# 1 回顾

### 1.1 Maven 的好处

节省空间 对 jar 包做了统一管理 依赖管理 一键构建 可跨平台 应用在大型项目可提高开发效率

### 1.2 Maven 安装部署配置

### 1.3 Maven 的仓库

本地仓库 远程仓库(私服) 中央仓库

# 1.4 添加依赖

从网络上搜索 在本地重建索引,以索引的方式搜索

### 1.5 项目构建

## 1.6 依赖范围

Compile struts2 框架 jar Provided jsp-api.jar 重点 Runtime 数据库驱动包

Test junit.jar

### 1.7 总结

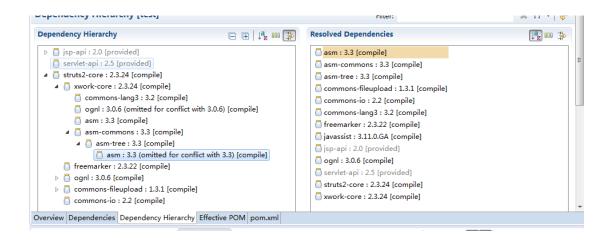
```
<modelVersion>
坐标 GAV
<groupId>cn.itcast</groupId>
<artifactId>ssh</artifactId>
<version>0.0.1-SNAPSHOT</version>
Packaging 打包方式
Jar war pom
<dependencies>
  <dependency>
<build> 里面放的是插件

<plugins>
  </pl>
```

# 2 整合 ssh 框架

### 2.1 依赖传递

只添加了一个 struts2-core 依赖,发现项目中出现了很多 jar, 这种情况 叫 依赖传递



## 2.2 依赖版本冲突的解决

1、第一声明优先原则

#### 2、路径近者优先原则

自己添加 jar 包

```
<dependency>
     <groupId>org.springframework</groupId>
          <artifactId>spring-beans</artifactId>
          <version>4.2.4.RELEASE</version>
</dependency>
```

#### 3、排除原则

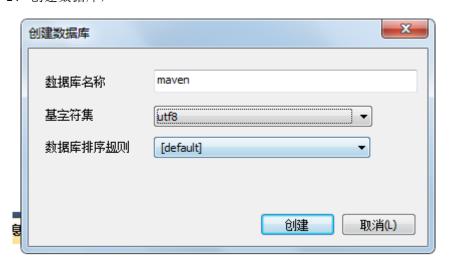
#### 4、版本锁定原则

#### 需求:

传客户ID 页面上显示客户信息 准备数据库

## 2.3 构建项目

1、创建数据库,



2、执行准备好的 sql 脚本 Sql 脚本的位置:



3、完善 pom.xml 文件,把 ssh 相关的依赖都添加上去

```
<!-- 属性 -->
   properties>
        <spring.version>4.2.4.RELEASE/spring.version>
        <hibernate.version>5.0.7.Final</hibernate.version>
        <struts.version>2.3.24</struts.version>
   </properties>
   <!-- 锁定版本,struts2-2.3.24、spring4.2.4、hibernate5.0.7 -->
   <dependencyManagement>
        <dependencies>
             <dependency>
                  <groupId>org.springframework
                  <artifactId>spring-context</artifactId>
                  <version>${spring.version}</version>
             </dependency>
             <dependency>
                  <groupId>org.springframework
                  <artifactId>spring-aspects</artifactId>
                  <version>${spring.version}</version>
             </dependency>
             <dependency>
                  <groupId>org.springframework
                  <artifactId>spring-orm</artifactId>
                  <version>${spring.version}</version>
             </dependency>
             <dependency>
                  <groupId>org.springframework
                  <artifactId>spring-test</artifactId>
                  <version>${spring.version}</version>
             </dependency>
             <dependency>
                  <groupId>org.springframework
```

```
<artifactId>spring-web</artifactId>
               <version>${spring.version}</version>
          </dependency>
          <dependency>
               <groupId>org.hibernate
              <artifactId>hibernate-core</artifactId>
               <version>${hibernate.version}</version>
          </dependency>
          <dependency>
              <groupId>org.apache.struts
               <artifactId>struts2-core</artifactId>
               <version>${struts.version}</version>
          </dependency>
          <dependency>
               <groupId>org.apache.struts
               <artifactId>struts2-spring-plugin</artifactId>
               <version>${struts.version}</version>
          </dependency>
     </dependencies>
</dependencyManagement>
<!-- 依赖管理 -->
<dependencies>
     <!-- spring -->
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-context</artifactId>
     </dependency>
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-aspects</artifactId>
     </dependency>
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-orm</artifactId>
     </dependency>
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-test</artifactId>
     </dependency>
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-web</artifactId>
     </dependency>
     <!-- <u>hibernate</u> -->
```

```
<dependency>
     <groupId>org.hibernate
     <artifactId>hibernate-core</artifactId>
</dependency>
<!-- 数据库驱动 -->
<dependency>
     <groupId>mysql
     <artifactId>mysql-connector-java</artifactId>
     <version>5.1.6</version>
     <scope>runtime</scope>
</dependency>
<!-- c3p0 -->
<dependency>
     <groupId>c3p0</groupId>
     <artifactId>c3p0</artifactId>
     <version>0.9.1.2</version>
</dependency>
<!-- 导入 struts2 -->
<dependency>
     <groupId>org.apache.struts
     <artifactId>struts2-core</artifactId>
</dependency>
<dependency>
     <groupId>org.apache.struts
     <artifactId>struts2-spring-plugin</artifactId>
</dependency>
<!-- <u>servlet jsp</u> -->
<dependency>
     <groupId>javax.servlet
     <artifactId>servlet-api</artifactId>
     <version>2.5</version>
     <scope>provided</scope>
</dependency>
<dependency>
     <groupId>javax.servlet
     <artifactId>jsp-api</artifactId>
     <version>2.0</version>
     <scope>provided</scope>
</dependency>
```

```
<!-- 日志 -->
     <dependency>
          <groupId>org.slf4j
          <artifactId>slf4j-log4j12</artifactId>
          <version>1.7.2</version>
     </dependency>
     <!-- <u>junit</u> -->
     <dependency>
          <groupId>junit
          <artifactId>junit</artifactId>
          <version>4.9</version>
          <scope>test</scope>
     </dependency>
     <!-- jstl -->
     <dependency>
          <groupId>javax.servlet
          <artifactId><u>istl</u></artifactId>
          <version>1.2</version>
     </dependency>
</dependencies>
<build>
     <plugins>
          <!-- 设置编译版本为 1.7 -->
          <plugin>
               <groupId>org.apache.maven.plugins
               <artifactId>maven-compiler-plugin</artifactId>
               <configuration>
                    <source>1.7</source>
                    <target>1.7</target>
                    <encoding>UTF-8</encoding>
               </configuration>
          </plugin>
          <!-- maven 内置 的 tomcat6 插件 -->
          <plugin>
               <groupId>org.codehaus.mojo</groupId>
               <artifactId>tomcat-maven-plugin</artifactId>
               <version>1.1</version>
               <configuration>
                    <!-- 可以灵活配置工程路径 -->
                    <path>/ssh</path>
                    <!-- 可以灵活配置端口号 -->
                    <port>8080</port>
```

```
</configuration>
           </plugin>
     </plugins>
</build>
```

```
4、完成实体类代码
 1 package cn.itcast.entity;
 2
 3 public class Customer {
 4
 5
       private Long custId;
       private String custName;
 6
       private Long custUserId;
 7
       private Long custCreateId;
 8
       private String custIndustry;
 9
       private String custLevel;
10
       private String custLinkman;
11
       private String custPhone;
12
       private String custMobile;
13
       public Long getCustId() {
14⊖
           return custId;
15
16
       public void setCustId(Long custId) {
17⊝
           this.custId = custId;
18
```

5、完成 dao 代码

接口

```
package cn.itcast.dao;
import cn.itcast.entity.Customer;
public interface CustomerDao {
     public Customer getById(Long id);
```

实现类

```
package com.itcast.dao.impl;
import org.springframework.orm.hibernate5.support.HibernateDaoSupport;
import cn.itcast.dao.CustomerDao;
import cn.itcast.entity.Customer;
```

```
public class CustomerDaoImpl extends HibernateDaoSupport implements CustomerDao {
    @Override
    public Customer getById(Long id) {
        return this.getHibernateTemplate().get(Customer.class, id);
    }
}
```

```
6、完成 service 代码
```

