

JBoss Ajax4jsf, RichFaces & Apache Trinidad

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explanation

- all user interface (UI) components for JavaServer Faces (JSF)
- JBoss Ajax4jsf & RichFaces were previously commercial products of Exadel
- Apache Trinidad also known as Oracle ADF Faces
- all components are now open source

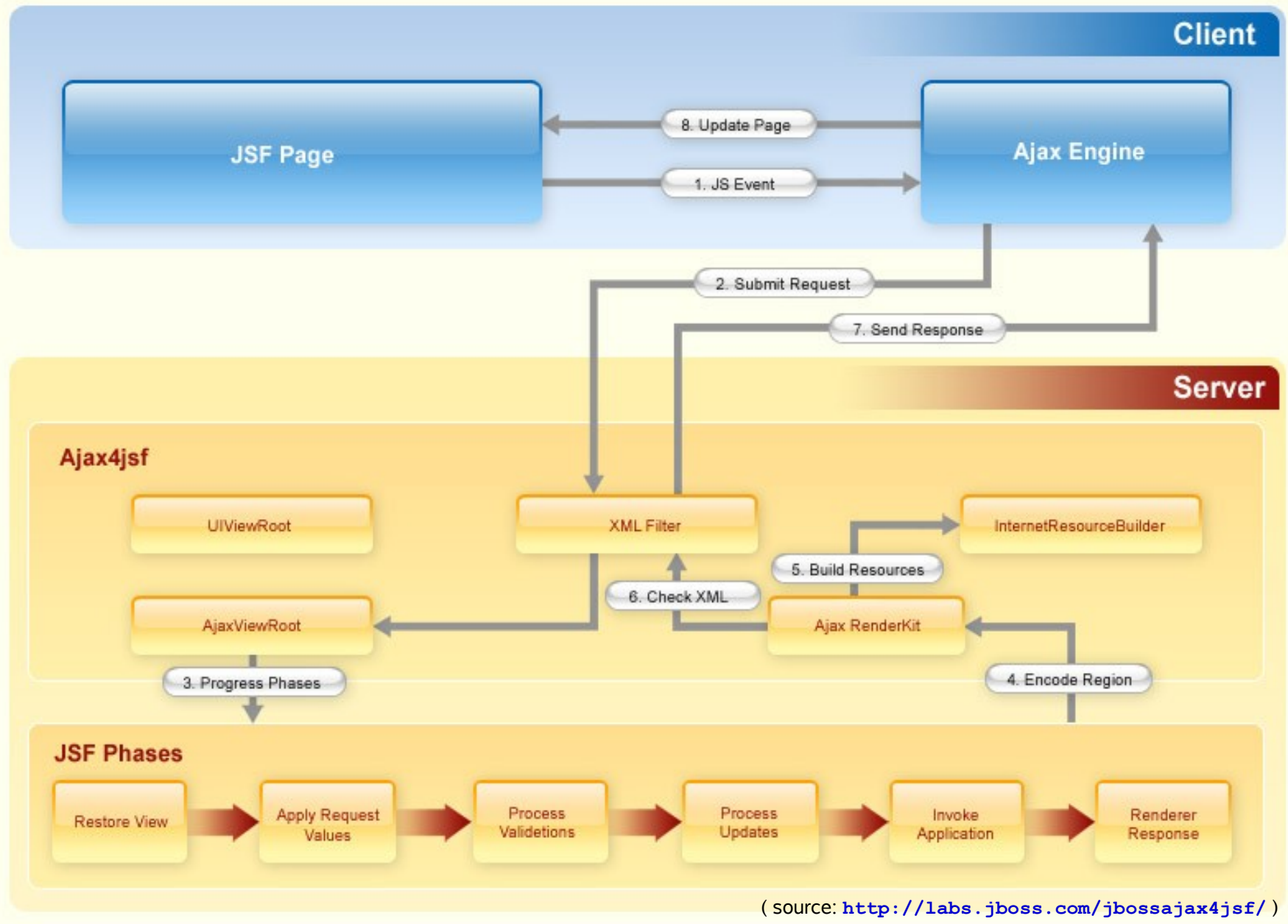
(ADF = Application Development Framework)

JBoss Ajax4jsf 1.1.1

- Asynchronous JavaScript and XML (Ajax) support for existing JavaServer Faces elements
- partial re-renderable user interface (UI)
- no visual UI components !

