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# Spring Boot中使用WebSocket总结(一): 几种实现方式详解

- admin (https://www.zifangsky.cn/author/zifangskyw)

# 简介

所谓WebSocket, 类似于Socket, 它的作用是可以让Web应用中的客户端和服务端建立全双工通信。在基于Spring的应用中使用WebSocket一般可以有以下三种方式:

- 使用Java提供的@ServerEndpoint注解实现
- 使用Spring提供的低层级WebSocket API实现
- 使用STOMP消息实现

下面,我将对这三种实现方式做一个简单介绍,此外有关WebSocket性质的更多介绍可以参考以下这篇文

章: WebSocket探秘 (https://juejin.im/post/5a1bdf676fb9a045055dd99d)

注:本篇文章的完整源码可以参考: https://github.com/zifangsky/WebSocketDemo (https://github.com/zifangsky/WebSocketDemo)

# 使用Java提供的@ServerEndpoint注解实现

(1) 使用@ServerEndpoint注解监听一个WebSocket请求路径:

这里监听了客户端的连接端口 / reverse ,并定义了如何处理客户端发来的消息

```
package cn.zifangsky.samplewebsocket.websocket;
2
3
   import javax.websocket.OnMessage;
   import javax.websocket.Session;
   import javax.websocket.server.ServerEndpoint;
   import java.io.IOException;
6
7
   /**
8
9
    * ReverseWebSocketEndpoint
10
11
    * @author zifangsky
12
   * @date 2018/9/30
13
    * @since 1.0.0
14
    */
   @ServerEndpoint("/reverse")
15
   public class ReverseWebSocketEndpoint {
16
17
18
       @OnMessage
       public void handleMessage(Session session, String message) throws IOException {
            session.getBasicRemote().sendText("Reversed: " + new StringBuilder(message).re
20
21
       }
22
23 | }
```

# (2) WebSocket相关配置:

```
package cn.zifangsky.samplewebsocket.config;
2
3
   import cn.zifangsky.samplewebsocket.websocket.ReverseWebSocketEndpoint;
   import org.springframework.context.annotation.Bean;
   import org.springframework.context.annotation.Configuration;
   import org.springframework.web.socket.config.annotation.EnableWebSocket;
6
7
   import org.springframework.web.socket.server.standard.ServerEndpointExporter;
8
9
10
   * WebSocket相关配置
11
   * @author zifangsky
   * @date 2018/9/30
13
    * @since 1.0.0
14
15
    */
   @Configuration
16
   @EnableWebSocket
18
   public class WebSocketConfig{
19
20
21
       public ReverseWebSocketEndpoint reverseWebSocketEndpoint() {
22
           return new ReverseWebSocketEndpoint();
23
       }
24
25
       public ServerEndpointExporter serverEndpointExporter() {
26
27
           return new ServerEndpointExporter();
28
       }
29
30 | }
```

