7、视图解析

笔记本：	spring
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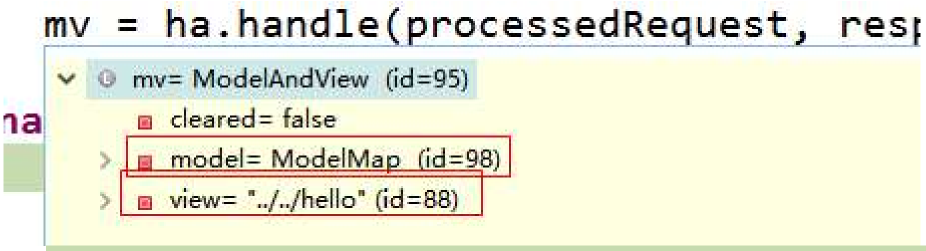
SpringMVC视图解析；
1、方法执行后的返回值会作为页面地址参考，转发或者重定向到页面
2、视图解析器可能会进行页面地址的拼串；

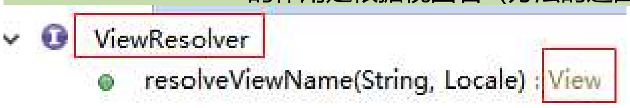
1、任何方法的返回值，最终都会被包装成ModelAndView对象



```
mv = ha.handle(processedRequest, resp
```

```
mv= ModelAndView (id=95)
    cleared= false
  > model= ModelMap (id=98)
  > view= "../../hello" (id=88)
```

2、`processDispatchResult(processedRequest, response, mappedHandler, mv, dispatchException);`来到页面的方法
视图渲染流程：将域中的数据在页面展示；页面就是用来渲染模型数据的；
3、调用`render(mv, request, response);`渲染页面
4、View与ViewResolver；
    ViewResolver的作用是根据视图名（方法的返回值）得到View对象；



```
ViewResolver
    resolveViewName(String, Locale) : View
```

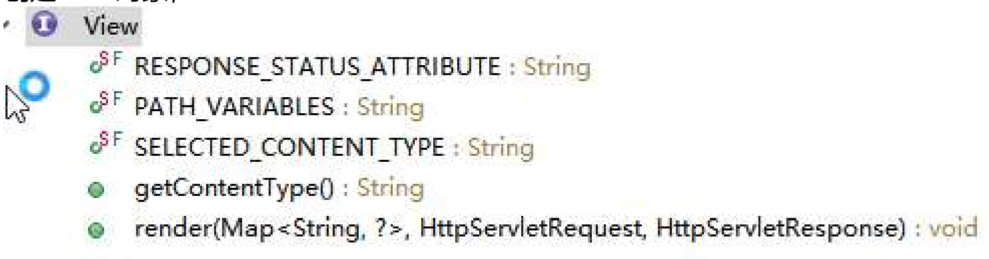
5、怎么能根据方法的返回值（视图名）得到View对象？

```
protected View resolveViewName(String viewName, Map<String, Object> model,
Locale locale,
            HttpServletRequest request) throws Exception {

          //遍历所有的ViewResolver；
        for (ViewResolver viewResolver : this.viewResolvers) {
          //viewResolver视图解析器根据方法的返回值，得到一个View对象；
            View view = viewResolver.resolveViewName(viewName, locale);
            if (view != null) {
                return view;
            }
        }
        return null;
    }
```

