



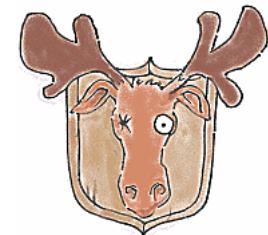
WASHINGTON DC
OCTOBER 15-18, 2012

Effective JPA with Spring

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Who am I

- Remind myself to do this introduction quickly and not bore you.
- Former SpringSource and JBoss employee.
- Still teaches Core Spring, Spring with Hibernate and Enterprise Integration with Spring classes for SpringSource.
- Owner of Perfect World Programming LLC – Training and Consulting
- Sheriff at JavaRanch
- Recovering semi Oracle DBA



Agenda

- Why I wanted to do this talk – again very briefly
- What we will not cover
 - Spring configuration for JPA (Too simple)
 - JPA Mapping/Introduction
- Spring configuration for JPA
- Exception Handling
- Cascade options
- Caching mode
- Flush mode
- Fetching mode
- Spring Data

I had to use the quote slide template, it looked cool

“ Friends don’t let friends write straight JDBC code.

Mark Spritzler

Spring JPA Configuration

- LocalContainerEntityManagerFactoryBean and its packagesToScan property = no persistence.xml needed

spring-jpa-config.xml

```
<bean class="org.springframework.orm.jpa.LocalContainerEntityManagerFactoryBean"  
      id="entityManagerFactory">  
    ... // other properties set here  
    <property name="persistenceUnitName" value="jpa_pu"/>  
    <property name="packagesToScan">  
      <list>  
        <value>com.pwp.domain</value>  
      </list>  
    </property>  
</bean>
```

Exceptions

- JPA throws unchecked JPAException
- Why use Spring's Exception Translation
- Global Exception handling.
 - Use AOP
 - AfterThrowing – if you want to just wrap exception into a global ApplicationException
 - Around – if you want to catch the exception and handle it.

Cascade Options

- Persist, Merge, Remove, Refresh, Detach, ALL
- Affects performance of writes
 - However, ORM might flush writes because of querying. More when we talk about flush modes



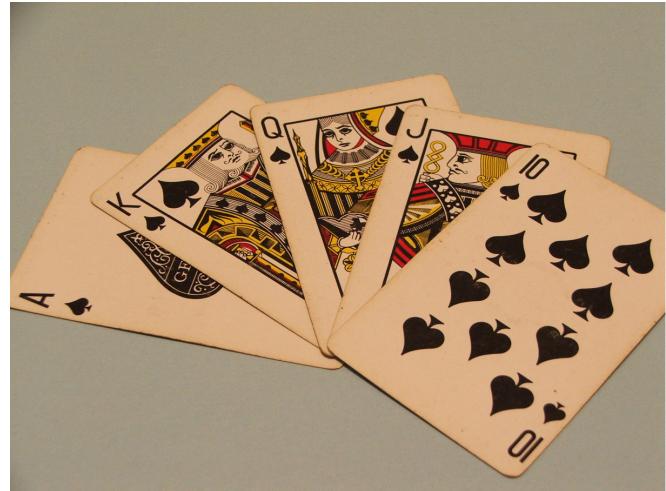
Cache Modes

- First level cache scoped to EntityManager – PersistenceContext
Just a bunch of Maps
- Managing the first level cache - detach
- Should you have a 2nd level cache?
- Spring Cache Abstraction
- ALL, NONE, ENABLE_SELECTIVE,
DISABLE_SELECTIVE,
UNSPECIFIED.
- How will it affect performance?



Flush Modes

- Change Detection
- AUTO, COMMIT
- Spring's Transaction Management
- READ-ONLY Isolation
- How does this affect performance?



Fetch Modes

- find() versus getReference()
- Lazy
 - LazyInitializationException
- Eager
- Any others? (implementation specific)
- OSiV – Anti Pattern!!!!
- Use Case Driven, never mapping
 - Coding choice



Spring Data

- Simplifying your Data Access code to the nth degree
- JDBC Extensions
- Spring Data Commons
- Query DSL
- Spring Data JPA
- Other Spring Data modules for NoSQL Databases.

I decided to use the quote template slide twice

“

If there is a Spring Data module for the database you are using, you should be using it.

Mark Spritzler

Conclusion

- You have to think use case driven.
 - What data does this particular use case need?
 - What fetch, cache, flush mode would work best for this use case?
- Don't make assumptions, think everything through.
- Steep learning curve. You have to have an expert or you lost already.
- There is more than just what we talked about.
- Spring Data should be your best friend.
- Now you also have to think for that data, what type of datastore should be used.

Tuesday October 16	Time	Room	Speaker
The Spring Data MongoDB Project	10:15 AM	2	Chris Harris
An Introduction To Spring Data	2:45 PM	3	Mark Pollack
Spring Data Repositories – A Deep Dive	4:30 PM	2	Oliver Gierke

Wednesday October 17	Time	Room	Speaker
Introduction to WebSockets	8:30 AM	1	Chris Beams, Gunnar Hillert, Rossen Stoyanchev
Getting Started with Spring Data and Distributed Data Grids	12:45 PM	2	Mark Johnson and David Turanski
Addressing the Big Data Challenge with Graph	2:45 PM	2	Emil Eifrem and Michael Hunger
Spring Integration, Batch and Data: Future Directions	4:30 PM	2	Mark Fisher and Mark Pollack

Thursday October 18	Time	Room	Speaker
Spring Data REST: Easily export JPA entities directly to the web	12:45 PM	2	Jon Brisbin

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- Blog: www.perfectworldprogramming.com/blog
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- GitHub: <https://github.com/bytor99999/EffectiveJPAWithSpring>