

Exception Handling in EJB 2.0

Notes:

- Definitions (in the context of EJB)
 - system exception – does not allow the method to successfully complete
 - application exception – does not automatically cause the Container to rollback the transaction
 - checked exception – not a subclass of RuntimeException
- Application Exceptions
 - must be checked exceptions
 - must not subclass RuntimeException/RemoteException
- Txn is short for transaction
- Research?
 - There is a java.lang.IllegalStateException and javax.jms.IllegalStateException
- About the headings:
 - runtime – is this a runtime exception or checked exception?
 - system – is this a system exception or application exception?
 - remote – is this a remote or local exception?
 - who throws this – bean, container, or both?

Exception	Package	Runtime?	System?	Remote?	Parent?	Who throws?	Comments
AccessException	java.rmi	N	Y	Y	RemoteException	Container	Caller does not have permission to call method IIOP: map to NO_PERMISSION 19.5.3
AccessLocalException	javax.ejb	Y	Y	N	EJBException	Container	Caller does not have permission to call method
CreateException	javax.ejb	N	N	N	Exception	Both	Create/postCreate methods 10.5.8.1 ejbCreate/ejbPostCreate methods 10.6.5
DuplicateKeyException		N	N	N	CreateException	Both	Attempt to create duplicate entity 10.5.8.2
EJBException	javax.ejb	Y		N	RuntimeException	Both	Unexpected error 18.4.2 Attempted loopback to local interface, re-entrant false 10.5.11
FinderException	javax.ejb	N	N	N	Exception	Both	Finder methods in home interface 10.5.8.3
IllegalArgumentException	java.lang	Y	Y	N	RuntimeException	Container	Attempt to assign removed entity as value of cmr- field of another object 10.3.4.1 Argument to set accessor not same type as cmr- field 10.3.6
IllegalStateException	java.lang	Y	Y	N	RuntimeException	Container	Access to context methods not allowed 7.6.1 Illegal use of set/getRollbackOnly 7.6.1 Reset primary key value 10.3.6
JMSEException	javax.jms	N		N	Exception	Container	Spec <i>recommends</i> container throw this if EJBs call any of the methods in this section 24.2.6
InvalidTxnException	javax.txn	N	Y	Y	RemoteException	Container	Invalid transaction context IIOP: map to INVALID_TRANSACTION 19.5.3
MarshalException	java.rmi	N	Y	Y	RemoteException	Container	IIOP: map to MARSHAL 19.5.3

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NameNotFoundException	javax.naming	N		N	NamingException	Container	Component not bound to name Invalid EJB attempt to use UserTransaction 20.7
NoSuchEntityException	javax.ejb	Y	Y	N	EJBException	EntityBean	Thrown by ejbLoad/ejbStore; underlying entity removed 18.2.2.1, 18.3.4
NoSuchObjectException	java.rmi	N	Y	Y	RemoteException	Container	Business method cannot complete because EJBObject no longer exists 18.4.2.3 IIOP: map to OBJECT_NOT_EXIST 19.5.3
NoSuchObjectLocalException	javax.ejb	Y	Y	N	EJBException	Container	Business method cannot complete because EJBObject no longer exists 18.4.2.3
NotSupportedException	javax.txn	N		N	Exception		Attempt to start new txn with UserTxn begin() when previous txn not committed 17.6.1
ObjectNotFoundException	javax.ejb	N	N	N	FinderException	Container	Requested object does not exist 10.5.8.4 Used by single finder methods Multi finder methods must not throw 10.5.8.4 Multi finder methods must return null
OperationNotSupported Exception	javax.naming	N		N	NamingException	Container	Container must ensure EJB instances have only read access to their environment variables 20.2.4
RemoteException	java.rmi	N	Y	Y	IOException	Container	General remote exceptions 18.4.2 Deprecated for ejbCreate 7.10.3 Attempted loopback, re-entrant false 10.5.11 IIOP: map to UNKNOWN 19.5.3
RemoveException	javax.ejb	N	N	N	Exception	Both	Remove methods No guarantee that entity was removed 10.5.8.5
RuntimeException	java.lang	Y			Exception		Container not required to implement EJB1.0 env properties. Throw this if not supported 20.6
SecurityException	java.lang	Y	Y	N	RuntimeException	Bean	Security violation Code sample for isCallerInRole() 21.2.5.2
TxnRequiredException	javax.txn	N	Y	Y	RemoteException	Container	Client doesn't have necessary txn context 18.4.2.2 IIOP: map to TXN_REQUIRED 19.5.3
TxnRequiredLocalException	javax.txn	Y	Y	N	EJBException	Container	Client doesn't have necessary txn context 18.4.2.2
TxnRolledBackException	javax.txn	N	Y	Y	RemoteException	Container	Txn marked for rollback 18.4.2.1 IIOP: map to TXN_ROLLEDBACK 19.5.3
TxnRolledBackLocalException	javax.txn	Y	Y	N	EJBException	Container	Txn marked for rollback 18.4.2.1