

Java Full Stack Development

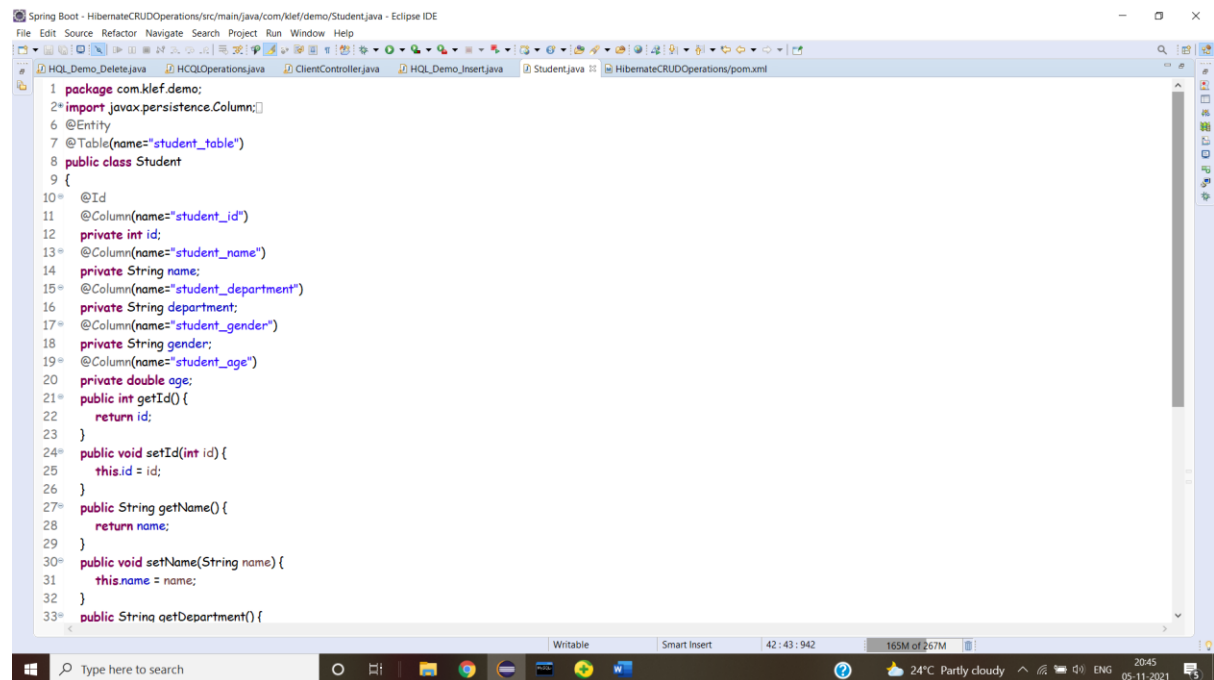
Skilling-7

ID NO: 190030677

Name: K. Sravani

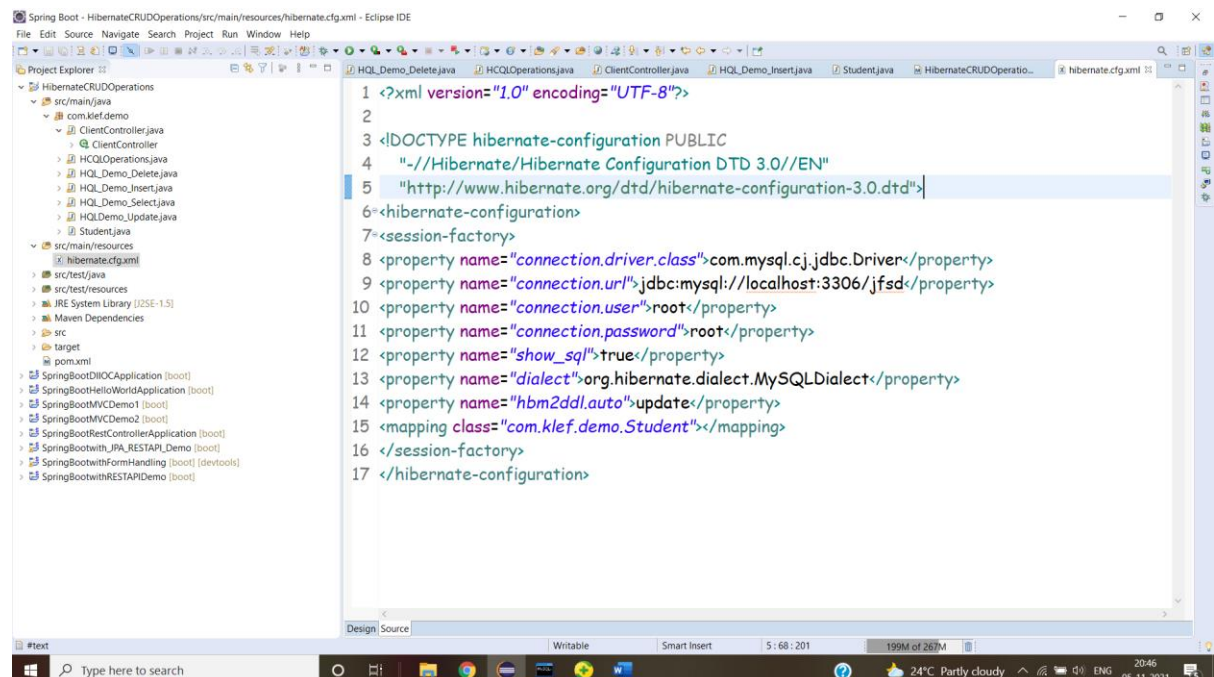
HQL

Student.java



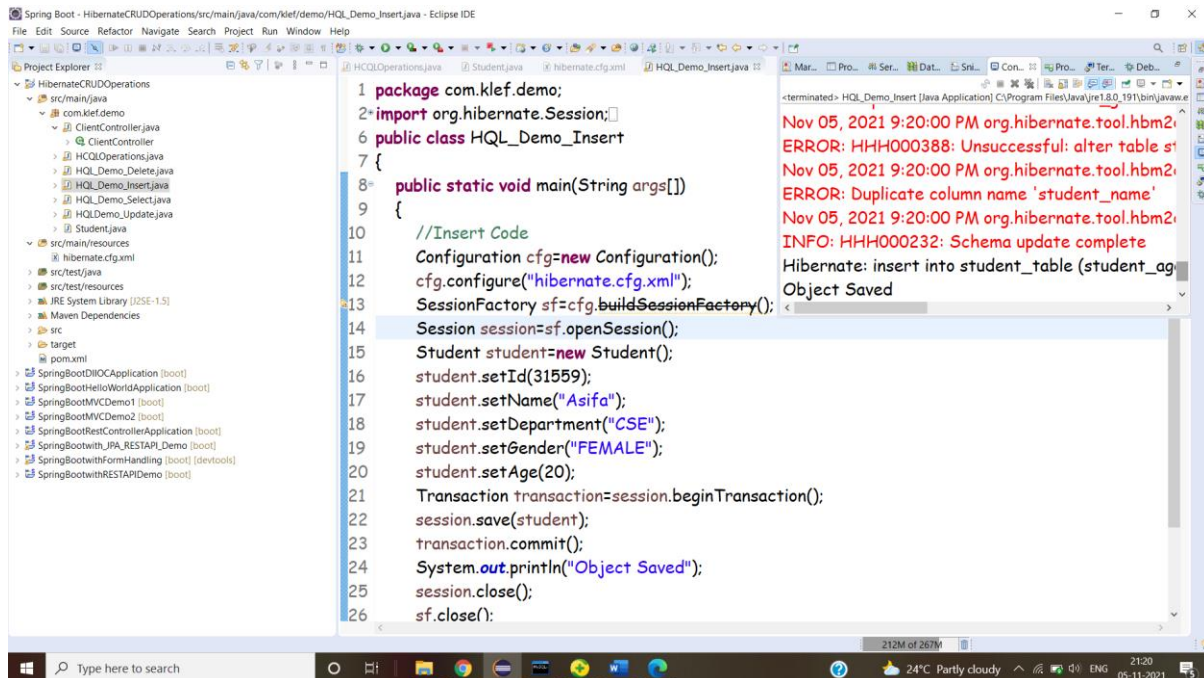
```
1 package com.klef.demo;
2 import javax.persistence.Column;
3 import javax.persistence.Entity;
4 import javax.persistence.Table;
5
6 @Entity
7 @Table(name="student_table")
8 public class Student
9 {
10     @Id
11     @Column(name="student_id")
12     private int id;
13     @Column(name="student_name")
14     private String name;
15     @Column(name="student_department")
16     private String department;
17     @Column(name="student_gender")
18     private String gender;
19     @Column(name="student_age")
20     private double age;
21     public int getId() {
22         return id;
23     }
24     public void setId(int id) {
25         this.id = id;
26     }
27     public String getName() {
28         return name;
29     }
30     public void setName(String name) {
31         this.name = name;
32     }
33     public String getDepartment() {
```

Hibernate.cfg.xml



```
1 <?xml version="1.0" encoding="UTF-8"?>
2
3 <!DOCTYPE hibernate-configuration PUBLIC
4     "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
5     "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
6 <hibernate-configuration>
7 <session-factory>
8 <property name="connection.driver.class">com.mysql.cj.jdbc.Driver</property>
9 <property name="connection.url">jdbc:mysql://localhost:3306/jfsd</property>
10 <property name="connection.user">root</property>
11 <property name="connection.password">root</property>
12 <property name="show_sql">>true</property>
13 <property name="dialect">org.hibernate.dialect.MySQLDialect</property>
14 <property name="hbm2ddl.auto">update</property>
15 <mapping class="com.klef.demo.Student"></mapping>
16 </session-factory>
17 </hibernate-configuration>
```

