



HIBERNATE





Creation De Projet Hibernate

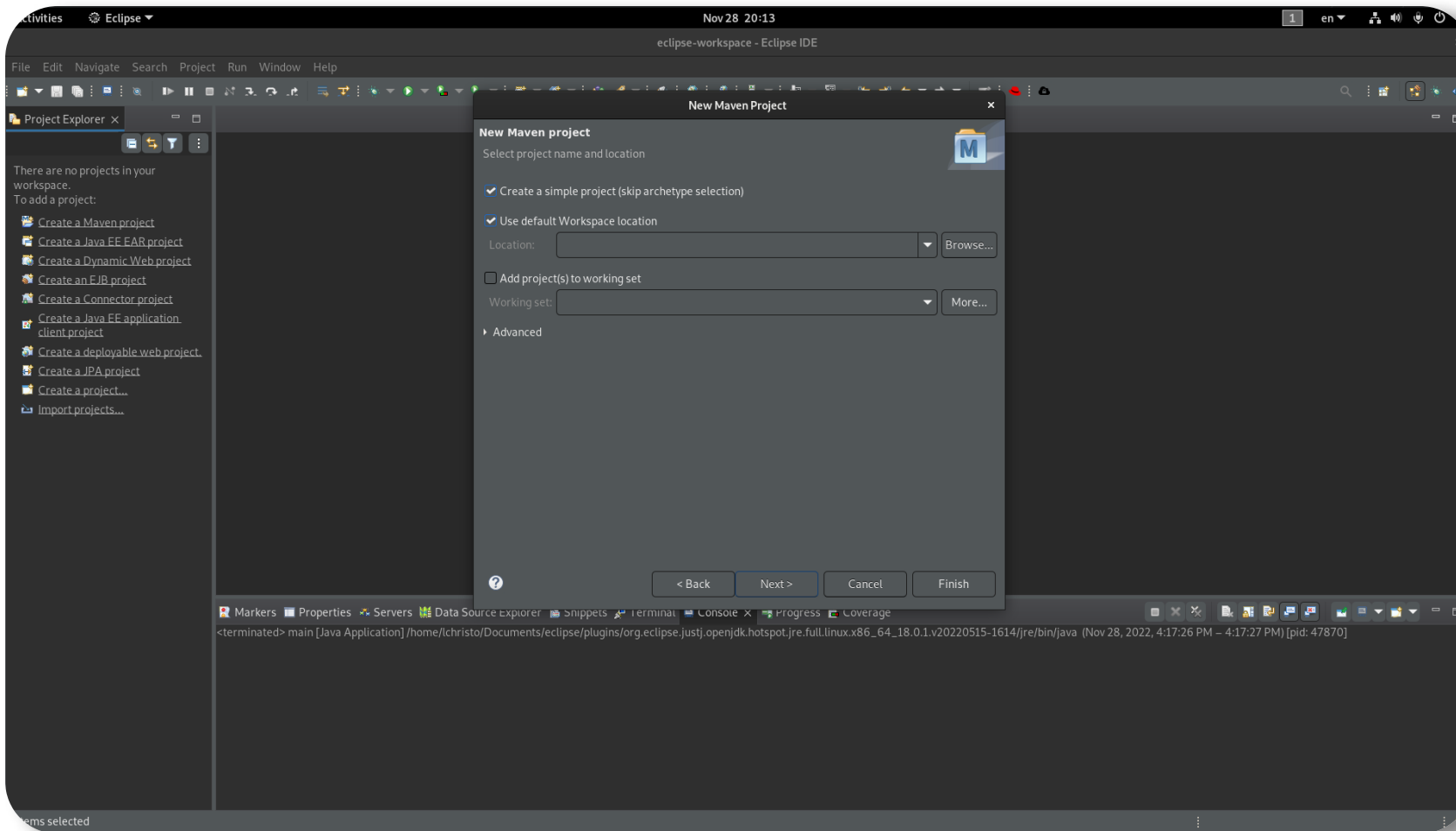


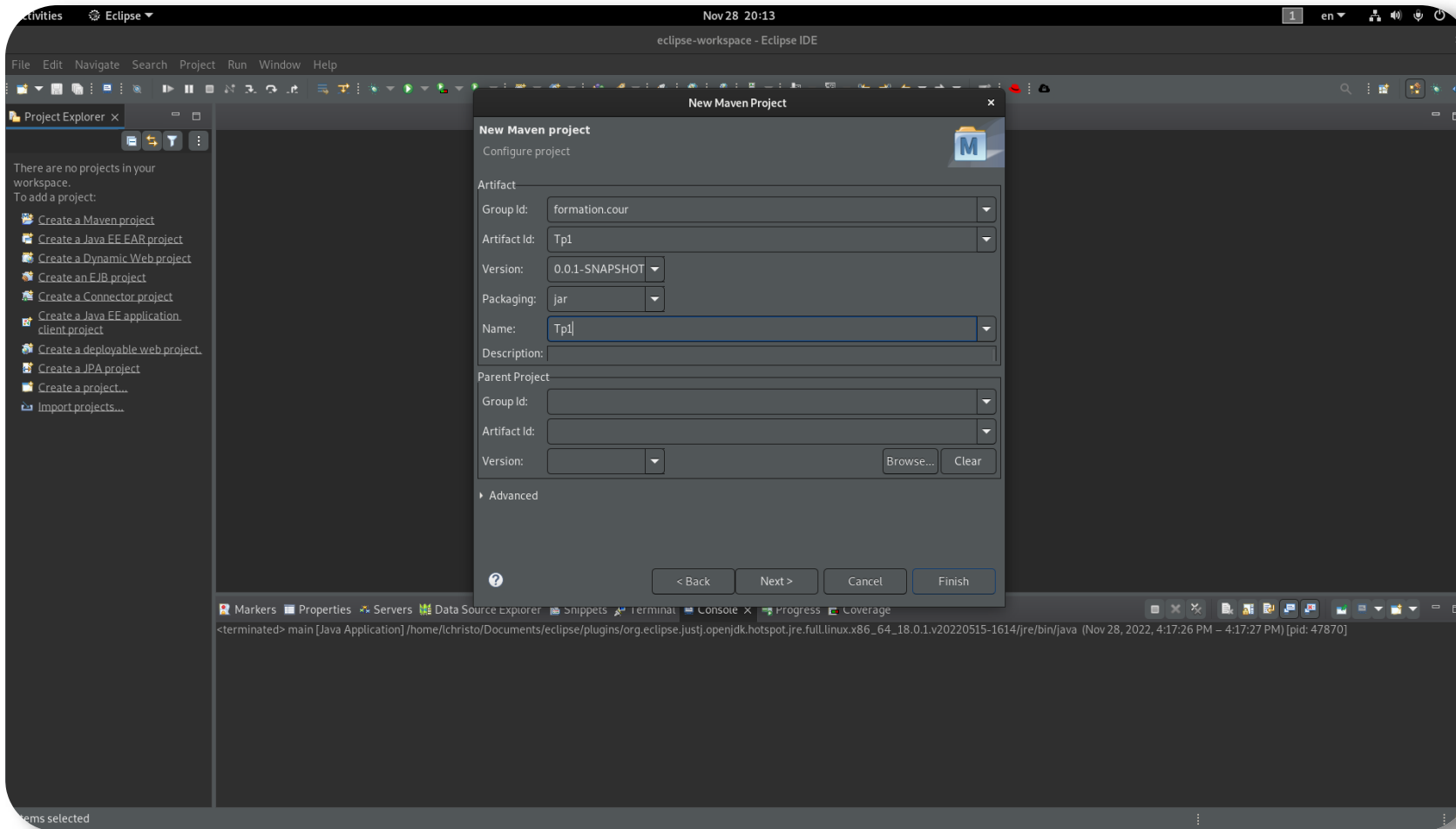
1. Creation de projet



Vous avez le choix entre plusieurs IDE, mais pour ce cours nous allons utiliser Eclipse.

