JSP/Servlets – Lab Exercise Hello World JSP and Introduction to MyEclipse

Exercise 1: HelloWorld
First, open Eclipse by clicking on Eclipse ICON in
Desktop/JavaLabs folder


Delete any other project (JFTVB etc.)
File > New > Project>
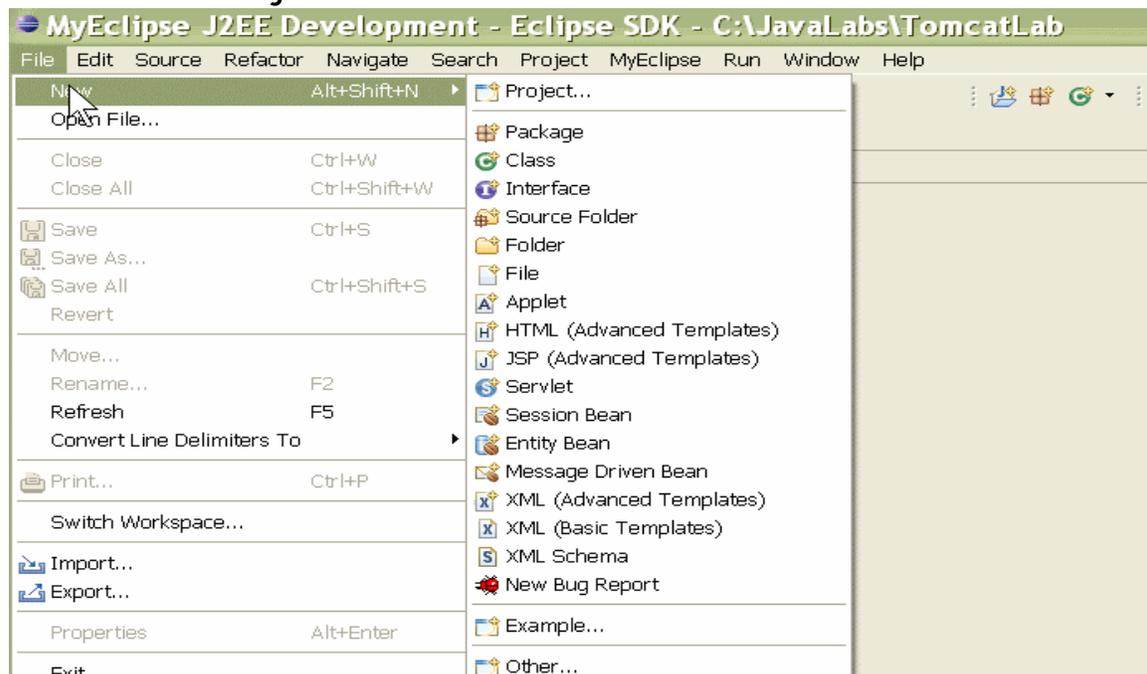
Select Web Project   --Next
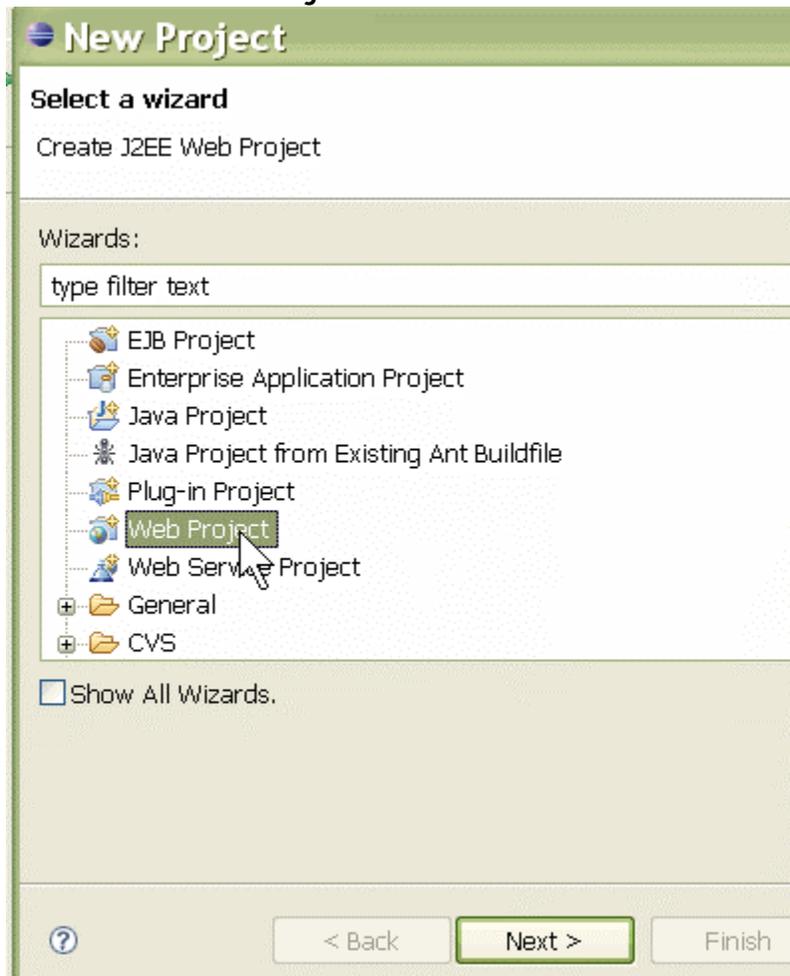
Close the TRIAL window if it appears.
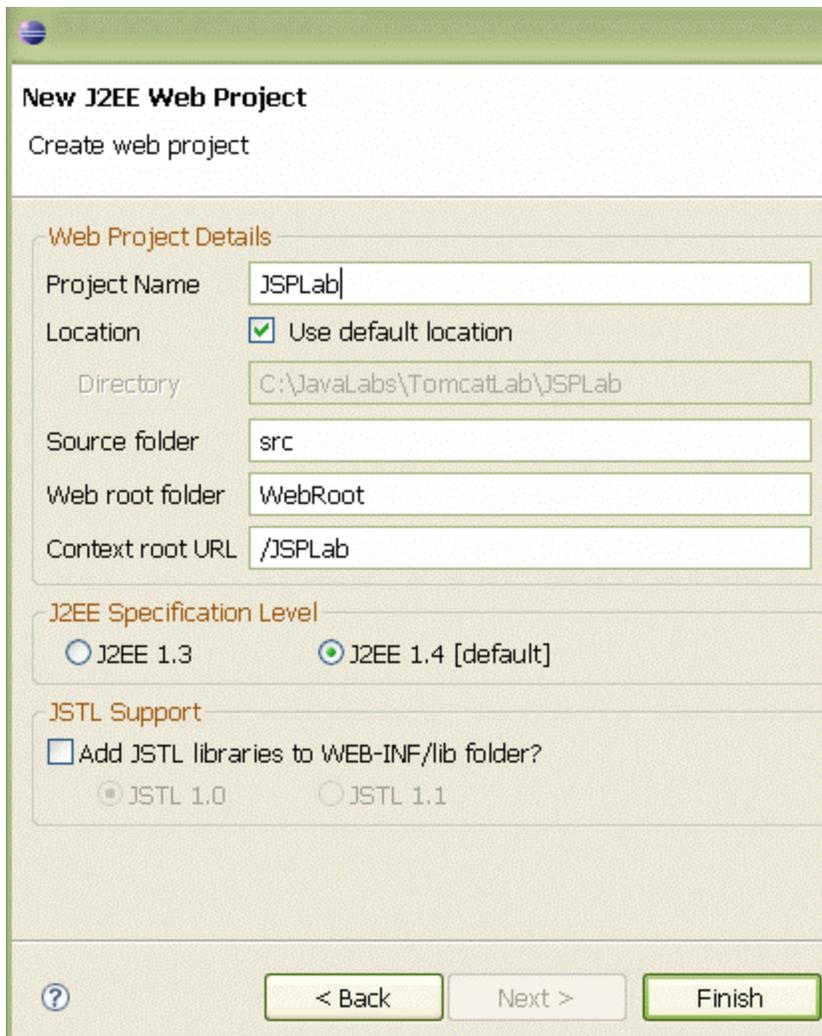
Change Project Name to "JSPLab"   --Finish
Say YES to Open Associated Perspective window
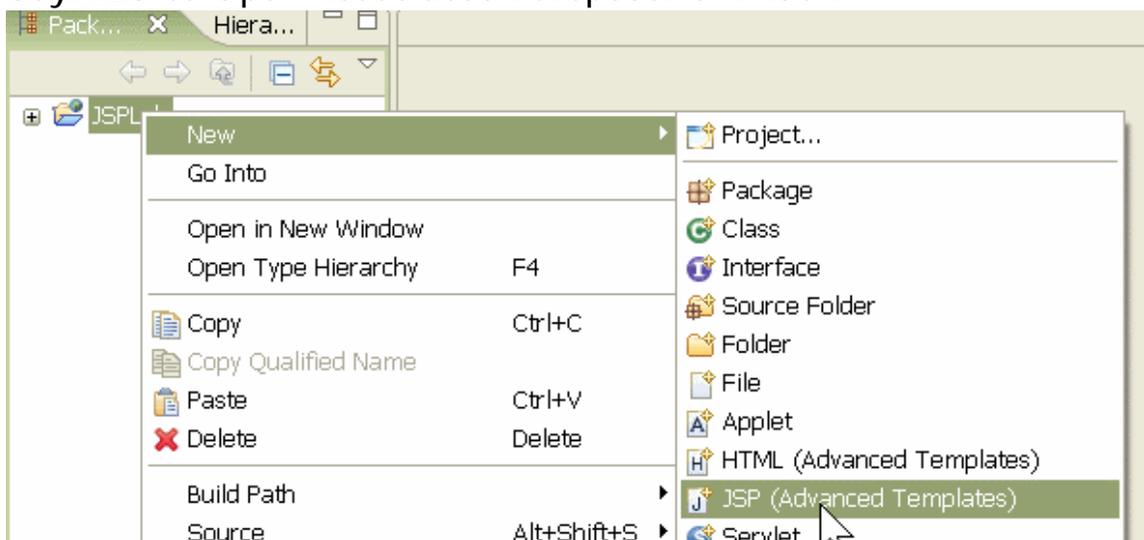
Right click JSPLab, select New > JSP (Advanced Templates),
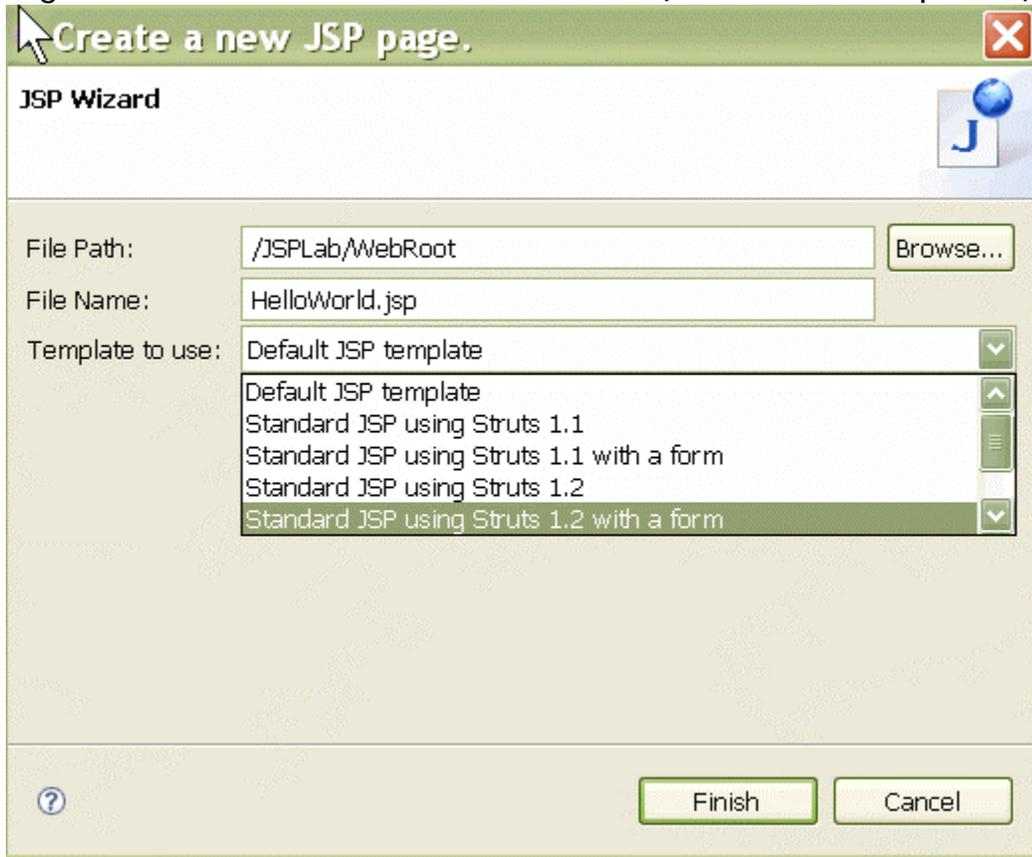
….. NOTE: Select Default JSP template

