



# 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](http://www.edugarage.com/download/attachments/13271042/DevCon_BestPractBuildDeployB2_Bradley_Final_BBBA.pdf)

 **Workspace Launcher** ✕

**Select a workspace**

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

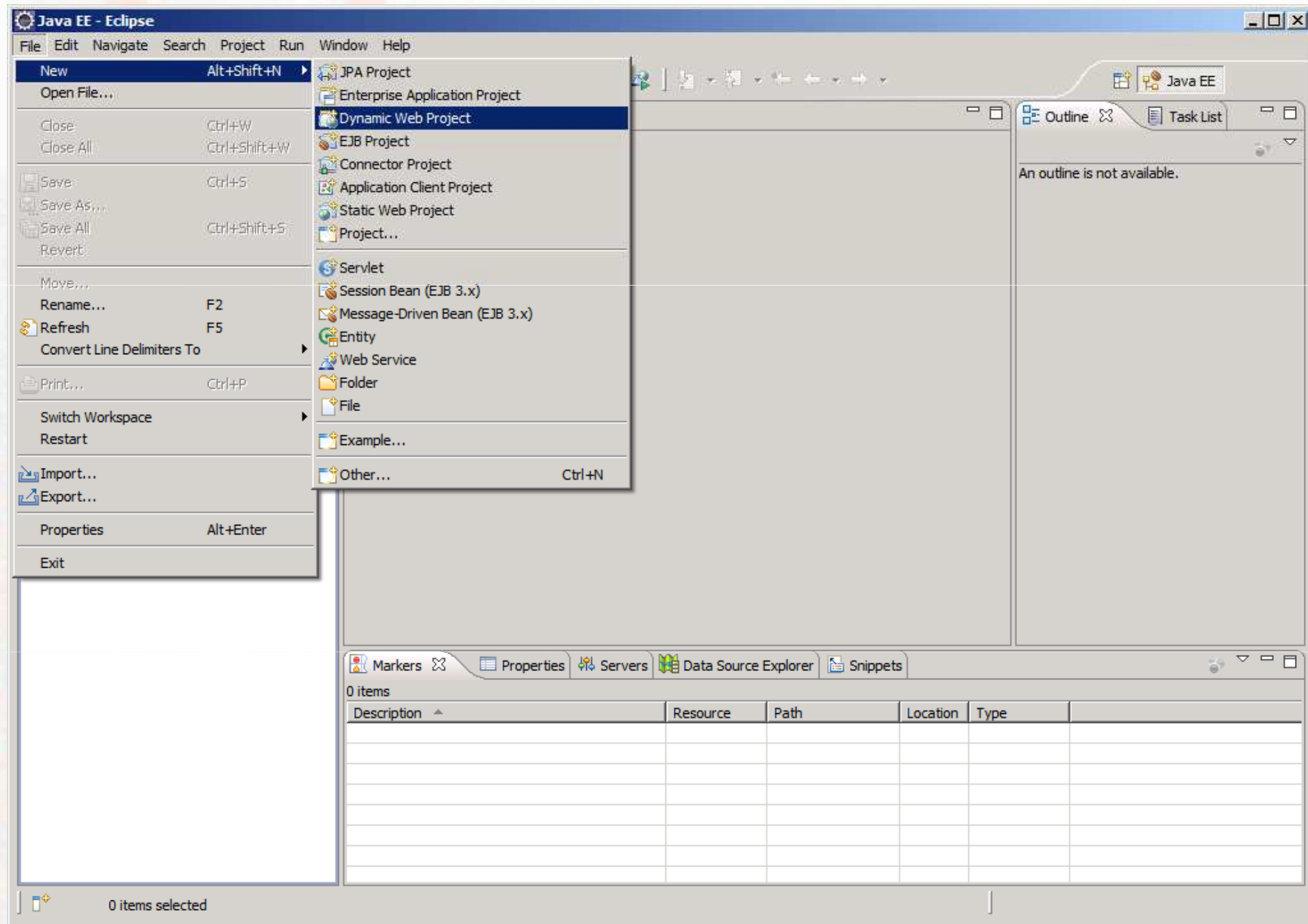
Workspace:  Browse...

☐ Use this as the default and do not ask again

OK Cancel









## Web Module

Configure web module settings.



