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Making Portals Cool :
The Compelling Advantages of a Portlet Bridge

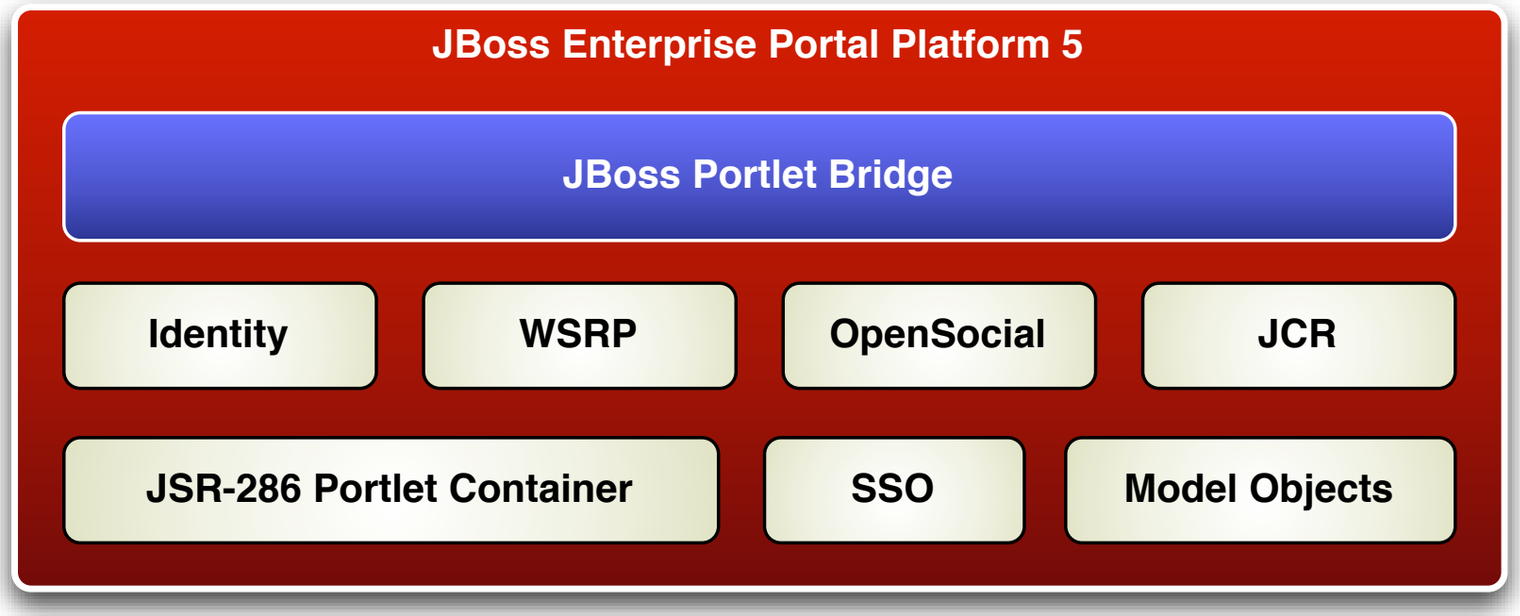
Wesley Hales
Senior Developer, JBoss by Red Hat
5/6/2011

About Wesley

- JBoss Portlet Bridge Lead
- Core GateIn Developer
- JSR-301/329 Red Hat Rep.
- Committer on Mozilla, Apache, Richfaces....
- Multiple series on InfoQ, Dzone, Refcards, personal blog, etc...
- www.wesleyhales.com
- @wesleyhales

Define “Cool”...

- Smooth learning curve
- Easy “Scaffolding” or project setup
- Enterprise Ready:
  - Supportable
  - Extensible
  - Clusterable, etc...



