

HIBERNATE & JPA COURSE

EXERCISE

QUERY BY EXAMPLE WITH HIBERNATE / JPA



HIBERNATE & JPA COURSE

www.globalmentoring.com.mx

OBSERVATIONS OF QBE IN HIBERNATE

- As of version 5.2 the QBE API (Query by Example) has been depreciated, this means that it can still be used, but its use is no longer recommended because in later versions it may disappear completely.
- Instead of this API it is recommended to use the JPA Criteria API that we saw in the previous exercise.
- So we will only add an example of this API but knowing in advance that we should not use it for new projects, or migrations to current or future versions of Hibernate.



Experiencia y Conocimiento para tu vida

HIBERNATE & JPA COURSE

www.globalmentoring.com.mx

EXERCISE OBJECTIVE

Use the Query by Example API of Hibernate. At the end we should observe the following:

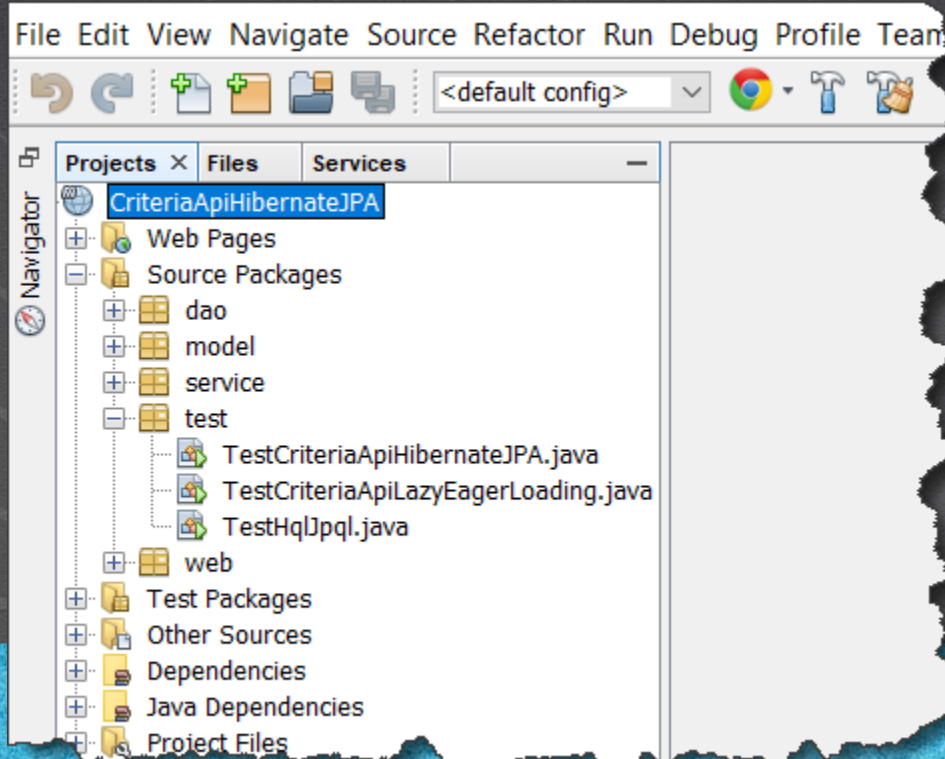
```
Output - Run (TestQbeHibernate) X
16:00:32 [main] INFO org.hibernate.cfg.Environment - HHH000206: hibernate.properties not found
16:00:32 [main] INFO org.hibernate.annotations.common.Version - HCANN000001: Hibernate Commons Annotations {5.0.4.Final}
16:00:32 [main] WARN org.hibernate.orm.connections.pooling - HHH10001002: Using Hibernate built-in connection pool (not for production use!)
16:00:32 [main] INFO org.hibernate.orm.connections.pooling - HHH10001005: using driver [com.mysql.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/sms_db?useSSL=false]
16:00:32 [main] INFO org.hibernate.orm.connections.pooling - HHH10001001: Connection properties: {user=root, password=****}
16:00:32 [main] INFO org.hibernate.orm.connections.pooling - HHH10001003: Autocommit mode: false
16:00:32 [main] INFO org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl - HHH000115: Hibernate connection pool size: 20 (min=1)
16:00:32 [main] INFO org.hibernate.dialect.Dialect - HHH000400: Using dialect: org.hibernate.dialect.MySQL57Dialect
16:00:33 [main] INFO org.hibernate.hql.internal.QueryTranslatorFactoryInitiator - HHH000397: Using ASTQueryTranslatorFactory

Query 1
16:00:33 [main] WARN org.hibernate.orm.deprecation - HHH90000022: Hibernate's legacy org.hibernate.Criteria API is deprecated; use the JPA javax.persistence.criteria.CriteriaQuery
16:00:33 [main] DEBUG org.hibernate.SQL - select this_.id_student as id_studel_3_2_, this_.id_address as id_addre5_3_2_, this_.deleted as deleted2_3_2_, this_.name as name3_3_2_, t
Hibernate: select this_.id_student as id_studel_3_2_, this_.id_address as id_addre5_3_2_, this_.deleted as deleted2_3_2_, this_.name as name3_3_2_, this_.id_user as id_user6_3_2_,
16:00:33 [main] TRACE org.hibernate.type.descriptor.sql.BasicBinder - binding parameter [1] as [INTEGER] - [0]
16:00:33 [main] TRACE org.hibernate.type.descriptor.sql.BasicBinder - binding parameter [2] as [VARCHAR] - [%a]
16:00:33 [main] TRACE org.hibernate.type.descriptor.sql.BasicBinder - binding parameter [3] as [INTEGER] - [0]
Student{idStudent=4, name=Sara, version=0, deleted=0, address=Address{idAddress=5, streetName=Macarena, streetNumber=208, country=Colombia, version=0, deleted=0}, user=null}
Student{idStudent=7, name=Emma, version=0, deleted=0, address=Address{idAddress=8, streetName=King Street, streetNumber=280, country=U.S, version=0, deleted=0}, user=null}

Run (TestQbeHibernate)
```

