

The EntityManager API



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Overview



Interfaces and classes for persistence

Methods of the EntityManager interface

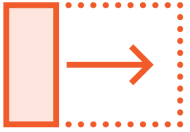
The states of the entity instance

Commit and flush

Application/container managing an EntityManager



What Is an EntityManager?



An interface with methods to interact with the persistence context

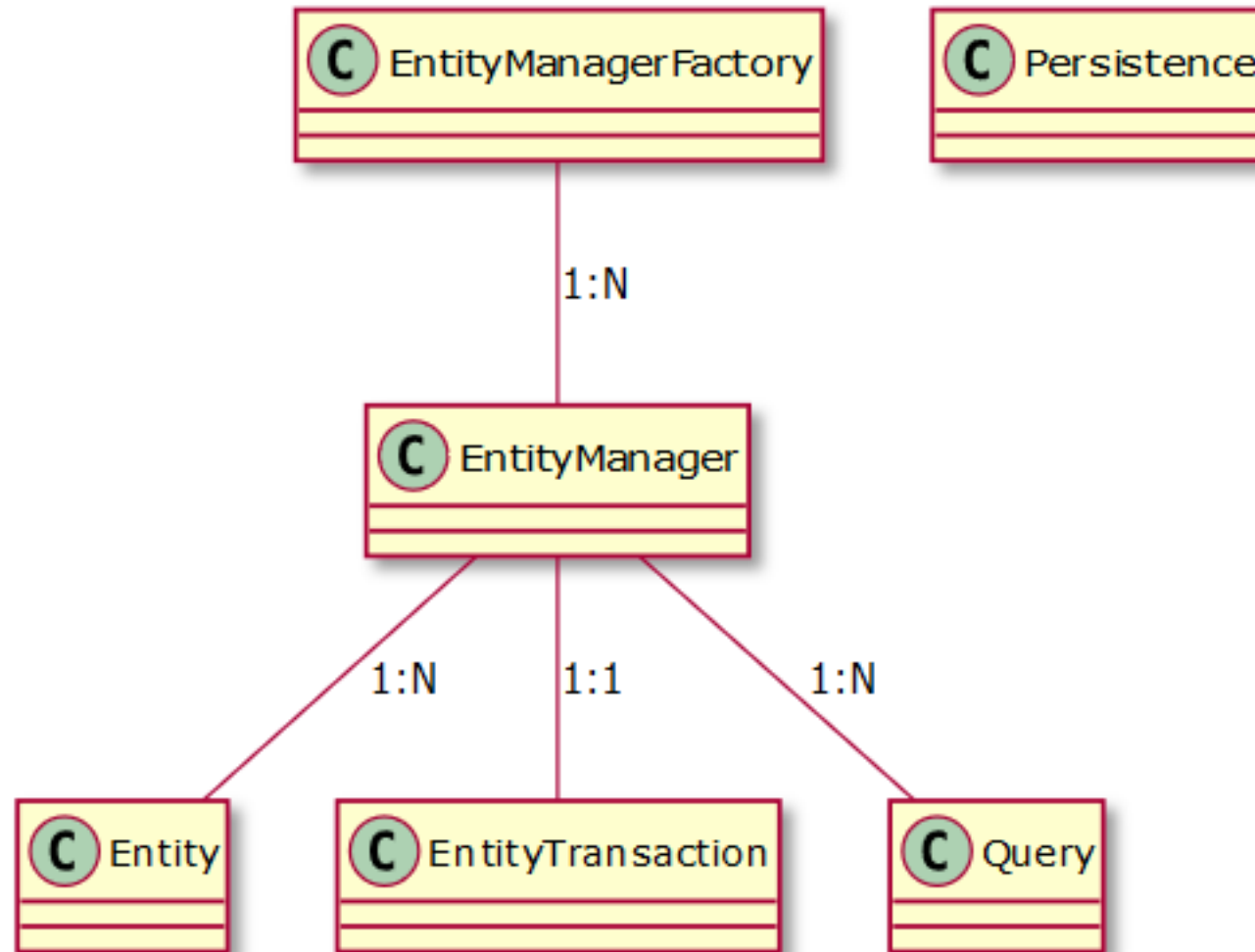


Persistence context



Persistence unit

The Persistence API Classes



Entity States

New

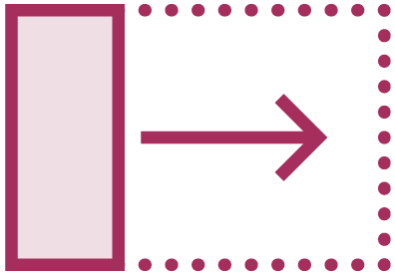
Managed

Removed

Detached



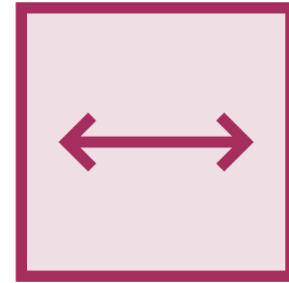
The EntityManager Methods



`persist()`



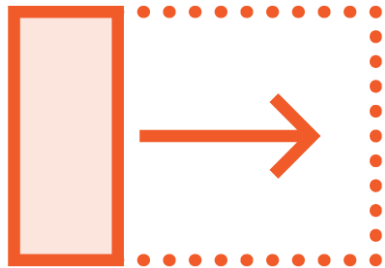
`remove()`



`merge()`



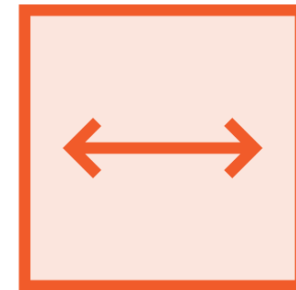
`find()`



`lock()`



`detach()`



`refresh()`

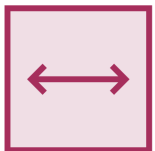
Using the **persist** Method



New => Managed



Managed => Ignored, cascaded to referenced entities



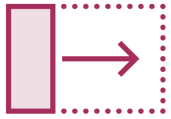
Detached => Exception



Removed => Managed



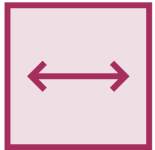
Using the **merge** Method



New => New instance with the same state created



Managed => Ignored, cascaded to referenced entities

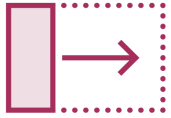


Detached => Existing entity loaded; state merged



Removed => IllegalArgumentException

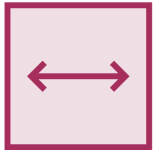
Using the **remove** Method



New => Ignored



