Dear Students,

Although I would request you to use Hibernate 4.3.5.Final version for the duration of the course, as that was the version used by me while designing the course and the jar files for which could also be download from Lecture 10, you might still want to use the Hibernate 5.x.y/latest version and you're welcome to do that, but you're going to have to make the following two changes to the downloaded source code (every lab exercise comes with downloadable source code) to get your code working properly:

1. Use the GenerationType.IDENTITY[1] strategy in your entities for auto id generation. As shown in the following Message entity, for example:

```java
1   package entity;
2
3   import javax.persistence.Column;
4   import javax.persistence.Entity;
5   import javax.persistence.GeneratedValue;
6   import javax.persistence.GenerationType;
7   import javax.persistence.Id;
8   import javax.persistence.Table;
9
10  @Entity
11  @Table(name="message")
12  public class Message{
13
14      @Id
15      @GeneratedValue(strategy=GenerationType.IDENTITY)
16      @Column(name="ID")
17      private Long id;
18
19      @Column(name="TEXT")
20      private String text;
21
22      public Message() {}
23      public Message(String text) {
24          this.text = text;
25      }
26
27      @Override
28      public String toString() {
29          return "Message [id=" + id + ", text=" + text + "]";
30      }
31
32  }
```

2. Build StandardServiceRegistry and Metadata to build the SessionFactory from them in HibernateUtil class, as shown below:

```java
1   package util;
2
3   import org.hibernate.SessionFactory;
4   import org.hibernate.boot.Metadata;
5   import org.hibernate.boot.MetadataSources;
6   import org.hibernate.boot.registry.StandardServiceRegistry;
7   import org.hibernate.boot.registry.StandardServiceRegistryBuilder;
8
9   public class HibernateUtil {
10
11      private static final SessionFactory sessionFactory = buildSessionFactory();
12
13      private static SessionFactory buildSessionFactory() {
14          try {
15              // Create the SessionFactory from hibernate.cfg.xml
16              StandardServiceRegistry standardRegistry = new StandardServiceRegistryBuilder()
17                                          .configure("hibernate.cfg.xml").build();
18              Metadata metadata = new MetadataSources(standardRegistry)
19                                  .getMetadataBuilder().build();
20              return metadata.getSessionFactoryBuilder().build();
21          }
22          catch (Throwable ex) {
23              // Make sure you log the exception, as it might be swallowed
24              System.err.println("Initial SessionFactory creation failed." + ex);
25              throw new ExceptionInInitializerError(ex);
26          }
27      }
28
29      public static SessionFactory getSessionFactory() {
30          return sessionFactory;
31      }
32
33  }
```

So if you're going to use Hibernate 4.3.5.Final version, you *don't* have to make the above (1st and 2nd) changes to the downloaded source code.

Once you complete the course, you could always test your code using Hibernate 5.x.y/latest version and get back to me in case you happen to face any issues[2].

Best,
Deshraj

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[1]GenerationType.*IDENTITY* was discussed at
https://www.udemy.com/course/242180/activities/?ids=2594248 in the course
[2]Hibernate 5.0.4 version has moved the geronimo-jta_1.1_spec-1.1.1.jar from lib -> required folder to lib -> osgi folder, so do not forget to have it in the classpath of your application; Hibernate 5.0.4.Final jar files are also available for download from Lecture 10