DZone

A Beginner's Guide to JPA and Hibernate Cascade Types

by Vlad Mihalcea · Mar. 13, 15 · Database Zone

Learn how to create flexible schemas in a relational database using SQL for JSON.

Introduction

JPA translates entity state transitions to database DML statements. Because it's common to operate on entity graphs, JPA allows us to propagate entity state changes from *Parents* to *Child* entities.

This behavior is configured through the CascadeType mappings.

JPA vs Hibernate Cascade Types

Hibernate supports all JPA Cascade Types and some additional legacy cascading styles. The following table draws an association between JPA Cascade Types and their Hibernate native API equivalent:

JPA EntityManager action	JPA CascadeType	Hibernate native Session action	Hibernate native CascadeType	Event Listener
detach(entity)	DETACH	evict(entity)	DETACH or ~~EVICT~~	Default Evict Event Listener
merge(entity)	MERGE	merge(entity)	MERGE	Default Merge Event Listener
persist(entity)	PERSIST	persist(entity)	PERSIST	Default Persist Event Listener
refresh(entity)	REFRESH	refresh(entity)	REFRESH	Default Refresh Event Listener
				Default

remove(entity)	REMOVE	delete(entity)	REMOVE orDELETE	Default Delete Event Listener
saveOrUpdate(entity)	SAVE_UPDATE	Default Save Or Update Event Listener		
replicate(entity, replicationMode)	REPLICATE	Default Replicate Event Listener		
lock(entity, lockModeType)	buildLockRequest(entity, lockOptions)	LOCK	Default Lock Event Listener	
All the above EntityManager methods	ALL	All the above Hibernate Session methods	ALL	

From this table we can conclude that:

- There's no difference between calling *persist*, *merge* or *refresh* on the JPAEntityManager or the Hibernate Session.
- The JPA *remove* and *detach* calls are delegated to Hibernate *delete* and *evict* native operations.
- Only Hibernate supports *replicate* and *saveOrUpdate*. While *replicate* is useful for some very specific scenarios (when the exact entity state needs to be mirrored between two distinct DataSources), the *persist* and *merge* combo is always a better alternative than the native *saveOrUpdate* operation. As a rule of thumb, you should always use *persist* for TRANSIENT entities and merge for DETACHED ones.The *saveOrUpdate* shortcomings (when passing a detached entity snapshot to a*Session* already managing this entity) had lead to the *merge* operation predecessor: the now extinct saveOrUpdateCopy operation.
- The JPA lock method shares the same behavior with Hibernate lock request method.
- The JPA CascadeType.ALL doesn't only apply to *EntityManager* state change operations, but to all Hibernate CascadeTypes as well. So if you mapped your associations with *CascadeType.ALL*, you can still cascade Hibernate specific events. For example, you can cascade the JPA lock operation (although it behaves as reattaching, instead of an actual lock request propagation), even if JPA doesn't define a LOCK *CascadeType*.

Cascading best practices

Cascading only makes sense only for *Parent – Child* associations (the *Parent* entity state transition being cascaded to its Child entities). Cascading from *Child* to *Parent* is not very useful and usually, it's a mapping code smell.

Next, I'm going to take analyse the cascading behaviour of all JPA *Parent – Child*associations.

One-To-One

The most common One-To-One bidirectional association looks like this:

The most common One-To-One bidirectional association looks like this:

```
@Entity
public class Post {

    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private Long id;

    private String name;

    @OneToOne(mappedBy = "post",
        cascade = CascadeType.ALL, orphanRemoval = true)
    private PostDetails details;

    public Long getId() {
        return id;
    }

    public PostDetails getDetails() {
        return details;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public void addDetails(PostDetails details) {
        this.details = details;
        details.setPost(this);
    }

    public void removeDetails() {
        if (details != null) {
            details.setPost(null);
        }
        this.details = null;
    }
}

@Entity
public class PostDetails {

    @Id
```

```
    @GeneratedValue(strategy = GenerationType.AUTO)
    private Long id;

    @Column(name = "created_on")
    @Temporal(TemporalType.TIMESTAMP)
    private Date createdOn = new Date();

    private boolean visible;

    @OneToOne
    @PrimaryKeyJoinColumn
    private Post post;

    public Long getId() {
        return id;
    }

    public void setVisible(boolean visible) {
        this.visible = visible;
    }

    public void setPost(Post post) {
        this.post = post;
    }
}
```

The *Post* entity plays the *Parent* role and the *PostDetails* is the *Child*.

