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JSF Resource Bundles Example

Posted by: Veeramani Kalyanasundaram in jsf February 27th, 2015

In this example we will show you how to use resource bundles in Java Server Faces. Resource bundles in JSF are key value pair of strings stored in

```
.properties
```

file extension. Resource bundles helps in maintainability of the application by keeping messages at one place.

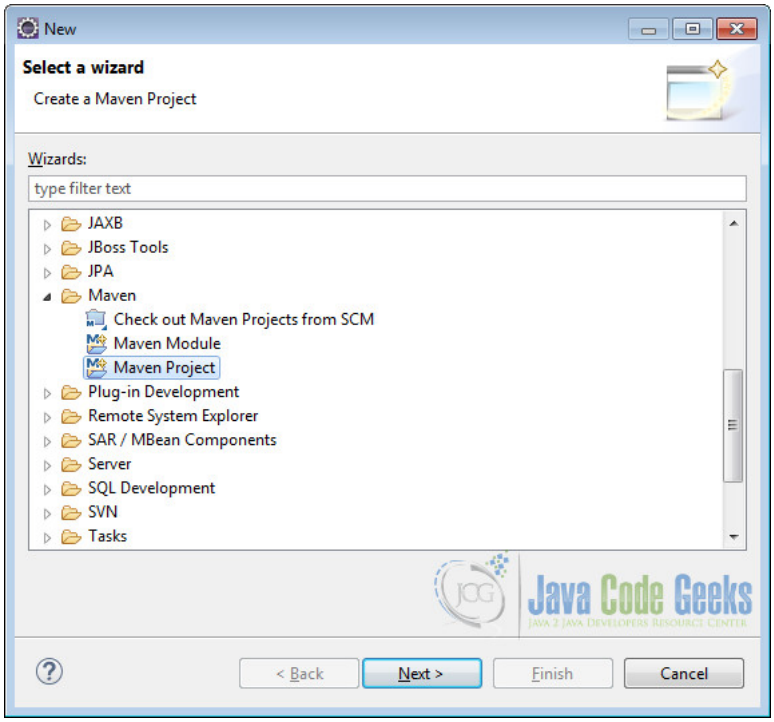
We will discuss about different methods available to load the resource bundle and show you how to utilize resource bundles for internationalization. Let's begin with setting up a JSF project and do all the necessary configuration to run the application.

Our preferred environment is Eclipse. We are using Eclipse Luna SR1 with Maven Integration Plugin, JDK 8u25 (1.8.0_25) and Tomcat 8 application server. Having said that, we have tested the code against JDK 1.7 and Tomcat 7 as well.

Tip
You may skip project creation and jump directly to the **beginning of the example** below.