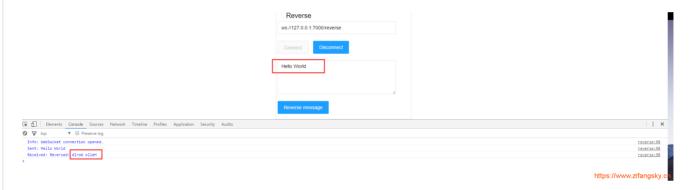
## (3) 示例页面:

```
<html xmlns:th="http://www.thymeleaf.org">
2
    <head>
3
        <meta content="text/html;charset=UTF-8"/>
4
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
5
        <meta http-equiv="X-UA-Compatible" content="IE=edge"/>
        <meta name="viewport" content="width=device-width, initial-scale=1"/>
6
7
        <title>WebSocket Examples: Reverse</title>
8
        <script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.3.1/jquery.min.js">
        <script th:src="@{/layui/layui.js}"></script>
9
10
        <link th:href="@{/layui/css/layui.css}" rel="stylesheet">
11
        <style type="text/css">
12
            #connect-container {
                margin: 0 auto;
13
14
                width: 400px;
            }
15
16
17
            #connect-container div {
                padding: 5px;
18
19
                margin: 0 7px 10px 0;
20
            }
21
22
            .layui-btn {
23
                display: inline-block;
24
            }
25
        </style>
        <script type="text/javascript">
26
27
            var ws = null;
28
29
            $(function () {
30
                var target = $("#target");
31
                if (window.location.protocol === 'http:') {
32
                    target.val('ws://' + window.location.host + target.val());
33
                } else {
34
                    target.val('wss://' + window.location.host + target.val());
35
                }
36
            });
37
            function setConnected(connected) {
38
                var connect = $("#connect");
39
                var disconnect = $("#disconnect");
40
41
                var reverse = $("#reverse");
42
43
                if (connected) {
                    connect.addClass("layui-btn-disabled");
44
                    disconnect.removeClass("layui-btn-disabled");
45
46
                    reverse.removeClass("layui-btn-disabled");
47
                } else {
                    connect.removeClass("layui-btn-disabled");
48
                    disconnect.addClass("layui-btn-disabled");
49
                     reverse.addClass("layui-btn-disabled");
50
                }
51
52
53
                connect.attr("disabled", connected);
54
                disconnect.attr("disabled", !connected);
                reverse.attr("disabled", !connected);
55
56
            }
```

```
57
58
             //连接
59
             function connect() {
60
                 var target = $("#target").val();
61
62
                 ws = new WebSocket(target);
63
                 ws.onopen = function () {
64
                      setConnected(true);
65
                     log('Info: WebSocket connection opened.');
66
                 };
67
                 ws.onmessage = function (event) {
68
                     log('Received: ' + event.data);
69
                 };
70
                 ws.onclose = function () {
71
                     setConnected(false);
72
                     log('Info: WebSocket connection closed.');
73
                 };
             }
74
75
             //断开连接
76
77
             function disconnect() {
78
                 if (ws != null) {
                     ws.close();
79
                     ws = null;
80
81
                 }
                 setConnected(false);
82
83
             }
84
             //文字反转
85
             function reverse() {
86
                 if (ws != null) {
87
                     var message = $("#message").val();
88
89
                     log('Sent: ' + message);
90
                     ws.send(message);
91
                 } else {
92
                     alert('WebSocket connection not established, please connect.');
93
94
             }
95
             //日志输出
96
97
             function log(message) {
98
                 console.debug(message);
99
             }
100
         </script>
101
    </head>
102
    <body>
103
         <noscript><h2 style="color: #ff0000">Seems your browser doesn't support Javascrip
             enabled. Please enable
104
105
             Javascript and reload this page!</h2></noscript>
106
         <div>
             <div id="connect-container" class="layui-elem-field">
107
108
                 <leqend>Reverse</leqend>
109
                      <input id="target" type="text" class="layui-input" size="40" style="w</pre>
110
111
                 </div>
112
                 <div>
113
                      <button id="connect" class="layui-btn layui-btn-normal" onclick="conn</pre>
                     <button id="disconnect" class="layui-btn layui-btn-normal layui-btn-d</pre>
114
```

```
115
                             onclick="disconnect();">Disconnect
116
                     </button>
117
                 </div>
118
119
                 <div>
120
                     <textarea id="message" class="layui-textarea" placeholder="请输入需要反
121
                 </div>
122
                 <div>
                     <button id="reverse" class="layui-btn layui-btn-normal layui-btn-disd</pre>
123
124
                             onclick="reverse();">Reverse message
125
                     </button>
126
                 </div>
127
             </div>
128
        </div>
129 </body>
130
    </html>
```

启动项目后访问页面,效果如下:



# 使用Spring提供的低层级WebSocket API实现

Spring 4.0为WebSocket通信提供了支持,包括:

- 发送和接收消息的低层级API;
- 发送和接收消息的高级API;
- 用来发送消息的模板:
- 支持SockJS. 用来解决浏览器端、服务器以及代理不支持WebSocket的问题。

使用Spring提供的低层级API实现WebSocket, 主要需要以下几个步骤:

# (1) 添加一个WebSocketHandler:

定义一个继承了 AbstractWebSocketHandler 类的消息处理类,然后自定义对"建立连接"、"接收/发送消息"、"异常情况"等情况进行处理

```
package cn.zifangsky.samplewebsocket.websocket;
3
   import cn.zifangsky.samplewebsocket.service.EchoService;
   import org.slf4j.Logger;
   import org.slf4j.LoggerFactory;
   import org.springframework.web.socket.CloseStatus;
6
7
   import org.springframework.web.socket.TextMessage;
   import org.springframework.web.socket.WebSocketSession;
9
   import org.springframework.web.socket.handler.TextWebSocketHandler;
10
   import javax.annotation.Resource;
11
12
   import java.text.MessageFormat;
13
14
   /**
    * 通过继承 {@link org.springframework.web.socket.handler.AbstractWebSocketHandler} 的示
15
16
17
    * @author zifangsky
    * @date 2018/10/9
18
19
    * @since 1.0.0
20
   public class EchoWebSocketHandler extends TextWebSocketHandler{
21
22
       private final Logger logger = LoggerFactory.getLogger(getClass());
23
24
       @Resource(name = "echoServiceImpl")
25
       private EchoService echoService;
26
27
       @Override
28
       public void afterConnectionEstablished(WebSocketSession session) throws Exception
           logger.debug("Opened new session in instance " + this);
29
30
       }
31
32
       @Override
33
       protected void handleTextMessage(WebSocketSession session, TextMessage message) th
34
           //组装返回的Echo信息
35
           String echoMessage = this.echoService.echo(message.getPayload());
           logger.debug(MessageFormat.format("Echo message \"{0}\"", echoMessage));
36
37
38
           session.sendMessage(new TextMessage(echoMessage));
39
       }
40
41
       @Override
42
       public void handleTransportError(WebSocketSession session, Throwable exception) th
           session.close(CloseStatus.SERVER_ERROR);
43
44
           logger.debug("Info: WebSocket connection closed.");
45
       }
46 }
```

### (2) WebSocket相关配置:

```
package cn.zifangsky.samplewebsocket.config;
2
3
   import cn.zifangsky.samplewebsocket.websocket.EchoWebSocketHandler;
   import org.springframework.context.annotation.Bean;
   import org.springframework.context.annotation.Configuration;
5
   import org.springframework.web.socket.WebSocketHandler;
6
7
   import org.springframework.web.socket.config.annotation.EnableWebSocket;
   import org.springframework.web.socket.config.annotation.WebSocketConfigurer;
9
   import org.springframework.web.socket.config.annotation.WebSocketHandlerRegistry;
10
   /**
11
   * WebSocket相关配置
12
13
14
    * @author zifangsky
15
   * @date 2018/9/30
    * @since 1.0.0
16
17
    */
   @Configuration
18
19
   @EnableWebSocket
20
   public class WebSocketConfig implements WebSocketConfigurer{
21
22
       @Override
23
       public void registerWebSocketHandlers(WebSocketHandlerRegistry registry) {
24
           registry.addHandler(echoWebSocketHandler(), "/echoMessage");
            registry.addHandler(echoWebSocketHandler(), "/echoMessage_SockJS").withSockJS(
25
26
       }
27
28
        * 通过继承 {@link org.springframework.web.socket.handler.AbstractWebSocketHandler}
29
        */
30
31
       @Bean
32
       public WebSocketHandler echoWebSocketHandler(){
33
           return new EchoWebSocketHandler();
34
       }
35
36 | }
```

从上面代码可以看出,这里除了配置了基本的 WebSocket (也就是**/echoMessage**这个连接地址),还使用 SockJS 配置了浏览器不支持 WebSocket 技术时的替代方案(也就是**/echoMessage\_SockJS**这个连接地址)。