Context root: HelloWorld

Content directory: WebContent

☒ Generate web.xml deployment descriptor



< Back

Next >

Finish

Cancel

New Dynamic Web Project

Java

Configure project for building a Java application.



Source folders on build path:

..... src

Add Folder...

Edit...

Remove

Default output folder:

build\classes



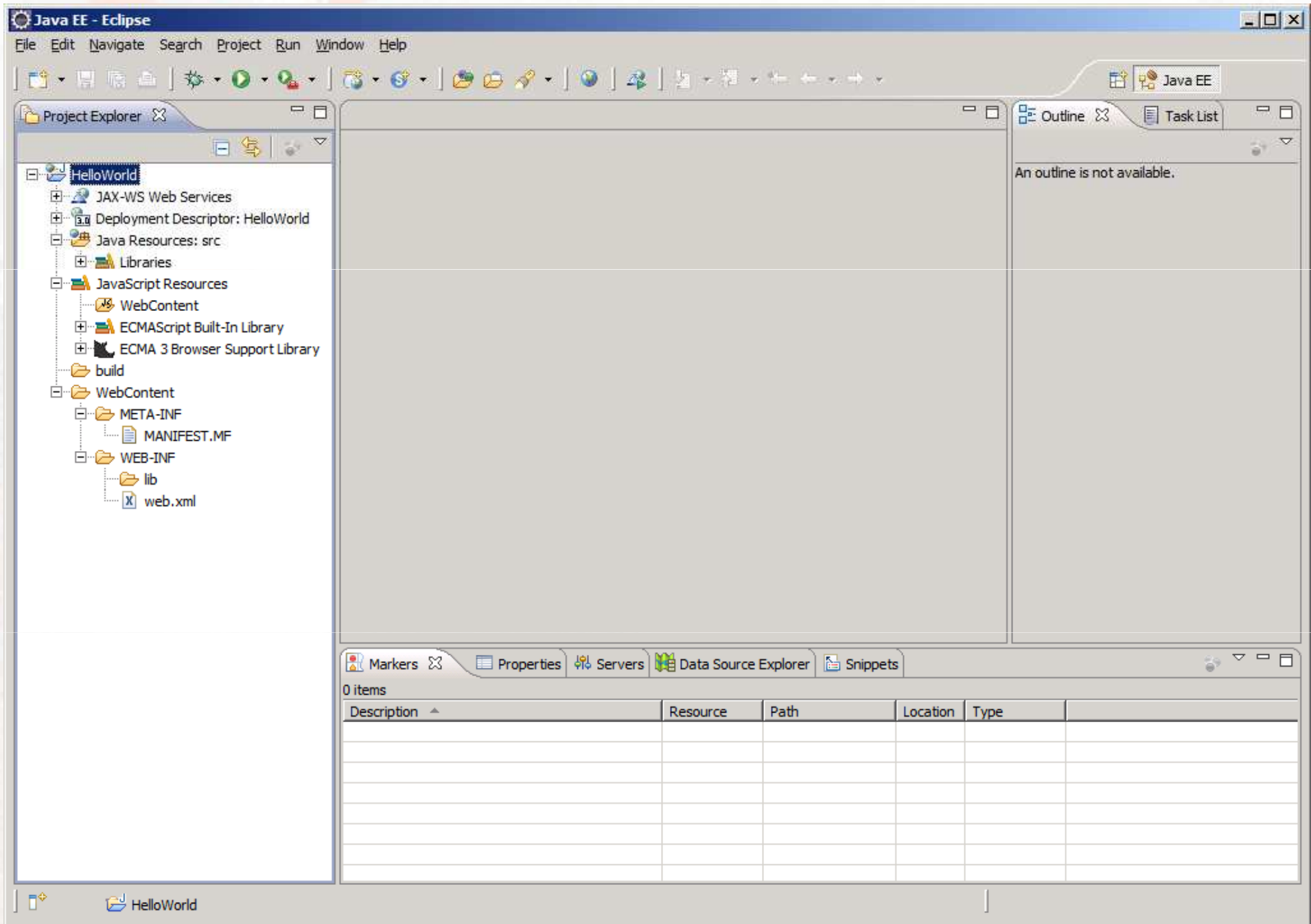
