SpringMVC 第三天

第1章 SSM 整合

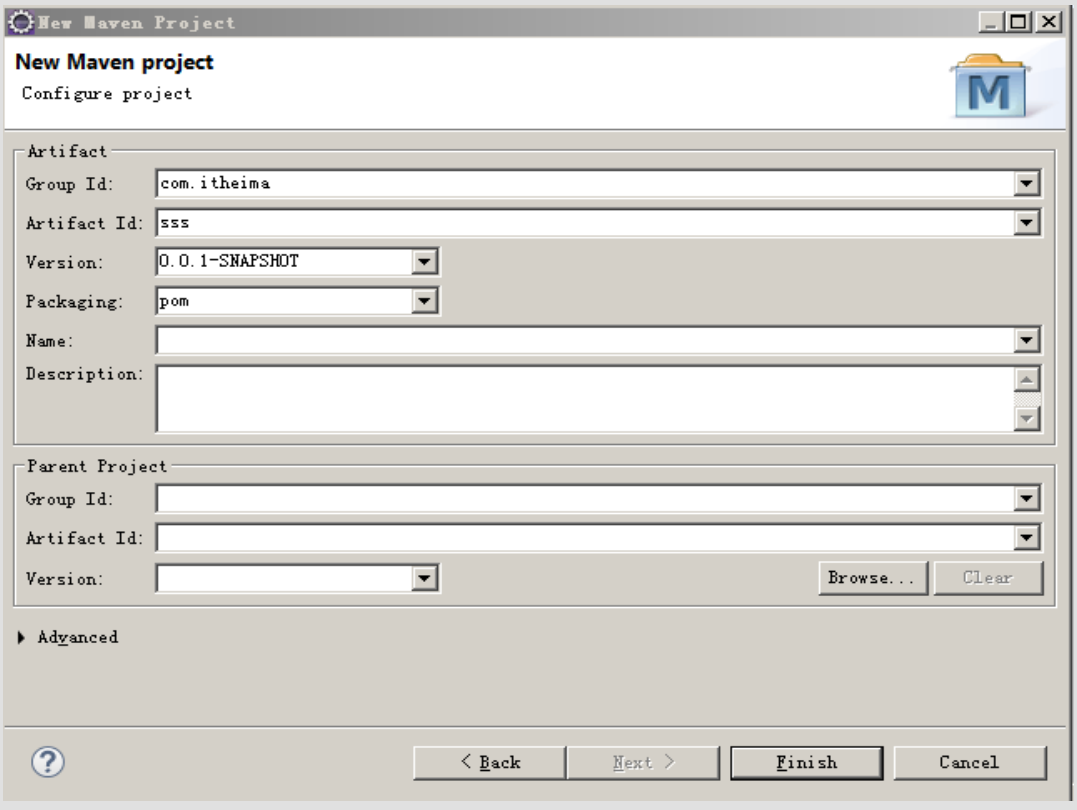
1.1 环境准备

1.1.1 创建数据库和表结构

```
create database ssm;
create table account(
    id int primary key auto_increment,
    name varchar(100),
    money double(7,2),
);
```