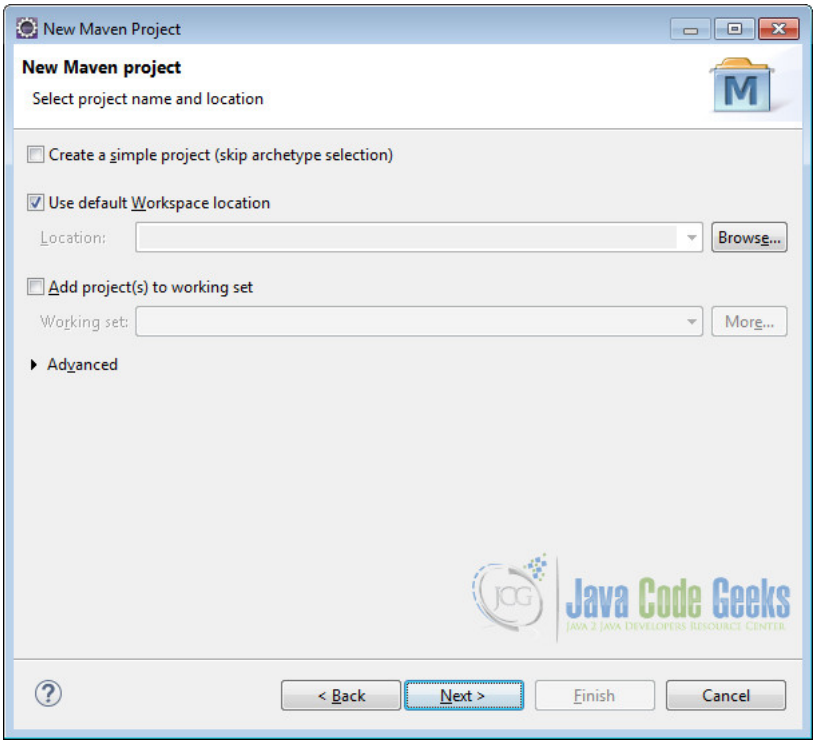
1. Create a new Maven Project

Go to File -> New->Other-> Maven Project



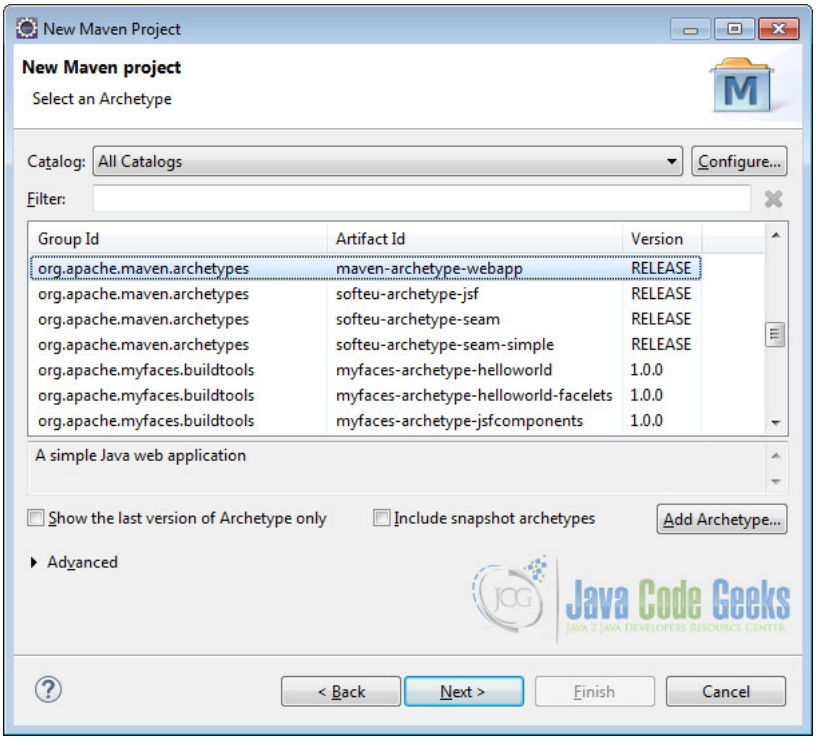
Maven Setup – Step 1

In the "Select project name and location" page of the wizard, make sure that "Create a simple project (skip archetype selection)" option is **unchecked**, hit "Next" to continue with default values.



Maven setup – step 2

Here choose "maven-archetype-webapp" and click on Next.



Maven setup – step 3

In the "Enter an artifact id" page of the wizard, you can define the name and main package of your project. Set the "Group Id" variable to

```
"com.javacodegeeks.snippets.enterprise"
```

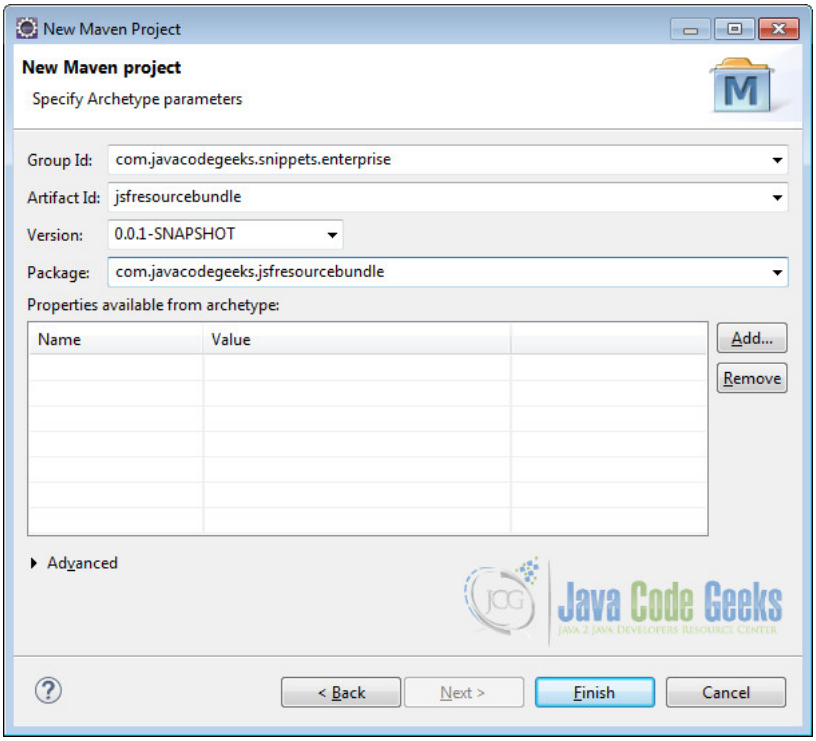
and the "Artifact Id" variable to

```
"jsfresourcebundle"
```

