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Program Name: - Hibernate-App-oneToMany & Hibernate-App-ManyToOne

```
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.OneToMany;
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
				+ "]";
	}
	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