1.1.2 创建 Maven 工程

创建父工程：



创建子模块：

ssm_domain	jar
ssm_dao	jar
ssm_service	jar
ssm_web	war

1.1.3 导入坐标并建立依赖

注意 MyBatis 和 Spring 的版本对应关系：

MyBatis-Spring	MyBatis	Spring
1.0.0 and 1.0.1	3.0.1 to 3.0.5	3.0.0 or higher
1.0.2	3.0.6	3.0.0 or higher
1.1.0 or higher	3.1.0 or higher	3.0.0 or higher
1.3.0 or higher	3.4.0 or higher	3.0.0 or higher

```
    <project                                xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd">
        <modelVersion>4.0.0</modelVersion>
        <groupId>com.itheima</groupId>
        <artifactId>ssm</artifactId>
        <version>0.0.1-SNAPSHOT</version>
        <packaging>pom</packaging>


        <properties>
            <spring.version>5.0.2.RELEASE</spring.version>
            <slf4j.version>1.6.6</slf4j.version>
            <log4j.version>1.2.12</log4j.version>
            <shiro.version>1.2.3</shiro.version>
            <mysql.version>5.1.6</mysql.version>
            <mybatis.version>3.4.5</mybatis.version>
        </properties>

        <dependencies>

            <!-- spring -->
            <dependency>
                <groupId>org.aspectj</groupId>
                <artifactId>aspectjweaver</artifactId>
                <version>1.6.8</version>
            </dependency>

            <dependency>
```

```
        <groupId>org.springframework</groupId>
        <artifactId>spring-aop</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-context</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-context-support</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-web</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-orm</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-beans</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-core</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-test</artifactId>
```

```
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-webmvc</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-tx</artifactId>
        <version>${spring.version}</version>
    </dependency>

    <dependency>
        <groupId>junit</groupId>
        <artifactId>junit</artifactId>
        <version>4.12</version>
        <scope>test</scope>
    </dependency>

    <dependency>
        <groupId>mysql</groupId>
        <artifactId>mysql-connector-java</artifactId>
        <version>${mysql.version}</version>
    </dependency>

    <dependency>
        <groupId>javax.servlet</groupId>
        <artifactId>servlet-api</artifactId>
        <version>2.5</version>
        <scope>provided</scope>
    </dependency>

    <dependency>
        <groupId>javax.servlet.jsp</groupId>
        <artifactId>jsp-api</artifactId>
        <version>2.0</version>
        <scope>provided</scope>
    </dependency>

    <dependency>
        <groupId>jstl</groupId>
```

```
            <artifactId>jstl</artifactId>
            <version>1.2</version>
        </dependency>

        <!-- log start -->
        <dependency>
            <groupId>log4j</groupId>
            <artifactId>log4j</artifactId>
            <version>${log4j.version}</version>
        </dependency>

        <dependency>
            <groupId>org.slf4j</groupId>
            <artifactId>slf4j-api</artifactId>
            <version>${slf4j.version}</version>
        </dependency>

        <dependency>
            <groupId>org.slf4j</groupId>
            <artifactId>slf4j-log4j12</artifactId>
            <version>${slf4j.version}</version>
        </dependency>
        <!-- log end -->
        <dependency>
            <groupId>org.mybatis</groupId>
            <artifactId>mybatis</artifactId>
            <version>${mybatis.version}</version>
        </dependency>

        <dependency>
            <groupId>org.mybatis</groupId>
            <artifactId>mybatis-spring</artifactId>
            <version>1.3.0</version>
        </dependency>

         <dependency>
           <groupId>c3p0</groupId>
           <artifactId>c3p0</artifactId>
           <version>0.9.1.2</version>
           <type>jar</type>
           <scope>compile</scope>
       </dependency>
    </dependencies>
```

```
    <build>
        <finalName>ssm</finalName>
        <pluginManagement>
            <plugins>
                <plugin>
                    <groupId>org.apache.maven.plugins</groupId>
                    <artifactId>maven-compiler-plugin</artifactId>
                    <version>3.2</version>
                    <configuration>
                        <source>1.8</source>
                        <target>1.8</target>
                        <encoding>UTF-8</encoding>
                        <showWarnings>true</showWarnings>
                    </configuration>
                </plugin>
            </plugins>
        </pluginManagement>
    </build>

    <modules>
        <module>ssm_domain</module>
        <module>ssm_dao</module>
        <module>ssm_service</module>
        <module>ssm_web</module>
    </modules>
</project>
```

1.1.4 编写实体类

```
/**
 * 账户的实体类
 * @author 黑马程序员
 * @Company http://www.ithiema.com
 * @Version 1.0
 */
public class Account implements Serializable {

    private Integer id;
    private String name;
    private Float money;
    public Integer getId() {
        return id;
    }
    public void setId(Integer id) {
        this.id = id;
```

```
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public Float getMoney() {
        return money;
    }
    public void setMoney(Float money) {
        this.money = money;
    }
    @Override
    public String toString() {
        return "Account [id=" + id + ", name=" + name + ", money=" + money + "]";
    }
}
```

1.1.5 编写业务层接口

```
/**
 * 账户的业务层接口
 * @author 黑马程序员
 * @Company http://www.ithiema.com
 * @Version 1.0
 */
public interface IAccountService {

    /**
     * 保存账户
     * @param account
     */
    void saveAccount(Account account);


    /**
     * 查询所有账户
     * @return
     */
    List<Account> findAllAccount();

}
```

