**Hibernate 4 – Get Entity Reference for Lazy Loading**

By Wikipedia definition, [**Lazy loading**](https://en.wikipedia.org/wiki/Lazy_loading) is a design pattern commonly used in computer programming to defer initialization of an object until the point at which it is needed. We know that in hibernate lazy loading can be done by specifying **“fetch= FetchType.LAZY”** in hibernate mapping annotations. e.g.

@ManyToOne ( fetch = FetchType.LAZY )

@JoinColumns( {

@JoinColumn(name="fname", referencedColumnName = "firstname"),

@JoinColumn(name="lname", referencedColumnName = "lastname")

} )

public EmployeeEntity getEmployee() {

return employee;

}

The point is that it is applied **only when you are defining mapping between two entities**. If above entity has been defined in DepartmentEntity then if you fetch DepartmentEntity then EmployeeEntity will be lazy loaded.

But, what if you want to lazy load DepartmentEntity itself i.e. **master entity itself should be lazy loaded**.

This problem can be solved by using **[getReference()](http://docs.jboss.org/hibernate/orm/4.1/javadocs/org/hibernate/IdentifierLoadAccess.html" \l "getReference%28java.io.Serializable%29" \o "IdentifierLoadAccess)** method inside **IdentifierLoadAccess** class.

Let’s understand the usage by this example.

For reference, latest hibernate maven dependency is as follows:

<dependency>

<groupId>org.hibernate</groupId>

<artifactId>hibernate-core</artifactId>

<version>4.3.0.Beta3</version>

</dependency>

Now, I have an master entity class EmployeeEntity which can have multiple attributes and mapping with other entities.

**EmployeeEntity.java**

@Entity

@Table(name = "Employee", uniqueConstraints = {

@UniqueConstraint(columnNames = "ID"),

@UniqueConstraint(columnNames = "EMAIL") })

public class EmployeeEntity implements Serializable {

private static final long serialVersionUID = -1798070786993154676L;

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

@Column(name = "ID", unique = true, nullable = false)

private Integer employeeId;

//Use the natural id annotation here

@NaturalId (mutable = false)

@Column(name = "EMAIL", unique = true, nullable = false, length = 100)

private String email;

@Column(name = "FIRST\_NAME", unique = false, nullable = false, length = 100)

private String firstName;

@Column(name = "LAST\_NAME", unique = false, nullable = false, length = 100)

private String lastName;

//Setters and Getters

}

I want to lazy load above master entity lazy loaded in my code i.e. I can get reference of entity in one place but might be actually needing it another place. Only when I need it, I want to initialize or load its data. Till the time, I want only the reference.

Let’s do this in code example:

**TestHibernate.java**

public class TestHibernate

{

public static void main(String[] args)

{

Session session = HibernateUtil.getSessionFactory().openSession();

session.beginTransaction();

//Add new Employee object

EmployeeEntity emp = new EmployeeEntity();

emp.setEmail("demo-user@mail.com");

emp.setFirstName("demo");

emp.setLastName("user");

//Save entity

session.save(emp);

session.getTransaction().commit();

session.close();

session = HibernateUtil.getSessionFactory().openSession();

session.beginTransaction();

//Get only the reference of EmployeeEntity for now

EmployeeEntity empGet = (EmployeeEntity) session.byId( EmployeeEntity.class ).getReference( 1 );

System.out.println("No data initialized till now; Lets fetch some data..");

//Now EmployeeEntity will be loaded from database when we need it

System.out.println(empGet.getFirstName());

System.out.println(empGet.getLastName());

session.getTransaction().commit();

HibernateUtil.shutdown();

}

}

Output in console:

Hibernate: insert into Employee (EMAIL, FIRST\_NAME, LAST\_NAME) values (?, ?, ?)

No data initialized till now; Lets fetch some data..

Hibernate: select employeeen0\_.ID as ID1\_0\_0\_, employeeen0\_.EMAIL as EMAIL2\_0\_0\_, employeeen0\_.FIRST\_NAME as FIRST3\_0\_0\_,

employeeen0\_.LAST\_NAME as LAST4\_0\_0\_ from Employee employeeen0\_ where employeeen0\_.ID=?

demo

user