# (3) 两个示例页面:

#### i) echo.html:

```
1
    <html xmlns:th="http://www.thymeleaf.org">
2
3
        <meta content="text/html;charset=UTF-8"/>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
4
5
        <meta http-equiv="X-UA-Compatible" content="IE=edge"/>
6
        <meta name="viewport" content="width=device-width, initial-scale=1"/>
7
        <title>WebSocket Examples: Reverse</title>
        <script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.3.1/jquery.min.js"><</pre>
8
9
        <script th:src="@{/layui/layui.js}"></script>
10
        <link th:href="@{/layui/css/layui.css}" rel="stylesheet">
11
        <style type="text/css">
```

```
12
            #connect-container {
13
                margin: 0 auto;
14
                width: 400px;
            }
15
16
17
            #connect-container div {
18
                padding: 5px;
19
                margin: 0 7px 10px 0;
20
            }
21
22
            .layui-btn {
23
                display: inline-block;
24
            }
25
        </style>
26
        <script type="text/javascript">
27
            var ws = null;
28
29
            $(function () {
30
                var target = $("#target");
31
                if (window.location.protocol === 'http:') {
                    target.val('ws://' + window.location.host + target.val());
32
33
                } else {
34
                    target.val('wss://' + window.location.host + target.val());
35
                }
36
            });
37
38
            function setConnected(connected) {
39
                var connect = $("#connect");
                var disconnect = $("#disconnect");
40
41
                var echo = $("#echo");
42
43
                if (connected) {
44
                     connect.addClass("layui-btn-disabled");
45
                    disconnect.removeClass("layui-btn-disabled");
                    echo.removeClass("layui-btn-disabled");
46
47
                    connect.removeClass("layui-btn-disabled");
48
49
                    disconnect.addClass("layui-btn-disabled");
50
                    echo.addClass("layui-btn-disabled");
                }
51
52
                connect.attr("disabled", connected);
53
                disconnect.attr("disabled", !connected);
54
55
                echo.attr("disabled", !connected);
            }
56
57
58
            //连接
59
            function connect() {
                var target = $("#target").val();
60
61
62
                ws = new WebSocket(target);
63
                ws.onopen = function () {
64
                     setConnected(true);
65
                    log('Info: WebSocket connection opened.');
66
                };
67
                ws.onmessage = function (event) {
68
                    log('Received: ' + event.data);
69
                };
```

```
70
                 ws.onclose = function () {
71
                     setConnected(false);
72
                     log('Info: WebSocket connection closed.');
73
                 };
             }
74
75
76
             //断开连接
77
             function disconnect() {
78
                 if (ws != null) {
79
                     ws.close();
80
                     ws = null;
81
                 }
82
                 setConnected(false);
83
             }
84
             //Echo
85
86
             function echo() {
87
                 if (ws != null) {
88
                     var message = $("#message").val();
                     log('Sent: ' + message);
89
90
                     ws.send(message);
91
                 } else {
92
                     alert('WebSocket connection not established, please connect.');
93
                 }
94
             }
95
             //日志输出
96
97
             function log(message) {
                 console.debug(message);
98
99
             }
         </script>
100
101
     </head>
102
     <body>
103
         <noscript><h2 style="color: #ff0000">Seems your browser doesn't support Javascrip
104
             enabled. Please enable
105
             Javascript and reload this page!</h2></noscript>
106
         <div>
107
             <div id="connect-container" class="layui-elem-field">
108
                 <legend>Echo</legend>
109
                 <div>
                     <input id="target" type="text" class="layui-input" size="40" style="w</pre>
110
111
                 </div>
112
                 <div>
113
                      <button id="connect" class="layui-btn layui-btn-normal" onclick="conn</pre>
                     <button id="disconnect" class="layui-btn layui-btn-normal layui-btn-d</pre>
114
115
                              onclick="disconnect();">Disconnect
116
                      </button>
117
                 </div>
118
119
                 <div>
120
                     <textarea id="message" class="layui-textarea" placeholder="请输入请求的
121
                 </div>
122
                 <div>
123
                      <button id="echo" class="layui-btn layui-btn-normal layui-btn-disable</pre>
124
                              onclick="echo();">Echo message
125
                     </button>
126
                 </div>
127
             </div>
```