- tag library URI
<https://ajax4jsf.dev.java.net/ajax>
- online demonstration
<http://labs.jboss.com/jbossajax4jsf/demo/>

Ajax lifecycle overview



```
<html>
  <%@ taglib uri="https://ajax4jsf.dev.java.net/ajax" prefix="a4j"%>
  <f:view>
    <head/>
    <body>
      <a4j:form id="exampleForm">
        <a4j:region id="ajaxRegion">
          <a4j:commandLink action="#{backingBean.generate}"
            ajaxSingle="true" reRender="status">
            <h:graphicImage value="img/generate.gif" style="border: none;"/>
          </a4j:commandLink>
        </a4j:region>

        <a4j:status for="ajaxRegion">
          <f:facet name="start">
            <h:graphicImage value="img/ajax-loader.gif" />
          </f:facet>
        </a4j:status>

        <h:outputText id="status" value="#{backingBean.status}"/>
      </a4j:form>

    </body>
  </f:view>
</html>
```

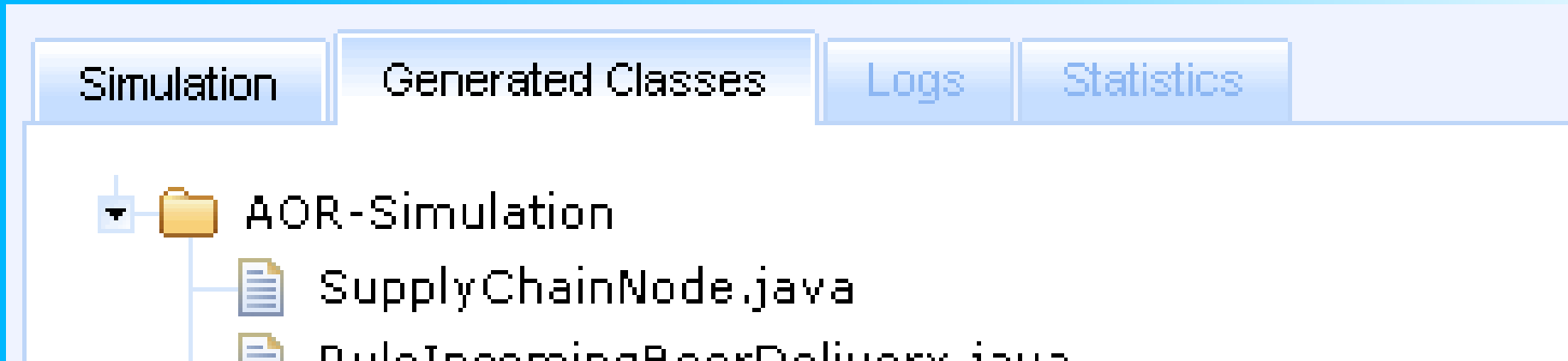
send only this form field not more

during Ajax request or till respond message is received

JBoss RichFaces 3.0.1

- build on top of JBoss Ajax4jsf
- Ajax enabled UI components (web 2.0)
 - tab panels (like in Firefox 2) and menus
 - tree view (like the folder view in Explorer)
 - drag & drop support
 - Google Maps integration
 - ...
- tag library URI
<http://richfaces.ajax4jsf.org/rich>
- online demonstration of all components
<http://livedemo.exadel.com/richfaces-demo/>

