





BOF5806

Doing JSF Development in NetBeans IDE

A large, abstract graphic on the right side of the slide features a complex arrangement of white and gold-colored geometric shapes, including triangles and polygons, set against a blue gradient background.

MAKE THE
FUTURE
JAVA

ORACLE®

Program Agenda

- Introduction
- The Challenge:
 - Semantic Search & Navigate (Johannes Weigend)
 - Small Team, Lots of Sites (Glenn Holmer)
 - Build an Application in 3 Weeks (David Heffelfinger)

Speaker: Johannes Weigend

The Challenge: Semantic Search & Navigate

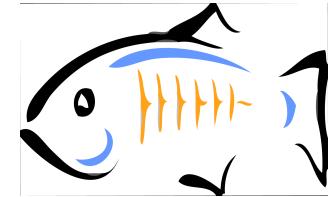
- CTO of QAware GmbH, Munich, Germany
- 20 years of experience building individual software solutions for enterprise customers
- Worked as trainer, architect, consultant and developer
- Focus on Java, JEE since 1996

About

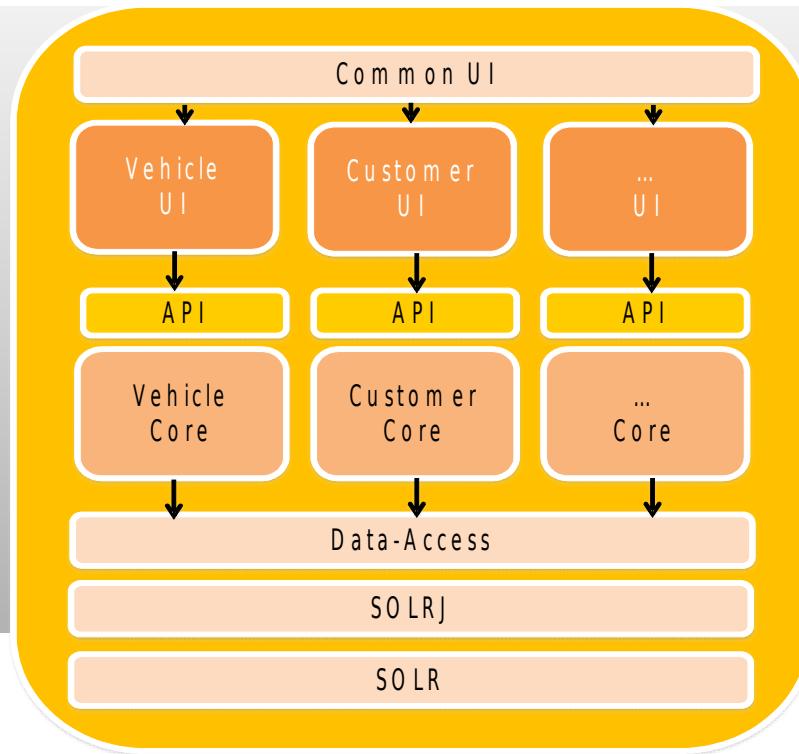
- Aftersales Information Research
- “Google”++ for BMW workshops and others
- **Search and navigate through a semantic network of information (technical and business)**



AiR Architecture in a Nutshell



Glassfish 3.1



- Primefaces 3.4
- JSF 2.1
- CDI
- JEE6 / OSGi
- apache.commons.*
- SOLRJ (Client)
- Apache SOLR (WAR)





Live Demo



Aftersales Information Research

Cool in PrimeFaces: AutoComplete

Kunde:

Suche

- Thomas Niederle
- Taylor Higgins
- Fionna Jackson
- Tanek Brooks
- Naida Cardenas
- Jeremy Jordan
- Asher Tucker
- Emerald Adina
- Paul Kerr
- Talon Stevens

Suche

```
95 <h:form id="custSearch">
96   <h:panelGrid columns="3" columnClasses="searchmainTd1">
97     <h:outputLabel for="queryCustomer" value="Kunde:"/>
98     <p: autoComplete id="queryCustomer" queryDelay="400"
99       value="#{sc_search.queryCustomer}" effect="blind"
100      completeMethod="#{sc_search.completeCustomer}" global="false" size="35"
101      styleClass="defaultInput"
102      onfocus="clearInput(['plateSearch:queryPlate_input', 'vinSearch:queryVin'])"/>
103     <p: commandButton value="Suche" action="#{sc_search.doCustomerSearch}" ajax="false"/>
104   </h:panelGrid>
105   <input type="text" style="display:none"/>
106 </h:form>
```

