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Dubbo与Zookeeper、SpringMVC整合和使用

作为dubbo框架初学者，能让框架跑起来非常不容易，非常感谢网上诸多大神提供的文章，本人参考文章地址是：
https://my.oschina.net/xshuai/blog/891281

不过别人的记录终究不适合自己，所以还是按照自己的风格简单记录下学习dubbo整合的步骤。

windows环境介绍：

myeclipse 10

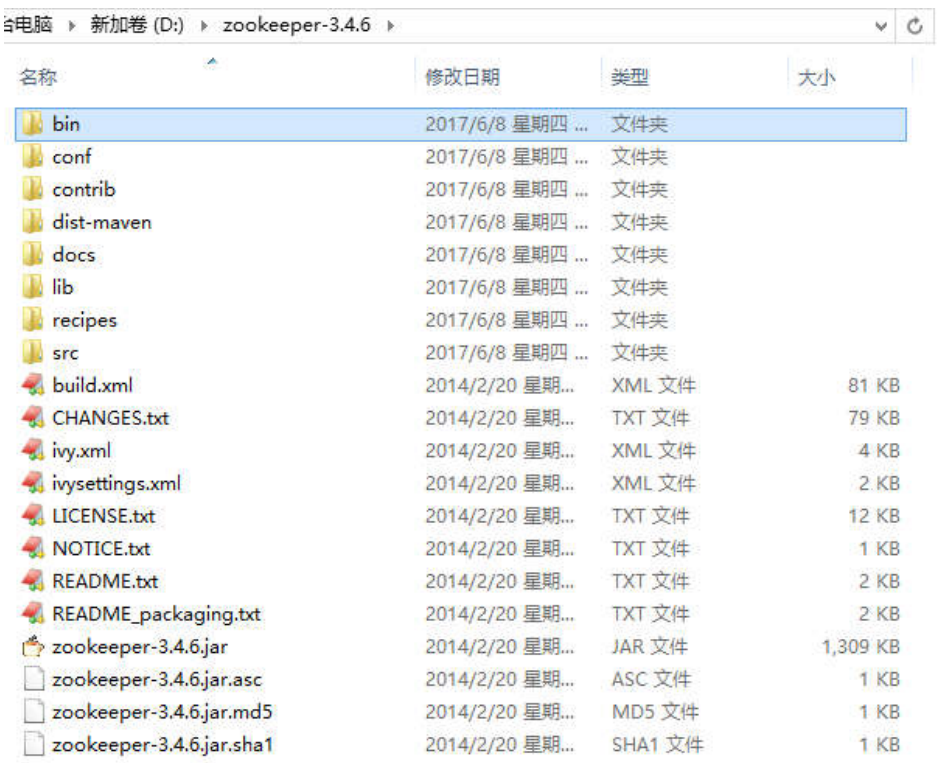
jdk1.6

tomcat 6.0.35

一、安装Zookeeper

1.通过链接下载对应的包 http://www.apache.org/dist/zookeeper/

2.Zookeeper下载后解压即可，见下图



3.进入到conf里面，会看到zoo_sample.cfg文件。将zoo_sample.cfg改成bak文件，并复制一个修改为zoo.cfg，修改相关配置内容，注意修改的日志文件夹需要自己手动创建

```
# The number of milliseconds of each tick
tickTime=2000
# The number of ticks that the initial
# synchronization phase can take
initLimit=10
# The number of ticks that can pass between
# sending a request and getting an acknowledgement
syncLimit=5
# the directory where the snapshot is stored.
# do not use /tmp for storage, /tmp here is just
# example sakes.
dataDir=d:\\zookeeper\\tmp
dataLogDir=d:\\zookeeper\\logs
# the port at which the clients will connect
clientPort=2181
# the maximum number of client connections.
# increase this if you need to handle more clients
#maxClientCnxns=60
#
# Be sure to read the maintenance section of the
# administrator guide before turning on autopurge.
#
# http://zookeeper.apache.org/doc/current/zookeeperAdmin.html#sc_maintenance
#
# The number of snapshots to retain in dataDir
#autopurge.snapRetainCount=3
# Purge task interval in hours
# Set to "0" to disable auto purge feature
#autopurge.purgeInterval=1
```