1.1.6 编写持久层接口

```
/**
 * 账户的持久层接口
 * @author 黑马程序员
 * @Company http://www.ithiema.com
 * @Version 1.0
 */
public interface IAccountDao {

    /**
     * 保存
     * @param account
     */
    void save(Account account);


    /**
     * 查询所有
     * @return
     */
    List<Account> findAll();

}
```

1.2 整合步骤

1.2.1 保证 Spring 框架在 web 工程中独立运行

1.2.1.1 第一步：编写 spring 配置文件并导入约束

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:aop="http://www.springframework.org/schema/aop"
    xmlns:tx="http://www.springframework.org/schema/tx"
xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
            http://www.springframework.org/schema/beans/spring-beans.xsd
```

```
                http://www.springframework.org/schema/tx
                http://www.springframework.org/schema/tx/spring-tx.xsd
                http://www.springframework.org/schema/aop
                http://www.springframework.org/schema/aop/spring-aop.xsd
                http://www.springframework.org/schema/context
                http://www.springframework.org/schema/context/spring-context.xsd">
    <!-- 配置 spring 创建容器时要扫描的包 -->
    <context:component-scan base-package="com.itheima">
        <!--制定扫包规则，不扫描@Controller 注解的 JAVA 类，其他的还是要扫描 -->
        <context:exclude-filter type="annotation"
            expression="org.springframework.stereotype.Controller" />
    </context:component-scan>
</beans>
```

1.2.1.2 第二步：使用注解配置业务层和持久层

```
/**
 * 账户的业务层实现类
 */
@Service("accountService")
public class AccountServiceImpl implements IAccountService {

    @Autowired
    private IAccountDao accountDao;

    @Override
    public List<Account> findAllAccount() {
        return accountDao.findAllAccount();
    }

    @Override
    public void saveAccount(Account account) {
        accountDao.saveAccount
    }
}
```

持久层实现类代码：

此时不要做任何操作，就输出一句话。目的是测试 spring 框架搭建的结果。

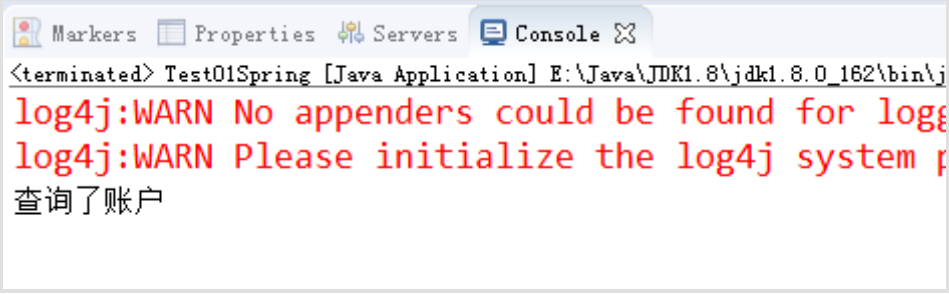
```
/**
 * 账户的持久层实现类
 */
@Repository("accountDao")
public class AccountDaoImpl implements IAccountDao {
```

```
        @Override
        public List<Account> findAllAccount() {
            System.out.println("查询了所有账户");
            return null;
        }

        @Override
        public void saveAccount(Account account) {
            System.out.println("保存了账户");
        }
    }
```

1.2.1.3 第三步：测试 spring 能否独立运行

```
    /**
     * 测试 spring 环境搭建是否成功
     * @author 黑马程序员
     * @Company http://www.ithiema.com
     * @Version 1.0
     */
    public class Test01Spring {

        public static void main(String[] args) {
            ApplicationContext ac = new ClassPathXmlApplicationContext("applicationContext.xml");
            IAccountService as = ac.getBean("accountService",IAccountService.class);
            as.findAllAccount();
        }
    }
```

运行结果：



1.2.2 保证 SpringMVC 在 web 工程中独立运行

1.2.2.1 第一步：在 web.xml 中配置核心控制器（DispatcherServlet）

```
    <?xml version="1.0" encoding="UTF-8"?>
    <web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns="http://java.sun.com/xml/ns/javaee"
        xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-app_2_5.xsd"
        version="2.5">
        <display-name>ssm_web</display-name>

