



IBM Software Group

IBM® Rational® Web Developer V6.0
IBM® Rational® Application Developer V6.0
JavaServer™ Pages (JSP) and Servlet
Development Tools



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Goals

- Describe J2EE development capabilities
JavaServer Pages (JSP) and Servlet

Agenda

- Web Development Overview
- JSP Development
- Servlet Development

Section

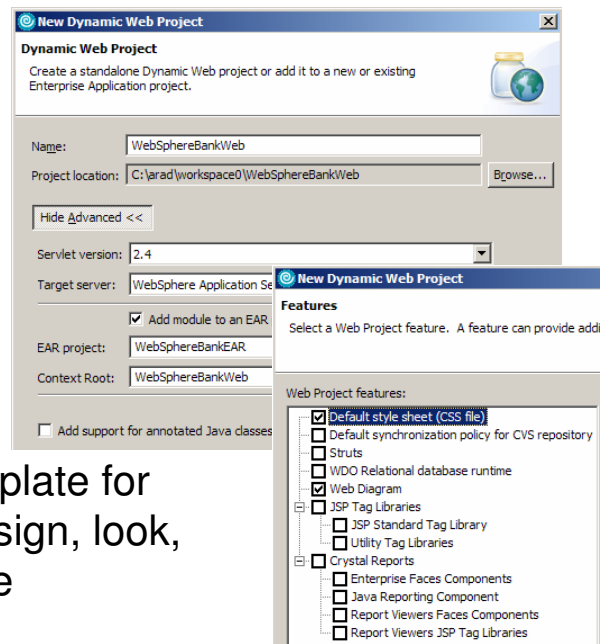
Web Development Overview

Web Development Overview

- Full development environment for creating J2EE Web resources
 - ▶ JavaServer Pages (JSPs) - 2.0 specification
 - ▶ Servlets - 2.4 specification
- Tight integration with other Web development tools also available
 - ▶ Web Site Diagram editor
 - ▶ Page Templates
 - ▶ Portal
 - ▶ Struts
 - ▶ JavaServer Faces

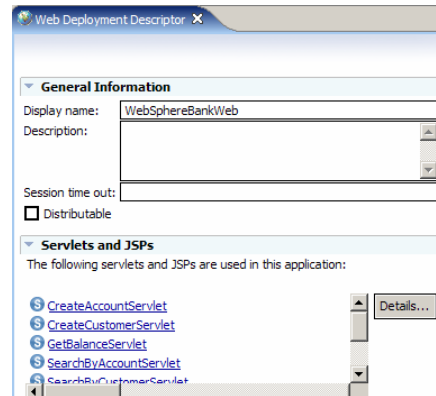
Web Projects

- Organize Web resources in Dynamic Web Projects
- Specify features supported in web project
- Select a Page Template for establishing the design, look, and feel of the page



Web Deployment Descriptor Editor

- J2EE and IBM WebSphere Extensions and Bindings can be specified in WebDeployment Descriptor editor
 - ▶ “Flat look” editor carried over from V5
 - ▶ J2EE values stored in web.xml
 - ▶ IBM WebSphere Extension and Bindings stored in ibm-web-ext.xmi and ibm-web-bnd.xmi files
- Web Services Client values now set through EJB Deployment Descriptor editor

