



Holon

PLATFORM

Holon Platform JPA QueryDSL Module - Reference manual

Version 5.2.2

Table of Contents

1. Introduction	1
1.1. Sources and contributions	1
2. Obtaining the artifacts	1
2.1. Using the Platform BOM	2
3. Data targets	2
4. Properties	2
5. QueryDSL JPA Datastore Commodity	3
6. Spring Boot starters	4
7. Loggers	4
8. System requirements	5
8.1. Java	5
8.2. QueryDSL	5

Copies of this document may be made for your own use and for distribution to others, provided that you do not charge any fee for such copies and further provided that each copy contains this Copyright Notice, whether distributed in print or electronically.

1. Introduction

This module provides a set of [QueryDSL](#) integration features for the [JPA Datastore](#) module.



The required QueryDSL version is **4.x** or higher.



You must provide the QueryDSL artifacts dependencies in classpath, since they are not provided by this module.

Maven coordinates:

```
<groupId>com.holon-platform.jpa</groupId>
<artifactId>holon-datastore-jpa-querydsl</artifactId>
<version>5.2.2</version>
```

1.1. Sources and contributions

The Holon Platform **JPA QueryDSL integration** module source code is available from the GitHub repository <https://github.com/holon-platform/holon-datastore-jpa-querydsl>.

See the repository [README](#) file for information about:

- The source code structure.
- How to build the module artifacts from sources.
- Where to find the code examples.
- How to contribute to the module development.

2. Obtaining the artifacts

The Holon Platform uses [Maven](#) for projects build and configuration. All the platform artifacts are published in the **Maven Central Repository**, so there is no need to explicitly declare additional repositories in your project [pom](#) file.

A **BOM (Bill Of Materials)** [pom](#) is provided to import the available dependencies for a specific version in your projects.

The BOM can be imported in a Maven project in the following way:

```
<dependencyManagement>
  <dependencies>
    <dependency>
      <groupId>com.holon-platform.jpa</groupId>
      <artifactId>holon-datastore-jpa-querydsl-bom</artifactId>
      <version>5.2.2</version>
      <strong><type>pom</type></strong>
      <strong><scope>import</scope></strong>
    </dependency>
  </dependencies>
</dependencyManagement>
```

2.1. Using the Platform BOM

The Holon Platform provides an **overall Maven BOM (Bill of Materials)** to easily obtain all the available platform artifacts.

See [Obtain the platform artifacts](#) for details.

3. Data targets

The [QueryDslTarget](#) interface can be used to create a [DataTarget](#) using a QueryDSL [EntityPath](#), which represents a JPA *entity* root path.

```
final QueryDslTarget<Test> TARGET = QueryDslTarget.of(QTest.test); ①

Datastore datastore = getDatastore(); // build or obtain a JPA Datastore

datastore.refresh(TARGET, value); ②
```

① Create a [DataTarget](#) using the QueryDSL [EntityPath](#) for the JPA [Test](#) *entity* class

② Use the target with a [Datastore](#)

4. Properties

The [QueryDslProperty](#) interface can be used to create a [PathProperty](#) from a QueryDSL [Path](#). The [of\(Path<T> path\)](#) method returns a builder which can be used to setup property configuration and attributes and automatically set the root [EntityPath](#) as parent property path.

```
final QueryDslProperty<Long> ID = QueryDslProperty.of(QTest.test.id); ①
final QueryDslProperty<String> NAME = QueryDslProperty.of(QTest.test.name); ②

Datastore datastore = getDatastore(); // build or obtain a JPA Datastore

datastore.save(QueryDslTarget.of(QTest.test),
    PropertyBox.builder(ID, NAME).set(ID, 1L).set(NAME, "TestName").build()); ③
```

- ① Create a **PathProperty** using the QueryDSL **Path** of the JPA **Test** entity class **id** attribute of type **Long**
- ② Create a **PathProperty** using the QueryDSL **Path** of the JPA **Test** entity class **name** attribute of type **String**
- ③ Use the created properties within a **PropertyBox** in a Datastore operation

5. QueryDSL JPA Datastore Commodity

The QueryDSL JPA integration module automatically registers the **QueryDsl** JPA Datastore **commodity**, which provides a set of methods to build QueryDSL **queries** and **bulk** operation executors.

To obtain the *commodity* the standard Datastore **create(...)** method can be used:

```
Datastore datastore = getDatastore(); // build or obtain a JPA Datastore

QueryDsl queryDslCommodity = datastore.create(QueryDsl.class); ①

JpaQuery<?> query = queryDslCommodity.query(); ②
query = queryDslCommodity.selectFrom(QTest.test); ③

queryDslCommodity.update(QTest.test).set(QTest.test.name, "UpdatedName").where(QTest
    .test.id.eq(1L)).execute(); ④
queryDslCommodity.delete(QTest.test).where(QTest.test.id.loe(1L)).execute(); ⑤
```

- ① Create a **QueryDsl** commodity
- ② Obtain a query
- ③ Obtain a query setting the from clause
- ④ Configure and execute a bulk update
- ⑤ Configure and execute a bulk delete

The **JpaQuery** class is an extension of the default QueryDSL JPA query and allows to mix QueryDSL expressions and predicates with standard platform query expressions, such as **QueryFilter**, **QuerySort** and **QueryAggregation**.

```

Datastore datastore = getDatastore(); // build or obtain a JPA Datastore

final PathProperty<Long> ID = QueryDslProperty.of(QTest.test.id); ①
final StringProperty NAME = StringProperty.create("name"); ②

long count = getDatastore().create(QueryDsl.class).query().from(QTest.test)
    .filter(ID.gt(2L).and(NAME.startsWith("n"))).count(); ③

```

- ① Create a **PathProperty** using a QueryDSL **Path**
- ② Create a **PathProperty** using standard **create** method, providing property name and type
- ③ Create and execute a QueryDSL **JpaQuery**, mixing QueryDSL expressions and standard `PathProperty`s`

6. Spring Boot starters

The following *starter* artifacts are available to provide a quick project configuration setup using Maven dependency system:

1. The **QueryDSL JPA starter using Hibernate** provides dependencies to the default [Holon JPA Datastore Spring Boot starter](#) using the **Hibernate ORM** as persistence provider, in addition to the Holon Platform QueryDSL integration dependencies.

Maven coordinates:

```

<groupId>com.holon-platform.jpa</groupId>
<artifactId>holon-starter-jpa-querydsl-hibernate</artifactId>
<version>5.2.2</version>

```

2. The **QueryDSL JPA starter using Eclipselink** provides dependencies to the default [Holon JPA Datastore Spring Boot starter](#) using the **Eclipselink** as persistence provider, in addition to the Holon Platform QueryDSL integration dependencies.

Maven coordinates:

```

<groupId>com.holon-platform.jpa</groupId>
<artifactId>holon-starter-jpa-querydsl-eclipselink</artifactId>
<version>5.2.2</version>

```

7. Loggers

By default, the Holon platform uses the [SLF4J](#) API for logging. The use of SLF4J is optional: it is enabled when the presence of SLF4J is detected in the classpath. Otherwise, logging will fall back to JUL (`java.util.logging`).

The logger name for the **JPA Datastore QueryDSL integration** module is `com.holonplatform.datastore.jpa`.

8. System requirements

8.1. Java

The Holon Platform JPA Datastore QueryDSL module requires [Java 8](#) or higher.

8.2. QueryDSL

[QueryDSL JPA](#) version **4.x** is required and must be available in classpath to use the JPA Datastore QueryDSL module.