RichFaces example: tab

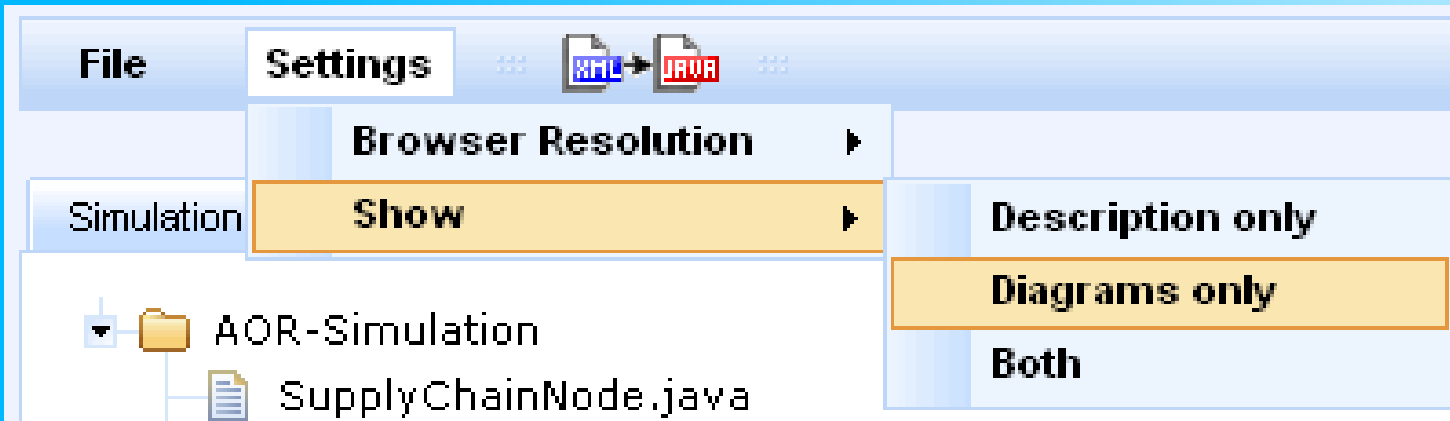


```
<rich:tabPanel id="tabPanelLeft" switchType="ajax"
  headerAlignment="left">

  <rich:tab binding="#{interfaceBean.simulationDescriptionTab}" />
  <rich:tab binding="#{interfaceBean.generatedClassesTab}" />
  <rich:tab binding="#{interfaceBean.logsTab}" />
  <rich:tab binding="#{interfaceBean.statisticsTab}" />

  <rich:tab label="Example Tab (not visible above)" />
    <h:outputText label="Example Text..." />
  </rich>
</rich:tabPanel>
```

RichFaces example: menu



```
<rich:dropDownMenu value="Settings" >
  <rich:menuGroup value="Show" >
    ...
    <rich:menuItem action="#{interfaceBean.showOnlyRightTabPanel}"
      ajaxSingle="true" reRender="status,simulationTabOutputPanel">
      <a4j:commandLink>
        <h:outputText value="Diagrams only"/>
      </a4j:commandLink>
    </rich:menuItem>
    ...
  </rich:menuGroup>
</rich:dropDownMenu>
```

RichFaces example: drag & drop

1.

A screenshot of a web application interface. On the left is a 'Source List' containing 'Flexible Ajax', 'ajaxCFC', 'AJAXEngine', and 'AjaxCFC'. In the center are three target categories: 'PHP Frameworks', '.NET Frameworks', and 'ColdFusion Frameworks'. A light blue box containing 'AJAXEngine' is being dragged from the source list towards the 'ColdFusion Frameworks' category. A red square with a white 'no' symbol is positioned over the 'AJAXEngine' box, indicating that the drop is not allowed.

2.

A screenshot of the same web application interface. The 'AJAXEngine' box is now positioned over the 'ColdFusion Frameworks' category. A green square with a white checkmark is positioned over the 'AJAXEngine' box, indicating that the drop is allowed.

3.

