Before JPA 2.1

Up to Java 8, annotations had a major usability flaw. You were not allowed to annotate a class, method or attribute with multiple instances of the same annotation. That's why JPA 2.1 used annotations, like *@NamedQueries*, that act as a container for an array of annotations. In this case, the *@NamedQuery* annotation.

```
@Entity
@NamedQueries({

    @NamedQuery(name = "Book.findByTitle", query =
"SELECT b FROM Book b WHERE b.title = :title"),

    @NamedQuery(name = "Book.findByPublishingDate",
query = "SELECT b FROM Book b WHERE b.publishingDate
= :publishingDate")
})
public class Book {

    ...

}
```

Repeatable Annotations In JPA 2.2

JPA 2.2 introduced 2 new container annotations and 16 annotations became repeatable. The new container annotations are TableGenerators and SequenceGenerators which store multiple TableGenerator and SequenceGenerator annotations. And you can find all repeatable annotations in the following table.

Java Type	JDBC Type
AssociationOverride	Override the mapping for an entity relationship.
AttributeOverride	Override the mapping of a Basic property.

Convert	Activates or deactivates an AttributeConverter for a Basic property.
JoinColumn	Defines a join column for an association or element collection.
MapKeyJoinColumn	Defines the mapping to an entity that's used as the map key.
NamedEntityGraph	Specifies a graph of entities that are fetched with a query.
NamedNativeQuery	Defines a named native SQL query.
NamedQuery	Defines a named JPQL query.
NamedStoredProcedureQuery	Defines a named stored procedure query.
PersistenceContext	References a container-managed *EntityManager*.
PersistenceUnit	References a *EntityManagerFactory* and its associated persistence unit.
PrimaryKeyJoinColumn	References a primary key column that's used as a foreign key to join to another table.
SecondaryTable	Defines a secondary database table that's mapped by the entity.
SqlResultSetMapping	Defines the mapping of the result of native SQL query.
SequenceGenerator	Defines the sequence based primary key generator that's referenced by a *GeneratedValue* annotation.
TableGenerator	Defines the table based primary key generator that's referenced by a *GeneratedValue* annotation.

JPA 2.2 Introduces @Repeatable Annotations

With the change to repeatable annotations, you no longer need to wrap any of these annotations in a container annotation. As you can see in the following code snippet, the code becomes easier to write and read.

```
@Entity

@NamedQuery(name = "Book.findByTitle", query = "SELECT b FROM Hibernate5Book b WHERE b.title = :title")

@NamedQuery(name = "Book.findByPublishingDate", query = "SELECT b FROM Hibernate5Book b WHERE b.publishingDate = :publishingDate")

public class Book {

    ...

}
```