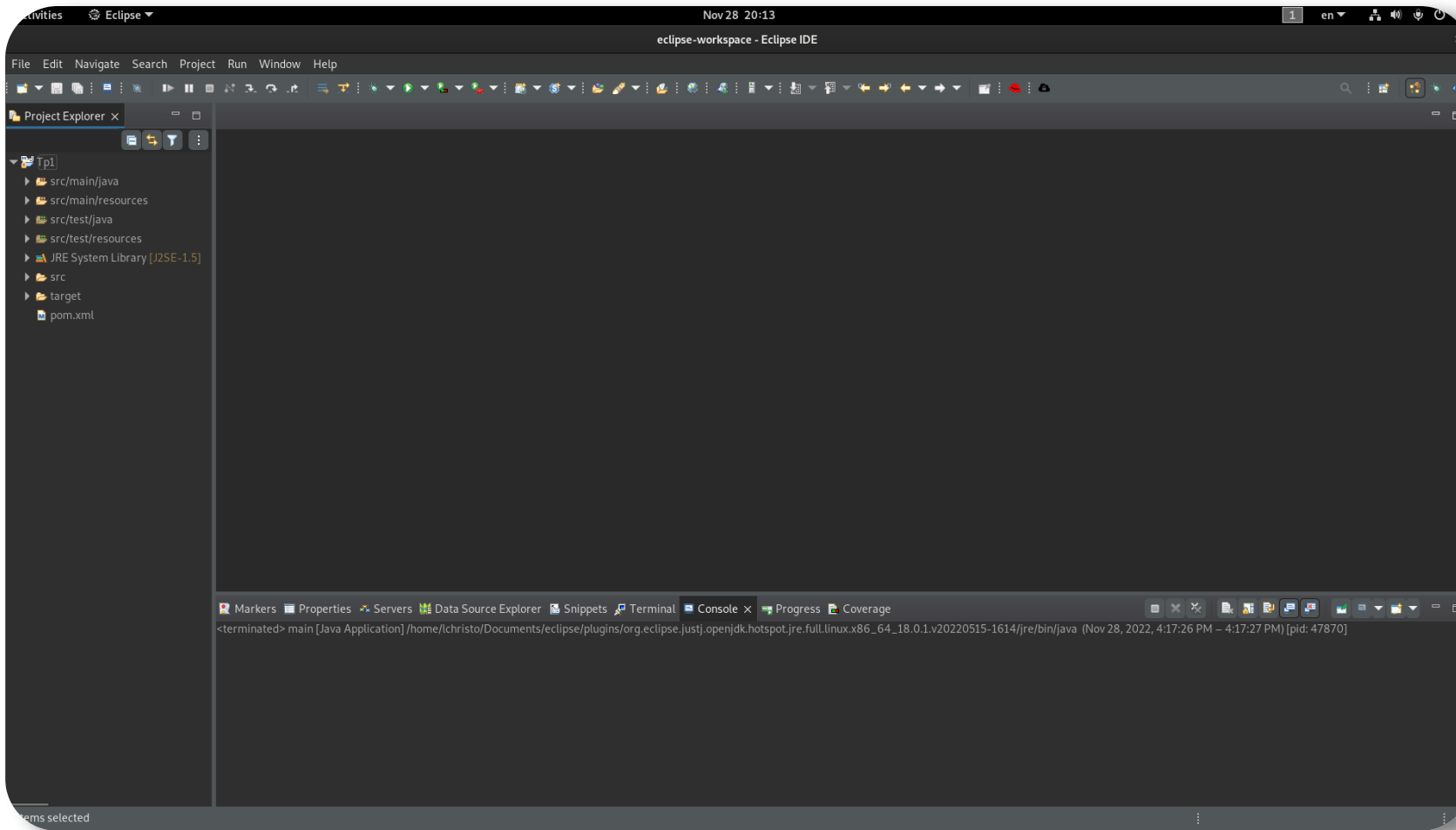
Pour commencer, il faut créer un nouveau projet maven, et en cochant la case "Create a simple project (skip archetype selection)".







Ca va créer un projet maven avec un fichier pom.xml, votre projet devrais ressembler à ça :





Ensuite, il faut ajouter les dépendances suivantes dans le fichier pom.xml :

```
<dependencies>
  <dependency>
    <groupId>org.hibernate</groupId>
    <artifactId>hibernate-core</artifactId>
    <version>5.6.1.Final</version>
  </dependency>
  <dependency>
    <groupId>mysql</groupId>
    <artifactId>mysql-connector-java</artifactId>
    <version>8.0.15</version>
    <scope>provided</scope>
  </dependency>
  <dependency>
    <groupId>org.hibernate</groupId>
    <artifactId>hibernate-entitymanager</artifactId>
    <version>5.2.10.Final</version>
  </dependency>
</dependencies>
```



2. Configuration de la base de données



Sur le coté vous pourrez définir votre base de données, pour ce cours nous allons utiliser MySQL.

```
CREATE DATABASE Projet1;
USE Projet1;
CREATE TABLE User (
    id int(11) NOT NULL AUTO_INCREMENT,
    nom varchar(255) NOT NULL,
    prenom varchar(255) NOT NULL,
    PRIMARY KEY (id)
);
```

