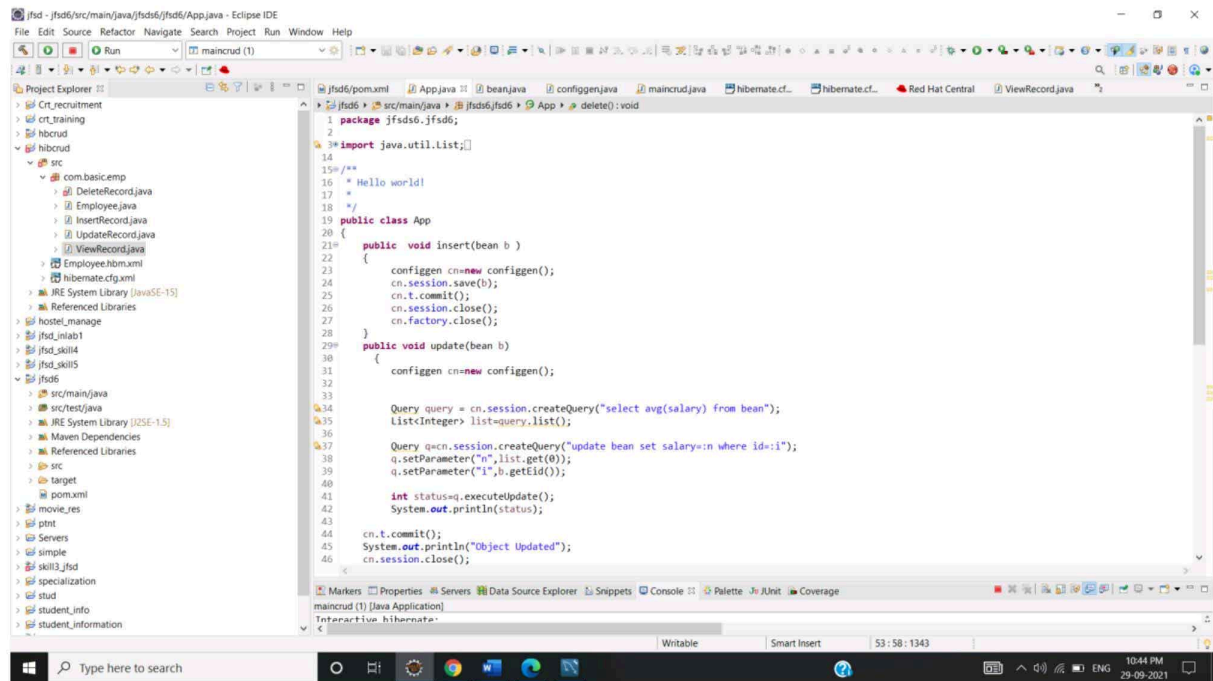


#SKILL-6 → Hibernate

Prerequisites:

Basic Idea on Hibernate

1. Harshith is a manager for an IT (Information Technology) Company who maintains the records of his employees. Store the Employee details with the following attributes Empid, Ename, Dept, Age, Salary and use sequence generator class for Empid. Develop a separate hibernate applications for the following (should not use Hibernate Query Language).



```
jfsd - jfsd6/src/main/java/jfsd6/jfsd6/App.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

jfsd6/pom.xml App.java bean.java configgen.java maincrud.java hibernate.cf... hibernate.cf... Red Hat Central ViewRecord.java

Project Explorer
jfsd6
  src
    com.basicemp
      DeleteRecord.java
      Employee.java
      InsertRecord.java
      UpdateRecord.java
      ViewRecord.java
      Employee.hbm.xml
      hibernate.cfg.xml
  jRE System Library (J2SE-1.5)
  Maven Dependencies
  Referenced Libraries
  jfsd_inlab1
  jfsd_skill4
  jfsd_skill5
  jfsd6
    src/main/java
    src/test/java
  jRE System Library (J2SE-1.5)
  Maven Dependencies
  Referenced Libraries
  src
  target
  pom.xml
  movie_res
  pntn
  Servers
  simple
  specialization
  stud
  student_info
  student_information

jfsd6/pom.xml App.java bean.java configgen.java maincrud.java hibernate.cf... hibernate.cf... Red Hat Central ViewRecord.java

package jfsd6.jfsd6;
import java.util.List;

public class App {
    public void insert(bean b) {
        configgen cn=new configgen();
        cn.session.save(b);
        cn.t.commit();
        cn.session.close();
        cn.factory.close();
    }

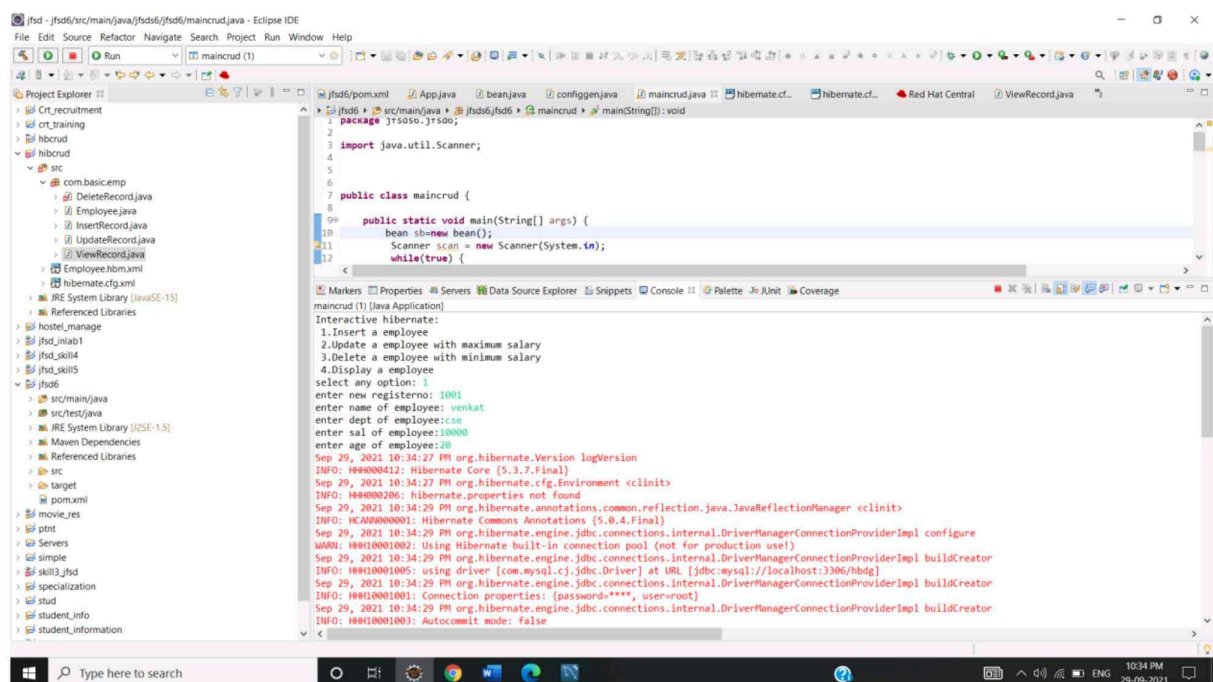
    public void update(bean b) {
        configgen cn=new configgen();

        Query query = cn.session.createQuery("select avg(salary) from bean");
        List<Integer> list=query.list();

        Query q=cn.session.createQuery("update bean set salary=:n where id=:i");
        q.setParameter("n",list.get(0));
        q.setParameter("i",b.getId());

        int status=q.executeUpdate();
        System.out.println(status);

        cn.t.commit();
        System.out.println("Object Updated");
        cn.session.close();
    }
}
```



```
jfsd - jfsd6/src/main/java/jfsd6/jfsd6/maincrud.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

jfsd6/pom.xml App.java bean.java configgen.java maincrud.java hibernate.cf... hibernate.cf... Red Hat Central ViewRecord.java

Project Explorer
jfsd6
  src
    com.basicemp
      DeleteRecord.java
      Employee.java
