

Design: Data Layer

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Objectives

To keep the data layer extremely simple

- Only uses 3 POJO objects

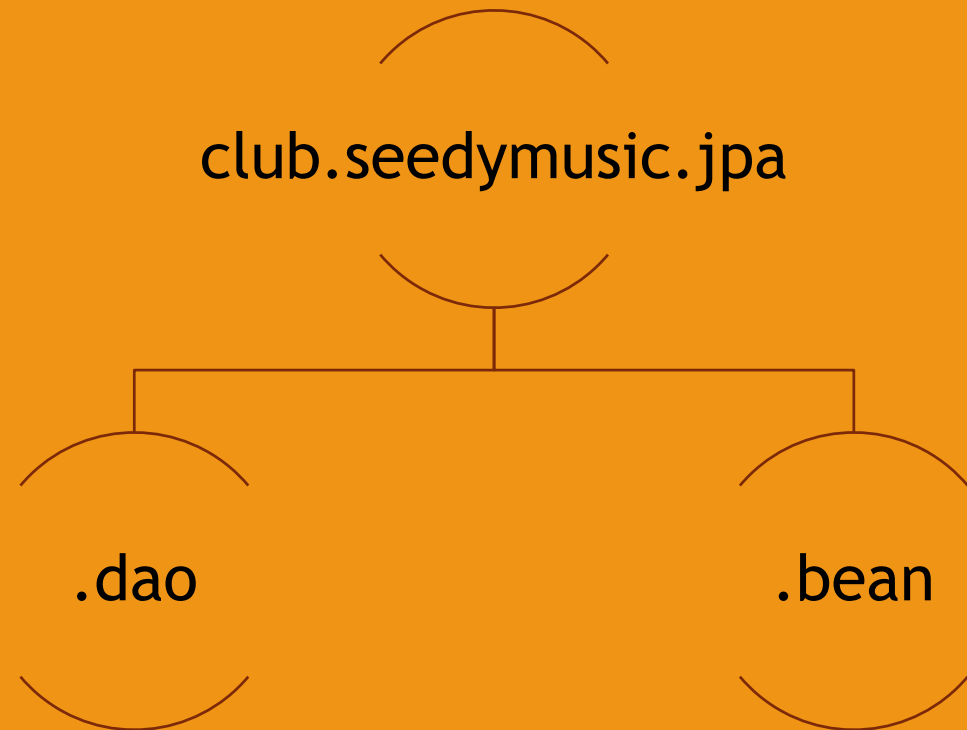
To use the Java Persistence API of JEE

- Implemented with Hibernate

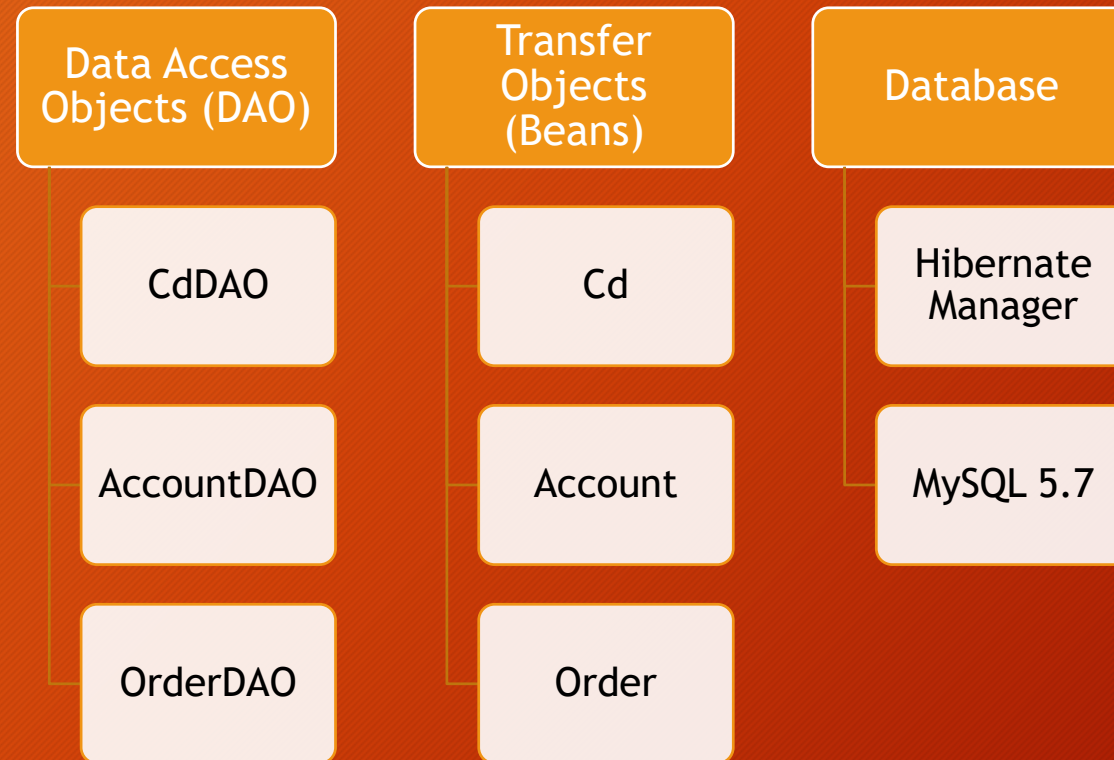
To enable connection pooling

- Managed by Hibernate over Tomcat

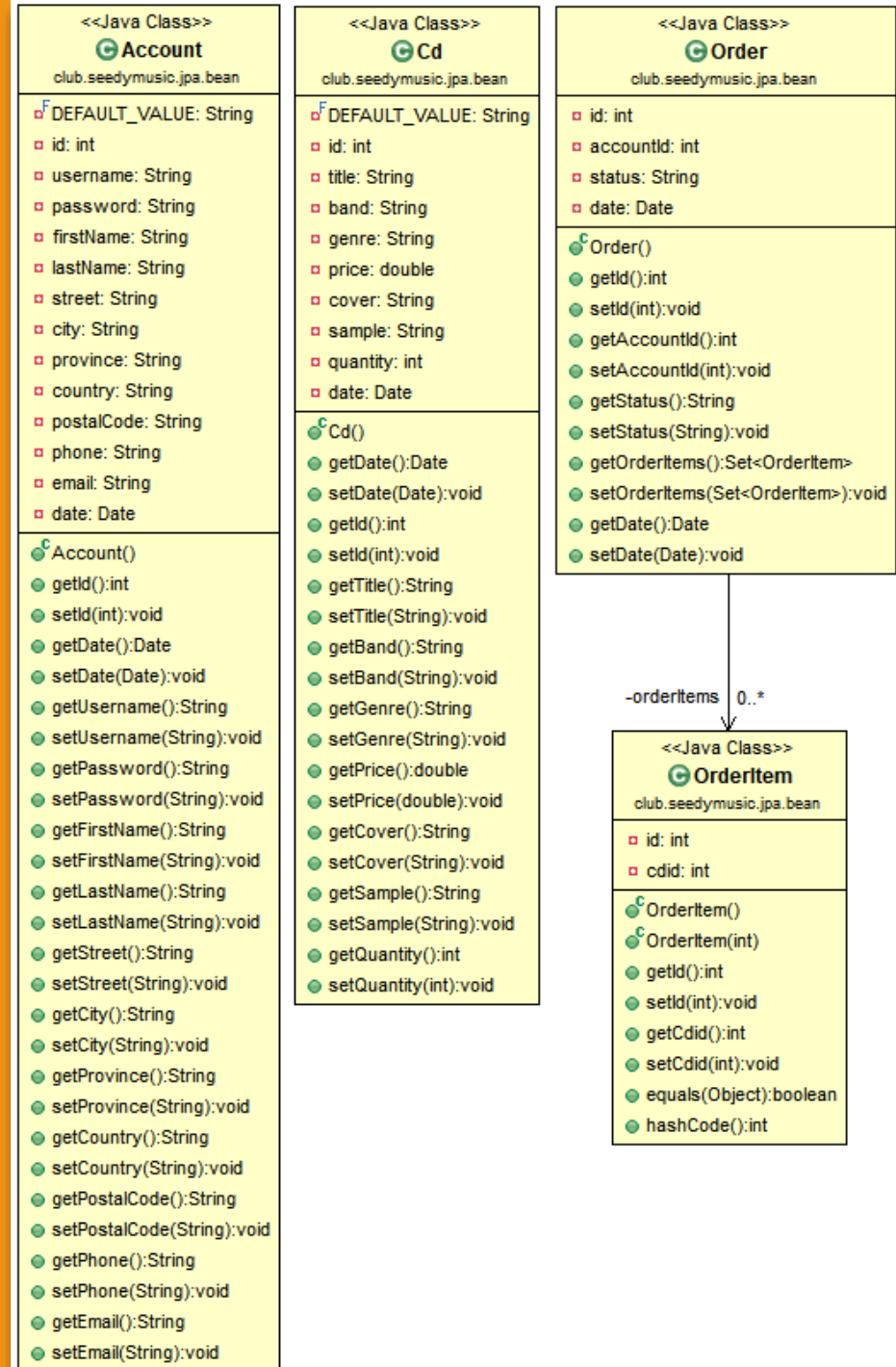
Package Structure

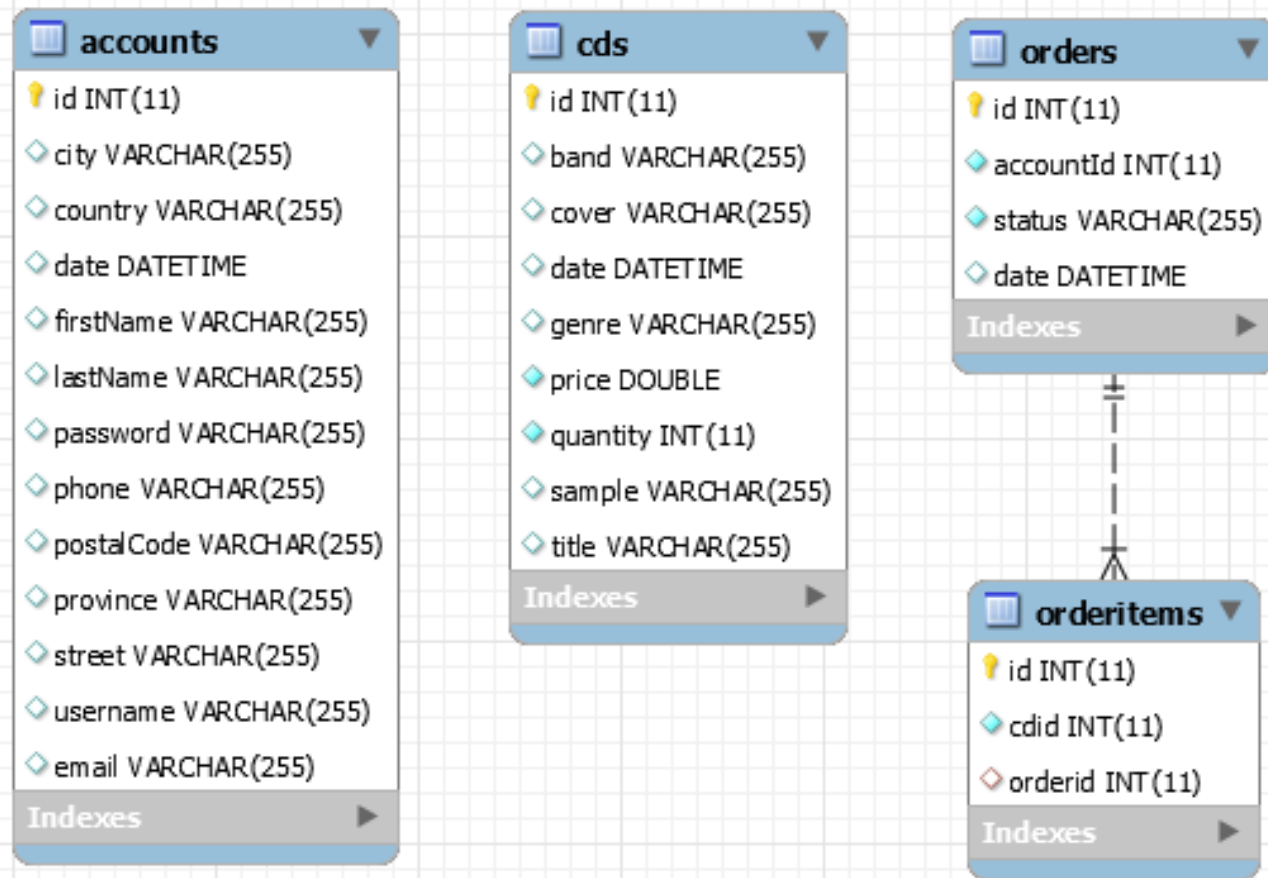


Data Objects

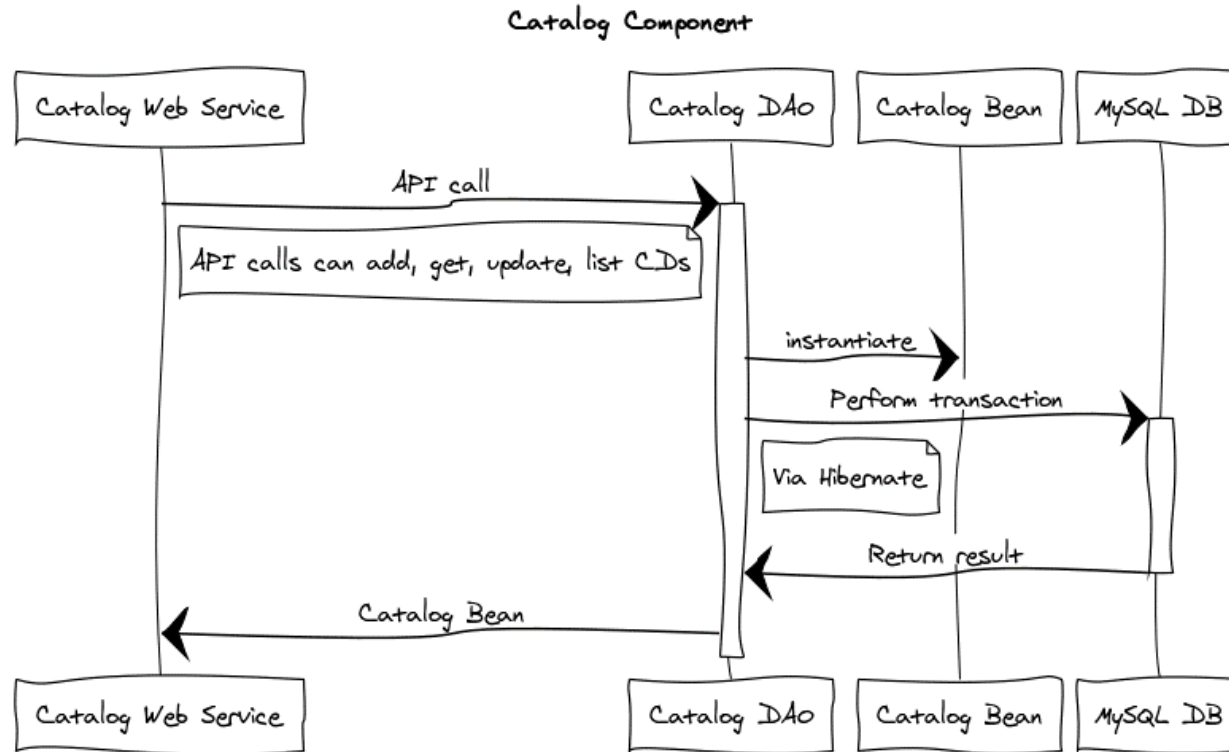