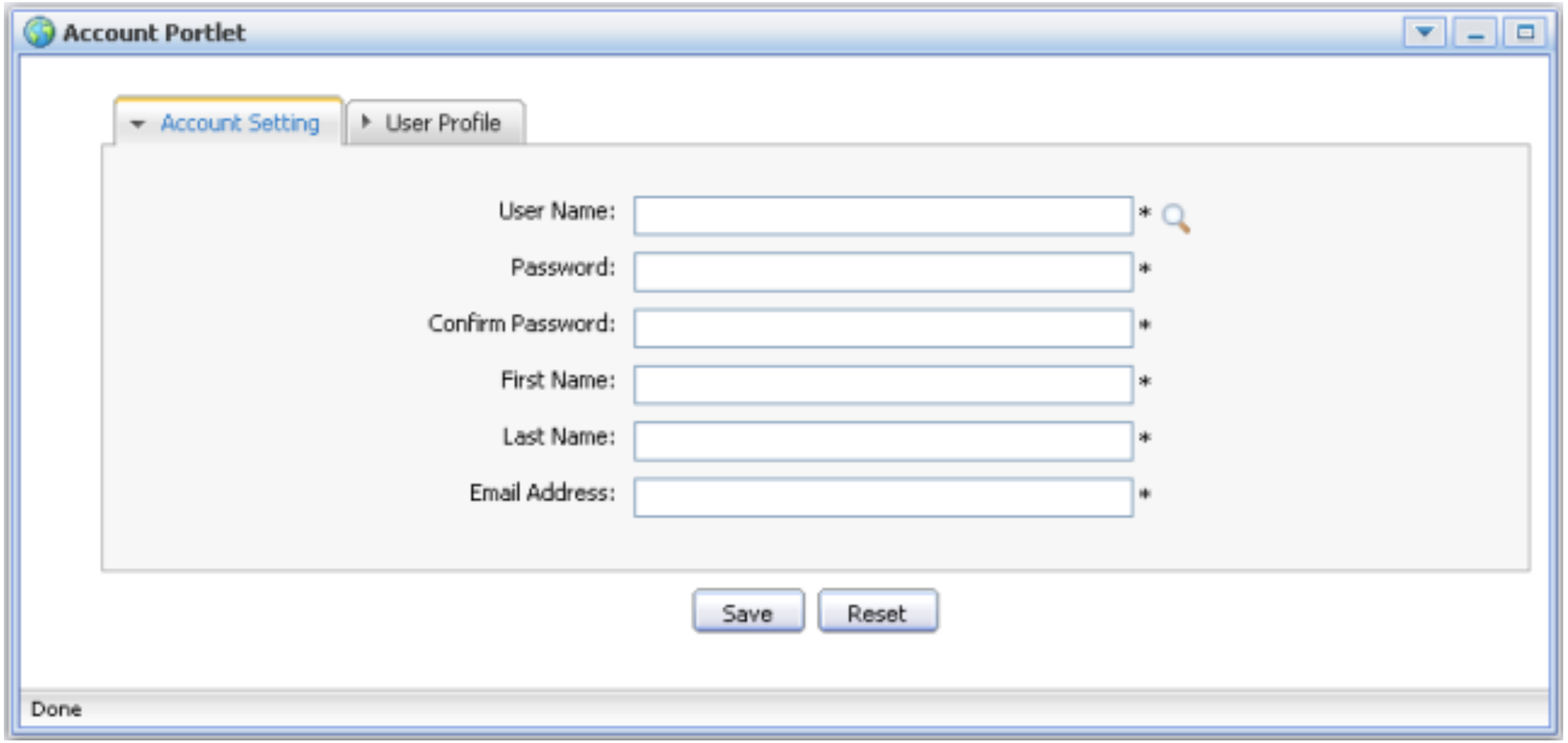
What is a Portal?

- Portals host the UI layer of many different systems.
- Manages Identity
- Tailored content and services
- Collaboration via CMS
- Social applications
- Security, Internationalization, etc...

What is a Portlet?

- Portlets can be written natively using JSP or vendor specific technology
- Majority of the time, a portlet is just a web app.

Basic Portlet Controls and Terminology



Portlet Development Basics

- No *real* standard for developing portlets
- Usability - Accounting for multiple apps on one page
- Multiple applications and 1 HTTP Request/Response

Portlet Bridges

- In the past, most were homegrown and vendor specific
- Today there are 3 specifications covering JSF 1 & 2

The JBoss Portlet Bridge

Supports: JSR-301 & JSR-329

- JSF 1.x - 2.x
- RichFaces 3.x - 4.x
- Seam 2.x

(Seam 3 in the works along with CDI)

Future:

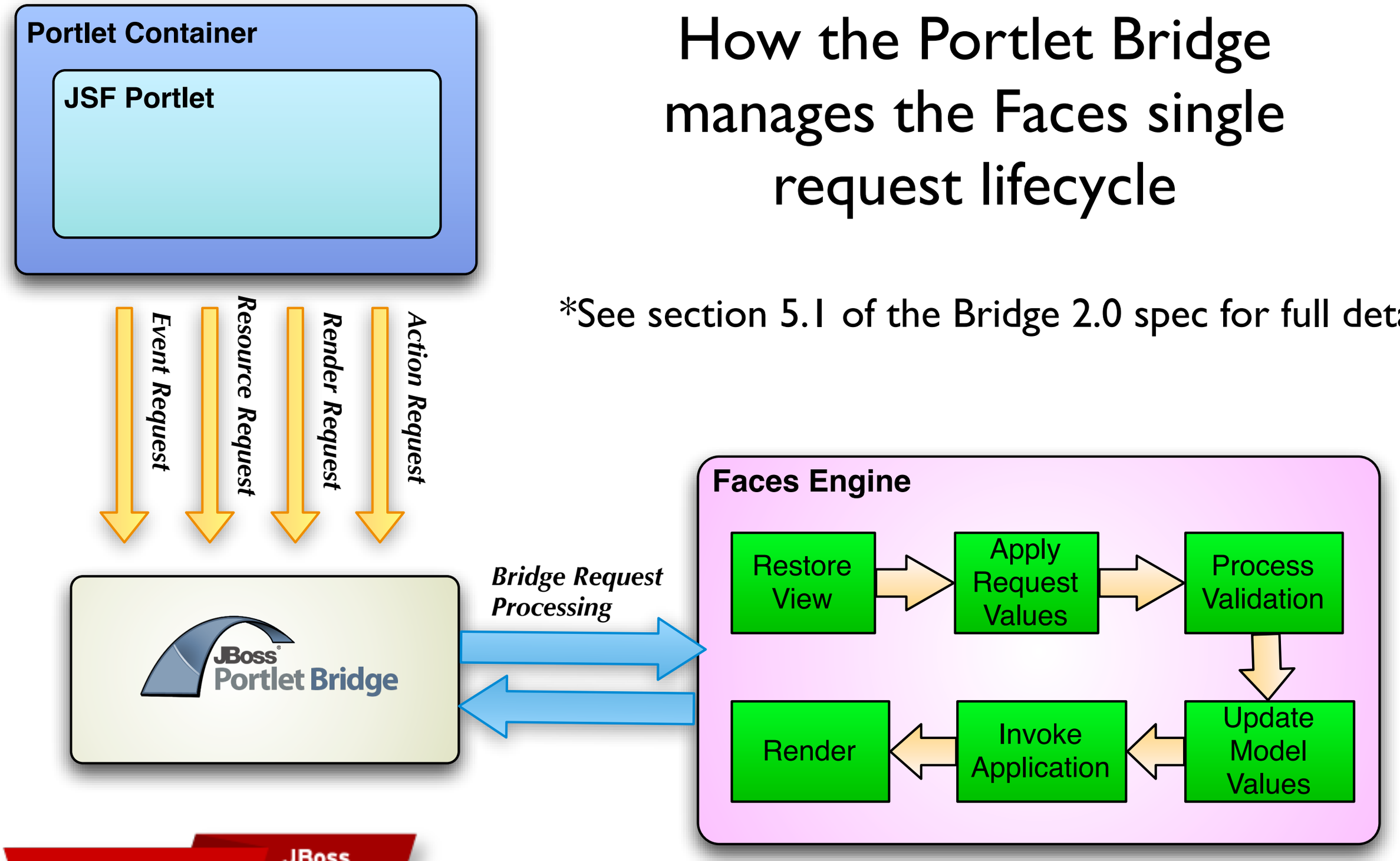
- Other web app frameworks like Spring, wicket, etc...

The JBoss Portlet Bridge (Features)

- Provides extensions for SSO
- Javascript collision prevention (why you should care)
- Parallel development which can be combined without issues
- WSRP support

How the Portlet Bridge manages the Faces single request lifecycle

*See section 5.1 of the Bridge 2.0 spec for full details



Why use JSF in portals?

- Component driven framework
- Large OSS/community driven projects
- Reuse of existing developer skill sets
- Repurpose legacy apps

Reusing JSF Skillsets

- JSF developer == Portal Developer
- Both sides win (Developer/Employer)
- Minor learning curveballs