    Change File Name: to "HelloWorld.jsp"   --Finish

    Note: use the default template to which you can add code.
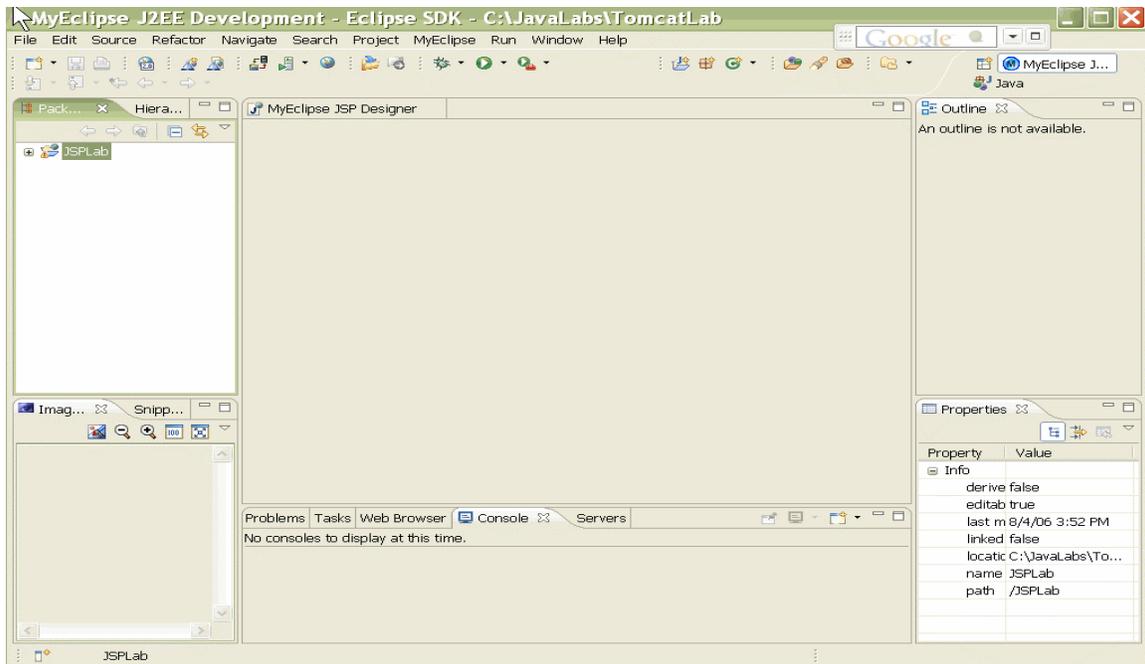
This is default MyEclipse view. Now close (X) the Outline and Properties boxes, and minimize (_) the Images box.
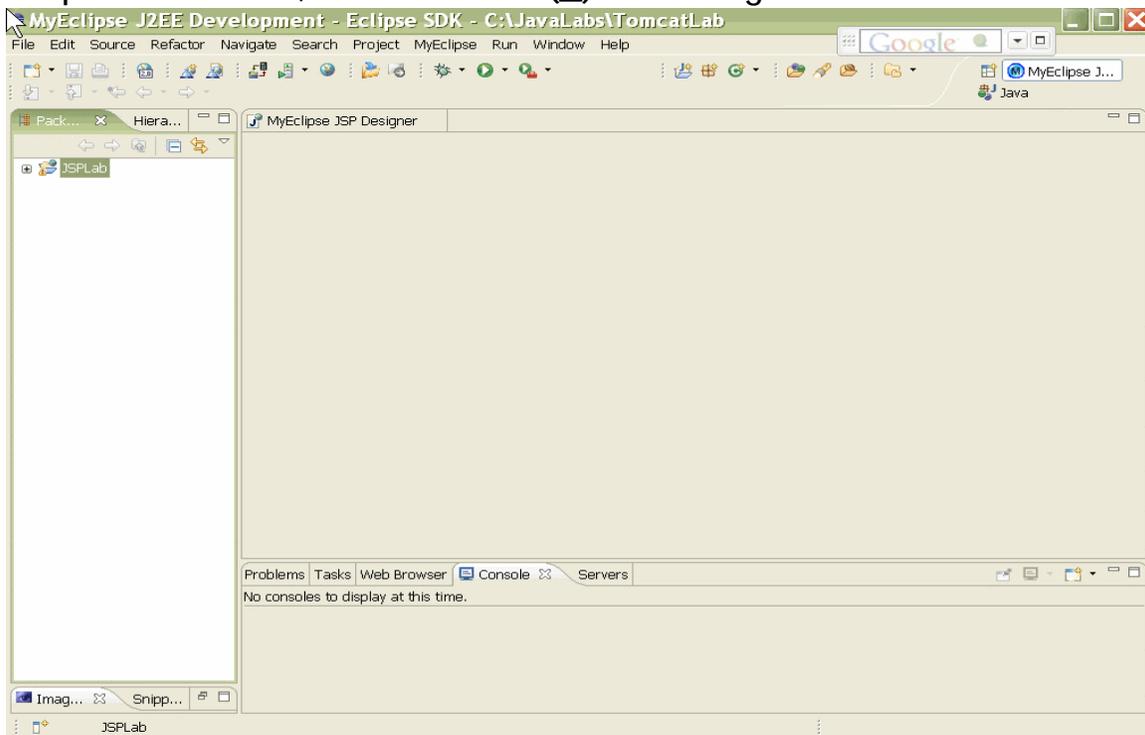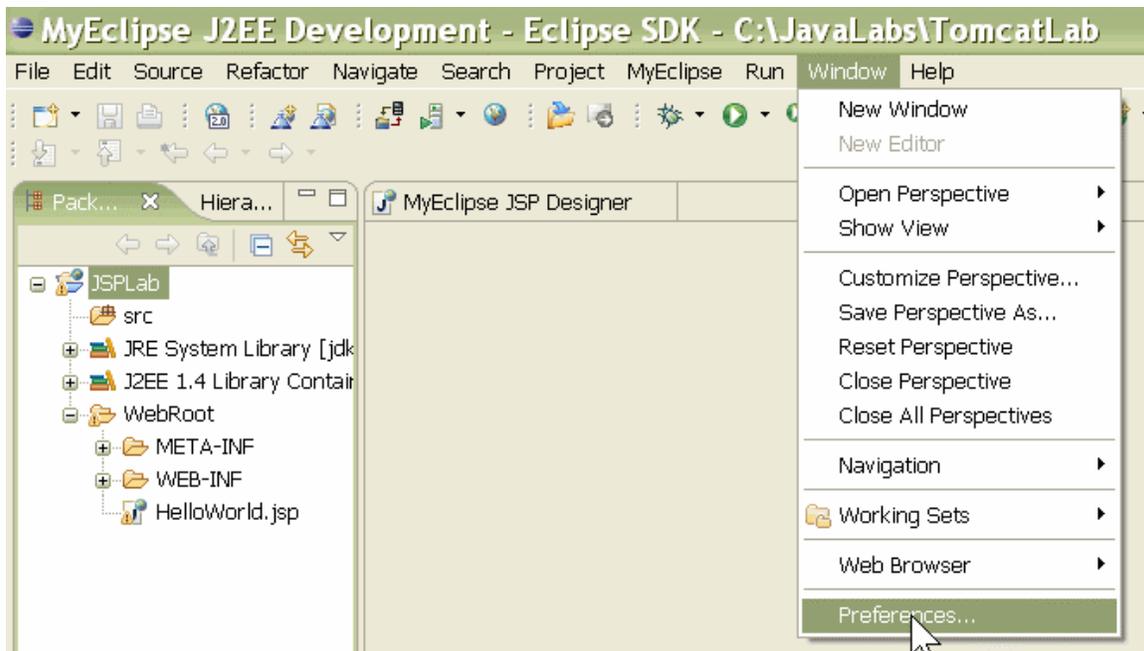
From the MyEclipse perspective verify file is located in the Web
Root folder.
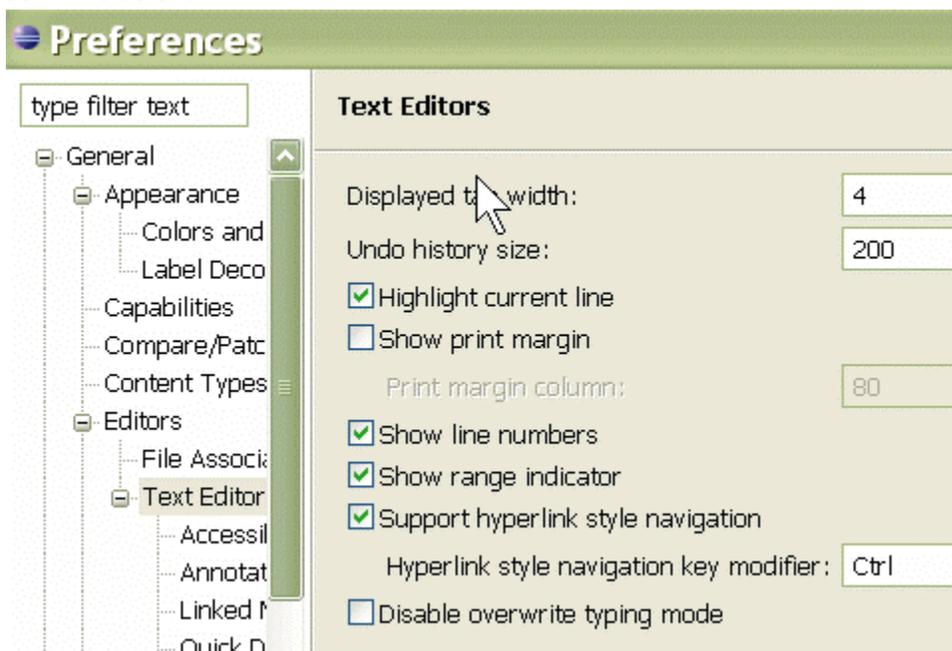
Turn on "line #" display by: Window>Preferences (+) General (+)
Editors> Text Editor   (check) Show Line #s (OK)