Cool in PrimeFaces: Smart-looking Components

Fullpage Layout

Panel

Accordion

The screenshot displays a web application interface built with PrimeFaces components. At the top, there's a header bar with the MINI logo and a search bar. Below the header, the breadcrumb navigation shows: Suche (Thomas Niederle) > Kunde (Niederle) > Fahrzeug (MI COOPER S). The main content area is titled "Ausgewähltes Fahrzeug" and features a thumbnail image of a blue MINI Cooper S. To the right of the image, detailed vehicle information is listed: MINI COOPER S, DAH-TN-1298, Fahrgestellnummer: TM14295, Kunde: Thomas Niederle, thomas.niederle@bmw.de, 089-382-0, Produktionsdatum: 11.06.2007, Letzter Service: 18.09.2012. On the far right, there's a small image of the interior of the car. Below this section, there's a tabular navigation bar with tabs for Fahrzeug, Kunde, Pakete (220), Techn. Aktionen (0), Reparaturhistorie (0), Servicehistorie (0), Gewährleistung (0), Steuergeräte (0), and Nachrüstungen (0). The "Pakete (220)" tab is currently selected. Underneath the tabs, a list of documents is shown with the heading "Dokumente (987)". The list contains several items, each with a preview thumbnail and a delete icon:

- REP - 1700005 - Kühlmittel ablassen und einfüllen (COOPER S)
00 2 030 Verbrühungsgefahr! Die Arbeiten am Kühlsystem nur bei abgekühltem Motor durchführen! Lifetimebefüllung Kühlmittel: Gebrauchtes Kühlmittel grundsätzlich nicht wiederverwendbar! Bei Tausch und bei Ausbau von Bauteilen, die a...
- REP - 1700039 - Kühlsystem entlüften und auf Wasserdichtigkeit prüfen
Verbrühungsgefahr - Deckel erst abnehmen, wenn der Motor abgekühlt ist.
Kühlmitteldruck prüfen: Vor Überprüfung des Kühlmitteldrucks den Motor abkühlen lassen. Kühlmitteltemperatur darf nicht mehr als 30 °C betragen.
- REP - 1700000 - Schutz für Ladeluftkühler anbringen
11 8 480 Vor Beginn von Instandsetzungsarbeiten im Motorraum ist Schutz 11 8 480 für den Ladeluftkühler anzubringen. Bei laufendem Motor muss der Schutz für den Ladeluftkühler entfernt werden.
- REP - 1700009 - Kühlsystem auf Wasserdichtigkeit prüfen (W11)
17 0 002 17 0 008 17 0 051 17 0 052 Verbrühungs- und Verbrühungsgefahr! Diese Arbeiten nur bei abgekühltem Motor durchführen. Druckabfall im Kühlsystem prüfen: Verschlüsseckel vom Ausgleichsbehälter abnehmen.
- REP - 1711035 - Lüfterzarge mit Elektrolüfter aus- und einbauen/ersetzen (W10, W11)
Kühler austauschen Unbedingt auf korrekte Verlegung der Kühlmittelschläuche achten, Beschädigungsfahr durch scharfe Kanten bzw. Schrauben, Lüfterschäfte (1) am

Tabcontrol

Cool in PrimeFaces: ajaxStatus



A screenshot of a PrimeFaces application interface. On the right, there's a header with the text "Niederle". Below it, a table displays the following data:

Nachname	Thomas
Vorname	Thomas
Adresse	BMW Group Lilienthalallee 32
Plz	80939
Ort	München
Land	Deutschland

An "ajaxStatus" dialog box is overlaid on the page, centered over the first row. It has a title bar with "Seite aktualisieren" and a progress bar.

```
<p:ajaxStatus onstart="statusDialog.show() ;"
  onsuccess="statusDialog.hide() ;"
  onerror="alert('Daten konnten nicht vollständig geladen werden.');?>
/>

<p:dialog modal="true"
  widgetVar="statusDialog"
  header="Seite aktualisieren"
  draggable="false" closable="false" resizable="false">
  <p:graphicImage value="../resources/ajaxloadingbar.gif"/>
</p:dialog>
```

Cool in PrimeFaces: Runtime Theme Changes

The image displays two side-by-side screenshots of a web application running in Firefox, illustrating runtime theme changes.