        <!-- 配置 spring mvc 的核心控制器 -->
        <servlet>
            <servlet-name>springmvcDispatcherServlet</servlet-name>

    <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
            <!-- 配置初始化参数，用于读取 springmvc 的配置文件 -->
            <init-param>
                <param-name>contextConfigLocation</param-name>
                <param-value>classpath:springmvc.xml</param-value>
            </init-param>
            <!-- 配置 servlet 的对象的创建时间点：应用加载时创建。取值只能是非 0 正整数，表示启动顺
序 -->
            <load-on-startup>1</load-on-startup>
        </servlet>
        <servlet-mapping>
            <servlet-name>springmvcDispatcherServlet</servlet-name>
            <url-pattern>/</url-pattern>
        </servlet-mapping>

        <!-- 配置 springMVC 编码过滤器 -->
        <filter>
            <filter-name>CharacterEncodingFilter</filter-name>

    <filter-class>org.springframework.web.filter.CharacterEncodingFilter</filter-cla
ss>
            <!-- 设置过滤器中的属性值 -->
            <init-param>
                <param-name>encoding</param-name>
                <param-value>UTF-8</param-value>
            </init-param>
            <!-- 启动过滤器 -->
```

```
            <init-param>
                <param-name>forceEncoding</param-name>
                <param-value>true</param-value>
            </init-param>
        </filter>
        <!-- 过滤所有请求 -->
        <filter-mapping>
            <filter-name>CharacterEncodingFilter</filter-name>
            <url-pattern>/*</url-pattern>
        </filter-mapping>

        <welcome-file-list>
            <welcome-file>index.html</welcome-file>
            <welcome-file>index.htm</welcome-file>
            <welcome-file>index.jsp</welcome-file>
            <welcome-file>default.html</welcome-file>
            <welcome-file>default.htm</welcome-file>
            <welcome-file>default.jsp</welcome-file>
        </welcome-file-list>
    </web-app>
```

1.2.2.2 第二步：编写 SpringMVC 的配置文件

```
    <?xml version="1.0" encoding="UTF-8"?>
    <beans xmlns="http://www.springframework.org/schema/beans"
           xmlns:mvc="http://www.springframework.org/schema/mvc"
           xmlns:context="http://www.springframework.org/schema/context"
           xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
          xsi:schemaLocation="http://www.springframework.org/schema/beans
                http://www.springframework.org/schema/beans/spring-beans.xsd
                http://www.springframework.org/schema/mvc
                http://www.springframework.org/schema/mvc/spring-mvc.xsd
                http://www.springframework.org/schema/context
                http://www.springframework.org/schema/context/spring-context.xsd">
         <!-- 配置创建 spring 容器要扫描的包 -->
        <context:component-scan base-package="com.itheima">
            <!-- 制定扫包规则 ,只扫描使用@Controller 注解的 JAVA 类 -->
            <context:include-filter type="annotation"
                expression="org.springframework.stereotype.Controller" />
        </context:component-scan>

        <!-- 配置视图解析器 -->
        <bean
class="org.springframework.web.servlet.view.InternalResourceViewResolver">
```

```
        <property name="prefix" value="/WEB-INF/pages/"></property>
        <property name="suffix" value=".jsp"></property>
    </bean>

    <mvc:annotation-driven></mvc:annotation-driven>
</beans>
```

1.2.2.3 第三步：编写 Controller 和 jsp 页面

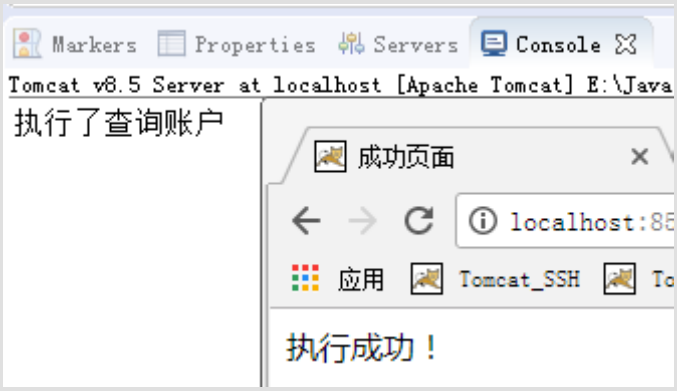
jsp 代码：

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
                    pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
                "http://www.w3.org/TR/html4/loose.dtd">
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>主页</title>
    </head>
    <body>
        <a href="account/findAllAccount">访问查询账户</a>
    </body>
</html>
```