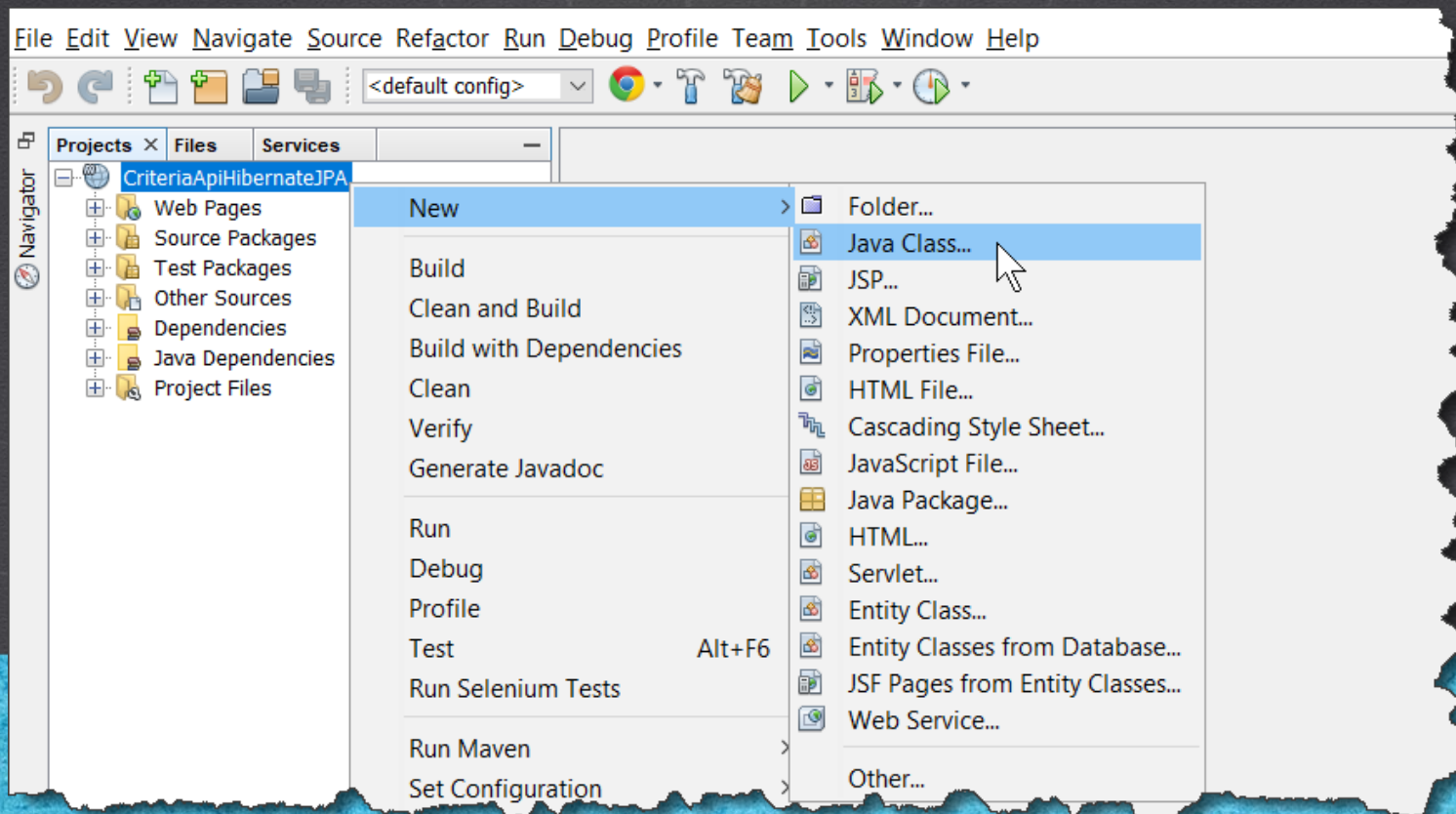
1. USE THE PROJECT

Use the CriteriaApiHibernateJPA project:



2. CREATE A CLASS

Create the TestQbeHibernate.java class:



2. CREATE A CLASS

Create the TestQbeHibernate.java class:

New Java Class

Steps

1. Choose File Type
2. **Name and Location**

Name and Location

Class Name:

Project:

Location:

Package:

Created File:

< Back Next > **Finish** Cancel Help

3. MODIFY THE CODE

TestQbeHibernate.java:

Click to download

```
package test;

import java.util.List;
import javax.persistence.*;
import model.*;
import org.hibernate.Session;
import org.hibernate.criterion.Example;
import org.hibernate.criterion.MatchMode;

public class TestQbeHibernate {

    public static void main(String[] args) {
        EntityManagerFactory fabrica = Persistence.createEntityManagerFactory("HibernateJpaPU");