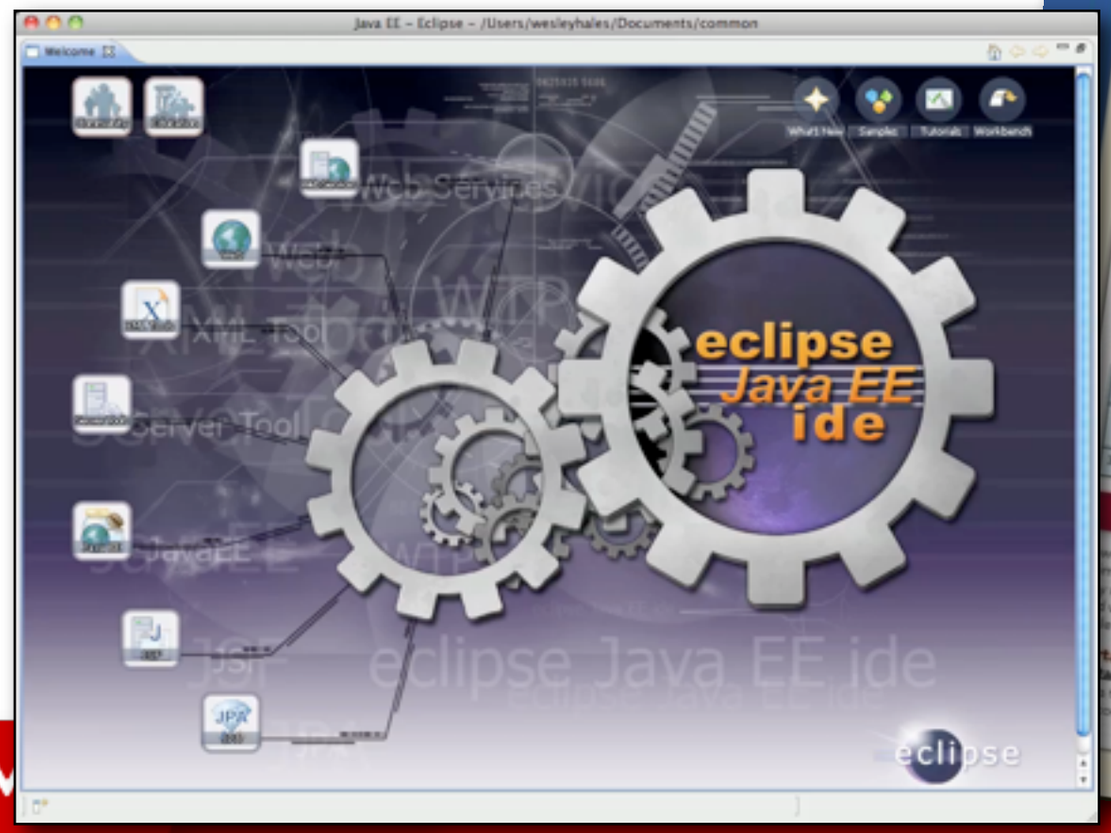
Getting Started / References

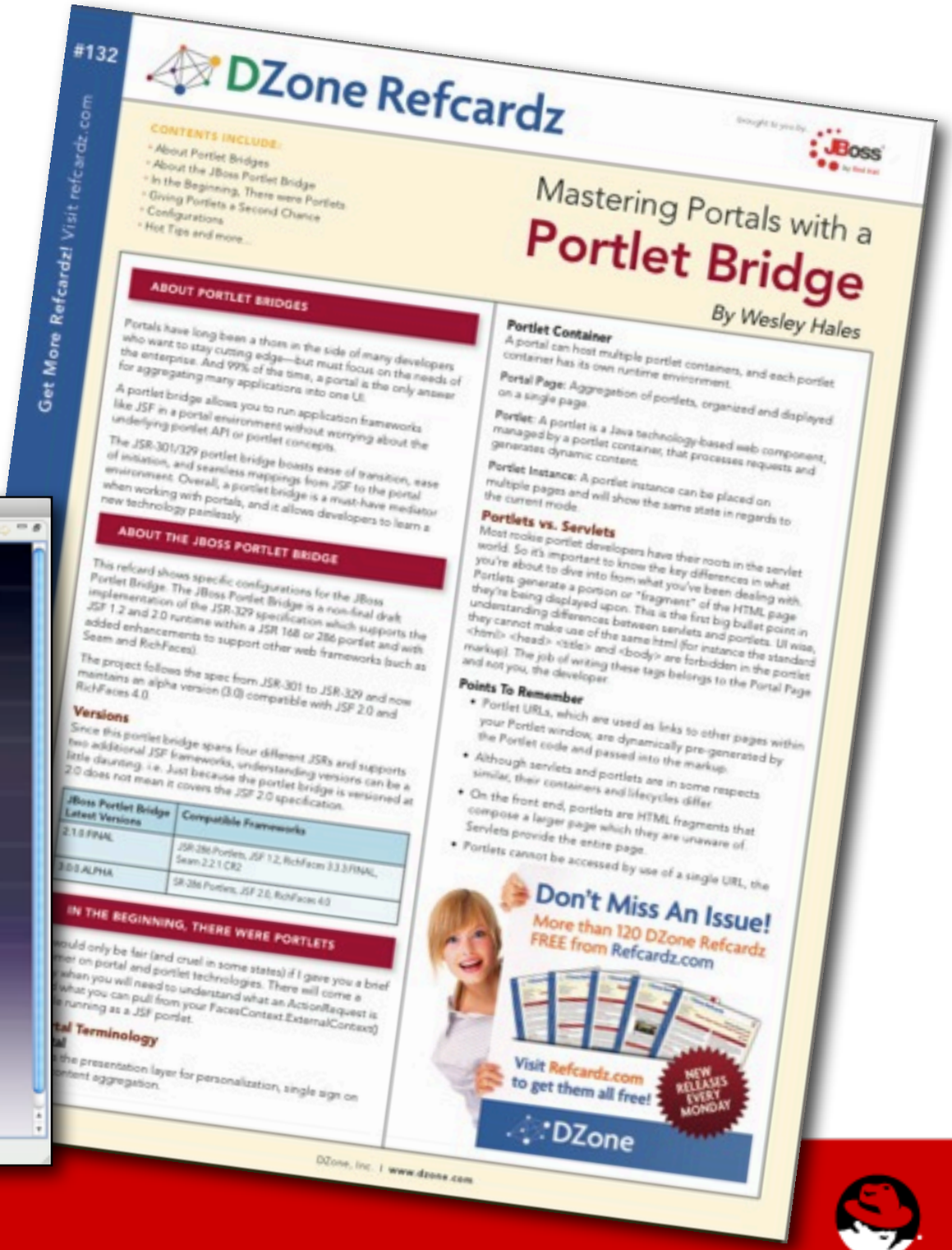
Articles, Blogs, Books, etc...

