3-5 | Dubbo 使用入门介绍

我们使用的是 jdk17 版本 + springboot3 + dubbo3 / springcloudalibaba 要使用 2022+的版本

Provider 层实现部分

pom 依赖配置：

总工程依赖：

```XML
<properties>
    <qiyu-mysql.version>8.0.28</qiyu-mysql.version>
    <maven.compiler.source>17</maven.compiler.source>
    <maven.compiler.target>17</maven.compiler.target>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <springboot.version>3.0.4</springboot.version>
</properties>

<parent>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-parent</artifactId>
    <version>3.0.4</version>
    <relativePath/> <!-- lookup parent from repository -->
</parent>

<dependencyManagement>
    <dependencies>
        <dependency>
            <groupId>com.alibaba.cloud</groupId>

<artifactId>spring-cloud-alibaba-dependencies</artifactId>
            <version>2022.0.0.0-RC1</version>
            <type>pom</type>
            <scope>import</scope>
        </dependency>
    </dependencies>
</dependencyManagement>
```

qiyu-live-user-provider 子项目依赖：

```
JavaScript
<properties>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <curator.version>2.12.0</curator.version>
    <mybatis.version>3.5.1</mybatis.version>
    <druid.version>1.1.20</druid.version>
    <sharding.jdbc.version>4.0.0-RC1</sharding.jdbc.version>
    <hessian.version>4.0.38</hessian.version>
    <jetty.version>9.4.28.v20200408</jetty.version>
    <dubbo.version>2.7.8</dubbo.version>
    <spring-cloud-alibaba.version>2022.0.0.0-RC1</spring-cloud-
alibaba.version>
    <maven.compiler.source>17</maven.compiler.source>
    <maven.compiler.target>17</maven.compiler.target>

<maven.compiler.compilerVersion>17</maven.compiler.compilerVersion
>
</properties>

<dependencies>
    <dependency>
        <groupId>org.apache.dubbo</groupId>
        <artifactId>dubbo-spring-boot-starter</artifactId>
        <version>3.2.0-beta.3</version>
    </dependency>
    <dependency>
        <groupId>com.alibaba.cloud</groupId>
        <artifactId>spring-cloud-starter-alibaba-nacos-
discovery</artifactId>
    </dependency>
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-web</artifactId>
        <exclusions>
            <exclusion>
                <artifactId>log4j-to-slf4j</artifactId>
                <groupId>org.apache.logging.log4j</groupId>
            </exclusion>
        </exclusions>
    </dependency>
    <dependency>
        <groupId>org.idea</groupId>
        <artifactId>qiyu-live-user-interface</artifactId>
```

```
        <version>1.0-SNAPSHOT</version>
    </dependency>
</dependencies>

<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-maven-plugin</artifactId>
            <configuration>
                <classifier>exec</classifier>
            </configuration>
        </plugin>
    </plugins>
</build>
```

配置文件：

bootstrap.yml

```
YAML
spring:
  application:
    name: qiyu-live-user-provider
  cloud:
    nacos:
      username: qiyu
      password: qiyu
      discovery:
        server-addr: qiyu.test.com:8848
        namespace: qiyu-live-test
```

dubbo.properties

```
Properties
dubbo.application.name=qiyu-live-user-application
dubbo.registry.address=nacos://127.0.0.1:8848?namespace=qiyu-live-
test&&username=qiyu&&password=qiyu
dubbo.server=true
dubbo.protocol.name=dubbo
```

```
dubbo.protocol.port=9090
```

接下来便是我们的一个启动类模块：

```
Java
package org.qiyu.live.user.provider;

import
org.apache.dubbo.config.spring.context.annotation.EnableDubbo;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.WebApplicationType;
import
org.springframework.boot.autoconfigure.SpringBootApplication;
import
org.springframework.cloud.client.discovery.EnableDiscoveryClient;

/**
 * 用户服务中台启动类
 */
@SpringBootApplication
@EnableDiscoveryClient
@EnableDubbo
public class UserProviderApplication {

    public static void main(String[] args) {
        SpringApplication springApplication = new
SpringApplication(UserProviderApplication.class);

springApplication.setWebApplicationType(WebApplicationType.NONE);
        springApplication.run(args);
    }
}
```

RPC 接口实现部分：

```
Java
package org.qiyu.live.user.provider.rpc;

import org.apache.dubbo.config.annotation.DubboService;
import org.qiyu.live.user.interfaces.rpc.IUserRpc;
```

