Name:- Aishwarya Mane

Topic: Hibernate

- 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
-->
<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">
  <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
-->
<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.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 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;   }    }
```

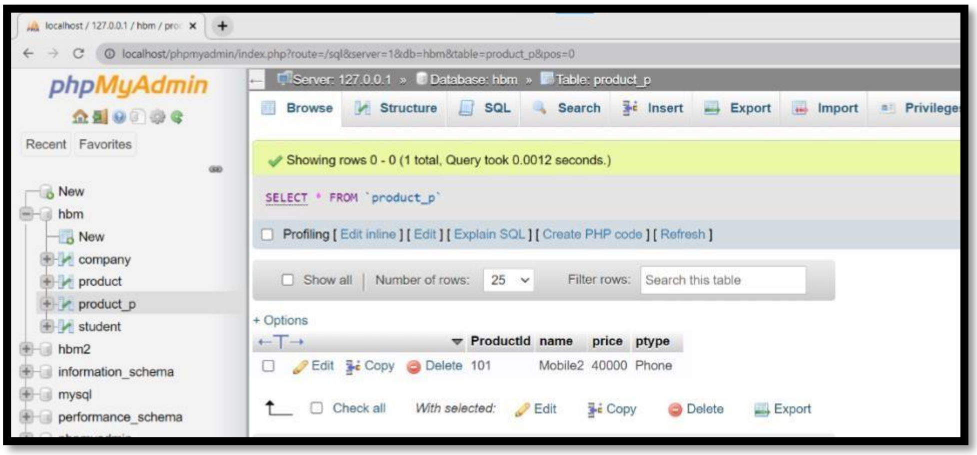
- **Product_p.java** package

```
          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(pr);



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

Output:-



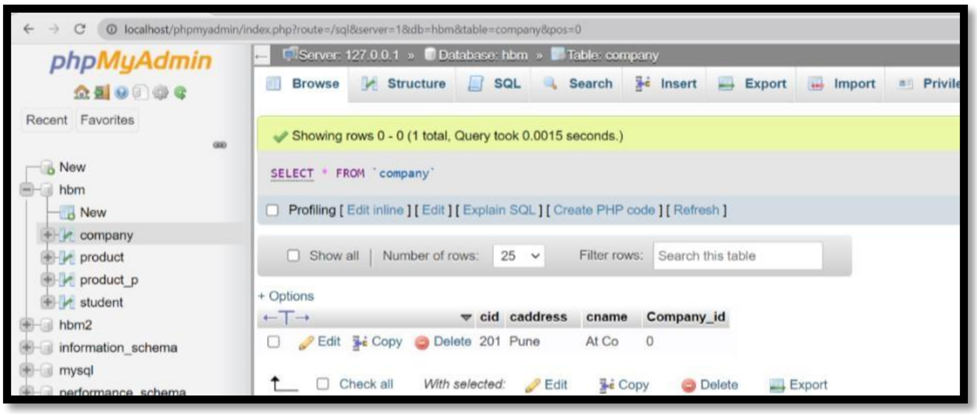
localhost/phpmyadmin/index.php?route=/sql&server=1&db=hbm&table=product_p&pos=0

✓ Showing rows 0 - 0 (1 total, Query took 0.0012 seconds.)

```
SELECT * FROM `product_p`
```

Number of rows: 25

ProductId	name	price	ptype
101	Mobile2	40000	Phone



localhost/phpmyadmin/index.php?route=/sql&server=1&db=hbm&table=company&pos=0

✓ Showing rows 0 - 0 (1 total, Query took 0.0015 seconds.)

```
SELECT * FROM `company`
```

Number of rows: 25

cid	caddress	cname	Company_id
201	Pune	At Co	0

○ 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 caddress;
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;
}
@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**

