CS544 EA

Hibernate

Optimization: Join Fetch

Join Fetch

- Before Fetch Graphs were added to JPA
  - Queries could already do “Join Fetch”

- Like EntityGraph Join Fetch-ed entities are:
  - **Added to the cache**
  - **Not added to the result set**
- Unlike EntityGraph
  - Join Fetch can use inner or outer join (just add left / outer)

Join Fetch

No SELECT clause needed
joined entities not added to ResultSet
Although you may want it for DISTINCT

```
TypedQuery<Customer> query = em.createQuery(
            "SELECT DISTINCT c from Customer c "
            + "JOIN FETCH c.address a "
            + "JOIN FETCH c.books b "
            + "JOIN FETCH b.author "
            + "WHERE c.firstName like :name", Customer.class);
query.setParameter("name", "J%");
List<Customer> customers = query.getResultList();
System.out.println(customers.size());
```

Remember: don’t join (fetch)
multiple collections!

```
Hibernate: 
    select
        customer0_.id as id1_3_0_,
        address1_.id as id1_0_1_,
        books2_.id as id1_2_2_,
        author3_.id as id1_1_3_,
        customer0_.address_id as address_4_3_0_,
        customer0_.firstName as firstNam2_3_0_,
        customer0_.lastName as lastName3_3_0_,
        address1_.city as city2_0_1_,
        address1_.state as state3_0_1_,
        books2_.author_id as author_i3_2_2_,
        books2_.name as name2_2_2_,
        books2_.books_id as books_id4_2_0__,
        books2_.id as id1_2_0__,
        author3_.name as name2_1_3_ 
    from
        Customer customer0_ 
    inner join
        Address address1_ 
            on customer0_.address_id=address1_.id 
    inner join
        Book books2_ 
            on customer0_.id=books2_.books_id 
    inner join
        Author author3_ 
            on books2_.author_id=author3_.id 
    where
        customer0_.firstName like ?
1
```

Join Fetch and N+1

- Join Fetch can be a solution for N+1
  - Load all the needed objects in one query

- Same potential problems:
  - You can not Join Fetch more than one collection eager
  - Eager associations from your graph / result to other entities **still cause N+1** (see eager references N+1)

If you have references going out
make sure they’re lazy!