Step-by-step video tutorials

Archetypes

mvn archetype:generate
-DarchetypeCatalog=http://bit.ly/jbossportletbridge





SUM

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Mapping JSF to the Portlet API

- Sending Events across JSF portlets
- Providing and accessing public render parameters
- Portlet Preferences
- WSRP
- Portlet navigation controls

Demo

Checking The Request/Response

seamPortlet

Go to default page

View Mode Portlets

Stress test for an AJAX requests
Navigation between pages by h:outputLink and s:link
Paint image in the Seam component
Page with errors that throw ApplicationException during render phase.
RichFaces fileUpload component
Seam remoting example
AJAX push
Seam conversations
Navigation between window modes and states
Tab panel
Created with JBoss Seam 2.0, JBoss EJB 3.0, JSF 1.2, Hibernate 3 and Facelets

Done

riPortlet

JSF 1.2 Portlet

Publish Parameter

String:
Gab5ed4f8_2df47a_2d4f6a_2dae46_2d287c558da3d8

Done

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Checking the request/response

1

```
Object request = FacesContext.getCurrentInstance().
                                    getExternalContext().getRequest();
```

```
if (request instanceof ActionRequest)
 {
  ...
2    ((ActionRequest)request).setCharacterEncoding());
 }

if (request instanceof RenderRequest)
{
  ...
    ((RenderRequest)request).getRemoteUser());
}
```

3

*also Resource and Event requests

Public Render Parameters

- BridgePublicRenderParameterHandler
- Simple
- Map them to any BackingBean member
  (via faces-config.xml)

Publishing Parameters

1

(prp publisher) portlet.xml

```
<supported-public-render-parameter>
      myParameter
</supported-public-render-parameter>
```

2

(prp consumer) portlet.xml

```
<init-param>
   <name>javax.portlet.faces.bridgePublicRenderParameterHandler</name>
   <value>org.my.app.PRPHandler</value>
</init-param>
```

3

myBean#publishParam()

```
if (response instanceof StateAwareResponse) {
     StateAwareResponse stateResponse = (StateAwareResponse) response;
     stateResponse.setRenderParameter("myParameter","paramValue");
}
```

Demo

Handling Public Render Parameters

Web Development - Eclipse - /Users/wesleyhales/Documents/common

Web Develop...