      InsertRecord.java
      UpdateRecord.java
      ViewRecord.java
      Employee.hbm.xml
      hibernate.cfg.xml
  jRE System Library (J2SE-1.5)
  Maven Dependencies
  Referenced Libraries
  jfsd_inlab1
  jfsd_skill4
  jfsd_skill5
  jfsd6
    src/main/java
    src/test/java
  jRE System Library (J2SE-1.5)
  Maven Dependencies
  Referenced Libraries
  src
  target
  pom.xml
  movie_res
  pntn
  Servers
  simple
  specialization
  stud
  student_info
  student_information

jfsd6/pom.xml App.java bean.java configgen.java maincrud.java hibernate.cf... hibernate.cf... Red Hat Central ViewRecord.java

package jfsd6.jfsd6;
import java.util.Scanner;

public class maincrud {
    public static void main(String[] args) {
        bean sb=new bean();
        Scanner scan = new Scanner(System.in);
        while(true) {
            Interactive hibernate:
            1.Insert a employee
            2.Update a employee with maximum salary
            3.Delete a employee with minimum salary
            4.Display a employee
            select any option: 1
            enter new registerno: 1001
            enter name of employee: venkat
            enter dept of employee: cse
            enter sal of employee: 100000
            enter age of employee: 20
            Sep 29, 2021 10:34:27 PM org.hibernate.Version logVersion
            INFO: HHH0000412: Hibernate Core (5.3.7.Final)
            Sep 29, 2021 10:34:27 PM org.hibernate.cfg.Environment <clinit>
            INFO: HHH0000206: hibernate.properties not found
            Sep 29, 2021 10:34:29 PM org.hibernate.annotations.common.reflection.java.JavaReflectionManager <clinit>
            INFO: HCANNN00001: Hibernate Commons Annotations (5.0.4.Final)
            Sep 29, 2021 10:34:29 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure
            WARN: HHH10001002: Using Hibernate built-in connection pool (not for production use!)
            Sep 29, 2021 10:34:29 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
            INFO: HHH10001005: using driver [com.mysql.cj.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/hbdc]
            Sep 29, 2021 10:34:29 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
            INFO: HHH10001001: Connection properties: (password=****, user=root)
            Sep 29, 2021 10:34:29 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
            INFO: HHH10001003: Autocommit mode: false
        }
    }
}
```