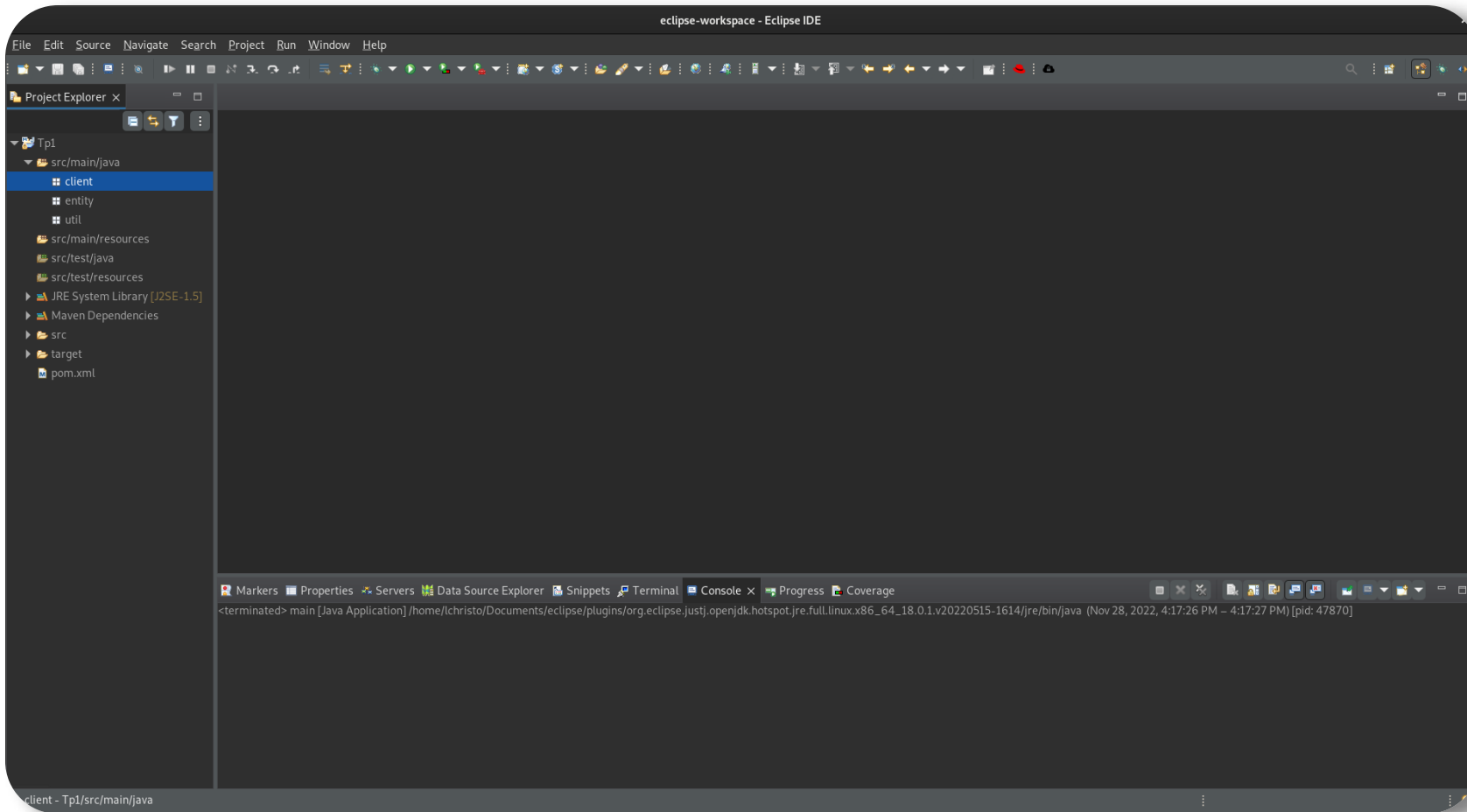



Nous allons maintenant créer trois packages dans le dossier src/main/java :

 **Entity**

 **Client**

 **Util**





Objet user



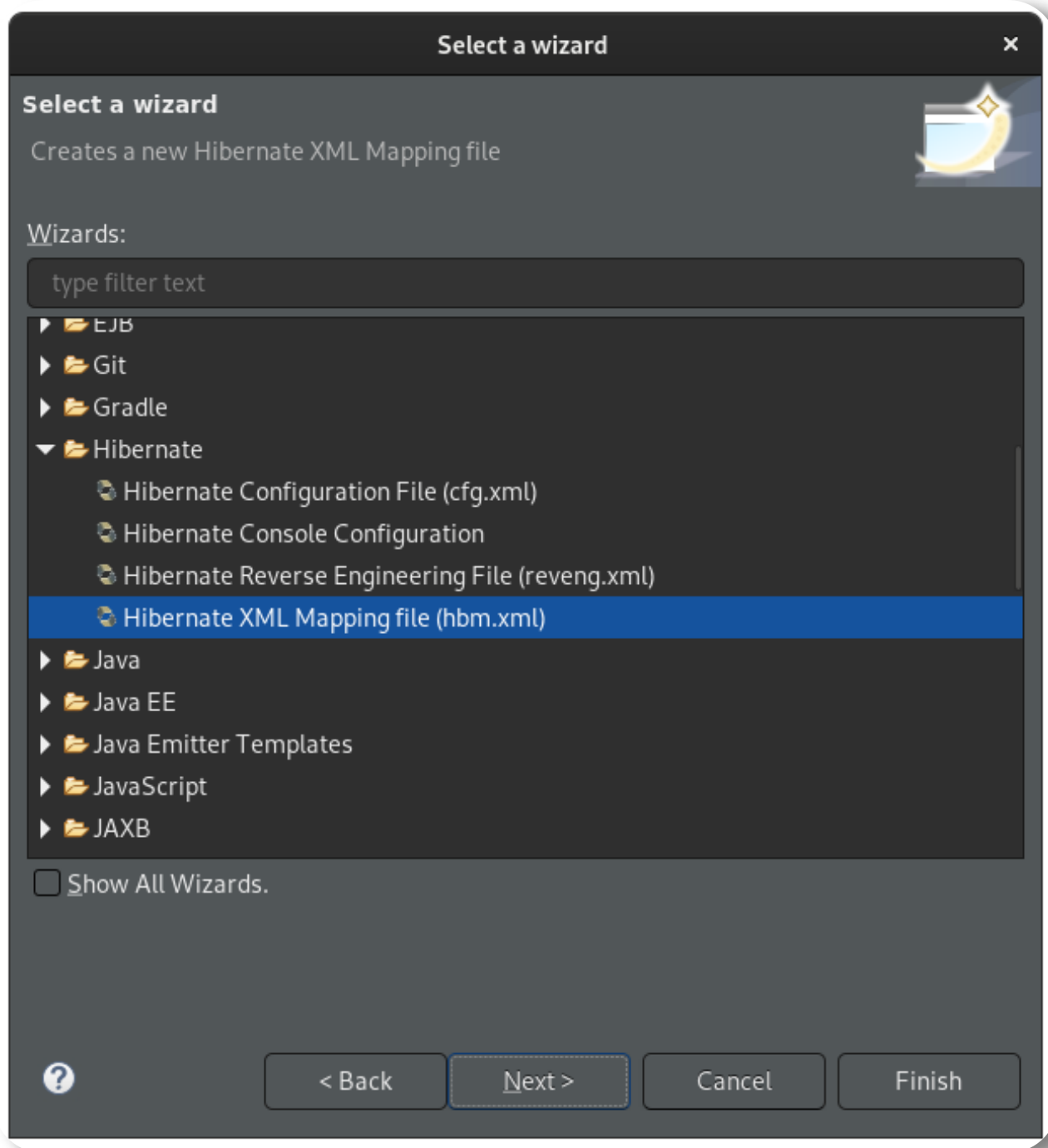
```
public class User {  
    // id = clef primaire de mon objet, elle est obligatoire et sert a retrouver mon objet dans ma base de donnee  
    private int id;  
    // attributs autre :  
    private String nom;  
    private String prenom;  
    // Constructeur par default et surcharge de constructeur  
    public User()  
    {  
    }  
    public User(String nom, String prenom)  
    {  
        this.nom = nom;  
        this.prenom = prenom;  
    }  
    // getter and setter  
}
```



3. Mapping xml



Nous allons maintenant créer un fichier xml qui va nous permettre de mapper notre objet User avec notre base de données.





