

Name:- Rupali Yadav.
Hibernate Programmes

- Pom.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.app</groupId>
  <artifactId>Hibernate-OneToMany</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <dependencies>
    <!-- https://mvnrepository.com/artifact/org.hibernate.orm/hibernate-core -->
  </dependencies>
  <dependency>
    <groupId>org.hibernate.orm</groupId>
    <artifactId>hibernate-core</artifactId>
    <version>6.0.0.Alpha7</version>
  </dependency>
  <!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
  <dependency>
    <groupId>mysql</groupId>
    <artifactId>mysql-connector-java</artifactId>
    <version>8.0.28</version>
  </dependency>
</dependencies>
</project>
```

- conf.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">
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  <groupId>com.app</groupId>
  <artifactId>Hibernate-OneToMany</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <dependencies>
    <!-- https://mvnrepository.com/artifact/org.hibernate.orm/hibernate-core -->
  </dependencies>
  <dependency>
    <groupId>org.hibernate.orm</groupId>
    <artifactId>hibernate-core</artifactId>
    <version>6.0.0.Alpha7</version>
  </dependency>
  <!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
  <dependency>
    <groupId>mysql</groupId>
    <artifactId>mysql-connector-java</artifactId>
    <version>8.0.28</version>
  </dependency>
</dependencies>
</project>
```

➤ com.app-OneToOne

- **Company.java**

```
package com.app;
```

```
import java.util.Set;
```

```
import javax.persistence.CascadeType;
```

```
import javax.persistence.Column;
```

```
import javax.persistence.Entity;
```

```
import javax.persistence.FetchType;
```

```
import javax.persistence.GeneratedValue;
```

```
import javax.persistence.GenerationType;
```

```
import javax.persistence.Id;
```

```
import javax.persistence.JoinColumn;
```

```
import javax.persistence.JoinTable;
```

```
import javax.persistence.OneToOne;
```

```
import org.hibernate.annotations.Fetch;
```

```
import org.hibernate.annotations.FetchMode;
```

```
@Entity
```

```
public class Company {
```

```
    @Id
```

```
    @Column
```

```
    private int cid;
```

```
    private String cname;
```

```
    private String caddress;
```

```
    @OneToOne(cascade = CascadeType.ALL)
```

```
    @JoinTable(name = "Product_Company",joinColumns = @JoinColumn(name="id"),
```

```
    inverseJoinColumns = @JoinColumn(name="Company_id"))
```

```
    public int getCid() {
```

```
        return cid;
```

```
    }
```

```
    public void setCid(int cid) {
```

```
        this.cid = cid;
```

```
    }
```

```
    public String getCName() {
```

```
        return cname;
```

```
    }
```

```
    public void setCName(String cname) {
```

```
        this.cname = cname;
```

```
    }
```

```
    public String getCAddress() {
```

```
        return caddress;
```

```
    }
```

```
    public void setCAddress(String caddress) {
```

```
        this.caddress = caddress; } }
```

- **Product_p.java**

```
package com.app;
```

```
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.Id;
```

```
@Entity
```

```
public class Product_p {
    @Id
    @Column (name="ProductId")
    private int pid;
    private String name;
    private String ptype;
    private Double price;
    public int getPid() {
        return pid;
    }
    public void setPid(int pid) {
        this.pid = pid;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public String getPtype() {
        return ptype;
    }
    public void setPtype(String ptype) {
        this.ptype = ptype;
    }
    public Double getPrice() {
        return price;
    }
    public void setPrice(Double price) {
        this.price = price;
    }
}
```