        EntityManager em = fabrica.createEntityManager();

        //Help variables
        Session session = em.unwrap(Session.class);
        List<Student> students = null;
        Student student = null;

        // Query 1
        System.out.println("\nQuery 1");
        student = new Student(); //DTO class
        student.setName("a");
```

3. MODIFY THE CODE

TestQbeHibernate.java:

Click to download

```
//Example class that wraps the DTO
Example example = Example.create(student).ignoreCase().enableLike(MatchMode.END);
students = session.createCriteria(Student.class)//Query by Criteria
    .add(example) //the query is filtered with the DTO wrapped in a class Example
    .list();

printStudents(students);
}

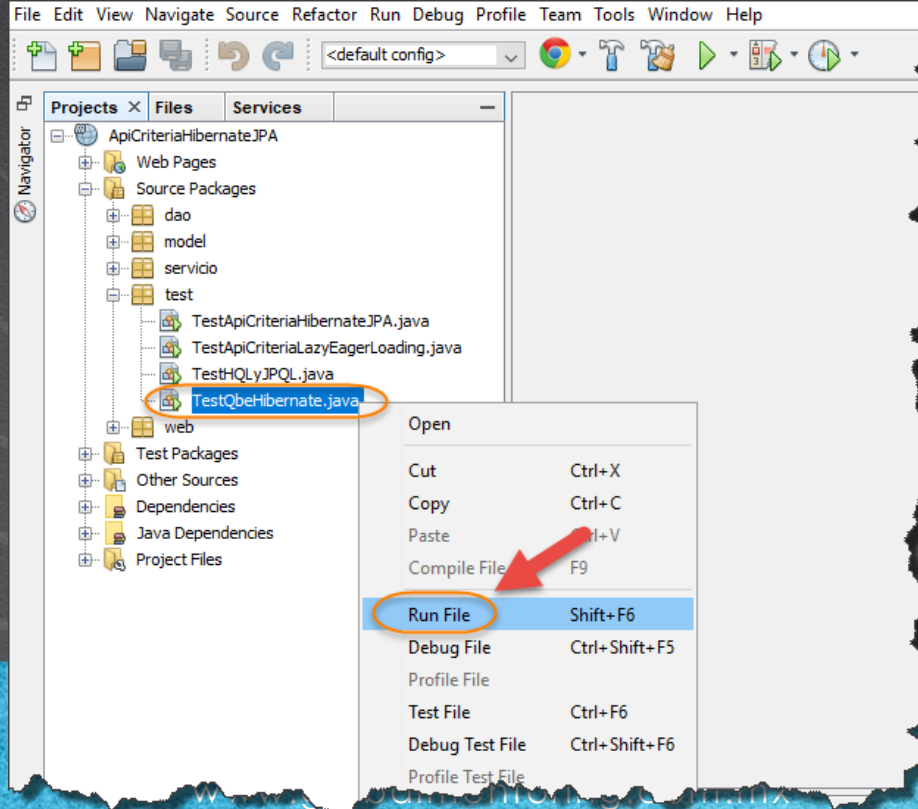
private static void printStudents(List<Student> students) {
    for (Student s : students) {
        System.out.println(s);
    }
}
}
```

