2020-06-10
Spring MVC

精尽 Spring MVC 源码解析 —— ThemeResolver 组件

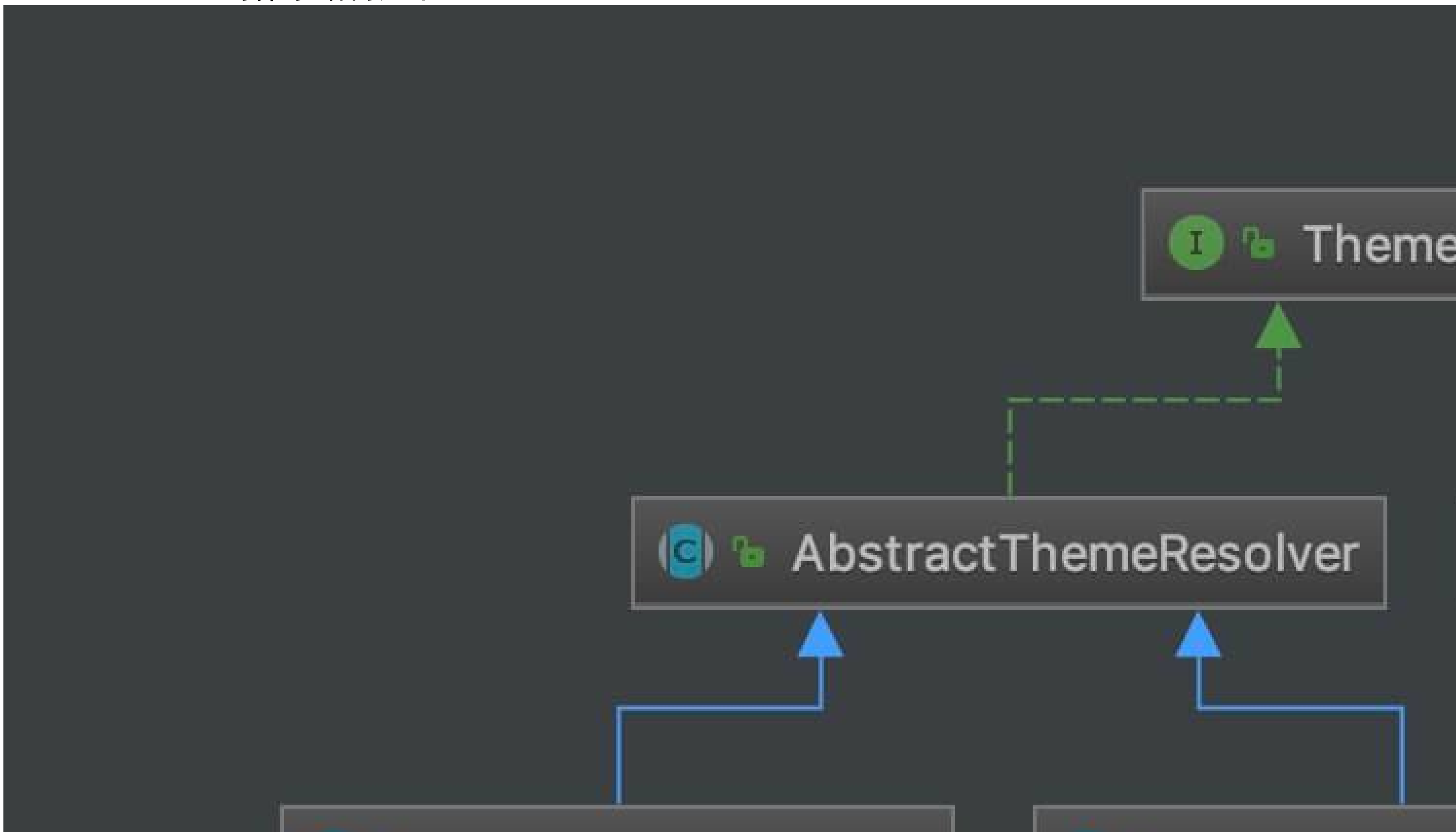
> ThemeResolver 实际使用很少，所以艿艿也没特别细看。
>
> 这里艿艿就转载 IAMTJW 的 《Spring MVC 源码分析 —— 动态样式ThemeResolver（二）》 。

1. 概述

在上一篇博客 《Spring MVC 源码分析 —— 动态样式ThemeResolver（一）》 中我们介绍了多样式ThemeResolver 的使用方法，接下来我们对源码进行简单的分析一下。

2. 类图

ThemeResolver 的体系结构如下：



3. ThemeResolver

接口 ThemeResolver 中定义的接口是比较简单的，提供两个接口：

（1）#resolveThemeName 方法，获取样式名。
（2）#setThemeName 方法，设置样式名。

```
public interface ThemeResolver {

 /**
     * 从请求中，解析出使用的主题。例如，从请求头 User-Agent ，判断使用 PC 端，还是移动端的主题
     *
     * Resolve the current theme name via the given request.
     * Should return a default theme as fallback in any case.
     * @param request request to be used for resolution
     * @return the current theme name
     */
 String resolveThemeName(HttpServletRequest request);

 /**
     * 设置请求，所使用的主题。
     *
     * Set the current theme name to the given one.
     * @param request request to be used for theme name modification
     * @param response response to be used for theme name modification
     * @param themeName the new theme name ({@code null} or empty to reset it)
     * @throws UnsupportedOperationException if the ThemeResolver implementation
     * does not support dynamic changing of the theme
     */
 void setThemeName(HttpServletRequest request, @Nullable HttpServletResponse response, @Nullable String themeName);

}
```