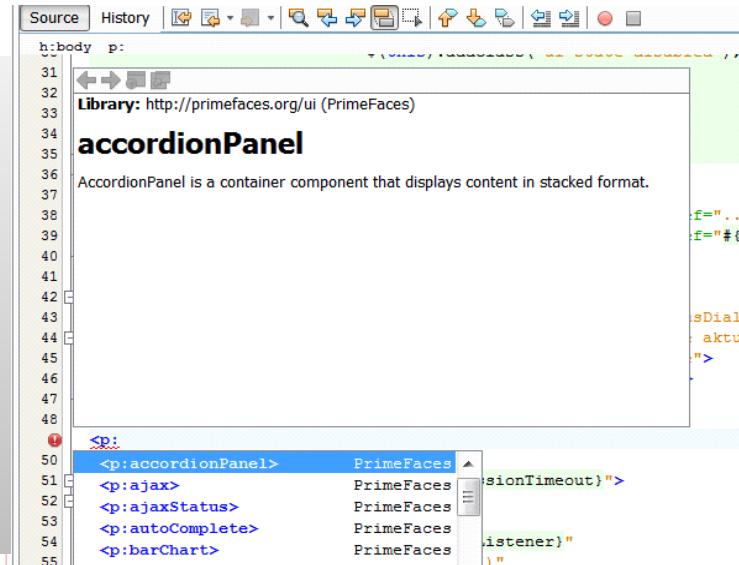
Left Screenshot (Light Mode): The title bar says "AIR - Offline-Modus Einstellung...". The page content shows a white BMW motorcycle, the BMW Motorrad Deutschland logo, and a "ONLINE" button. Below this is a section titled "AIR-Offline-Modus Einstellungen" with tabs: "Offline verfügbar", "Protokoll", "Konfiguration", and "Test" (which is selected). Under "Testfunktionen", there are buttons for "Reparaturanleitungen anlegen (zentral)" and "Reparaturanleitungen löschen (zentral + lokal)". A "Branding/Roles Demonstration" section shows dropdown menus for "Motorrad" and "Administrator", and a "Anwenden" button. The overall theme is light blue and white.

Right Screenshot (Dark Mode): The title bar says "AIR - Aftersales Information...". The page content shows a blue MINI Cooper S convertible. The top navigation bar includes the MINI logo, search bar, and breadcrumb "Suche (Thomas Niederle) > Kunde (Niederle) > Fahrzeug (MI COOPER S)". Below this is a section titled "Ausgewähltes Fahrzeug" showing the car's details: MINI COOPER S, DAH-TN-1298, Fahrgestellnummer: TM14295, Kunde: Thomas Niederle, thomas.niederle@bmw.de, 089-382-0, Produktionsdatum: 11.06.2007, Letzter Service: 18.09.2012. To the right is a thumbnail of the car's interior. On the left is a "Filter" sidebar with a tree view under "Hauptgruppe (18)", listing various vehicle components like "Wartung und allgemeine Hinweise", "Motor", "Kraftstoffversorgung und -regelung", etc. The main content area shows a list of service items, each preceded by a small icon and the text "00_00_251 MINI engine oil service". The overall theme is dark grey and black.

Why We Use NetBeans for JSF Development!

- Code Completion
and Navigation

```
<p:panel>
  <h:form>
    Find documents:
    <p:inputText size="20" value="#{searchController.query}"></p:inputText>
    <p:commandButton action="#{searchController.doSearch}" value="Search"/>
  </h:form>
</p:panel>
```



Why We Use NetBeans for JSF Development!

- Deploy on Save

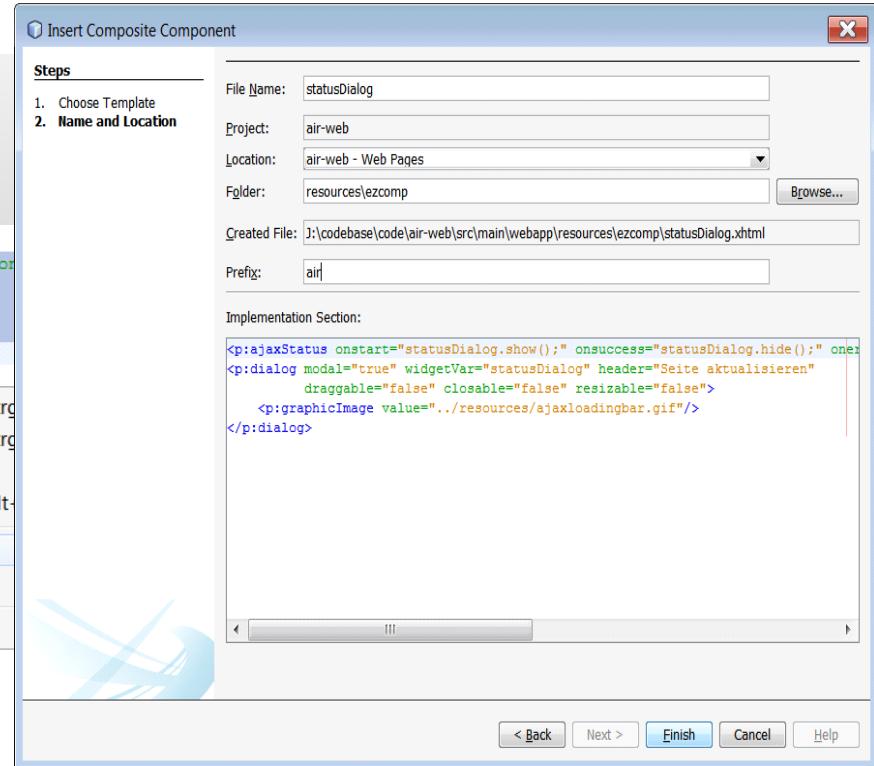


Why We Use NetBeans for JSF Development!