When first viewing a JSP page, right click, choose Open With, then Choose MyEclipse JSP editor. This is necessary because these examples were created in a previous version of MyEclipse, and will attempt to open in "Design View" which no longer exists. If single clicking does not work, try this way instead.

```
24
25    <body>
26      This is my JSP page. <br>
27      <%out.p %>
28    </body>
29  </html>
    <
```

```
Problems
0 errors, 1 warning,
  Description
  ☐ ⋮⋮ Warnings (:
      ⚠ The impo
```

```
● print(boolean arg0)  void - JspWriter
● print(char arg0)  void - JspWriter
● print(char[] arg0)  void - JspWriter
● print(double arg0)  void - JspWriter
● print(float arg0)  void - JspWriter
● print(int arg0)  void - JspWriter
● print(long arg0)  void - JspWriter
● print(Object arg0)  void - JspWriter
● print(String arg0)  void - JspWriter
● println()  void - JspWriter
● println(boolean arg0)  void - JspWriter
```

 Scroll to line 27 (after "This is my JSP page") Press "Enter" key to create a new line 27, then enter "<% out.p" followed by ctrl-space. (or may just popup)!!!
        to invoke MyEclipse code completion suggestions.

   MyEclipse JSP editor provides code completion for JSP directives, e.g., <%@ %>, custom JSP tags, e.g., <x:if>, and HTML tags.   The ctl+space sequence is used to invoke all relevant forms of code completion. Usually one gets a pop-up, but if the popup does not appear, try using Ctrl-space!
   Play around with other completions:

```
📄 *HelloWorld.jsp ✕
⚠ 1 <%@ page language="java" import="java.util.*" pa
  2 <%@ %>
  3 <%   <>include
  4 Str  <>page
  5 Str  <>taglib                                -requ
  6 %>   ◆ JSP expression - JSP expression <%=..%>
  7
  8 <!D                                          . Tra
  9 <ht
 10    <
 11
 12
 13                                              page
 14
```
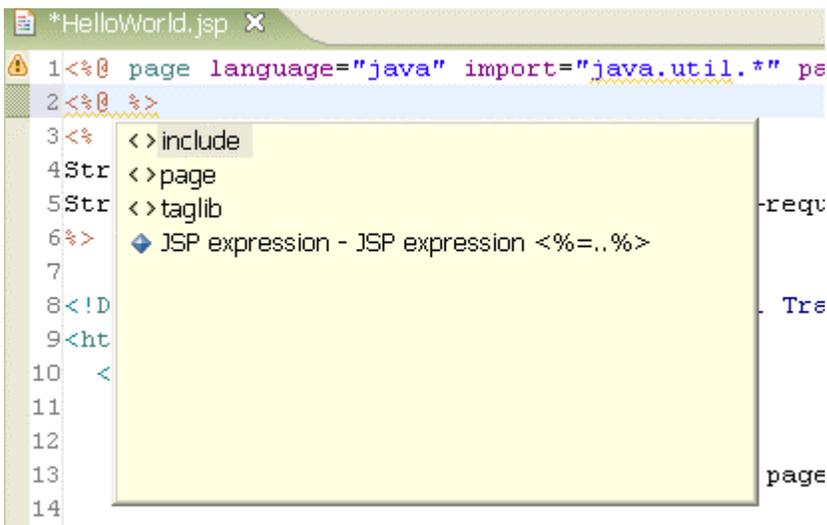
One new line 2 enter "<%@ "ctrl-space, choose page, then enter "space ctrl-space" again…
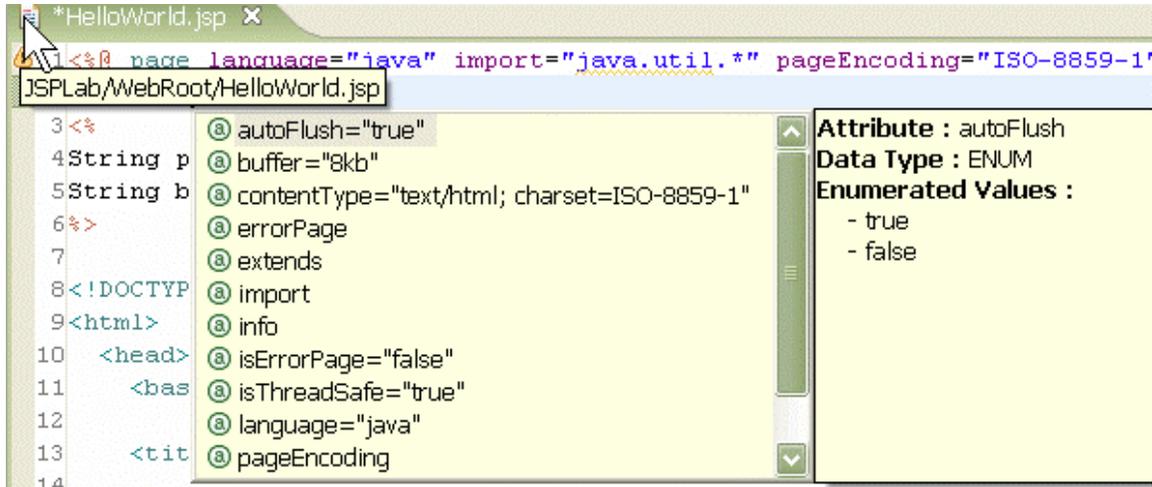
DELETE the <% page line we were playing with…
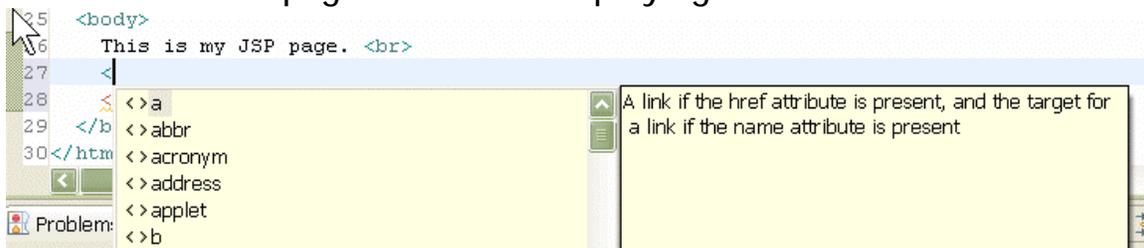
Scroll down to line 27 (after <body>) enter "<"ctrl-space… you now will get HTML tag completion hints…
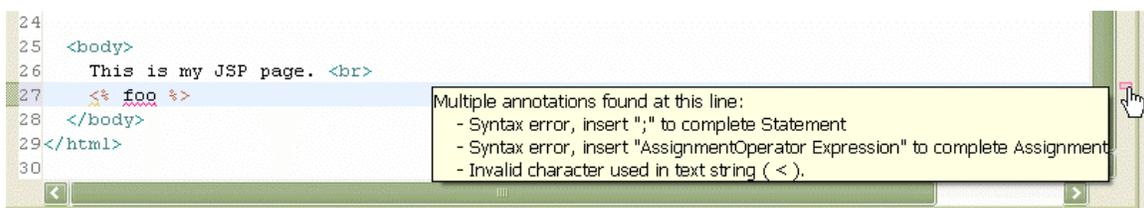
On line 28 replace the out.p with "foo %>".