resolveViewName实现

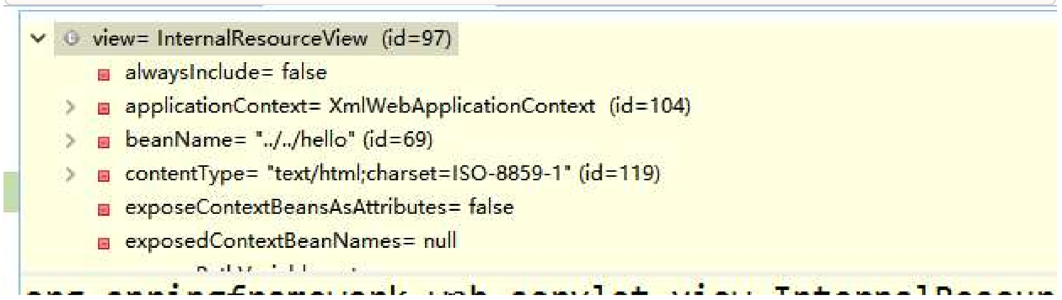
```
@Override
    public View resolveViewName(String viewName, Locale locale) throws
Exception {
        if (!isCache()) {
            return createView(viewName, locale);
        }
        else {
            Object cacheKey = getCacheKey(viewName, locale);
            View view = this.viewAccessCache.get(cacheKey);
            if (view == null) {
                synchronized (this.viewCreationCache) {
                    view = this.viewCreationCache.get(cacheKey);
                    if (view == null) {
                        // Ask the subclass to create the View object.
                         //根据方法的返回值创建出视图View对象;
                        view = createView(viewName, locale);
                        if (view == null && this.cacheUnresolved) {
                            view = UNRESOLVED_VIEW;
                        }
                        if (view != null) {
                            this.viewAccessCache.put(cacheKey, view);
                            this.viewCreationCache.put(cacheKey, view);
                            if (logger.isTraceEnabled()) {
                                logger.trace("Cached view [" + cacheKey +
"]");
                            }
                        }
                    }
                }
            }
            return (view != UNRESOLVED_VIEW ? view : null);
        }
    }
```

创建View对象;

