JSF - INTERNATIONALIZATION

Internationalization is a technique in which status messages, GUI component labels, currency, date are not hardcoded in the program instead they are stored outside the source code in resource bundles and retrieved dynamically. JSF provide a very convenient way to handle resource bundle.

Following steps are required to internalize a JSF application

Step 1. Define properties files

Create properties file for each locale.Name should be in <file-name>_<locale>.properties format.

Default locale can be omitted in file name.

messages.properties

```
greeting=Hello World!
```

messages_fr.properties

```
greeting=Bonjour tout le monde!
```

Step 2. Update faces-config.xml

faces-config.xml

```
<application>
   <locale-config>
      <default-locale>en</default-locale>
      <supported-locale>fr</supported-locale>
   </locale-config>
   <resource-bundle>
      <base-name>com.tutorialspoint.messages</base-name>
      <var>msg</var>
   </resource-bundle>
</application>
```

Step 3. Use resource-bundle var

home.xhtml

```
<h:outputText value="#{msg['greeting']}" />
```

Example Application

Let us create a test JSF application to test internationalization in JSF.

Step	Description
1	Create a project with a name *helloworld* under a package *com.tutorialspoint.test* as explained in the *JSF - First Application* chapter.
2	Create *resources* folder under *src* > *main* folder.
3	Create *com* folder under *src* > *main* > *resources* folder.
4	Create *tutorialspoint* folder under *src* > *main* > *resources* > *com* folder.

5	Create *messages.properties* file under *src > main > resources > com > tutorialspoint* folder.Modify it as explained below
6	Create *messages_fr.properties* file under *src > main > resources > com > tutorialspoint* folder.Modify it as explained below
7	Create *faces-config.xml* in *WEB-INF* folder as explained below.
8	Create *UserData.java* under package *com.tutorialspoint.test* as explained below.
9	Modify *home.xhtml* as explained below. Keep rest of the files unchanged.
10	Compile and run the application to make sure business logic is working as per the requirements.
11	Finally, build the application in the form of war file and deploy it in Apache Tomcat Webserver.
12	Launch your web application using appropriate URL as explained below in the last step.

messages.properties

```
greeting=Hello World!
```

messages_fr.properties

```
greeting=Bonjour tout le monde!
```

faces-config.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<faces-config
   xmlns="http://java.sun.com/xml/ns/javaee"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
   http://java.sun.com/xml/ns/javaee/web-facesconfig_2_0.xsd"
   version="2.0">
   <application>
      <locale-config>
         <default-locale>en</default-locale>
         <supported-locale>fr</supported-locale>
      </locale-config>
      <resource-bundle>
         <base-name>com.tutorialspoint.messages</base-name>
         <var>msg</var>
      </resource-bundle>
   </application>
</faces-config>
```

UserData.java

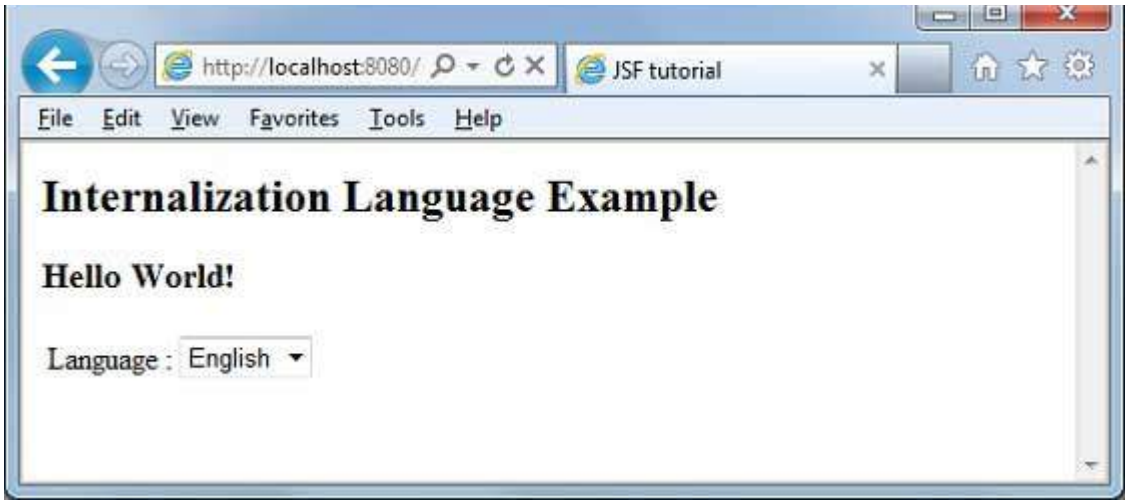
```
package com.tutorialspoint.test;

import java.io.Serializable;
import java.util.LinkedHashMap;
import java.util.Locale;
import java.util.Map;

import javax.faces.bean.ManagedBean;
import javax.faces.bean.SessionScoped;
import javax.faces.context.FacesContext;
import javax.faces.event.ValueChangeEvent;

@ManagedBean(name = "userData", eager = true)
@SessionScoped
```

```
public class UserData implements Serializable {

   private static final long serialVersionUID = 1L;
   private String locale;

   private static Map<String,Object> countries;

   static{
      countries = new LinkedHashMap<String,Object>();
      countries.put("English", Locale.ENGLISH);
      countries.put("French", Locale.FRENCH);
   }

   public Map<String, Object> getCountries() {
      return countries;
   }

   public String getLocale() {
      return locale;
   }

   public void setLocale(String locale) {
      this.locale = locale;
   }

   //value change event listener
   public void localeChanged(ValueChangeEvent e){
      String newLocaleValue = e.getNewValue().toString();
      for (Map.Entry<String, Object> entry : countries.entrySet()) {
         if(entry.getValue().toString().equals(newLocaleValue)){
            FacesContext.getCurrentInstance()
               .getViewRoot().setLocale((Locale)entry.getValue());
         }
      }
   }
}
```

home.xhtml

```
<?xml version="1.0" encoding="UTF-8"?>
<!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"
xmlns:f="http://java.sun.com/jsf/core"
>
   <h:head>
      <title>JSF tutorial</title>
   </h:head>
   <h:body>
      <h2>Internalization Language Example</h2>
   <h:form>
      <h3><h:outputText value="#{msg['greeting']}" /></h3>
      <h:panelGrid columns="2">
         Language :
         <h:selectOneMenu value="#{userData.locale}" onchange="submit()"
            valueChangeListener="#{userData.localeChanged}">
            <f:selectItems value="#{userData.countries}" />
         </h:selectOneMenu>
      </h:panelGrid>
   </h:form>
</h:body>
</html>
```

Once you are ready with all the changes done, let us compile and run the application as we did in JSF - First Application chapter. If everything is fine with your application, this will produce following result:



Change language from dropdown. You will see the following output.