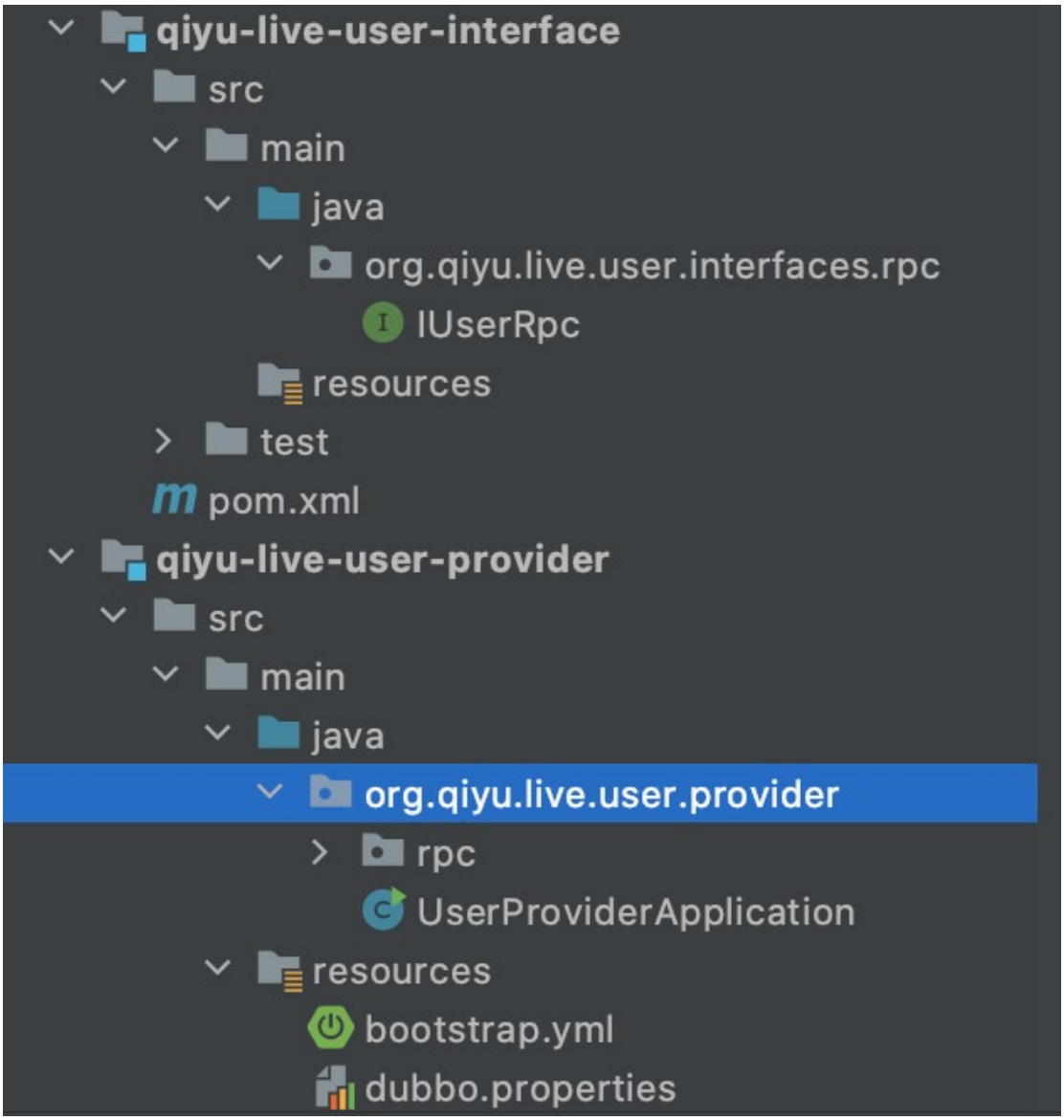
```
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;

@DubboService
public class UserRpcImpl implements IUserRpc {

    private static final Logger LOGGER =
LoggerFactory.getLogger(UserRpcImpl.class);

    @Override
    public void test() {
        LOGGER.info("this is dubbo server test!");
    }
}
```

