

Java Persistence API

- Definition
- @Entity
- @Table
- @Column
- @Id
- @Transient
- @OneToOne
- @OneToMany

Definition

JPA is a Java specification for accessing, persisting, and managing data between Java objects / classes and a relational database.

JPA itself is just a specification, not a product.

It cannot perform persistence or anything else by itself. JPA is just a set of interfaces and annotations.

You can use JPA to annotate your DataSets and prepare them for ORM frameworks.

@Entity

Specifies that the class is an entity. This annotation is applied to the entity class.

Entity represents one row in a table DataSets are Entities.

@Documented

@Target(TYPE)

@Retention(RUNTIME)

public @interface Entity {

/**

* (Optional) The entity name. Defaults to the unqualified

* name of the entity class. This name is used to refer to the

* entity in queries. The name must not be a reserved literal

* in the Java Persistence query language.

*/

```
String name() default "";  
}
```

@Table

Specifies the primary table for the annotated entity.

@Target(TYPE)

@Retention(RUNTIME)

```
public @interface Table {  
    String name() default "";  
    String schema() default "";  
    Index[] indexes() default {};  
    ...  
}
```

Usage

```
@Table(name = "users")
```

@Column

Is used to specify the mapped column for a persistent property or field.

```
@Target({METHOD, FIELD})
```

```
@Retention(RUNTIME)
```

```
public @interface Column {
```

```
    String name() default "";
```

```
    boolean unique() default false;
```

```
    boolean nullable() default true;
```

```
    boolean updatable() default true;
```

```
    ...
```

```
}
```

Usage

`@Column(name="DESC", nullable=false, updatable=false)`

@Id

Specifies the primary key of an entity.

The field or property to which the `@Id` annotation is applied should be one of the following types:

any Java primitive type

any primitive wrapper type

String

java.util.Date

java.sql.Date

java.math.BigDecimal

java.math.BigInteger

The mapped column for the primary key of the entity is assumed to be the primary key of the primary table.

Usage

@Id

@Transient

Specifies that the property or field is not persistent. It is used to annotate a property or field of an entity class, mapped superclass, or embeddable class.

@Target({ METHOD, FIELD })

@Retention(RUNTIME)

```
public @interface Transient {  
}
```

Usage

@Transient

@OneToOne

Defines a single-valued association to another entity that has one-to-one multiplicity.

Can be used to specify foreign keys.

```
@Target({METHOD, FIELD})
```

```
@Retention(RUNTIME)
```

```
public @interface OneToOne {
```

```
...
```

```
}
```

Usage

@OneToOne

Class member – reference to the Entity from another table.

@OneToMany

Defines a many-valued association with one-to-many multiplicity.

@Target({METHOD, FIELD})

@Retention(RUNTIME)

public @interface OneToMany {

...

}

Usage

@OneToMany

Class member – reference to the Collection of Entities from another table.

Example of annotated class

See L10.1