A screenshot of the same web application interface. The 'AJAXEngine' box is now located inside the '.NET Frameworks' category. The 'Source List' still contains 'Flexible Ajax', 'ajaxCFC', 'AJAXEngine', and 'AjaxCFC'. The 'AJAXEngine' box is no longer visible in the source list.

RichFaces example: Google Maps



Using Google Map API

Using Ajax with JSON

Controls: [Hide](#) [Show](#)

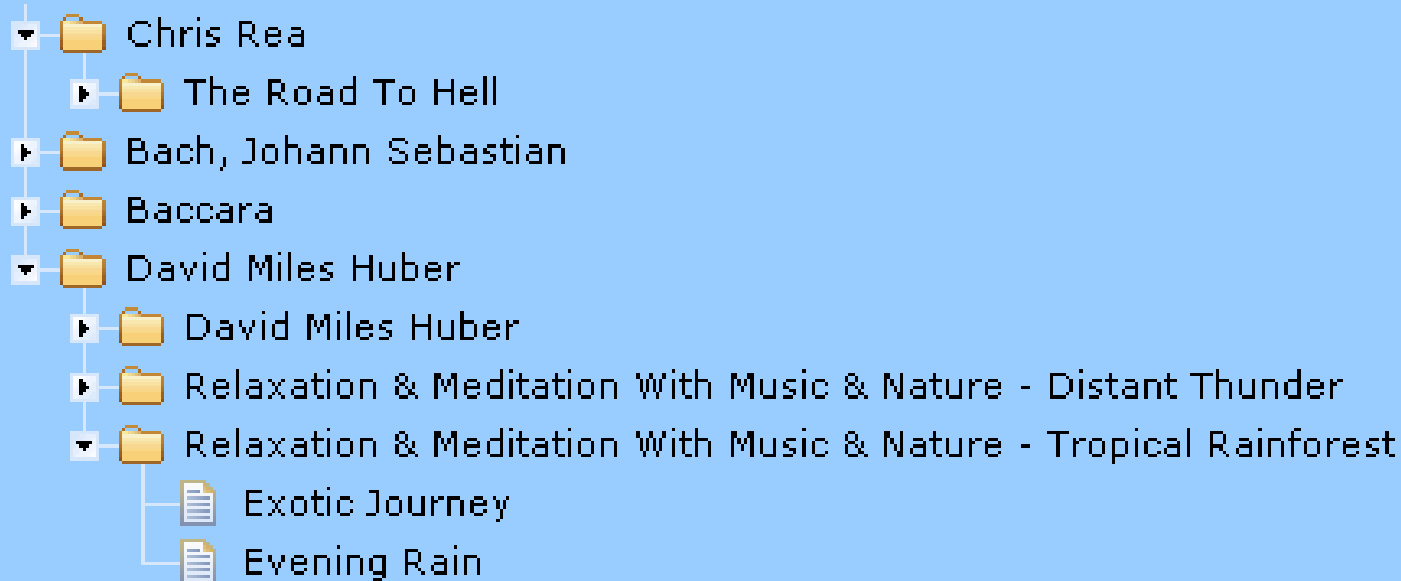
Zoom:

Map Type: [Normal](#) [Satellite](#) [Hybrid](#)

```
<rich:gmap gmapVar="map" zoom="#{gmBean.zoom}"
style="width:400px;height:400px" gmapKey="#{gmBean.gmapkey}" />
<h:panelGroup>
  <rich:tabPanel switchType="ajax" width="350" height="400">
    <rich:tab label="Using Google Map API">
      <h:panelGrid columns="2" columnClasses="optionList">
        <h:outputText value="Zoom:" />
        <rich:inputNumberSlider id="zoom" showInput="false"
          minValue="1" maxValue="18" value="#{gmBean.zoom}"
          onchange="map.setZoom(this.value)" />
      </h:panelGrid>
    </rich:tab>
  </rich:tabPanel>
</h:panelGroup>
```

...