. For package enter

```
"com.javacodegeeks.jsfresourcebundle"
```

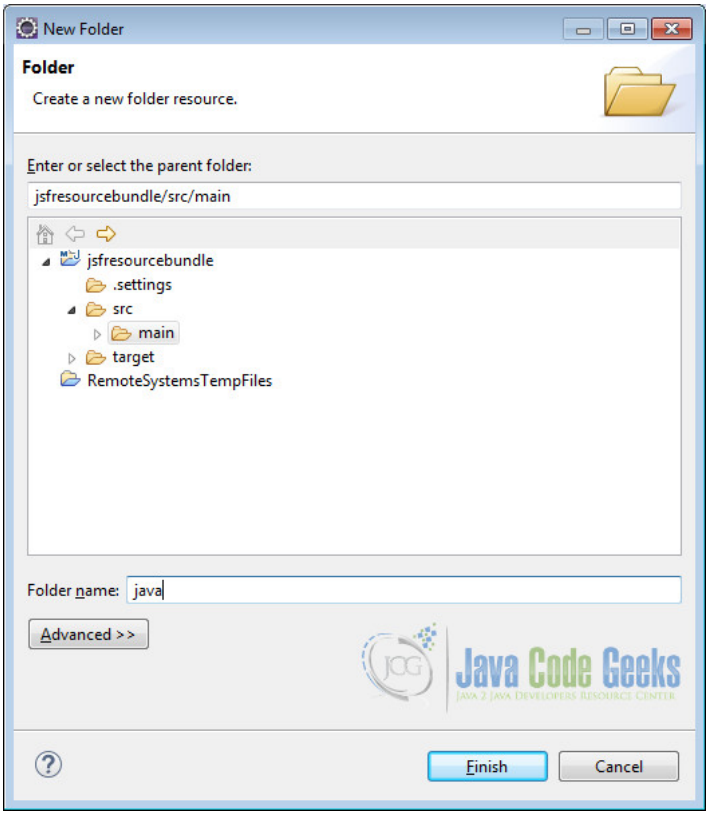
and hit "Finish" to exit the wizard and to create your project.



Maven setup – step 4

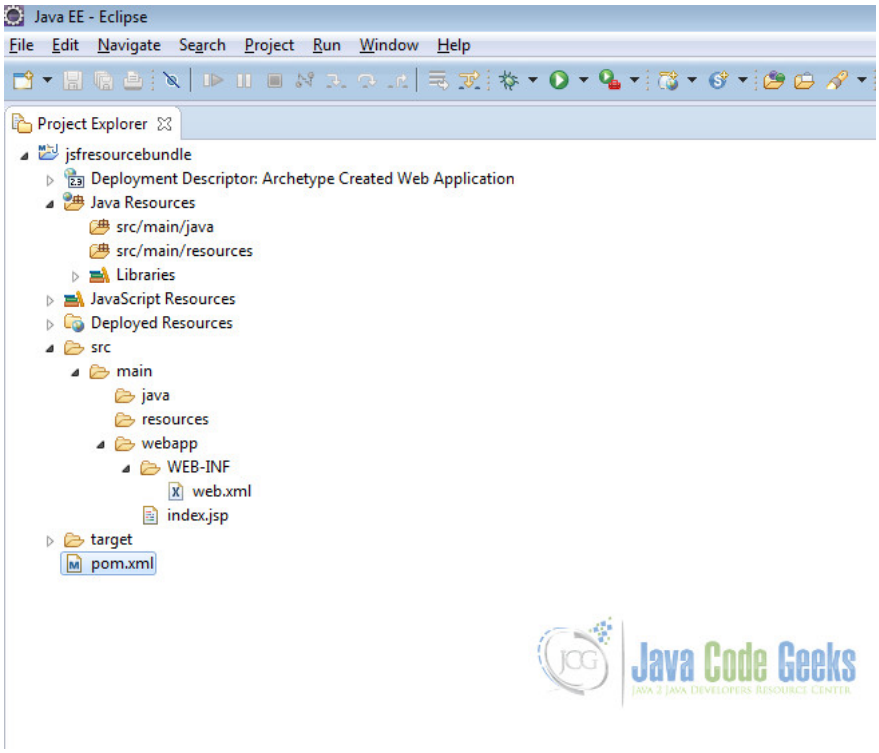
Now create a folder called java under

```
src/main.
```