eclipse-workspace - Tp1/src/main/java/entity/hibernate.hbm.xml - Eclipse IDE

File Edit Source Source Navigate Search Project Run Window Help

Project Explorer x

- hibernateMaven2
 - src/main/java
 - client
 - entity
 - User.java
 - hibernate.hbm.xml
 - util
 - src/main/resources
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml

hibernate.hbm.xml x hibernate.cfg.xml HibernateUtil.java Personne.java

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!DOCTYPE hibernate-mapping PUBLIC "-//Hibernate/Hibernate Mapping DTD 3.0//EN" "http://hibernate.sourceforge.net/hibernate-mapping-3.0.dtd" >
3 <hibernate-mapping>
4
5 </hibernate-mapping>
```

Tree Source

hibernate-mapping/#text

Writable Smart Insert 4:1:205



fichier de mapping xml :

```
<class name="entity.User" table="user">
  <id name="id" column="id" type="int">
    <generator class="native"/>
  </id>
  <property name="nom" column="nom" type="string"/>
  <property name="prenom" column="prenom" type="string"/>
</class>
```



4. HibernateUtil



Vous pouvez maintenant créer votre classe HibernateUtil, elle va nous permettre de créer une session factory qui va nous permettre de créer des sessions.

Il faut ajouter la classe HibernateUtil dans le package util.



eclipse-workspace - Tp1/src/main/java/util/HibernateUtil.java - Eclipse IDE

File Edit Refactor Source Navigate Search Project Run Window Help

Project Explorer x

- ▼ Tp1
 - src/main/java
 - client
 - entity
 - User.java
 - hibernate.hbm.xml
 - util
 - HibernateUtil.java
 - src/main/resources
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml

```
1 package util;
2
3 import org.hibernate.SessionFactory;
4
5 public class HibernateUtil {
6     private static final SessionFactory sessionFactory = buildSessionFactory();
7
8     private static SessionFactory buildSessionFactory() {
9         try {
10             return new Configuration().configure().buildSessionFactory();
11         } catch (Throwable ex) {
12             System.err.println("Initial SessionFactory creation failed." + ex);
13             throw new ExceptionInInitializerError(ex);
14         }
15     }
16
17     public static SessionFactory getSessionFactory() {
18         return sessionFactory;
19     }
20 }
21
22
23
```

Writable Smart Insert 23:1:563



```
import org.hibernate.SessionFactory;
import org.hibernate.cfg.Configuration;

public class HibernateUtil {
    private static final SessionFactory sessionFactory = buildSessionFactory();

    private static SessionFactory buildSessionFactory() {
        try {
            return new Configuration().configure().buildSessionFactory();
        } catch (Throwable ex) {
            System.err.println("Initial SessionFactory creation failed." + ex);
            throw new ExceptionInInitializerError(ex);
        }
    }

