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Program Name: - Hibernate-App-oneToMany

```
package com.app.model;

import java.util.List;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.OneToOne;
import javax.persistence.OrderColumn;
import javax.persistence.Table;

@Entity
@Table(name = "user_table")
public class User {

    @Id
    @Column(name = "user_id")
    private int userId;    @Column(name =
"first_name")    private String fName;
    @Column(name = "last_Name")
    private String lName;

    @OneToMany(targetEntity = PhoneNumber.class, cascade = CascadeType.ALL,
              orphanRemoval = true)
    @JoinColumn(name="unid",referencedColumnName = "user_id")
    @OrderColumn(name = "list_index")
    private List<PhoneNumber> phoneNumber;

    public int getUserId() {

        return userId;

    }
}
```

```

public void setUserId(int userId) {
    this.userId = userId;
}

public String getfName() {
    return fName;
}

public void setfName(String fName) {
    this.fName = fName;
}

public String getLname() {
    return lname;
}

public void setLname(String lname) {
    this.lname = lname;
}

@Override
public String toString() {
return "User [userId=" + userId + ", fName=" + fName + ", lname=" + lname + ", phoneNumber=" + phoneNumber
        + "]\n";
}

public User() {
    super();
    // TODO Auto-generated constructor stub
}

public User(int userId, String fName, String lname, List<PhoneNumber> phoneNumber) {
    super();
    this.userId = 001;
this.fName = "abc";          this.lname = "xyz";
    this.phoneNumber = phoneNumber;
}

public List<PhoneNumber> getPhoneNumber() {
    return phoneNumber;
}

```

```
        public void setPhoneNumber(List<PhoneNumber> phoneNumber) {  
            this.phoneNumber = phoneNumber;  
        }  
    }  
}
```

```
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() {
        super();
        // TODO Auto-generated constructor stub
    }

    public Department(int deptno, String deptName, String deptHead) {
        super();
        this.deptno = deptno;
        this.deptName = deptName;
        this.deptHead = deptHead;
    }
}-----

```

```

package com.app.model;

```

```

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

```

```

@Entity

```

```

@Table(name = "phoneNumber")

```

```

public class PhoneNumber {

```

```

    @Id

```

```

        private int phone;

```

```

    @Column(name = "number_type")

```

```

    private String numberType;    public int

```

```

    getPhone() {

```

```

        return phone;

```

```

    }

```

```

    public void setPhone(int phone) {

```

```

        this.phone = phone;

```

```

    }

```

```

    public String getNumberType() {

```

```

        return numberType;

```

```

    }

    public void setNumberType(String numberType) {

        this.numberType = numberType;

    }

    @Override

    public String toString() {

        return "PhoneNumber [phone=" + phone + ", numberType=" + numberType + "];"

    }

}

```

```

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 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;
    }

    public EmpDetails() {
        // TODO Auto-generated constructor stub
    }

    public void setDepartment() {
        // TODO Auto-generated method stub
    }

```

```
}
```

```
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 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;
    }

    public EmpDetails() {
        // TODO Auto-generated constructor stub
    }

    public void setDepartment() {
        // TODO Auto-generated method stub
    }

}

```

```

package com.app.factory;

```

```

import com.app.dao.ManyToOneDao; import
com.app.dao.OneToManyDao; import
com.app.dao.impl.ManyToOneDaoImpl; import
com.app.dao.impl.OneToManyDaoImpl;
//OneToManyDao one= new OneToManyDaoImpl();
public class OneToManyFactory {        public
static OneToManyDao getInstance() {