The bidirectional associations should always be updated on both sides, therefore the *Parent* side should contain the *addChild* and*removeChild* combo. These methods ensure we always synchronize both sides of the association, to avoid Object or Relational data corruption issues.

In this particular case, the *CascadeType.ALL* and orphan removal make sense because the *PostDetails* life-cycle is bound to that of its *Post Parent* entity.

Cascading the one-to-one persist operation

The *CascadeType.PERSIST* comes along with the *CascadeType.ALL* configuration, so we only have to persist the *Post* entity, and the associated *PostDetails* entity is persisted as well:

```
Post post = new Post();
post.setName("Hibernate Master Class");

PostDetails details = new PostDetails();
```

```
post.addDetails(details);

session.persist(post);
```

Generating the following output:

```
INSERT INTO post(id, NAME)
VALUES (DEFAULT, Hibernate Master Class'')

insert into PostDetails (id, created_on, visible)
values (default, '2015-03-03 10:17:19.14', false)
```

Cascading the one-to-one merge operation

The *CascadeType.MERGE* is inherited from the *CascadeType.ALL* setting, so we only have to merge the *Post* entity and the associated *PostDetails* is merged as well:

```
Post post = newPost();
post.setName("Hibernate Master Class Training Material");
post.getDetails().setVisible(true);

doInTransaction(session -> {
    session.merge(post);
});
```

The merge operation generates the following output:

```
SELECT onetooneca0_.id     AS id1_3_1_,
   onetooneca0_.NAME       AS name2_3_1_,
   onetooneca1_.id         AS id1_4_0_,
   onetooneca1_.created_on AS created_2_4_0_,
   onetooneca1_.visible    AS visible3_4_0_
FROM   post onetooneca0_
LEFT OUTER JOIN postdetails onetooneca1_
    ON onetooneca0_.id = onetooneca1_.id
WHERE  onetooneca0_.id = 1

UPDATE postdetails SET
    created_on = '2015-03-03 10:20:53.874', visible = true
WHERE  id = 1

UPDATE post SET
    NAME = 'Hibernate Master Class Training Material'
WHERE  id = 1
```

Cascading the one-to-one delete operation

The *CascadeType.REMOVE* is also inherited from the *CascadeType.ALL* configuration, so the *Post* entity

The *CascadeType.REMOVE* is also inherited from the *CascadeType.ALL* configuration, so the *Post* entity deletion triggers a *PostDetails* entity removal too:

```
Post post = newPost();

doInTransaction(session -> {
    session.delete(post);
});
```

Generating the following output:

```
delete from PostDetails where id = 1
delete from Post where id = 1
```

The one-to-one delete orphan cascading operation

If a *Child* entity is dissociated from its *Parent*, the Child Foreign Key is set to NULL. If we want to have the *Child* row deleted as well, we have to use the *orphan removal*support.

```
doInTransaction(session -> {
    Post post = (Post) session.get(Post.class, 1L);
    post.removeDetails();
});
```

The *orphan removal* generates this output:

```
SELECT onetooneca0_.id         AS id1_3_0_,
       onetooneca0_.NAME       AS name2_3_0_,
       onetooneca1_.id         AS id1_4_1_,
       onetooneca1_.created_on AS created_2_4_1_,
       onetooneca1_.visible    AS visible3_4_1_
FROM   post onetooneca0_
LEFT OUTER JOIN postdetails onetooneca1_
    ON onetooneca0_.id = onetooneca1_.id
WHERE  onetooneca0_.id = 1

delete from PostDetails where id = 1
```

Unidirectional one-to-one association

Most often, the *Parent* entity is the inverse side (e.g. *mappedBy*), the *Child* controling the association through its Foreign Key. But the cascade is not limited to bidirectional associations, we can also use it for unidirectional relationships:

```
@Entity
public class Commit {

    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private Long id;