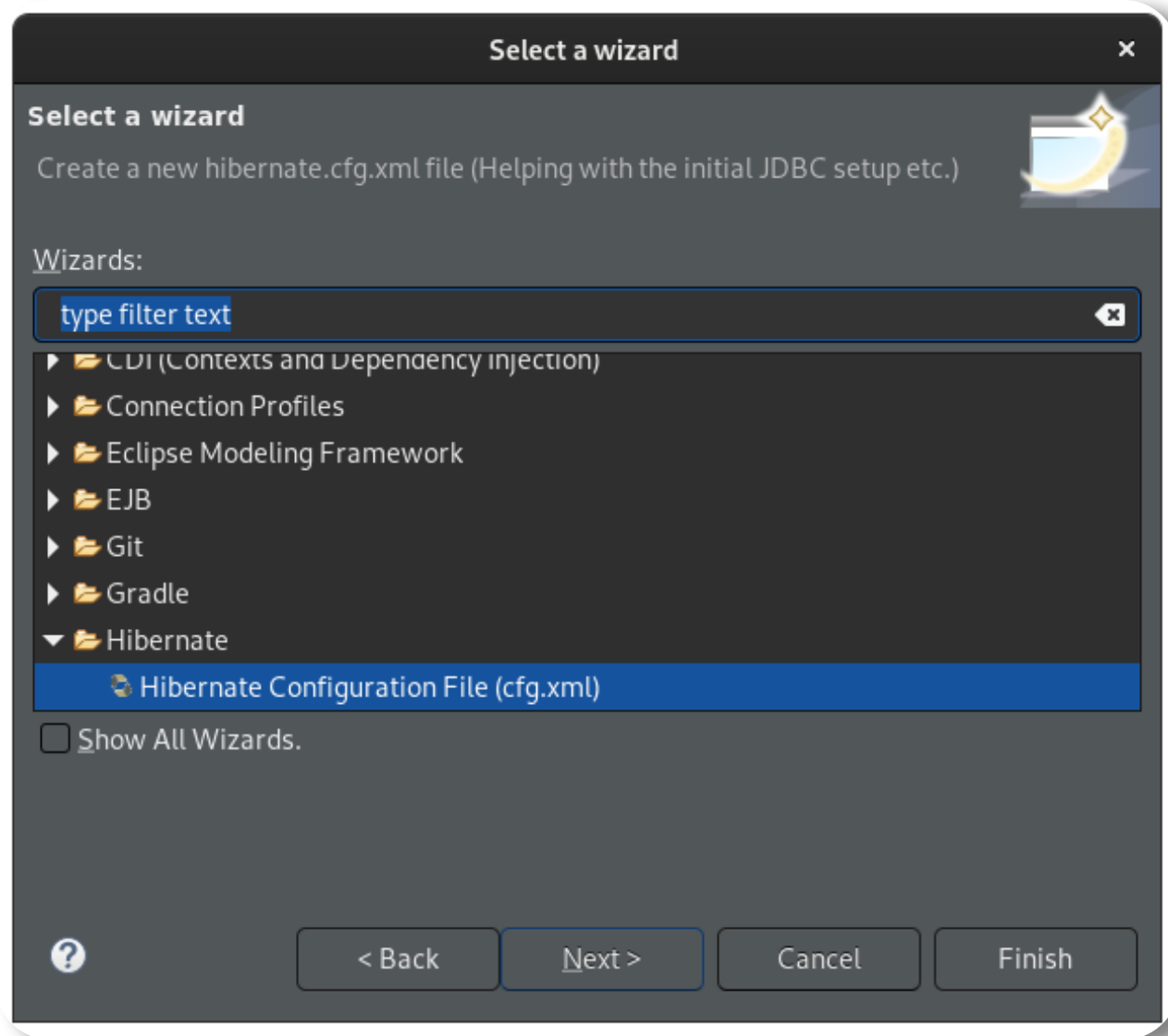
    public static SessionFactory getSessionFactory() {
        return sessionFactory;
    }
}
```

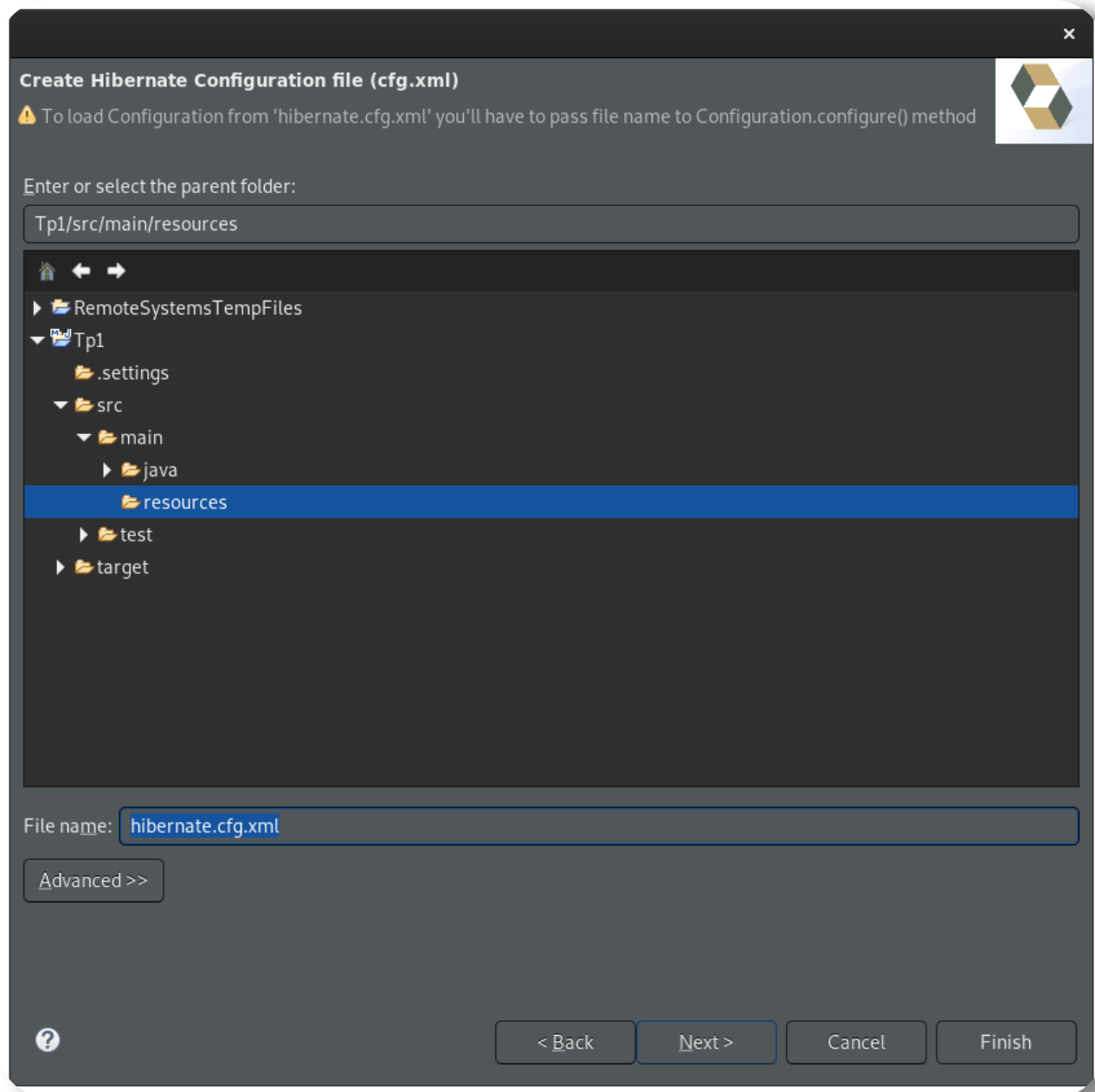


5. Configuration de Hibernate



Nous allons maintenant créer un fichier de configuration hibernate, il va nous permettre de configurer notre session factory.







Hibernate Configuration File (cfg.xml)

This wizard creates a new configuration file to use with Hibernate.

Container: /Tp1/src/main/resources

File name: hibernate.cfg.xml

Hibernate version: 5.6

Session factory name:

[Get values from Connection](#)

Database dialect: MySQL

Driver class: com.mysql.jdbc.Driver

Connection URL: jdbc:mysql://localhost:3306/project1

Default Schema:

Default Catalog:

Username: root

Password: root


☐ Create a console configuration

? < Back Next > Cancel Finish





Add Mapping [X]

Mapping 


Class:

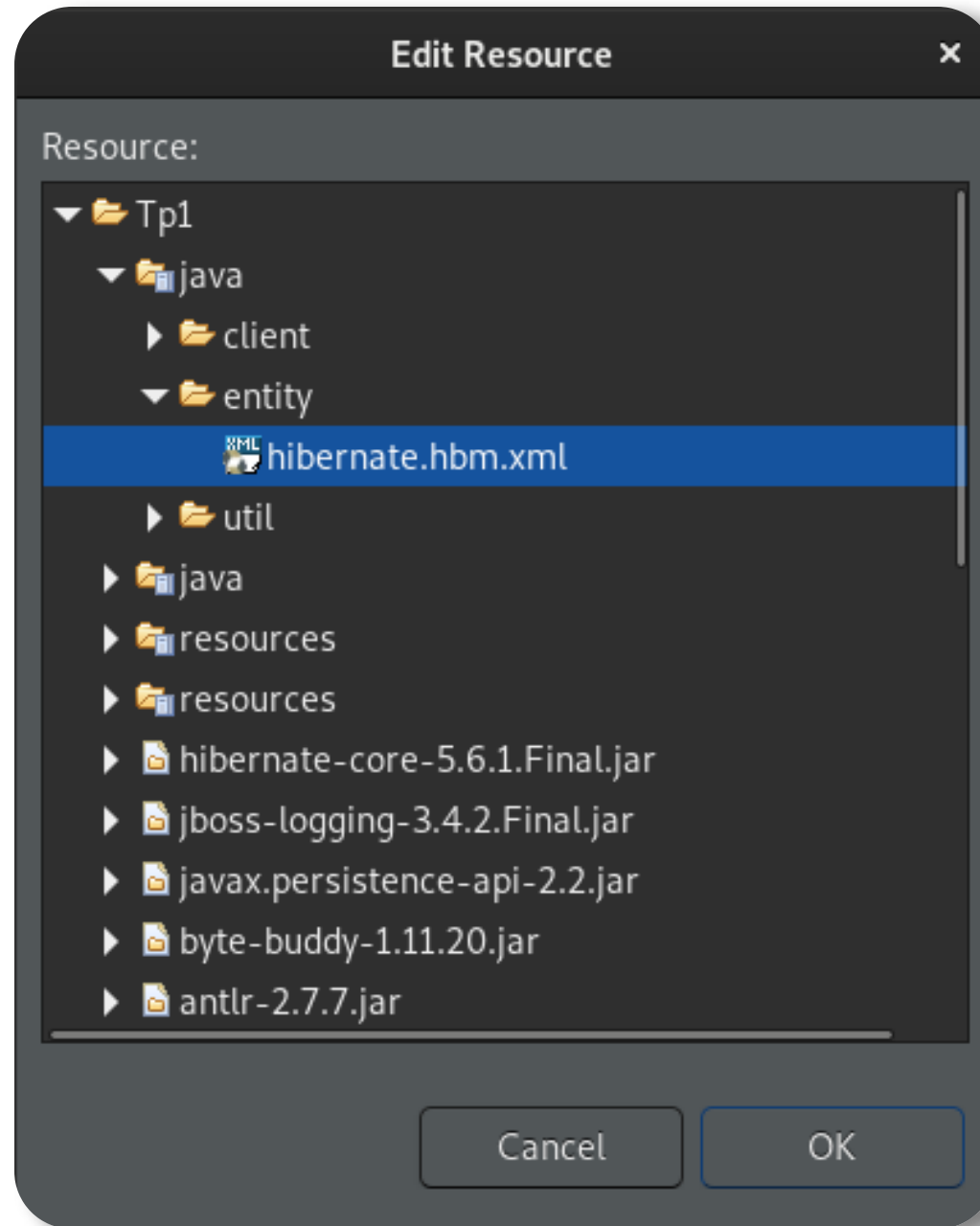
Package:

File:

Jar:


Resource:







Add Mapping [X]

Mapping 


Class:

Package:

File:

Jar:

Resource:





eclipse-workspace - Tp1/src/main/resources/hibernate.cfg.xml - Eclipse IDE

File Edit Source Source Navigate Search Project Run Window Help

Project Explorer ×

- RemoteSystemsTempFiles
- ▼ Tp1
 - src/main/java
 - client
 - Client.java
 - entity
 - User.java
 - util
 - HibernateUtil.java
 - src/main/resources
 - hibernate.cfg.xml
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml

hibernate.cfg.xml

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!DOCTYPE hibernate-configuration PUBLIC "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
3 "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
4 <hibernate-configuration>
5     <session-factory>
6         <property name="hibernate.connection.driver_class">com.mysql.jdbc.Driver</property>
7         <property name="hibernate.connection.password">root</property>
8         <property name="hibernate.connection.url">jdbc:mysql://localhost:3306/project1</property>
9         <property name="hibernate.connection.username">root</property>
10        <property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
11        <mapping resource="entity/hibernate.hbm.xml" />
12    </session-factory>
13 </hibernate-configuration>
14 </hibernate-configuration>
15
```