接口

```
package com.itcast.service;
import cn.itcast.entity.Customer;
public interface CustomerService {
    public Customer getById(Long id);
}
```

#### 实现类

```
package com.itcast.service.impl;
import com.itcast.service.CustomerService;
import cn.itcast.dao.CustomerDao;
import cn.itcast.entity.Customer;

public class CustomerServiceImpl implements CustomerService {
    private CustomerDao customerDao;
    public void setCustomerDao(CustomerDao customerDao) {
        this.customerDao = customerDao;
    }
    @Override
    public Customer getByld(Long id) {
        return customerDao.getByld(id);
    }
}
```

#### 7、完成 action 代码

```
package cn.itcast.action;
import com.itcast.service.CustomerService;
import com.opensymphony.xwork2.ActionSupport;
import cn.itcast.entity.Customer;
public class CutomerAction extends ActionSupport {
    //两个成员变量
    private Customer customer;
```

```
private Long custld;
public Customer getCustomer() {
        return customer;
}

public void setCustomer(Customer customer) {
        this.customer = customer;
}

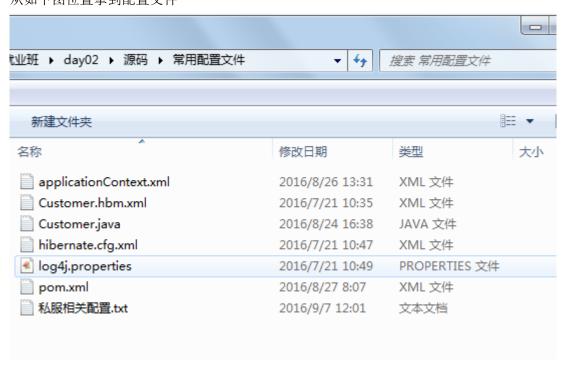
private CustomerService customerService;
public void setCustomerService(CustomerService customerService) {
        this.customerService = customerService;
}

public Long getCustld() {
        return custld;
}

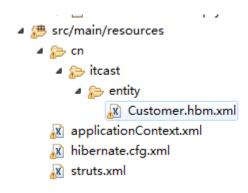
public void setCustld(Long custld) {
        this.custld = custld;
}

public String findByld() {
        customer = customerService.getByld(custld);
        return SUCCESS;
}
```

### 8、拷贝配置文件并修改 从如下图位置拿到配置文件



放入到 src/main/resources 目录中



修改内容 略

9、修改 web.xml 添加 spring 的监听

10、 运行项目

# 3 分模块开发

依赖范围对依赖传递造成的影响(了解)

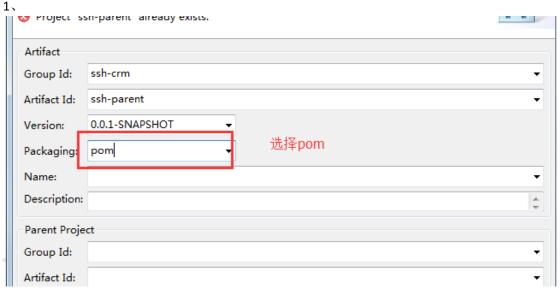
是因为依赖会有依赖范围,依赖范围对传递依赖也有影响,例如有  $A \times B \times C$ , A 依赖  $B \times B$  依赖 C, C 可能是 A 的传递依赖,如下图:

| 传递依赖<br>直接依赖 | compile  | provided | runtime  | test |
|--------------|----------|----------|----------|------|
| compile      | compile  | -        | runtime  | -    |
| provided     | provided | provided | provided | -    |
| runtime      | runtime  | -        | runtime  | -    |
| test         | test     | _        | test     | _    |