#### ii) echo\_sockjs.html:

```
<html xmlns:th="http://www.thymeleaf.org">
1
2
    <head>
3
        <meta content="text/html;charset=UTF-8"/>
4
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
5
        <meta http-equiv="X-UA-Compatible" content="IE=edge"/>
6
        <meta name="viewport" content="width=device-width, initial-scale=1"/>
7
        <title>WebSocket Examples: Reverse</title>
8
        <script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.3.1/jquery.min.js"><</pre>
9
        <script src="https://cdnjs.cloudflare.com/ajax/libs/sockjs-client/1.1.4/sockjs.mi</pre>
10
        <script th:src="@{/layui/layui.js}"></script>
11
        <link th:href="@{/layui/css/layui.css}" rel="stylesheet">
12
        <style type="text/css">
13
            #connect-container {
14
                margin: 0 auto;
15
                width: 400px;
            }
16
17
            #connect-container div {
18
19
                padding: 5px;
20
                margin: 0 7px 10px 0;
            }
21
22
23
            .layui-btn {
24
                display: inline-block;
25
            }
26
        </style>
27
        <script type="text/javascript">
28
            var ws = null;
29
30
            $(function () {
31
                var target = $("#target");
32
                if (window.location.protocol === 'http:') {
33
                    target.val('http://' + window.location.host + target.val());
34
                } else {
35
                    target.val('https://' + window.location.host + target.val());
36
                }
            });
37
38
39
            function setConnected(connected) {
                var connect = $("#connect");
40
                var disconnect = $("#disconnect");
41
42
                var echo = $("#echo");
43
44
                if (connected) {
45
                     connect.addClass("layui-btn-disabled");
46
                    disconnect.removeClass("layui-btn-disabled");
47
                     echo.removeClass("layui-btn-disabled");
48
49
                    connect.removeClass("layui-btn-disabled");
                    disconnect.addClass("layui-btn-disabled");
50
                    echo.addClass("layui-btn-disabled");
51
```

```
52
                 }
53
54
                 connect.attr("disabled", connected);
55
                 disconnect.attr("disabled", !connected);
                 echo.attr("disabled", !connected);
56
57
             }
58
             //连接
59
60
             function connect() {
                 var target = $("#target").val();
61
62
63
                 ws = new SockJS(target);
64
                 ws.onopen = function () {
                     setConnected(true);
65
66
                     log('Info: WebSocket connection opened.');
67
                 };
68
                 ws.onmessage = function (event) {
69
                     log('Received: ' + event.data);
70
                 };
71
                 ws.onclose = function () {
72
                     setConnected(false);
73
                     log('Info: WebSocket connection closed.');
74
                 };
75
             }
76
77
             //断开连接
78
             function disconnect() {
79
                 if (ws != null) {
                     ws.close();
80
81
                     ws = null;
82
                 }
83
                 setConnected(false);
84
             }
85
             //Echo
86
87
             function echo() {
88
                 if (ws != null) {
89
                     var message = $("#message").val();
                     log('Sent: ' + message);
90
                     ws.send(message);
91
92
                 } else {
93
                     alert('WebSocket connection not established, please connect.');
94
                 }
             }
95
96
97
             //日志输出
98
             function log(message) {
99
                 console.debug(message);
100
             }
         </script>
101
102
    </head>
103
    <body>
104
         <noscript><h2 style="color: #ff0000">Seems your browser doesn't support Javascrip
105
             enabled. Please enable
106
             Javascript and reload this page!</h2></noscript>
107
         <div>
108
             <div id="connect-container" class="layui-elem-field">
109
                 <legend>Echo With SockJS</legend>
```

```
110
                 <div>
111
                     <input id="target" type="text" class="layui-input" size="40" style="w</pre>
112
                 <div>
113
                      <button id="connect" class="layui-btn layui-btn-normal" onclick="conn</pre>
114
115
                     <button id="disconnect" class="layui-btn layui-btn-normal layui-btn-d</pre>
                              onclick="disconnect();">Disconnect
116
117
                      </button>
118
                 </div>
119
                 <div>
120
                     <textarea id="message" class="layui-textarea" placeholder="请输入请求的
121
                 </div>
122
123
                 <div>
                      <button id="echo" class="layui-btn layui-btn-normal layui-btn-disable</pre>
124
                              onclick="echo();">Echo message
125
126
                      </button>
127
                 </div>
128
             </div>
129
         </div>
130 </body>
131 </html>
```

具体效果省略,可自行运行源码查看。

# 使用STOMP消息实现

所谓STOMP(Simple Text Oriented Messaging Protocol),就是在WebSocket基础之上提供了一个基于帧的线路格式(frame-based wire format)层。它对发送简单文本消息定义了一套规范格式(STOMP消息基于Text,当然也支持传输二进制数据),目前很多服务端消息队列都已经支持STOMP,比如:RabbitMQ、ActiveMQ等。