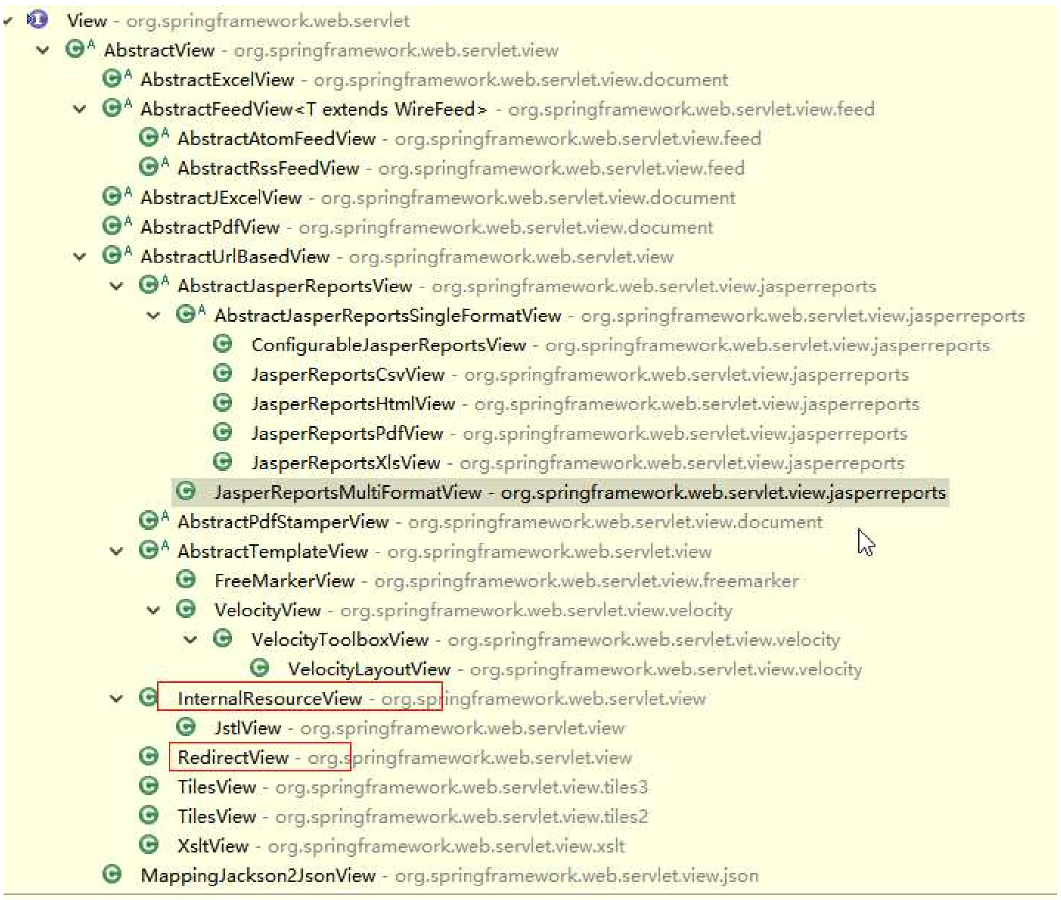


```
View
    RESPONSE_STATUS_ATTRIBUTE : String
    PATH_VARIABLES : String
    SELECTED_CONTENT_TYPE : String
    getContentType() : String
    render(Map<String, ?>, HttpServletRequest, HttpServletResponse) : void
```

```
@Override
    protected View createView(String viewName, Locale locale) throws
Exception {
        // If this resolver is not supposed to handle the given view,
        // return null to pass on to the next resolver in the chain.
        if (!canHandle(viewName, locale)) {
            return null;
        }
        // Check for special "redirect:" prefix.
        if (viewName.startsWith(REDIRECT_URL_PREFIX)) {
            String redirectUrl =
viewName.substring(REDIRECT_URL_PREFIX.length());
            RedirectView view = new RedirectView(redirectUrl,
isRedirectContextRelative(), isRedirectHttp10Compatible());
            return applyLifecycleMethods(viewName, view);
        }
        // Check for special "forward:" prefix.
        if (viewName.startsWith(FORWARD_URL_PREFIX)) {
            String forwardUrl =
viewName.substring(FORWARD_URL_PREFIX.length());
            return new InternalResourceView(forwardUrl);
        }
        // Else fall back to superclass implementation: calling loadView.
        //如果没有前缀就使用父类默认创建一个View;
        return super.createView(viewName, locale);
    }
```



```
view= InternalResourceView  (id=97)
    alwaysInclude= false
    applicationContext= XmlWebApplicationContext  (id=104)
    beanName= "../../hello" (id=69)
    contentType= "text/html;charset=ISO-8859-1" (id=119)
    exposeContextBeansAsAttributes= false
    exposedContextBeanNames= null
org.springframework.web.servlet.view.InternalResour
```



```
View - org.springframework.web.servlet
  AbstractView - org.springframework.web.servlet.view
    AbstractExcelView - org.springframework.web.servlet.view.document
    AbstractFeedView<T extends WireFeed> - org.springframework.web.servlet.view.feed
      AbstractAtomFeedView - org.springframework.web.servlet.view.feed
      AbstractRssFeedView - org.springframework.web.servlet.view.feed
    AbstractJExcelView - org.springframework.web.servlet.view.document
    AbstractPdfView - org.springframework.web.servlet.view.document
    AbstractUrlBasedView - org.springframework.web.servlet.view
      AbstractJasperReportsView - org.springframework.web.servlet.view.jasperreports
        AbstractJasperReportsSingleFormatView - org.springframework.web.servlet.view.jasperreports
          ConfigurableJasperReportsView - org.springframework.web.servlet.view.jasperreports
          JasperReportsCsvView - org.springframework.web.servlet.view.jasperreports
          JasperReportsHtmlView - org.springframework.web.servlet.view.jasperreports
          JasperReportsPdfView - org.springframework.web.servlet.view.jasperreports
          JasperReportsXlsView - org.springframework.web.servlet.view.jasperreports
        JasperReportsMultiFormatView - org.springframework.web.servlet.view.jasperreports
      AbstractPdfStamperView - org.springframework.web.servlet.view.document
      AbstractTemplateView - org.springframework.web.servlet.view
        FreeMarkerView - org.springframework.web.servlet.view.freemarker
        VelocityView - org.springframework.web.servlet.view.velocity
          VelocityToolboxView - org.springframework.web.servlet.view.velocity
            VelocityLayoutView - org.springframework.web.servlet.view.velocity
      InternalResourceView - org.springframework.web.servlet.view
        JstlView - org.springframework.web.servlet.view
      RedirectView - org.springframework.web.servlet.view
      TilesView - org.springframework.web.servlet.view.tiles3
      TilesView - org.springframework.web.servlet.view.tiles2
      XsltView - org.springframework.web.servlet.view.xslt
    MappingJackson2JsonView - org.springframework.web.servlet.view.json
```