4.进入D:\zookeeper-3.4.6\bin，双击zkServer.cmd，见到如下界面，就表示zookeeper已启动成功

< 2018年7月 >

日 一 二 三 四 五 六
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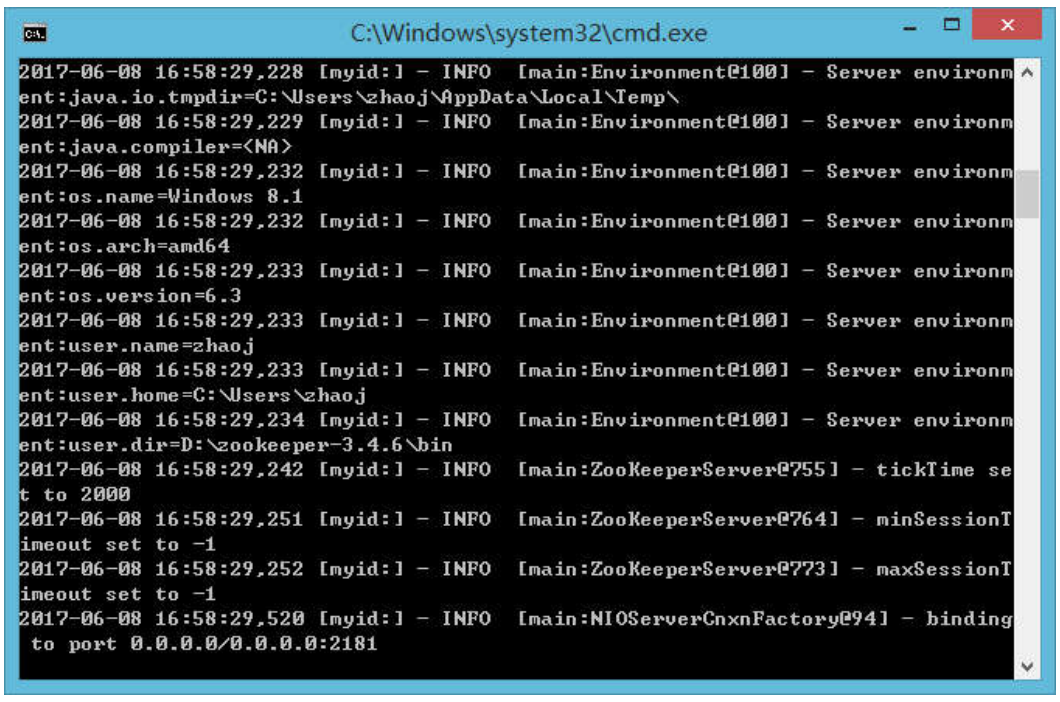
推荐排行榜
1. Dubbo与Zookeeper、SpringMVC整合和使用(3)