Model: Beans

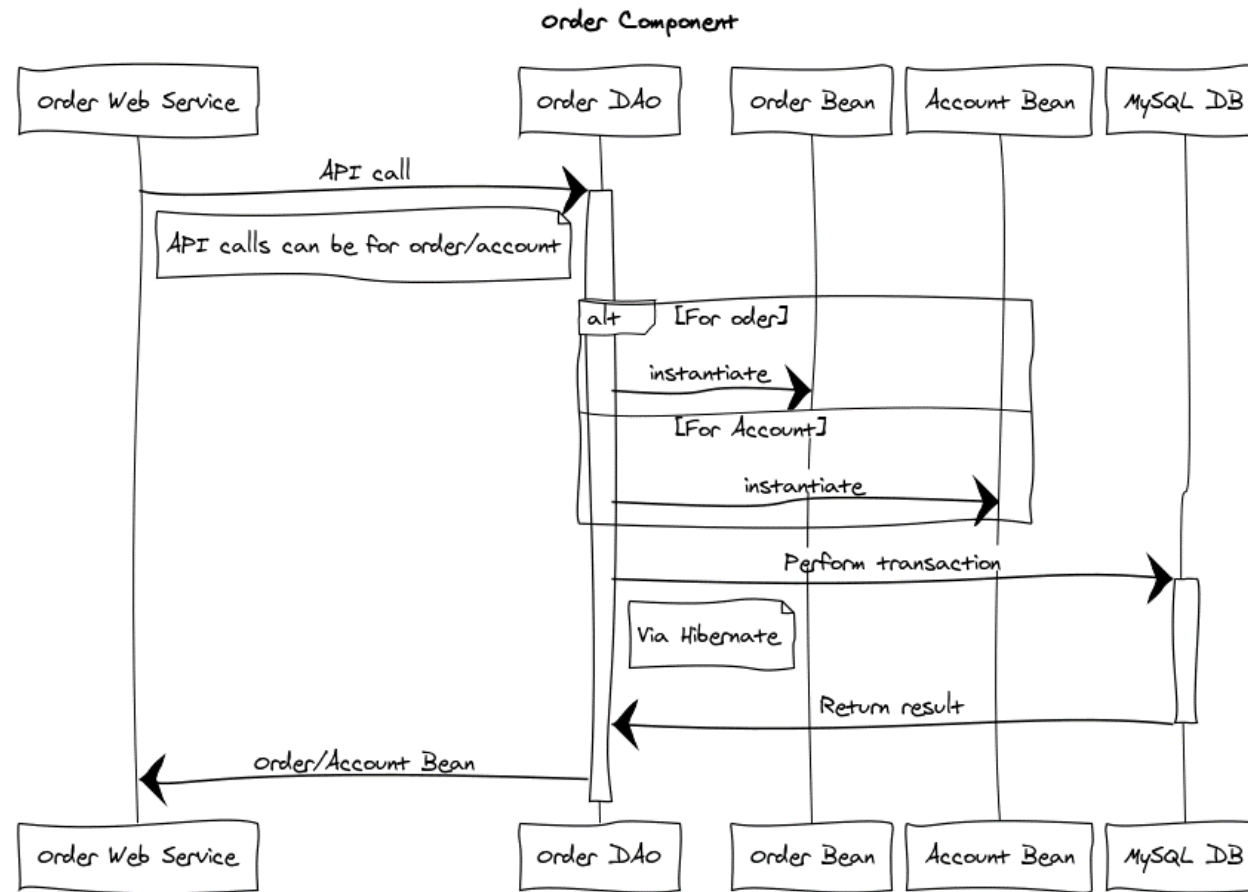




Database



How to Use: Catalog Component



How to Use: Order Component

Hibernate Jars

- Hibernate requires these JARs (including C3P0 connection pooling):
 - antlr-2.7.7.jar
 - c3p0-0.9.2.1.jar
 - dom4j-1.6.1.jar
 - hibernate-c3p0-4.3.11.Final.jar
 - hibernate-commons-annotations-4.0.5.Final.jar
 - hibernate-core-4.3.11.Final.jar
 - hibernate-entitymanager-4.3.11.Final.jar
 - hibernate-jpa-2.1-api-1.0.0.Final.jar
 - jandex-1.1.0.Final.jar
 - javassist-3.18.1-GA.jar