返回View对象；
1、视图解析器得到View对象的流程就是，所有配置的视图解析器都来尝试根据视图名（返回值）得到View（视图）对象；如果能得到就返回，得不到就换下一个视图解析器；
2、调用View对象的render方法；

```
@Override
    public void render(Map<String, ?> model, HttpServletRequest request,
HttpServletResponse response) throws Exception {
        if (logger.isTraceEnabled()) {
            logger.trace("Rendering view with name '" + this.beanName + "'
with model " + model +
                " and static attributes " + this.staticAttributes);
        }

        Map<String, Object> mergedModel = createMergedOutputModel(model,
request, response);

        prepareResponse(request, response);
        //渲染要给页面输出的所有数据
        renderMergedOutputModel(mergedModel, request, response);
    }
```

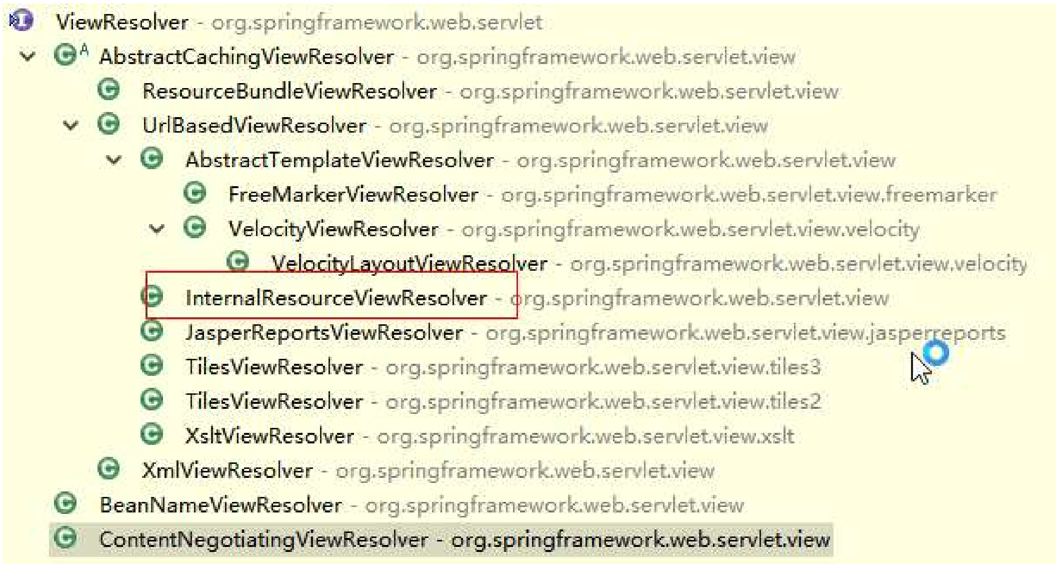
InternalResourceView有这个方法renderMergedOutputModel；

```
@Override
    protected void renderMergedOutputModel(
            Map<String, Object> model, HttpServletRequest request,
HttpServletResponse response) throws Exception {

        // Determine which request handle to expose to the
RequestDispatcher.
        HttpServletRequest requestToExpose = getRequestToExpose(request);

        // Expose the model object as request attributes.
        //将模型中的数据放在请求域中
        exposeModelAsRequestAttributes(model, requestToExpose);

        // Expose helpers as request attributes, if any.
        exposeHelpers(requestToExpose);
        // Determine the path for the request dispatcher.
        String dispatcherPath = prepareForRendering(requestToExpose,
response);

        // Obtain a RequestDispatcher for the target resource (typically a
JSP).
        RequestDispatcher rd = getRequestDispatcher(requestToExpose,
dispatcherPath);
        if (rd == null) {
            throw new ServletException("Could not get RequestDispatcher for
[" + getUrl() +
                    "]: Check that the corresponding file exists within your
web application archive!");
        }

        // If already included or response already committed, perform
include, else forward.
        if (useInclude(requestToExpose, response)) {
            response.setContentType(getContentType());
            if (logger.isDebugEnabled()) {
                logger.debug("Including resource [" + getUrl() + "] in
InternalResourceView '" + getBeanName() + "'");
            }
            rd.include(requestToExpose, response);
        }

        else {
            // Note: The forwarded resource is supposed to determine the
content type itself.
            if (logger.isDebugEnabled()) {
                logger.debug("Forwarding to resource [" + getUrl() + "] in
InternalResourceView '" + getBeanName() + "'");
            }
            rd.forward(requestToExpose, response);
        }
    }
```