```

```
    private String comment;

    @OneToOne(cascade = CascadeType.ALL)
    @JoinTable(
        name = "Branch_Merge_Commit",
        joinColumns = @JoinColumn(
            name = "commit_id",
            referencedColumnName = "id"),
        inverseJoinColumns = @JoinColumn(
            name = "branch_merge_id",
            referencedColumnName = "id")
    )
    private BranchMerge branchMerge;

    public Commit() {
    }

    public Commit(String comment) {
        this.comment = comment;
    }

    public Long getId() {
        return id;
    }

    public void addBranchMerge(
        String fromBranch, String toBranch) {
        this.branchMerge = new BranchMerge(
             fromBranch, toBranch);
    }

    public void removeBranchMerge() {
        this.branchMerge = null;
    }
}

@Entity
public class BranchMerge {

    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private Long id;

    private String fromBranch;

    private String toBranch;

```

```
    public BranchMerge() {
    }

    public BranchMerge(
        String fromBranch, String toBranch) {
        this.fromBranch = fromBranch;
        this.toBranch = toBranch;
    }

    public Long getId() {
        return id;
    }
}
```

Cascading consists in propagating the *Parent* entity state transition to one or more *Child* entities, and it can be used for both unidirectional and bidirectional associations.

One-To-Many

The most common *Parent – Child* association consists of a one-to-many and a many-to-one relationship, where the cascade being useful for the one-to-many side only:

```
@Entity
public class Post {

    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private Long id;

    private String name;

    @OneToMany(cascade = CascadeType.ALL,
        mappedBy = "post", orphanRemoval = true)
    private List<Comment> comments = new ArrayList<>();

    public void setName(String name) {
        this.name = name;
    }

    public List<Comment> getComments() {
        return comments;
    }

    public void addComment(Comment comment) {
```

```
        comments.add(comment);
        comment.setPost(this);
    }

    public void removeComment(Comment comment) {
        comment.setPost(null);
        this.comments.remove(comment);
    }
}

@Entity
public class Comment {

    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private Long id;

    @ManyToOne
    private Post post;

    private String review;

    public void setPost(Post post) {
        this.post = post;
    }

    public String getReview() {
        return review;
    }

    public void setReview(String review) {
        this.review = review;
    }
}
```

Like in the one-to-one example, the *CascadeType.ALL* and orphan removal are suitable because the *Comment* life-cycle is bound to that of its *Post Parent* entity.

Cascading the one-to-many persist operation

We only have to persist the *Post* entity and all the associated *Comment* entities are persisted as well:

```
Post post = new Post();
post.setName("Hibernate Master Class");

Comment comment1 = new Comment();
comment1.setReview("Good post!");
Comment comment2 = new Comment();
```

```
comment2.setReview("Nice post!");

post.addComment(comment1);
post.addComment(comment2);

session.persist(post);
```

The persist operation generates the following output:

```
insert into Post (id, name)
values (default, 'Hibernate Master Class')

insert into Comment (id, post_id, review)
values (default, 1, 'Good post!')

insert into Comment (id, post_id, review)
values (default, 1, 'Nice post!')
```

Cascading the one-to-many merge operation

Merging the *Post* entity is going to merge all *Comment* entities as well:

```
Post post = newPost();
post.setName("Hibernate Master Class Training Material");

post.getComments()
    .stream()
    .filter(comment -> comment.getReview().toLowerCase()
         .contains("nice"))
    .findAny()
    .ifPresent(comment ->
        comment.setReview("Keep up the good work!")
);

doInTransaction(session -> {
    session.merge(post);
});
```

Generating the following output:

```
SELECT onetomanyc0_.id    AS id1_1_1_,
       onetomanyc0_.NAME  AS name2_1_1_,
       comments1_.post_id AS post_id3_1_3_,
       comments1_.id      AS id1_0_3_,
       comments1_.id      AS id1_0_0_,
       comments1_.post_id AS post_id3_0_0_,
       comments1_.review  AS review2_0_0_
FROM   post onetomanyc0_
LEFT OUTER JOIN comment comments1_
    ON onetomanyc0_.id = comments1_.post_id
```

```
WHERE  onetomanyc0_.id = 1

update Post set
    name = 'Hibernate Master Class Training Material'
where id = 1

update Comment set
    post_id = 1,
    review='Keep up the good work!'
where id = 2
```

Cascading the one-to-many delete operation

When the *Post* entity is deleted, the associated *Comment* entities are deleted as well:

```
Post post = newPost();

doInTransaction(session -> {
    session.delete(post);
});
```

Generating the following output:

```
delete from Comment where id = 1
delete from Comment where id = 2
delete from Post where id = 1
```