Observe the squigly line that indicates a Java syntax error.

Some notes about validation:

The directory that contains javac.exe must be in system PATH
(c:\Program Files\Java\jdk1.5.0_07\bin).

I keep mentioning this because it stumped me for a few days. I
could not figure out how the MyEclipse Quickstart (which we
have been following) meant by "Launch MyEclipse with a full JDK
JVM". I thought I had!

Also verify that "Build Automatically" is checked under the
Project menubar.
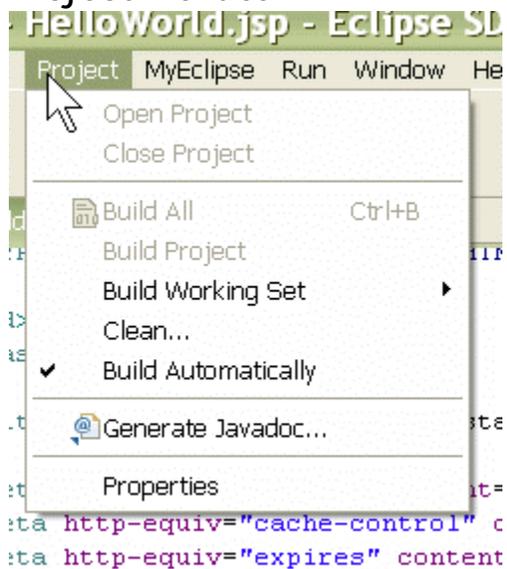
Set Validation preferences for all projects via
Windows > Preferences > MyEclipse > Validation.
The default validates everything.
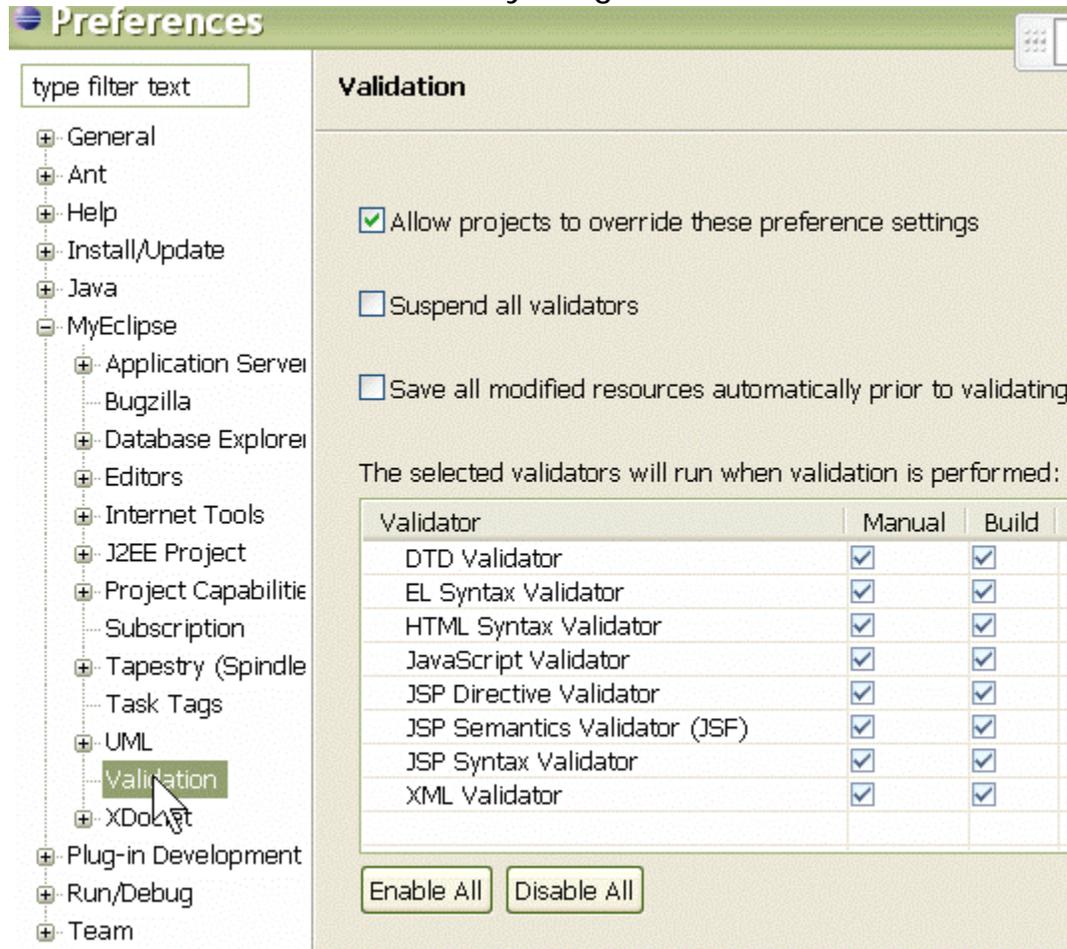
You can override these selections for individual projects:

Then: (+) Application Servers > Tomcat 5>Click Browse button to
find home directory "C:\Program Files\Apache... \ Tomcat 5.0"
click the "enable" button and press (OK)
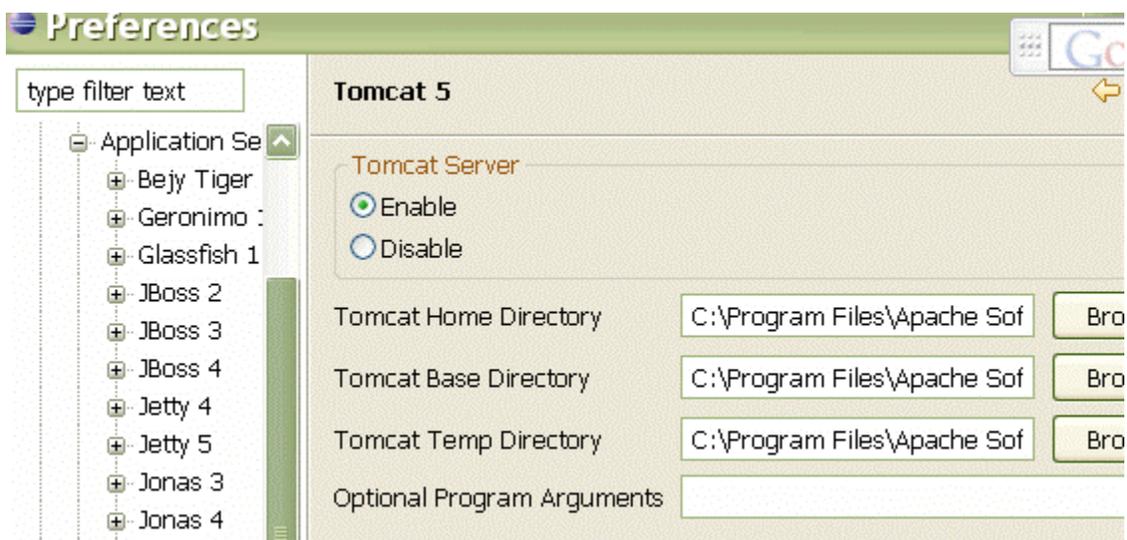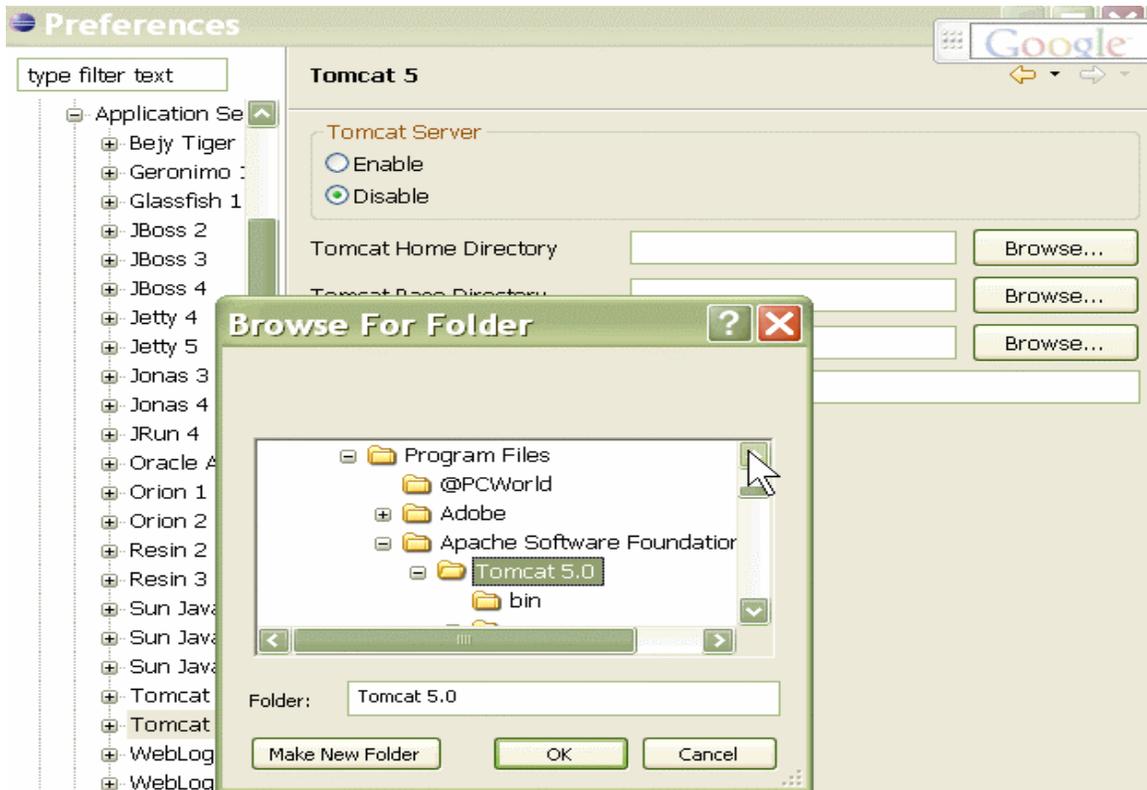
Now, change line 28 to read "<% out.println("Hello World") %>"
   note we have deliberately omitted the required ";".