Insert Operation:

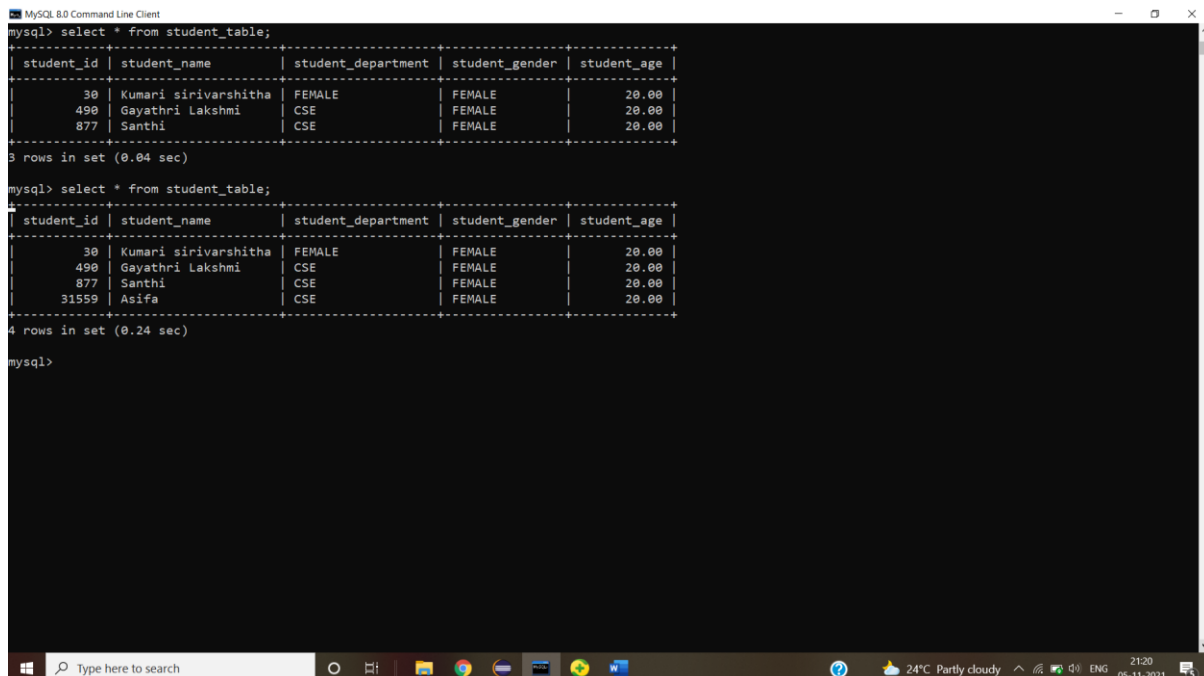


The screenshot shows the Eclipse IDE with a Java project named 'HibernateCRUDOperations'. The main editor displays the file 'HQL_Demo_Insert.java' with the following code:

```
1 package com.klef.demo;
2 import org.hibernate.Session;
6 public class HQL_Demo_Insert
7 {
8     public static void main(String args[])
9     {
10         //Insert Code
11         Configuration cfg=new Configuration();
12         cfg.configure("hibernate.cfg.xml");
13         SessionFactory sf=cfg.buildSessionFactory();
14         Session session=sf.openSession();
15         Student student=new Student();
16         student.setId(31559);
17         student.setName("Asifa");
18         student.setDepartment("CSE");
19         student.setGender("FEMALE");
20         student.setAge(20);
21         Transaction transaction=session.beginTransaction();
22         session.save(student);
23         transaction.commit();
24         System.out.println("Object Saved");
25         session.close();
26         sf.close();
27     }
28 }
```

The console window on the right shows the following output:

```
<terminated> HQL_Demo_Insert [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe
Nov 05, 2021 9:20:00 PM org.hibernate.tool.hbm2ddl.SchemaExporterImpl$SchemaExporterImpl
ERROR: HHH000388: Unsuccessful: alter table student alter column student_name type varchar(255)
Nov 05, 2021 9:20:00 PM org.hibernate.tool.hbm2ddl.SchemaExporterImpl$SchemaExporterImpl
ERROR: Duplicate column name 'student_name'
Nov 05, 2021 9:20:00 PM org.hibernate.tool.hbm2ddl.SchemaExporterImpl$SchemaExporterImpl
INFO: HHH000232: Schema update complete
Hibernate: insert into student_table (student_id, student_name, student_department, student_gender, student_age)
values (31559, 'Asifa', 'CSE', 'FEMALE', 20)
Object Saved
```