The tasks need to be performed are stated below

a.Retrieve the details of an employee whose Empid =1001

```

45 System.out.println("Object Updated");
46 cn.session.close();
47 cn.factory.close();
48 }
49 public void delete()
50 {
51     config cn=new configgen();
52     Query query = cn.session.createQuery("select min(salary) from bean");
53     List<Integer> list=query.list();
54     Query query1=cn.session.createQuery("delete from bean where salary=:j");
55     query1.setParameter("j",list.get(0));
56     query1.executeUpdate();
57     cn.t.commit();
58     System.out.println("Object Deleted");
59     cn.session.close();
60     cn.factory.close();
61 }
62 }
63 }
64 }
65 }
66 }
67 }
68 }
69 }
70 }
71 }
72 }
73 }
74 }
75 }
76 }
77 }
78 }
79 }
80 }

```

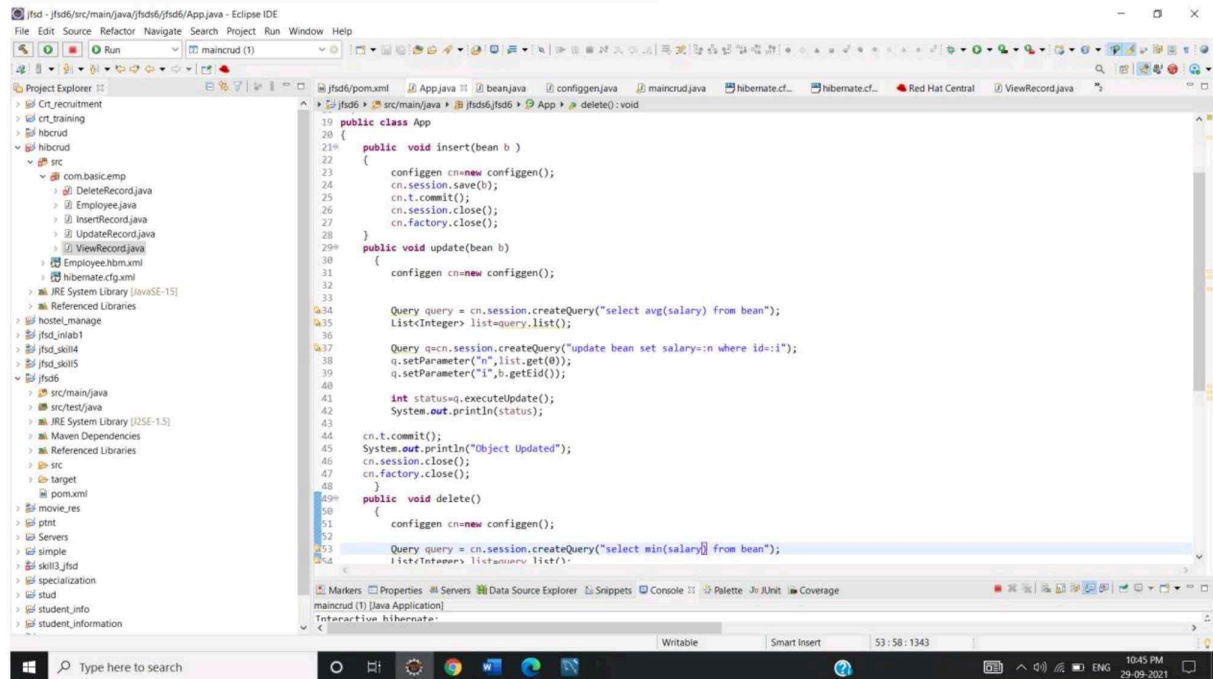
maincrud (1) [Java Application]
Interactive: hibernate:

```

1 package JTS500.JTS500;
2 import java.util.Scanner;
3
4 public class maincrud {
5
6     public static void main(String[] args) {
7         bean sb=new bean();
8         Scanner sc=new Scanner(System.in);
9         while(true) {
10
11             1.Insert a employee
12             2.Update a employee with maximum salary
13             3.Delete a employee with minimum salary
14             4.Display a employee
15             select any option: 4
16             enter existed registerno: 1001
17             Sep 29, 2021 10:34:41 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure
18             WARN: HH010001002: Using Hibernate built-in connection pool (not for production use!)
19             Sep 29, 2021 10:34:41 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
20             INFO: HH010001005: using driver [com.mysql.cj.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/hbde]
21             Sep 29, 2021 10:34:41 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
22             INFO: HH010001001: Connection properties: (password=****, user=root)
23             Sep 29, 2021 10:34:41 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
24             INFO: HH010001003: Autocommit mode: false
25             Sep 29, 2021 10:34:41 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>
26             INFO: HH0000115: Hibernate connection pool size: 20 (min=1)
27             Sep 29, 2021 10:34:41 PM org.hibernate.dialect.Dialect <init>
28             INFO: HH0000000: Using dialect: org.hibernate.dialect.MySQL5Dialect
29             Sep 29, 2021 10:34:41 PM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection
30             INFO: HH010001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConne
31             1001,venkat,10000,0,20,cse
32             Sep 29, 2021 10:34:41 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl stop
33             INFO: HH010001008: Cleaning up connection pool [jdbc:mysql://localhost:3306/hbde]
34             Interactive: hibernate:

```

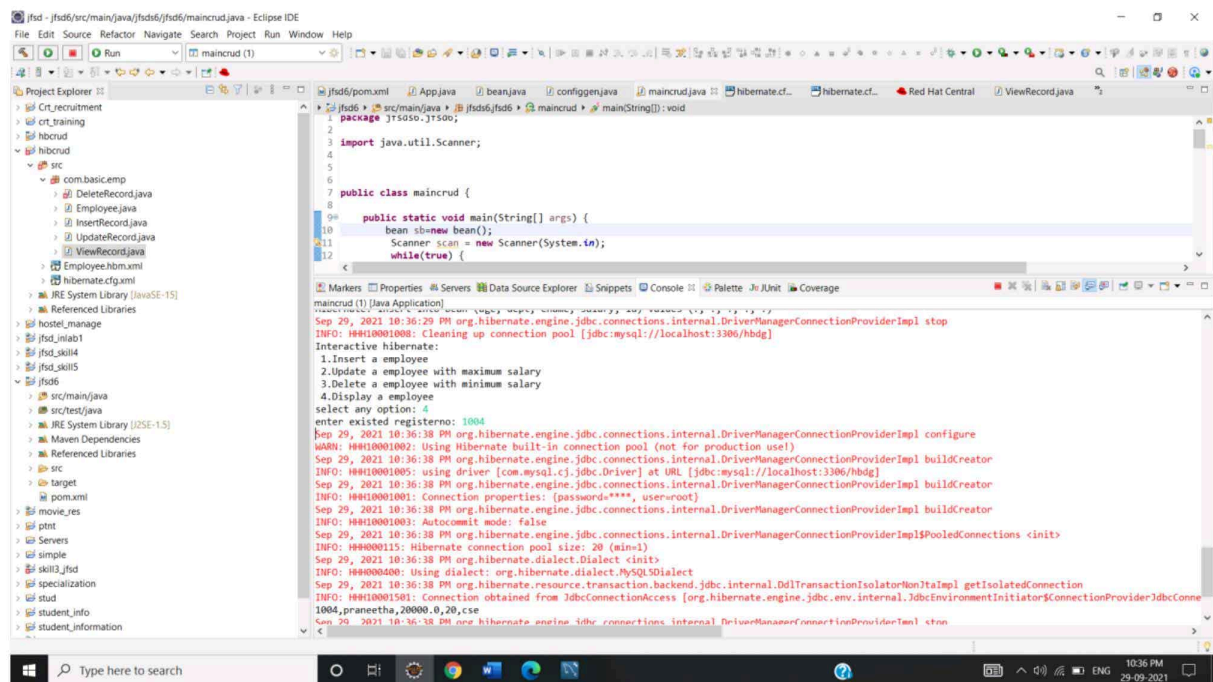
b.Update the salary of an employee whose Empid = 1004 with Average of all the Employee Salaries



```

10 public class App
20 {
21     public void insert(bean b)
22     {
23         configgen cn=new configgen();
24         cn.session.save(b);
25         cn.t.commit();
26         cn.session.close();
27         cn.factory.close();
28     }
29     public void update(bean b)
30     {
31         configgen cn=new configgen();
32
33         Query query = cn.session.createQuery("select avg(salary) from bean");
34         List<Integer> list=query.list();
35
36         Query q=cn.session.createQuery("update bean set salary=:n where id=:i");
37         q.setParameter("n",list.get(0));
38         q.setParameter("i",b.getId());
39
40         int status=q.executeUpdate();
41         System.out.println(status);
42
43         cn.t.commit();
44         System.out.println("Object Updated");
45         cn.session.close();
46         cn.factory.close();
47     }
48     public void delete()
49     {
50         configgen cn=new configgen();
51
52         Query query = cn.session.createQuery("select min(salary) from bean");
53         List<Integer> list=query.list();
54     }

```



```

1 package jfsd6.jfsd6;
2 import java.util.Scanner;
3
4 public class maincrud {
5
6     public static void main(String[] args) {
7         bean sb=new bean();
8         Scanner scan = new Scanner(System.in);
9         while(true) {
10
11             1.Insert a employee
12             2.Update a employee with maximum salary
13             3.Delete a employee with minimum salary
14             4.Display a employee
15             select any option: 4
16             enter existed registerno: 1004
17             Sep 29, 2021 10:36:29 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl stop
18             INFO: HH010001008: Cleaning up connection pool [jdbc:mysql://localhost:3306/hbdg]
19             Interactive hibernate:
20             Sep 29, 2021 10:36:38 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure
21             WARN: HH010001002: Using Hibernate built-in connection pool (not for production use!)
22             Sep 29, 2021 10:36:38 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
23             INFO: HH010001005: using driver [com.mysql.cj.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/hbdg]
24             Sep 29, 2021 10:36:38 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
25             INFO: HH010001001: Connection properties: {password=****, user=root}
26             Sep 29, 2021 10:36:38 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
27             INFO: HH010001003: Autocommit mode: false
28             Sep 29, 2021 10:36:38 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImplPooledConnections <init>
29             INFO: HH0000115: Hibernate connection pool size: 20 (min=1)
30             Sep 29, 2021 10:36:38 PM org.hibernate.dialect.Dialect <init>
31             INFO: HH0000400: Using dialect: org.hibernate.dialect.MySQL5Dialect
32             Sep 29, 2021 10:36:38 PM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection
33             INFO: HH010001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConne
34             1004,pranetha,20000,0,20,cse
35             Sep 29, 2021 10:36:38 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl stop

