

HIBERNATE & JPA COURSE

CRITERIA API WITH HIBERNATE AND JPA



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Hello, Ubaldo Acosta greets you again. I hope you're ready to start with this lesson.

We are going to study the Criteria API with Hibernate and JPA.

Are you ready? Come on!

QUERIES WITH THE CRITERIA API

API Criteria with Hibernate / JPA:

- ✓ The Criteria API is an alternative to the use of HQL / JPQL or SQL Native.
- ✓ It allows the combination of complex criteria fields (eg an advanced search screen).
- ✓ It allows to create complex dynamic queries more easily.

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In this lesson we will review the queries using the Criteria API.

The Criteria API in Hibernate or JPA is simply another alternative to using HQL / JPQL or native SQL using JDBC.

This API allows the combination of complex criteria fields, for example if we have an advanced search screen, we usually have many fields by which to filter our search, then the Criteria API is precisely created to support us in this type of searches, among several more features that we will mention below.

CRITERIA API FEATURES

Criteria API features:

- ✓ There is the Query by Example concept, which facilitates the search of records of a certain kind of Entity.
- ✓ Java classes are used instead of HQL / JPQL or SQL strings.
- ✓ It allows to use expressions, joins, ordering, among many more features.



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In the Criteria API there is the Query by Example concept, which facilitates the search of records of a certain type of Entity.

Java classes are also used instead of HQL / JPQL or SQL strings, which also simplifies the creation of dynamic queries that we have discussed.

And finally it also allows you to use expressions, joins, orderings among many other features, which we have also reviewed with the HQL / JPQL language.

For these characteristics it is worth studying this Criteria API, since it will facilitate many of the queries that could otherwise be very complex.

Let's review some exercises below using this API.

QUERY BY EXAMPLE (QBE)

- ✓ QBE, in conjunction with the Criteria API (QBC), allows you to take as an example a DTO object and filter with that data the query to execute
- ✓ It is used to generate dynamic queries, oriented to advanced searches
- ✓ Multiple DTO objects can be combined to further filter the queries to be executed. Avoiding adding restrictions to the QBC



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The HQL / JPQL language, although it handles a very simplified syntax, applies very well for static queries.

The HQL / JPQL language is a string, not Java classes, this implies manipulating the string to add restrictions to the query.

Therefore, when using dynamic queries it will be quite useful to use the Query by Example (QBE) concept.

QBE in conjunction with QBC (Query by Criteria) works with Entity objects or objects of type DTO (Data Transfer Object) and uses them as a filter to execute the respective query.

One of the great advantages of this API is that dynamic queries can be generated more complex and more easily than concatenating values with HQL / JPQL or native SQL.

It is also possible to combine several Entity or DTO objects to make more complex filters, and all dynamically, since if a property of a DTO object has not been set, this property remains null and therefore will not participate in the search of values of the query. In this way, adding restrictions to the where of the query will be as simple as making a set to the property of the DTO object and thus be taken into account to add one more filter to the query executed by QBE.

Next we will create several examples using this API.

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