二、安装dubbo

1.本人使用的是dubbo-admin-2.5.3.war，下载地址：http://pan.baidu.com/s/1eSnuqEQ

2.拷贝一个新的tomcat，并将tomcat/webapps里面的ROOT文件夹删掉

3.将dubbo-admin-2.5.3.war重命名为ROOT.war，并拷贝到tomcat/webapps目录下

4.启动tomcat

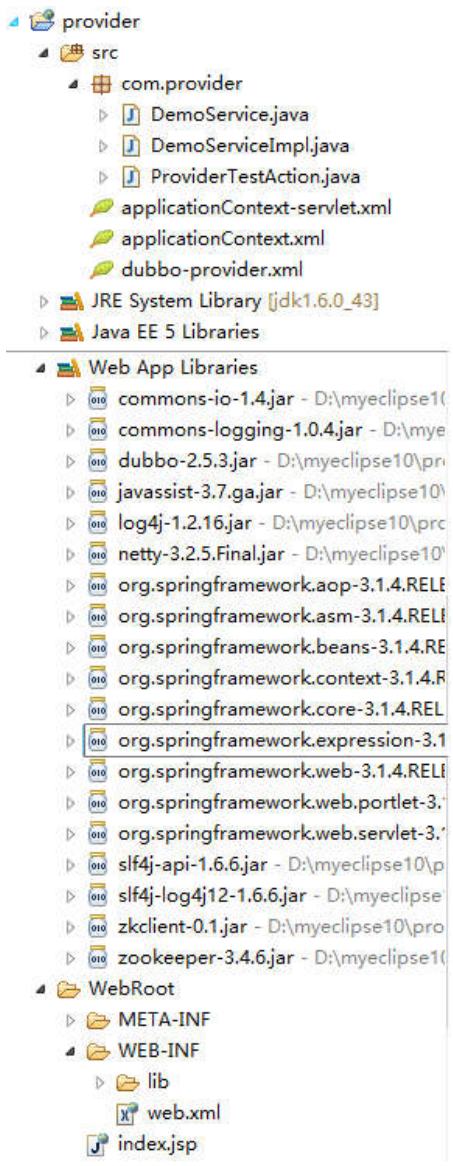
```
INFO context.WebxComponentsContext - Bean '(inner bean)#11' is not eligible for getting processed by all BeanPostProc
INFO context.WebxComponentsContext - Bean 'dubbo-admin' is not eligible for getting processed by all BeanPostProcessc
INFO context.WebxComponentsContext - Bean 'com.alibaba.dubbo.config.RegistryConfig' is not eligible for getting proce
INFO context.WebxComponentsContext - Bean 'registryService' is not eligible for getting processed by all BeanPostProc
INFO context.WebxComponentsContext - Bean '(inner bean)#11' is not eligible for getting processed by all BeanPostProc
INFO context.InheritableListableBeanFactory - Pre-instantiating singletons in com.alibaba.citrus.springext.support.cc
INFO velocity.VelocityEngine - SpringResourceLoaderAdapter : initialization starting.
INFO velocity.VelocityEngine - SpringResourceLoaderAdapter : set path '/templates/common/'
INFO velocity.VelocityEngine - SpringResourceLoaderAdapter : initialization complete.
INFO rule.ExtensionMappingRule - Initialized extension.input:ExtensionMappingRule with cache disabled
INFO rule.ExtensionMappingRule - Initialized extension.output:ExtensionMappingRule with cache disabled
INFO rule.DirectModuleMappingRule - Initialized action:DirectModuleMappingRule with cache disabled
INFO rule.DirectModuleMappingRule - Initialized screen.notemplate:DirectModuleMappingRule with cache disabled
INFO rule.FallbackModuleMappingRule - Initialized screen:FallbackModuleMappingRule with cache enabled
INFO rule.DirectTemplateMappingRule - Initialized screen.template:DirectTemplateMappingRule with cache disabled
INFO rule.FallbackTemplateMappingRule - Initialized layout.template:FallbackTemplateMappingRule with cache enabled
INFO rule.DirectModuleMappingRule - Initialized control.notemplate:DirectModuleMappingRule with cache disabled
INFO rule.FallbackModuleMappingRule - Initialized control:FallbackModuleMappingRule with cache enabled
INFO rule.DirectTemplateMappingRule - Initialized control.template:DirectTemplateMappingRule with cache disabled
INFO zkclient.ZkEventThread - Starting ZkClient event thread.
```

出现上述问题表示你没有启动zookeeper

5.dubbo发布成功后，输入http://localhost:8889/dubbo-admin-2.5.3/，此时出现登录页面，输入root/root进行登录，登录成功后如图

三、创建服务提供服务(provider)

项目结构如下图



相应的类中的代码如下：

web.xml

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

  <listener-class>
        org.springframework.web.context.ContextLoaderListener
    </listener-class>

    <servlet>
        <servlet-name>provider</servlet-name>
        <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
        <init-param>
            <param-name>contextConfigLocation</param-name>
            <param-value>
                classpath:applicationContext.xml,classpath:applicationContext-servlet.xml
            </param-value>
        </init-param>
        <load-on-startup>1</load-on-startup>
    </servlet>
    <servlet-mapping>
        <servlet-name>provider</servlet-name>
        <url-pattern>*.do</url-pattern>
    </servlet-mapping>

    <!-- 字符过滤器 -->
    <filter>
        <filter-name>Set Character Encoding</filter-name>
        <filter-class>org.springframework.web.filter.CharacterEncodingFilter</filter-class>
        <init-param>
            <param-name>encoding</param-name>
            <param-value>UTF-8</param-value>
        </init-param>
    </filter>
    <filter-mapping>
        <filter-name>Set Character Encoding</filter-name>
        <url-pattern>/*</url-pattern>
    </filter-mapping>


