

Query DSL Overview

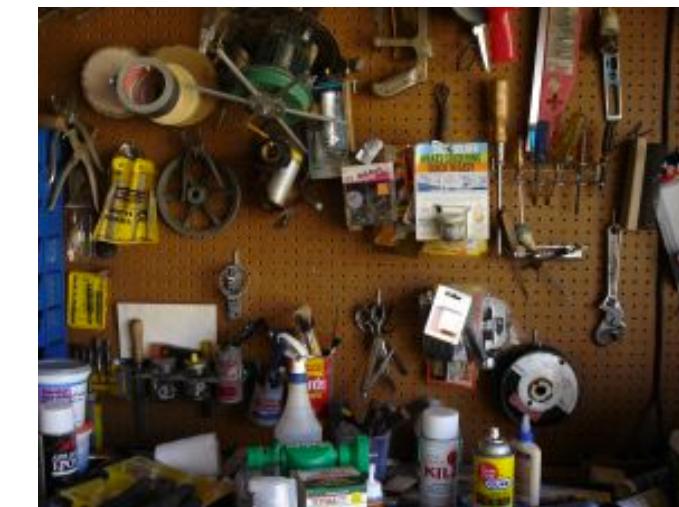
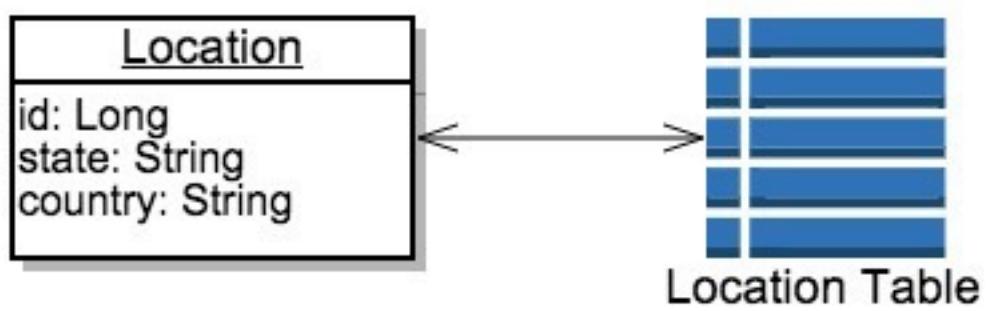


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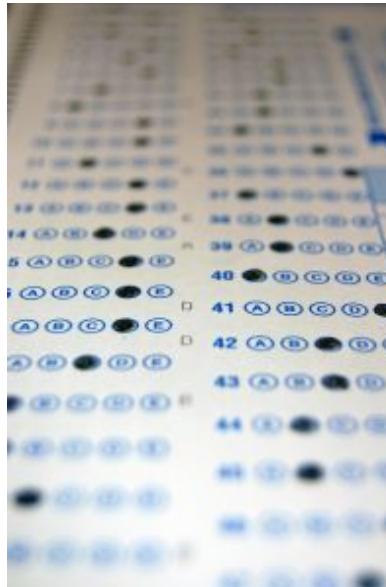
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Advantages of Using a Query DSL

- Utilize your work spent on creating your JPA entities
- Less code, less to maintain



- Check your queries at startup rather than runtime



DSL - Domain Specific Language

A domain specific language (DSL) is a customized extension of a software programming language that addresses a specific business or domain.