< Back

Next >

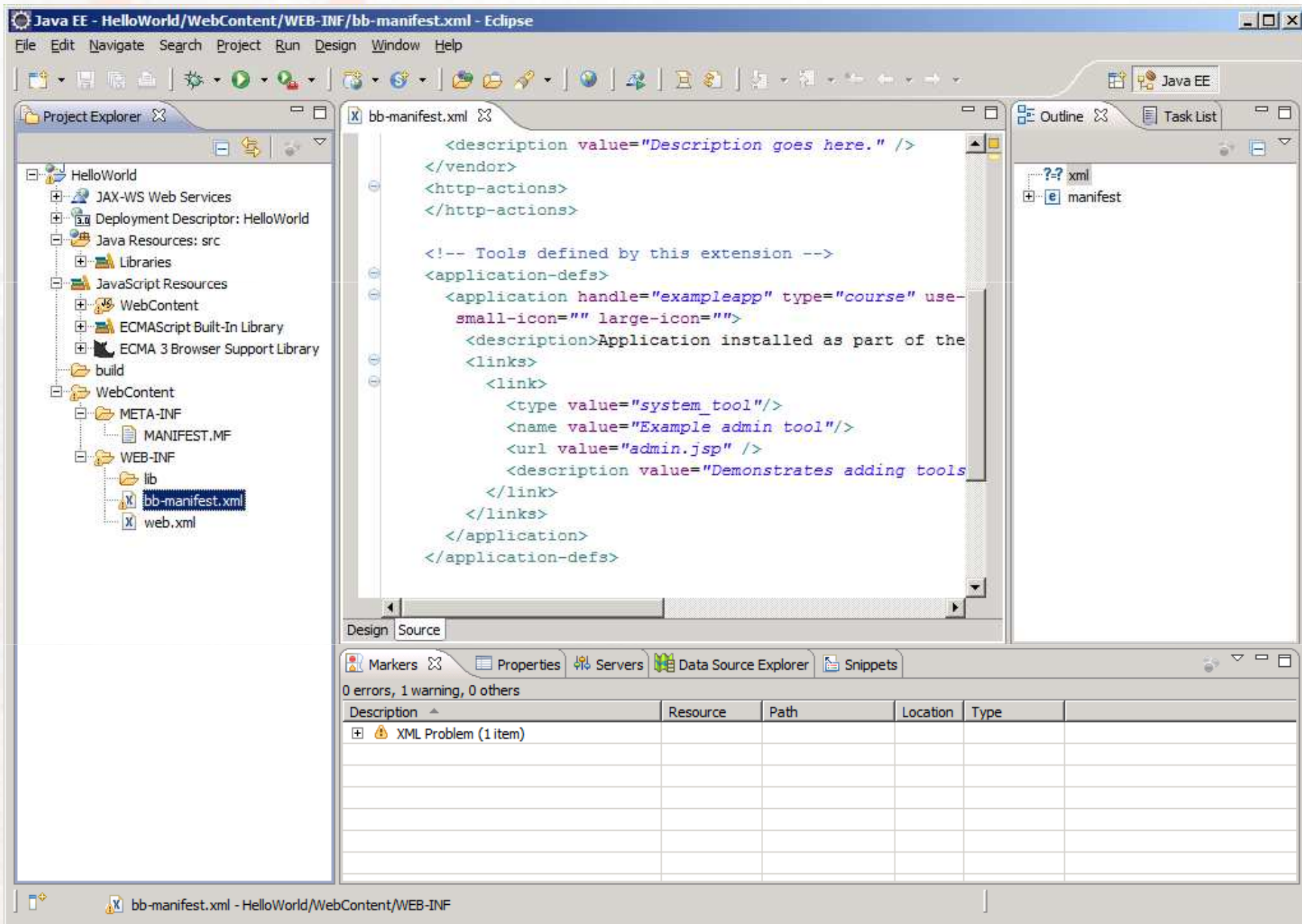
Finish

Cancel



Blackboard  
**Developers  
Conference  
2010**


















 **New JSP File** 


**JSP**  
Create a new JSP file. 

Enter or select the parent folder:

-  HelloWorld
  -  .settings
  -  build
  -  src
  -  WebContent

File name:





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.

?