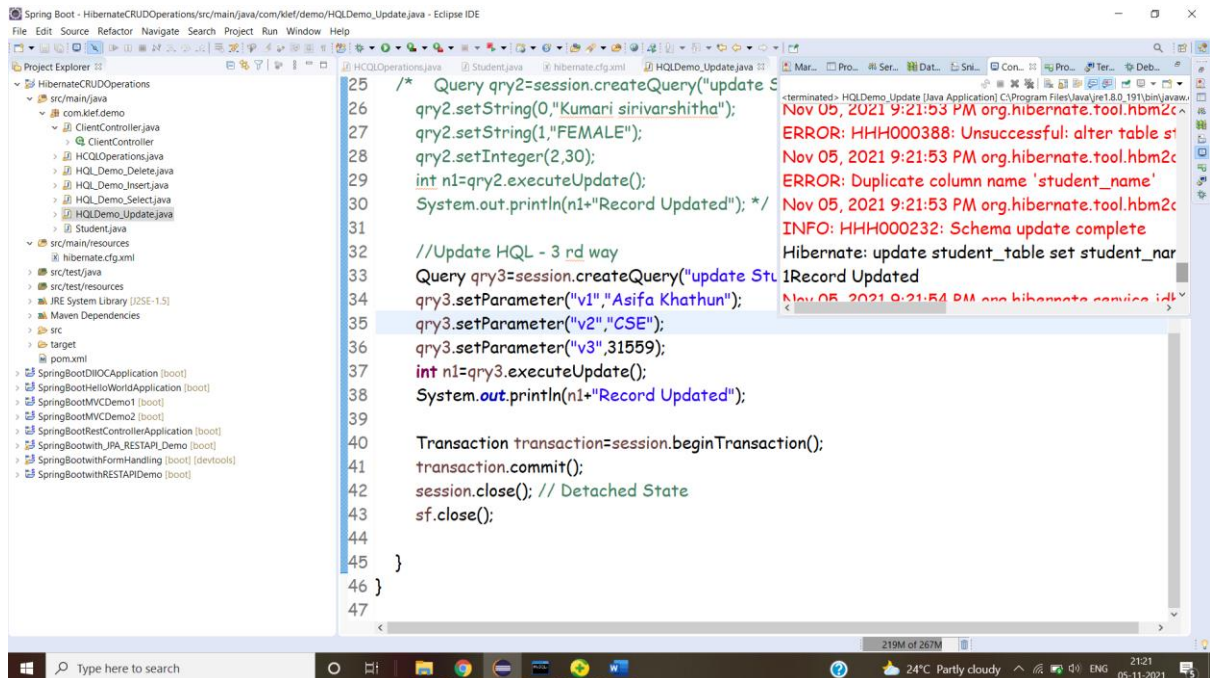
The screenshot shows the MySQL Command Line Client with the following output:

```
mysql> select * from student_table;
+-----+-----+-----+-----+-----+
| student_id | student_name | student_department | student_gender | student_age |
+-----+-----+-----+-----+-----+
| 30 | Kumari sirivarshitha | FEMALE | FEMALE | 20.00 |
| 490 | Gayathri Lakshmi | CSE | FEMALE | 20.00 |
| 877 | Santhi | CSE | FEMALE | 20.00 |
+-----+-----+-----+-----+-----+
3 rows in set (0.04 sec)

mysql> select * from student_table;
+-----+-----+-----+-----+-----+
| student_id | student_name | student_department | student_gender | student_age |
+-----+-----+-----+-----+-----+
| 30 | Kumari sirivarshitha | FEMALE | FEMALE | 20.00 |
| 490 | Gayathri Lakshmi | CSE | FEMALE | 20.00 |
| 877 | Santhi | CSE | FEMALE | 20.00 |
| 31559 | Asifa | CSE | FEMALE | 20.00 |
+-----+-----+-----+-----+-----+
4 rows in set (0.24 sec)

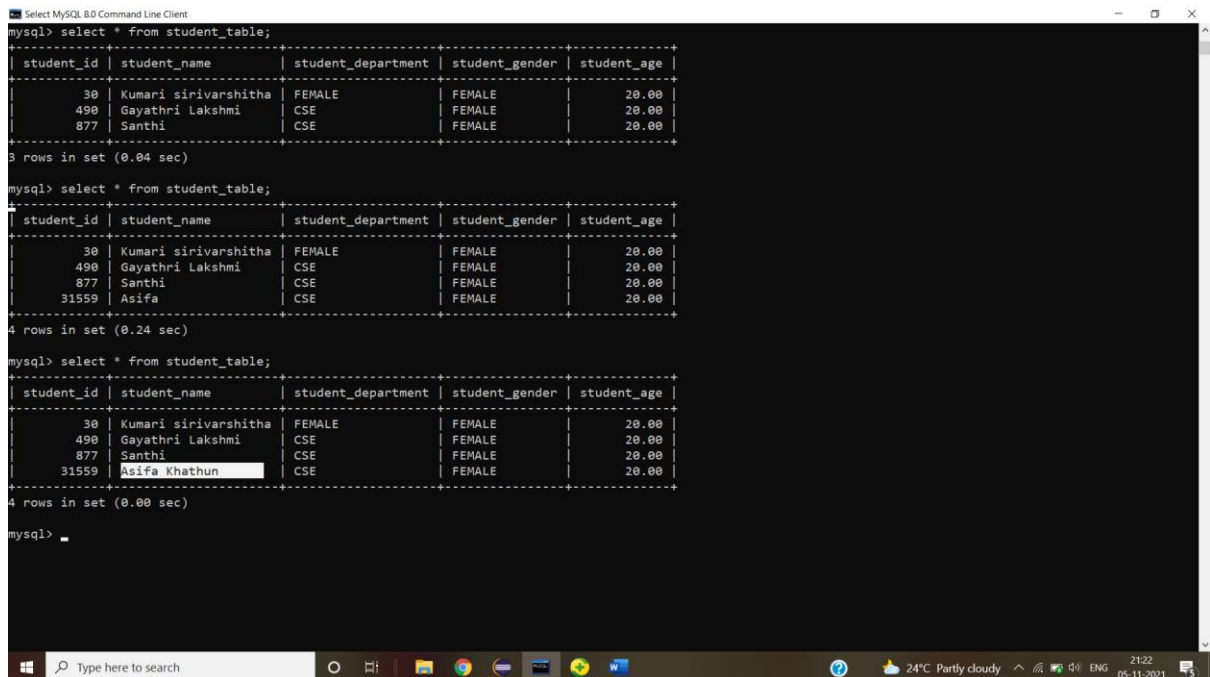
mysql>
```

