Lecture 17: Hibernate Eager and Lazy Fetch

Theory

Hibernate provides different fetching strategies to optimise database queries and improve performance.

Caching System

Hibernate provides two types of cache:

1. **L1 Cache**: Session-level cache (default)
2. **L2 Cache**: SessionFactory-level cache

Fetch Types

Default Behavior

- **By default**: Lazy fetch is used
- **Lazy Loading**: Related entities are loaded only when accessed
- **Benefits**: Improved initial query performance

Eager Fetching Implementation:

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

    @OneToMany(fetch = FetchType.EAGER)
    private List<Laptop> laptops;
}
```

Key Differences

Aspect	Lazy Loading	Eager Loading
When Loaded	On-demand	Immediately
Performance	Faster initial load	Slower initial load
Memory Usage	Lower	Higher

Use Cases

- **Lazy**: Use when related data is not always needed
- **Eager**: Use when related data is frequently accessed