# (1) WebSocket相关配置:

```
package cn.zifangsky.stompwebsocket.config;
2
3
   import cn.zifanqsky.stompwebsocket.interceptor.websocket.MyChannelInterceptor;
   import org.springframework.beans.factory.annotation.Autowired;
   import org.springframework.context.annotation.Configuration;
5
   import org.springframework.messaging.simp.config.ChannelRegistration;
6
7
   import org.springframework.messaging.simp.config.MessageBrokerRegistry;
   import org.springframework.web.socket.config.annotation.EnableWebSocketMessageBroker;
   import org.springframework.web.socket.config.annotation.StompEndpointRegistry;
9
   import org.springframework.web.socket.config.annotation.WebSocketMessageBrokerConfigur
10
11
12
13
    * WebSocket相关配置
14
15
   * @author zifangsky
    * @date 2018/9/30
16
17
    * @since 1.0.0
18
19
   @Configuration
   @EnableWebSocketMessageBroker
20
   public class WebSocketConfig implements WebSocketMessageBrokerConfigurer{
21
22
       @Autowired
23
       private MyChannelInterceptor myChannelInterceptor;
24
25
       @Override
       public void registerStompEndpoints(StompEndpointRegistry registry) {
26
           registry.addEndpoint("/stomp-websocket").withSockJS();
27
28
       }
29
30
       @Override
       public void configureMessageBroker(MessageBrokerRegistry registry) {
31
32
           //客户端需要把消息发送到/message/xxx地址
33
           registry.setApplicationDestinationPrefixes("/message");
34
           //服务端广播消息的路径前缀,客户端需要相应订阅/topic/yyy这个地址的消息
35
           registry.enableSimpleBroker("/topic");
       }
36
37
       @Override
38
39
       public void configureClientInboundChannel(ChannelRegistration registration) {
           registration.interceptors(myChannelInterceptor);
40
41
       }
42
43 | }
```

从上面代码可以看出,这里设置了好几个地址,简单解释如下:

- 首先注册了一个名为/stomp-websocket的端点,也就是STOMP客户端连接的地址。
- 此外,定义了服务端处理WebSocket消息的前缀是/message,这个地址用于客户端向服务端发送消息(比如客户端向/message/hello这个地址发送消息,那么服务端通过
   @MessageMapping("/hello")这个注解来接收并处理消息)

• 最后,定义了一个简单消息代理,也就是服务端广播消息的路径前缀(比如客户端监 听/topic/greeting这个地址,那么服务端就可以通过@SendTo("/topic/greeting")这个注解向客户 端发送STOMP消息)。

需要注意的是,上面代码中还添加了一个名为**MyChannelInterceptor**的拦截器,目的是为了在客户端断 开连接后打印一下日志。相关代码如下:

```
package cn.zifangsky.stompwebsocket.interceptor.websocket;
2
3
   import org.apache.commons.lang3.StringUtils;
4
   import org.slf4j.Logger;
5
   import org.slf4j.LoggerFactory;
   import org.springframework.messaging.Message;
6
7
   import org.springframework.messaging.MessageChannel;
   import org.springframework.messaging.simp.stomp.StompCommand;
   import org.springframework.messaging.simp.stomp.StompHeaderAccessor;
9
10
   import org.springframework.messaging.support.ChannelInterceptor;
11
   import org.springframework.stereotype.Component;
12
13
   import java.security.Principal;
14
   import java.text.MessageFormat;
15
   /**
16
17
    * 自定义{@link org.springframework.messaging.support.ChannelInterceptor}, 实现断开连接的
18
19
    * @author zifangsky
20
    * @date 2018/10/10
21
    * @since 1.0.0
22
    */
23
   @Component
   public class MyChannelInterceptor implements ChannelInterceptor{
24
25
       private final Logger logger = LoggerFactory.getLogger(getClass());
26
27
       @Override
28
       public void afterSendCompletion(Message<?> message, MessageChannel channel, booled
29
           StompHeaderAccessor accessor = StompHeaderAccessor.wrap(message);
30
           StompCommand command = accessor.getCommand();
31
32
           //用户已经断开连接
           if(StompCommand.DISCONNECT.equals(command)){
33
34
               String user = "";
35
               Principal principal = accessor.getUser();
36
               if(principal != null && StringUtils.isNoneBlank(principal.getName())){
37
                    user = principal.getName();
38
               }else{
39
                   user = accessor.getSessionId();
40
               }
41
42
               logger.debug(MessageFormat.format("用户{0}的WebSocket连接已经断开", user));
43
           }
       }
44
45
46 | }
```

