

Name: - Prathmesh Margaje

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.getPhon
eNumber());
}
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 {

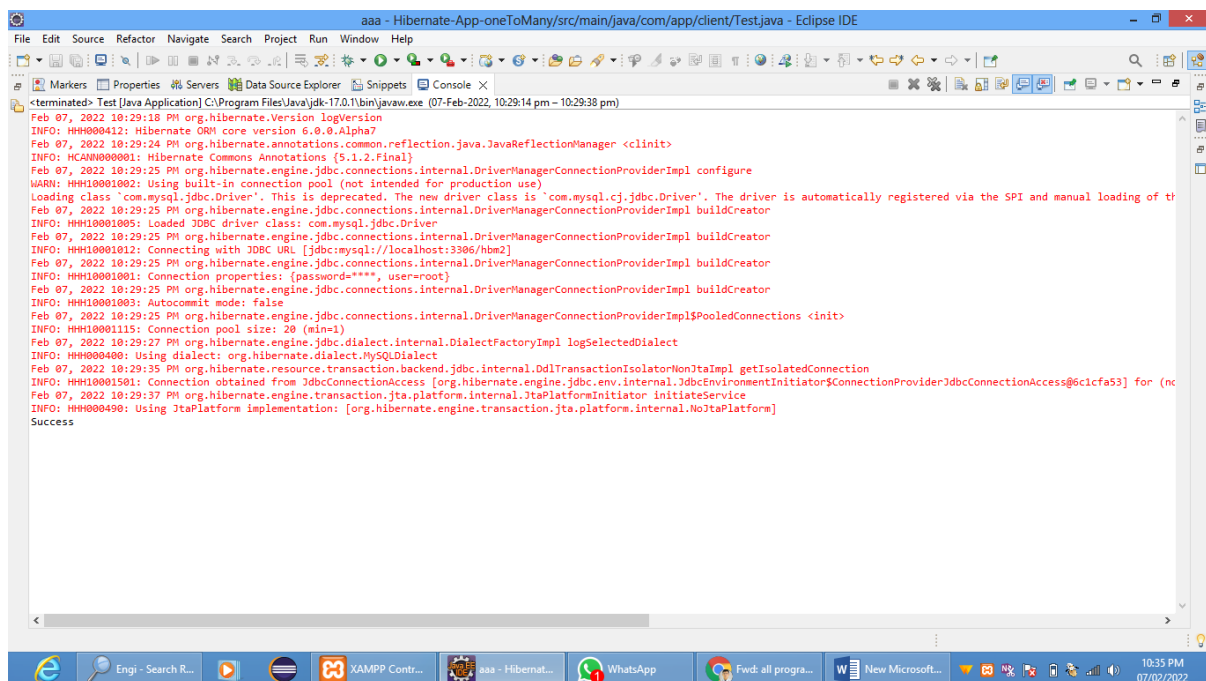
```

```

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 title bar indicates the application is 'aaa - Hibernate-App-oneToMany/src/main/java/com/app/client/Test.java - Eclipse IDE'. The console output shows the following log messages:

```

<terminated> Test [Java Application] C:\Program Files\Java\jdk-17.0.1\bin\javaw.exe (07-Feb-2022, 10:29:14 pm - 10:29:38 pm)
Feb 07, 2022 10:29:18 PM org.hibernate.Version logVersion
INFO: HHH0000412: Hibernate ORM core version 6.0.0.Alpha7
Feb 07, 2022 10:29:24 PM org.hibernate.annotations.common.reflection.java.JavaReflectionManager <clinit>
INFO: HCAN0000001: Hibernate Commons Annotations {5.1.2.Final}
Feb 07, 2022 10:29:25 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure
WARN: HHH10001062: 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/hbm2]
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$PooledConnections <init>
INFO: HHH10001115: Connection pool size: 20 (min=1)
Feb 07, 2022 10:29:27 PM org.hibernate.engine.jdbc.dialect.internal.DialectFactoryImpl logSelectedDialect
INFO: HHH0000400: Using dialect: org.hibernate.dialect.MySQLDialect
Feb 07, 2022 10:29:35 PM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection
INFO: HHH10001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConnectionAccess@6c1cfa53] for (nc
Feb 07, 2022 10:29:37 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHH0000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
Success

```

The taskbar at the bottom shows the system clock as 10:35 PM on 07/02/2022, along with several open applications including 'Engi - Search R...', 'XAMPP Contr...', 'aaa - Hibernat...', 'WhatsApp', 'Fwd: all progra...', and 'New Microsoft...'.