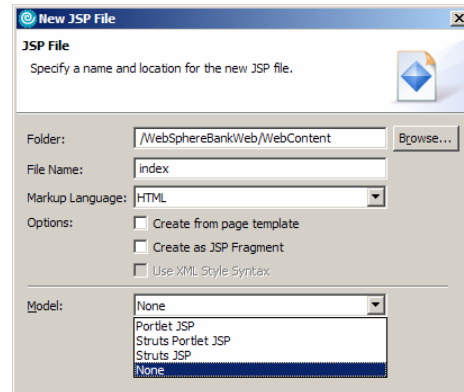


Section

JSP Development

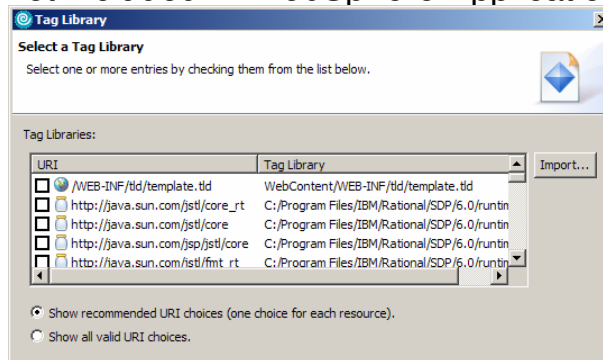
JSP Development: Creation Options

- JavaServer Pages (JSPs)
- Different model options
 - ▶ Portlet JSP
 - ▶ Struts Portlet JSP
 - ▶ Struts JSP
 - ▶ None (default)
- JSTL, Portlet, and Custom tag libraries can be added to a page
- Different encoding styles available



JSP Development: Java Standard Tag Library

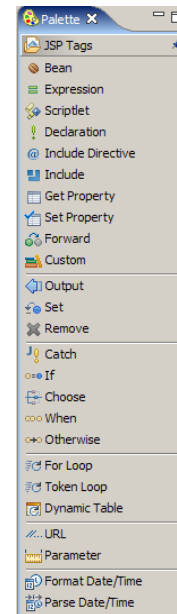
- Predefined JSTL tag libraries can be added to pages when created
 - ▶ `<%@ taglib >` statements added to the page
- JSP Tag Libraries will be added to the Web project if support is not included in WebSphere Application Server



JSP Development: Palette View

- JSTL and other JSP tags available from Palette view
- Drag-and-drop items to Design or Source view
- Tag library of tag will be added to page if not already defined for page

```
createaccount.jsp
for (int i=0; i<msg.size(); i++){%>
    <div align="left" class="Messages"><%= (!
    <%}}%>
</table>
</div>
</td></tr>
<c:if test="$CustomerBean.id = 0"> No Customer </c:if>
<tr align="center">
<td>
<table border="0" cellspacing="1" cellpadding="1" align
<!-- JSP 2.0 Expression Language - Below in the te
```

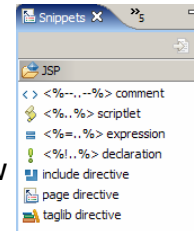


JSP Development: Additional Views



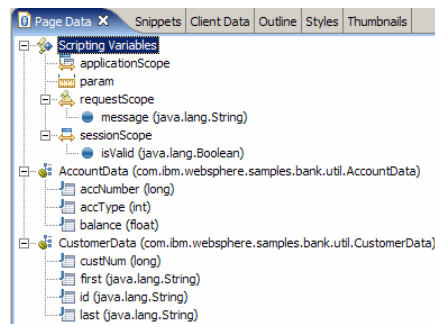
■ Snippets

- ▶ Code for basic JSPs tags can be easily added to pages
- ▶ Drag-and-drop items to the Design or Source view
- ▶ Additional details may be specified in tags



■ Page Data

- ▶ List of data objects which are defined on the page
- ▶ Primitive types or attributes from JavaBeans can be set to input fields or outputted on the page
- ▶ Complex data objects available through Service Data Objects (SDO) also available on the page

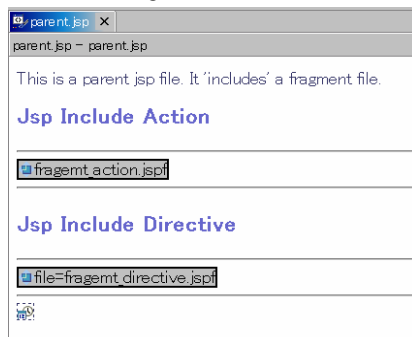


JSP Development: JSP Include

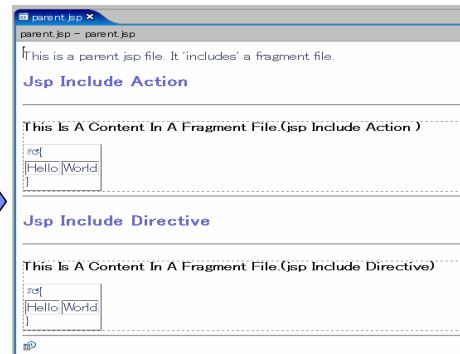


- JSPs included within other JSP files are visualized
- JSP must be well formed
- JSP may be edited directly without opening JSP
- Icon may replace included JSP
 - ▶ JSP > Show Embedded Documents