```



```
        return new OneToManyDaoImpl();
    }

    public static ManyToOneDao getManyInstance() {
        return new ManyToOneDaoImpl();
    }
}
```

```
package com.app.dao;
public interface ManyToOneDao {
void addEmployeeWithDept();

}
```

```
package com.app.dao;

public interface OneToManyDao {
    void insertData(); //public Abstract void insertData;
    void listofData();
}
```

```
package com.app.dao.impl;
```

```
import java.util.ArrayList; import
java.util.List;
```

```
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 ManyToOneDaoImpl implements ManyToOneDao {

    public void addEmployeeWithDept() {
        // TODO Auto-generated method stub
        Session session=UtilityClass.getSession();
```

```
Department dept1= new Department(1,"HR","Wakle");  
Department dept2=new Department(2,"Production","Shinde"); List<Department> dept=new  
ArrayList<Department>(); dept.add(dept1); dept.add(dept2);
```

```
//EmpDetails emp1=new EmpDetails(5001,"atul",50098,dept);  
//EmpDetails emp2=new EmpDetails(5002, "Anant", 6542, dept2);
```

```
EmpDetails em=new EmpDetails();  
em.setDepartment(dept2);          em.setSalary(2020);  
em.setEname("Pallavi");  
em.setEno(5003);
```

```
Transaction tx=session.beginTransaction();  
session.update(em);  
//session.saveOrUpdate(emp1);  
tx.commit();  
UtilityClass.closeSession();  
}  
}
```

```
package com.app.dao.impl;
```

```
import java.util.ArrayList; import  
java.util.List;
```

```
import org.hibernate.Transaction; import  
org.hibernate.query.Query; import  
org.hibernate.Session;
```

```

import com.app.dao.OneToManyDao; import
com.app.model.PhoneNumber; import
com.app.model.User;

import com.app.util.UtilityClass;

public class OneToManyDaoImpl implements OneToManyDao {

    public void insertData() {

        // TODO Auto-generated method stub

        Session session=UtilityClass.getSession();

        Transaction tx=session.beginTransaction();

        PhoneNumber phoneNumber=new PhoneNumber();
phoneNumber.setNumberType("home");           phoneNumber.setPhone(97671343);

        PhoneNumber phoneNumber1=new PhoneNumber();
phoneNumber1.setNumberType("office");           phoneNumber1.setPhone(876543);

        List<PhoneNumber> list= new ArrayList<PhoneNumber> ();

        list.add(phoneNumber1);
list.add(phoneNumber);

        User user=new User();

user.setfName("Atul");
user.setLname("Wakle");
user.setUserId(101);
user.setPhoneNumber(list);

session.save(user);           tx.commit();

        UtilityClass.closeSession();

    }

    public void listofData() {

        // TODO Auto-generated method stub

```

```

        Session session=UtilityClass.getSession();

        Query<User>query=session.createQuery("from User"); List<User>list=query.list();

        for(User user:list) {

            System.out.println(user.getUserId()+"\t"+user.getfName()+"\t"+user.getLname()+"\t"+user.getPhoneNumbe
r());

            }

        UtilityClass.closeSession();

    }

}

```

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

```

import org.hibernate.Session; import
org.hibernate.SessionFactory; import
org.hibernate.cfg.Configuration;

```

```

public class UtilityClass {

    private static SessionFactory factory;

    static {

        try {

            factory=new Configuration().configure("Hibernet-cfg.xml").buildSessionFactory();

            /*      Configuration configuration=new Configuration();
configuration.configure("Hibernate-cfg.xml");          factory=configuration.buildSessionFactory();
            */

        } catch (Exception e) {

            e.printStackTrace();

        }

    }
}

```

```

static ThreadLocal<Session> local=new
ThreadLocal(); static Session session=null; public
static Session getSession() {
    try {
        if(local.get()==null) {
            session=factory.openSession();
            local.set(session);
return session;
        }else {
            return local.get();
        }
    } catch (Exception e) {
        // TODO: handle exception
        return null;
    }
}

public static void closeSession() {
    try {
        session.close();
    } catch (Exception e) {
        // TODO: handle exception
        e.printStackTrace();
    }
}
}

```

```

package com.app.client;

```

```

import com.app.dao.ManyToOneDao; import
com.app.dao.OneToManyDao; import
com.app.factory.OneToManyFactory;