Update Operation



The screenshot shows the Eclipse IDE with a Java project named 'hibernateCRUDOperations'. The main editor displays the 'HQLDemo_Update.java' file. The code defines a 'Student' entity and performs an update operation. The console window on the right shows the following output:

```
Nov 05, 2021 9:21:53 PM org.hibernate.tool.hbm2ddl.SchemaUpdate
ERROR: HHH000388: Unsuccessful: alter table student
Nov 05, 2021 9:21:53 PM org.hibernate.tool.hbm2ddl.SchemaUpdate
ERROR: Duplicate column name 'student_name'
Nov 05, 2021 9:21:53 PM org.hibernate.tool.hbm2ddl.SchemaUpdate
INFO: HHH000232: Schema update complete
Hibernate: update student_table set student_name=Asifa Khathun where student_id=30
```



The screenshot shows the MySQL 8.0 Command Line Client. The user has executed the command 'select * from student_table;' three times, showing the state of the table before and after an update operation. The table has the following columns: student_id, student_name, student_department, student_gender, and student_age.

student_id	student_name	student_department	student_gender	student_age
30	Kumari sirivarshitha	FEMALE	FEMALE	20.00
490	Gayathri Lakshmi	CSE	FEMALE	20.00
877	Santhi	CSE	FEMALE	20.00

3 rows in set (0.04 sec)

student_id	student_name	student_department	student_gender	student_age
30	Kumari sirivarshitha	FEMALE	FEMALE	20.00
490	Gayathri Lakshmi	CSE	FEMALE	20.00
877	Santhi	CSE	FEMALE	20.00
31559	Asifa	CSE	FEMALE	20.00

4 rows in set (0.24 sec)

student_id	student_name	student_department	student_gender	student_age
30	Kumari sirivarshitha	FEMALE	FEMALE	20.00
490	Gayathri Lakshmi	CSE	FEMALE	20.00
877	Santhi	CSE	FEMALE	20.00
31559	Asifa Khathun	CSE	FEMALE	20.00

4 rows in set (0.00 sec)

Delete Operation

The screenshot shows the Eclipse IDE with a Java project named 'HibernateCRUDOperations'. The main editor displays the file 'HQL_Demo_Delete.java'. The code includes comments for two deletion methods: 'Delete HQL - 2 nd way' and 'Delete HQL - 3 rd Way'. The 2nd way uses a query to delete from the 'student' table where the ID is 30677. The 3rd way uses a query to delete from the 'student' table where the ID is 31559. The code also includes transaction management and session closing.

```
21 //int n1=qry1.executeUpdate();
22 //System.out.println(n1+"Object deleted");
23
24 //Delete HQL - 2 nd way
25 /* Query qry2=session.createQuery("delete from
26 qry2.setInteger(0,30677);
27 int n1=qry2.executeUpdate();
28 System.out.println(n1+"Object deleted"); */
29
30 //Delete HQL - 3 rd Way
31 Query qry3=session.createQuery("delete from Student where id=:v");
32 qry3.setParameter("v",31559);
33 int n1=qry3.executeUpdate();
34 System.out.println(n1+"Object deleted");
35
36 Transaction transaction=session.beginTransaction();
37 transaction.commit();
38 session.close(); // Detached State
39 sf.close();
40
41 }
42 }
43
```