Query Method Syntax Basics

Query Methods

- Query parser will match the following:
 - find..By, query..By, read..By, count..By, get..By
- Criteria uses JPA entity attribute names
- Multiple criteria combined with ["And", "Or"]

```
public interface LocationJpaRepository extends JpaRepository<Location, Long>{  
    findByStateLike(String stateName);  
}
```

SQL

```
select * from Location l where l.state like ?
```

JPQL

```
select l from Location l  
where l.state like :state
```



Query Method Return Types

```
public interface LocationJpaRepository extends JpaRepository<Location, Long>{  
    Location findFirstByState(String stateName);  
    List<Location> findByStateLike(String stateName);  
    Long countByStateLike(String stateName);  
}
```

Query Method Learning Instructions

an AIA or other numbers in
x film and higher numbers in
batter speed, the length of
exposure film. 6. the largest
be used. 6. Slang: a stimula-
tamine or amphetamine. 7.
has auto's ability, per-
sonal people are more
or prospects. 8. at full
speed possible. 9. to the
with great rapidity. He
speed, a operating at
or producing at an
ive level up to par; a
11. to promote the
etc.; further, forward,
ups, course, way, etc.)
speed-star (spēd'star), *n.* a person who travels at
high speed. [1915-20; SPEED + -STER]

speed' trap', a section of a road where hidden police,
radar, etc., carefully check the speed of motorists and
strictly enforce traffic regulations; sometimes character-
ized by hard-to-see signals, hidden traffic signs, etc.
[1920-25]

speed-up (spēd'up'), *n.* 1. an increasing of speed. 2.
an imposed increase in the rate of production of a
worker without a corresponding increase in the rate of
pay. [1920-25; *n. use of v. phrase speed up*]

speed-walk (spēd'wôk'), *n.* an endless conveyor belt
moving walk, or the like used to transport standing per-
sons from place to place. [SPEED + WALK]

speed-way (spēd'wā'), *n.* 1. a road or course for
driving, motoring, or the like, or on which more than
ordinary speed is allowed. 2. a track on which
motorcycle races are held. —*speed-*

spell-bind'er (spel'bīn'dər), *n.* a person or thing that
spellbinds, esp. a powerful speaker who can captivate an
audience. [1885-90, Amer.; SPELLBIND + -ER¹]

spell-bound (spel'bound'), *adj.* bound by or as if by a
spell; enchanted, entranced, or fascinated: a spellbound
audience. [1790-1800; SPELL² + -BOUND¹]

spell' check'er, a computer program for checking
the spelling of words in an electronic document. Also,
spell'ing check'er. [1980-85]

spell-down (spel'doun'), *n.* a spelling competition
in which all the contestants standing and that
but one, the winner, have been required to
e to a specified number of misspellings.
er.; from phrase *spell down* to outspell oth-
ng match]

spell'er, *n.* 1. a person who spells words. 2.
spell'ing book'. an elementary textbook or
ach spelling. [1400-50; late ME; see SPELL¹,

spell'ar (spel'ər di vī'dər), *n.* a reference
ts words in alphabetical order to show spell-
abification.

spell'ing, *n.* 1. the

Keyword: And and Or

Uses	<p>Combines multiple criteria query filters together using a conditional And or Or</p>
Keyword Example	<p>findByStateAndCountry("CA", "USA"); findByStateOrState("CA", "AZ");</p>
JPQL Example	<p>... where a.state = ?1 <i>and</i> a.country = ?2 ... where a.state = ?1 <i>or</i> a.state = ?2</p>

Keyword: Equals, Is and Not

Uses	<p><i>The default '=' when comparing the criteria with the filter value. Use Not when wanting to compare not equals</i></p>
Keyword Example	<p><i>findByState("CA");</i> <i>findByStateIs("CA");</i> <i>findByStateEquals("CA");</i> <i>findByStateNot("CA");</i></p>
JPQL Example	<p><i>... where a.state = ?1</i> <i>... where a.state = ?1</i> <i>... where a.state = ?1</i> <i>... where a.state <> ?1</i></p>

Keyword: Like and NotLike

Uses	<p><i>Useful when trying to match, or not match, a portion of the criteria filter value</i></p>
Keyword Example	<p><code>findByStateLike("Cali%");</code> <code>findByStateNotLike("Al%");</code></p>
JPQL Example	<p><i>... where a.state like ?1</i> <i>... where a.state not like ?1</i></p>