Maven setup – step 5

Refresh the project. Finally, the project structure will look like the below.

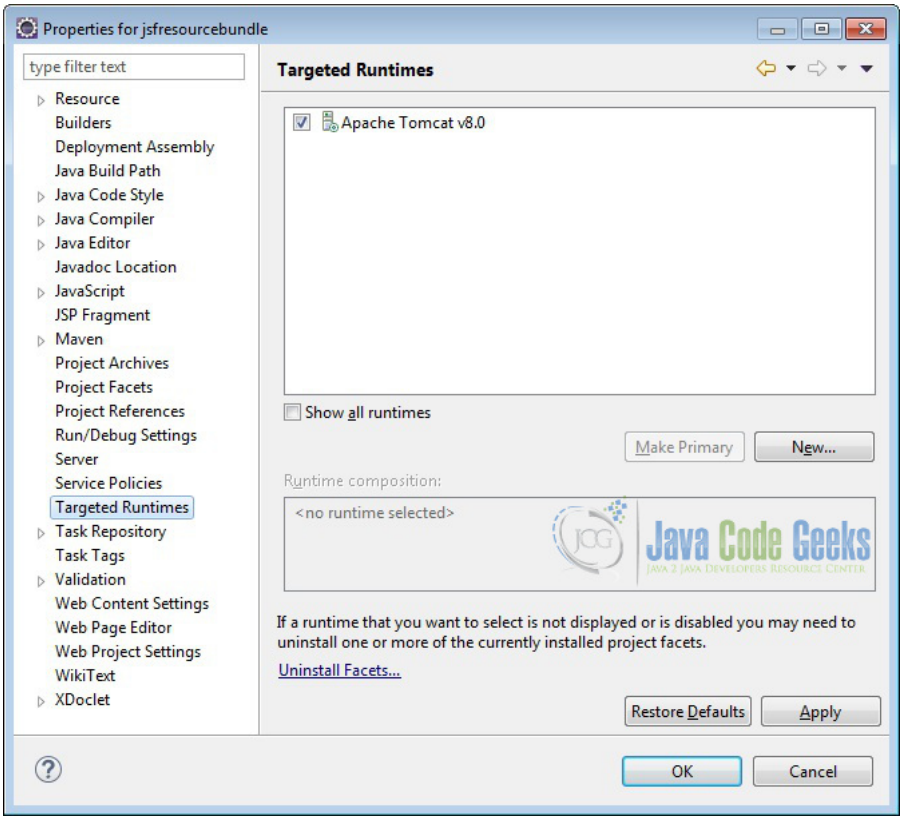


Maven setup – step 6

If you see any errors in the

```
index.jsp
```

, set target runtime for the project.