The console window on the right shows the following output:

```
<terminated> HQL_Demo_Delete [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.
Nov 05, 2021 9:23:13 PM org.hibernate.tool.hbm2c
ERROR: HHH000388: Unsuccessful: alter table s
Nov 05, 2021 9:23:13 PM org.hibernate.tool.hbm2c
ERROR: Duplicate column name 'student_name'
Nov 05, 2021 9:23:13 PM org.hibernate.tool.hbm2c
INFO: HHH000232: Schema update complete
Hibernate: delete from student_table where stud
1Object deleted
```

The screenshot shows the MySQL 8.0 Command Line Client. It displays the state of the 'student_table' before and after a deletion operation. The table has columns: student_id, student_name, student_department, student_gender, and student_age.

Initial state (before deletion):

student_id	student_name	student_department	student_gender	student_age
30	Kumari sirivarshitha	FEMALE	FEMALE	20.00
490	Gayathri Lakshmi	CSE	FEMALE	20.00
877	Santhi	CSE	FEMALE	20.00

3 rows in set (0.04 sec)

After deletion (using query 2):

```
mysql> select * from student_table;
```

student_id	student_name	student_department	student_gender	student_age
30	Kumari sirivarshitha	FEMALE	FEMALE	20.00
490	Gayathri Lakshmi	CSE	FEMALE	20.00
877	Santhi	CSE	FEMALE	20.00
31559	Asifa	CSE	FEMALE	20.00

4 rows in set (0.24 sec)

After deletion (using query 3):

```
mysql> select * from student_table;
```

student_id	student_name	student_department	student_gender	student_age
30	Kumari sirivarshitha	FEMALE	FEMALE	20.00
490	Gayathri Lakshmi	CSE	FEMALE	20.00
877	Santhi	CSE	FEMALE	20.00
31559	Asifa Khathun	CSE	FEMALE	20.00

4 rows in set (0.00 sec)

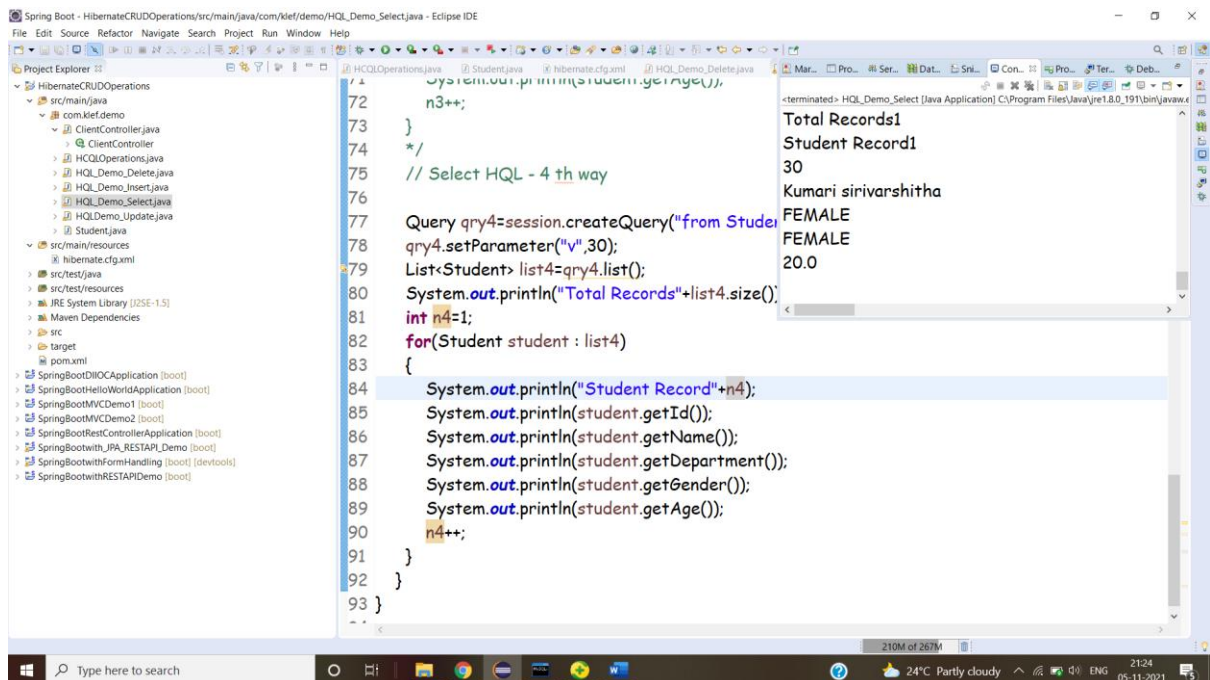
After deletion (using query 4):

```
mysql> select * from student_table;
```

student_id	student_name	student_department	student_gender	student_age
30	Kumari sirivarshitha	FEMALE	FEMALE	20.00
490	Gayathri Lakshmi	CSE	FEMALE	20.00
877	Santhi	CSE	FEMALE	20.00

