

Transaction Manager

What is it good for

When you hear term "transaction" you will probably mind term ACID

ACID

isolation levels:

BASE transactions

<https://neo4j.com/blog/acid-vs-base-consistency-models-explained/>

Managing transactions in app server

Java SE local transactions

JDBC autocommit:

Implements Java EE spec: JTA (EE 7 - 1.2)

<https://docs.oracle.com/javaee/7/api/javax/transaction/package-summary.html>

Processing 2PC

ACID for multiple transactional resources

XA spec:

XA transaction could be named distributed transaction however we use XA transaction for 2PC processing and distributed transaction is transaction over multiple app servers

Server configuration

Transaction subsystem

Datasources

persistence.xml

JMS subsystem

Resource Adapter

Java EE application and transactions

EJB

BMT

<https://github.com/ochaloup/ts-presentation/blob/master/ts-presentation-jboss/src/main/java/org/jboss/qa/tspresentation/ejb/StatelessBmtBean.java>

BMT does not receive transactional context

Stateful BMT is quite interesting as it could provide share transactional context over several requests

CMT

<https://github.com/ochaloup/ts-presentation/blob/master/ts-presentation-jboss/src/main/java/org/jboss/qa/tspresentation/ejb/TransactionAttributeEjbBean.java>

RuntimeException rollbacks a transaction by default

CDI bean

<https://github.com/ochaloup/ts-presentation/blob/master/ts-presentation-jboss/src/main/java/org/jboss/qa/tspresentation/cdi/TransactionAttributeCdiBean.java>