Maven setup – step 7

2. Modify POM to include JSF dependency

Add the dependencies in Maven's

```
pom.xml
```

file, by editing it at the "Pom.xml" page of the POM editor.

```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
 <modelVersion>4.0.0</modelVersion>
 <groupId>com.javacodegreeks.snippets.enterprise</groupId>
 <artifactId>jsfresourcebundle</artifactId>
 <packaging>war</packaging>
 <version>0.0.1-SNAPSHOT</version>
 <name>jsfresourcebundle Maven Webapp</name>
 <url>http://maven.apache.org</url>
 <dependencies>

  <dependency>
   <groupId>junit</groupId>
   <artifactId>junit</artifactId>
   <version>3.8.1</version>
   <scope>test</scope>
  </dependency>
  <dependency>
   <groupId>com.sun.faces</groupId>
   <artifactId>jsf-api</artifactId>
   <version>2.2.9</version>
  </dependency>
  <dependency>
   <groupId>com.sun.faces</groupId>
   <artifactId>jsf-impl</artifactId>
   <version>2.2.9</version>
  </dependency>

 </dependencies>

 <build>
  <finalName>jsfresourcebundle</finalName>
 </build>

</project>
```

3. Add Faces Servlet in web.xml

The

```
web.xml
```

file has to be modified to include the faces servlet configuration as below.

```
<web-app>
 <display-name>Archetype Created Web Application</display-name>

  <servlet>
   <servlet-name>Faces Servlet</servlet-name>
```

```
    <servlet-class>javax.faces.webapp.FacesServlet</servlet-class>
    <load-on-startup>1</load-on-startup>
  </servlet>

  <servlet-mapping>
    <servlet-name>Faces Servlet</servlet-name>
    <url-pattern>*.xhtml</url-pattern>
  </servlet-mapping>

</web-app>
```

4. Loading Resource Bundle

JSF provides two approaches for loading the resource bundle. We can use

```
<f:loadBundle>
```

in the view or we can load the resource bundle using

```
faces-config.xml
```

. The only difference between the two approaches is that the later one makes the messages to global scope which can be accessed in any page.

4.1 Using <f:loadBundle> in JSF pages

In this approach we load the properties file by using

```
<f:loadBundle>
```

in the JSF page. To demonstrate the example, we create a package called

```
com.javacodegeeks.jsfresourcebundle
```

under Java resources

```
src/main/java
```

. In this package, we create a properties file called

```
local.properties
```

to store the messages.

local.properties

```
local.message = Welcome!!
local.location = Loading resource bundle in view.
```

Now create a file called

```
local.xhtml
```

under

```
/webapp/
```

folder.

We use

```
f:loadBundle
```

to load a resource bundle and expose it as a

```
java.util.Map
```

to the value of

```
var
```

attribute. The

```
basename
```

attribute refers to the fully-qualified name of the resource bundle which is nothing but the concatenation of package name

```
com.javacodegeeks.jsfresourcebundle
```

and property file name

```
local
```

.

To display the output we use

```
h:outputText
```

and access the key stored in the property file by

```
localmsg['local.message']
```

. Here

```
localmsg
```

is a variable that holds the

```
Map
```

output of the resource bundle and

```
local.message
```

is one of the key value present in the resource bundle. Similarly we can access any number of keys present in the resource bundle.

local.xhtml

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
 xmlns:f="http://java.sun.com/jsf/core"
 xmlns:h="http://java.sun.com/jsf/html">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
<title>Local</title>
<f:loadBundle basename="com.javacodegeeks.jsfresourcebundle.local"
 var="localmsg" />
</head>
<body>
 <h:form>
  <h2>
   <h:outputText value="#{localmsg['local.message']}"></h:outputText>
   <br />
  </h2>
  <h4>
   <h:outputText value="#{localmsg['local.location']}"></h:outputText>
  </h4>
 </h:form>
</body>
</html>
```

Now we can create the deployment package using Run as –> Maven clean and then Run as –> Maven install. This will create a war file in the target folder. The