Session Factory Security Source

Markers Properties Servers Data Source Explorer Snippets Terminal Console × Progress Coverage

```
<terminated> Client [Java Application] /home/christo/Documents/eclipse/plugins/org.eclipse.justi.openjdk.hotspot.jre.full.linux.x86_64_18.0.1.v20220515-1614/jre/bin/java (Nov 28, 2022, 10:36:50 PM - 10:36:52 PM) [pid: 83353]
Loading class 'com.mysql.jdbc.Driver'. This is deprecated. The new driver class is 'com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI and manual loading of the driver class is g
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001005: using driver [com.mysql.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/project1]
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001001: Connection properties: {password=****, user=root}
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001003: Autocommit mode: false
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>
INFO: HHH000115: Hibernate connection pool size: 20 (min=1)
Nov 28, 2022 10:36:51 PM org.hibernate.dialect.Dialect <init>
INFO: HHH000400: Using dialect: org.hibernate.dialect.MySQLDialect
Nov 28, 2022 10:36:51 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
```

hibernate-configuration/session-factory Writable Smart Insert 5:21:279



```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE hibernate-configuration PUBLIC "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
        "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
<hibernate-configuration>
  <session-factory>
    <property name="hibernate.connection.driver_class">com.mysql.jdbc.Driver</property>
    <property name="hibernate.connection.password">root</property>
    <property name="hibernate.connection.url">jdbc:mysql://localhost:3306/project1</property>
    <property name="hibernate.connection.username">root</property>
    <property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
    <mapping resource="entity/hibernate.hbm.xml" />
  </session-factory>
</hibernate-configuration>
```



**N'Oubliez Pas De Supprimer Le Nom
De La Session Factory !**



6. Client



Nous allons maintenant créer un client qui va nous permettre de tester notre application.

Ce Client devra contenir une méthode main.



New Java Class

Java Class

Create a new Java class.

Source folder:

Package:

☐ Enclosing type:

Name:

Modifiers: ☒ public ☐ package ☐ private ☐ protected
☐ abstract ☐ final ☐ static

Superclass:

Interfaces:

Which method stubs would you like to create?

☒ `public static void main(String[] args)`

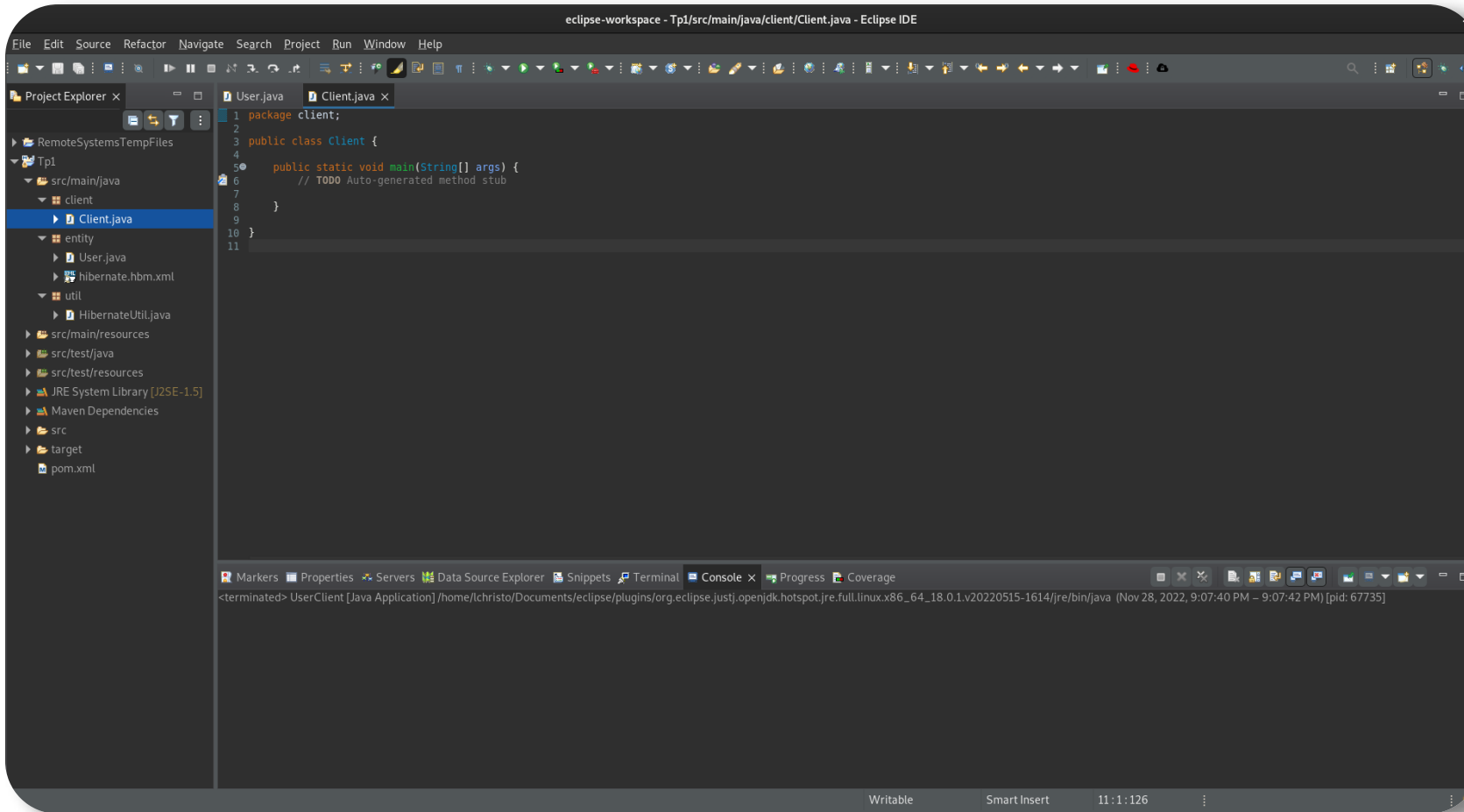
☐ Constructors from superclass

☒ Inherited abstract methods

Do you want to add comments? (Configure templates and default value [here](#))