# (2) 使用@MessageMapping和@SendTo注解处理消息:

https://www.zifangsky.cn/1355.html

@MessageMapping 注解用于监听指定路径的客户端消息,而 @SendTo 注解则用于将服务端的消息发送给监听了该路径的客户端。

```
package cn.zifangsky.stompwebsocket.controller;
2
3
   import cn.zifangsky.stompwebsocket.model.websocket.Greeting;
4
   import cn.zifangsky.stompwebsocket.model.websocket.HelloMessage;
   import org.springframework.messaging.handler.annotation.MessageMapping;
5
6
   import org.springframework.messaging.handler.annotation.SendTo;
7
   import org.springframework.stereotype.Controller;
8
   /**
9
   * Greeting
10
11
    * @author zifangsky
    * @date 2018/9/30
12
   * @since 1.0.0
13
14
    */
15
   @Controller
16
   public class GreetingController {
17
18
       @MessageMapping("/hello")
19
       @SendTo("/topic/greeting")
       public HelloMessage greeting(Greeting greeting) {
20
21
           return new HelloMessage("Hello," + greeting.getName() + "!");
22
       }
23 }
```

## (3) 示例页面:

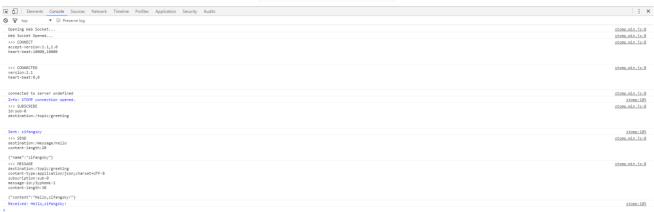
```
<html xmlns:th="http://www.thymeleaf.org">
1
2
    <head>
3
        <meta content="text/html;charset=UTF-8"/>
4
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
5
        <meta http-equiv="X-UA-Compatible" content="IE=edge"/>
6
        <meta name="viewport" content="width=device-width, initial-scale=1"/>
7
        <title>WebSocket Examples: Reverse</title>
8
        <script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.3.1/jquery.min.js"><</pre>
9
        <script src="https://cdnjs.cloudflare.com/ajax/libs/sockjs-client/1.1.4/sockjs.mi</pre>
        <script src="https://cdnjs.cloudflare.com/ajax/libs/stomp.js/2.3.3/stomp.min.js">
10
        <script th:src="@{/layui/layui.js}"></script>
11
        <link th:href="@{/layui/css/layui.css}" rel="stylesheet">
12
13
        <style type="text/css">
14
            #connect-container {
15
                margin: 0 auto;
16
                width: 400px;
17
            }
18
19
            #connect-container div {
20
                padding: 5px;
21
                margin: 0 7px 10px 0;
22
            }
23
24
            .layui-btn {
25
                display: inline-block;
26
27
        </style>
        <script type="text/javascript">
28
```

```
29
            var stompClient = null;
30
31
            $(function () {
32
                var target = $("#target");
33
                if (window.location.protocol === 'http:') {
34
                    target.val('http://' + window.location.host + target.val());
35
                } else {
                    target.val('https://' + window.location.host + target.val());
36
37
                }
            });
38
39
40
            function setConnected(connected) {
                var connect = $("#connect");
41
42
                var disconnect = $("#disconnect");
43
                var echo = $("#echo");
44
45
                if (connected) {
                    connect.addClass("layui-btn-disabled");
46
47
                    disconnect.removeClass("layui-btn-disabled");
                    echo.removeClass("layui-btn-disabled");
48
49
                } else {
                    connect.removeClass("layui-btn-disabled");
50
51
                    disconnect.addClass("layui-btn-disabled");
52
                    echo.addClass("layui-btn-disabled");
                }
53
54
                connect.attr("disabled", connected);
55
                disconnect.attr("disabled", !connected);
56
57
                echo.attr("disabled", !connected);
            }
58
59
            //连接
60
61
            function connect() {
62
                var target = $("#target").val();
63
                var ws = new SockJS(target);
64
65
                stompClient = Stomp.over(ws);
66
67
                stompClient.connect({}}, function () {
68
                    setConnected(true);
69
                    log('Info: STOMP connection opened.');
70
71
                    //订阅服务端的/topic/greeting地址
                    stompClient.subscribe("/topic/greeting", function (greeting) {
72
73
                        log('Received: ' + JSON.parse(greeting.body).content);
74
                    })
75
                },function () {
76
                    //断开处理
77
                    setConnected(false);
78
                    log('Info: STOMP connection closed.');
79
                });
            }
80
81
            //断开连接
82
83
            function disconnect() {
84
                if (stompClient != null) {
85
                    stompClient.disconnect();
86
                    stompClient = null;
```

```
87
                 }
88
                 setConnected(false);
                 log('Info: STOMP connection closed.');
89
90
             }
91
92
             //向服务端发送姓名
93
             function sendName() {
94
                 if (stompClient != null) {
95
                     var username = $("#username").val();
                     log('Sent: ' + username);
96
97
                     stompClient.send("/message/hello", {}, JSON.stringify({'name': userna
98
                 } else {
99
                     alert('STOMP connection not established, please connect.');
100
                 }
             }
101
102
103
             //日志输出
             function log(message) {
104
105
                 console.debug(message);
106
             }
107
         </script>
108
    </head>
109
    <body>
110
         <noscript><h2 style="color: #ff0000">Seems your browser doesn't support Javascrip
             enabled. Please enable
111
             Javascript and reload this page!</h2></noscript>
112
113
         <div>
             <div id="connect-container" class="layui-elem-field">
114
                 <legend>STOMP Message With SockJS</legend>
115
116
                     <input id="target" type="text" class="layui-input" size="40" style="w</pre>
117
                 </div>
118
119
                 <div>
120
                     <button id="connect" class="layui-btn layui-btn-normal" onclick="conn</pre>
                     <button id="disconnect" class="layui-btn layui-btn-normal layui-btn-d</pre>
121
                              onclick="disconnect();">Disconnect
122
123
                     </button>
124
125
                 </div>
126
                     <input id="username" type="text" class="layui-input" size="40" style=</pre>
127
128
                 </div>
129
                 <div>
130
                     <button id="echo" class="layui-btn layui-btn-normal layui-btn-disable</pre>
                              onclick="sendName();">Say hello
131
132
                     </button>
                 </div>
133
             </div>
134
135
         </div>
136 </body>
    </html>
137
```