 - jboss-logging-3.1.3.GA.jar
 - jboss-logging-annotations-1.2.0.Beta1.jar
 - jboss-transaction-api_1.2_spec-1.0.0.Final.jar
 - mchange-commons-java-0.2.3.4.jar
- They are checked into github under WEB-INF/lib

TODO: Example Java Code

- Example Java Code can be found on Github
 - JSPs:
 - /test/testDAO.jsp
 - /test/testDAOList.jsp
 - /test/testDAOGet.jsp
 - Servlets:
 - /test/TestDAO.java
 - /test/TestDAOList.java
 - /test/TestDAOGet.java

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <!DOCTYPE hibernate-configuration PUBLIC
3 "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
4 "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
5
6 <hibernate-configuration>
7   <session-factory>
8     <property name="hibernate.connection.driver_class">com.mysql.jdbc.Driver</property>
9     <property name="hibernate.connection.url">jdbc:mysql://localhost:3306/seedy_db</property>
10    <property name="hibernate.connection.username">seedy</property>
11    <property name="hibernate.connection.password">seedy2017</property>
12    <property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
13    <property name="show_sql">true</property>
14    <property name="format_sql">true</property>
15    <property name="hbm2ddl.auto">update</property>
16    <mapping class="club.seedymusic.jpa.bean.Cd" />
17  </session-factory>
18 </hibernate-configuration>
```

Configuration File Format

Test Framework

Test via JSPs

/test/testCDDAO.jsp
/test/testAccountDAO.jsp
/test/testOrderDAO.jsp

Test controller servlets

/test/TestCDDAO
/test/TestAccountDAO
/test/TestOrderDAO