< 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
    - build.xml
  - WebContent
    - META-INF
      - MANIFEST.MF
    - WEB-INF
      - lib
        - bb-manifest.xml
        - web.xml

## bb-manifest.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

## Task List

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

## Markers

## Properties

## Servers

## Data Source Explorer

## Snippets

0 errors, 2 warnings, 0 others

Description	Resource	Path	Location	Type
XML Problem (2 items)				

Java EE - HelloWorld/build/build.xml - Eclipse

File Edit Navigate Search Project Run Window Help

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

build.xml

```

<project name="generic-building-block" basedir="." default="deploy" >
  <!-- ===== deploy targets ===== >
  <!-- ===== deploy targets ===== >
  <!-- ===== deploy targets ===== >

  <target name="deploy" depends="init, -build, -set-deploy-url"
    description="Dynamically deploys all changes and cleans up" >
    <get src="${deploy.url}" dest="${dist.dir}" >
    </get>
  </target>

  <target name="deploy-available" depends="init, -build, -set-deploy-url"
    description="Dynamically deploys all changes and cleans up" >
    <get src="${deploy.url}&available=true" dest="${dist.dir}" >
    </get>
  </target>

  <target name="deploy-clean" depends="init, -build, -set-deploy-url"
    description="Refreshes the currently installed" >
    <get src="${deploy.url}&clean=true" dest="${dist.dir}" >
    </get>
  </target>

  <target name="deploy-clean-available" depends="init, -build, -set-deploy-url"
    description="Refreshes the currently installed" >
    <get src="${deploy.url}&clean=true" dest="${dist.dir}" >
    </get>
  </target>
</project>

```

Outline

- generic-building-block
  - deploy
  - deploy-available
  - deploy-clean
  - deploy-clean-available

Task List

- Run As
  - Debug As
  - Profile As
  - Validate
  - Open Javadoc Wizard...
  - Team
  - Compare With
  - Replace With
  - Remove from Context Ctrl+Alt+Shift+Down

Markers

0 errors, 2 warnings, 0 others

Description	Resource	Path	Location	Type
XML Problem (2 items)				



- BUILD SUCCESSFUL
- Total time: 12 seconds



My Institution

Courses

Community

Services

**System Admin**

- > [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](#)

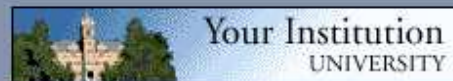
#### Tools and Utilities


- > [Announcements](#)
- > [Messages](#)
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- > [System Reporting](#)
- > [System Configuration](#)
- > [Logs](#)
- > [Tools](#)
- > [Chalk Titles](#)
- > [Avatars](#)
- > [Notifications](#)
- > [Blackboard Scholar@](#)
- > [Admin Console](#)
- > [Example Admin Tool](#)



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Accessibility information can be found at  
<http://access.blackboard.com>  
[Installation details](#)