启动项目后访问页面,效果如下:





https://www.zifangsky.ci

#### 参考:

- spring-boot-sample-websocket-tomcat (https://github.com/spring-projects/spring-boot/tree/master/spring-boot-samples/spring-boot-sample-websocket-tomcat)
- messaging-stomp-websocket (https://spring.io/guides/gs/messaging-stomp-websocket/)
- WebSocket 的故事(二)—— Spring 中如何利用 STOMP 快速构建 WebSocket 广播式消息模式 (https://juejin.im/post/5b7071ade51d45665816f8c0)

■ 赞 (13)

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下一篇 (https://www.zifangsky.cn/1359.html)

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- Spring Boot中使用WebSocket总结(二): 向指定用户发送WebSocket消息并处理对方不在线的情况 (https://www.zifangsky.cn/1359.html)
- 在Spring Boot中使用Spring Data Redis实现基于"发布/订阅"模型的消息队列 (https://www.zifangsky.cn/1347.html)

#### 本文共 4 个回复



#### jht385 2019/09/01 15:26

老哥啊,写demo不要参杂那么多无关的东西啊,什么工具类,连数据库,认证授权 都来了,完全都没用上啊。然后页面里打印用的是,console.debug 我还是这次去查的,之前都是用 console.log,居然连chrome都不支持 console.debug,你用它打印干嘛啊。本来想看看 demo,删得我好心累啊

(https://www.zifangsky.cn/1355.html?replytocom=6084#respond)

回复



# 

@ jht385 源码中的部分代码是后面示例需要用的,所以并不是无关紧要的东西。再说了,给出示例只是用来参考的,又不是让你直接抄代码,你都在写websocket了还不会基本的增删改查吗?这就有点说不过去了吧。 最后,你觉得心累你可以关了不看,我既没有从你那儿赚一分钱,又没有逼着你看,既然觉得累又何必自讨苦吃呢!

(https://www.zifangsky.cn/1355.html?replytocom=6085#respond)

回复

## 发表评论 取消 (/1355.html#respond)

米都米了,但	小留个足迹~
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┗昵称

☑ 邮箱

**%** 网址



验证码 \*

发表评论



不悔 2018/12/17 14:47

可以给个sql脚本么,老哥

(https://www.zifangsky.cn/1355.html?replytocom=3460#respond)

回复



admin (http://www.zifangsky.cn) 博主 2018/12/18 09:38

@ 不悔 这几篇文章介绍的内容跟数据库没太大关系,你用你自己的SQL测试就行,或者不连数据库模拟登录吧。

(https://www.zifangsky.cn/1355.html?replytocom=3463#respond)

回复

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