Now, do "File ->Save". (I will just click the save icon).

```
25  <body>
26    This is my JSP page. <br>
27    <% out.println("Hello World") %>
28  </body>
29</html>
30
```
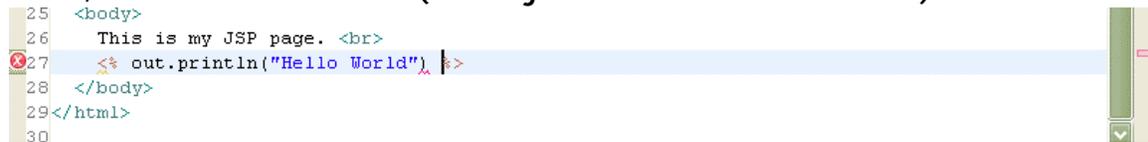
Note that line 28 is now marked on left and right.

Now correct the error (add the ";"). Then save to validate.

You can also validate by right clicking jsp, then choose "Validate JSP",
   BUT, if you have not saved it the validator will still think there
      are errors.

```
25  <body>
26    This is my JSP page. <br>
27    <% out.println("Hello World"); %>    Invalid character used in text string (
28  </body>                                    <
29</html>                                     ).
30
```

I have experienced many cases where MyEclipse falsely flags
HTML syntax errors (yellow).   However, this is a minor
annoyance.

The following illustrates two ways to "write" to an HTML page:

```
25  <body>
26    This is my JSP page. <br>
27    <% out.println("Hello World"); %>
28    <br> <%= "Hello World--this is normal way to write to page..." %>
29  </body>
30</html>
```
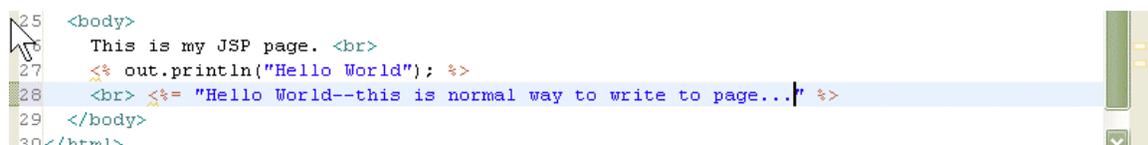
To deploy using Exploded Archive Deployment:
 Click "Deploy J2EE Project to Server" (7th button from left),
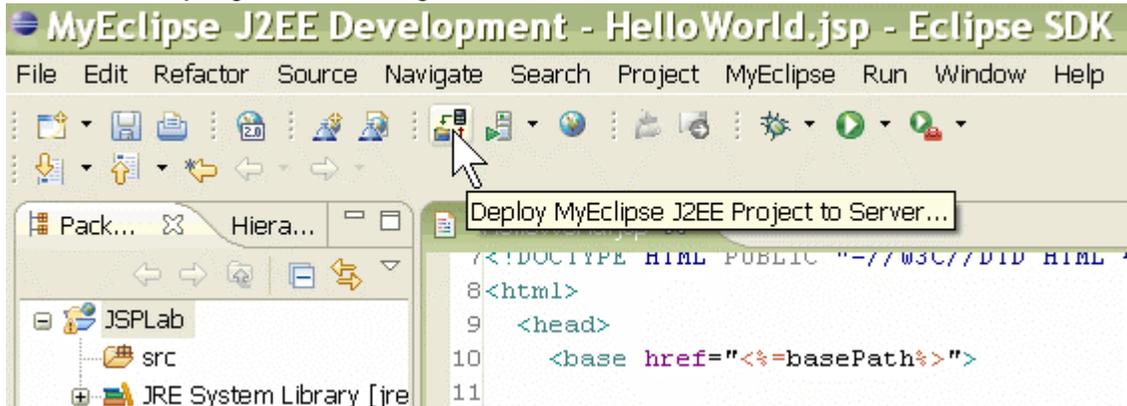
select Project from dropdown list, and click Add.
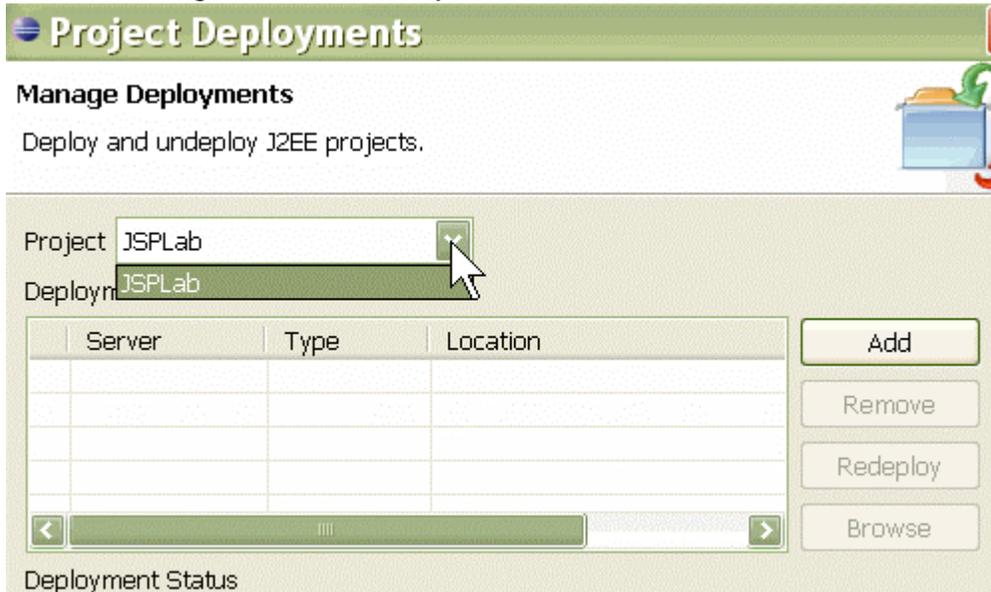
Select Server: Tomcat 5 (from dropdown list),
    button Exploded Archive is default.
        click Finish, then click OK.

New Deployment

New Deployment

Create new project deployment for JSPLab

Web Project:	JSPLab
Server:	

- <Externally Launched>
- Tomcat 5
- <Custom Location - Suffixed>
- <Custom Location>

Deploy type:

Deploy Location:

New Deployment

New Deployment

Create new project deployment for JSPLab

Web Project:	JSPLab
Server:	Tomcat 5

Error Creating Deployment

The selected server is enabled, but is not configured properly. Deployment to it will not be permitted until the problem is corrected. Please navigate to the server preference pages and verify the field with the prompt: Tomcat JDK name

Show preference page...

OK

Ooops, this should not happen, but lets illustrate recovery from an installation error.

