Jakarta RESTful Web Services 3.1 Workshop

Participant

**Module 6: Servlet and Jakarta Faces RESTful Clients**

In this module we will explore RESTful clients that are server based. This means that the client can be part of a Servlet or in a POJO called upon from a Jakarta Faces page. To begin, bring down the following projects:

* https://gitlab.com/omniprof/mod\_06\_servletclient\_participant.git
* https://gitlab.com/omniprof/mod\_06\_jsfclient\_participant.git
* https://gitlab.com/omniprof/mod\_06\_restserver.git

The Mod\_06\_RestServer is complete and is the host of the service. Have this running on the server before you work on either of the two clients.

**The Projects**

There are two different clients in this module. The first is the Servlet based client using an HTML page for input. The second is the Jakarta Faces based client. Here are the Maven layouts.

 

**The pom file**

The pom file dependencies are the same for both versions, servlet and faces. As the server already has all the libraries you need the dependencies are quite simple.

<dependencies>

<dependency>

<groupId>jakarta.platform</groupId>

<artifactId>jakarta.jakartaee-api</artifactId>

<version>${jakartaee-api.version}</version>

<scope>provided</scope>

</dependency>

</dependencies>

There are no plugins required.

**Let’s look at the beans.xml**

This file is the same for all examples.

**Let’s look at the web.xml**

In the Servlet client all that you need is the name of the welcome file. In this example the welcome file is the index.html file.

The Jakarta Faces client’s web.xml file also only needs the welcome file name that in this case is an xhtml file, index.xhtml. There are two optional settings. The PROJECT\_STAGE determines the messages that Faces returns in the event of a problem. The FACELETS\_SKIP\_COMMENTS determines if comments in the xhtml file will be visible if the user uses View Source Code in their browser.

Now let us look at what you need to do to finish both clients.

**Mod\_06\_ServletClient\_participant**

In this project a Jakarta Servlet will be the home of the REST services client code. The ServletClient.java is the target for a submit from the index.html page. The HTML form shows that when the Submit button is pressed the ServletClient will be called.

<form action="ServletClient" method="get">

The class constructs a CompoundBean using the values from the request parameters. Next is a callCompoundService where you will enter the REST client code.

The task in this Servlet is to display a web page. My example places the page code in the doGet method. The purpose of this is to display the input and the result. Normally you would rarely construct HTML in a Servlet. A more common setup is to use Jakarta Server Pages with Jakarta Servlets.

Your task is to implement the RESTful client code in the callCompoundService method.

Now let us look at the Faces version.

**Mod\_06\_JSFClient\_participant**

In this project we are dispensing with Servlets. Instead, the file index.xhtml is a Jakarta Faces file. If you are not familiar with Faces, then this is a simple introduction. The Faces page looks like an HTML page. Unlike an HTML file, this page does not load into the browser. Instead, the page loads into the Faces framework servlet where it is translated into HTML that is sent to the browser.

This project also employs internationalization. This the purpose of the faces-config.xml file. It has the name of the package containing the bundles for each language along with the name of the identifier you can use in your Faces page. In the index.xhtml you will see references such as #{msgs.principal}. This means that you want the text with the key principal from the appropriate language bundle. You can find the bundles in the folder src/main/resources/com/eclipse/bundles. There is a default, English, and French bundle. The visitor’s browser informs the server of your language.

Your task is to implement the RESTful client code in the callCompoundService method very similar to the ServletClient. The only difference is that JSF can access beans and call action methods directly from the page. Action methods must return a string or null. The string could be the next page to navigate to but as this is a single page app we return null.

The code to interact with the service will be the same code as the servlet but with the result stored in the CDI bean and the return value set to null.

**Where are we now?**

At this point in the workshop we have seen how we can construct REST services that can run on a server or in a desktop app. We have seen desktop, Servlet, and JSF clients. Coming up we will learn how to construct a service that accepts a binary file such as an image.

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