JSF Tools Tutorial

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Chapter 1.

Introduction

The following chapters describe how to deal with classic/old style of JSF development. We recommend users to use JBoss Seam [../../seam/html_single/index.html] to simplify development, but until then you can read about classical JSF usage here.

Thus, in this document we are going to show you how to create a simple JSF application using JBoss Tools plugins for Eclipse. The completed application will ask a user to enter a name and click a button. The resulting new page will display the familiar message, "Hello <name>!" This tutorial will show you how to create and run such an application from the beginning along the way demonstrating some of the powerful features of JBoss Tools.

1.1. Other relevant resources on the topic

All JBoss Developer Studio/JBoss Tools documentation you can find here [http://www.jboss.com/products/devstudio/docs].

The latest documentation builds are available here [http://download.jboss.org/jbosstools/nightly-docs/].
Chapter 2.

Creating a Simple JSF Application

Firstly, we assume that you have already launched Eclipse with JBoss Tools plug-ins installed and also that the Web Development perspective is the current one. (If not, make it active by selecting Window > Open Perspective > Web Development from the menu bar or by selecting Window > Open Perspective > Other... from the menu bar and then selecting Web Development from the Select Perspective dialog box.)

2.1. Setting Up the Project

Now we are going to create a new project for the application.

• For that go to the menu bar and select File > New > Project...
• Select JBoss Tools Web > JSF > JSF Project in the New Project dialog box
• Click Next
• Enter "jsfHello" as the project name.
• Leave everything else as is, and click Finish

2.2. JSF Configuration File

A jsfHello node should appear in the upper-left Package Explorer view.

Figure 2.1. Package Explorer View
Chapter 2. Creating a Simple ...

- Click the plus sign next to \texttt{jsfHello} to reveal the child nodes
- Click the plus sign next to \texttt{WebContent} under jsfHello
- Click the plus sign next to \texttt{WEB-INF} under WebContent
- Then double-click on the \texttt{faces-config.xml} node to display the JSF application configuration file editor

\textbf{Figure 2.2. Configuration File Editor}
Adding Navigation to the Application

In our simple application, the flow is defined as a single navigation rule connecting two views (presentation files). At this point, we will create the placeholders for the two JSP presentation files and then the navigation rule to connect them as views. Later, we will complete the coding for the JSP presentation files. We can do all of this in the Diagram mode of the configuration file editor.

3.1. Adding Two Views (JSP Pages)

- Right-click anywhere on the diagram and select New View... from the pop-up menu
- In the dialog box, type pages/inputname as the value for From-view-id
- Leave everything else as is
- Click Finish

If you look in the Package Explorer view you should see a pages folder under WebContent. Opening it will reveal the JSP file you just created

- Back on the diagram, right-click anywhere and select New View... from the pop-up menu
- In the dialog box, type pages/greeting as the value for From-view-id
- Leave everything else as is
- Click Finish

3.2. Creating the Transition (Navigation Rule)

- In the diagram, select the connection icon third from the top along the upper left side of the diagram

![Figure 3.1. Connection Icon](image)

to get an arrow cursor with a two-pronged plug at the arrow’s bottom.

- Click on the pages/inputname page icon and then click on the pages/greeting page icon

A transition should appear between the two icons.
Figure 3.2. Transition Between Two Icons

- Select *File > Save* from the menu bar
Adding a Managed Bean to the Application

To store data in the application, we will use a managed bean.

• Click on the Tree tab at the bottom of the editing window

• Select the Managed Beans node and then click the Add... button displayed along the right side of the editor window

• Type in jsfHello.PersonBean for Class and personBean for Name. Leave Scope as is and Generate Source Code as is (checked)

• Click Finish

• personBean will now be selected and three sections of information: Managed Bean, Properties, and Advanced, will be displayed about it. Under the Properties section, click the Add... button

• Type in name for Property-Name. Leave everything else as is. (When Property- Class is not filled in, String is the assumed type)

• Click Finish

• Select the personBean node in the tree

You should see this now:
Figure 4.1. Tree View in Config Editor

- Select **File > Save** from the menu bar

You have now registered the *managed bean* and created a *stub-coded class* file for it.
Chapter 5.

Editing the JSP View Files

Now we will finish editing the JSP files for our two “views” using JSP Visual Page.

5.1. inputname.jsp

• Click on the *Diagram* tab for the configuration file editor

• Open the editor for this first JSP file by double-clicking on the */pages/inputname.jsp* icon

The Visual Page Editor will open in a screen split between source code along the top and a WYSIWIG view along the bottom:

![Visual Page Editor](image)

**Figure 5.1. Visual Page Editor**

Some JSF code is already in the file, because we have chosen a template to create a page.

• Select the *Visual* tab, so we can work with the editor completely in its WYSIWYG mode

• To the right of the editor, in the JBoss Tools Palette, expand the *JSF HTML* palette folder by selecting it
Chapter 5. Editing the JSP Vi...