最左边一列为直接依赖,理解为 A 依赖 B 的范围,最项层一行为传递依赖,理解为 B 依赖 C 的范围,行与列的交叉即为 A 传递依赖 C 的范围。

父工程来管理 聚合

## 3.1 创建父工程:



- 2、创建出的父工程如下
- ssh-parent
  - src
    - m pom.xml
- 3、在 pom.Xml 中添加以下信息:

```
<!-- 属性 -->
  cproperties>
       <spring.version>4.2.4.RELEASE</spring.version>
       <hibernate.version>5.0.7.Final</hibernate.version>
       <struts.version>2.3.24</struts.version>
  </properties>
  <!-- 锁定版本, struts2-2.3.24、spring4.2.4、hibernate5.0.7 -->
  <dependencyManagement>
       <dependencies>
             <dependency>
                  <groupId>org.springframework
                 <artifactId>spring-context</artifactId>
                 <version>${spring.version}</version>
             </dependency>
             <dependency>
                 <groupId>org.springframework
                  <artifactId>spring-aspects</artifactId>
                 <version>${spring.version}</version>
             </dependency>
             <dependency>
                  <groupId>org.springframework
```

```
<artifactId>spring-orm</artifactId>
               <version>${spring.version}</version>
          </dependency>
          <dependency>
               <groupId>org.springframework
              <artifactId>spring-test</artifactId>
               <version>${spring.version}</version>
          </dependency>
          <dependency>
              <groupId>org.springframework
               <artifactId>spring-web</artifactId>
               <version>${spring.version}</version>
          </dependency>
          <dependency>
               <groupId>org.hibernate
               <artifactId>hibernate-core</artifactId>
              <version>${hibernate.version}</version>
          </dependency>
          <dependency>
              <groupId>org.apache.struts
               <artifactId>struts2-core</artifactId>
              <version>${struts.version}</version>
          </dependency>
          <dependency>
               <groupId>org.apache.struts
               <artifactId>struts2-spring-plugin</artifactId>
               <version>${struts.version}
          </dependency>
     </dependencies>
</dependencyManagement>
<!-- 依赖管理 -->
<dependencies>
     <!-- spring -->
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-context</artifactId>
     </dependency>
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-aspects</artifactId>
     </dependency>
     <dependency>
          <groupId>org.springframework
          <artifactId>spring-orm</artifactId>
```

```
</dependency>
<dependency>
     <groupId>org.springframework
     <artifactId>spring-test</artifactId>
</dependency>
<dependency>
     <groupId>org.springframework
     <artifactId>spring-web</artifactId>
</dependency>
<!-- <u>hibernate</u> -->
<dependency>
     <groupId>org.hibernate
    <artifactId>hibernate-core</artifactId>
</dependency>
<!-- 数据库驱动 -->
<dependency>
     <groupId>mysql</groupId>
     <artifactId>mysql-connector-java</artifactId>
     <version>5.1.6</version>
     <scope>runtime</scope>
</dependency>
<!-- c3p0 -->
<dependency>
     <groupId>c3p0</groupId>
     <artifactId>c3p0</artifactId>
     <version>0.9.1.2</version>
</dependency>
<!-- 导入 struts2 -->
<dependency>
     <groupId>org.apache.struts
     <artifactId>struts2-core</artifactId>
</dependency>
<dependency>
     <groupId>org.apache.struts
     <artifactId>struts2-spring-plugin</artifactId>
</dependency>
<!-- <u>servlet jsp</u> -->
<dependency>
     <groupId>javax.servlet
```

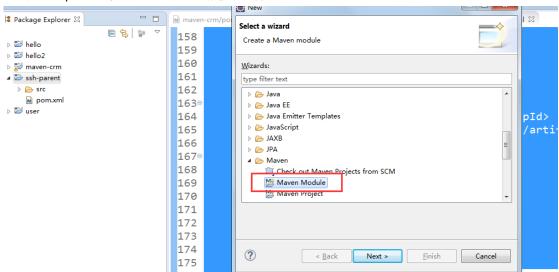
```
<artifactId>servlet-api</artifactId>
          <version>2.5</version>
          <scope>provided</scope>
     </dependency>
     <dependency>
          <groupId>javax.servlet
          <artifactId>jsp-api</artifactId>
          <version>2.0</version>
          <scope>provided</scope>
     </dependency>
     <!-- 日志 -->
     <dependency>
          <groupId>org.slf4j
          <artifactId>slf4j-log4j12</artifactId>
          <version>1.7.2</version>
     </dependency>
     <!-- <u>junit</u> -->
     <dependency>
          <groupId>junit
          <artifactId>junit</artifactId>
          <version>4.9</version>
          <scope>test</scope>
     </dependency>
    <!-- <u>jstl</u> -->
     <dependency>
          <groupId>javax.servlet
          <artifactId>jstl</artifactId>
          <version>1.2</version>
     </dependency>
</dependencies>
<build>
    <plugins>
          <!-- 设置编译版本为 1.7 -->
          <plugin>
               <groupId>org.apache.maven.plugins
               <artifactId>maven-compiler-plugin</artifactId>
               <configuration>
                    <source>1.7</source>
                    <target>1.7</target>
                    <encoding>UTF-8
               </configuration>
          </plugin>
```