 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

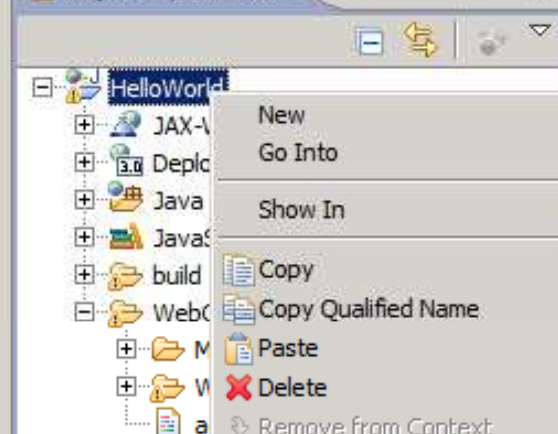
Find and Download Building Blocks

<< < Page 1 of 2 > >>

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



## Project Explorer



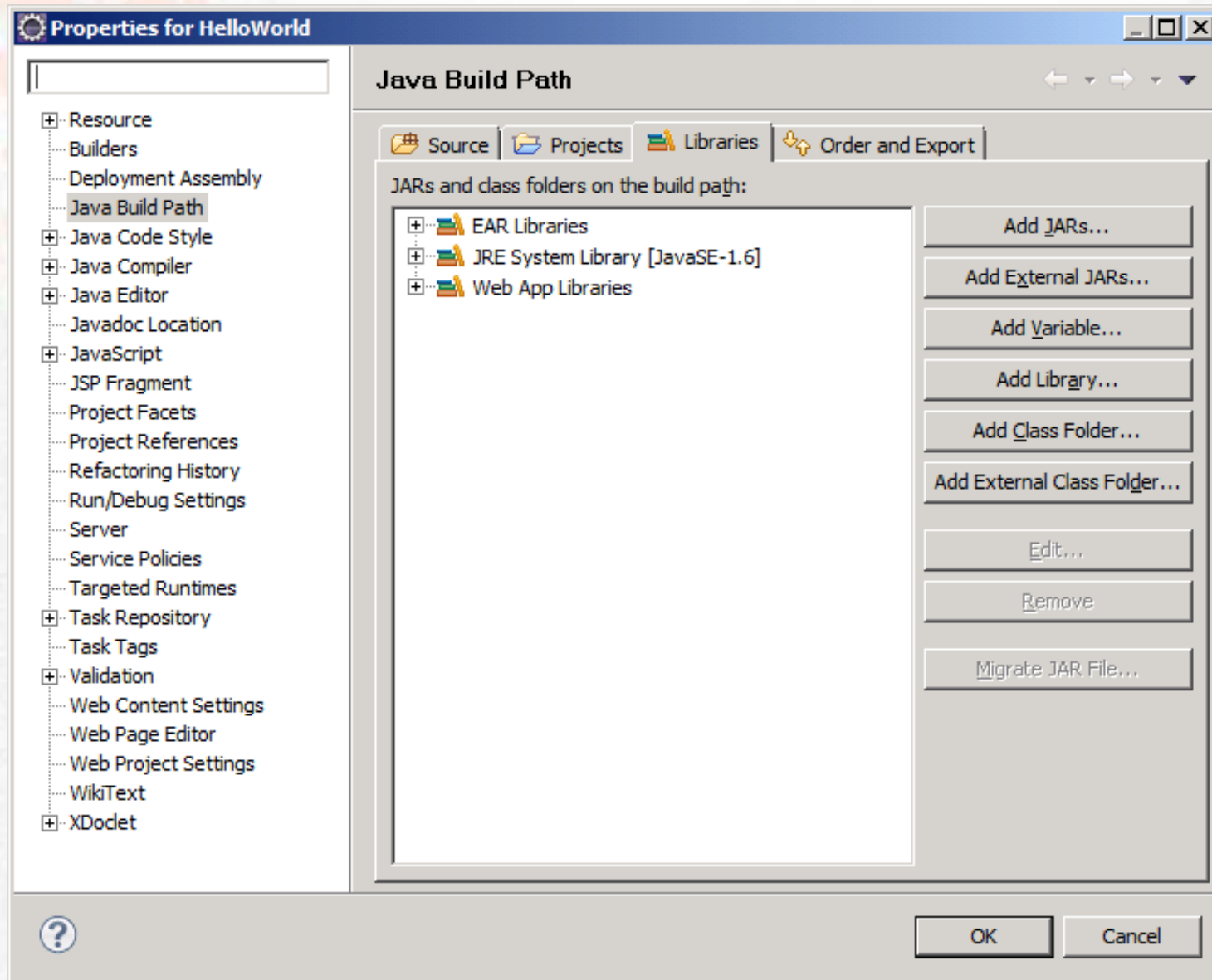
- New
- Go Into
- Show In Alt+Shift+W
- Copy Ctrl+C
- Copy Qualified Name
- Paste Ctrl+V
- Delete Delete
- Remove from Context Ctrl+Alt+Shift+Down
- Build Path** Configure Build Path...
- Refactor Alt+Shift+T
- Import
- Export
- Refresh F5
- Close Project
- Close Unrelated Projects
- Validate
- Show 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

