

Hibernate Tip: Exclude unchanged columns from generated update statements

Question:

Hibernate always updates all database columns mapped by my entity, even the ones that I didn't change. How can I tell Hibernate to exclude unmodified attributes from the update statement?

Solution:

Generating SQL statements takes time and Hibernate, therefore, uses one cached SQL UPDATE statement per entity. It sets all database columns so that it can be used for all update operations. You can change that with the *@DynamicUpdate* annotation. It tells Hibernate to generate a new SQL statement for each update operation.

You can see an example of it in the following code snippet. The only thing you need to do is to add the *@DynamicUpdate* annotation to your entity class.

```
@Entity
@DynamicUpdate
public class Book {

    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    @Column(name = "id", updatable = false,
            nullable = false)
    private Long id;
```

Hibernate Tip: Exclude unchanged columns from generated update statements

```
@Version
private int version;

private String title;

private Double price;
...
}
```

When you now modify the *price* of the *Book* entity, Hibernate generates an SQL statement for this operation. As you can see in the log messages, it only changes the *price* and *version* column in the *Book* table.

```
Book b = em.find(Book.class, 1L);
b.setPrice(9.99D);
```

```
12:45:23,097 DEBUG [org.hibernate.SQL] -
```

```
select
```

```
    book0_.id as id1_0_0_,
```

```
    book0_.price as price2_0_0_,
```

```
    book0_.publishingDate as publishi3_0_0_,
```

```
    book0_.title as title4_0_0_,
```

```
    book0_.version as version5_0_0_
```

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```
from
```

```
    Book book0_
```

```
where
```

```
    book0_.id=?
```

```
12:45:23,133 DEBUG [org.hibernate.SQL] -
```

```
update
```

```
    Book
```

```
set
```

```
    price=?,
```

```
    version=?
```

```
where
```

```
    id=?
```

```
    and version=?
```

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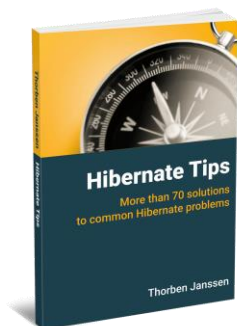
Learn more

You can also implement your own update statement with JPQL or the Criteria API. That allows you to customize the statement in any way you want. But please be aware, that Hibernate isn't aware of the changes and doesn't update its caches.

You can read more about custom update operations in:

- [How to use native queries to perform bulk updates](#)
- [Criteria Update/Delete – The easy way to implement bulk operations in JPA 2.1](#)

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.