4、发布到本地仓库

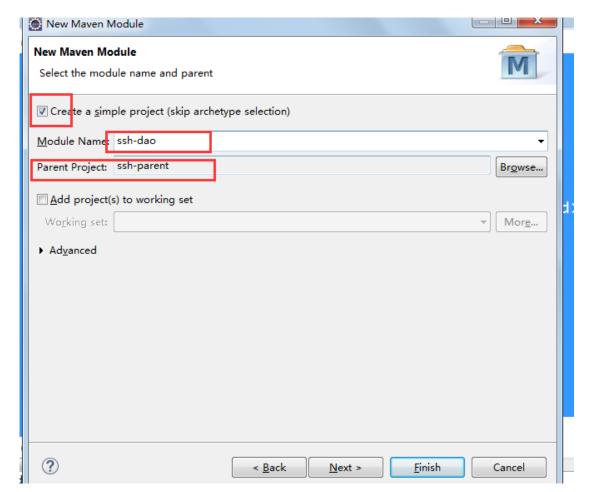
dao service web

### 3.2 创建 dao 子模块

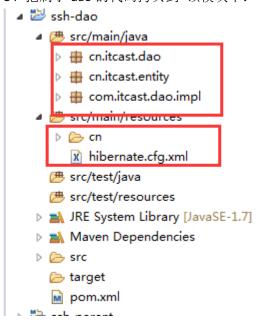
1、在 ssh-parent 项目上右击 , 创建时选择 Maven Module



2、填写子模块名称 ssh-dao



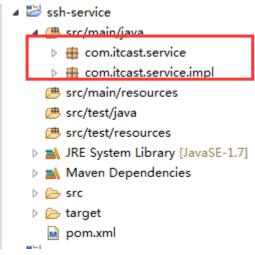
3、把属于 dao 的代码拷贝到 该模块中:



4、完成后发布到本地仓库中

# 3.3 创建 service 子模块

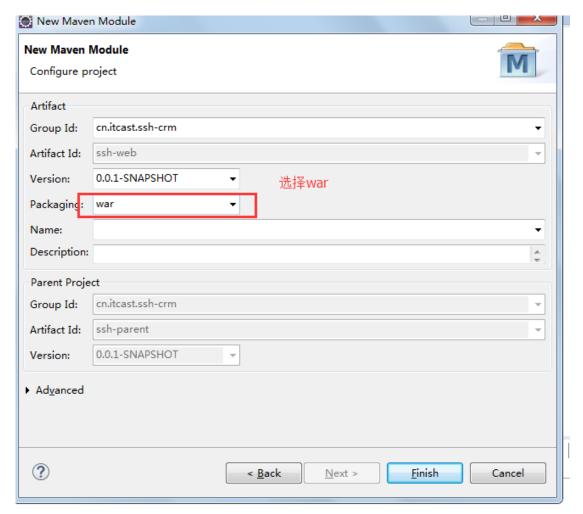
- 1、创建方式如上:
- 2、把属于 service 的代码拷贝到该工程中



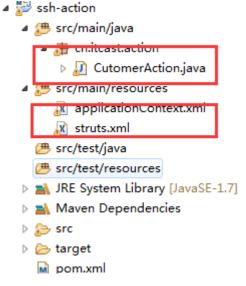
3、发布到本地仓库中

# 3.4 创建 Action 子模块

1、选择 war 的打包方式



5、拷贝属于 action 的代码和配置文件



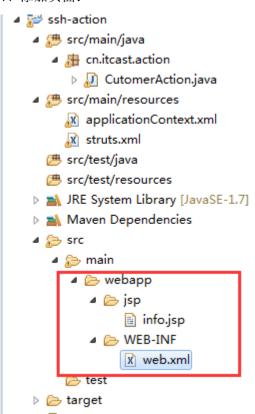
6、修改 web.xml 添加 spring 监听

```
tener>

</pre
```

```
<context-param>
<param-name>contextConfigLocation</param-name>
<param-value>classpath*:applicationContext-*.xml</param-value>
</context-param>
```