- Refactor Composite Components

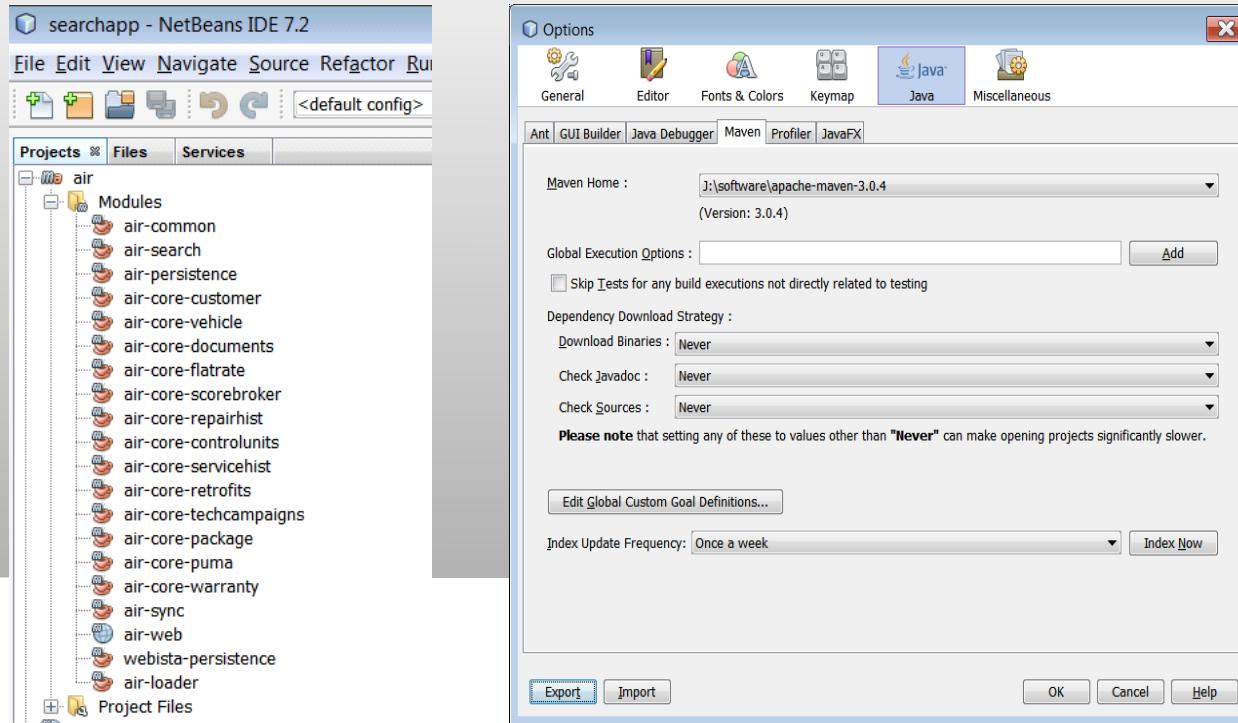
A screenshot of the NetBeans IDE interface. On the left is the code editor showing JavaServer Faces (JSF) XML code. A context menu is open over some XML tags, with the 'Refactor' option highlighted. Other options visible in the menu include 'View', 'Find Usages', 'Alt+F7', 'Format', 'Insert Code...', 'Check XML', 'Validate XML', 'Cut', 'Copy', 'Paste', 'Code Folds', and 'Select in Projects'. The code editor shows several lines of JSF XML, including:

```
42 <h:body>
43   <p:ajaxStatus onstart="statusDialog.show();" onsuccess="statusDialog.hide();" or
44   <p:dialog modal="true" widgetVar="statusDialog" header="Seite aktualisieren"
45     <p:graphicImage value="resources/ajaxloadingbar.gif" />
46   </p:dialog>
47 </p:di...
48 <p:id...
49 <p:>
50   <p:>
51     <p:>
52       <p:>
53         <p:>
54           <p:>
55             <p:>
56               <p:>
57                 <p:>
58                   <p:>
59                     <p:>
60                       <p:>
61                         <p:>
62                           <p:>
63                             <p:>
64                               <p:>
```