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

DemoService.java

```
package com.provider;

public interface DemoService {

    String sayHello(String name);
}
```

DemoServiceImpl.java

```
package com.provider;

import org.springframework.stereotype.Service;

@Service(value="demoService")
public class DemoServiceImpl implements DemoService{

    public String sayHello(String name) {
        return "Hello Dubbo,Hello " + name;
    }

}
```

applicationContext.xml

```
<?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:jdbc="http://www.springframework.org/schema/jdbc"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="
      http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-3.1.xsd
      http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans-3.1.xsd
      http://www.springframework.org/schema/tx
      http://www.springframework.org/schema/tx/spring-tx-3.1.xsd
      http://www.springframework.org/schema/aop
      http://www.springframework.org/schema/aop/spring-aop-3.1.xsd"
    >

    <context:component-scan base-package="com.**"></context:component-scan>

    <!-- 引入服务提供者配置文件 -->
    <import resource="dubbo-provider.xml" />
</beans>
```

dubbo-provider.xml

```
<?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:dubbo="http://code.alibabatech.com/schema/dubbo"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
    http://www.springframework.org/schema/beans/spring-beans.xsd
    http://code.alibabatech.com/schema/dubbo
    http://code.alibabatech.com/schema/dubbo/dubbo.xsd">

    <!-- 提供方应用信息，用于计算依赖关系 -->
    <dubbo:application name="hello-world-provider"  />

    <!-- 使用multicast广播注册中心暴露服务地址 -->
   <!--  <dubbo:registry address="multicast://224.5.6.7:1234" /> -->

     <!-- 使用zookeeper注册中心暴露服务地址 -->
    <dubbo:registry address="zookeeper://127.0.0.1:2181" />

    <!-- 用dubbo协议在20880端口暴露服务 -->
    <dubbo:protocol name="dubbo" port="20880" />

    <!-- 声明需要暴露的服务接口 -->
    <dubbo:service interface="com.provider.DemoService" ref="demoService" />

    <!-- 和本地bean一样实现服务 -->
    <!--
    <bean id="demoService" class="com.provider.DemoServiceImpl" />
     -->
</beans>
```

applicationContext-servlet.xml

```
<?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:jdbc="http://www.springframework.org/schema/jdbc"
    xmlns:mvc="http://www.springframework.org/schema/mvc"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="
      http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-3.1.xsd
      http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans-3.1.xsd
      http://www.springframework.org/schema/tx http://www.springframework.org/schema/tx/spring-tx-3.1.xsd
      http://www.springframewor.org/schema/aop http://www.springframework.org/schema/aop/spring-aop-3.1.xsd
      http://www.springframework.org/schema/mvc http://www.springframework.org/schema/mvc/spring-mvc-3.1.xsd"
    default-autowire="byName">

    <!-- 默认的注解映射的支持 -->
    <mvc:annotation-driven>
        <mvc:message-converters register-defaults="true">
             <bean class ="org.springframework.http.converter.StringHttpMessageConverter">
                <property name ="supportedMediaTypes">
                     <list>
                         <value>text/plain;charset=UTF-8</value>
                     </list>
                </property>
```

```
            </bean>
        </mvc:message-converters>
    </mvc:annotation-driven>

    <!-- 视图解释类 -->
    <bean id="viewResolver"
        class="org.springframework.web.servlet.view.InternalResourceViewResolver">
        <property name="prefix" value="/WEB-INF/jsp/" />
        <property name="suffix" value=".jsp" />
        <property name="viewClass"
            value="org.springframework.web.servlet.view.JstlView" />
    </bean>

    <!-- 加载静态资源 -->
    <mvc:resources mapping="/css/**" location="/css/" />
    <mvc:resources mapping="/js/**" location="/js/" />
    <mvc:resources mapping="/images/**" location="/images/" />
</beans>
```