```

```

public class Test {

```

```

public static void main(String[] args) {

    // TODO Auto-generated method stub

    //OneToManyDao dao=OneToManyFactory.getInstance();

    //dao.insertData();

    //dao.listofData();

    ManyToOneDao dao= OneToManyFactory.getManyInstance();

    dao.addEmployeeWithDept();

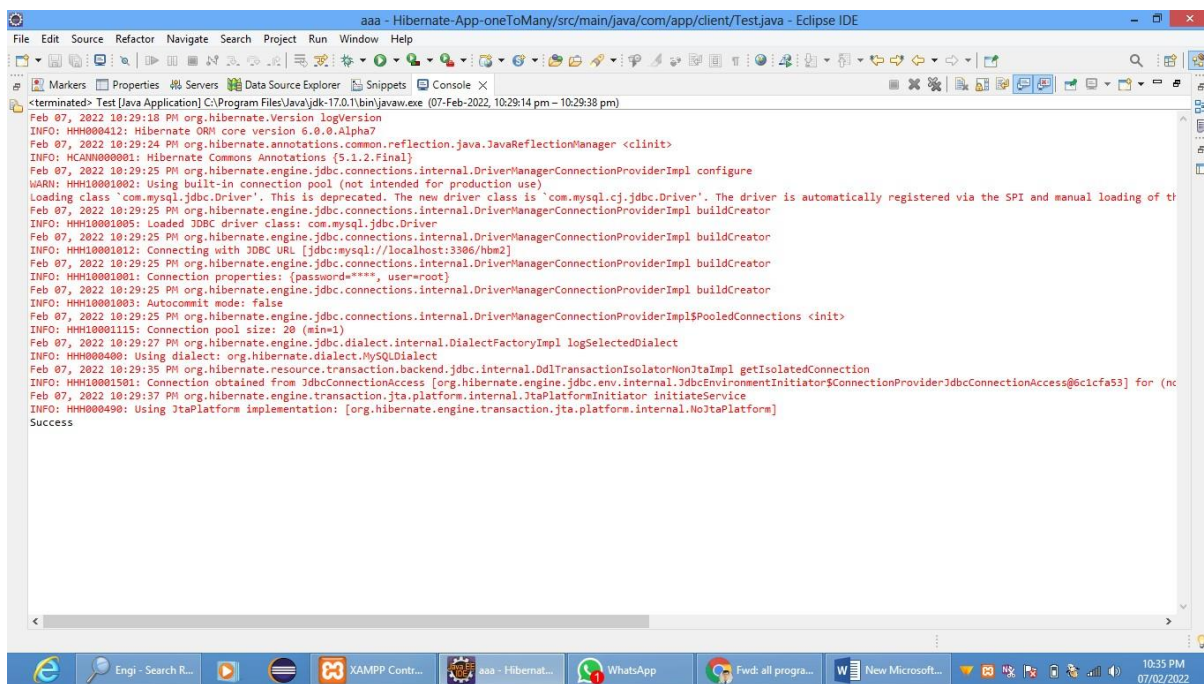
    System.out.println("Success");

}

}

```

Output



The screenshot shows the Eclipse IDE interface with the console window open. The console displays the following output:

```

Feb 07, 2022 10:29:18 PM org.hibernate.Version logVersion
INFO: HHH000412: Hibernate ORM core version 6.0.0.Alpha7
Feb 07, 2022 10:29:24 PM org.hibernate.annotations.common.reflection.java.JavaReflectionManager <clinit>
INFO: HCA000000001: Hibernate Commons Annotations (5.1.2.Final)
Feb 07, 2022 10:29:25 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure
WARN: HHH10001002: Using built-in connection pool (not intended for production use)
Feb 07, 2022 10:29:25 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001005: Loaded JDBC driver class: com.mysql.jdbc.Driver
Feb 07, 2022 10:29:25 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001012: Connecting with JDBC URL [jdbc:mysql://localhost:3306/hw2]
Feb 07, 2022 10:29:25 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001001: Connection properties: {password=****, user=root}
Feb 07, 2022 10:29:25 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001003: Autocommit mode: false
Feb 07, 2022 10:29:25 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>
INFO: HHH10001115: Connection pool size: 20 (min=1)
Feb 07, 2022 10:29:27 PM org.hibernate.engine.jdbc.dialect.internal.DialectFactoryImpl logSelectedDialect
INFO: HHH000400: Using dialect: org.hibernate.dialect.MySQLDialect
Feb 07, 2022 10:29:35 PM org.hibernate.resource.transaction.backend.jdbc.internal.OddTransactionIsolationNonJtaImpl getIsolatedConnection
INFO: HHH10001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConnectionAccess@6c1cfa53] for (n
Feb 07, 2022 10:29:37 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
Success

```