



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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## Experiment - 9

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**Semester:** 5<sup>th</sup>

**Date of Performance:** 21/10/25

**Subject Name:** Project Based Learning in Java

**Subject Code:** 23CSH-304

**UID:** 23BCS10849

**Section/Group:** KRG-2B

### **Aim:**

Perform CRUD (Create, Read, Update, Delete) operations on a Student entity using Hibernate ORM with MySQL.

### **Objective:**

To learn Hibernate configuration, entity mapping, and CRUD execution with MySQL.

### **Apparatus / Tools Used:**

Java, Hibernate, MySQL, Eclipse / IntelliJ, hibernate.cfg.xml

### **Requirements:**

- Create Student entity (id, name, age)
- Configure Hibernate using hibernate.cfg.xml
- Implement SessionFactory
- Perform Insert, Read, Update, Delete

### **Procedure:**

1. Configure MySQL database and add Hibernate dependencies.
2. Create hibernate.cfg.xml with DB credentials.
3. Create Student.java with @Entity, @Id, @GeneratedValue annotations.
4. Create HibernateUtil class for SessionFactory.
5. Implement CRUD using session.save(), session.get(), session.update(),

```
session.delete();
```

6. Test using a main class.

**Code: (Student.java)**

```
@Entity
public class Student
{ @Id
  @GeneratedValue(strategy = GenerationType.IDENTITY)
  private int id;
  private String name;
  private int age;

  //getters, setters, constructors
}
```

**Code: (Main CRUD Test)**

```
Session session = HibernateUtil.getSessionFactory().openSession();
Transaction tx = session.beginTransaction();
```

```
Student s = new Student();
s.setName("John");
s.setAge(22);
session.save(s);
```

```
Student st = session.get(Student.class,1); st.setAge(23);
session.update(st);
```

```
session.delete(st);
tx.commit();
session.close();
```

**Sample Output:**

```
Insert Success!
Fetch: ID=1, Name=John, Age=22
Update Success: Age changed to 23
Delete Success!
```