- **Client.java**

```
package com.app;
```

```
import java.util.HashSet;
import java.util.Set;
import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.Transaction;
import org.hibernate.cfg.Configuration;
```

```
public class Client {
```

```

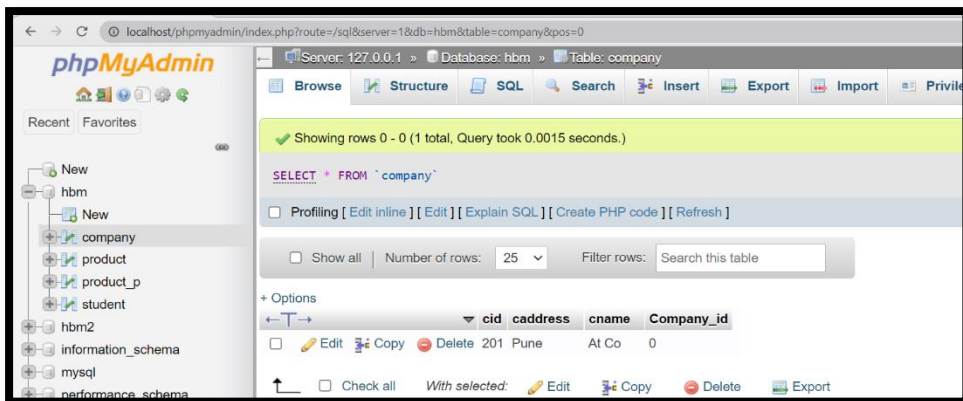
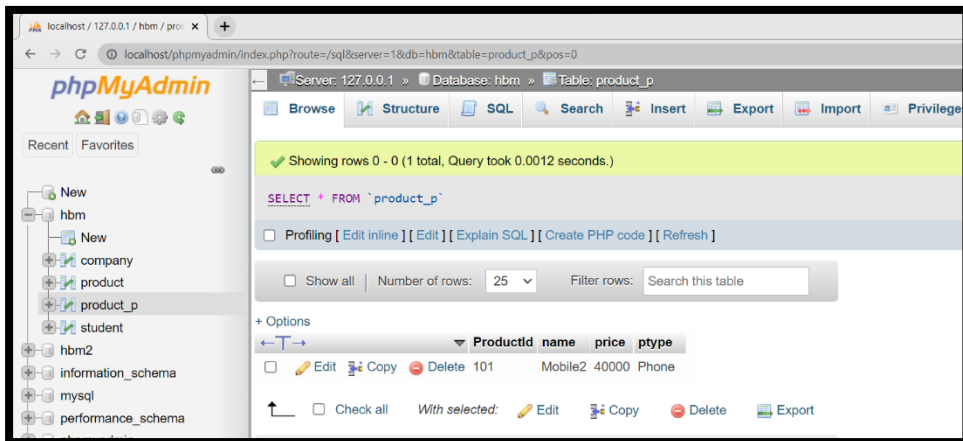
public static void main(String[] args) {
    Configuration config=new Configuration().configure("Hibernate-cfg.xml");
    SessionFactory factory=config.buildSessionFactory();
    Session session= factory.openSession();
    Transaction transaction=session.beginTransaction();
    Product_p pr=new Product_p();
    Company cp=new Company();
    pr.setPid(102);
    pr.setName("Mobile2");
    pr.setPtype("Phone");
    pr.setPrice( 40000d);
    session.persist(pr);

    //also insert this
    cp.setCid(201);
    cp.setCname("At Co");
    cp.setCaddress("Pune");
    session.save(cp);

    transaction.commit();
    session.close();
    System.out.println("Success");
}
}

```

Output:-



➤ OneToMany

- **Company**

```
package com.app;
```

```
import java.util.Set;
import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.FetchType;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.JoinTable;
import javax.persistence.OneToMany;
import javax.persistence.OneToOne;
import org.hibernate.annotations.Fetch;
import org.hibernate.annotations.FetchMode;
```

```
@Entity
```

```
public class Company {
```

```
    @Id
```

```
    @Column
```

```
    private int cid;
```

```
    private String cname;
```

```
    private String address;
```

```
    public int getCid() {
```

```
        return cid;
```

```
    }
```

```
    public void setCid(int cid) {
```

```
        this.cid = cid;
```

```
    }
```

```
    public String getName() {
```

```
        return cname;
```

```
    }
```

```
    public void setName(String cname) {
```

```
        this.cname = cname;
```

```
    }
```

```
    public String getAddress() {
```

```
        return address;
```

```
    }
```

```
    public void setAddress(String address) {
```

```
        this.address = address;
```

```
    }
```

```
    @OneToMany(targetEntity = Product_p.class, cascade = CascadeType.ALL, fetch = FetchType.EAGER,
        orphanRemoval = true)
```

```
    @JoinColumn(name = "unid", referencedColumnName = "cid")
```

```
    @Fetch(FetchMode.JOIN)
```

```
    private Set<Product_p> Product;
```

```
    public Set<Product_p> getProduct() {
```

```
        return Product;
```

```
    }
```

```
    public void setProduct(Set<Product_p> product) {
```

```
        Product = product;    }    }
```

- **Product_p**

```
package com.app;
```

```
import javax.persistence.Column;
```

```
import javax.persistence.Entity;
```

```
import javax.persistence.Id;
```

```
@Entity
```

```
public class Product_p {
```

```
    @Id
```

```
    @Column (name="ProductId")
```

```
    private int pid;
```

```
    private String name;
```

```
    private String ptype;
```

```
    private Double price;
```

```
    public int getPid() {
```

```
        return pid;
```

```
    }
```

```
    public void setPid(int pid) {
```

```
        this.pid = pid;
```

```
    }
```

```
    public String getName() {
```

```
        return name;
```

```
    }
```

```
    public void setName(String name) {
```

```
        this.name = name;
```

```
    }
```

```
    public String getPtype() {
```

```
        return ptype;
```

```
    }
```

```
    public void setPtype(String ptype) {
```

```
        this.ptype = ptype;
```

```
    }
```

```
    public Double getPrice() {
```

```
        return price;
```

```
    }
```

```
    public void setPrice(Double price) {
```

```
        this.price = price;
```

```
    }
```

```
}
```

