



Blackboard
**Developers
Conference
2010**

Your First Building Block
Eclipse Project

Agenda

- Installing your IDE
- Starting your first project
- Automating development with the Starting Block

Installing Eclipse


- Download Eclipse IDE for Java EE Developers
 - <http://www.eclipse.org/downloads/>
- Unzip and start the IDE

Your first project

- Use the Dynamic Web Project template
- Add bb-platform.jar, bb-cms-admin.jar, bb-taglibs.jar, and servlet-api.jar to your project classpath from
`{blackboard.install.dir}/apps/tomcat/lib/`
- Compile using the version JDK that is used for Blackboard
- Deploy using the Starting Block to automate development

Using the Starting Block with your project

- Log in to EduGarage and download from the Developer Tools tab
- Use an ANT script to automate deploying your Building Block (for use when Blackboard and the IDE are installed on the same machine)
- <http://www.edugarage.com/display/BBDN/downloads>
- http://www.edugarage.com/download/attachments/13271042/DevCon_BestPractBuildDeployB2_Bradley_Final_BBBA.pdf

 **Workspace Launcher** X

Select a workspace

Eclipse stores your projects in a folder called a workspace.
Choose a workspace folder to use for this session.

Workspace: Browse...

Use this as the default and do not ask again


OK Cancel

Java EE - Eclipse


File Edit Navigate Search Project Run Window Help

Welcome

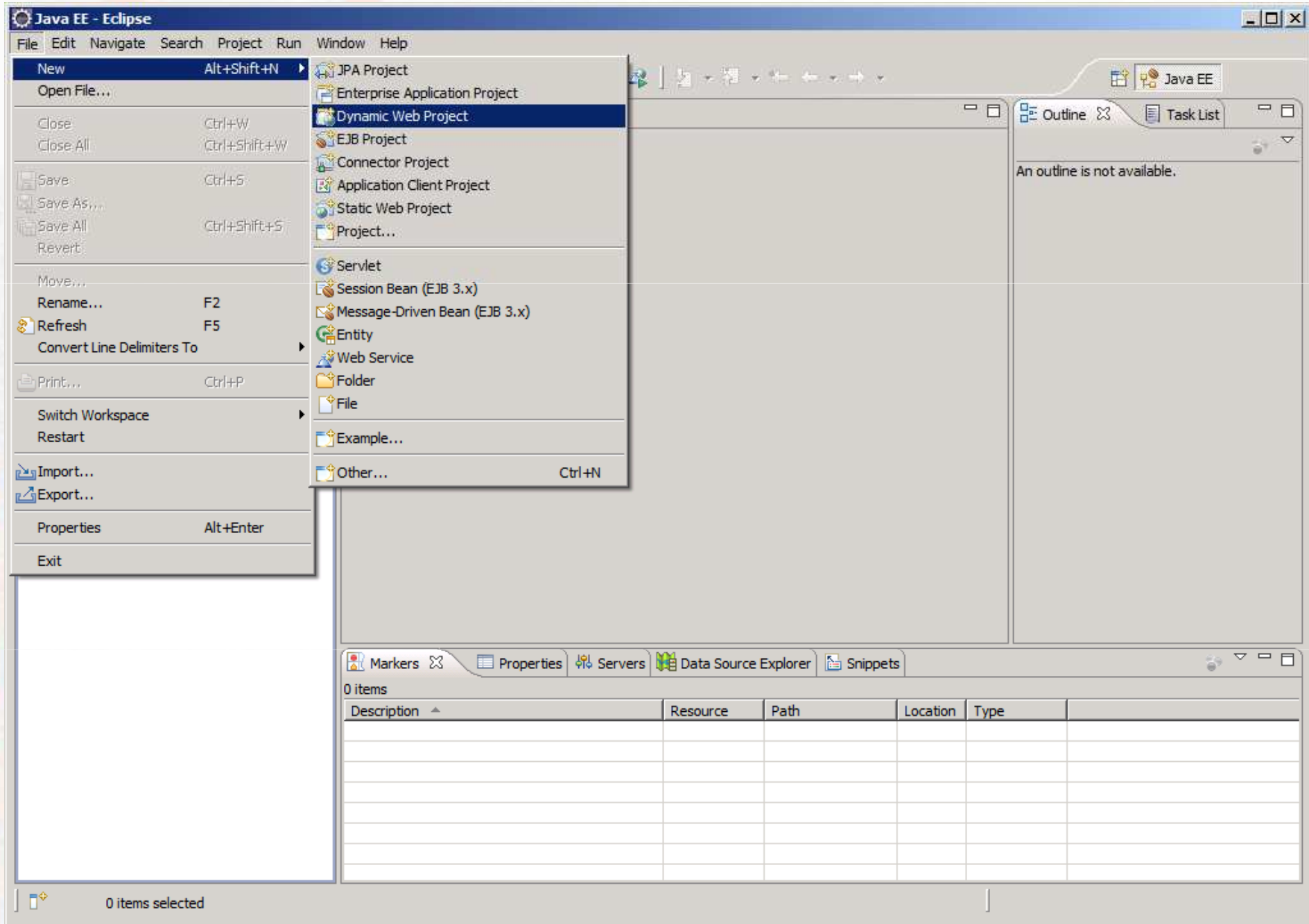
Workbench



Eclipse Java EE IDE for Web Developers

-  **Overview**
Get an overview of the features
-  **Tutorials**
Go through tutorials
-  **Samples**
Try out the samples
-  **What's New**
Find out what is new

10051



Web Module

Configure web module settings.



Context root:

Content directory:



< Back

Next >

Finish

Cancel

Java

Configure project for building a Java application.



Source folders on build path:

- src

Add Folder...

Edit...

Remove

Default output folder:

build\classes

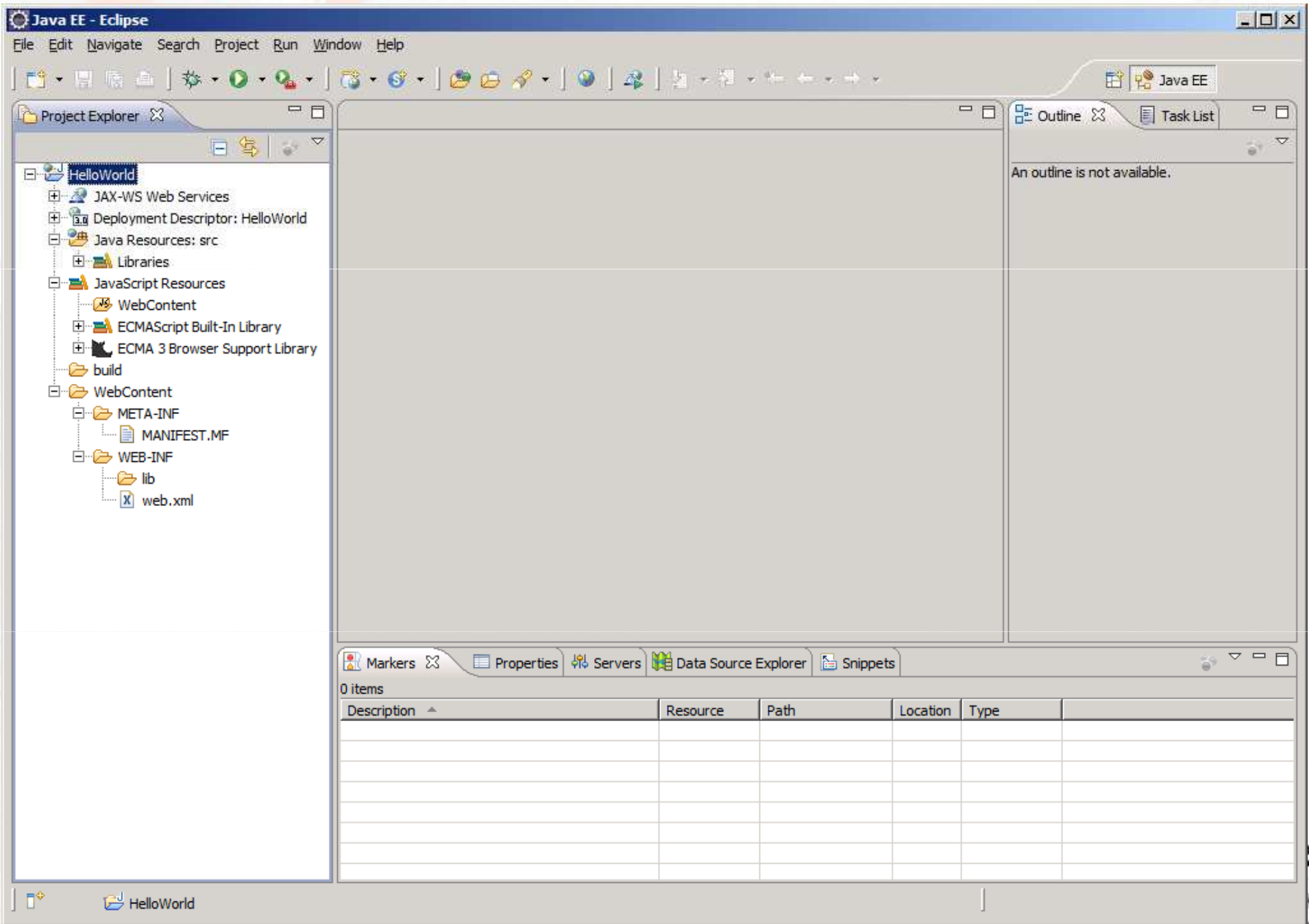


< Back

Next >

Finish

Cancel



Project Explorer

- HelloWorld
 - JAX-WS Web Services
 - Deployment Descriptor: HelloWorld
 - Java Resources: src
 - Libraries
 - JavaScript Resources
 - WebContent
 - ECMAScript Built-In Library
 - ECMA 3 Browser Support Library
 - build
 - WebContent
 - META-INF
 - MANIFEST.MF
 - WEB-INF
 - lib
 - bb-manifest.xml
 - web.xml

```
<description value="Description goes here." />
</vendor>
<http-actions>
</http-actions>

<!-- Tools defined by this extension -->
<application-defs>
  <application handle="exampleapp" type="course" use-
    small-icon="" large-icon="">
    <description>Application installed as part of the
    <links>
      <link>
        <type value="system_tool"/>
        <name value="Example admin tool"/>
        <url value="admin.jsp" />
        <description value="Demonstrates adding tools
      </link>
    </links>
  </application>
</application-defs>
```

Outline

- manifest

0 errors, 1 warning, 0 others

Description	Resource	Path	Location	Type
XML Problem (1 item)				

New JSP File

JSP
Create a new JSP file.

Enter or select the parent folder:
HelloWorld/WebContent

- Home
- ←
-
- [-] HelloWorld
 - .settings
 - + build
 - src
 - + WebContent

File name: admin.jsp

Advanced >>

? < Back Next > Finish Cancel

New JSP File

Select JSP Template

Select a template as initial content in the JSP page.

Use JSP Template


Templates:

Name	Description
New JavaServer Faces (JSF) Page (ht...	JSP with html markup and default vie...
New JavaServer Faces (JSF) Page (x...	JSP with xhtml markup and default vi...
New JavaServer Faces (JSF) Page (x...	JSP with xhtml markup, xml style syn...
New JSP File (html)	JSP with html markup
New JSP File (xhtml)	JSP with xhtml markup
New JSP File (xhtml, xml syntax)	JSP with xhtml markup and xml style ...

Preview:

```
<%@ page language="java" contentType="text/html;
    pageEncoding="${encoding}" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Tran
<html>
<head>
<meta http-equiv="Content-Type" content="text/htr
<title>Insert title here</title>
```

Templates are 'New JSP' templates found in the [JSP Templates](#) preference page.