控制器代码：

```
/**
 * 账户的控制器
 * @author 黑马程序员
 * @Company http://www.ithiema.com
 * @Version 1.0
 */
@Controller("accountController")
@RequestMapping("/account")
public class AccountController {

    @RequestMapping("/findAllAccount")
    public String findAllAccount() {
        System.out.println("执行了查询账户");
        return "success";
    }
}
```

运行结果：



1.2.3 整合 Spring 和 SpringMVC

1.2.3.1 第一步：配置监听器实现启动服务创建容器

```
<!-- 配置 spring 提供的监听器，用于启动服务时加载容器 。
        该间监听器只能加载 WEB-INF 目录中名称为 applicationContext.xml 的配置文件 -->
<listener>
        <listener-class>
            org.springframework.web.context.ContextLoaderListener
        </listener-class>
</listener>

    <!-- 手动指定 spring 配置文件位置 -->
    <context-param>
        <param-name>contextConfigLocation</param-name>
        <param-value>classpath:applicationContext.xml</param-value>
    </context-param>
```

1.2.4 保证 MyBatis 框架在 web 工程中独立运行

1.2.4.1 第一步：编写 AccountDao 映射配置文件

```
注意：我们使用代理 dao 的方式来操作持久层，所以此处 Dao 的实现类就是多余的了。
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE mapper
  PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-mapper.dtd">
<mapper namespace="com.itheima.dao.IAccountDao">

    <!-- 查询所有账户 -->
```

```
    <select id="findAll" resultType="com.itheima.domain.Account">
        select * from account
    </select>

    <!-- 新增账户 -->
    <insert id="save" parameterType="com.itheima.domain.Account">
        insert into account(name,money) values(#{name},#{money});
    </insert>
</mapper>
```

1.2.4.2 第二步：编写 SqlMapConfig 配置文件

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE configuration
  PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-config.dtd">
<configuration>
    <properties resource="jdbcConfig.properties"></properties>
    <environments default="mysql">
        <environment id="mysql">
            <transactionManager type="JDBC"></transactionManager>
            <dataSource type="pooled">
                <property name="driver" value="${jdbc.driver}"/>
                <property name="url" value="${jdbc.url}"/>
                <property name="username" value="${jdbc.username}"/>
                <property name="password" value="${jdbc.password}"/>
            </dataSource>
        </environment>
    </environments>
    <mappers>
        <mapper resource="com/itheima/dao/AccountDao.xml"/>
    </mappers>
</configuration>
```

properties 文件中的内容：

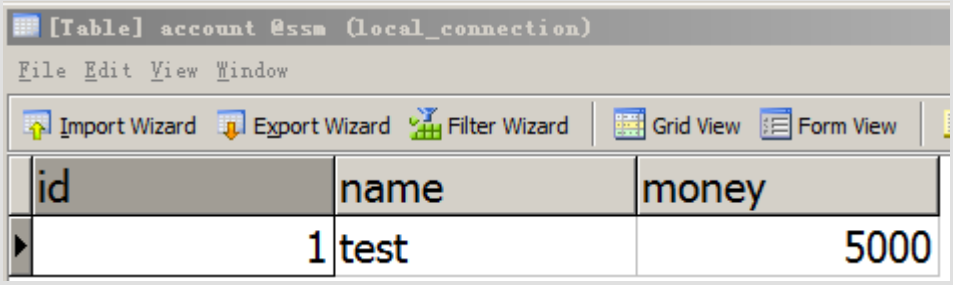
```
jdbc.driver=com.mysql.jdbc.Driver
jdbc.url=jdbc:mysql://localhost:3306/ssm
jdbc.username=root
jdbc.password=1234
```

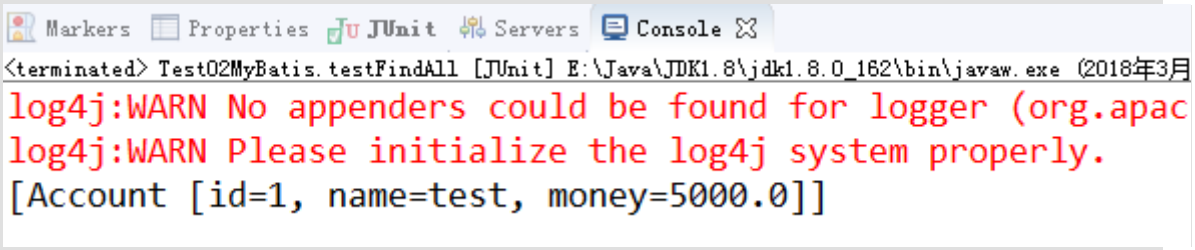
1.2.4.3 第三步：测试运行结果

测试类代码：