将模型中的所有数据取出来全放在request域中

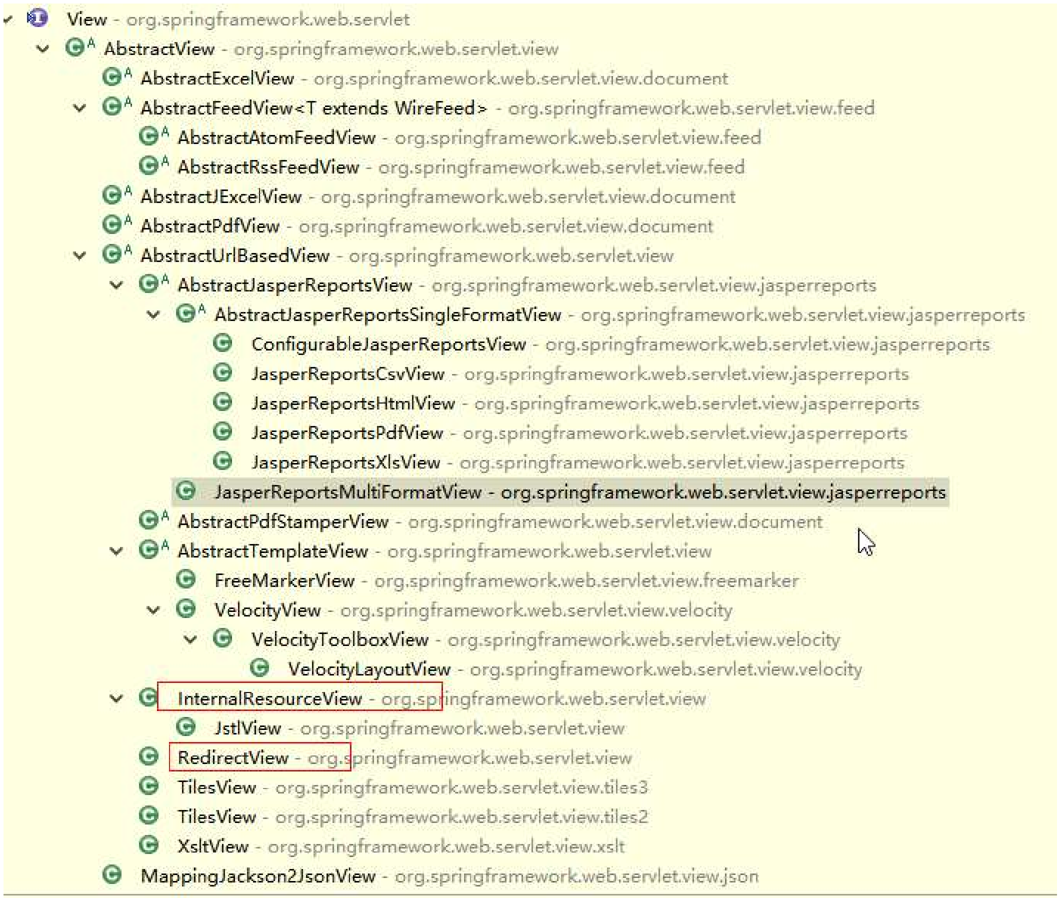
```
protected void exposeModelAsRequestAttributes(Map<String, Object> model,
HttpServletRequest request) throws Exception {
        for (Map.Entry<String, Object> entry : model.entrySet()) {
            String modelName = entry.getKey();
            Object modelValue = entry.getValue();
            if (modelValue != null) {
                request.setAttribute(modelName, modelValue);
                if (logger.isDebugEnabled()) {
                    logger.debug("Added model object '" + modelName + "' of
type [" + modelValue.getClass().getName() +
                            "] to request in view with name '" +
getBeanName() + "'");
                }
            }
            else {
                request.removeAttribute(modelName);
                if (logger.isDebugEnabled()) {
                    logger.debug("Removed model object '" + modelName +
                            "' from request in view with name '" +
getBeanName() + "'");
                }
            }
        }
    }
```