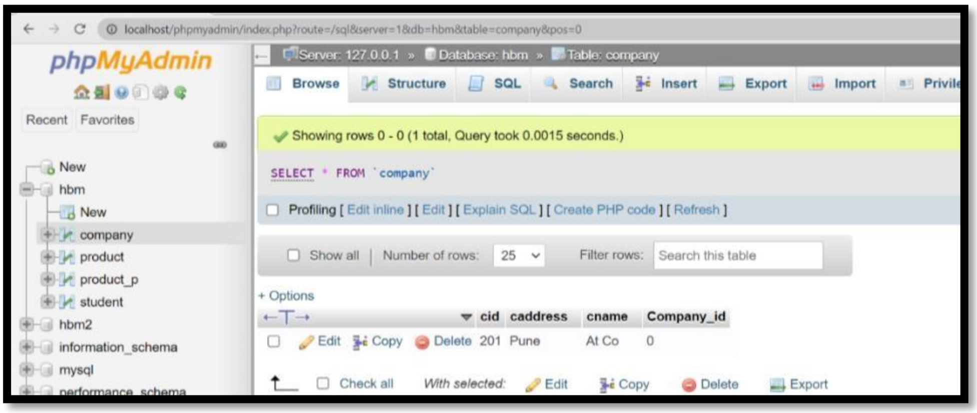
```
package com.app;

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:



✓ Showing rows 0 - 0 (1 total, Query took 0.0015 seconds.)

```
SELECT * FROM `company`
```

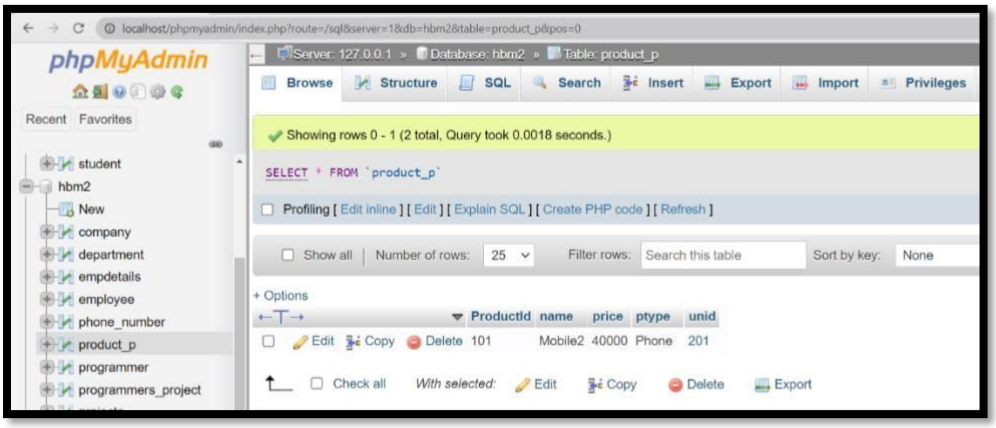
□ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

□ Show all | Number of rows: 25 Filter rows: Search this table

+ Options

	cid	caddress	cname	Company_id
□ Edit Copy Delete	201	Pune	At Co	0

□ Check all With selected: Edit Copy Delete Export



✓ Showing rows 0 - 1 (2 total, Query took 0.0018 seconds.)

```
SELECT * FROM `product_p`
```

□ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

□ Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

+ Options

	ProductId	name	price	ptype	unid
□ Edit Copy Delete	101	Mobile2	40000	Phone	201

□ Check all With selected: Edit Copy Delete Export

- ### 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 setEname(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

- MenyToOneFactory