Click the "Show preference page" to get
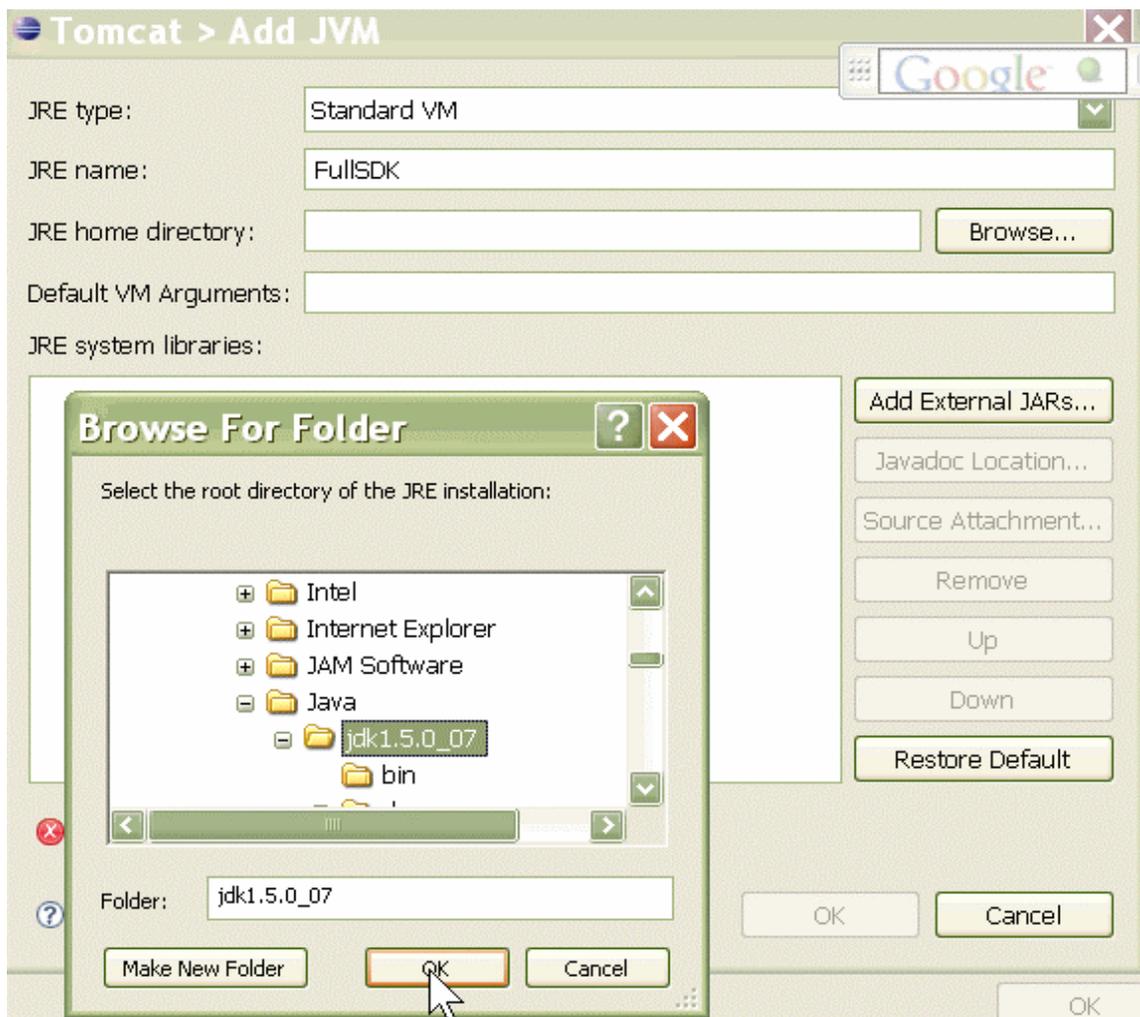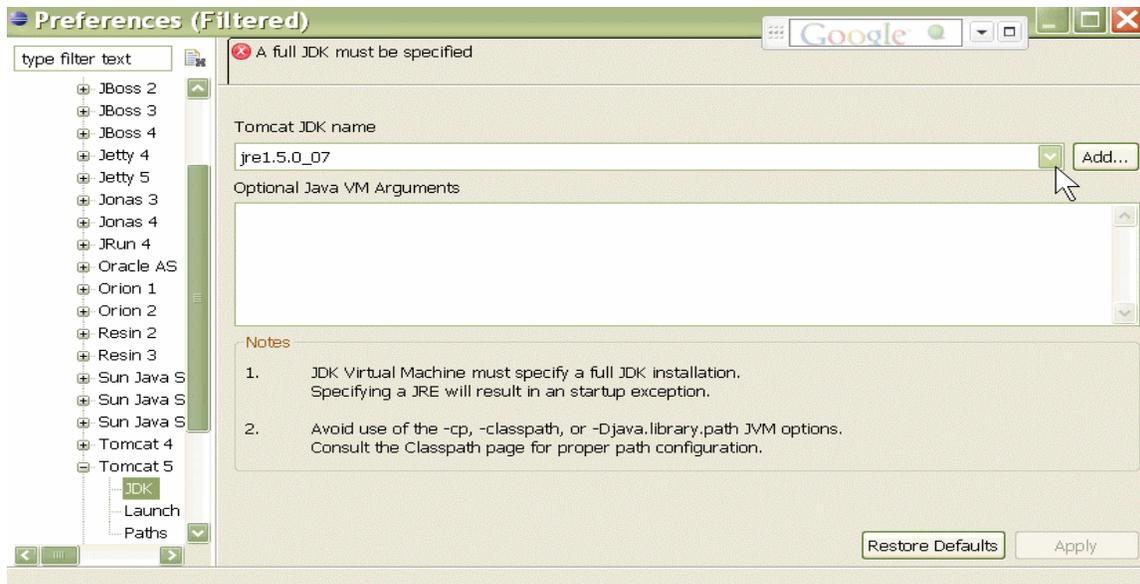
Fill in "FullSDK" and click "Browse", locate Java JDK, not JRE!
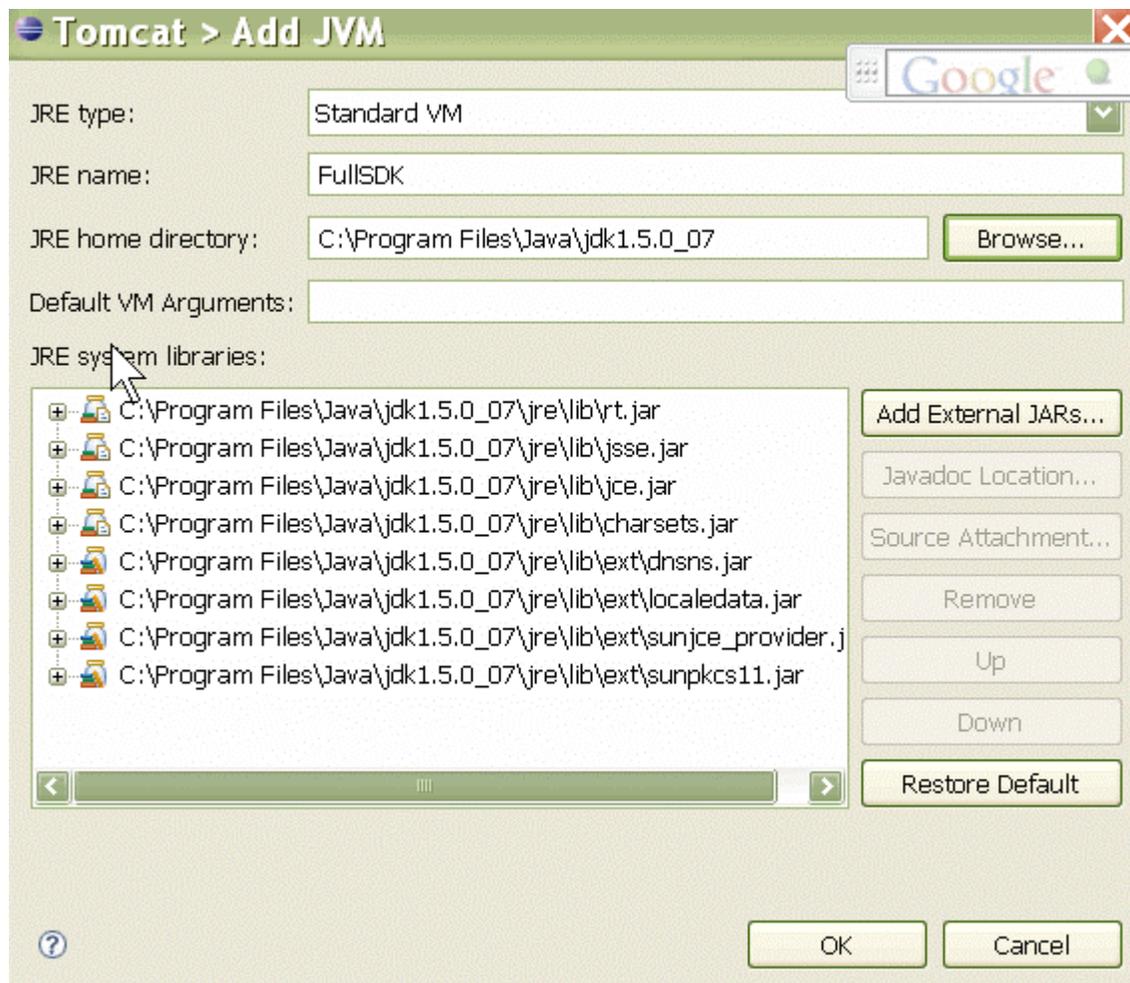
Now the Full SDK is known to the validator.
Click OK again, then FINISH and get:
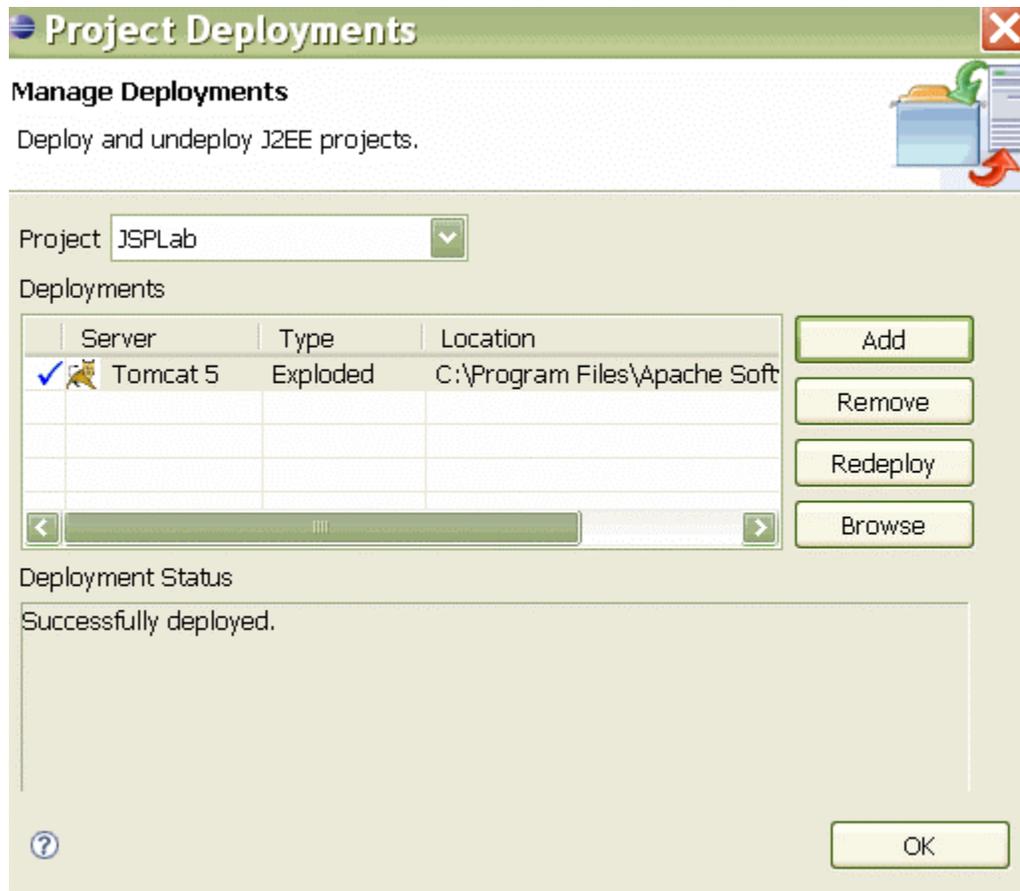
Click OK.