一句话：
视图解析器只是为了得到视图对象；视图对象才能真正的转发（将模型数据全部放在请求域中）或者重定向到页面
视图对象才能真正的渲染视图；
ViewResolver;



```
ViewResolver - org.springframework.web.servlet
  AbstractCachingViewResolver - org.springframework.web.servlet.view
    ResourceBundleViewResolver - org.springframework.web.servlet.view
    UrlBasedViewResolver - org.springframework.web.servlet.view
      AbstractTemplateViewResolver - org.springframework.web.servlet.view
        FreeMarkerViewResolver - org.springframework.web.servlet.view.freemarker
        VelocityViewResolver - org.springframework.web.servlet.view.velocity
          VelocityLayoutViewResolver - org.springframework.web.servlet.view.velocity
      InternalResourceViewResolver - org.springframework.web.servlet.view
      JasperReportsViewResolver - org.springframework.web.servlet.view.jasperreports
      TilesViewResolver - org.springframework.web.servlet.view.tiles3
      TilesViewResolver - org.springframework.web.servlet.view.tiles2
      XsltViewResolver - org.springframework.web.servlet.view.xslt
    XmlViewResolver - org.springframework.web.servlet.view
  BeanNameViewResolver - org.springframework.web.servlet.view
  ContentNegotiatingViewResolver - org.springframework.web.servlet.view
```

View:



```
View - org.springframework.web.servlet
  AbstractView - org.springframework.web.servlet.view
    AbstractExcelView - org.springframework.web.servlet.view.document
    AbstractFeedView<T extends WireFeed> - org.springframework.web.servlet.view.feed
      AbstractAtomFeedView - org.springframework.web.servlet.view.feed
      AbstractRssFeedView - org.springframework.web.servlet.view.feed
    AbstractJExcelView - org.springframework.web.servlet.view.document
    AbstractPdfView - org.springframework.web.servlet.view.document
    AbstractUrlBasedView - org.springframework.web.servlet.view
      AbstractJasperReportsView - org.springframework.web.servlet.view.jasperreports
        AbstractJasperReportsSingleFormatView - org.springframework.web.servlet.view.jasperreports
          ConfigurableJasperReportsView - org.springframework.web.servlet.view.jasperreports
          JasperReportsCsvView - org.springframework.web.servlet.view.jasperreports
          JasperReportsHtmlView - org.springframework.web.servlet.view.jasperreports
          JasperReportsPdfView - org.springframework.web.servlet.view.jasperreports
          JasperReportsXlsView - org.springframework.web.servlet.view.jasperreports
        JasperReportsMultiFormatView - org.springframework.web.servlet.view.jasperreports
      AbstractPdfStamperView - org.springframework.web.servlet.view.document
      AbstractTemplateView - org.springframework.web.servlet.view
        FreeMarkerView - org.springframework.web.servlet.view.freemarker
        VelocityView - org.springframework.web.servlet.view.velocity
          VelocityToolboxView - org.springframework.web.servlet.view.velocity
            VelocityLayoutView - org.springframework.web.servlet.view.velocity
      InternalResourceView - org.springframework.web.servlet.view
        JstlView - org.springframework.web.servlet.view
      RedirectView - org.springframework.web.servlet.view
      TilesView - org.springframework.web.servlet.view.tiles3
      TilesView - org.springframework.web.servlet.view.tiles2
      XsltView - org.springframework.web.servlet.view.xslt
    MappingJackson2JsonView - org.springframework.web.servlet.view.json
```

