

# Chart Web Components

Functional Specifications

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## Abstract

*This project proposes new Web components aimed at integrating charts into web applications. On the server side, a JSP tag library will make it easy to integrate chart rendering in a Java web application. On the development side, a new WTP extension will be available to easily create web projects using standalone charts.*

## Document Revisions

Draft	Date	Primary Author(s)	Description of Changes
1	10/24/2006	David Michonneau	Initial Draft
2	06/13/2007	David Michonneau	Final Version

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## 1. JSP Tag library

### 1.1 JSP Chart Tag

A JSP tag library is provided with a chart tag in order to display a chart on a web page. Several tag attributes and subtags are to be specified to configure the output:

#### 1.1.1 Required Attributes

Name	Type	Description
model	String or Chart	The chart model as XML (relative path) or java instance
width	double	Width in points
height	double	Height in points

#### 1.1.2 Optional attributes/Subtags

Name	Type	Description	Default
data	IDataRowExpression or java.sql.ResultSet	Data to bind to chart model.	Runtime Data in chart model instance
output	String	The output type (SVG, PNG, BMP, JPG, PDF).	PNG
externalContext	IExternalContext	Context to be used in chart scripting.	implementation wrapping the javax.servlet.jsp.PageContext
styleProcessor	IStyleProcessor	Used to enable styling of the chart	None
runtimeContext	RunTimeContext	Used to set various runtime attributes for the chart generation and rendering	None

### 1.2 Servlet/Image Caching

A ChartImageManager class is available to manage the files and clear the chart files of a given session. For convenience, two listeners are available: ChartHttpSessionListener and ChartServletContextListener. They can be registered in the web.xml to automatically take care of the file storage with ChartImageManager.

Example

## 1.3 Example

### 1.3.1 Configuration

Here is an example of web.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE web-app
  PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"
  "http://java.sun.com/dtd/web-app_2_3.dtd">
<web-app>
  <display-name>Eclipse BIRT Chart Viewer</display-name>

  <!-- Servlet Context Listener -->
  <listener>
    <listener-class>

    org.eclipse.birt.chart.viewer.internal.listener.ChartServletContextListener
    </listener-class>
  </listener>

  <!-- Http Session Listener -->
  <listener>
    <listener-class>

    org.eclipse.birt.chart.viewer.internal.listener.ChartHttpSessionListener
    </listener-class>
  </listener>

  <taglib>
    <taglib-uri>/chart.tld</taglib-uri>
    <taglib-location>/WEB-INF/tlds/chart.tld</taglib-location>
  </taglib>
</web-app>
```

### 1.3.2 JSP page

Here is an example of JSP page using the tag library:

```
<%@ taglib uri="/chart.tld" prefix="chart"%>
<%@page import="org.eclipse.birt.chart.viewer.sample.SampleHelper"%>
<%@page import="com.ibm.icu.util.ULocale"%>
<html>
  <body>
    <br>

    <chart:renderChart width="400" height="300"
      model="<%=session.getServletContext().getRealPath("SampleBar.chart")%>"
      data="<%=SampleHelper.createSampleEvaluator()%>"
      styleProcessor="<%=SampleHelper.getSampleStyleProcessor()%>"
      runtimeContext="<%=SampleHelper.createSampleRuntimeContext(ULocale.ENGLISH)%>"
    </chart:renderChart>