To run: click "Run/Stop Servers" (arrow to right).
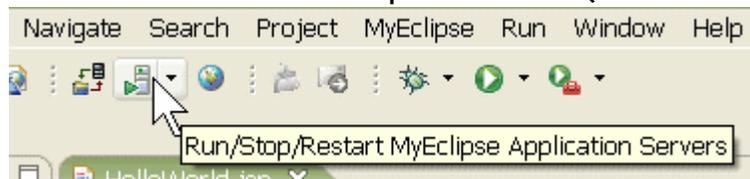
Choose Tomcat5 and Start…
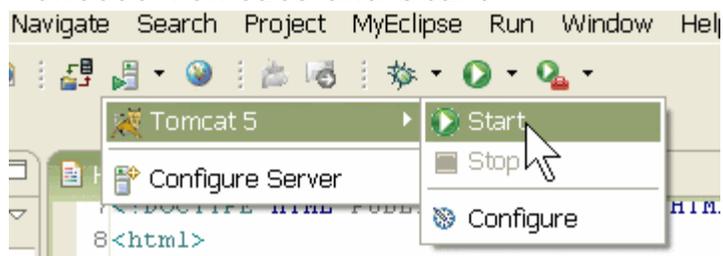
Wait for "INFO: Server startup ..." in console window.

```
25  <body>
26    This is my JSP page. <br>
27    <% out.println("Hello World"); %>
28    <br> <%= "Hello World--this is normal way to write to page..." %>
29  </body>
30</html>
```

Problems | Tasks | Web Browser | Console ✕ | Servers

omcat5Server [Remote Java Application] C:\Program Files\Java\jdk1.5.0_07\bin\javaw.exe (Aug 4, 2006 5:29:19 PM)

```
Aug 4, 2006 5:29:55 PM org.apache.jk.server.JkMain start
INFO: Jk running ID=0 time=94/1610  config=C:\Program Files\Apache Software Foundation\Tomcat 5.0
Aug 4, 2006 5:29:55 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 24812 ms
```

On Desktop, JavaLabs folder, click the "TomcatIE" icon. Since index.jsp does not yet exist, replace index.jsp in the end of the URL with HelloWorld.jsp.

Apache Tomcat/5.0.28 - Error report - Micr

File Edit View Favorites Tools Help

Back | Search Favorites

Address http://localhost:8080/JSPLab/index.jsp

HTTP Status 404 - /index.jsp

type Status report

message /index.jsp

description The requested resource (/index.jsp) is not available.

Apache Tomcat/5.0.28

My JSP 'HelloWorld.jsp' starting page - Microsof

File Edit View Favorites Tools Help

Back | Search Favorites

Address http://localhost:8080/JSPLab/HelloWorld.jsp

This is my JSP page.
Hello World
Hello World--this is normal way to write to page...

Once you have gotten this far, continue with the rest of the exercises.

Exercise 2—Import, explore and run sample JSP code...

Now, let's import the "rest" of the JSPLab project from the Desktop: JavaLabs/Projects directory. The project includes the "solutions" to the following exercises. The index.jsp page lets you run each of the examples.

Right click JSPLab project > Import >
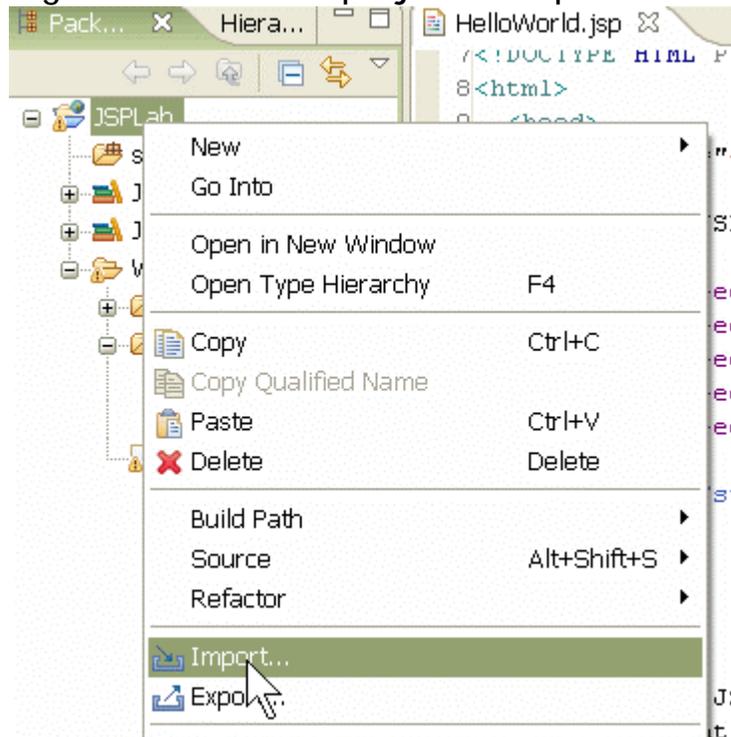
File System > Next

Import

Select

Import resources from the local file system into an exis

Select an import source:

type filter text

- General
  - Archive File
  - Breakpoints
  - Existing Projects into Workspace
  - File System
  - Preferences
- CVS
- Plug-in Development
- Team

< Back   Next >
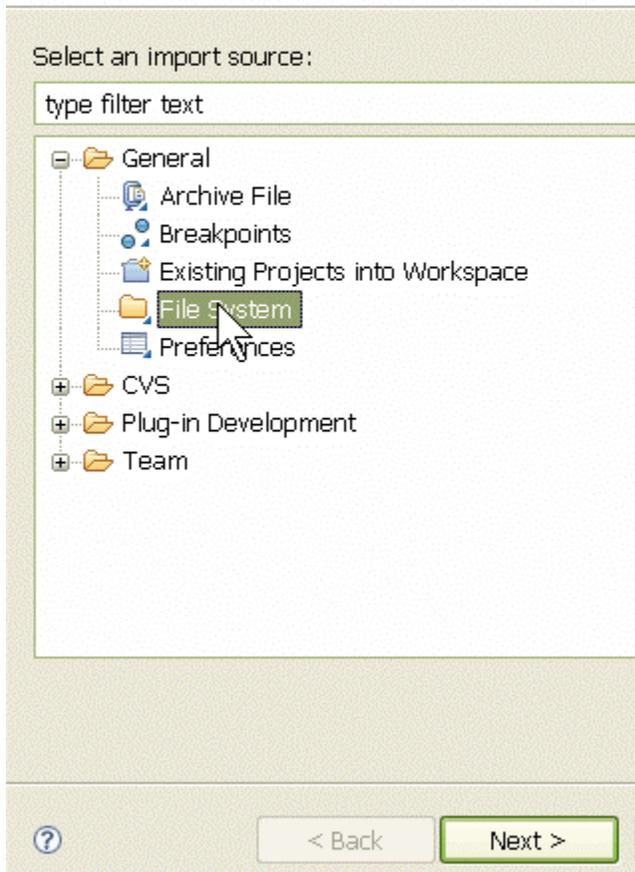
Browse to Desktop: JavaLabs/Projects directory: select JSPLab
and press OK