建成后，目录如下图所示：



Consumer 层实现部分

pom 依赖如下：

```
JavaScript
<dependencies>
    <dependency>
        <groupId>org.apache.dubbo</groupId>
        <artifactId>dubbo-spring-boot-starter</artifactId>
        <version>3.2.0-beta.3</version>
    </dependency>
    <dependency>
        <groupId>com.alibaba.cloud</groupId>
        <artifactId>spring-cloud-starter-alibaba-nacos-
discovery</artifactId>
```

```
    </dependency>
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-web</artifactId>
        <exclusions>
            <exclusion>
                <artifactId>log4j-to-slf4j</artifactId>
                <groupId>org.apache.logging.log4j</groupId>
            </exclusion>
        </exclusions>
    </dependency>
    <dependency>
        <groupId>org.idea</groupId>
        <artifactId>qiyu-live-user-interface</artifactId>
        <version>1.0-SNAPSHOT</version>
    </dependency>
</dependencies>
```

bootstrap.yml 配置文件：

```
YAML
spring:
  application:
    name: qiyu-live-api
  cloud:
    nacos:
      username: qiyu
      password: qiyu
      discovery:
        server-addr: qiyu.test.com:8848
        namespace: qiyu-live-test
```

dubbo.properties 配置文件：

```
Properties
dubbo.application.name=qiyu-live-api-application
dubbo.registry.address=nacos://127.0.0.1:8848?namespace=qiyu-live-
test&&username=qiyu&&password=qiyu
```

启动类

```Java
package org.idea.qiyu.live.api;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.WebApplicationType;
import
org.springframework.boot.autoconfigure.SpringBootApplication;
import
org.springframework.cloud.client.discovery.EnableDiscoveryClient;

@SpringBootApplication
@EnableDiscoveryClient
public class ApiWebApplication {

    public static void main(String[] args) {
        SpringApplication springApplication = new
SpringApplication(ApiWebApplication.class);

springApplication.setWebApplicationType(WebApplicationType.SERVLET
);
        springApplication.run(args);
    }
}
```

controller 部分

```TypeScript
package org.idea.qiyu.live.api.controller;

import org.apache.dubbo.config.annotation.DubboReference;
import org.qiyu.live.user.interfaces.rpc.IUserRpc;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;

@RestController
@RequestMapping(value = "/test")
public class TestController {

    @DubboReference
    private IUserRpc userRpc;

    @GetMapping(value = "/do-test")
    public String doTest(){
```

```
        userRpc.test();
        return "success";
    }
}
```

如何进行本地的 RPC 调用

```
Java
package dubbo;

import org.apache.dubbo.config.ApplicationConfig;
import org.apache.dubbo.config.ReferenceConfig;
import org.apache.dubbo.config.RegistryConfig;
import org.junit.jupiter.api.BeforeAll;
import org.junit.jupiter.api.Test;
import org.qiyu.live.user.interfaces.rpc.IUserRpc;

import java.util.HashMap;
import java.util.Map;

public class DubboTest {

    private static final String REGISTER_ADDRESS =
"nacos://127.0.0.1:8848?namespace=qiyu-live-
test&&username=qiyu&&password=qiyu";
    private static RegistryConfig registryConfig;
    private static ApplicationConfig applicationConfig;
    private static ReferenceConfig<IUserRpc>
userRpcReferenceConfig;
    private static Map<Class, Object> referMap = new HashMap<>();

    @BeforeAll
    public static void initConfig() {
        registryConfig = new RegistryConfig();
        applicationConfig = new ApplicationConfig();
        registryConfig.setAddress(REGISTER_ADDRESS);
        applicationConfig.setName("dubbo-test-application");
        applicationConfig.setRegistry(registryConfig);
        userRpcReferenceConfig = new ReferenceConfig<>();
        //roundrobin random leastactive shortestresponse
consistenthash
```

```
        userRpcReferenceConfig.setLoadbalance("random");
        userRpcReferenceConfig.setInterface(IUserRpc.class);
        referMap.put(IUserRpc.class,
userRpcReferenceConfig.get());
    }

    @Test
    public void testUserRpc() {
        IUserRpc userRpc = (IUserRpc)
referMap.get(IUserRpc.class);
        for(int i=0;i<1000;i++) {
            userRpc.test();
        }
    }
}
```

如果本地出现关于 JDK17 和 Dubbo 不适用的异常：

https://cn.dubbo.apache.org/zh-cn/blog/2018/08/07/%e4%bd%bf%e7%94%a8jdk17%e7%bc%96%e8%af%91%e8%bf%90%e8%a1%8cdubbo-2.7.14%e9%a1%b9%e7%9b%ae/

启动参数：

--add-opens java.base/java.lang=ALL-UNNAMED --add-opens java.base/sun.reflect.generics.reflectiveObjects=ALL-UNNAMED --add-opens java.base/java.math=ALL-UNNAMED