```


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M.Venkataramana

The screenshot shows the Eclipse IDE with the `maincrud.java` file open. The file contains the following code:

```
package JTS050.JTS00;  
  
import java.util.Scanner;  
  
public class mainString() {  
    void  
}
```

The console output shows the following logs:

```
Sep 29, 2021 10:37:36 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure  
WARN: HH010001002: Using Hibernate built-in connection pool (not for production use!)  
Sep 29, 2021 10:37:36 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator  
INFO: HH010001005: using driver [com.mysql.cj.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/hbdg]  
Sep 29, 2021 10:37:36 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator  
INFO: HH010001001: Connection properties: (password=***, user=root)  
Sep 29, 2021 10:37:36 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator  
INFO: HH010001003: Autocommit mode: false  
Sep 29, 2021 10:37:36 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>  
INFO: HH0000115: Hibernate connection pool size: 20 (min=1)  
Sep 29, 2021 10:37:36 PM org.hibernate.dialect.Dialect <init>  
INFO: HH0000400: Using dialect: org.hibernate.dialect.MySQL5Dialect  
Sep 29, 2021 10:37:36 PM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection  
INFO: HH010001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConne  
Sep 29, 2021 10:37:36 PM org.hibernate.hql.internal.QueryTranslatorFactoryInitiator initiateService  
INFO: HH0000397: Using ASTQueryTranslatorFactory  
Hibernate: select avg(bean0_.salary) as col_0_0_ from bean bean0_  
Hibernate: update bean set salary=? where id=?  
1  
Object Updated  
Sep 29, 2021 10:37:36 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl stop  
INFO: HH010001008: Cleaning up connection pool [jdbc:mysql://localhost:3306/hbdg]  
Interactive hibernate:  
1.Insert a employee  
2.Update a employee with maximum salary  
3.Delete a employee with minimum salary  
4.Display a employee  
select any option: 2  
enter existed registerno: 1004
```

The screenshot shows the Eclipse IDE with the `maincrud.java` file open. The file contains the following code:

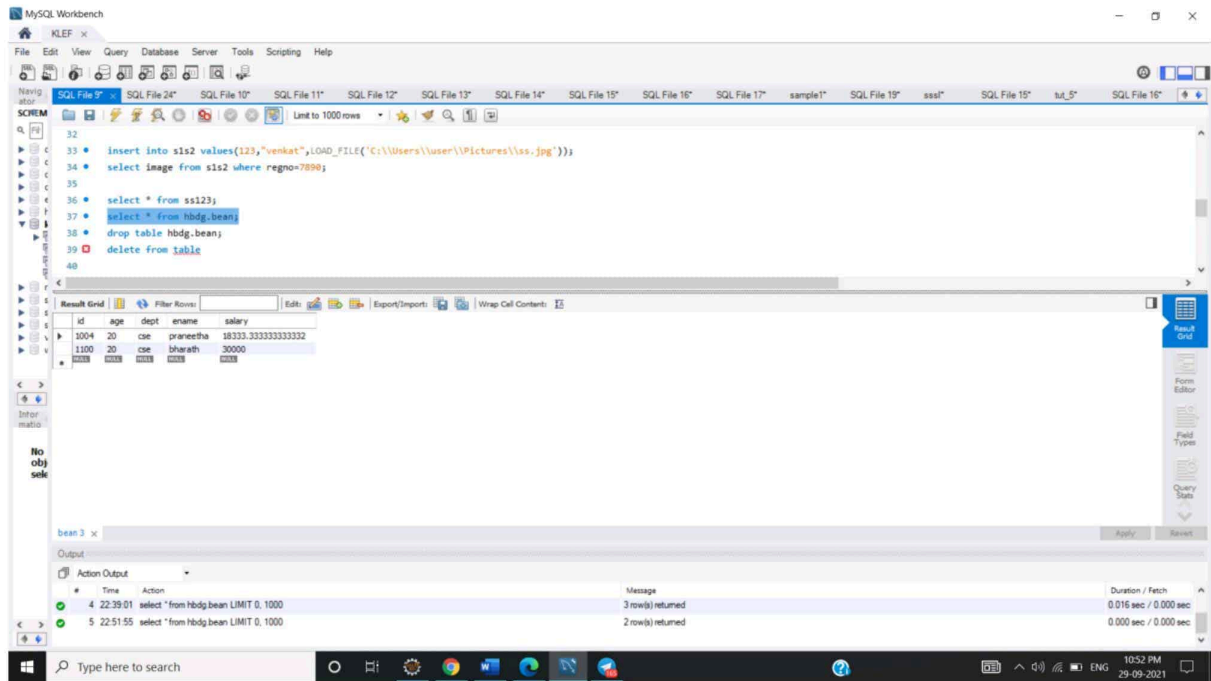
```
package JTS050.JTS00;  
  
import java.util.Scanner;  
  
public class mainString() {  
    void  
}
```

The console output shows the following logs:

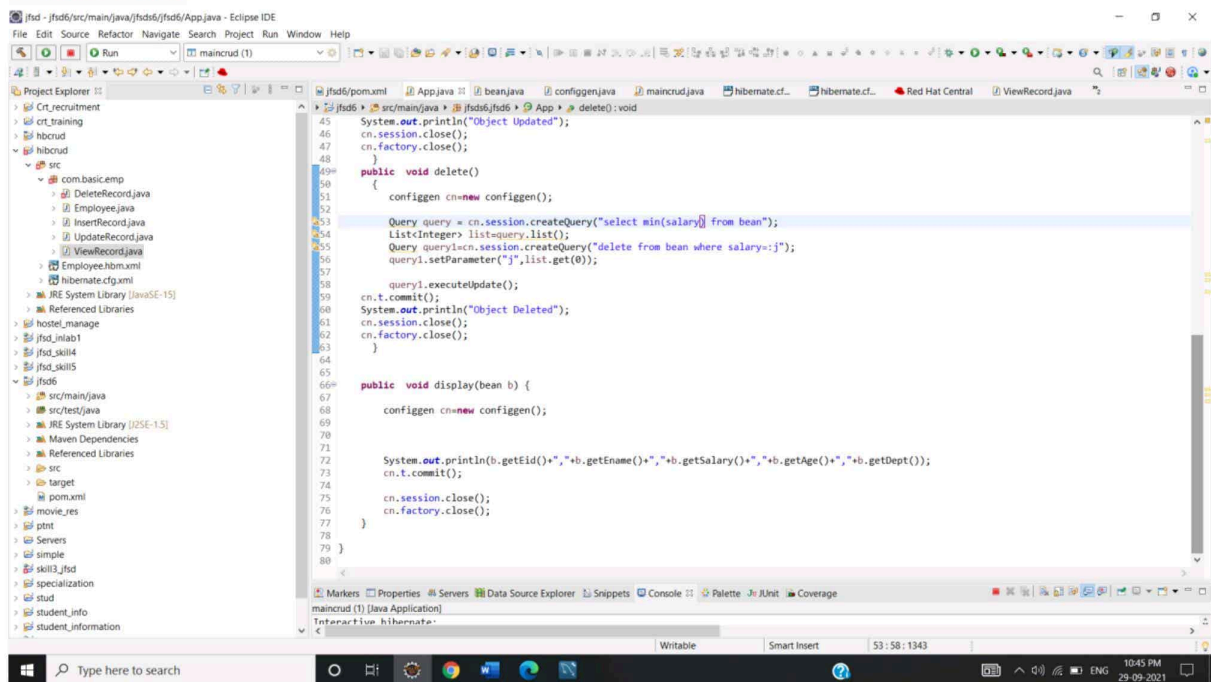
```
Sep 29, 2021 10:37:44 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure  
WARN: HH010001002: Using Hibernate built-in connection pool (not for production use!)  
Sep 29, 2021 10:37:44 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator  
INFO: HH010001005: using driver [com.mysql.cj.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/hbdg]  
Sep 29, 2021 10:37:44 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator  
INFO: HH010001001: Connection properties: (password=***, user=root)  
Sep 29, 2021 10:37:44 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator  
INFO: HH010001003: Autocommit mode: false  
Sep 29, 2021 10:37:44 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>  
INFO: HH0000115: Hibernate connection pool size: 20 (min=1)  
Sep 29, 2021 10:37:44 PM org.hibernate.dialect.Dialect <init>  
INFO: HH0000400: Using dialect: org.hibernate.dialect.MySQL5Dialect  
Sep 29, 2021 10:37:44 PM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection  
INFO: HH010001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConne  
1004,praneetha,20000,0,20,cce  
Sep 29, 2021 10:37:44 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl stop  
INFO: HH010001008: Cleaning up connection pool [jdbc:mysql://localhost:3306/hbdg]  
Interactive hibernate:  
1.Insert a employee  
2.Update a employee with maximum salary  
3.Delete a employee with minimum salary  
4.Display a employee  
select any option: 4  
enter existed registerno: 1004
```