#### 4、添加页面:



# 4 私服 nexus

#### 安装 nexus

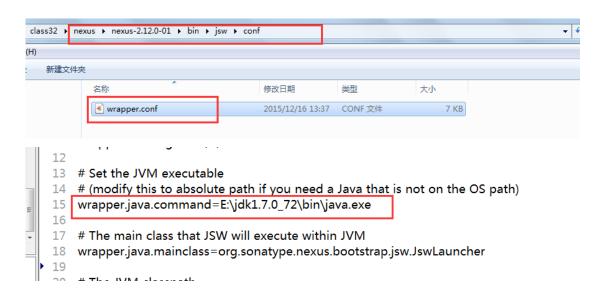
```
?:\class32\nexus\nexus-2.12.0-01\bin>nexus.bat install
```

#### 启动服务

F:\class32\nexus\nexus-2.12.0-01\bin>nexus.bat start wrapper | Starting the nexus service...

```
F:\class32\nexus\nexus-2.12.0-01\bin>nexus.bat start
         ! Starting the nexus service...
wrapper
wrapper
         ! Waiting to start...
wrapper
         ! Waiting to start...
         ! Waiting to start...
wrapper
         | Waiting to start...
wrapper
         | Waiting to start...
wrapper
         I nexus started.
wrapper
F: \class32\nexus\nexus-2.12.0-01\bin>_
```

启动失败的解决方法:



#### 登录 nexus

用户名/密码 admin/admin123

#### 仓库类型



Virtual 虚拟仓库

Proxy 代理仓库

Hosted 宿主仓库 本地仓库

Group 组

需求:

把 dao 放到私服上, 然后 service 从私服上下载

需求 :将 ssh\_dao 的这个工程打成 jar 包,并放入到私服上去.

# 4.1 上传 dao

第一步: 需要在客户端即部署 dao 工程的电脑上配置 maven 环境,并修改 settings.xml 文件,配置连接私服的用户和密码。

此用户名和密码用于私服校验,因为私服需要知道上传都 的账号和密码 是否和私服中的账号和密码 一致。

```
<server>
    <id>releases</id>
    <username>admin</username>
    <password>admin123</password>
</server>
    <id>server>
        <id>snapshots</id>
        <username>admin</username>
        <password>admin123</password>
</server>
```

第二步: 配置项目 pom.xml

配置私服仓库的地址,本公司的自己的 jar 包会上传到私服的宿主仓库,根据工程的版本号决定上传到哪个宿主仓库,如果版本为 release 则上传到私服的 release 仓库,如果版本为 snapshot 则上传到私服的 snapshot 仓库

注意: pom.xml 这里<id> 和 settings.xml 配置 <id> 对应!

第三步: 执行 deploy 命令发布到私服

### 4.2 下载 dao

第一步 修改 settings.xml

```
cprofile>
    <!--profile 的 id-->
    <id>dev</id>
    <repositories>
      <repository>
         <!--仓库 id, repositories 可以配置多个仓库, 保证 id 不重复-->
        <id>nexus</id>
         <!--仓库地址,即 nexus 仓库组的地址-->
        <url>http://localhost:8081/nexus/content/groups/public/</url>
         <!--是否下载 releases 构件-->
        <releases>
          <enabled>true</enabled>
        </releases>
         <!--是否下载 snapshots 构件-->
        <snapshots>
          <enabled>true</enabled>
        </snapshots>
      </repository>
    </repositories>
     <plus <pre><plus <pre>cpluginRepositories>
    <!-- 插件仓库, maven 的运行依赖插件, 也需要从私服下载插件 -->
        <plu><pluginRepository>
         <!-- 插件仓库的 id 不允许重复,如果重复后边配置会覆盖前边 -->
            <id>public</id>
            <name>Public Repositories</name>
            <url>http://localhost:8081/nexus/content/groups/public/</url>
        </pluginRepository>
    </pluginRepositories>
 </profile>
```

```
<activeProfiles>
<activeProfile>dev</activeProfile>
</activeProfiles>
```

第二步 删除本地仓库中的 dao

第三步 update service 工程,出现以下信息说明已经成功

```
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