Project Explorer

- HelloWorld
 - JAX-WS Web Services
 - Deployment Descriptor: HelloWorld
 - Java Resources: src
 - Libraries
 - JavaScript Resources
 - WebContent
 - ECMAScript Built-In Library
 - ECMA 3 Browser Support Library
 - build
 - build.xml
 - WebContent
 - META-INF
 - MANIFEST.MF
 - WEB-INF
 - lib
 - bb-manifest.xml
 - web.xml
 - admin.jsp

```
<%@ page language="java" contentType="text/html; charset=
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; chars
<title>Insert title here</title>
</head>
<body>
Hello, I am a Building Block.
</body>
</html>
```

Outline

- jsp:directive.page language=java
 - DOCTYPE:html
 - html
 - head
 - body

0 errors, 2 warnings, 0 others

Description	Resource	Path	Location	Type
XML Problem (2 items)				

- BUILD SUCCESSFUL
- Total time: 12 seconds



- > [Course Catalog](#)
- > [Move Files to Course Files](#)

Organizations

- > [Organizations](#)
- > [Organization Settings](#)
- > [Organization Catalog](#)
- > [Move Files to Organization Files](#)

Communities

- > [Tabs and Modules](#)
- > [Brands and Themes](#)
- > [Communities Settings](#)
- > [Discussion Boards](#)
- > [eCommerce](#)
- > [eMarketplace](#)
- > [Domains](#)

- > [Display Options](#)
- > [Content Management Settings](#)
- > [Technical Settings](#)
- > [Administrator Search](#)
- > [Content Area Management](#)
- > [Feature and Tool Management](#)

Outcomes Assessment

- > [Template Builder](#)
- > [Person Records](#)
- > [Batch](#)
- > [Reporting](#)

- > [Building Blocks](#)
- > [Web Services](#)

Tools and Utilities

- > [Announcements](#)
- > [Messages](#)
- > [Calendar](#)
- > [Email](#)
- > [Spell Check](#)
- > [Text Editor](#)
- > [Language Packs](#)
- > [System Reporting](#)
- > [System Configuration](#)
- > [Logs](#)
- > [Tools](#)
- > [Chalk Titles](#)
- > [Avatars](#)
- > [Notifications](#)
- > [Blackboard Scholar@](#)
- > [Admin Console](#)
- > [Example Admin Tool](#)






Your Institution
UNIVERSITY

 Blackboard Administrator

 My Places

 Home

 Help

 Logout



My Institution


Courses

Community

Services

System Admin

Hello, I am a Building Block.

 **Building Blocks**

[Upload Building Blocks](#)

[Global Settings](#)

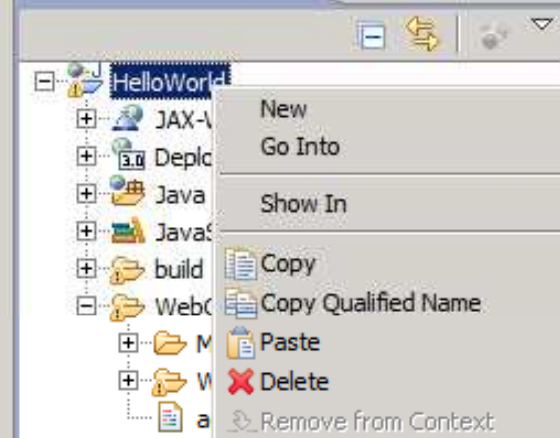
[Find and Download Building Blocks](#)