- **Client**

```
package com.app;
```

```
import java.util.HashSet;
```

```
import java.util.Set;
```

```
import org.hibernate.Session;
```

```
import org.hibernate.SessionFactory;
```

```
import org.hibernate.Transaction;
```

```
import org.hibernate.cfg.Configuration;
```

```
public class Client {
```

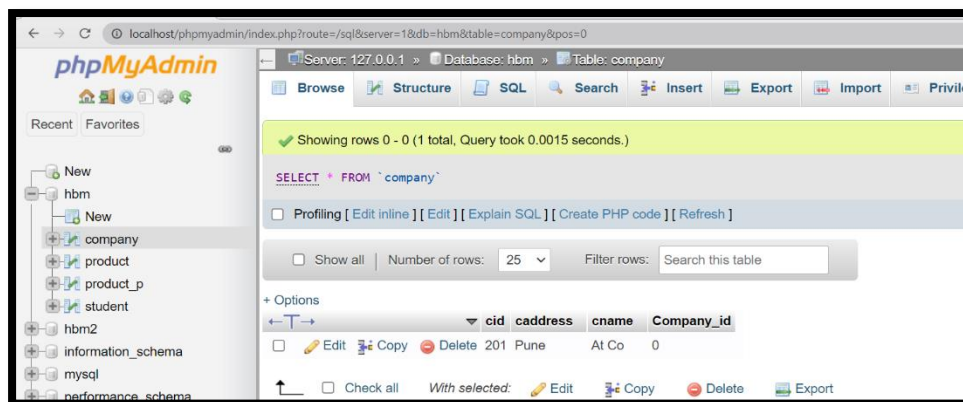
```

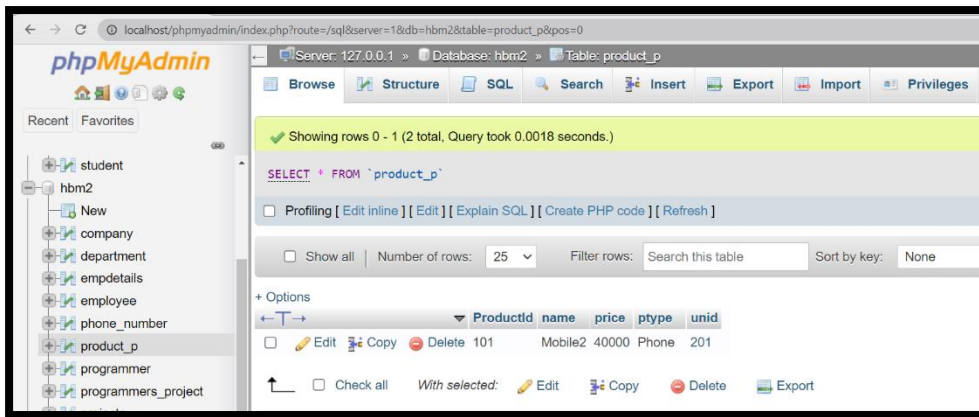
public static void main(String[] args) {
    Configuration config=new Configuration().configure("Hibernate-cfg.xml");
    SessionFactory factory=config.buildSessionFactory();
    Session session= factory.openSession();
    Transaction transaction=session.beginTransaction();
    Product_p pr=new Product_p();
    Company cp=new Company();
    pr.setPid(104);
    pr.setName("Mobile2");
    pr.setPtype("Phone");
    pr.setPrice( 40000d);
    session.persist(pr);

    //also insert this
    Set<Product_p>product_ps=new HashSet<Product_p>();
    product_ps.add(pr);
    cp.setCid(201);
    cp.setCname("At Co");
    cp.setCaddress("Pune");
    cp.setProduct(product_ps);
    session.save (cp);
    transaction.commit();
    session.close();
    System.out.println("Success");
}
}

```

Output:





➤ Com.app.bean

• Department.java

```
package com.app.model;
```

```
import javax.persistence.Entity;
```

```
import javax.persistence.Id;
```

```
@Entity
```

```
public class Department {
    @Id
    private int deptno;
    private String deptName;
    private String deptHead;
    public int getDeptno() {
        return deptno;
    }
    public void setDeptno(int deptno) {
        this.deptno = deptno;
    }
    public String getDeptName() {
        return deptName;
    }
    public void setDeptName(String deptName) {
        this.deptName = deptName;
    }
    public String getDeptHead() {
        return deptHead;
    }
    public void setDeptHead(String deptHead) {
        this.deptHead = deptHead;
    }
    public Department(int deptno, String deptName, String deptHead) {
        super();
        this.deptno = deptno;
        this.deptName = deptName;
        this.deptHead = deptHead;
    }
}
```