1、导包导入了jstl的时候会自动创建为一个jstlView；可以快速方便的支持国际化功能；
2、可以支持快速国际化；
- 1）、javaWeb国际化步骤；
  - 1）、得得到一个Locale对象；
  - 2）、使用ResourceBundle绑定国际化资源文件；
  - 3）、使用ResourceBundle.getString("key")；获取到国际化配置文件中的值；
  - 4）、web页面的国际化，fmt标签库来做；
    - <fmt:setLocale>
    - <fmt:setBundle >
    - <fmt:message>
- 2）、有了JstlView以后；
  - 1）、让Spring管理国际化资源就行

```
    <!--让SpringMVC管理国际化资源文件；配置一个资源文件管理器  -->
    <bean id="messageSource"
class="org.springframework.context.support.ResourceBundleMessageSource">
        <!--  basename指定基础名-->
        <property name="basename" value="i18n"></property>
    </bean>
```

2）、直接去页面使用<fmt:message>；

```
<fmt:message key="welcomeinfo"/>
</h1>
<form action="">
    <fmt:message key="username"/>:<input /><br/>
    <fmt:message key="password"/>:<input /><br/>
    <input type="submit" value='<fmt:message key="loginBtn"/>'/>
</form>
```

一定要过SpringMVC的视图解析流程，人家会创建一个jstlView帮你快速国际化；
也不能写forward:（

```
if (viewName.startsWith(FORWARD_URL_PREFIX)) {
            String forwardUrl =
viewName.substring(FORWARD_URL_PREFIX.length());
            return new InternalResourceView(forwardUrl);
        }
```

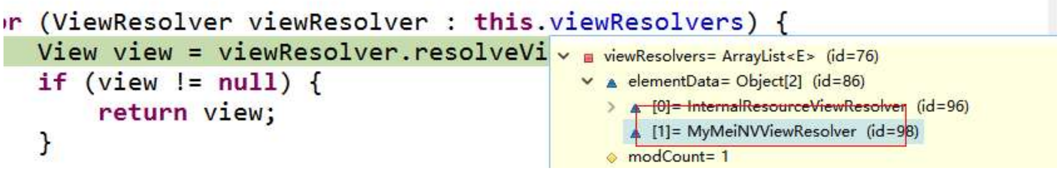
）

扩展：加深视图解析器和视图对象；
　　视图解析器根据方法的返回值得到视图对象；
　　多个视图解析器都会尝试能否得到视图对象；
　　视图对象不同就可以具有不同功能；

```
 for (ViewResolver viewResolver : this.viewResolvers) {
      //viewResolver视图解析器根据方法的返回值，得到一个View对象；
        View view = viewResolver.resolveViewName(viewName, locale);
        if (view != null) {
            return view;
        }
    }
```

1、让我们的视图解析器工作；
2、得到我们的视图对象
3、我们的视图对象自定义渲染逻辑

```
response.getWriter().write("哈哈<h1>即将展现精彩内容</h1>");
```



```
or (ViewResolver viewResolver : this.viewResolvers) {
   View view = viewResolver.resolveVi
   if (view != null) {
       return view;
   }
```

```
viewResolvers= ArrayList<E>  (id=76)
  elementData= Object[2]  (id=86)
    [0]= InternalResourceViewResolver  (id=96)
    [1]= MyMeiNVViewResolver  (id=98)
  modCount= 1
```

1、自定义视图和视图解析器的步骤；
　1）、编写自定义的视图解析器，和视图实现类
　2）、视图解析器必须放在ioc容器中，让其工作，能创建出我们的自定义视图对象；
