# Entity Relationships

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# Overview

The types of relationships

The directions of the relationships

Annotations used for relationships

Embedded classes

Collections of embedded classes

# Types of Relationships
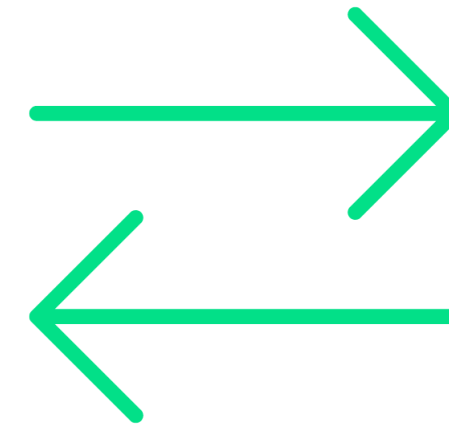
One-to-many

Many-to-one

Many-to-many

One-to-one

# Direction of the Relationship
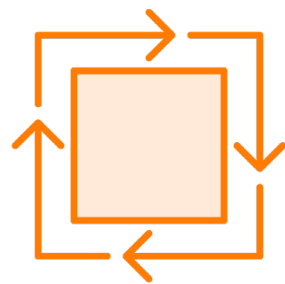
**Unidirectional**

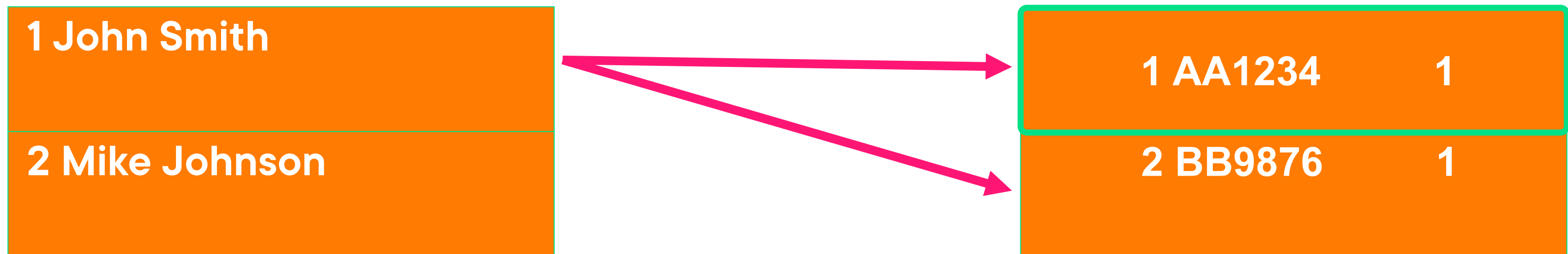**Bidirectional**

# Owning Side

Any relationship has an owning side

Owning side drives the updates to relationship in a database

The many part is always the owning side

# Changing the Relationship

| | |
|---|---|
| 1 John Smith | |
| 2 Mike Johnson | |

| | |
|---|---|
| 1 AA1234 | 1 |