Page 1 of 2

Name	Vendor	Version	Availability	Course/Orq Default		
Admin Console	Blackboard Inc.	1.0.0	Available	Unavailable	View Components	Delete
Admin Console (Alerts)	Blackboard Inc.	1.0.5	Available	Unavailable	View Components	Delete
Admin Console (Logs)	Blackboard Inc.	1.0.6	Available	Unavailable	View Components	Delete
Admin Console (System)	Blackboard Inc.	1.0.11	Available	Unavailable	View Components	Delete
Astrology	Astrology.com	1.1.0	Available	Unavailable	View Components	Delete
Blackboard Mobile Web Services Building Block	Blackboard Inc.	91.2.1	Available	Available	View Components	Settings Delete
Blackboard Scholar	Blackboard Inc.	2.1.4	Available	Unavailable	View Components	Settings Delete
Blackboard Sync	Blackboard Inc.	2.2.0	Available	Unavailable	View Components	Settings Delete
CE4 Course Package Import Extensions	Blackboard Inc.	1.0.0	Available	Unavailable	View Components	Delete
CE4 Learning Environment Connector	Blackboard Inc.	1.0.0	Available	Unavailable	View Components	Delete
Example Plugin	Blackboard Developers Network	1.0.0	Available	Available	View Components	Delete



Project Explorer



- New
- Go Into
- Show In Alt+Shift+W
- Copy Ctrl+C
- Copy Qualified Name
- Paste Ctrl+V
- Delete Delete
- Remove from Context Ctrl+Alt+Shift+Down
- Build Path** Alt+Shift+T
 - Configure Build Path...**
- Refactor Alt+Shift+T
- Import
- Export
- Refresh F5
- Close Project
- Close Unrelated Projects
- Validate
- Show in Remote Systems view
- Run As
- Debug As
- Profile As
- Team
- Compare With
- Restore from Local History...
- Java EE Tools
- Source
- Configure
- Properties Alt+Enter

Outline Task List

An outline is not available.



Properties for HelloWorld

Java Build Path

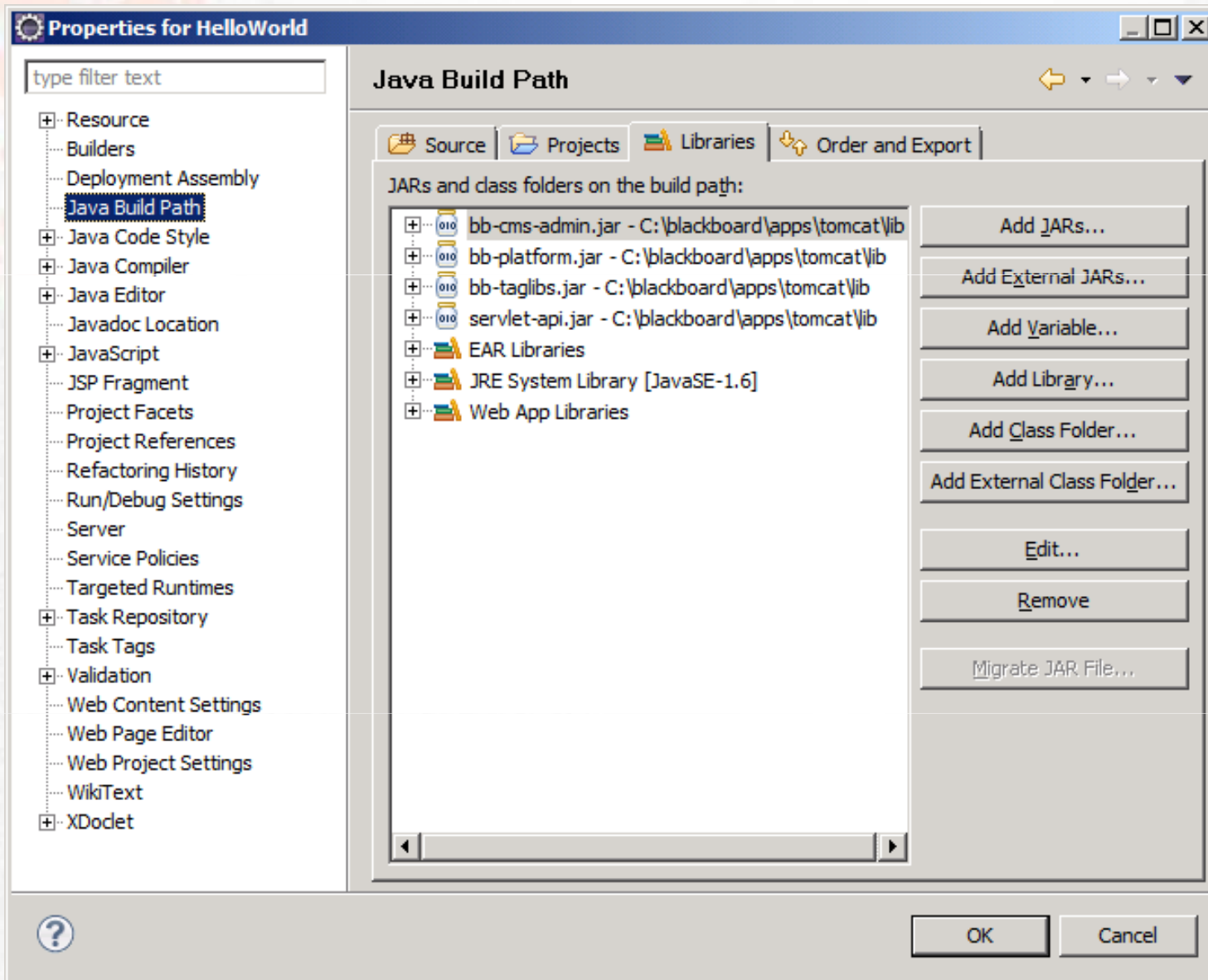
Source Projects Libraries Order and Export