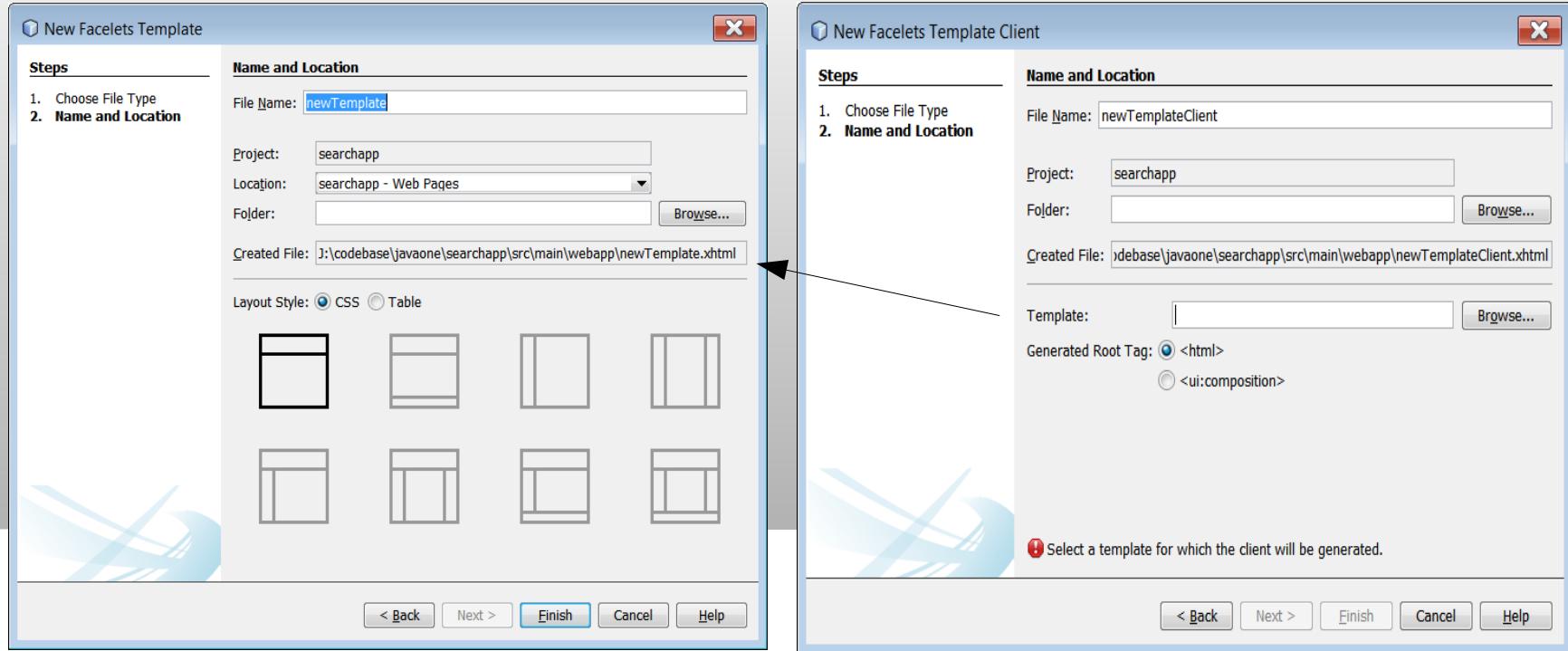
Why We Use NetBeans for JSF Development!

- Very strong Maven Support



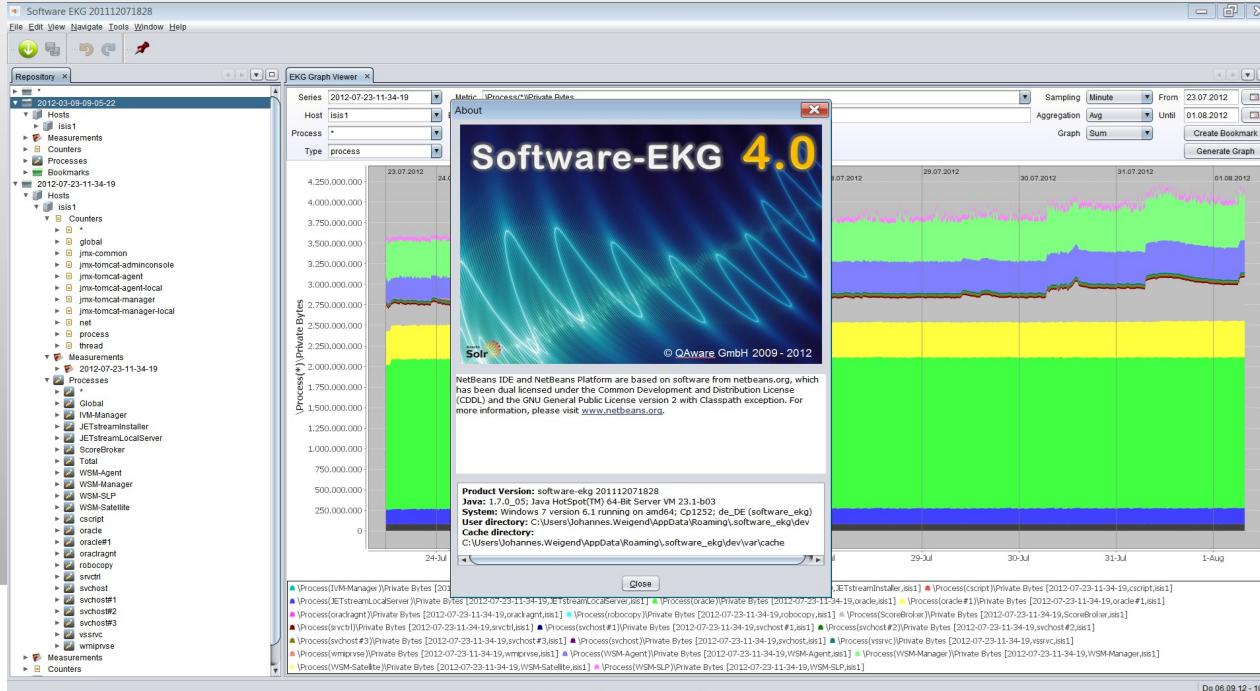
Why We Use NetBeans for JSF Development!