```
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();
    }
}
```

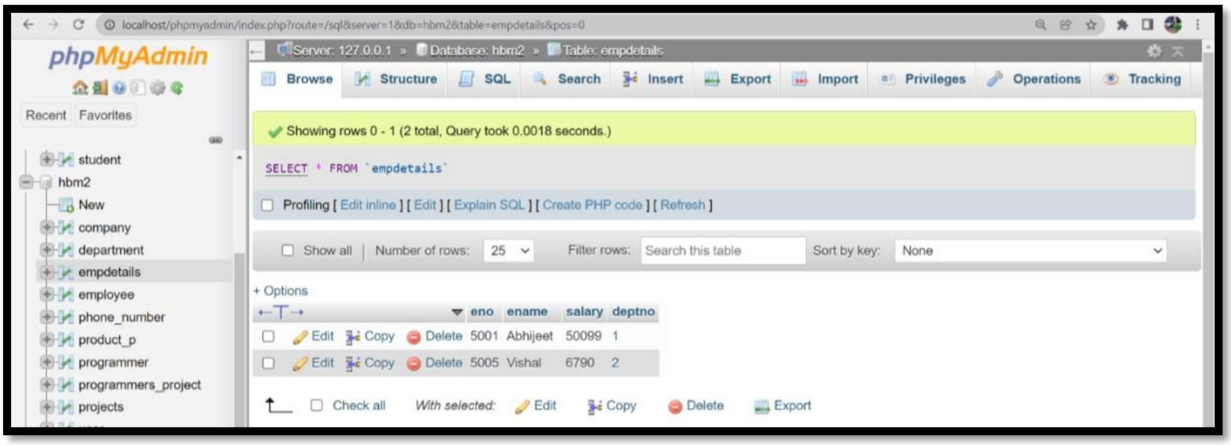
○ com.app.util

```
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:-



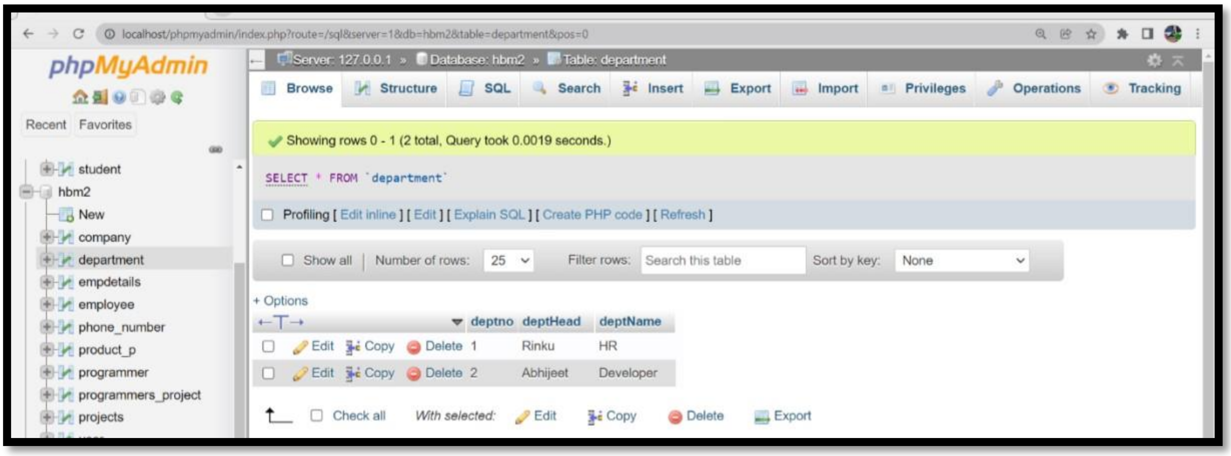
localhost/phpmyadmin/index.php?route=/sql&server=1&db=hbm2&table=empdetails&pos=0

✓ Showing rows 0 - 1 (2 total, Query took 0.0018 seconds.)

```
SELECT * FROM `empdetails`
```

Number of rows: 25 | Sort by key: None

	eno	ename	salary	deptno
□ Edit Copy Delete	5001	Abhijeet	50099	1
□ Edit Copy Delete	5005	Vishal	6790	2



localhost/phpmyadmin/index.php?route=/sql&server=1&db=hbm2&table=department&pos=0

✓ Showing rows 0 - 1 (2 total, Query took 0.0019 seconds.)

```
SELECT * FROM `department`
```

Number of rows: 25 | Sort by key: None

	deptno	deptHead	deptName
□ Edit Copy Delete	1	Rinku	HR
□ Edit Copy Delete	2	Abhijeet	Developer