The one-to-many delete orphan cascading operation

The orphan-removal allows us to remove the Child entity whenever it's no longer referenced by its Parent:

```
newPost();

doInTransaction(session -> {
    Post post = (Post) session.createQuery(
        "select p " +
                "from Post p " +
                "join fetch p.comments " +
                "where p.id = :id")
        .setParameter("id", 1L)
        .uniqueResult();
    post.removeComment(post.getComments().get(0));
});
```

The Comment is deleted, as we can see in the following output:

```
SELECT onetomanyc0_.id    AS id1_1_0_,
       comments1_.id      AS id1_0_1_,
       onetomanyc0_.NAME  AS name2_1_0_,
       comments1_.post_id AS post_id3_0_1_,
```

```
       comments1_.review  AS review2_0_1_,
       comments1_.post_id AS post_id3_1_0__,
       comments1_.id      AS id1_0_0__
FROM   post onetomanyc0_
INNER JOIN comment comments1_
    ON onetomanyc0_.id = comments1_.post_id
WHERE  onetomanyc0_.id = 1

delete from Comment where id = 1
```

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Many-To-Many

The many-to-many relationship is tricky because each side of this association plays both the *Parent* and the *Child* role. Still, we can identify one side from where we'd like to propagate the entity state changes.

We shouldn't default to *CascadeType.ALL*, because the CascadeTpe.REMOVE might end-up deleting more than we're expecting (as you'll soon find out):

```
@Entity
public class Author {

    @Id
    @GeneratedValue(strategy=GenerationType.AUTO)
    private Long id;

    @Column(name = "full_name", nullable = false)
    private String fullName;

    @ManyToMany(mappedBy = "authors",
        cascade = {CascadeType.PERSIST, CascadeType.MERGE})
    private List<Book> books = new ArrayList<>();

    private Author() {}

    public Author(String fullName) {
        this.fullName = fullName;
    }

    public Long getId() {
```

```java
    public Long getId() {
        return id;
    }

    public void addBook(Book book) {
        books.add(book);
        book.authors.add(this);
    }

    public void removeBook(Book book) {
        books.remove(book);
        book.authors.remove(this);
    }

    public void remove() {
        for(Book book : new ArrayList<>(books)) {
            removeBook(book);
        }
    }
}

@Entity
public class Book {

    @Id
    @GeneratedValue(strategy=GenerationType.AUTO)
    private Long id;

    @Column(name = "title", nullable = false)
    private String title;

    @ManyToMany(cascade =
        {CascadeType.PERSIST, CascadeType.MERGE})
    @JoinTable(name = "Book_Author",
        joinColumns = {
            @JoinColumn(
                name = "book_id",
                referencedColumnName = "id"
            )
        },
        inverseJoinColumns = {
            @JoinColumn(
                name = "author_id",
                referencedColumnName = "id"
            )
        }
    )
```

```
    private List<Author> authors = new ArrayList<>();

    private Book() {}

    public Book(String title) {
        this.title = title;
    }
}
```

Cascading the many-to-many persist operation

Persisting the *Author* entities will persist the *Books* as well:

```
Author _John_Smith = new Author("John Smith");
Author _Michelle_Diangello =
    new Author("Michelle Diangello");
Author _Mark_Armstrong =
    new Author("Mark Armstrong");

Book _Day_Dreaming = new Book("Day Dreaming");
Book _Day_Dreaming_2nd =
    new Book("Day Dreaming, Second Edition");

_John_Smith.addBook(_Day_Dreaming);
_Michelle_Diangello.addBook(_Day_Dreaming);

_John_Smith.addBook(_Day_Dreaming_2nd);
_Michelle_Diangello.addBook(_Day_Dreaming_2nd);
_Mark_Armstrong.addBook(_Day_Dreaming_2nd);

session.persist(_John_Smith);
session.persist(_Michelle_Diangello);
session.persist(_Mark_Armstrong);
```

The *Book* and the *Book_Author* rows are inserted along with the *Authors*:

```
insert into Author (id, full_name)
values (default, 'John Smith')

insert into Book (id, title)
values (default, 'Day Dreaming')

insert into Author (id, full_name)
values (default, 'Michelle Diangello')

insert into Book (id, title)
values (default, 'Day Dreaming, Second Edition')

insert into Author (id, full_name)
```

```
values (default, 'Mark Armstrong')

insert into Book_Author (book_id, author_id) values (1, 1)
insert into Book_Author (book_id, author_id) values (1, 2)
insert into Book_Author (book_id, author_id) values (2, 1)
insert into Book_Author (book_id, author_id) values (2, 2)
insert into Book_Author (book_id, author_id) values (3, 1)
```