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c.Delete an employee record from the table whose Salary is Minimum.



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The screenshot shows the Eclipse IDE interface. The Project Explorer on the left displays a project named 'jfsd' with a package 'jfsd' containing several Java files. The main editor shows the 'mainString()' method in 'maincrud.java'. The Console window at the bottom displays the following log output:

```
maincrud (1) [Java Application]
Interactive hibernate:
1.Insert a employee
2.Update a employee with maximum salary
3.Delete a employee with minimum salary
4.Display a employee
select any option: 3
Sep 29, 2021 10:43:01 PM org.hibernate.Version logVersion
INFO: HH000042: Hibernate Core (5.3.7.Final)
Sep 29, 2021 10:43:01 PM org.hibernate.cfg.Environment <clinit>
INFO: HH000026: hibernate.properties not found
Sep 29, 2021 10:43:03 PM org.hibernate.annotations.common.reflection.java.JavaReflectionManager <clinit>
INFO: HCA0000001: Hibernate Commons Annotations (5.0.4.Final)
Sep 29, 2021 10:43:03 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure
WARN: HH010001002: Using Hibernate built-in connection pool (not for production use!)
Sep 29, 2021 10:43:03 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HH010001005: using driver [com.mysql.cj.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/hbdg]
Sep 29, 2021 10:43:03 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HH010001001: Connection properties: {password=****, user=root}
Sep 29, 2021 10:43:03 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HH010001003: Autocommit mode: false
Sep 29, 2021 10:43:03 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImplPooledConnections <init>
INFO: HH0000115: Hibernate connection pool size: 20 (min=1)
Sep 29, 2021 10:43:05 PM org.hibernate.dialect.Dialect <init>
INFO: HH0000400: Using dialect: org.hibernate.dialect.MySQL5Dialect
Sep 29, 2021 10:43:06 PM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection
INFO: HH010001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConne
Sep 29, 2021 10:43:07 PM org.hibernate.hql.internal.QueryTranslatorFactoryInitiator initiateService
INFO: HH0000397: Using ASTQueryTranslatorFactory
Hibernate: select min(bean0_.salary) as col_0_0_ from bean bean0_
Hibernate: delete from bean where salary=?
Object Deleted
Sep 29, 2021 10:43:07 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl stop
INFO: HH010001008: Cleaning up connection pool [jdbc:mysql://localhost:3306/hbdg]
Interactive hibernate:
```