```
war
```

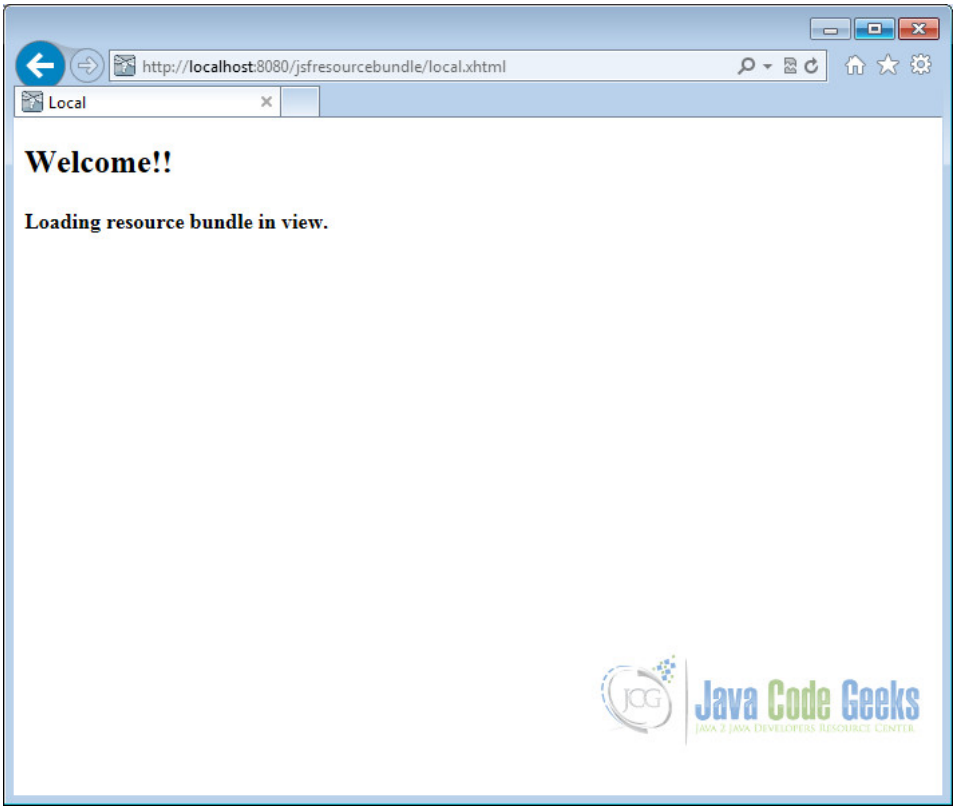
file produced must be placed in

```
webapps
```

folder of tomcat. Now we can start the server.

Open the following URL in the browser

```
http://localhost:8080/jsfresourcebundle/local.xhtml
```



Message from local.properties

4.2 Using faces-config.xml

We can also load the resource bundle using

```
faces-config.xml
```

. In this approach the messages are available to all the JSF pages as well as any Managed beans in the application.

Create a file called

```
faces-config.xml
```

under

```
/WEB-INF/
```

folder.

Now we configure the

```
resource-bundle
```

element under the

```
application
```

element. The

```
base-name
```

element of the

```
resource-bundle
```

represents the fully-qualified name of the resource bundle. The

```
var
```

element identifies the name using which the view pages can access the resource bundle.

faces-config.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<faces-config version="2.2" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
 http://xmlns.jcp.org/xml/ns/javaee/web-facesconfig_2_2.xsd">
 <application>
  <resource-bundle>
   <base-name>com.javacodegeeks.jsfresourcebundle.global</base-name>
   <var>msg</var>
  </resource-bundle>
 </application>
</faces-config>
```

Now we create a properties file called

```
global.properties
```

under the package

```
com.javacodegeeks.jsfresourcebundle
```

global.properties

```
global.message = Welcome!!
global.location = Loading resource bundle using faces-config.xml
```

Now create a file called

```
global.xhtml
```

under

```
/webapp/
```

folder.

Here we use

```
msg['global.message']
```

to access the resource bundle values. Note that we use

```
msg
```

which is nothing but the value of the

```
var
```

element configured in

```
faces-config.xml
```

.

global.xhtml

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
 xmlns:h="http://java.sun.com/jsf/html">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
<title>Global resource bundle</title>
</head>
<body>
 <h:form>
  <h2>
   <h:outputText value="#{msg['global.message']}"></h:outputText>
   <br />
  </h2>
  <h4>
   <h:outputText value="#{msg['global.location']}"></h:outputText>
  </h4>
 </h:form>
</body>
</html>
```

Again package the application using maven and copy the

