芋道源码 —— 知识星球

2020-06-07
Spring MVC

精尽 Spring MVC 源码解析 —— LocaleResolver 组件

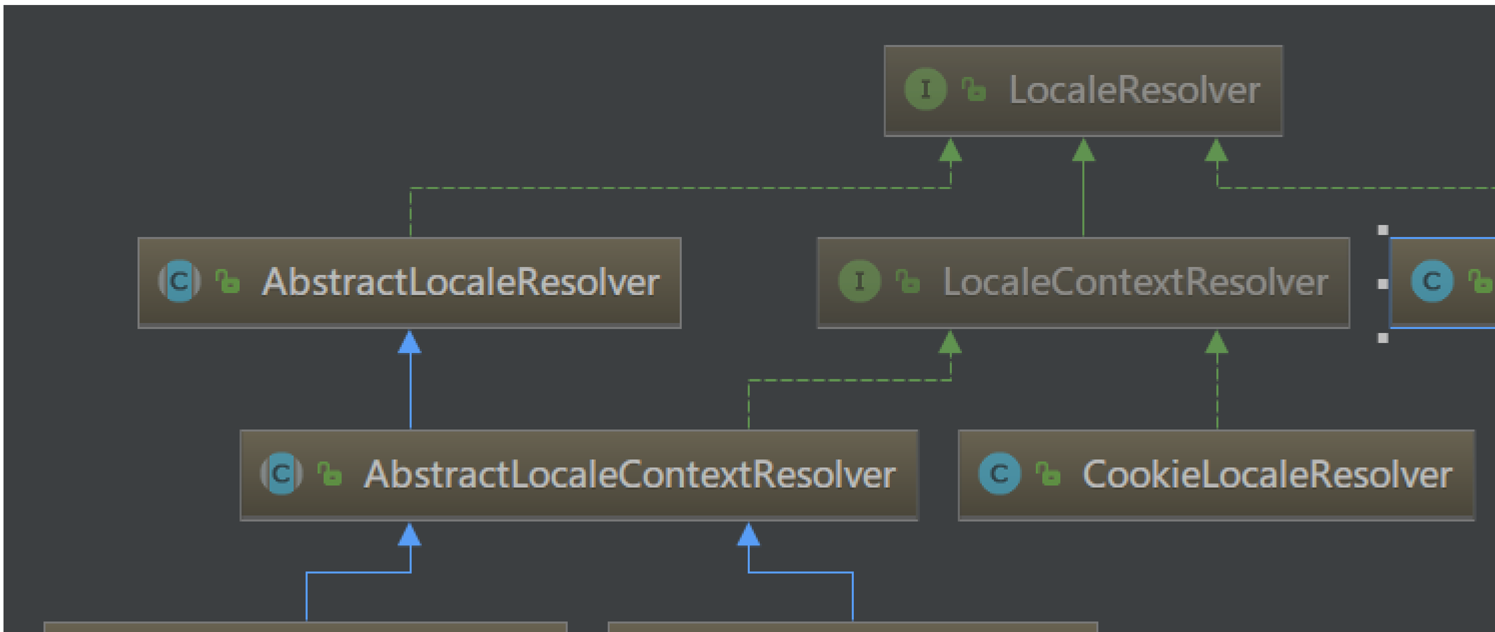
> LocaleResolver 实际使用很少，所以艿艿也没特别细看，就看了下 AcceptHeaderLocaleResolver 类。
>
> 这里艿艿就转载 N3verL4nd 的 《SpringMVC 源码解析 —— LocaleResolver》 。

1. LocaleResolver

LocaleResolver 是一个解决国际化的策略接口。它包含两个方法：`#resolveLocale(...)` 和 `#setLocale(...)` ，代码如下：