- **EMPDeatils.java**

```
package com.app.model;
```

```
import javax.persistence.CascadeType;
import javax.persistence.Entity;
import javax.persistence.FetchType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
```

```
@Entity
```

```
public class EmpDetails {
    @Id
    private int eno;
    private String ename;
    private long salary;
    @ManyToOne(targetEntity = Department.class,
               cascade = CascadeType.ALL,
               fetch = FetchType.EAGER)
    @JoinColumn(name = "deptno",referencedColumnName = "deptno")
    private Department;
    public int getEno() {
        return eno;
    }
    public void setEno(int eno) {
        this.eno = eno;
    }
    public String getEname() {
        return ename;
    }
    public void setName(String ename) {
        this.ename = ename;
    }
    public long getSalary() {
        return salary;
    }
    public void setSalary(long salary) {
        this.salary = salary;
    }
    public Department getDepartment() {
        return department;
    }
    public void setDepartment(Department department) {
        this.department = department;
    }
    public EmpDetails(int eno, String ename, long salary, Department department) {
        super();
        this.eno = eno;
    }
}
```

```

        this.ename = ename;
        this.salary = salary;
        this.department = department;
    }
}

```

➤ **com.app.factory**

• **ManyToOneFactory**

```

package com.app.factory;

import javax.persistence.ManyToOne;
import com.app.dao.ManyToOneDao;
import com.app.dao.impl.ManyToOneImp;

public class ManyToOneFactory {
    public static ManyToOneDao getInstance() {
        return new ManyToOneImp();
    }
    public static ManyToOneDao getManyInstance() {
        return new ManyToOneImp();
    }
}

```

➤ **com.app.dao**

```

package com.app.dao;

public interface ManyToOneDao {
    void addEmployeeWithDept();
}

```

➤ **com.app.ManyToOneImp**

```

package com.app.dao.impl;
import org.hibernate.Session;
import org.hibernate.Transaction;
import com.app.dao.ManyToOneDao;
import com.app.model.Department;
import com.app.model.EmpDetails;
import com.app.util.UtilityClass;

public class ManyToOneImp implements ManyToOneDao {
    public void addEmployeeWithDept() {
        // TODO Auto-generated method stub
        Session session=UtilityClass.getSession();
        Department dept=new Department(1, "HR", "Rinku");
        Department dept1=new Department(2, "Developer", "Abhijeet");
        EmpDetails emp1=new EmpDetails(5001, "Abhijeet", 50099, dept);
        EmpDetails emp2=new EmpDetails(5005,"Vishal",6790,dept1);
        Transaction tx=session.beginTransaction();
        //session.saveOrUpdate(emp1);
        session.update(emp2);
    }
}

```

```

        tx.commit();
        UtilityClass.cloesSession();
    }
}

```

➤ **com.app.util**

```
package com.app.util;
```

```

import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.cfg.Configuration;
import net.bytebuddy.asm.Advice.Return;

```

```

public class UtilityClass {
    private static SessionFactory factory;
    static {
        try {
            factory=new Configuration().configure("Hibernate-cfg.xml").buildSessionFactory();
            /*Configuration configuration=new Configuration();
            *configuration.configure("Hibernate-cfg.xml");
            *factory=configuration.buildSessionFactory();
            */
        }catch (Exception e) {
            // TODO: handle exception
            e.printStackTrace();
        }
    }
    static ThreadLocal<Session> tl=new ThreadLocal();
    static Session session=null;
    public static Session getSession() {
        try {
            if (tl.get()==null) {
                session=factory.openSession();
                tl.set(session);
                return session;
            }
            else {
                return tl.get();
            }
        }
        catch (Exception e) {
            // TODO: handle exception
            return null;
        }
    }
    public static void cloesSession() {
        try {
            session.close();
        } catch (Exception e) {
            // TODO: handle exception
            e.printStackTrace();
        } }
    }
}

```

➤ com.app.Client

package com.app.client;

```
import javax.persistence.ManyToOne;
import com.app.dao.ManyToOneDao;
import com.app.factory.ManyToOneFactory;
```

```
public class Test1 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        ManyToOneDao dao= ManyToOneFactory.getInstance();
        dao.addEmployeeWithDept();
        System.out.println("Success");
    }

}
```

Output:-