3 rows in set (0.04 sec)

View Operation

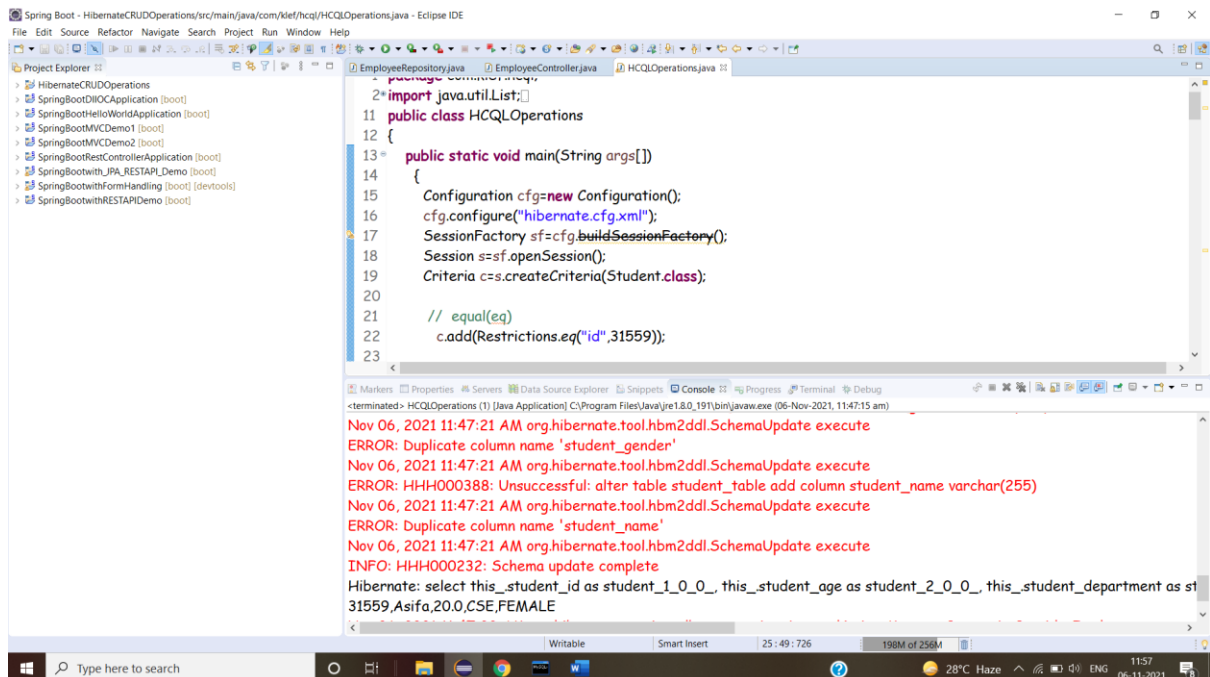


```
System.out.println(student.getName());
n3++;
}
*/
// Select HQL - 4 th way
Query qry4=session.createQuery("from Student");
qry4.setParameter("v",30);
List<Student> list4=qry4.list();
System.out.println("Total Records"+list4.size());
int n4=1;
for(Student student : list4)
{
    System.out.println("Student Record"+n4);
    System.out.println(student.getId());
    System.out.println(student.getName());
    System.out.println(student.getDepartment());
    System.out.println(student.getGender());
    System.out.println(student.getAge());
    n4++;
}
}
```

terminated> HQL_Demo_Select [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe

Total Records1
Student Record1
30
Kumari sirivarshitha
FEMALE
FEMALE
20.0

HCQL



```
2=import java.util.List;
11 public class HCQLOperations
12 {
13     public static void main(String args[])
14     {
15         Configuration cfg=new Configuration();
16         cfg.configure("hibernate.cfg.xml");
17         SessionFactory sf=cfg.buildSessionFactory();
18         Session s=sf.openSession();
19         Criteria c=s.createCriteria(Student.class);
20
21         // equal(eq)
22         c.add(Restrictions.eq("id",31559));
23     }
}
```