Dissociating one side of the many-to-many association

To delete an *Author*, we need to dissociate all *Book_Author* relations belonging to the removable entity:

```
doInTransaction(session -> {
    Author _Mark_Armstrong =
        getByName(session, "Mark Armstrong");
    _Mark_Armstrong.remove();
    session.delete(_Mark_Armstrong);
});
```

This use case generates the following output:

```
SELECT manytomany0_.id        AS id1_0_0_,
       manytomany2_.id        AS id1_1_1_,
       manytomany0_.full_name AS full_nam2_0_0_,
       manytomany2_.title     AS title2_1_1_,
       books1_.author_id      AS author_i2_0_0__,
       books1_.book_id        AS book_id1_2_0__
FROM   author manytomany0_
INNER JOIN book_author books1_
    ON manytomany0_.id = books1_.author_id
INNER JOIN book manytomany2_
    ON books1_.book_id = manytomany2_.id
WHERE  manytomany0_.full_name = 'Mark Armstrong'

SELECT books0_.author_id  AS author_i2_0_0_,
       books0_.book_id    AS book_id1_2_0_,
       manytomany1_.id    AS id1_1_1_,
       manytomany1_.title AS title2_1_1_
FROM   book_author books0_
INNER JOIN book manytomany1_
    ON books0_.book_id = manytomany1_.id
WHERE  books0_.author_id = 2

delete from Book_Author where book_id = 2

insert into Book_Author (book_id, author_id) values (2, 1)
insert into Book_Author (book_id, author_id) values (2, 2)

delete from Author where id = 3
```

```
delete from Author where id = 3
```

The many-to-many association generates way too many redundant SQL statements and often, they are very difficult to tune. Next, I'm going to demonstrate the many-to-many *CascadeType.REMOVE* hidden dangers.

The many-to-many CascadeType.REMOVE gotchas

The many-to-many *CascadeType.ALL* is another code smell, I often bump into while reviewing code. The *CascadeType.REMOVE* is automatically inherited when using*CascadeType.ALL*, but the entity removal is not only applied to the link table, but to the other side of the association as well.

Let's change the *Author* entity *books* many-to-many association to use the*CascadeType.ALL* instead:

```
@ManyToMany(mappedBy = "authors",
    cascade = CascadeType.ALL)
private List<Book> books = new ArrayList<>();
```

When deleting one *Author*:

```
doInTransaction(session -> {
    Author _Mark_Armstrong =
        getByName(session, "Mark Armstrong");
    session.delete(_Mark_Armstrong);
    Author _John_Smith =
        getByName(session, "John Smith");
    assertEquals(1, _John_Smith.books.size());
});
```

All books belonging to the deleted *Author* are getting deleted, even if other *Authors*we're still associated to the deleted *Books*:

```
SELECT manytomany0_.id        AS id1_0_,
       manytomany0_.full_name AS full_nam2_0_
FROM   author manytomany0_
WHERE  manytomany0_.full_name = 'Mark Armstrong'

SELECT books0_.author_id  AS author_i2_0_0_,
       books0_.book_id    AS book_id1_2_0_,
       manytomany1_.id    AS id1_1_1_,
       manytomany1_.title AS title2_1_1_
FROM   book_author books0_
INNER JOIN book manytomany1_ ON
       books0_.book_id = manytomany1_.id
WHERE  books0_.author_id = 3

delete from Book_Author where book_id=2
delete from Book where id=2
delete from Author where id=3
```

Most often, this behavior doesn't match the business logic expectations, only being discovered upon the first entity removal.