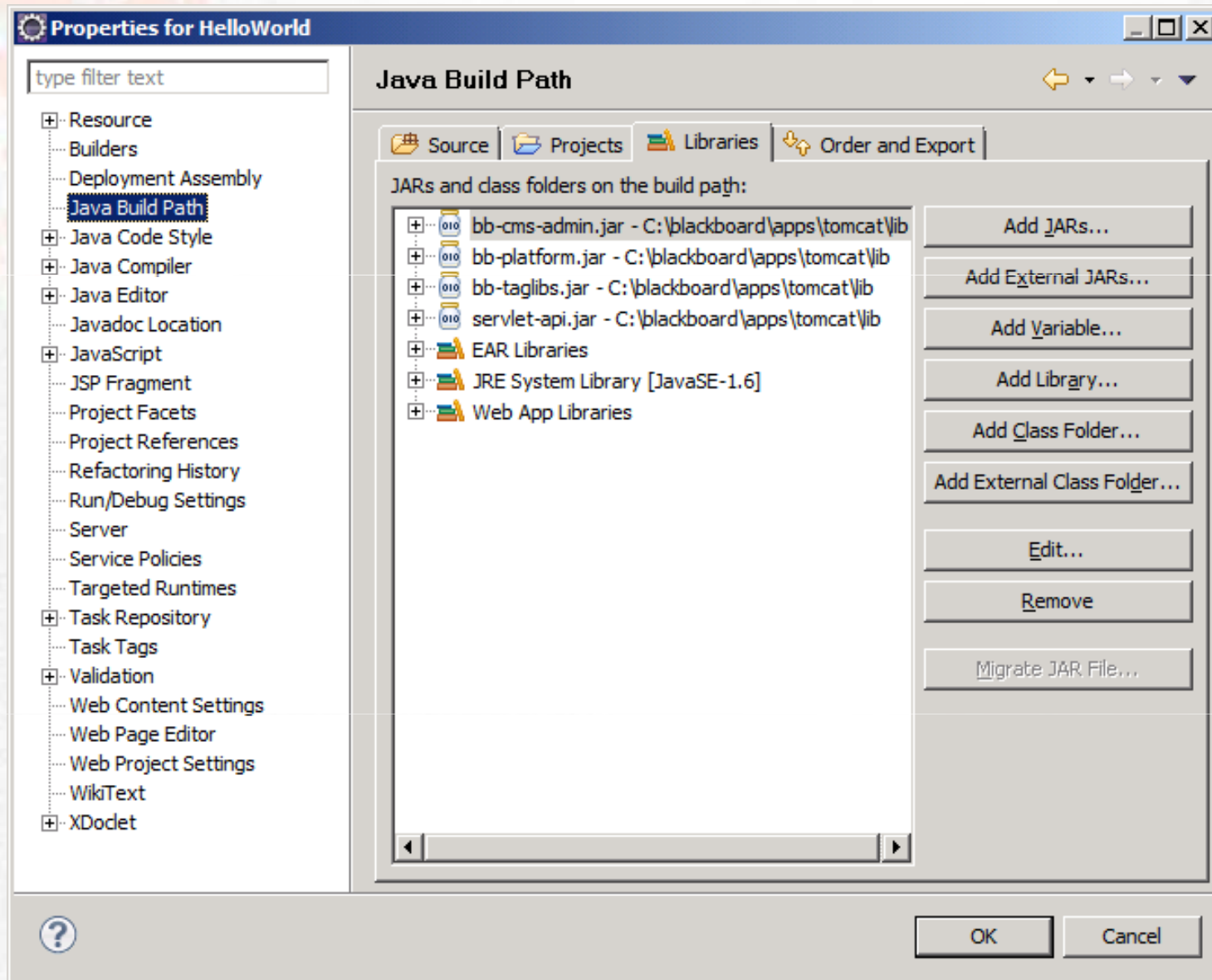
An outline is not available.

