

# Getting Started with Spring Data JPA

## Getting Started



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# What Can Spring Data JPA Do?

```
@Repository
public class ManufacturerRepository {
    @PersistenceContext
    private EntityManager entityManager;

    public Manufacturer create(Manufacturer man) {
        entityManager.persist(man);
        entityManager.flush();
        return man;
    }

    public Manufacturer update(Manufacturer man) {
        man = entityManager.merge(man);
        entityManager.flush();
        return man;
    }

    public void delete(Manufacturer man) {
        entityManager.remove(man);
        entityManager.flush();
    }

    public Manufacturer find(Long id) {
        return entityManager.find(Manufacturer.class, id);
    }

    public List<Manufacturer> getManufacturersFoundedBeforeDate(Date date) {
        @SuppressWarnings("unchecked")
        List<Manufacturer> mans = entityManager
            .createQuery("select m from Manufacturer m where m.foundedDate < :date")
            .setParameter("date", date).getResultList();
        return mans;
    }

    public Manufacturer getManufacturerByName(String name) {
        Manufacturer man = (Manufacturer)entityManager
            .createQuery("select m from Manufacturer m where m.name like :name")
            .setParameter("name", name + "%").getSingleResult();
        return man;
    }

    public List<Manufacturer> getManufacturersThatSellModelsOfType(String mt) {
        @SuppressWarnings("unchecked")
        List<Manufacturer> mans = entityManager
            .createNamedQuery("Manufacturer.getAllThatSellAcoustics")
            .setParameter(1, mt).getResultList();
        return mans;
    }
}
```

# What Can Spring Data JPA Do?

```
public interface ManufacturerJpaRepository
    extends JpaRepository<Manufacturer, Long> {

    List<Manufacturer> findByFoundedDateBefore(Date date);
    Manufacturer findByNameStartingWith(String name);
    List<Manufacturer> findByTypes(String typeName);

}
```

# What Is Spring Data JPA?

Enhances standard  
JPA with Spring

Simplifies your  
Data Access Layer

Repository  
generator

Query DSL

Auditing  
paging

Gets out of the  
way if needed

# What This Course Is Not About

## Topics Not Covered

- JPA (Java Persistence API)
  - Spring with JPA and Hibernate (Hansen)
  - Java Persistence API 2.1 (Goncalves)
- ORM (Object Relational Mapping)
- Entity Relationships
- JPAQL, JDBC, SQL, NoSQL, etc.
- Core Spring
  - Spring Fundamentals (Hansen)

## Prerequisites

- git
  - <http://git-scm.com>
- JDK 1.8+
  - <http://www.oracle.com>
- Maven 3+
  - <http://maven.apache.org>
- IDE of your choice
  - <http://spring.io/tools>

# Tip: Choosing a Java Data Access Layer

JDBC

Spring JDBC



Simple DB's  
Native SQL Needs  
Reports

JEE 7 Batch

Spring Batch

Hadoop



High Number  
of SQL Writes

ORM

JPA/Hibernate

Spring Data JPA



Data Graphs  
Without Excessive  
Relationships

NoSQL

MongoDB

Spring Data Mongo



Topic or Thread  
Relational Data

# Spring Data

## Spring Data Commons

- Repository
- Cross-Store persistence
- Dynamic query generation

Spring Data JPA



Spring Data MongoDB

Spring Data Neo4j

Spring For Hadoop

Spring Data SOLR

Spring Data Redis

Spring Data REST

Spring Data JDBC Ext.

Spring Data Gemfire

Spring Data Cassandra

Spring Data Couchbase

Spring Data DynamoDB

Spring Data Elasticsearch

# Getting Started

## Basic JPA Project

- <https://github.com/dlbunker/ps-guitar-db>
- Standard JPA
- H2 embedded relational database
- JUnit tests



dlbunker / **ps-guitar-db** Unwatch 1

A Basic Spring JPA app with an H2 DB — Edit

5 commits 1 branch 0 releases 2 contributors

branch: master **ps-guitar-db** / +

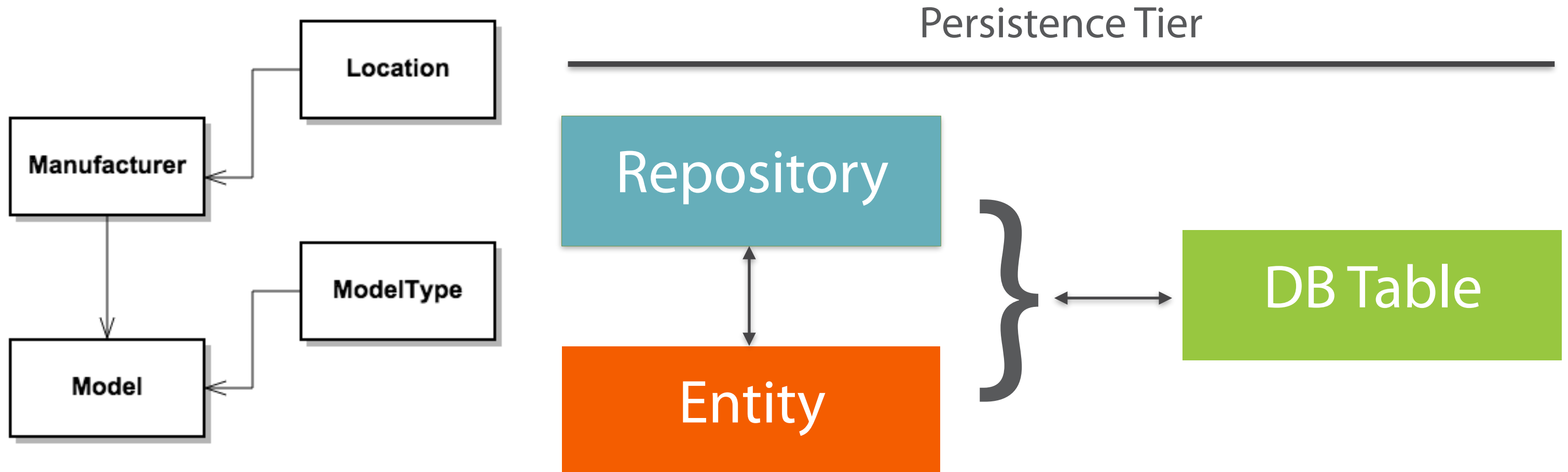
changed bean name to match spring expected defaults

Dan Bunker authored 5 days ago latest commit 064693b319

src	changed bean name to match spring expected defaults	5 days ago
.gitignore	Basic JPA Code Project (Initial)	6 days ago
LICENSE	Initial commit	6 days ago
README.md	Added git as a prereq	6 days ago
pom.xml	Basic JPA Code Project (Initial)	6 days ago



# Project Overview



# Installing Spring Data JPA

```
<dependency>  
  <groupId>org.springframework.data</groupId>  
  <artifactId>spring-data-jpa</artifactId>  
  <version>1.7.1.RELEASE</version>  
</dependency>
```

```
<jpa:repositories base-package="com.guitar.db.repository" />
```

```
@EnableJpaRepositories
```

# Summary



Project setup

Installed Spring Data JPA

Where Spring Data JPA fits architecturally

Simplifies your data access layer