☐ Generate comments







eclipse-workspace - Tp1/src/main/java/client/Client.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- RemoteSystemsTempFiles
- Tp1
 - src/main/java
 - client
 - Client.java
 - entity
 - User.java
 - hibernate.hbm.xml
 - util
 - HibernateUtil.java
 - src/main/resources
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml

```
1 package client;
2
3 import org.hibernate.Session;
4 import org.hibernate.Transaction;
5
6 import entity.User;
7 import util.HibernateUtil;
8
9 public class Client {
10
11     public static User addUser(User p) {
12         Session session = HibernateUtil.getSessionFactory().openSession();
13         Transaction tx = session.beginTransaction();
14         try {
15             session.save(p); // p devient persistant
16             tx.commit();
17         } catch (Exception e) {
18             System.out.println(e.getMessage());
19             tx.rollback();
20         }
21         session.close(); // p
22         return p;
23     }
24
25     public static void main(String[] args) {
26         User chris = Client.addUser(new User("Loisel", "christopher"));
27     }
28 }
29
30
31 }
```

Markers Properties Servers Data Source Explorer Snippets Terminal Console Progress Coverage

<terminated> UserClient [Java Application] /home/ichristo/Documents/eclipse/plugins/org.eclipse.justj.openjdk.hotspot.jre.full.linux.x86_64_18.0.1.v20220515-1614/jre/bin/java (Nov 28, 2022, 9:07:40 PM – 9:07:42 PM) [pid: 67735]

Writable Smart Insert 31:2:617



```
public class Client {  
  
    public static User addUser(User p) {  
        Session session = HibernateUtil.getSessionFactory().openSession();  
        Transaction tx = session.beginTransaction();  
        try {  
            session.save(p); // p devient persistant  
            tx.commit();  
        }  
        catch (Exception e)  
        {  
            System.out.print(e.getMessage());  
            tx.rollback();  
        }  
        session.close(); // p  
        return p;  
    }  
  
    public static void main(String[] args) {  
        User chris = Client.addUser(new User("Loisel", "christopher"));  
    }  
  
}
```



Vous pouvez maintenant tester votre application.

Félicitation vous avez réussi à créer votre première application avec Hibernate.

Si vous avez une erreur qui vous affiche une problème de date utc, vous pouvez ajouter ce code a la fin de l'url de votre base de données.

```
?useSSL=false&serverTimezone=UTC
```



```
mysql -u root -p
mysql -u root -p 211x55

mysql> select * from User;
+----+-----+-----+
| id | nom   | prenom |
+----+-----+-----+
| 1  | Loisel | christopher |
| 2  | Loisel | christopher |
| 3  | Loisel | christopher |
| 4  | Loisel | christopher |
+----+-----+-----+
4 rows in set (0.00 sec)

mysql> select * from User;
+----+-----+-----+
| id | nom   | prenom |
+----+-----+-----+
| 1  | Loisel | christopher |
| 2  | Loisel | christopher |
| 3  | Loisel | christopher |
| 4  | Loisel | christopher |
| 5  | Loisel | christopher |
| 6  | Loisel | christopher |
+----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```



Vous pouvez aussi ignorer le fichier xml de mapping et utiliser les annotations pour mapper votre objet.

Nous allons maintenant ajouter les annotations dans notre objet User.



eclipse-workspace - Tp1/src/main/java/entity/User.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- RemoteSystemsTempFiles
- ▼ Tp1
 - src/main/java
 - client
 - Client.java
 - entity
 - User.java
 - hibernate.hbm.xml
 - util
 - HibernateUtil.java
 - src/main/resources
 - hibernate.cfg.xml
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml

User.java

```
1 import javax.persistence.*;
2 import javax.persistence.GeneratedValue;
3 import javax.persistence.GenerationType;
4 import javax.persistence.Id;
5 import javax.persistence.Table;
6
7 // id = clef primaire de mon objet, elle est obligatoire et sert a retrouver mon objet dans ma base de donnee
8 @Entity
9 @Table(name = "User")
10 public class User {
11
12     // id
13     @Id
14     @Column(name = "id")
15     @GeneratedValue(strategy = GenerationType.IDENTITY)
16     private int id;
17
18     // attributs autre :
19     @Column(name = "nom")
20     private String nom;
21
22     @Column(name = "prenom")
23     private String prenom;
24
25     // Constructeur par défaut et surcharge de constructeur
26
27     public User() {
28     }
29
30     public User(String nom, String prenom) {
31         this.nom = nom;
32         this.prenom = prenom;
33     }
34
35     // getter and setter
36
37
38 }
```

Markers Properties Servers Data Source Explorer Snippets Terminal Console Progress Coverage

<terminated> Client [Java Application] /home/lchristo/Documents/eclipse/plugins/org.eclipse.justi.openjdk.hotspot.jre.full.linux.x86_64_18.0.1.v20220515-1614/jre/bin/java (Nov 28, 2022, 10:06:10 PM - 10:06:12 PM) [pid: 78929]

Loading class 'com.mysql.jdbc.Driver'. This is deprecated. The new driver class is 'com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI and manual loading of the driver class is g

Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator

INFO: HHM10001005: using driver [com.mysql.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/project1]

Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator

INFO: HHM10001001: Connection properties: {password=****, user=root}

Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator

INFO: HHM10001003: Autocommit mode: false

Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl\$PooledConnections <init>

INFO: HHM000115: Hibernate connection pool size: 20 (min=1)

Nov 28, 2022 10:06:11 PM org.hibernate.dialect.Dialect <init>

INFO: HHM000400: Using dialect: org.hibernate.dialect.MySQLDialect

Nov 28, 2022 10:06:12 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService

INFO: HHM000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]

hibernate.hbm.xml - Tp1/src/main/java/entity



Puis nous allons supprimer le fichier xml de mapping.

Ensuite nous allons ajouter le fichier entity avec annotation dans le fichier de configuration hibernate.



eclipse-workspace - Tp1/src/main/resources/hibernate.cfg.xml - Eclipse IDE

File Edit Source Navigate Search Project Run Window Help

Project Explorer x

- RemoteSystemsTempFiles
- Tp1
 - src/main/java
 - client
 - Client.java
 - entity
 - User.java
 - util
 - HibernateUtil.java
 - src/main/resources
 - hibernate.cfg.xml
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml

Hibernate Configuration 3.0 XML Editor

Session Factory

- Properties
- Mappings
- Caches
- Events
- Listeners

Properties

name

- hibernate.connection.driver_class
- hibernate.connection.password
- hibernate.connection.url
- hibernate.connection.username
- hibernate.dialect

Mappings

item

Session Factory Security Source


Markers Properties Servers Data Source Explorer Snippets Terminal Console x Progress Coverage