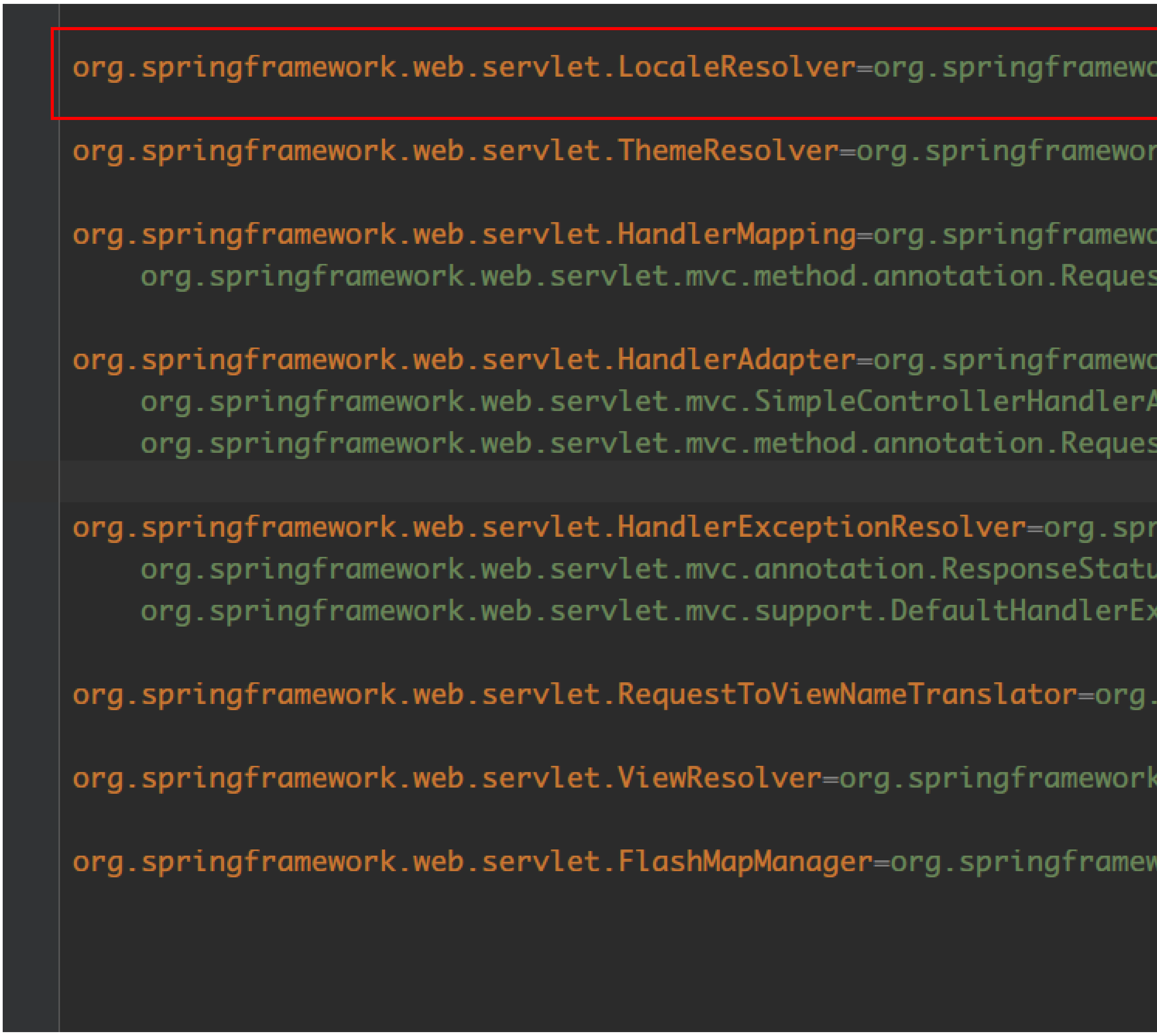
```
public interface LocaleResolver {

    Locale resolveLocale(HttpServletRequest request);

    void setLocale(HttpServletRequest request, @Nullable HttpServletResponse response, @Nullable Locale locale);

}
```