4. AbstractThemeResolver

抽象类 AbstractThemeResolver ，提供两个方法：

（1）#setDefaultThemeName(...) 方法，设置默认的样式名。
（2）#getDefaultThemeName(...) 方法，获取默认的样式名。

```
public abstract class AbstractThemeResolver implements ThemeResolver {

 /**
     * Out-of-the-box value for the default theme name: "theme".
     */
 public static final String ORIGINAL_DEFAULT_THEME_NAME = "theme";

 private String defaultThemeName = ORIGINAL_DEFAULT_THEME_NAME;

 public void setDefaultThemeName(String defaultThemeName) {
     this.defaultThemeName = defaultThemeName;
    }
```

```
     public String getDefaultThemeName() {
         return this.defaultThemeName;
        }

    }


}
```

5. SessionThemeResolver

实现类 SessionThemeResolver 的实现也是比较简单的，就是将themeName 保存到 Session 中就可以了。

```
public class SessionThemeResolver extends AbstractThemeResolver {

 /**
     * Name of the session attribute that holds the theme name.
     * Only used internally by this implementation.
     * Use {@code RequestContext(Utils).getTheme()}
     * to retrieve the current theme in controllers or views.
     * @see org.springframework.web.servlet.support.RequestContext#getTheme
     * @see org.springframework.web.servlet.support.RequestContextUtils#getTheme
     */
 public static final String THEME_SESSION_ATTRIBUTE_NAME = SessionThemeResolver.class.getName() + ".THEME";


 @Override
 public String resolveThemeName(HttpServletRequest request) {
        String themeName = (String) WebUtils.getSessionAttribute(request, THEME_SESSION_ATTRIBUTE_NAME);
     // A specific theme indicated, or do we need to fallback to the default?
     return (themeName != null ? themeName : getDefaultThemeName());
    }

 @Override
 public void setThemeName(
           HttpServletRequest request, @Nullable HttpServletResponse response, @Nullable String themeName) {
        WebUtils.setSessionAttribute(request, THEME_SESSION_ATTRIBUTE_NAME,
                (StringUtils.hasText(themeName) ? themeName : null));
    }

}
```

6. FixedThemeResolver

实现 FixedThemeResolver 中没有具体的实现操作。

```
public class FixedThemeResolver extends AbstractThemeResolver {

 @Override
 public String resolveThemeName(HttpServletRequest request) {
     return getDefaultThemeName();
    }
    @Override
    public void setThemeName(
            HttpServletRequest request, @Nullable HttpServletResponse response, @Nullable String themeName) {
        throw new UnsupportedOperationException("Cannot change theme - use a different theme resolution strategy");
    }

}
```

7. CookieThemeResolver

实现类 CookieThemeResolver 的实现也是比较简单的，就是将themeName 保存到 Cookie 中就可以了。

```
public class CookieThemeResolver extends CookieGenerator implements ThemeResolver {

    /**
     * The default theme name used if no alternative is provided.
     */
    public static final String ORIGINAL_DEFAULT_THEME_NAME = "theme";

    /**
     * Name of the request attribute that holds the theme name. Only used
     * for overriding a cookie value if the theme has been changed in the
     * course of the current request! Use RequestContext.getTheme() to
     * retrieve the current theme in controllers or views.
     * @see org.springframework.web.servlet.support.RequestContext#getTheme
     */
    public static final String THEME_REQUEST_ATTRIBUTE_NAME = CookieThemeResolver.class.getName() + ".THEME";

    /**
     * The default name of the cookie that holds the theme name.
     */
    public static final String DEFAULT_COOKIE_NAME = CookieThemeResolver.class.getName() + ".THEME";


    private String defaultThemeName = ORIGINAL_DEFAULT_THEME_NAME;


    public CookieThemeResolver() {
        setCookieName(DEFAULT_COOKIE_NAME);
    }


    /**
     * Set the name of the default theme.
     */
    public void setDefaultThemeName(String defaultThemeName) {
        this.defaultThemeName = defaultThemeName;
    }

    /**
     * Return the name of the default theme.
     */
    public String getDefaultThemeName() {
        return this.defaultThemeName;
    }

   @Override
   public String resolveThemeName(HttpServletRequest request) {
       // Check request for preparsed or preset theme.
          String themeName = (String) request.getAttribute(THEME_REQUEST_ATTRIBUTE_NAME);
       if (themeName != null) {
           return themeName;
          }

       // Retrieve cookie value from request.
          String cookieName = getCookieName();
       if (cookieName != null) {
              Cookie cookie = WebUtils.getCookie(request, cookieName);
           if (cookie != null) {
                  String value = cookie.getValue();
               if (StringUtils.hasText(value)) {
                      themeName = value;
                  }
              }
          }

       // Fall back to default theme.
       if (themeName == null) {
              themeName = getDefaultThemeName();
          }
          request.setAttribute(THEME_REQUEST_ATTRIBUTE_NAME, themeName);
       return themeName;
    }

   @Override
   public void setThemeName(
              HttpServletRequest request, @Nullable HttpServletResponse response, @Nullable String themeName) {

          Assert.notNull(response, "HttpServletResponse is required for CookieThemeResolver");

       if (StringUtils.hasText(themeName)) {
           // Set request attribute and add cookie.
              request.setAttribute(THEME_REQUEST_ATTRIBUTE_NAME, themeName);
              addCookie(response, themeName);
          } else {
           // Set request attribute to fallback theme and remove cookie.
              request.setAttribute(THEME_REQUEST_ATTRIBUTE_NAME, getDefaultThemeName());
              removeCookie(response);
          }
    }

  }
```

666. 彩蛋

没有彩蛋~

参考和推荐如下文章：

韩路彪 《看透 Spring MVC：源代码分析与实践》 的 「第19章 ThemeResolver」 小节

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