Managed => Removed, cascaded to referenced entities

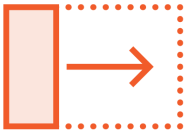


Detached => IllegalArgumentException



Removed => Ignored

Using the **refresh** Method



Managed => Entity reloaded from the database

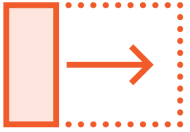


Referenced entities cascaded



New/detached/removed => IllegalArgumentException

Synchronize the Database with **commit** and **flush**



Commit the transaction or flush the operation



`commit` - ends the unit of work, no rollback



`flush` - normal synchronization, no commit

Obtaining an Application-managed EntityManager

EntityManagerFactory
=> EntityManager

Application-managed
EntityManager

Programmatically
control the lifecycle



Obtaining a Container-managed EntityManager

Dependency
injection

Spring Framework

@PersistenceContext



Demo



Application-managed EntityManager



Demo



Container-managed EntityManager



Summary



Interfaces and classes for persistence

Methods of the EntityManager interface

- Persist, remove, merge, find
- Lock, detach, refresh

The states of the entity instance

- New, managed, detached, removed

Commit and flush

Application managing an EntityManager

**Container managing an EntityManager,
using Spring**



Course Summary



ORM and its problems

Working with entities

Entity relationships

Entity inheritance

The EntityManager API



Related Courses

Spring Framework: Spring Fundamentals - Bryan Hansen

Spring with JPA and Hibernate - Bryan Hansen

TDD with JUnit 5 - Cătălin Tudose