- Facelet Template Support



Why We Use NetBeans for JSF Development!

- NetBeans Platform is open for custom plugins



Why We Use NetBeans for JSF Development!

- More consistent than other open source IDEs
 - Functionality is well tested and works as intended.
 - This is more important than a feature battle.
 - We have been IntelliJ users for years, Eclipse does not work for us, while NetBeans does a perfect job.

Speaker: Glenn Holmer

The Challenge: Small Team, Lots of Sites

- Team Leader at Weyco Group, Inc.
- Linux systems administrator for our web sites
- Java developer since 1997
- Member of NetCAT testing community

The Challenge: Small Team, Lots of Sites



a little love for little feet™

UMIBABY™ GIRLS BOYS CLEARANCE GIFT CARDS ALL ABOUT UMI

FREE SHIPPING & RETURNS
within the lower 48 states. Excludes clearance.

UmiBaby™

For every stage there's an Umi



FLORSHEIM
ESTABLISHED 1892

MENS KIDS ACCESSORIES CLEARANCE

search...



Find your new go-to shoes in our new fall collection.

FREE
SHIPPING
On all orders \$100 or more*

FLORSHEIM
BY
DUKIE BROWN

FOLLOW US
[f](#) [e](#)



Sign In | Cart is empty | Store Locator | Contact Us | Gift Cards | [Facebook](#) | [Twitter](#) | search... | [Search](#)

MEN'S SHOES BOYS SHOES CLOTHING ACCESSORIES CLEARANCE



BOGS

Sign In

MEN WOMEN KIDS COMMUNITY

Cart is empty

search...



JSF 2.0 and Facelets to the Rescue

- templating
- view parameters
- component library recognition
- all made manageable by NetBeans!

Facelets Templating



styleGrid.xhtml

mainHeader.xhtml
topCategoryMenu.xhtml

subCategoryMenu.xhtml

search.xhtml, pageMenu.xhtml

"main-content" (ui:insert)

mainGridTemplate.xhtml

Facelets Templating: enclosing page

styleGrid.xhtml

```
1<ui:composition ui:define ice:outputText
2    <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
3    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
4    <!-- styleGrid.xhtml -->
5    <ui:composition template="/mainGridTemplate.xhtml"
6        xmlns:ui="http://java.sun.com/jsf/facelets"
7        xmlns:f="http://java.sun.com/jsf/core"
8        xmlns:h="http://java.sun.com/jsf/html"
9        xmlns:ice="http://www.icesoft.com/icefaces/component">
10   <ui:define name="main-content">
11       <f:view>
12           <f:metadata>
13               <f:viewParam name="topCategoryCode" value="#{categoryAction.topCategoryCode}" />
14               <f:viewParam name="subCategoryCode" value="#{categoryAction.subCategoryCode}" />
15               <f:viewParam name="pageNumber" value="#{categoryAction.pageNumber}" />
16           </f:metadata>
17           <f:event type="preRenderView" listener="#{categoryAction.loadGrid}" />
18           <ui:include src="includes/styleGridLayout.xhtml" />
19       </f:view>
20   </ui:define>
```

Facelets Templating: main template

mainGridTemplate.xhtml

```
<h:body>
  <f:view contentType="text/html">
    <ice:form id="mainGrid">
      <div id="wrapper">
        <ui:include src="includes/mainHeader.xhtml"/>
        <ui:include src="includes/subCategoryMenu.xhtml"/>
        <!-- START main area -->
        <ui:insert name="main-content" > main-content (default contents) </ui:insert>
        <ui:include src="includes/mainFooter.xhtml"/>
      </div>
    </ice:form>
  </f:view>
</h:body>
```