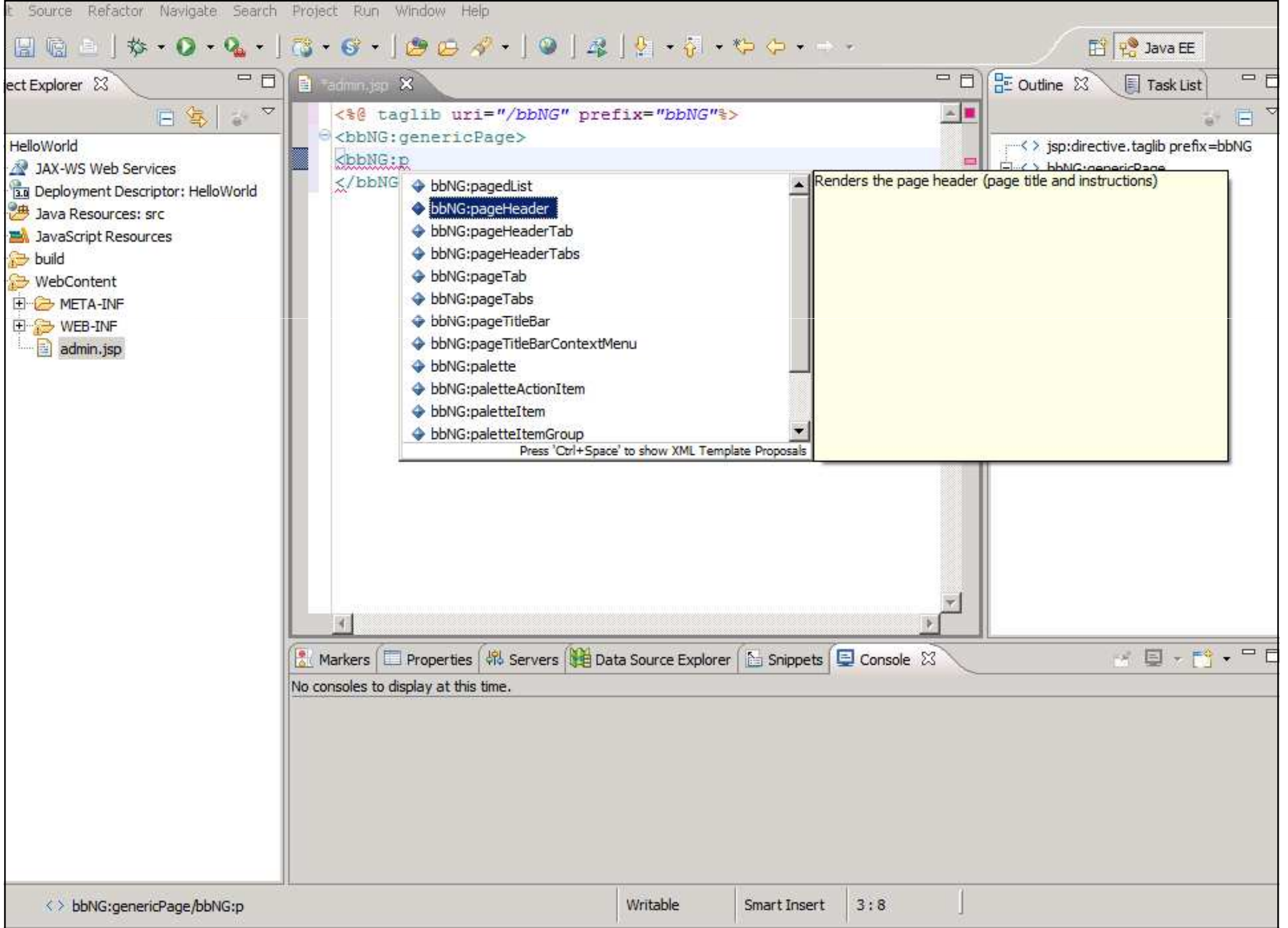
JARs and class folders on the build path:

- EAR Libraries
- JRE System Library [JavaSE-1.6]
- Web App Libraries

Add JARs...
Add External JARs...
Add Variable...
Add Library...
Add Class Folder...
Add External Class Folder...
Edit...
Remove
Migrate JAR File...

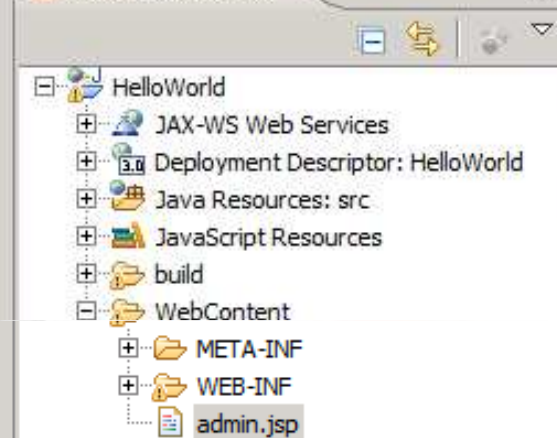
OK Cancel







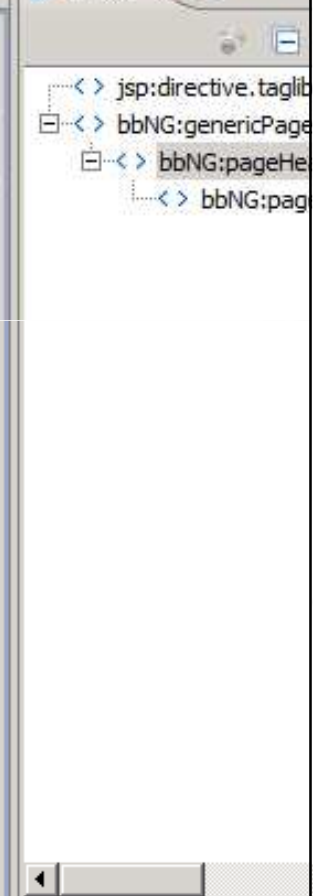
Project Explorer



*admin.jsp


```
<%@ taglib uri="/bbNG" prefix="bbNG"%>
<bbNG:genericPage>
<bbNG:pageHeader>
<bbNG:pageTitleBar title="My Page Title"></bbNG:pageTitleBar>
</bbNG:pageHeader>
</bbNG:genericPage>
```


Java EE




Markers Properties Servers Data Source Explorer Snippets Console

No consoles to display at this time.

 Blackboard Administrator

 My Places

 Home

 Help

 Logout



Your Institution
UNIVERSITY



My Institution

Courses

Community

Services

System Admin



My Page Title