

Lecture 16: Many-to-Many Mapping

Theory

Many-to-many relationships occur when multiple records in one table can relate to multiple records in another table. This requires a junction table.

Problem & Solution

- **Problem:** Gets four tables by default
- **Solution:** Use proper annotations to control table creation

Implementation

Alien Entity:

```
@Entity
public class Alien {
    @Id
    private int aid;
    private String aname;
    private String tech;

    @ManyToMany
    private List<Laptop> laptops;
}
```

Laptop Entity:

```
@Entity
public class Laptop {
    @Id
    private int lid;
    private String brand;
    private String model;
    private int ram;

    @ManyToMany(mappedBy = "laptops")
    private List<Alien> aliens;
}
```

Table Structure Result

- **alien** table
- **laptop** table
- **alien_laptop** (junction table)
- **laptop_alien** (avoided with proper mapping)

Junction Table Example:

alien_laptop:

aliens_aid | laptops_lid

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101	1
101	2
102	1
103	2

Key Benefits

- **Bidirectional Navigation:** Can access from both sides
- **Automatic Junction Table:** Hibernate creates and manages
- **Flexible Relationships:** Supports complex many-to-many scenarios