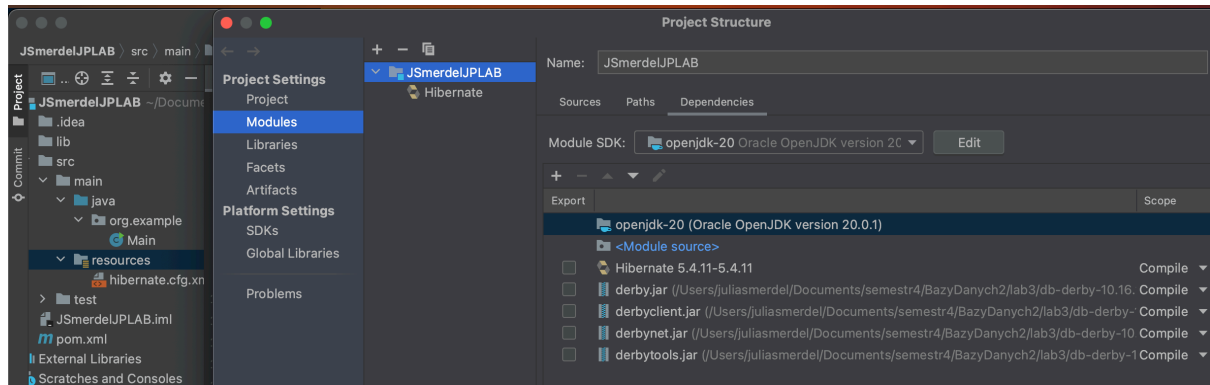# Hibernate, JPA – laboratorium

# Julia Smerdel

# Praca na zajęciach, 19.04.2023

1. Struktura



2. Konfiguracja pliku hibernate.cfg.xml

```xml
<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-configuration PUBLIC
    "-//Hibernate/Hibernate Configuration DTD//EN"
    "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
<hibernate-configuration>
  <session-factory>
    <property name="connection.url">jdbc:derby://127.0.0.1/JuliaSmerdelJPA;create=true;</property>
    <property name="connection.driver_class">org.apache.derby.jdbc.ClientDriver</property>

    <!-- DB schema will be updated if needed -->
    <property name="hibernate.hbm2ddl.auto">update</property>
    <property name="show_sql">true</property>
    <property name="format_sql">true</property>
  </session-factory>
</hibernate-configuration>
```

3. Klasa Main

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

public class Main {
    2 usages
    private static final SessionFactory ourSessionFactory;

    static {
        try {
            Configuration configuration = new Configuration();
            configuration.configure();

            ourSessionFactory = configuration.buildSessionFactory();
        } catch (Throwable ex) {
            throw new ExceptionInInitializerError(ex);
        }
    }

    1 usage
    public static Session getSession() throws HibernateException {
        return ourSessionFactory.openSession();
    }