We can push this issue even further, if we set the *CascadeType.ALL* to the *Book* entity side as well:

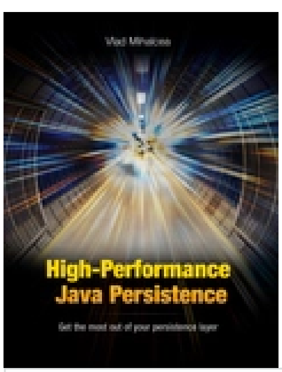
```
@ManyToMany(cascade = CascadeType.ALL)
@JoinTable(name = "Book_Author",
    joinColumns = {
        @JoinColumn(
            name = "book_id",
            referencedColumnName = "id"
        )
    },
    inverseJoinColumns = {
        @JoinColumn(
            name = "author_id",
            referencedColumnName = "id"
        )
    }
)
```

This time, not only the *Books* are being deleted, but *Authors* are deleted as well:

```
doInTransaction(session -> {
    Author _Mark_Armstrong =
        getByName(session, "Mark Armstrong");
    session.delete(_Mark_Armstrong);
    Author _John_Smith =
        getByName(session, "John Smith");
    assertNull(_John_Smith);
});
```

The *Author* removal triggers the deletion of all associated *Books*, which further triggers the removal of all associated *Authors*. This is a very dangerous operation, resulting in a massive entity deletion that's rarely the expected behavior.

If you enjoyed this article, I bet you are going to love my book as well.




```
SELECT manytomany0_.id        AS id1_0_,
       manytomany0_.full_name AS full_nam2_0_
FROM   author manytomany0_
WHERE  manytomany0_.full_name = 'Mark Armstrong'

SELECT books0_.author_id  AS author_i2_0_0_,
```

```
       books0_.book_id    AS book_id1_2_0_,
       manytomany1_.id    AS id1_1_1_,
       manytomany1_.title AS title2_1_1_
FROM   book_author books0_
INNER JOIN book manytomany1_
   ON books0_.book_id = manytomany1_.id
WHERE  books0_.author_id = 3

SELECT authors0_.book_id      AS book_id1_1_0_,
       authors0_.author_id    AS author_i2_2_0_,
       manytomany1_.id        AS id1_0_1_,
       manytomany1_.full_name AS full_nam2_0_1_
FROM   book_author authors0_
INNER JOIN author manytomany1_
   ON authors0_.author_id = manytomany1_.id
WHERE  authors0_.book_id = 2

SELECT books0_.author_id  AS author_i2_0_0_,
       books0_.book_id    AS book_id1_2_0_,
       manytomany1_.id    AS id1_1_1_,
       manytomany1_.title AS title2_1_1_
FROM   book_author books0_
INNER JOIN book manytomany1_
   ON books0_.book_id = manytomany1_.id
WHERE  books0_.author_id = 1

SELECT authors0_.book_id      AS book_id1_1_0_,
       authors0_.author_id    AS author_i2_2_0_,
       manytomany1_.id        AS id1_0_1_,
       manytomany1_.full_name AS full_nam2_0_1_
FROM   book_author authors0_
INNER JOIN author manytomany1_
   ON authors0_.author_id = manytomany1_.id
WHERE  authors0_.book_id = 1

SELECT books0_.author_id  AS author_i2_0_0_,
       books0_.book_id    AS book_id1_2_0_,
       manytomany1_.id    AS id1_1_1_,
       manytomany1_.title AS title2_1_1_
FROM   book_author books0_
INNER JOIN book manytomany1_
   ON books0_.book_id = manytomany1_.id
WHERE  books0_.author_id = 2

delete from Book_Author where book_id=2
delete from Book_Author where book_id=1
delete from Author where id=2
```

```
delete from Book where id=1
delete from Author where id=1
delete from Book where id=2
delete from Author where id=3
```

This use case is wrong in so many ways. There are a plethora of unnecessary SELECT statements and eventually we end up deleting all Authors and all their Books. That's why CascadeType.ALL should raise your eyebrow, whenever you spot it on a many-to-many association.

When it comes to Hibernate mappings, you should always strive for simplicity. The Hibernate documentation confirms this assumption as well:

> **Practical test cases for real many-to-many associations are rare. Most of the time you need additional information stored in the "link table". In this case, it is much better to use two one-to-many associations to an intermediate link class. In fact, most associations are one-to-many and many-to-one. For this reason, you should proceed cautiously when using any other association style.**

Conclusion

Cascading is a handy ORM feature, but it's not free of issues. You should only cascade from Parent entities to Children and not the other way around. You should always use only the casacde operations that are demanded by your business logic requirements, and not turn the CascadeType.ALL into a default Parent-Child association entity state propagation configuration.

Code available on GitHub.

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