实现此接口的类：



2. AcceptHeaderLocaleResolver

SpringMVC 默认使用的是：AcceptHeaderLocaleResolver 。



```
org.springframework.web.servlet.LocaleResolver=org.springframewo

org.springframework.web.servlet.ThemeResolver=org.springframewor

org.springframework.web.servlet.HandlerMapping=org.springframewo
    org.springframework.web.servlet.mvc.method.annotation.Reques

org.springframework.web.servlet.HandlerAdapter=org.springframewo
    org.springframework.web.servlet.mvc.SimpleControllerHandlerA
    org.springframework.web.servlet.mvc.method.annotation.Reques


org.springframework.web.servlet.HandlerExceptionResolver=org.spr
    org.springframework.web.servlet.mvc.annotation.ResponseStatu
    org.springframework.web.servlet.mvc.support.DefaultHandlerEx

org.springframework.web.servlet.RequestToViewNameTranslator=org.

org.springframework.web.servlet.ViewResolver=org.springframework

org.springframework.web.servlet.FlashMapManager=org.springframew
```

```
/**
 * LocaleResolver 接口的实现类
 * 简单地使用 HTTP 请求头里的 Accept-Language 来指定 Locale对象(即客户端浏览器发送的语言环境，通常是客户端的操作系统)
 *
 * 注意:不支持 setLocale 方法，因为只能通过更改客户端的区域设置来更改 Accept-Language 请求头
 */
public class AcceptHeaderLocaleResolver implements LocaleResolver {

    private final List<Locale> supportedLocales = new ArrayList<>(4);

    @Nullable
```

```
private Locale defaultLocale;

/**
 * 配置支持的区域设置列表
 */
public void setSupportedLocales(@Nullable List<Locale> locales) {
    this.supportedLocales.clear();
    if (locales != null) {
        this.supportedLocales.addAll(locales);
    }
}

/**
 * 返回配置的支持的区域设置列表
 */
public List<Locale> getSupportedLocales() {
    return this.supportedLocales;
}

/**
 * 如果 HTTP 请求头没有 Accept-Language，则使用该默认的语言环境设置
 */
public void setDefaultLocale(@Nullable Locale defaultLocale) {
    this.defaultLocale = defaultLocale;
}

/**
 * 返回默认配置的语言环境(如果有)
 */
@Nullable
public Locale getDefaultLocale() {
    return this.defaultLocale;
}

@Override
public Locale resolveLocale(HttpServletRequest request) {
    Locale defaultLocale = getDefaultLocale();
    if (defaultLocale != null && request.getHeader("Accept-Language") == null) {
        return defaultLocale;
    }
    Locale requestLocale = request.getLocale();
    if (isSupportedLocale(requestLocale)) {
        return requestLocale;
    }
    Locale supportedLocale = findSupportedLocale(request);
    if (supportedLocale != null) {
        return supportedLocale;
    }
    return (defaultLocale != null ? defaultLocale : requestLocale);
}

private boolean isSupportedLocale(Locale locale) {
    List<Locale> supportedLocales = getSupportedLocales();
    return (supportedLocales.isEmpty() || supportedLocales.contains(locale));
}

@Nullable
private Locale findSupportedLocale(HttpServletRequest request) {
    Enumeration<Locale> requestLocales = request.getLocales();
    while (requestLocales.hasMoreElements()) {
            Locale locale = requestLocales.nextElement();
            if (getSupportedLocales().contains(locale)) {
                return locale;
            }
        }
        return null;
    }

    @Override
    public void setLocale(HttpServletRequest request, @Nullable HttpServletResponse response, @Nullable Locale locale
        throw new UnsupportedOperationException(
                "Cannot change HTTP accept header - use a different locale resolution strategy");
    }

}
```

#resolveLocale(...) 方法的处理流程：

> 如果 HTTP 请求头里不含有 Accept-Language ，并且默认的语言环境 defaultLocale 不为空，则使用默认的语言环境。否则，从请求里获得 Locale 。
> 而一般的我们没有配置 supportedLocales 与defaultLocale 属性(需要配置注入)，所以 AcceptHeaderLocaleResolver 使用Accept-Language 来构造 Locale 对象。

3. AbstractLocaleResolver

```
/**
 * 实现 LocaleResolver 接口的抽象基类
 * 提供对默认语言环境的支持
 */
public abstract class AbstractLocaleResolver implements LocaleResolver {

    @Nullable
    private Locale defaultLocale;
    public void setDefaultLocale(@Nullable Locale defaultLocale) {
        this.defaultLocale = defaultLocale;
    }

    @Nullable
    protected Locale getDefaultLocale() {
        return this.defaultLocale;
    }

}
```

4. LocaleContextResolver

```
public interface LocaleContextResolver extends LocaleResolver {

    LocaleContext resolveLocaleContext(HttpServletRequest request);

    void setLocaleContext(HttpServletRequest request, @Nullable HttpServletResponse response,
            @Nullable LocaleContext localeContext);
}
```