View Parameters

The screenshot shows a user interface for narrowing search results. On the left, there's a sidebar with 'Narrow Results:' dropdowns for 'By Style', 'By Size', 'By Width', and 'By Color'. Below these are 'Items Per Page:' dropdowns for 'view all' and 'Sort By:' dropdowns for 'Select'. In the main area, there's a breadcrumb navigation 'HOME > MEN'S' and a large image of a brown leather dress shoe. To the left of the shoe is a list of shoe styles: view all, bike toe, boot, cap toe, casual, dress, lace up, moc toe, plain toe, sandal, slip on, and wing tip. The 'dress' option is highlighted with a mouse cursor icon.

customer searches by style

View Parameters: source

search.xhtml

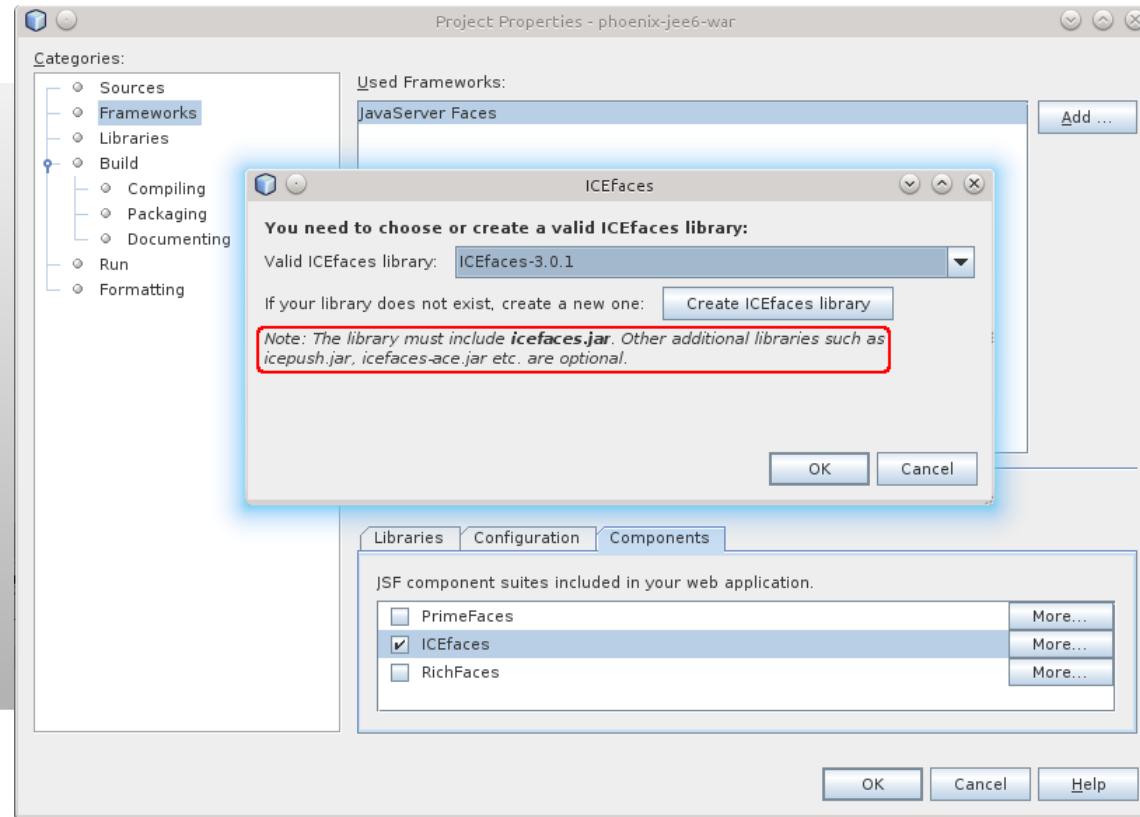
```
<ui:fragment rendered="#{!empty gridView.searchObjects['style']}">
    <div id="filtercolumns" class="offfilter" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'" style="float:left; margin-right:10px;">
        <ui:repeat value="#{gridView.searchObjects['style']}" var="topMenuItem">
            <div class="iceMnuBarSearch" id="#{topMenuItem.field}SearchMenu" onmouseout="Ice.Menu.hideOrClose(this)" onmouseover="Ice.Menu.show(this)" style="float:left; width:150px; border:1px solid #ccc; padding:5px; margin-bottom:5px;">
                <div class="iceMnuBarItem" id="#{topMenuItem.field}SearchMenu:#{topMenuItem.rowIndex}" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'" style="float:left; width:150px; border-bottom:1px solid #ccc; padding:5px; margin-bottom:5px;">
                    <span class="iceMnuBarItemLabelSearch">#{!empty categorySearchAction.params[topMenuItem.field]} : <input type="text" value="#{categorySearchAction.params[topMenuItem.field]}" /></span>
                </div>
                <div class="iceMnuBarSubMenuSearch" id="#{topMenuItem.field}SearchMenu:#{topMenuItem.rowIndex}" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'" style="float:left; width:150px; border-bottom:1px solid #ccc; padding:5px; margin-bottom:5px;">
                    <ui:repeat value="#{topMenuItem.children}" var="subMenuItem">
                        <div class="iceMnuItemSearch" id="#{topMenuItem.field}SearchMenu:#{topMenuItem.rowIndex}" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'" style="float:left; width:150px; border-bottom:1px solid #ccc; padding:5px; margin-bottom:5px;">
                            <h:button outcome="styleGridSearch" includeViewParams="true" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'" style="float:left; width:150px; border-bottom:1px solid #ccc; padding:5px; margin-bottom:5px;">
                                <span style="float:left; font-size:14px; font-weight:bold; margin-right:10px;">#{subMenuItem.text}</span>
                                <input type="button" value="#{subMenuItem.text}" class="shoeFinderLeaf" />
                            </h:button>
                        </div>
                    </ui:repeat>
                </div>
            </div>
        </ui:repeat>
    </div>
</ui:fragment>
```