Nov 06, 2021 11:47:21 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute
ERROR: Duplicate column name 'student_gender'
Nov 06, 2021 11:47:21 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute
ERROR: HHH000388: Unsuccessful: alter table student_table add column student_name varchar(255)
Nov 06, 2021 11:47:21 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute
ERROR: Duplicate column name 'student_name'
Nov 06, 2021 11:47:21 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute
INFO: HHH000232: Schema update complete
Hibernate: select this_student_id as student_1_0_0_, this_student_age as student_2_0_0_, this_student_department as st31559,Asifa,20.0,CSE,FEMALE

Spring Boot - HibernateCRUDOperations/src/main/java/com/kief/hcq/HQLOperations.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- HibernateCRUDOperations
 - SpringBootDIIApplication [boot]
 - SpringBootHelloWorldApplication [boot]
 - SpringBootMVCDemo1 [boot]
 - SpringBootMVCDemo2 [boot]
 - SpringBootRestControllerApplication [boot]
 - SpringBootwith_IPA_RESTAPI_Demo [boot]
 - SpringBootwithFormHandling [boot] [devtools]
 - SpringBootwithRESTAPIDemo [boot]

EmployeeRepository.java EmployeeController.java HQLOperations.java

```
19 Criteria c=s.createCriteria(Student.class);
20
21 // equal(eq)
22 // c.add(Restrictions.eq("id",31559));
23
24 //2.lessThan(it)
25 c.add(Restrictions.lt("age",21.0));
26
27 //3.greaterThan(gt)
28 c.add(Restrictions.gt("age",19.0));
29
30 //4.lessThan or equal to(le)
31 c.add(Restrictions.le("age",19.0));
32
```

Markers Properties Servers Data Source Explorer Snippets Console Progress Terminal Debug

<terminated> HQLOperations (1) [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\java.exe (06-Nov-2021, 11:57:39 am)

Nov 06, 2021 11:57:39 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

ERROR: Duplicate column name 'student_gender'

Nov 06, 2021 11:57:42 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

ERROR: HHH000388: Unsuccessful: alter table student_table add column student_name varchar(255)

Nov 06, 2021 11:57:42 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

ERROR: Duplicate column name 'student_name'

Nov 06, 2021 11:57:42 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

INFO: HHH000232: Schema update complete

Hibernate: select this_student_id as student_1_0_0_, this_student_age as student_2_0_0_, this_student_department as st

31559,Asifa,20.0,CSE,FEMALE

196M of 256M

Type here to search

28°C Haze 11:57 06-11-2021

Spring Boot - HibernateCRUDOperations/src/main/java/com/kief/hcq/HQLOperations.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- HibernateCRUDOperations
 - src/main/java
 - com.kief.demo
 - ClientController.java
 - HQLOperations.java
 - HQL_Demo_Delete.java
 - HQL_Demo_Insert.java
 - HQL_Demo_Select.java
 - HQLDemo_Update.java
 - Student.java
 - com.kief.hcq
 - src/main/resources
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml
- SpringBootDIIApplication [boot]
- SpringBootHelloWorldApplication [boot]
- SpringBootMVCDemo1 [boot]
- SpringBootMVCDemo2 [boot]
- SpringBootRestControllerApplication [boot]
- SpringBootwith_IPA_RESTAPI_Demo [boot]
- SpringBootwithFormHandling [boot] [devtools]
- SpringBootwithRESTAPIDemo [boot]

EmployeeRepository.java EmployeeController.java HQLOperations.java

```
19 Criteria c=s.createCriteria(Student.class);
20
21 // equal(eq)
22 // c.add(Restrictions.eq("id",31559));
23
24 //2.lessThan(it)
25 // c.add(Restrictions.lt("age",21.0));
26
27 //3.greaterThan(gt)
28 c.add(Restrictions.gt("age",19.0));
29
30 //4.lessThan or equal to(le)
31 c.add(Restrictions.le("age",19.0));
32
```

Markers Properties Servers Data Source Explorer Snippets Console Progress Terminal Debug

<terminated> HQLOperations (1) [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\java.exe (06-Nov-2021, 11:58:59 am)

Nov 06, 2021 11:59:03 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

ERROR: Duplicate column name 'student_gender'

Nov 06, 2021 11:59:03 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

ERROR: HHH000388: Unsuccessful: alter table student_table add column student_name varchar(255)

Nov 06, 2021 11:59:03 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

ERROR: Duplicate column name 'student_name'

Nov 06, 2021 11:59:03 AM org.hibernate.tool.hbm2ddl.SchemaUpdate execute

INFO: HHH000232: Schema update complete

Hibernate: select this_student_id as student_1_0_0_, this_student_age as student_2_0_0_, this_student_department as st

877,Santhi,20.0,CSE,FEMALE

31559,Asifa,20.0,CSE,FEMALE

147M of 256M

Type here to search

28°C Haze 11:59 06-11-2021

