

Write a Java program to create a class user with some properties like userId, username, address and salary and persist it in the database and demonstrate Hibernate caching using Ehcache as the cache provider.

[Hint: Insert two records into the database, then activate the second-level cache and fetch the same objects using distinct session instances.]

User.java

```
package com.hibernateAssociation;

import javax.persistence.*;

@Entity
@Table(name = "users")
@Cacheable
@Cache(usage = CacheConcurrencyStrategy.READ_WRITE)
public class User {

    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    @Column(name = "user_id")
    private Long userId;

    @Column(name = "username")
    private String username;

    @Column(name = "address")
    private String address;

    @Column(name = "salary")
    private double salary;

    public User(Long userId, String username, String address, double salary) {
        super();
        this.userId = userId;
        this.username = username;
        this.address = address;
        this.salary = salary;
    }

    public Long getUserId() {
        return userId;
    }

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

    public String getUsername() {
        return username;
    }
```

```

    }

    public void setUsername(String username) {
        this.username = username;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public double getSalary() {
        return salary;
    }

    public void setSalary(double salary) {
        this.salary = salary;
    }
}

```

## MainApp.java

```

package com.hibernateAssociation;

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

public class MainApp {

    public static void main(String[] args) {
        Long userId1 = saveUser("John Doe", "123 Main St", 50000.0);
        Long userId2 = saveUser("Jane Smith", "456 Oak St", 60000.0);

        closeSession();

        Session session = openSession();

        User user1 = loadUser(userId1);
        System.out.println("User 1: " + user1.getUsername());

        User user2 = loadUser(userId2);
        System.out.println("User 2: " + user2.getUsername());

        closeSession();
    }

    private static Long saveUser(String username, String address, double salary) {
        Session session = openSession();
        Transaction transaction = null;
    }
}

```

```

        Long userId = null;
        try {
            transaction = session.beginTransaction();

            User user = new User();
            user.setUsername(username);
            user.setAddress(address);
            user.setSalary(salary);

            userId = (Long) session.save(user);

            transaction.commit();
        } catch (Exception e) {
            if (transaction != null) {
                transaction.rollback();
            }
            e.printStackTrace();
        } finally {
            closeSession();
        }
        return userId;
    }

    private static User loadUser(Long userId) {
        Session session = openSession();
        User user = session.get(User.class, userId);
        closeSession();
        return user;
    }

    private static Session openSession() {
        return new
Configuration().configure().buildSessionFactory().openSession();
    }

    private static void closeSession() {
    }
}

```