| 2 BB9876 | 1 |

# Changing the Relationship

# Annotations to Relationships

@OneToMany

@ManyToOne

@OneToOne

@ManyToMany

# Demo

**Define one-to-many relationships**

**Define many-to-one relationships**
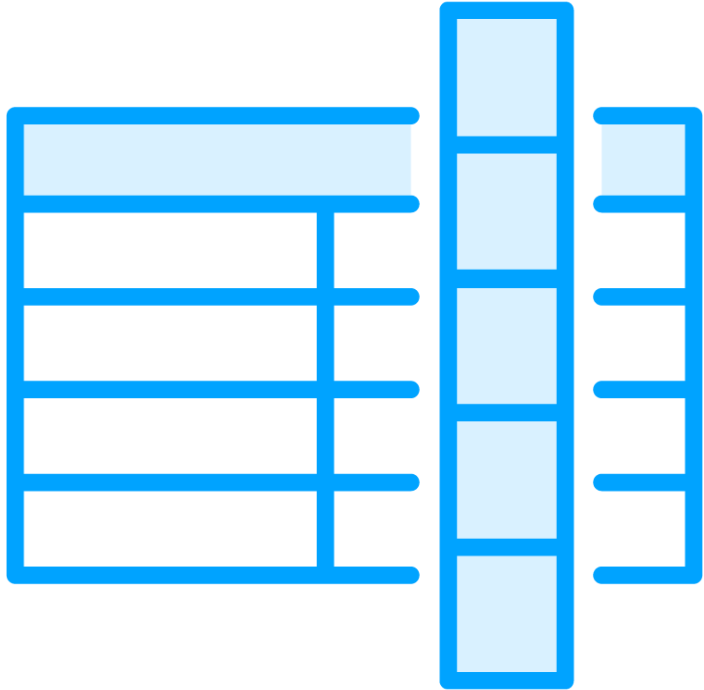
# Demo

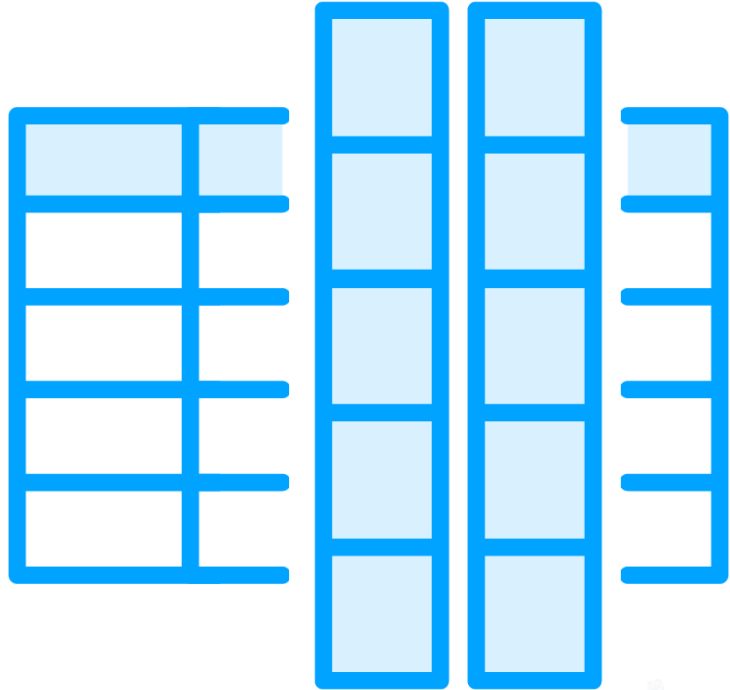**Define many-to-many relationships**

# Annotations for Relationship Definition

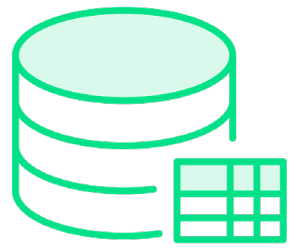# Annotations for Relationship Definition
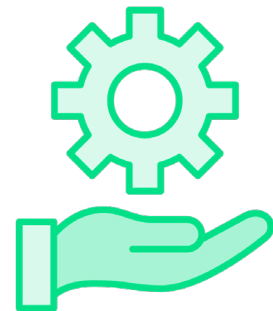


**@JoinTable**

**@JoinColumn**

**@JoinColumns**

# @JoinTable

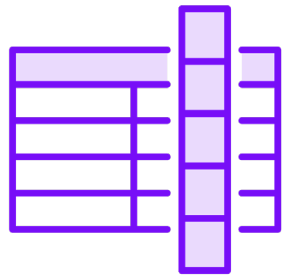Cross-reference table for the mapping of relationship
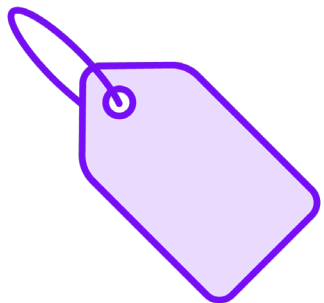
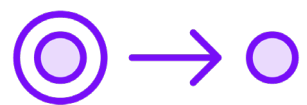On the owning side of relationship