```
<terminated> Client [Java Application] /home/lchristo/Documents/eclipse/plugins/org.eclipse.justi.openjdk.hotspot.jre.full.linux.x86_64_18.0.1.v20220515-1614/jre/bin/java (Nov 28, 2022, 10:06:10 PM - 10:06:12 PM) [pid: 78929]
Loading class 'com.mysql.jdbc.Driver'. This is deprecated. The new driver class is 'com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI and manual loading of the driver class is g
Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHM10001005: using driver [com.mysql.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/project1]
Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHM10001001: Connection properties: {password=****, user=root}
Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHM10001003: Autocommit mode: false
Nov 28, 2022 10:06:11 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>
INFO: HHM000115: Hibernate connection pool size: 20 (min=1)
Nov 28, 2022 10:06:11 PM org.hibernate.dialect.Dialect <init>
INFO: HHM000400: Using dialect: org.hibernate.dialect.MySQLDialect
Nov 28, 2022 10:06:12 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHM000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
```

Writable Smart Insert 11:1:672



Add Mapping [X]

Mapping 


Class:

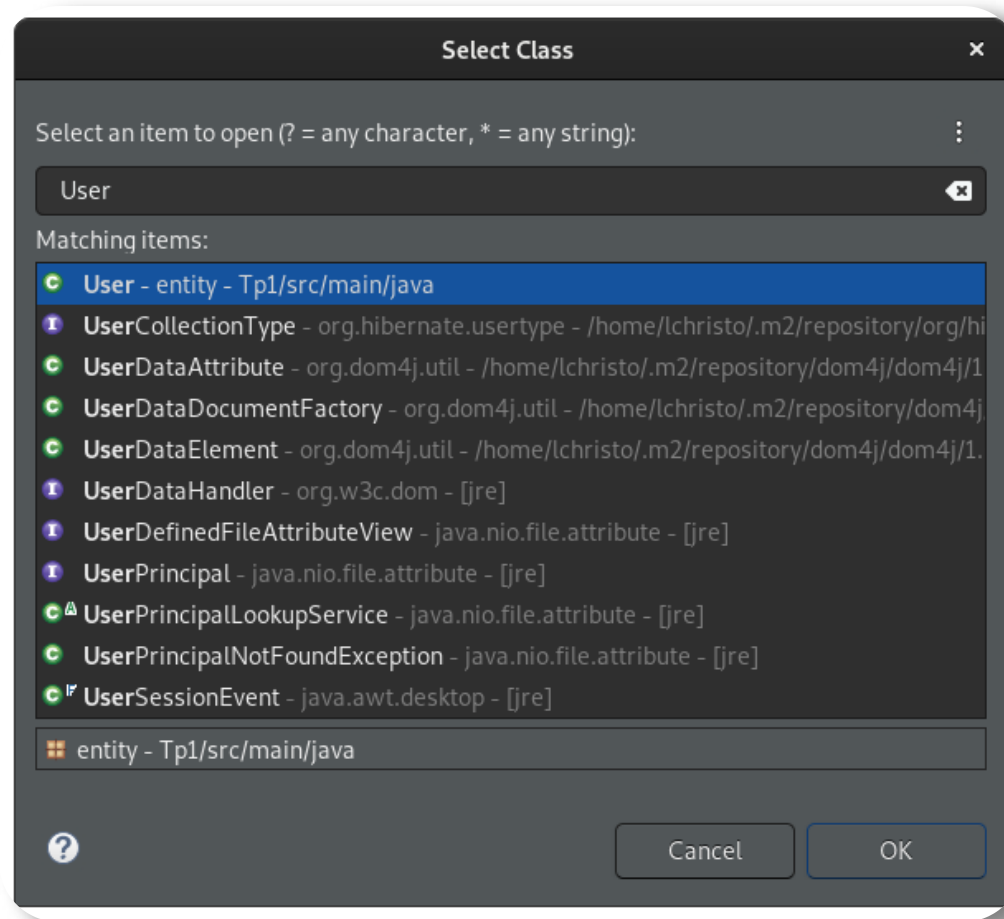
Package:

File:

Jar:


Resource:







Add Mapping [X]

Mapping 


Class:

Package:

File:

Jar:

Resource:





eclipse-workspace - Tp1/src/main/resources/hibernate.cfg.xml - Eclipse IDE

File Edit Source Source Navigate Search Project Run Window Help

Project Explorer ×

- RemoteSystemsTempFiles
- ▼ Tp1
 - src/main/java
 - client
 - Client.java
 - entity
 - User.java
 - util
 - HibernateUtil.java
 - src/main/resources
 - hibernate.cfg.xml
 - src/test/java
 - src/test/resources
 - JRE System Library [J2SE-1.5]
 - Maven Dependencies
 - src
 - target
 - pom.xml

hibernate.cfg.xml

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!DOCTYPE hibernate-configuration PUBLIC "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
3     "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
4 <hibernate-configuration>
5   <session-factory>
6     <property name="hibernate.connection.driver_class">com.mysql.jdbc.Driver</property>
7     <property name="hibernate.connection.password">root</property>
8     <property name="hibernate.connection.url">jdbc:mysql://localhost:3306/project1</property>
9     <property name="hibernate.connection.username">root</property>
10    <property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
11    <mapping class="entity.User"/>
12  </session-factory>
13 </hibernate-configuration>
14
```

Session Factory Security Source

Markers Properties Servers Data Source Explorer Snippets Terminal Console × Progress Coverage

```
<terminated> Client [Java Application] /home/lchristo/Documents/eclipse/plugins/org.eclipse.justi.openjdk.hotspot.jre.full.linux.x86_64_18.0.1.v20220515-1614/jre/bin/java (Nov 28, 2022, 10:36:50 PM - 10:36:52 PM) [pid: 83353]
Loading class 'com.mysql.jdbc.Driver'. This is deprecated. The new driver class is 'com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI and manual loading of the driver class is g
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHM10001005: using driver [com.mysql.jdbc.Driver] at URL [jdbc:mysql://localhost:3306/project1]
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHM10001001: Connection properties: {password=****, user=root}
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHM10001003: Autocommit mode: false
Nov 28, 2022 10:36:51 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>
INFO: HHM000115: Hibernate connection pool size: 20 (min=1)
Nov 28, 2022 10:36:51 PM org.hibernate.dialect.Dialect <init>
INFO: HHM000400: Using dialect: org.hibernate.dialect.MySQLDialect
Nov 28, 2022 10:36:51 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHM000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
```

Writable Smart Insert 14:1:752



Félicitations vous avez fini les bases de hibernate.
Vous pouvez maintenant faire des projets en autonomie avec ce rapide guide.
Bonne chance !