四、创建调用服务(customer)

customer服务架构和provider一致，拷贝一个即可

相应的代码如下：

applicationContext.xml

```
<?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:jdbc="http://www.springframework.org/schema/jdbc"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="
      http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-3.1.xsd
      http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans-3.1.xsd
      http://www.springframework.org/schema/tx
      http://www.springframework.org/schema/tx/spring-tx-3.1.xsd
      http://www.springframework.org/schema/aop
      http://www.springframework.org/schema/aop/spring-aop-3.1.xsd"
    >

    <context:component-scan base-package="com.**"></context:component-scan>

    <!-- 引入消费者配置文件 -->
    <import resource="dubbo-consumer.xml" />
</beans>
```

dubbo-consumer.xml

```
<?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:dubbo="http://code.alibabatech.com/schema/dubbo"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
    http://www.springframework.org/schema/beans/spring-beans.xsd
    http://code.alibabatech.com/schema/dubbo
    http://code.alibabatech.com/schema/dubbo/dubbo.xsd">
    <!-- 消费方应用名，用于计算依赖关系，不是匹配条件，不要与提供方一样 -->
    <dubbo:application name="hello-world-customer"/>
    <!-- 使用multicast广播注册中心暴露发现服务地址 -->
    <!-- <dubbo:registry address="multicast://224.5.6.7:1234" /> -->
    <dubbo:registry address="zookeeper://127.0.0.1:2181" check="false"/>
    <!-- 生成远程服务代理，可以和本地bean一样使用demoService -->
    <dubbo:reference id="demoService" interface="com.provider.DemoService" check="false"/>
</beans>
```

applicationContext-servlet.xml 和provider中的代码一致，就不贴出来了，本项目中其实这个文件可以不用

CustomerAction.java测试类

```
package com.customer;

import javax.annotation.Resource;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.servlet.ModelAndView;

import com.provider.DemoService;

@Controller
@RequestMapping(value="/customerTest")
public class CustomerAction {

    @Resource(name="demoService")
    private DemoService demoService;

    @RequestMapping(value="/test.do")
    public ModelAndView test(HttpServletRequest request,HttpServletResponse response){
        System.out.println("成功");
        String result = demoService.sayHello("world");
        System.out.println(result);
        return null;
    }
```

```
}
```

五、共享服务

注意：需要将服务提供的接口打成jar包，放入customer中

六、测试

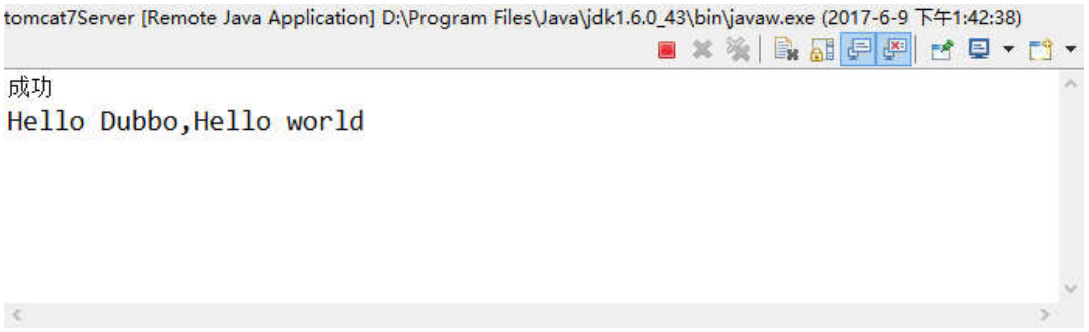
步骤：1、先启动zookeeper服务

2、启动dubbo服务

3、启动provider服务

4、启动customer服务

正常会出现如下界面



错误总结：

若按照上述测试步骤分别在不同的tomcat中启动服务，应该一切正常

若2、3、4这三步放在同一个tomcat中启动，会出现如下错误。

看下关键异常：No provider available for the service

此异常是由于服务没有可以使用的提供者，就是说在zookeeper注册中心（zookeeper-url）中没有可供消费者调用的url，消费者访问提供者就失败了。

具体原因分析：由于dobbo在启动的时候会去检查各服务之间的依赖关系，由于启动的时候消费者没有检查到提供者提供的服务（此时可能提供者还没启动），所以报错

在消费者配置文件中，需要将<dubbo:registry address="zookeeper://127.0.0.1:2181"/>修改为**<dubbo:registry address="zookeeper://127.0.0.1:2181" check="false"/>**

由于dubbo在注册的时候是默认会检查服务的依赖关系的

分类: dubbo

标签: dubbo zookeeper springmvc整合入门级

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