```
war
```

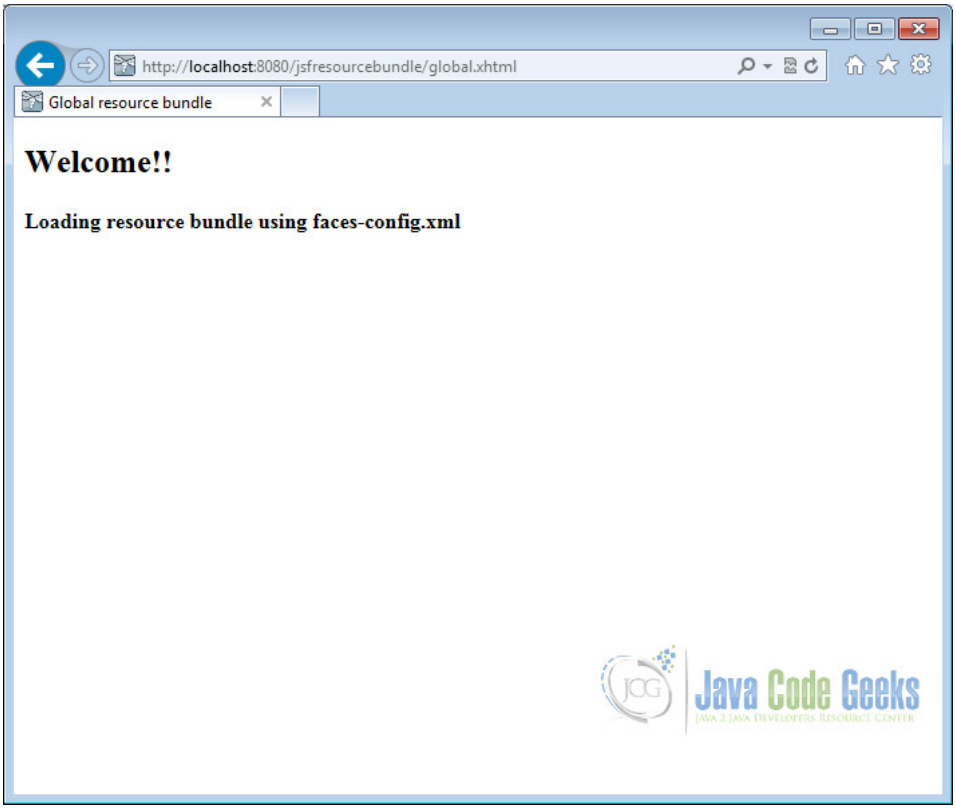
to the apache tomcat

```
webapps
```

folder.

Open the following URL in the browser.

```
http://localhost:8080/jsfresourcebundle/global.xhtml
```



Message from global.properties

5. Internationalization using Resource Bundle

Resource bundles are used in applications to achieve localization. In this section, we will show how to achieve it.
Create a properties file called

```
greeting.properties
```

under the package

```
com.javacodegeeks.jsfresourcebundle
```



```
message = hello world
```

Now we create another properties file called

```
greeting_en.properties
```

under the package

```
com.javacodegeeks.jsfresourcebundle
```

greeting_en.properties

```
1 message = hello world
```

Now we create one more properties file called

```
greeting_fr.properties
```

under the package

```
com.javacodegeeks.jsfresourcebundle
```

to support French language.

greeting_fr.properties

```
1 message = bonjour le monde
```

We need to create a managed bean called

```
UserProfile.java
```

under the package

```
com.javacodegeeks.jsfresourcebundle
```

to handle the user action.

We use two annotations in the POJO class.

```
@ManagedBean
```

converts the POJO class to a JSF managed bean.

```
@SessionScoped
```

is used to make the bean available for the entire user session. The method

```
changeLanguage()
```

takes the requested locale as input parameter and sets it to the session scoped instance variable.

UserProfile.java

```
01 package com.javacodegeeks.jsfresourcebundle;
02
03 import java.util.Locale;
04
05 import javax.faces.bean.ManagedBean;
06 import javax.faces.bean.SessionScoped;
07 import javax.faces.context.FacesContext;
08
09 @ManagedBean
10 @SessionScoped
11 public class UserProfile {
12
13  private String locale = "en";
14
15  public String getLocale() {
16  return locale;
17  }
18
19  public void setLocale(String locale) {
20  this.locale = locale;
21  }
22
23  public String changeLanguage(String locale) {
24  this.locale = locale;
25  FacesContext.getCurrentInstance().getViewRoot()
26  .setLocale(new Locale(this.locale));
27  return locale;
28  }
29
30 }
```

Now create a file called

```
i8n.xhtml
```

under

```
/webapp/
```



```
f:loadBundle
```

to load the resource bundle. As discussed earlier, we need to configure two attributes namely