Parameters

# @JoinColumn

Specifies a column for joining an entity association

Name parameter

referencedColumnName parameter

# @JoinColumns

Mapping for composite foreign keys

Groups @JoinColumn annotations

Value parameter

# Demo

**Join tables on one column**

# Demo
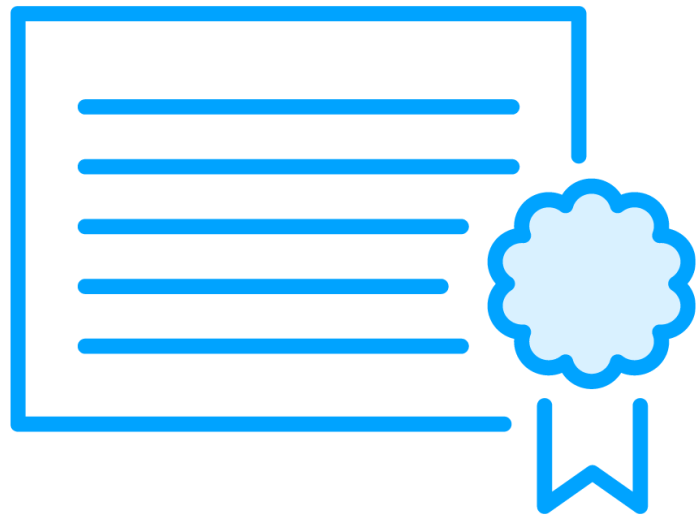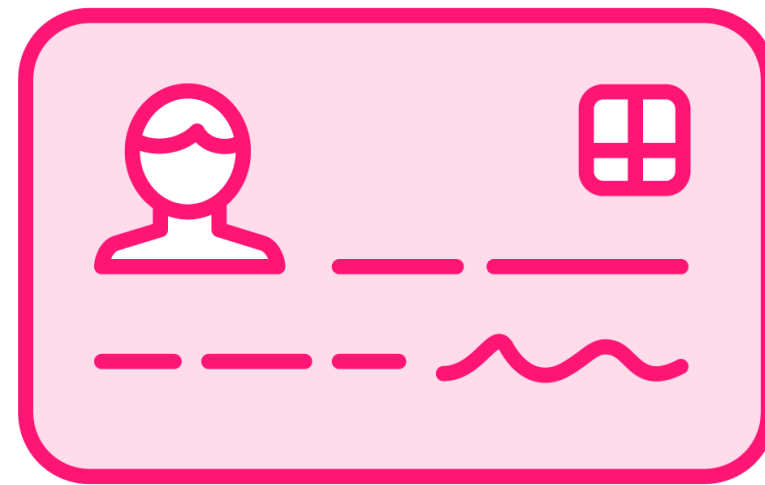
**Join tables on multiple columns**
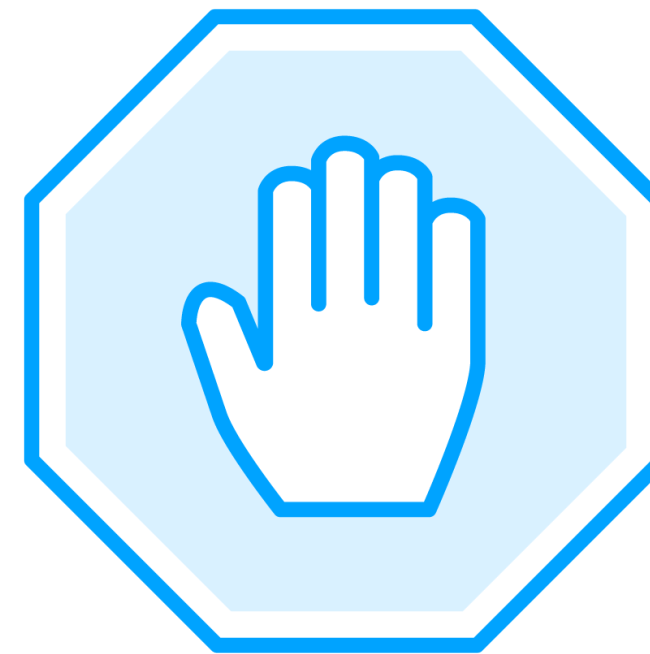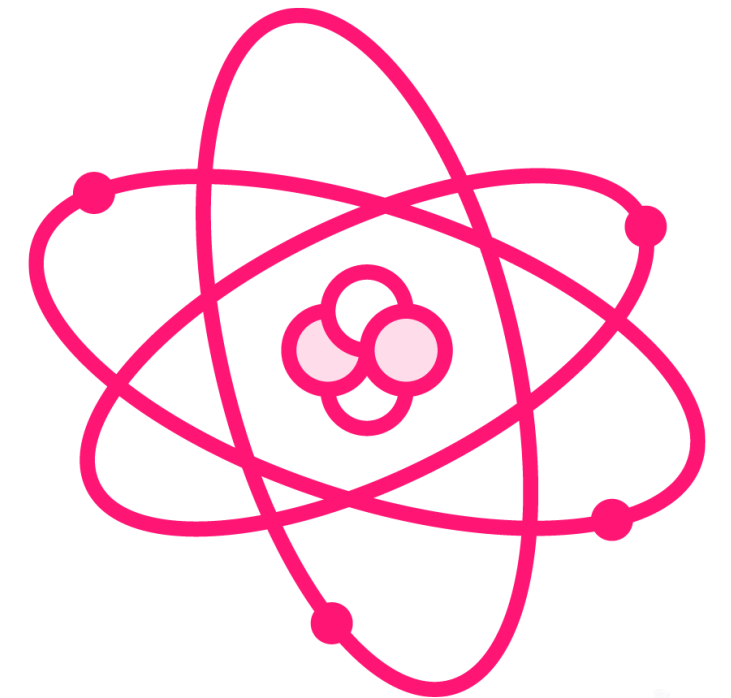
# Embeddable Classes

