Object/Relational (O/R) Mapping in Spring Data JPA

O/R Mapping (Object Relational Mapping) is the technique of mapping object-oriented domain models to relational database tables. In Spring Data JPA (using Hibernate), this is achieved using annotations provided by JPA.

# Summary Table

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| Annotation | Description | Example Class |
| @ManyToOne | Many children refer to one parent | Student -> Department |
| @OneToMany | One parent has many children | Department -> Student |
| @ManyToMany | Both sides can have many relationships | Student <-> Course |
| @JoinColumn | Defines the foreign key column | department\_id |
| @JoinTable | Defines the join table in many-to-many | student\_course |
| mappedBy | Tells JPA which side owns the relationship | courses |
| FetchType.LAZY | Loads related data only when needed | Default for @OneToMany |
| FetchType.EAGER | Loads related data immediately | Use cautiously |