RichFaces example: tree



- server (page refresh), Ajax (XMLHttpRequest) or client mode (pre-load) modes are useable
- todo: implementation of your own tree data structure (for every node type! e.g. root, childs, childs of childs)
=> implementation is very time-consuming

RichFaces example: tree

```
<rich:tree switchType="ajax" value="#{library.data}"
           var="item" nodeFace="#{item.type}">

  <rich:treeNode type="library">
    <h:outputText value="#{item.type}" />
  </rich:treeNode>
  <rich:treeNode type="artist">
    <h:outputText value="#{item.name}" />
  </rich:treeNode>
  <rich:treeNode type="album">
    <h:outputText value="#{item.title}" />
  </rich:treeNode>
  <rich:treeNode type="song">
    <h:outputText value="#{item.title}" />
  </rich:treeNode>

</rich:tree>
```

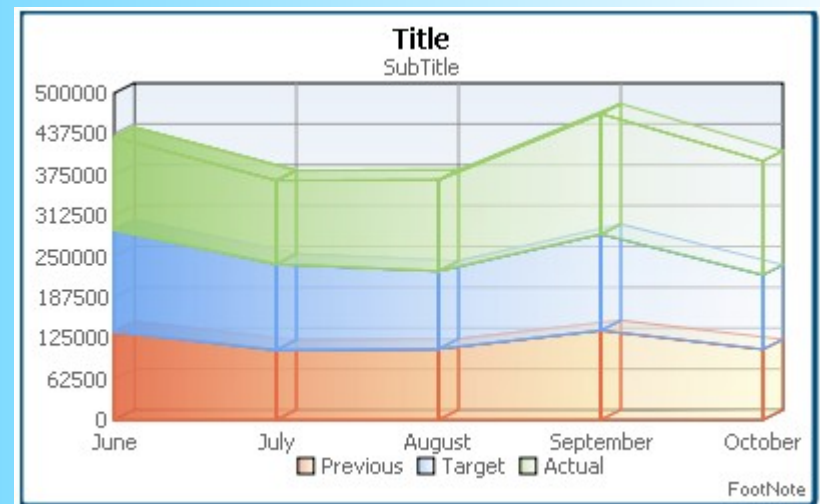
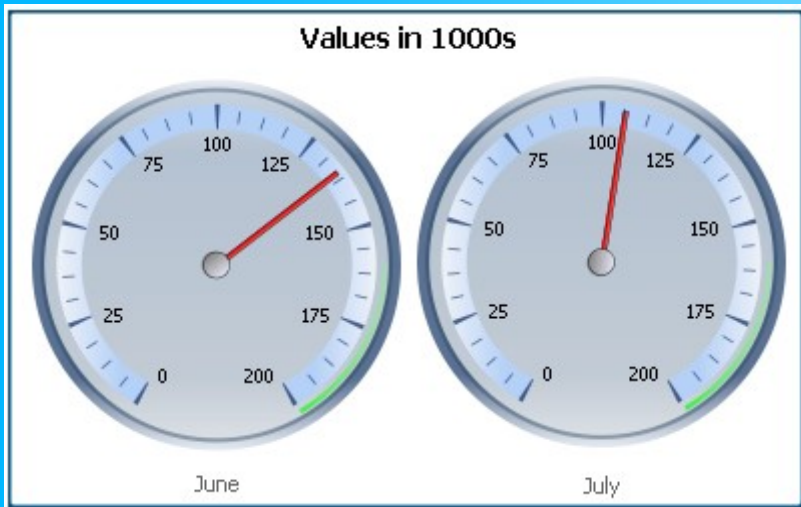
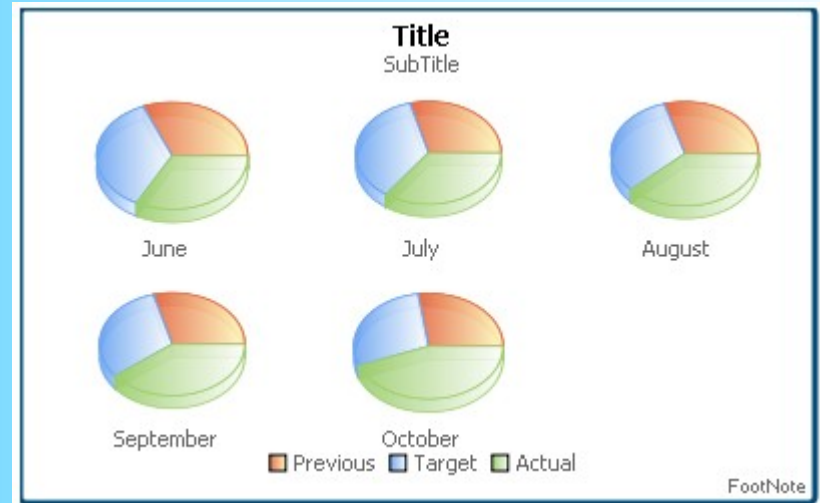
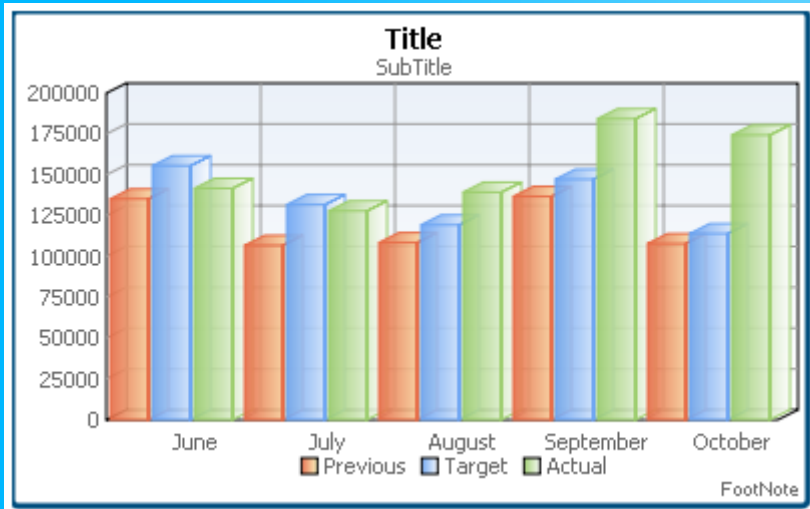
- more on examples in the [online demonstration](#)