View Parameters: target

styleGridSearch.xhtml

```
<ui:define name="main-content">
  <f:view>
    <f:metadata>
      <f:viewParam name="text" value="#{categorySearchAction.searchText}" />
      <f:viewParam name="style" value="#{categorySearchAction.params['style']}" />
      <f:viewParam name="size" value="#{categorySearchAction.params['size']}" />
      <f:viewParam name="width" value="#{categorySearchAction.params['width']}" />
      <f:viewParam name="color" value="#{categorySearchAction.params['color']}" />
      <f:viewParam name="pageNumber" value="#{categorySearchAction.pageNumber}" />
      <f:viewParam name="subCategoryCode" value="#{categorySearchAction.subCategoryCode}" />
      <f:viewParam name="price" value="#{categorySearchAction.price}" />
      <f:viewParam name="styleName" value="#{categorySearchAction.styleName}" />
      <f:viewParam name="reset" value="#{categorySearchAction.reset}" />
    </f:metadata>
    <f:event type="preRenderView" listener="#{categorySearchAction.loadGrid}" />
    <ui:include src="includes/styleGridLayout.xhtml" />
  </f:view>
</ui:define>
```

Component Library Recognition



Speaker: David Heffelfinger

The Challenge: Build an Application in 3 Weeks

- Author of **Java EE 6 Development of NetBeans 7**
- CTO of Ensoode Technology, LLC
- MS Software Engineering, Southern Methodist University

Building an Enterprise Java EE Application in 3 Weeks With NetBeans

- The kickoff meeting
 - Application employed standard Java EE Technologies (JSF 2, EJB 3.1, JPA, CDI)
 - Demo of the initial prototype plus initial architecture was done using NetBeans
 - NetBeans was recommended, but not required

NetBeans Adoption Within the Team

- Most developers in the team were Eclipse users
- After seeing the demo, **97%** of the development team adopted NetBeans (we had one stubborn IntelliJ Idea user)



Project Was Delivered on Time

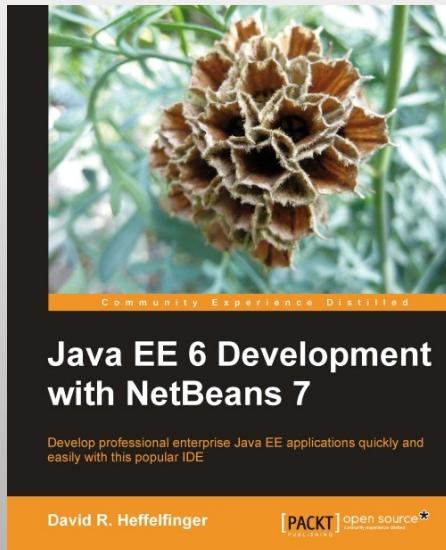
- In an astounding feat, we were able to deliver
 - With a less than experienced team
 - In the three weeks allocated



NetBeans Features that Made it Possible

- GlassFish integration
- Eclipse keybindings
- Generation of Facelets template clients
- JPA entity generation
- Facade (DAO) generation

Want to Know More?



<http://www.packtpub.com>

- Special discount code for JavaOne Attendees: GFAS8NB (print format only)
- Available in print, PDF and Kindle formats.