

Product Table:

```
CREATE TABLE product (  
    id int NOT NULL AUTO_INCREMENT,  
    name varchar(255) NOT NULL,  
    price decimal(10,2) NOT NULL,  
    PRIMARY KEY (id)  
);
```

Customer Table:

```
CREATE TABLE customer (  
    id int NOT NULL AUTO_INCREMENT,  
    name varchar(255) NOT NULL,  
    address varchar(255) NOT NULL,  
    PRIMARY KEY (id)  
);
```

Manufacturer Table:

```
CREATE TABLE manufacturer (  
    id int NOT NULL AUTO_INCREMENT,
```

```
name varchar(255) NOT NULL,  
  
PRIMARY KEY (id)  
  
);
```

```
<?xml version='1.0' encoding='utf-8'?>
```

```
<!DOCTYPE hibernate-configuration PUBLIC
```

```
    "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
```

```
    "http://hibernate.sourceforge.net/hibernate-configuration-3.0.dtd">
```

```
<hibernate-configuration>
```

```
    <session-factory>
```

```
        <!-- Database connection settings -->
```

```
        <property
```

```
name="connection.driver_class">com.mysql.jdbc.Driver</property>
```

```
        <property
```

```
name="connection.url">jdbc:mysql://localhost:3306/test</property>
```

```
        <property name="connection.username">root</property>
```

```
        <property name="connection.password"></property>
```

```
        <!-- JDBC connection pool (use the built-in) -->
```

```
<property name="connection.pool_size">1</property>
```

```
<!-- SQL dialect -->
```

```
<property name="dialect">org.hibernate.dialect.MySQL5Dialect</property>
```

```
<!-- Disable the second-level cache -->
```

```
<property  
name="cache.provider_class">org.hibernate.cache.NoCacheProvider</property>
```

```
<!-- Echo all executed SQL to stdout -->
```

```
<property name="show_sql">true</property>
```

```
<!-- Drop and re-create the database schema on startup -->
```

```
<property name="hbm2ddl.auto">create</property>
```

```
<!-- Names the annotated entity class -->
```

```
<mapping class="Product"/>
```

```
<mapping class="Customer"/>
```

```
<mapping class="Manufacturer"/>
```

```
</session-factory>
```

```
</hibernate-configuration>
```

i) insert a new record inside product table

```
Session session = sessionFactory.openSession();

Transaction tx = null;

try {

    tx = session.beginTransaction();

    Product product = new Product();

    product.setName("Product 1");

    Customer customer = new Customer();

    customer.setName("Customer 1");

    Manufacturer manufacturer = new Manufacturer();

    manufacturer.setName("Manufacturer 1");

    product.setCustomer(customer);

    product.setManufacturer(manufacturer);

    session.save(product);

    tx.commit();

}

catch (HibernateException e) {

    if (tx!=null) tx.rollback();

    e.printStackTrace();

}
```

```
finally {  
    session.close();  
}
```

ii) update an existing record in product table

```
Session session = sessionFactory.openSession();  
  
Transaction tx = null;  
  
try {  
    tx = session.beginTransaction();  
  
    Product product = (Product)session.get(Product.class, 1);  
  
    product.setName("Updated Product 1");  
  
    session.update(product);  
  
    tx.commit();  
}  
  
catch (HibernateException e) {  
    if (tx!=null) tx.rollback();  
  
    e.printStackTrace();  
}  
  
finally {  
    session.close();  
}
```

iii) delete an existing record from product table

```
Session session = sessionFactory.openSession();

Transaction tx = null;

try {

    tx = session.beginTransaction();

    Product product = (Product)session.get(Product.class, 1);

    session.delete(product);

    tx.commit();

}

catch (HibernateException e) {

    if (tx!=null) tx.rollback();

    e.printStackTrace();

}

finally {

    session.close();

}
```

iv) execute an query and return the manufacturer list for a given product name.

```
Session session = sessionFactory.openSession();
```

```
Transaction tx = null;

try {

    tx = session.beginTransaction();

    List manufacturers = session.createQuery("FROM Manufacturer m WHERE
m.name = :name").setParameter("name", "Manufacturer 1").list();

    for (Iterator iterator = manufacturers.iterator(); iterator.hasNext();){

        Manufacturer manufacturer = (Manufacturer) iterator.next();

        System.out.println(manufacturer.getName());

    }

    tx.commit();

}

catch (HibernateException e) {

    if (tx!=null) tx.rollback();

    e.printStackTrace();

}

finally {

    session.close();

}
```