# Embeddable Classes



**Fine-grained classes representing entity state**

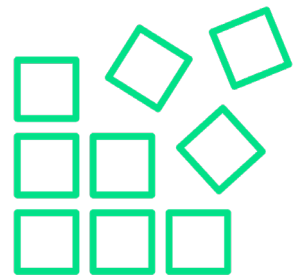**Do not have persistent identity of their own**

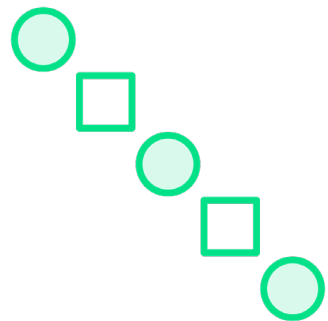**Cannot be shared across persistent entities**

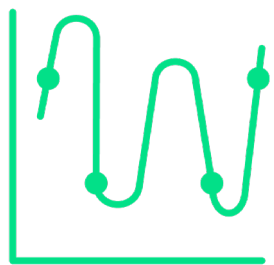**Only as part of the state of the entity to which they belong**
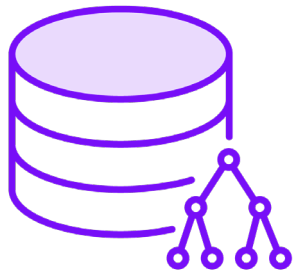
# Embeddable Classes Annotations
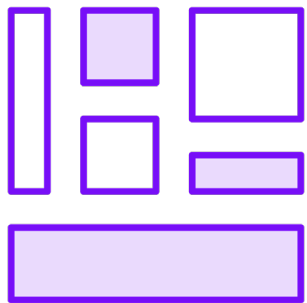
@Embeddable

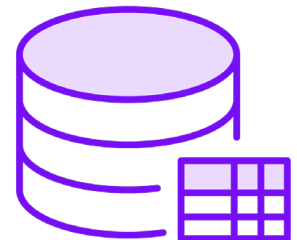@AttributeOverride

@AttributeOverrides

# Collections of Embeddable Classes

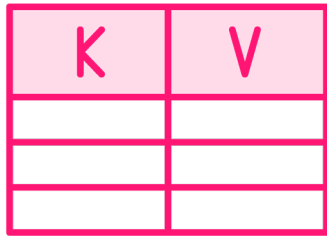Collections of basic types or embeddable classes

@ElementCollection

@CollectionTable

# Maps of Embeddable Classes
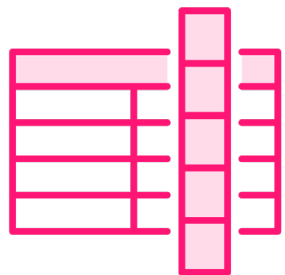
Key and value: either a basic type or an embeddable class

@MapKeyColumn

@Column

# Demo

**Embedding classes in entities**

# Demo

**Embedding collections of classes in entities**

# Demo

**Embedding maps of classes in entities**

# **Summary**

**Types and directions of relationships**

**Annotations to define relationships**

**Embedded classes**

**Collections of embedded classes**

**Maps of embedded classes**