5. AbstractLocaleContextResolver

```
/**
 * LocaleContextResolver 实现的抽象基类:提供对默认语言环境和默认时区的支持
 * 还提供了 resolveLocale 和 setLocale 的预实现版本，委托给 resolveLocaleContext 和 setLocaleContext
 */
public abstract class AbstractLocaleContextResolver extends AbstractLocaleResolver implements LocaleContextResolver {

    @Nullable
    private TimeZone defaultTimeZone;
    public void setDefaultTimeZone(@Nullable TimeZone defaultTimeZone) {
        this.defaultTimeZone = defaultTimeZone;
    }

    @Nullable
    public TimeZone getDefaultTimeZone() {
        return this.defaultTimeZone;
    }

    @Override
    public Locale resolveLocale(HttpServletRequest request) {
        Locale locale = resolveLocaleContext(request).getLocale();
        return (locale != null ? locale : request.getLocale());
    }

    @Override
    public void setLocale(HttpServletRequest request, @Nullable HttpServletResponse response, @Nullable Locale locale
        setLocaleContext(request, response, (locale != null ? new SimpleLocaleContext(locale) : null));
    }

}
```

6. SessionLocaleResolver

```
public class SessionLocaleResolver extends AbstractLocaleContextResolver {

    public static final String LOCALE_SESSION_ATTRIBUTE_NAME = SessionLocaleResolver.class.getName() + ".LOCALE";
    public static final String TIME_ZONE_SESSION_ATTRIBUTE_NAME = SessionLocaleResolver.class.getName() + ".TIME_ZONE
    private String localeAttributeName = LOCALE_SESSION_ATTRIBUTE_NAME;
    private String timeZoneAttributeName = TIME_ZONE_SESSION_ATTRIBUTE_NAME;

    /**
     * 在 HttpSession 中指定相应属性的名称，保存当前的 Locale 值
     * 默认值为 LOCALE_SESSION_ATTRIBUTE_NAME
     */
    public void setLocaleAttributeName(String localeAttributeName) {
        this.localeAttributeName = localeAttributeName;
    }
```

```
/**
 * 在 HttpSession 中指定相应属性的名称，保存当前的 TimeZone 值
 * 默认值为 TIME_ZONE_SESSION_ATTRIBUTE_NAME
 */
public void setTimeZoneAttributeName(String timeZoneAttributeName) {
    this.timeZoneAttributeName = timeZoneAttributeName;
}

@Override
public Locale resolveLocale(HttpServletRequest request) {
    Locale locale = (Locale) WebUtils.getSessionAttribute(request, this.localeAttributeName);
    if (locale == null) {
        locale = determineDefaultLocale(request);
    }
    return locale;
}

@Override
public LocaleContext resolveLocaleContext(final HttpServletRequest request) {
    return new TimeZoneAwareLocaleContext() {

        @Override
        public Locale getLocale() {
            Locale locale = (Locale) WebUtils.getSessionAttribute(request, localeAttributeName);
            if (locale == null) {
                locale = determineDefaultLocale(request);
            }
            return locale;
        }

        @Override
        @Nullable
        public TimeZone getTimeZone() {
            TimeZone timeZone = (TimeZone) WebUtils.getSessionAttribute(request, timeZoneAttributeName);
            if (timeZone == null) {
                timeZone = determineDefaultTimeZone(request);
            }
            return timeZone;
        }

    };
}

@Override
public void setLocaleContext(HttpServletRequest request, @Nullable HttpServletResponse response,
        @Nullable LocaleContext localeContext) {

    Locale locale = null;
    TimeZone timeZone = null;
    if (localeContext != null) {
        locale = localeContext.getLocale();
        if (localeContext instanceof TimeZoneAwareLocaleContext) {
            timeZone = ((TimeZoneAwareLocaleContext) localeContext).getTimeZone();
        }
    }
    // 将 Locale 与 TimeZone 保存到 HttpSession
    WebUtils.setSessionAttribute(request, this.localeAttributeName, locale);
    WebUtils.setSessionAttribute(request, this.timeZoneAttributeName, timeZone);
}
```

```
    /**
     * 确定给定请求的默认语言环境，如果没有找到 Locale 会话属性，则调用
     * 默认实现返回指定的默认语言环境（如果有的话）返回到请求的Accept-Header 语言环境
     */
    protected Locale determineDefaultLocale(HttpServletRequest request) {
        Locale defaultLocale = getDefaultLocale();
        if (defaultLocale == null) {
            defaultLocale = request.getLocale();
        }
        return defaultLocale;
    }

    /**
     * 确定给定请求的默认时区，如果未找到TimeZone会话属性，则调用
     * 默认实现返回指定的默认时区（如果有），否则返回null
     */
    @Nullable
    protected TimeZone determineDefaultTimeZone(HttpServletRequest request) {
        return getDefaultTimeZone();
    }

}
```

666. 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18章 LocaleResolver」 小节
> rj042 《Spring MVC 之 LocaleResolver(解析用户区域)》

文章目录