HIBERNATE & JPA COURSE

www.globalmentoring.com.mx

4. EXECUTE THE CLASS

Execute the class:



4. EXECUTE THE CLASS

Execute the class:

```
Output - Run (TestQbeHibernate) x
16:00:32 [main] INFO org.hibernate.cfg.Environment - HHH000206: hibernate.properties not found
16:00:32 [main] INFO org.hibernate.annotations.common.Version - HCANN000001: Hibernate Commons Annotations {5.0.4.Final}
16:00:32 [main] WARN org.hibernate.orm.connections.pooling - HHH10001002: Using Hibernate built-in connection pool (not for production use!)
16:00:32 [main] INFO org.hibernate.orm.connections.pooling - HHH10001005: using driver [com.mysql.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/sms_db?useSSL=false]
16:00:32 [main] INFO org.hibernate.orm.connections.pooling - HHH10001001: Connection properties: {user=root, password=****}
16:00:32 [main] INFO org.hibernate.orm.connections.pooling - HHH10001003: Autocommit mode: false
16:00:32 [main] INFO org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl - HHH000115: Hibernate connection pool size: 20 (min=1)
16:00:32 [main] INFO org.hibernate.dialect.Dialect - HHH000400: Using dialect: org.hibernate.dialect.MySQL57Dialect
16:00:33 [main] INFO org.hibernate.hql.internal.QueryTranslatorFactoryInitiator - HHH000397: Using ASTQueryTranslatorFactory

Query 1
16:00:33 [main] WARN org.hibernate.orm.deprecation - HHH90000022: Hibernate's legacy org.hibernate.Criteria API is deprecated; use the JPA javax.persistence.criteria.CriteriaQuery
16:00:33 [main] DEBUG org.hibernate.SQL - select this_.id_student as id_studel_3_2_, this_.id_address as id_addres_3_2_, this_.deleted as deleted2_3_2_, this_.name as name3_3_2_, this_.id_user as id_user6_3_2_ from student this_
Hibernate: select this_.id_student as id_studel_3_2_, this_.id_address as id_addres_3_2_, this_.deleted as deleted2_3_2_, this_.name as name3_3_2_, this_.id_user as id_user6_3_2_ from student this_
16:00:33 [main] TRACE org.hibernate.type.descriptor.sql.BasicBinder - binding parameter [1] as [INTEGER] - [0]
16:00:33 [main] TRACE org.hibernate.type.descriptor.sql.BasicBinder - binding parameter [2] as [VARCHAR] - [%a]
16:00:33 [main] TRACE org.hibernate.type.descriptor.sql.BasicBinder - binding parameter [3] as [INTEGER] - [0]
Student{idStudent=4, name=Sara, version=0, deleted=0, address=Address{idAddress=5, streetName=Macarena, streetNumber=208, country=Colombia, version=0, deleted=0}, user=null}
Student{idStudent=7, name=Emma, version=0, deleted=0, address=Address{idAddress=8, streetName=King Street, streetNumber=280, country=U.S, version=0, deleted=0}, user=null}
```

Run (TestQbeHibernate)

EXERCISE CONCLUSION

- Unfortunately this API has been depreciated in version 5.2 of Hibernate, so this API should not be used for current or future developments.
- Hibernate and JPA recommend using the JPA criteria API which was used in the previous example.



HIBERNATE & JPA COURSE

www.globalmentoring.com.mx

ONLINE COURSE

HIBERNATE & JPA

By: Eng. Ubaldo Acosta



HIBERNATE & JPA COURSE

www.globalmentoring.com.mx