Figure 5.2. JBoss Tools Palette

- Click on form within this folder, drag the cursor over to the editor, and drop it inside the red box in the editor

- Another red box will appear inside the first red box

- Right-click on the innermost box and select <h:form> Attributes from the menu

- In the value field next to id, type greeting and click on the Close button

- Type "Please enter name:" inside the boxes

- Select inputText within the JSF HTML palette folder and drag it into the innermost box in the editor after "Please enter name:"

- In the attributes dialog, click in the value field next to the value attribute and click on the ... button

- Then, select the Managed Beans > personBean > name node and click on the Ok button

- Back in the attributes dialog, select the Advanced tab, type in name as the value for the "id" attribute, and then click on the Finish button
• Select **commandButton** within the JSF HTML palette folder and drag it into the innermost box in the editor after the input box

• In the attributes dialog, click in the value field next to the **"action"** attribute and click on the **...** button

• Then, select the **View Actions > greeting** node and click on the **OK** button

• Back in the attributes dialog box, type in "Say Hello" as the value for the value attribute ("Say Hello") and then click on the **Finish** button

The source coding should be something like this now:

```jsp
<%@ taglib uri="http://java.sun.com/jsf/html" prefix="h" %>
<%@ taglib uri="http://java.sun.com/jsf/core" prefix="f" %>
<html>
<head>
<title></title>
</head>
<body>
<f:view>
<h:form id="greeting">
<para>Please enter a name:</para>
<h:inputText id="name" value="#{personBean.name}"/>
<h:commandButton value="Say Hello" action="greeting"/>
</h:form>
</f:view>
</body>
</html>
```

The editor should look like this:
Chapter 5. Editing the JSP Vi...

Figure 5.3. Visual Page Editor

- Save the file by selecting File > Save from the menu bar

5.2. greeting.jsp

- Click on the faces-config.xml tab to bring the diagram back

- Open the editor for the second file by double-clicking on the /pages/greeting.jsp icon

- Select the Visual tab, so we can work with the editor completely in its WYSIWYG mode

- Type "Hello "(note space after Hello) into the box

- Select outputText within the JSF HTML palette folder and drag it into the innermost box in the editor after "Hello"

- In the attributes dialog, click in value field next to the value attribute and click on the ... (Browse) button

- Then, select the Managed Beans > personBean > name node, click on the Ok button, and then click on the Finish button

- Right after the output field, type an exclamation point (!)

The source coding should be something like this now:

```jsp
<%@ taglib uri="http://java.sun.com/jsf/html" prefix="h" %>
<%@ taglib uri="http://java.sun.com/jsf/core" prefix="f" %>
```
• Save the file
Creating the Start Page

You also need to create a start page as an entry point into the application.

- In the Package Explorer view to the left, right-click `jsfHello > WebContent` and select `New > JSP File`
- For Name type in `index`, for Template select `JSPRedirect` and click `Finish`

A JSP editor will open up on the newly created file.

- In the Source part of the split screen, type `/pages/inputname.jsf` in between the quotes for the page attribute

The source coding should look like this now:

```html
<!doctype html public "-//w3c//dtd html 4.0 transitional//en">
<html>
<head></head>
<body>
<jsp:forward page="/pages/inputname.jsf"/>
</body>
</html>
```

Note the `.jsf` extension for the file name. This is a mapping defined in the web.xml file for the project for invoking JavaServer Faces when you run the application.

- Select `File > Save` from the menu bar
Running the Application

Everything is now ready for running our application by using the JBoss engine. For controlling JBoss server there is JBoss Server view:

![Figure 7.1. JBoss Server View](image)

- Start up JBoss by clicking on the icon in JBoss Server view. (If JBoss is already running, stop it by clicking on the red icon and then start it again. Remember, the JSF run-time requires restarting the servlet engine when any changes have been made.) After the messages in the Console tabbed view stop scrolling, JBoss is available

- Click the Run icon or right click your project folder and select Run As > Run on Server:

![Figure 7.2. Run Icon](image)

This is the equivalent of launching the browser and typing `http://localhost:8080/jsfHello` into your browser. Our JSF application should now appear.
Other Relevant Resources on the topic

JSF on Sun: JavaServer Faces Technology [http://java.sun.com/javaee/javaserverfaces/]

Core JSF: Core JavaServer Faces [http://www.horstmann.com/corejsf/]

API: JSF API [http://java.sun.com/javaee/javaserverfaces/1.1/docs/api/index.html]

JSF Tags: JSF Core Tags [http://www.horstmann.com/corejsf/jsf-tags.html]


JSF Central: JSF Central - Your JavaServer Faces Community [http://www.jsfcentral.com/]

FAQ: JSF FAQ [http://wiki.java.net/bin/view/Projects/JavaServerFacesSpecFaq]


In summary, with this tutorial you should now know how to organize JSF sample application using the wizards provided by JBoss Tools, configure its stuff and finally run it on the JBoss Server.