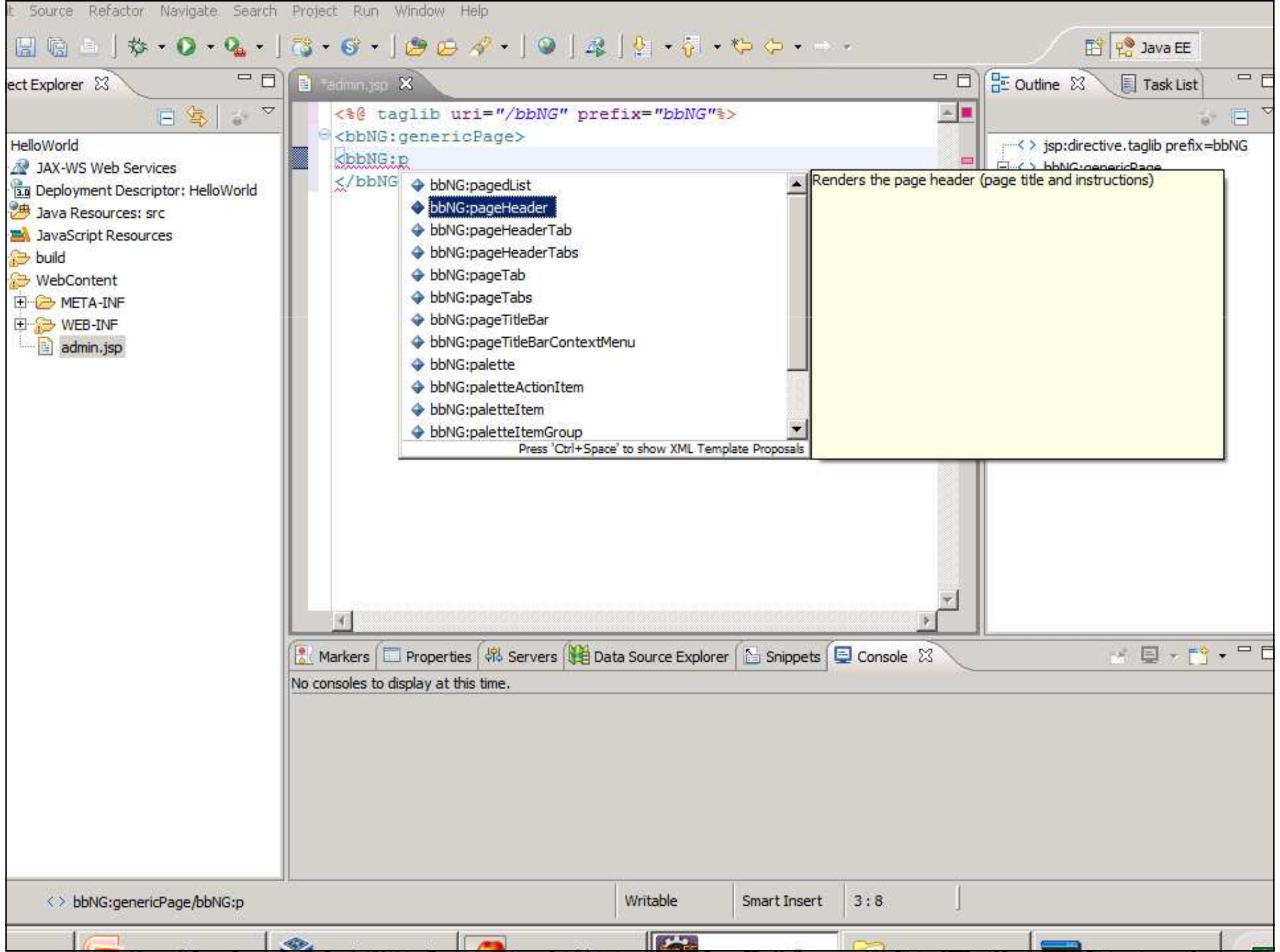
## Servers Data Source Explorer Snippets Console

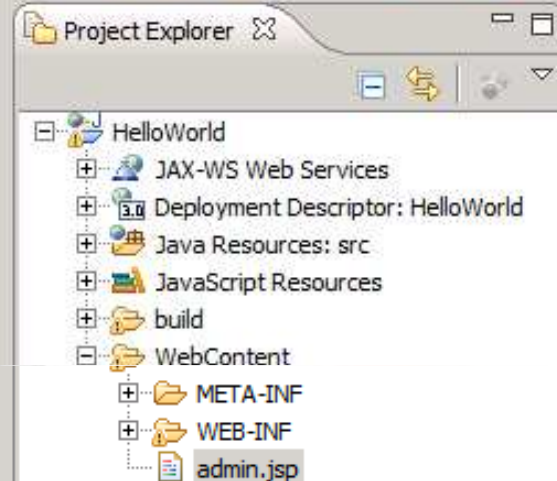
is time.



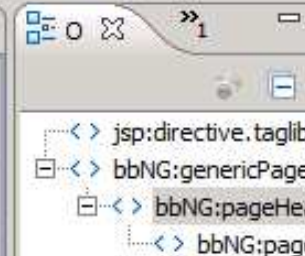









```
*admin.jsp<%@ taglib uri="/bbNG" prefix="bbNG"%>
<bbNG:genericPage>
<bbNG:pageHeader>
<bbNG:pageTitleBar title="My Page Title"></bbNG:pageTitleBar>
</bbNG:pageHeader>
</bbNG:genericPage>
```




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