

JPA- Queries 3 Workshop

Overview

In this workshop, we want to do queries in hibernate (JPA). These are the subjects that we go through:

- Named Queries
- Report Queries
 - Report Query- Multiple fields
 - Report Query- Aggregation
- Native Sql

Named Queries

Download the file *named-query.xml* [here](#).

Drag the file under META-INF and rename it to *orm.xml*

Now add this line to your persistence.xml file before properties tag:

```
<mapping-file>META-INF/orm.xml</mapping-file>
```

Add these lines to your orm.xml file:

```
<named-query name="searchByName">
    <query>from Student as student where student.name= :name</query>
</named-query>
```

So we have created a query with the name "searchByName" and we have written the sql statement too.

In the main method add the following:

```
List<Student> results = em.createNamedQuery("searchByName",
Student.class).setParameter("name", "Jimi Hendriks").getResultList();
for(Student student: results) {
    System.out.println(student);
}
```

Run the code and see the result.

Report Queries

To get the name of all students, we can write *"select student.name"* directly in the sql statement:

```
Query q = em.createQuery("select student.name from Student student");
List<String>results2 = q.getResultList();
for(String name:results2) {
    System.out.println(name);
}
```

Report Query- Multiple fields

With Report Query, we can retrieve multiple fields:

```
List<Object[]>results3 = em.createQuery("select student.name,
student.enrollmentID from Student student").getResultList();
for(Object[] obj:results3) {
    System.out.println("Name: " + obj[0]);
    System.out.println("ID: " + obj[1]);
}
```

In this query, hibernate returns a list of Object arrays. Each element of this list will be an array of (here) two elements: student's name and student's enrollmentID.

Report Query- Aggregation

We use aggregation to get the number of students:

```
long numberOfStudents = (Long)em.createQuery("select count(student)from
Student student").getSingleResult();
System.out.println("We have " + numberOfStudents + " students");
```

Native Sql

This is an example of using native sql:

```
List<Object[]> results4 = em.createNativeQuery("select
s.name,s.enrollmentid from student s").getResultList();
for(Object[] result: results4) {
    System.out.println(result[0] + " ; " + result[1]);
}
```

Run the code. You see hibernate generates only one select statement.