Lecture 19: HQL Introduction

Theory

HQL (Hibernate Query Language) is an object-orientated query language similar to SQL but operates on Hibernate entity objects rather than database tables.

L2 Cache

- **Implementation**: JCache
- **Scope**: SessionFactory level
- **Configuration**: Requires explicit setup

HQL Fundamentals

Key Concepts:

- **Entity Names**: Use entity class names instead of table names
- **Property Names**: Use entity property names instead of column names
- **Object-Oriented**: Operates on objects, not tables

Basic Syntax:
```
// HQL Query
String hql = "from Student";

// Equivalent SQL

String sql = "select * from student";
```

Example Usage:
```
// Create query
Query query = session.createQuery("from Student");

// Execute query

List<Student> students = query.getResultList();
```

HQL vs SQL Comparison:

Aspect	HQL	SQL
Focus	Entity objects	Database tables
Names	Entity/property names	Table/column names

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Portability	Database independent	Database-specific
Type Safety	Compile-time checking	Runtime checking

Advanced HQL Features:

- **Where Clauses**: `from Student where name = 'John'`
- **Joins**: `from Student s join s.courses`
- **Aggregations**: `select count(*) from Student`
- **Parameters**: `from Student where id = :studentId`