> ➢ Select All > Finish > Yes to All (or "Yes" except HelloWorld)
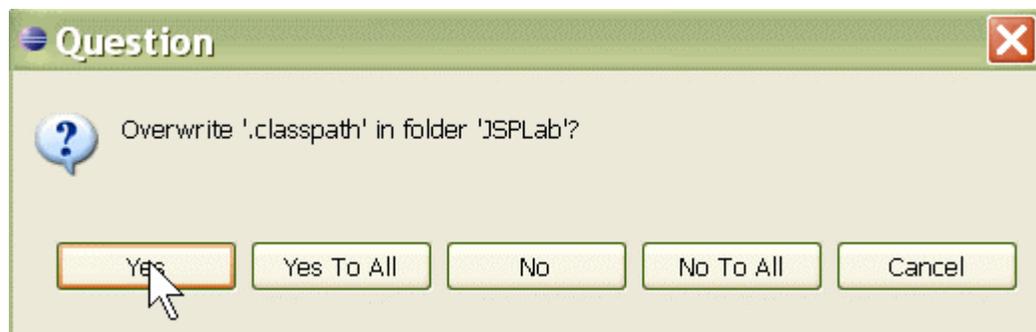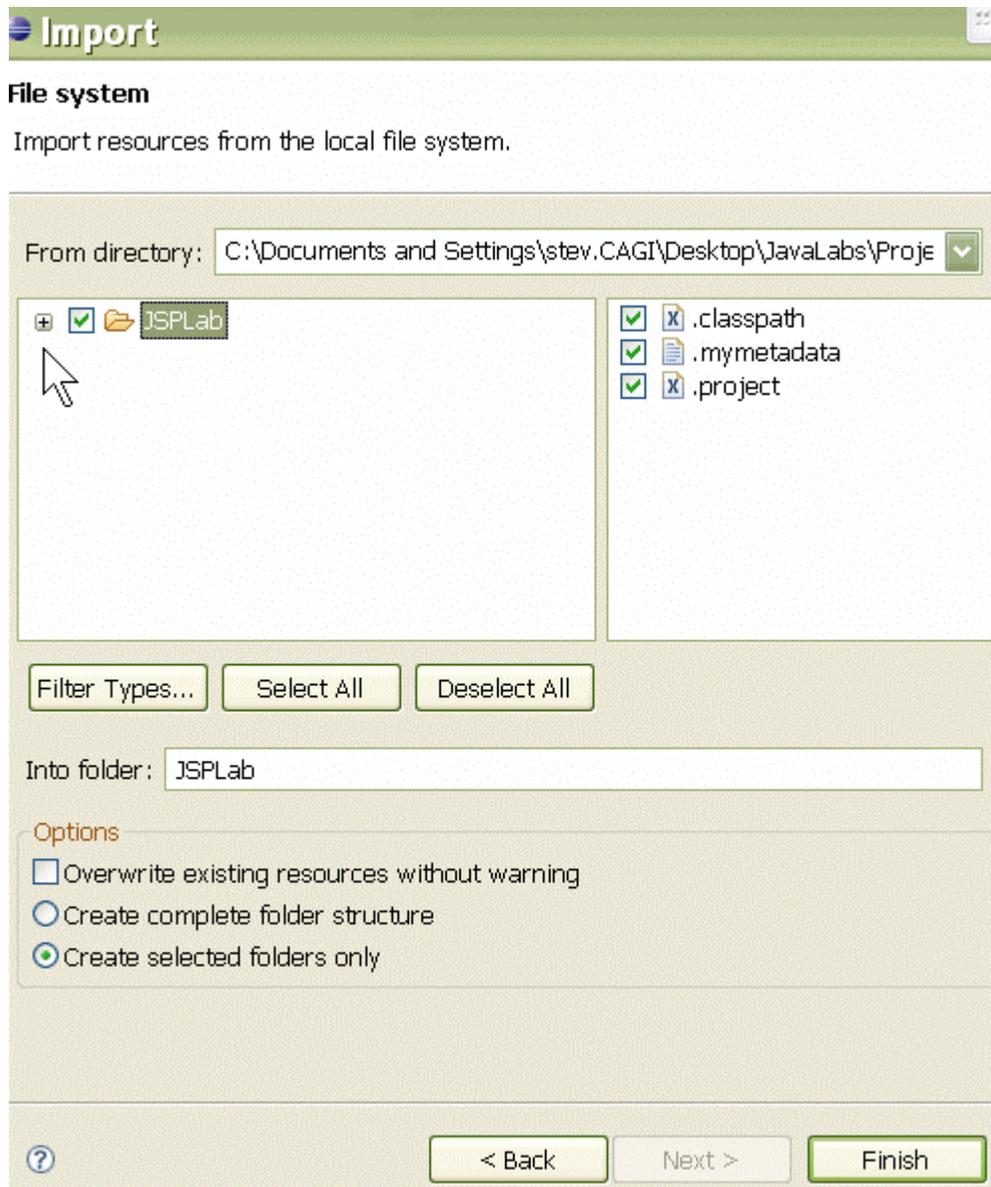
Click YES each time OR YesToAll.

(+) JSPLab (+) Webroot to see imported jsp pages...
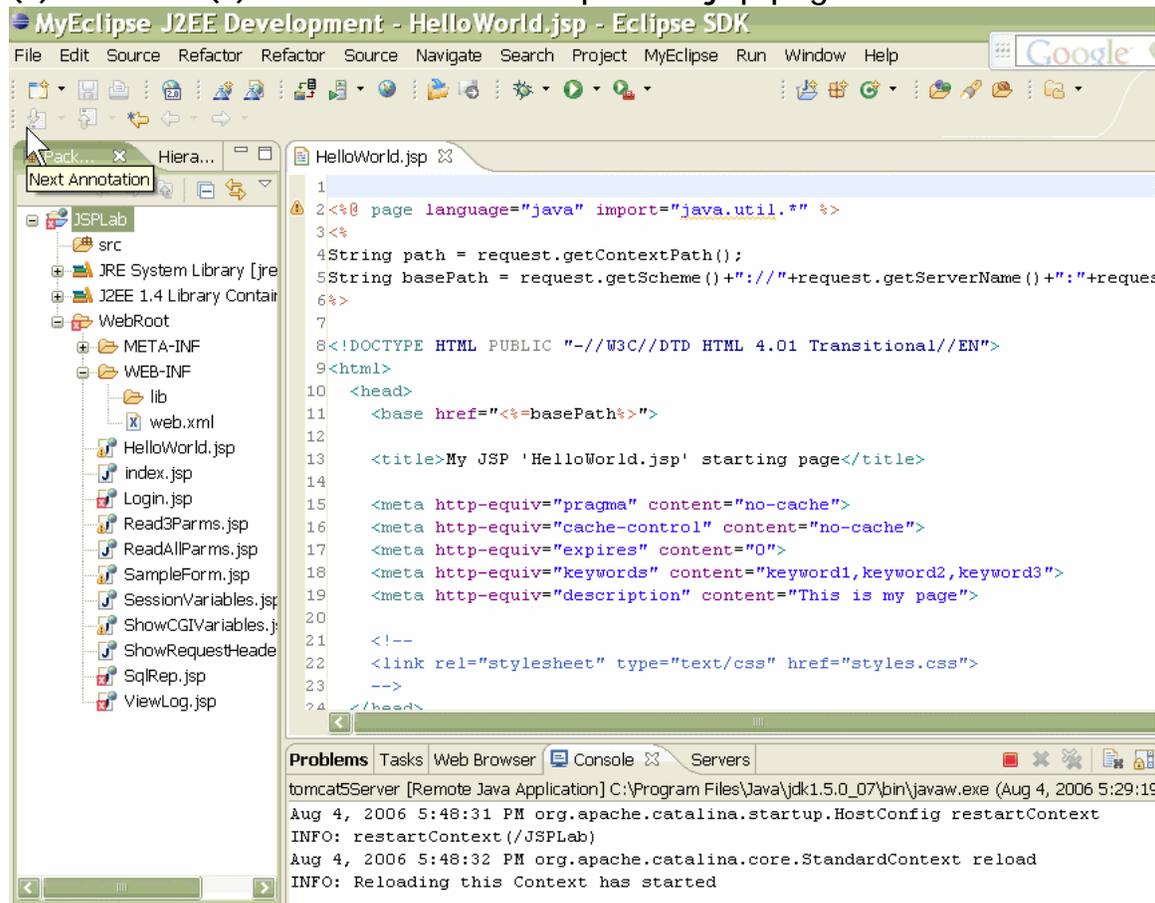


If Tomcat has been stopped:

Run Start Servers > Tomcat 5 > Start

Wait for "INFO: Server startup" message in console window!

On Desktop, JavaLabs folder, click the "TomcatIE" icon.

JSPLab 'index.jsp' starting page - Mic

File   Edit   View   Favorites   Tools   Help

Back   Search

Address   http://localhost:8080/JSPLab/index.jsp

Index to pages you will be building...

Select one of the following...

JSP Tutorial
   This is source of some of the lab examples.

HelloWorld.jsp
Read3Parms
ReadAllParms
SampleForm.jsp
ShowRequestHeaders.jsp
ShowCGIVariables.jsp
SessionVariables.jsp
SqlRep.jsp
ViewLog.jsp

Here just a few of slides:

Address   http://localhost:8080/JSPLab/Read3Parms.jsp?p1=Hello&p2=to&p3=you

Read 3 Parms

- param1: Hello
- param2: to
- param3: you

Examine these by running the various pages then switching back to Eclipse and looking at the code. By following this procedure for each of the examples you will see examples of how to perform basic functions such as reading form parameters and querying the session and request environments.

Note that SqlRep and ViewLog will not work, they are part of the next lab.