```
/**
 * 测试 MyBatis 独立使用
 * @author 黑马程序员
 * @Company http://www.ithiema.com
 * @Version 1.0
 */
public class Test02MyBatis {

    /**
     * 测试保存
     * @param args
     * @throws Exception
     */
    @Test
    public void testSave() throws Exception {
        Account account = new Account();
        account.setName("test");
        account.setMoney(5000f);
        InputStream in = Resources.getResourceAsStream("SqlMapConfig.xml");
        SqlSessionFactory factory = new SqlSessionFactoryBuilder().build(in);
        SqlSession session= factory.openSession();

        IAccountDao aDao = session.getMapper(IAccountDao.class);
        aDao.save(account);
        session.commit();
        session.close();
        in.close();
    }

    /**
     * 测试查询
     * @param args
     * @throws Exception
     */
    @Test
    public  void testFindAll() throws Exception{
        InputStream in = Resources.getResourceAsStream("SqlMapConfig.xml");
        SqlSessionFactory factory = new SqlSessionFactoryBuilder().build(in);
        SqlSession session= factory.openSession();
        IAccountDao aDao = session.getMapper(IAccountDao.class);
        List<Account> list = aDao.findAll();
        System.out.println(list);
        session.close();
        in.close();
```

```
    }
}
```





1.2.5 整合 Spring 和 MyBatis

整合思路：

把 mybatis 配置文件（SqlMapConfig.xml）中内容配置到 spring 配置文件中

同时，把 mybatis 配置文件的内容清掉。

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE configuration
  PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-config.dtd">
<configuration>
</configuration>
```

注意：

由于我们使用的是代理 Dao 的模式，Dao 具体实现类由 MyBatis 使用代理方式创建，所以此时 mybatis 配置文件不能删。

当我们整合 spring 和 mybatis 时，mybatis 创建的 Mapper.xml 文件名必须和 Dao 接口文件名一致

1.2.5.1 第一步：Spring 接管 MyBatis 的 Session 工厂

```
<!-- 加载配置文件 -->
<context:property-placeholder location="classpath:jdbcConfig.properties" />

<!-- 配置 MyBatis 的 Session 工厂 -->
<bean id="sqlSessionFactory" class="org.mybatis.spring.SqlSessionFactoryBean">
    <!-- 数据库连接池 -->
    <property name="dataSource" ref="dataSource" />
    <!-- 加载 mybatis 的全局配置文件 -->
    <property name="configLocation" value="classpath:SqlMapConfig.xml" />
```

```
    </bean>

    <!-- 配置数据源 -->
    <bean id="dataSource" class="com.mchange.v2.c3p0.ComboPooledDataSource">
        <property name="driverClass" value="${jdbc.driver}"></property>
        <property name="jdbcUrl" value="${jdbc.url}"></property>
        <property name="user" value="${jdbc.username}"></property>
        <property name="password" value="${jdbc.password}"></property>
    </bean>
```

1.2.5.2 第二步：配置自动扫描所有 Mapper 接口和文件

```
    <!-- 配置 Mapper 扫描器 -->
    <bean class="org.mybatis.spring.mapper.MapperScannerConfigurer">
        <property name="basePackage" value="com.itheima.dao"/>
    </bean>
```

