Enterprise JavaBeans (EJB)

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Overview

- What is EJB?
- Session bean.
- Entity bean.
- Message bean.
- Behind the scene.

What is EJB?

Enterprise JavaBeans is a JavaBean that focuses on performing business logic.

Three kind of EJB:

Session bean: serving client's request.

- Stateful and stateless.

Entity bean, handles information.

Message bean, communicating to other apps through message middleware. Like JMS.

Session bean?

A session is associated to a client in a conversation.

Once the client leaves, the session will be detached from the client.

Two types of session bean:

- Stateful
- Stateless

Stateful session bean?

A stateful session bean ‘remembers’ the history of the on going conversation.

One client – one stateful session bean relationship.

Keep in mind that the conversation is destroyed once the client leaves.

Stateless session bean?

A stateless session bean does not ‘remembers’ the history of the on going conversation.

Since it is stateless, this kind of session bean has no chance of overhead.

An instance of this session bean is capable to handle many clients. The instance is cloned.

Entity bean

An entity bean represents data structure used during client-server conversation.

It is serializable and persistence. We already use it in the form of Hibernate.

The EJB container manages every instance of entity beans and guarantees their state are synchronized to the underlying database.

Entity bean and persistence

Entity beans are meant to be transactional and be stored in the persistent storage.

Container managed persistence: where the container holds the responsibility to handle the data synchronization to the storage.

Bean managed persistence: where the bean itself responsible to the synchronization.

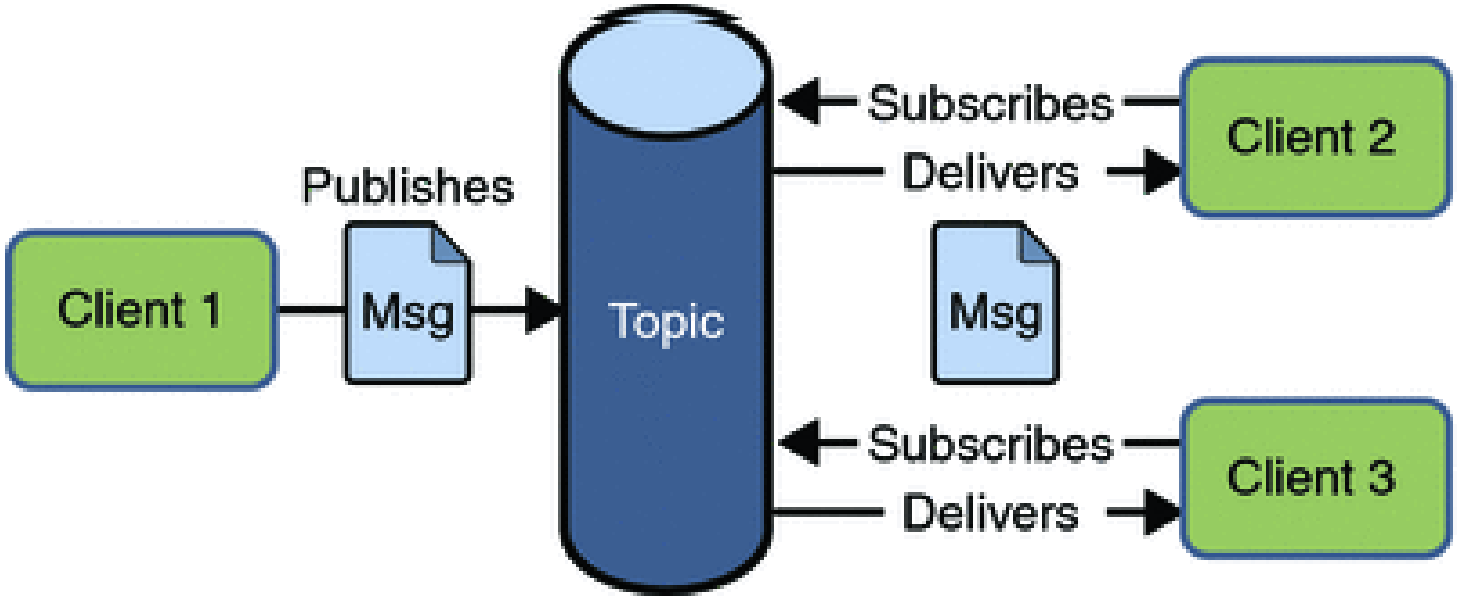
Connection pooling

Setting up connection is resource intensive!

Instead of keep reopening connection, the already opened connections are maintained and pooled. Once the connection is released by a bean, it returns to the pool and becomes available to the next bean transaction.

Message bean

This technology allows the JEE application to send and listen for messages asynchronously through a middleware.



Behind the scene

Remote Method Invocation (RMI) technology.

Java Naming and Directory Interface (JNDI).

Java Database Connectivity (JDBC).

Recaps …

EJB is a distributed mechanism to serve client's requests.

Session bean, Entity bean and message bean.

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