    public static void main(final String[] args) throws Exception {
        final Session session = getSession();
        try {
        } finally {
            session.close();
        }
    }
}
```
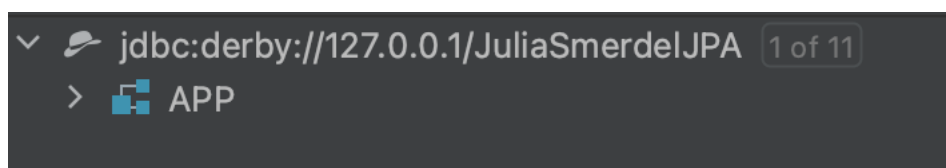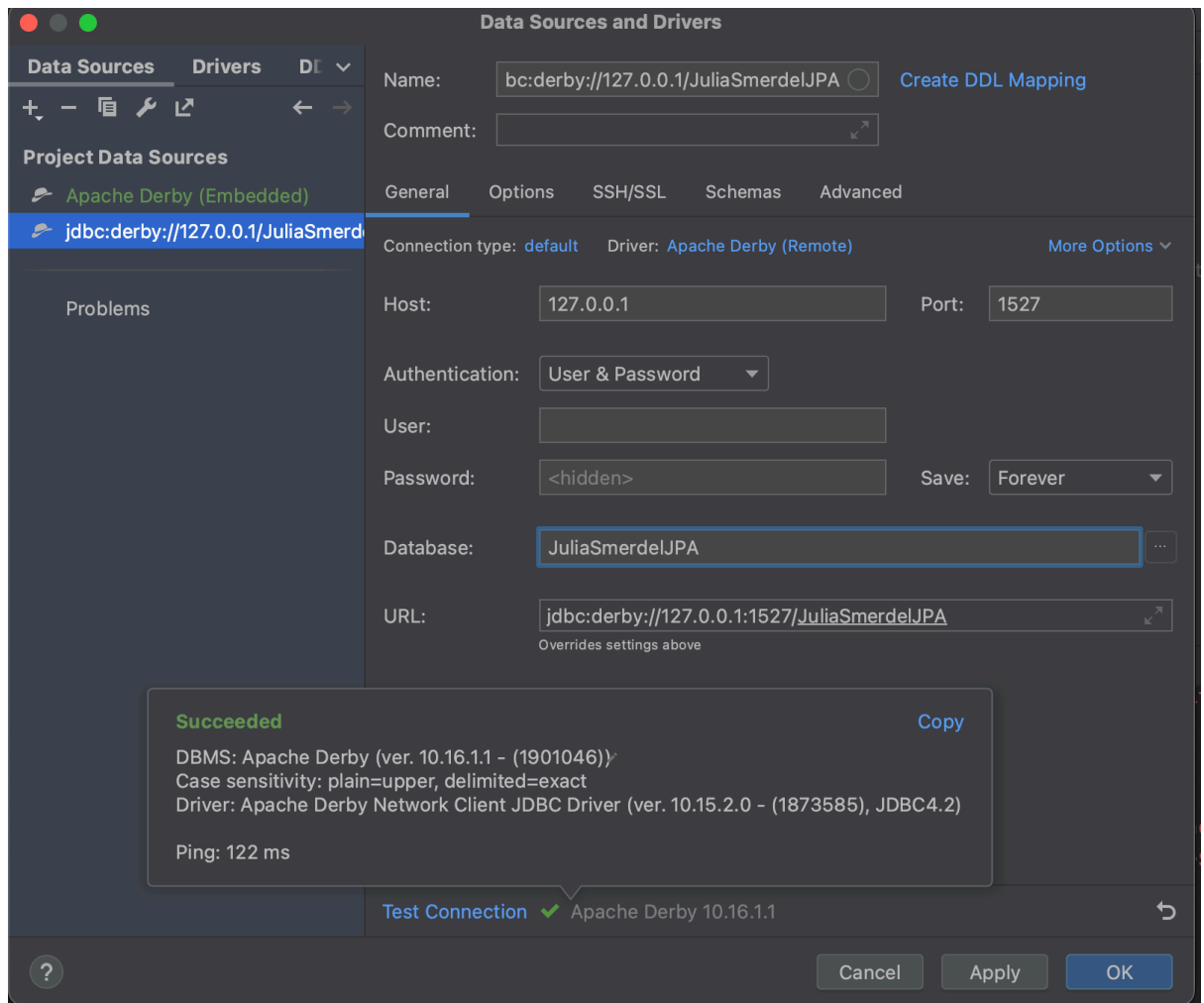
Uruchomienie projektu:

```
Main
Apr 19, 2023 1:52:45 PM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>
INFO: HHH000115: Hibernate connection pool size: 20 (min=1)
Apr 19, 2023 1:52:47 PM org.hibernate.dialect.Dialect <init>
INFO: HHH000400: Using dialect: org.hibernate.dialect.DerbyTenSevenDialect
Apr 19, 2023 1:52:48 PM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection
INFO: HHH10001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConnectionAcce
Apr 19, 2023 1:52:48 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]

Process finished with exit code 0
```

Utworzona baza danych:

4. Klasa Product

```java
package org.example;

import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;

@Entity
public class Product {
    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private int productID;
    1 usage
    private String ProductName;
    1 usage
    private int UnitsOnStock;

    public Product(){
    }

    public Product(String name, int number){
        this.ProductName = name;
        this.UnitsOnStock = number;
    }
}
```

5. Plik konfiguracyjny hibernate.

```xml
<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-configuration PUBLIC
    "-//Hibernate/Hibernate Configuration DTD//EN"
    "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
<hibernate-configuration>
  <session-factory>
    <property name="connection.url">jdbc:derby://127.0.0.1/JuliaSmerdelJPA;create=true;</property>
    <property name="connection.driver_class">org.apache.derby.jdbc.ClientDriver</property>

    <!-- DB schema will be updated if needed -->
    <property name="hibernate.hbm2ddl.auto">update</property>
    <property name="show_sql">true</property>
    <property name="format_sql">true</property>
    <mapping class = "org.example.Product"></mapping>
  </session-factory>
</hibernate-configuration>
```

6. Klasa Main (zmiana względem punktu 3) nastąpiła tylko w miejscu ukazanym na zrzucie ekranu poniżej)

```java
1 usage
public static Session getSession() throws HibernateException {
    return ourSessionFactory.openSession();
}


public static void main(final String[] args) throws Exception {
    final Session session = getSession();
    Product product = new Product( name: "Krzesło", number: 111);
    try {
        Transaction tx = session.beginTransaction();
        session.save(product);
        tx.commit();
    } finally {
        session.close();
    }
}
```

7. Wywołanie programu

```
Hibernate:

    create table Product (
        productID integer not null,
        ProductName varchar(255),
        UnitsOnStock integer not null,
        primary key (productID)
    )
Hibernate: create sequence hibernate_sequence start with 1 increment by 1
Apr 19, 2023 5:01:56 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
Hibernate:

values
    next value for hibernate_sequence
Hibernate:
    insert
    into
        Product
        (ProductName, UnitsOnStock, productID)
    values
        (?, ?, ?)
```