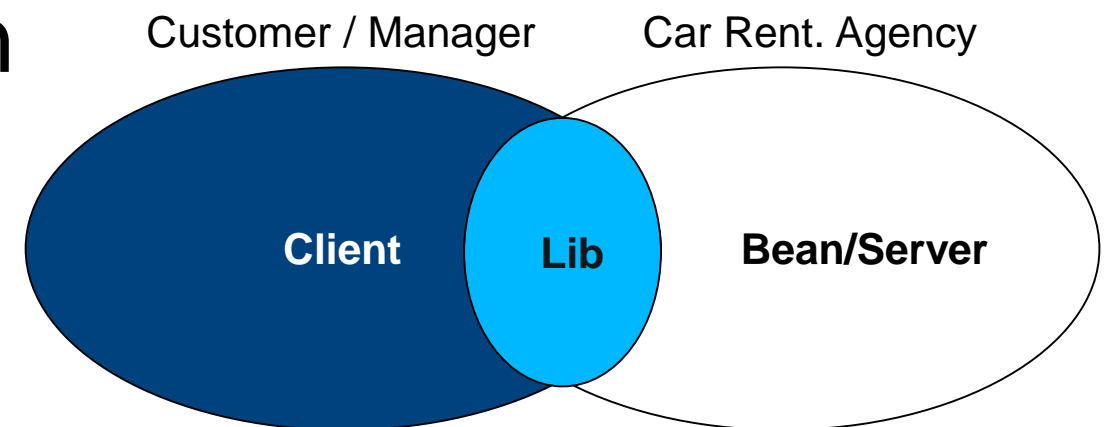
4. Queries

5. Transactions



Packaging

- Projects: Client – Lib– Bean



- Code structure VS. deployment structure



- Project (jar) can be included in multiple deployment units
- e.g. lib project shared by Client and Bean

- Attention points

- Think before you move a class to lib !
- CRC and Car entity


Packaging

■ Input of data

- Move CSV files on the Server 
 - Sharing CRC specific files to the Rental Agency
 - Is hardcoded server data realistic?
- Use ManagerSession interface 
(addCompany, addType, addCar)
 - Additional test on interfaces




Transport



- Entities do not necessarily need to be Serializable 
 - Prevent sending entire Server state
eg. **CarType**; **CarRentalCompany** and **Car**



Entities

- *Who has consulted their DB during the assignment?*
- Understand Relationships:
 - OneToOne, OneToMany, ManyToOne
- CRC *<- ManyToMany ->* CarType is not realistic 
 - but we'll allow it
 - **change price may effects all CRC**

Entities


- Operations on entities
 - can be cascaded to related entities
- Cascade Types: *All, Merge, Persist, Refresh, Remove, Detach*
 - What is the default? (None: {}) 
 - How to remove the Remove attribute? 
`cascade={Merge, Persist, Refresh, Detach}`
`cascade={Persist}`

Entities

- How to solve Reservation – Quote?
 - Quote: @MappedSuperclass
 - Reservation: @Entity
 - (Entity inheritance)



Queries

- Increase *scalability* by limiting *dataflow*
- Use queries to the fullest 
 - **Wrong:**
 - get a list of Companies using a query
 - then iterate over this list in code looking for a specific attribute
- EntityManager.find("key") is allowed



Queries

- **Why Named Queries?**
 - SE-principles
 - Easy(-ier) to maintain
 - Compiled and validated at app start-up time



Transactions

- All or Nothing
 - When / How to rollback?
- Container- vs. BeanManaged
 - Annotations vs. calls
 - By default all methods run in transaction-mode
 - RuntimeException
 - RemoteException
 - EJBException