Keyword: StartingWith, EndingWith and Containing

Uses	<p>Similar to the “Like” keyword except the % is automatically added to the filter value</p>
Keyword Example	<p>findByStateStartingWith("Al"); //Al% findByStateEndingWith("ia"); //%ia findByStateContaining("in"); //%in%</p>
JPQL Example	<p>... where a.state like ?1 ... where a.state like ?1 ... where a.state like ?1</p>

Keyword: LessThan(Equal) and GreaterThan(Equal)

Uses	<p><i>When you need to perform a <, <=, >, or >= comparison with number data types</i></p>
Keyword Example	<p><i>findByPriceLessThan(20);</i> <i>findByPriceLessThanEqual(20);</i> <i>findByPriceGreaterThan(20);</i> <i>findByPriceGreaterThanOrEqual(20);</i></p>
JPQL Example	<p><i>... where a.price < ?1</i> <i>... where a.price <= ?1</i> <i>... where a.price > ?1</i> <i>... where a.price >= ?1</i></p>

```
findByPriceGreaterThanOrEqual(10, 20);
```

Keyword: Before, After and Between

Uses	<p><i>When you need to perform a less than, greater than or range comparison with date/time data types</i></p>
Keyword Example	<p><i>findByFoundedDateBefore(dateObj);</i> <i>findByFoundedDateAfter(dateObj);</i> <i>findByFoundedDateBetween(startDate, endDate);</i></p>
JPQL Example	<p><i>... where a.foundedDate < ?1</i> <i>... where a.foundedDate > ?1</i> <i>... where a.foundedDate between ?1 and ?2</i></p>

Keyword: True and False

Uses	<p><i>Useful when comparing boolean values with true or false.</i></p>
Keyword Example	<p><i>findByActiveTrue();</i> <i>findByActiveFalse();</i></p>
JPQL Example	<p><i>... where a.active = true</i> <i>... where a.active = false</i></p>

Keyword: IsNull, IsNotNull and NotNull

Uses	<p>Used to check whether a criteria value is null or not null</p>
Keyword Example	<p>findByStateIsNull(); findByStateIsNotNull(); findByStateNotNull();</p>
JPQL Example	<p>... where a.state is null ... where a.state not null ... where a.state not null</p>

Keyword: In and NotIn

Uses	<p><i>When you need to test if a column value is part of a collection or set of values or not</i></p>
Keyword Example	<p><code>findByStateIn(Collection<String> states);</code> <code>findByStateNotIn(Collection<String> states);</code></p>
JPQL Example	<p><i>... where a.state <code>in</code> ?1</i> <i>... where a.state <code>not in</code> ?1</i></p>

Keyword: IgnoreCase

Uses	<p><i>When you need to perform a case insensitive comparison</i></p>
Keyword Example	<p><code>findByStateIgnoreCase("ca");</code> <code>findByStateStartingWithIgnoreCase("c");</code></p>
JPQL Example	<p><code>... where UPPER(a.state) = UPPER(?1)</code> <code>... where UPPER(a.state) like UPPER(?1%)</code></p>

Keyword: OrderBy

Uses	<p><i>Used to setup an order by clause on your query</i></p>
Keyword Example	<p><i>findByStateOrderByCountryAsc();</i> <i>findByStateOrderByCountryDesc();</i></p>
JPQL Example	<p><i>... where a.state order by a.country asc</i> <i>... where a.state order by a.country desc</i></p>

Keyword: First, Top and Distinct

Uses	<p><i>Used to limit the results returned by the query</i></p>
Keyword Example	<p><i>findFirstByStateLike("A");</i> <i>findTop5ByStateLike("A");</i> <i>findDistinctManufacturerByStateLike("A");</i></p>
JPQL Example	<p><i>... where a.state like ?1 limit 1</i> <i>... where a.state like ?1 limit 5</i> <i>select distinct ... where a.state like ?1</i></p>

Summary



Query DSL advantages
Basic Syntax
Keywords, keywords and keywords