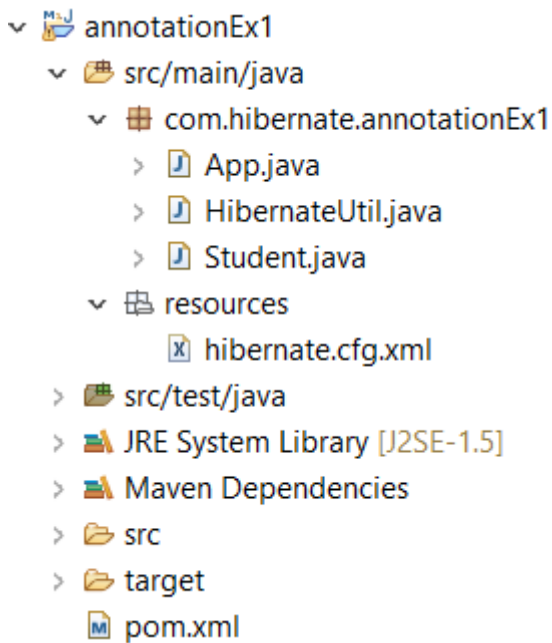


Project Structure



Step 1: Create Maven Project

1. Open your IDE (e.g., IntelliJ IDEA, Eclipse).
2. Create a new Maven project.
 - Group ID: com.hibernate
 - Artifact ID: annotationEx1

Step 2: Add the below Dependencies to pom.xml

1. mysql-connector-j (com.mysql)
2. hibernate-core (org.hibernate.orm)
3. javax.persistence-api (javax.persistence)
4. hibernate-validator (org.hibernate.validator)
5. expressly (org.glassfish.expressly)
6. jakarta.validation (jakarta.validation-api)
7. jakarta.persistence-api (jakarta.persistence)

Step-3 Create the Student Class

Create the Student class in the com.hibernate.annotationEx1 package:

package com.hibernate.annotationEx1;

```
import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.GeneratedValue;
import jakarta.persistence.GenerationType;
import jakarta.persistence.Id;
import jakarta.persistence.Table;

import jakarta.validation.constraints.NotNull;
```

```

import jakarta.validation.constraints.Pattern;
import jakarta.validation.constraints.Size;

@Entity
@Table(name = "studentannotationdiv2")
public class Student {
    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    @Column(name = "student_id", unique = true)
    private int studentId;

    @NotNull(message = "First name should not be null")
    @Size(max=40, message = "Should not exceeds 40 characters")
    private String firstName;

    @NotNull(message = "Last name should not be null")
    @Size(max=40, message = "Should not exceeds 40 characters")
    private String lastName;

    @NotNull(message = "Email should not be null")
    @Pattern(regexp = ".+@.+\\.\\.[a-z]+")
    private String email;

    @NotNull(message = "Mobile number should not be null")
    @Pattern(regexp = "(^$|[0-9]{10})",message = "Mobile number should be 10 digits only")
    @Size(max=10, message = "Should not exceeds 10 characters")
    private String mobile;

    public int getStudentId() { return studentId;}
    public void setStudentId(int studentId) { this.studentId = studentId; }

    public String getFirstName() { return firstName; }
    public void setFirstName(String firstName) { this.firstName = firstName; }

    public String getLastName() { return lastName; }
    public void setLastName(String lastName) { this.lastName = lastName;}

    public String getEmail() { return email; }
    public void setEmail(String email) { this.email = email; }

    public String getMobile() { return mobile; }
    public void setMobile(String mobile) { this.mobile = mobile; }
}

```

Step 4: Create the hibernate.cfg.xml File

Create a resources package under the src/main/java folder and then create an XML file named hibernate.cfg.xml with the following content:

```

<?xml version="1.0" encoding="UTF-8"?>
<hibernate-configuration>
    <session-factory>
        <property name="hibernate.connection.driver_class"> com.mysql.cj.jdbc.Driver </property>
        <property name="hibernate.connection.url">
            jdbc:mysql://localhost:3306/hibernateDB
        </property>
        <property name="hibernate.connection.username">root</property>
        <property name="hibernate.connection.password">password</property>
        <property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
        <property name="show_sql">true</property>
        <property name="format_sql">true</property>
        <property name="hbm2ddl.auto">create </property>
        <mapping class="com.hibernate.annotationEx1.Student"></mapping>
    </session-factory>
</hibernate-configuration>

```

Note: Ensure the MySQL database hibernateDB exists, and replace the username and password with your actual MySQL credentials.

Step 5: Create the HibernateUtil Class

Create the HibernateUtil class in the com.hibernate.xmlconfigurationEx1 package:

```

package com.hibernate.annotationEx1;
import org.hibernate.SessionFactory;
import org.hibernate.cfg.Configuration;

public class HibernateUtil {
    private static final SessionFactory sessionFactory = buildSessionFactory();
    private static SessionFactory buildSessionFactory() {
        SessionFactory sessionFactory = null;
        try {
            Configuration configuration = new Configuration();
            configuration.configure("resources/hibernate.cfg.xml");
            sessionFactory = configuration.buildSessionFactory();
        } catch (Exception e) { e.printStackTrace(); }
        return sessionFactory;
    }

    public static SessionFactory getSessionFactory() { return sessionFactory; }
}

```

Step-6 Now add the below lines of code into **App.java** class file.

```
package com.hibernate.annotationEx1;

import org.hibernate.HibernateException;
import org.hibernate.Session;
import org.hibernate.Transaction;

public class App
{
    public static void main( String[] args )
    {
        Student student = new Student();
        student.setStudentId(1);
        student.setFirstName("Kalpesh");
        student.setLastName("Patel");
        student.setEmail("kalpesh@aol.com");
        student.setMobile("994356565");

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

        Transaction tran = null;
        try {
            tran = session.beginTransaction();
            session.persist(student);
            tran.commit();

            System.out.println("Student saved successfully...");
        } catch (HibernateException e) {
            System.out.println("Error :" + e.getMessage());
        }
    }
}
```

Step-7 Right click on App.java file and Run the application