

Hibernate Tip: Select a specific subclass from an inheritance hierarchy

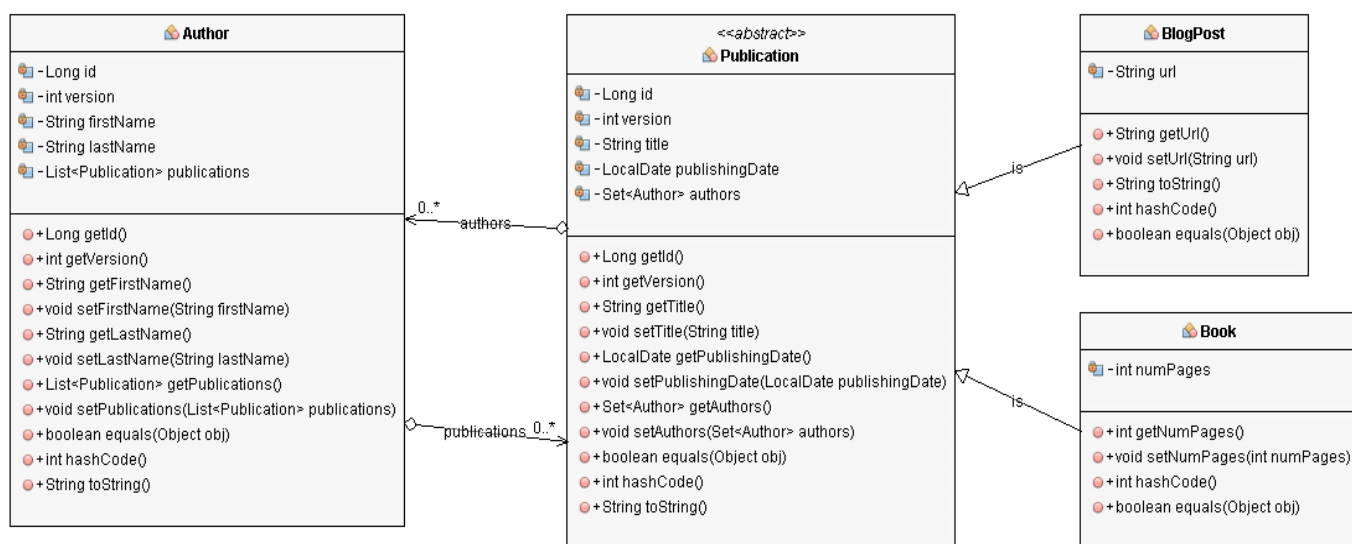
Question:

I have a many-to-many association to the superclass of an inheritance hierarchy. How can I select only a certain subclass from that hierarchy?

Solution:

You can use a `TYPE` expression in your JPQL query to limit your query result to one or more subclasses. Let's take a look at an example.

Authors can write different kinds of *Publications*, like a *Book* or a *BlogPost*. You can model that with an inheritance hierarchy and a many-to-many association between the *Author* and the *Publication* entity. In this example, I map the inheritance hierarchy with the [InheritanceType.SINGLE_TABLE strategy](#). So, all entities of the hierarchy are mapped to the same table.



Let's select all *Books* that were written by a specific *Author*. I, therefore, join the *Author* and *Book* entities in the `FROM` clause, check that the *Author*'s `firstName` is equal to 'Thorben' and use a `TYPE` expression to select only *Book* entities.

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```
Query q = em.createQuery("SELECT b FROM Author a JOIN  
a.publications b WHERE a.firstName = 'Thorben' AND  
TYPE(b) = Book");  
Book b = (Book) q.getSingleResult();  
  
log.info(b);
```

As you can see in the log output, Hibernate uses the discriminator column of the *Publication* table in the WHERE clause to only select *Book* entities.

```
13:02:22,453 DEBUG [org.hibernate.SQL] -  
select  
  publicatio2_.id as id2_1_,  
  publicatio2_.publishingDate as publishi3_1_,  
  publicatio2_.title as title4_1_,  
  publicatio2_.version as version5_1_,  
  publicatio2_.numPages as numPages6_1_,  
  publicatio2_.url as url7_1_,  
  publicatio2_.DTYPE as DTYPE1_1_  
from  
  Author author0_  
inner join  
  PublicationAuthor publicatio1_  
    on author0_.id=publicatio1_.authorId  
inner join  
  Publication publicatio2_  
    on publicatio1_.publicationId=publicatio2_.id  
where  
  author0_.firstName='Thorben'  
  and publicatio2_.DTYPE='Book'
```

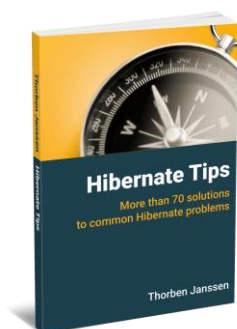
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Learn more

If you're using JPQL, you might also be interested in my detailed guide about it: [Ultimate Guide to JPQL Queries with JPA and Hibernate](#).

And I also wrote a tutorial about JPA's different strategies to map inheritance hierarchies: [Complete Guide: Inheritance strategies with JPA and Hibernate](#).

Hibernate Tips Book



Get more recipes like this one in my book [Hibernate Tips: More than 70 solutions to common Hibernate problems](#).

It gives you more than 70 ready-to-use recipes for topics like basic and advanced mappings, logging, Java 8 support, caching and statically and dynamically defined queries.