  </body>
</html>
```

### 1.3.3 Application example

A viewer project is available as an example in CVS (org.eclipse.birt.chart.viewer) or as a WAR file in the Chart engine download

## 2. WTP Extension

### 2.1 Prerequisites

The WTP extension is built on top of the WebTools project in Eclipse. It is available here:

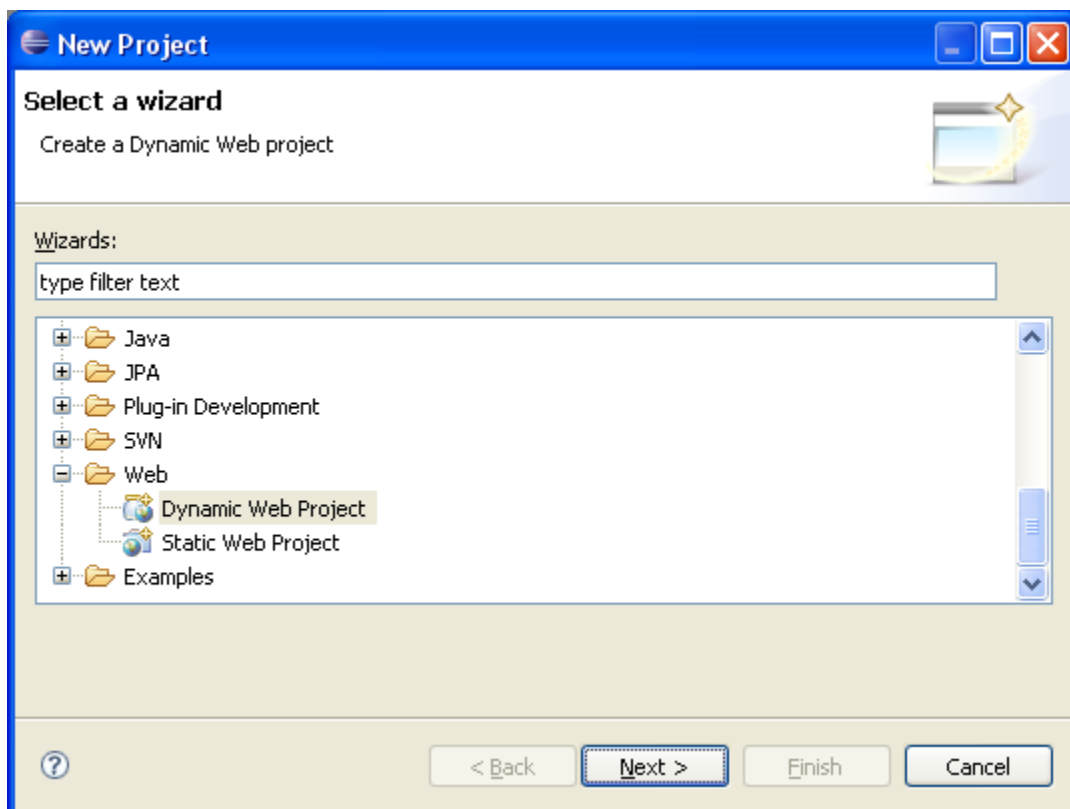
<http://www.eclipse.org/webtools/main.php>

The Chart WTP extension is a separate plugin, that is available in the BIRT all-in-one or in the chart engine download (under the SDK folder)

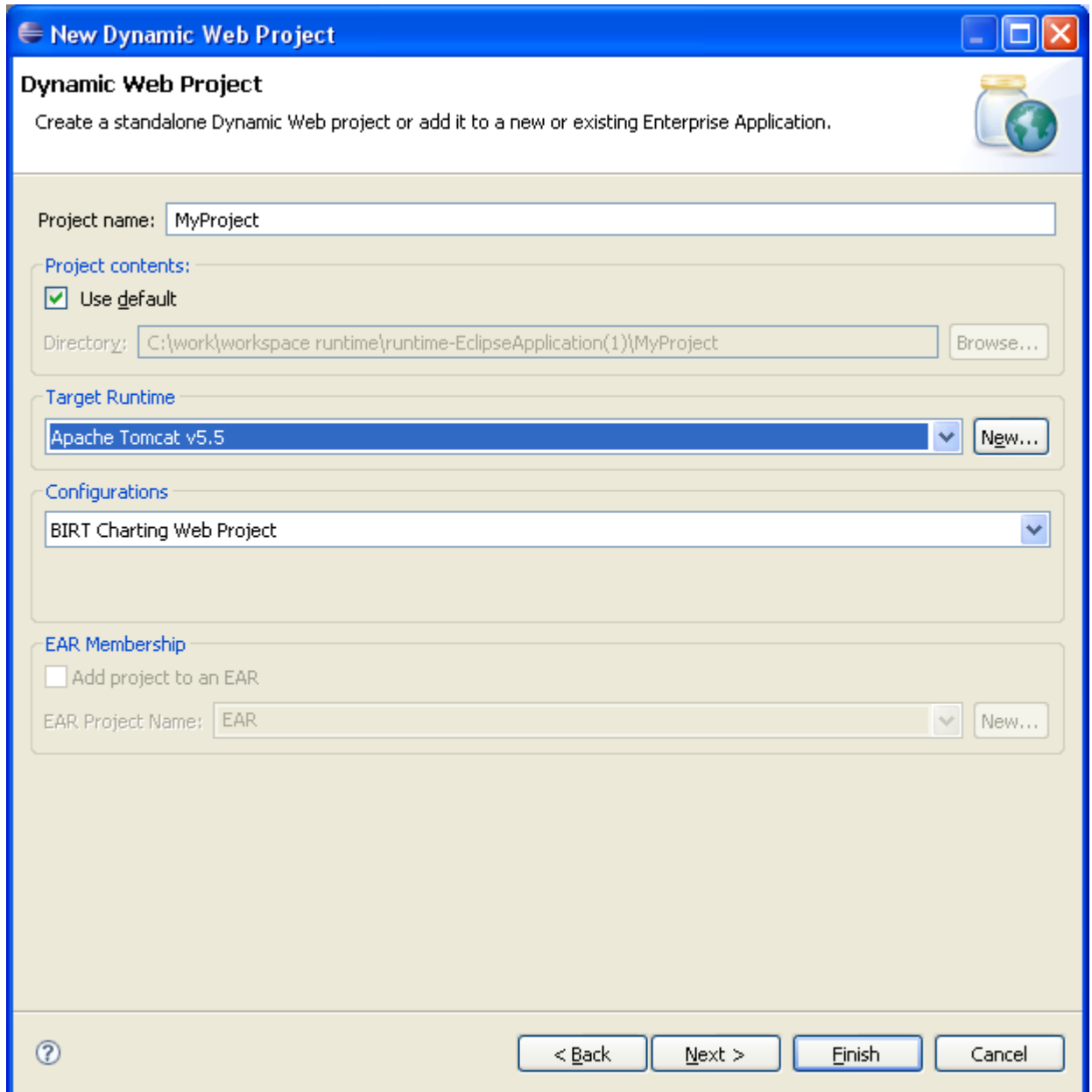
### 2.2 Create a chart web project

In Eclipse, you can open the J2EE perspective then follow these steps:

- 1- Add a Server in the Servers view
- 2- Create a new Dynamic Web Project



In the next screen, select “BIRT Charting Web Project” in the configuration drop-down list:



It will then create the project structures with all the required chart libraries and a sample index.jsp pages demonstrating some examples of use of the JSP tag library.

WTP also allows to run and the debug the web project within Eclipse.