```
basename
```

and

```
var
```

. The

```
basename
```

attribute references the fully-qualified name of the resource bundle and

```
var
```

attribute represents the Map output.

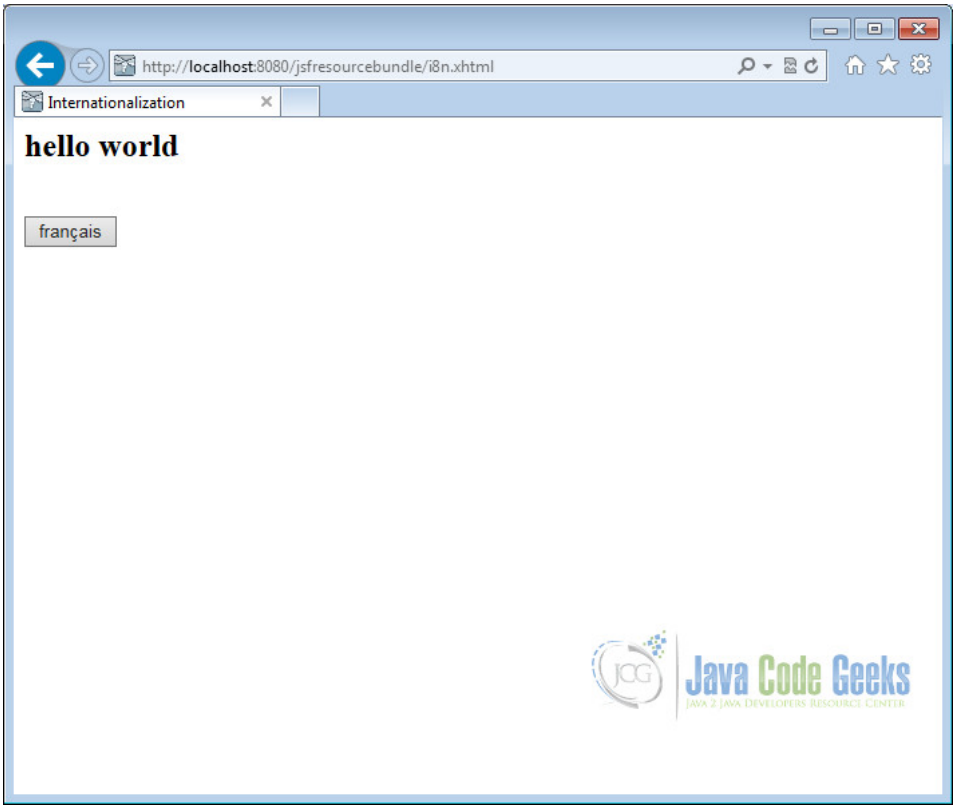
i8n.xhtml

```
<html xmlns="http://www.w3.org/1999/xhtml"
 xmlns:ui="http://java.sun.com/jsf/facelets"
 xmlns:h="http://java.sun.com/jsf/html"
 xmlns:f="http://java.sun.com/jsf/core"
 xmlns:c="http://java.sun.com/jsp/jstl/core">
<h:head>
 <title>Internationalization</title>
</h:head>
<h:body>
 <h:form id="form">
 <f:loadBundle var="grt"
 basename="com.javacodegeeks.jsfresourcebundle.greeting"></f:loadBundle>
 <h2>
 <h:outputText value="#{grt.message}" />
 </h2>
 <br />
 <h:commandButton value="français"
 action="#{userProfile.changeLanguage('fr')}"
 rendered="#{userProfile.locale == 'en'}" />
 <h:commandButton value="English"
 action="#{userProfile.changeLanguage('en')}"
 rendered="#{userProfile.locale == 'fr'}" />
 </h:form>
</h:body>
</html>
```

Now again package using maven and copy the war to the apache tomcat webapps folder.

Open the following URL in the browser

```
http://localhost:8080/jsfresourcebundle/i8n.xhtml
```



Message from greeting_en.properties


```
greeting_fr.properties
```

file.

Message from greeting_fr.properties

6. Download the Eclipse Project

This was an example of Java Server Faces Resource Bundle.

Download
You can download the full sourcecode of this example here : **JSF Resource Bundle**

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