1.2.5.3 第三步：配置 spring 的事务

```
    <!-- 配置事务管理器 -->
    <bean id="transactionManager"
class="org.springframework.jdbc.datasource.DataSourceTransactionManager">
        <property name="dataSource" ref="dataSource"></property>
    </bean>

    <!-- 配置事务的通知 -->
    <tx:advice id="txAdvice" transaction-manager="transactionManager">
        <tx:attributes>
            <tx:method name="*" propagation="REQUIRED" read-only="false"/>
            <tx:method name="find*" propagation="SUPPORTS" read-only="true"/>
        </tx:attributes>
    </tx:advice>

    <!-- 配置 aop -->
    <aop:config>
    <!-- 配置切入点表达式 -->
    <aop:pointcut     expression="execution(*     com.itheima.service.impl.*.*(..))"
id="pt1"/>
        <!-- 建立通知和切入点表达式的关系 -->
        <aop:advisor advice-ref="txAdvice" pointcut-ref="pt1"/>
    </aop:config>
```

1.2.5.4 第三步：测试整合结果

```
/**
 * 测试 spring 整合 mybatis
 * @author 黑马程序员
 * @Company http://www.ithiema.com
 * @Version 1.0
 */
@RunWith(SpringJUnit4ClassRunner.class)
@ContextConfiguration(locations= {"classpath:applicationContext.xml"})
public class Test03SpringMabatis {

    @Autowired
    private IAccountService accountService;

    @Test
    public void testFindAll() {
        List list = accountService.findAllAccount();
        System.out.println(list);
    }

    @Test
    public void testSave() {
        Account account = new Account();
        account.setName("测试账号");
        account.setMoney(1234f);
        accountService.saveAccount(account);
    }
}
```

[Table] account @ssm (local_connection)

File Edit View Window

Import Wizard | Export Wizard | Filter Wizard | Grid View | Form View

id	name	money
1	test	5000
2	测试账号	1234

Markers Properties JUnit Servers Console

<terminated> Test03SpringMabatis.testFindAll [JUnit] E:\Java\JDK1.8\jdk1.8.0_162\bin\javaw.exe (2018年3月6日 下午12:14:50)

```
log4j:WARN No appenders could be found for logger (org.springframework.test.context.jun
log4j:WARN Please initialize the log4j system properly.
[Account [id=1, name=test, money=5000.0], Account [id=2, name=测试账号, money=1234.0]]
```

1.2.6 测试 SSM 整合结果

1.2.6.1 编写测试 jsp

请求发起页面：

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
pageEncoding="UTF-8"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>主页</title>
</head>
<body>
<a href="account/findAllAccount">访问查询账户</a>
<hr/>
<form action="account/saveAccount" method="post">
    账户名称：<input type="text" name="name"/><br/>
    账户金额：<input type="text" name="money"><br/>
    <input type="submit" value="保存"/>
</form>
</body>
</html>
```

响应结果页面：

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
pageEncoding="UTF-8"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>账户的列表页面</title>
</head>
<body>
    <table border="1" width="300px">
        <tr>
            <th>编号</th>
            <th>账户名称</th>
            <th>账户金额</th>
        </tr>
```

```
            <c:forEach items="${accounts}" var="account" varStatus="vs">
                <tr>
                    <td>${vs.count}</td>
                    <td>${account.name }</td>
                    <td>${account.money }</td>
                </tr>
            </c:forEach>
        </table>
    </body>
    </html>
```

1.2.6.2 修改控制器中的方法

```
    /**
     * 账户的控制器
     * @author 黑马程序员
     * @Company http://www.ithiema.com
     * @Version 1.0
     */
    @Controller("accountController")
    @RequestMapping("/account")
    public class AccountController {

        @Autowired
        private IAccountService accountService;

        /**
         * 查询所有账户
         * @return
         */
        @RequestMapping("/findAllAccount")
        public ModelAndView findAllAccount() {
            List<Account> accounts = accountService.findAllAccount();
            ModelAndView mv = new ModelAndView();
            mv.addObject("accounts", accounts);
            mv.setViewName("accountlist");
            return mv;
        }

        /**
         * 保存账户
         * @param account
         * @return
         */
```

```
    @RequestMapping("/saveAccount")
    public String saveAccount(Account account) {
        accountService.saveAccount(account);
        return "redirect:findAllAccount";
    }
}
```

1.2.6.3 测试运行结果