Apache Trinidad 1.0.1

- additional UI components for JSF
 - calender, color picker
 - tree, navigation
- interesting:
 - chart component creates SVG graphics
 - file upload component, can store file content in Java objects in memory instead in files
- bad:
 - v1.0.1 runs with a workaround next RichFaces 3.0.1
 - v1.2.1 does it not in my case

(SVG = scalable vector graphics)

Trinidad 1.0.1 example: chart



- several chart types, animated rendering

Trinidad 1.0.1 example: chart

```
<%@ taglib uri="http://myfaces.apache.org/trinidad"  
  prefix="tr" %>  
<%@ taglib uri="http://myfaces.apache.org/trinidad/html"  
  prefix="th" %>
```

```
<tr:chart id="chart" inlineStyle="width:450px; height: 430px;"  
  value="#{interfaceBean.chartValues}"  
  binding="#{interfaceBean.editor.component}"  
  animationDuration="1000"  
  legendPosition="bottom" gradientsUsed="true"  
  XMajorGridLineCount="5" YMajorGridLineCount="1"  
  YMinorGridLineCount="-1" />
```

Where to find?

- JBoss Ajax4jsf
<http://labs.jboss.com/jbossajax4jsf/>
- JBoss RichFaces
<http://labs.jboss.com/jbossrichfaces/>
- Apache Trinidad
<http://myfaces.apache.org/trinidad/>