V5.X



V6

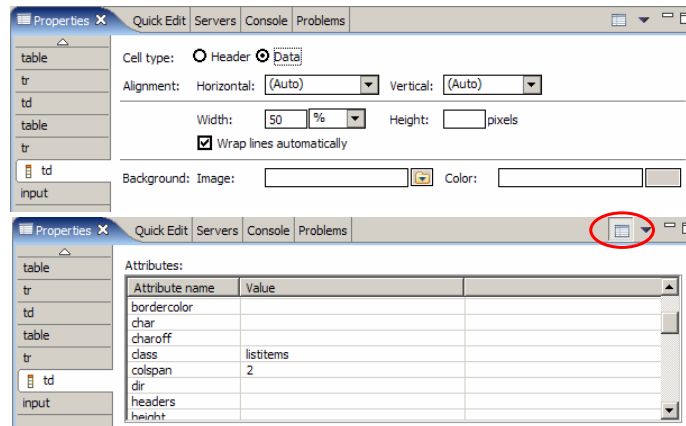


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JSP Development: Properties View



- Properties for different tags can be specified through helpful controls
- Full list of attributes also available



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Servlet Development

Servlet Development: Creation Options



- Servlets may be created for handling client requests
- URL Mappings may be specified for the Servlet
- Different methods may be created
 - ▶ Init, toString, getServletInfo, doPost, doGet, doPut, doDelete, destroy
- New option to generate Servlets with annotations

The screenshot shows a dialog box titled "Create Servlet" with the following fields and options:

- Name:** CreateAccount
- Description:** (empty)
- Initialization Parameters:**
 - StartingAccount (with an "Add..." button)
 - AccountPrefix (with a "Remove" button)
- URL Mappings:**
 - /*../CreateAccount (with an "Add..." button)
 - (with a "Remove" button)
- Use existing Servlet class
- Class name:** (empty) (with a "Browse..." button)
- Generate an annotated servlet class

Servlet Development: Filters

- Filters may be created for intercepting and processing requests and responses
- Filter name and URL mappings can be specified
 - ▶ Filter will apply to all requests and response into a Web container
- Initialization parameters may be specified which can be used in processing requests and responses
- Skeleton Filter class created
 - ▶ Implementation for different methods must be added

Create Filter

Filter
Create a Filter

Name: Login
Description:

Initialization Parameters:

sessionValid Add... Remove

URL Mappings:

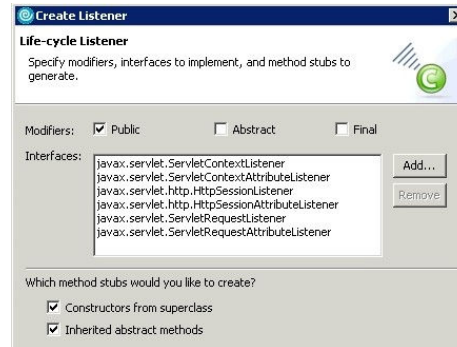
/*Login Add... Remove

Use existing Filter class
Class name: Browse...

Servlet Development: Listeners



- Listeners may be created to monitor state changes within the Web container
 - ▶ Listeners can process events from any ServletContext or HttpSession object
- The display name, project, and class may be specified
- Skeleton Listener class created
 - ▶ Implementation for different methods must be added



Section

Summary and References

Summary

- Development tools to support development of Web resources in compliance with the JSP 2.0 and Servlet 2.4 specifications
- Robust editor and views for creating JSPs rich with functionality and capabilities
- Complete set of wizards for generating Servlets, Filters, and Listeners

References

- JSP 2.0 Spec:
 - ▶ <http://www.jcp.org/en/jsr/detail?id=152>
- Servlet 2.4 Spec:
 - ▶ <http://www.jcp.org/en/jsr/detail?id=154>

Section

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