P W S

- jsf12Portlet
  - src/main/java
  - src/main/resources
  - Maven Dependencies
  - JBoss 5.1 Runtime [JBos
  - JRE System Library [JVM
  - src
    - main
      - jbossportal
      - webapp
        - images
        - jsf
        - test
        - WEB-INF
        - home.xhtml
  - target
  - webapp
  - pom.xml
  - README.txt
- jsf20Portlet
- seam2Portlet
- seam2Portlet-ear
- seam2Portlet-ejb
- seam2Portlet-web

P

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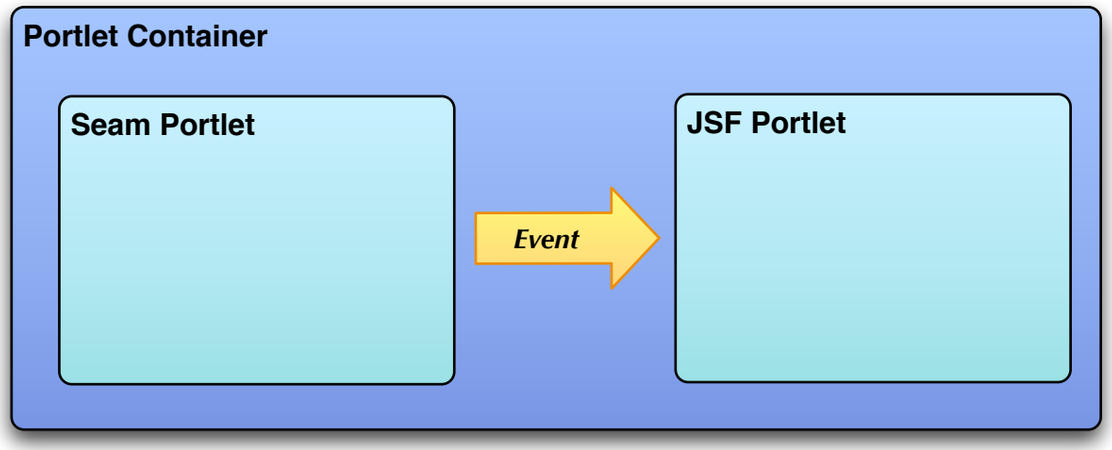
O

An outline is not available.

Sending and Receiving Portlet Events

- BridgeEventHandler
- Standard config in portlet.xml
- Send or receive from any portlet (not just JSF)



Sending Events

1

(event publisher) portlet.xml

```
<init-param>
  <name>javax.portlet.faces.autoDispatchEvents</name>
  <value>true</value>
</init-param>
```

2

(event consumer) portlet.xml

```
<init-param>
  <name>javax.portlet.faces.bridgeEventHandler</name>
  <value>org.my.app.EventHandler</value>
</init-param>
```

3

myBean#publishEvent()

```
if (response instanceof StateAwareResponse) {
        StateAwareResponse stateResponse = (StateAwareResponse) response;
        stateResponse.setEvent(MyEvent.QNAME, new MyEvent());
}
```

Navigation (Changing Portlet Modes)

- Seamless integration with JSF
- Easy way to leverage built in features

```
<navigation-rule>
   <from-view-id>/register.jspx</from-view-id>
   <navigation-case>
      <from-outcome>edit</from-outcome>
      <to-view-id>/edit.jspx?javax.portlet.faces.PortletMode=edit</t
   </navigation-case>
</navigation-rule>
```

Demo

Navigation Mapping (Changing Portlet Modes)

GateIn

Sign in Register Change Language

Home SiteMap Sample-Ext Page Portal JUDCon

JUDCon

seamPortlet

Go to default page

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Tips & Tricks

- Sharing data via APPLICATION_SCOPE
- Automatic script wrapping
- Working with portlet preferences and EL

Sharing data via APPLICATION_SCOPE

```
@PortletScope(PortletScope.ScopeType.APPLICATION_SCOPE)
@Name("portletA")

PortletB.java
if(request instance of ResourceRequest)
PortletA portleta =
        (PortletA)FC.getExternalContext.getSessionMap().get("portletA");
```

Automatic Javascript Namespacing

```
<context-param>
     <param-name>org.jboss.portletbridge.WRAP_SCRIPTS</param-name>
     <param-value>true</param-value>
</context-param>
```

Demo

Using Portlet Preferences With EL

Site Group Dashboard Site Editor Root Root

GateIn

Home SiteMap Group Navigation Sample-Ext Page Portal **JUDCon**

JUDCon

seamPortlet

Done

riPortlet

JSF 1.2 Portlet

Publish Parameter

String:
Gab5ed4f8_2df47a_2d4f6a_2dae46_2d287c558da3d8

Forum Posts: 25 Save Preferences

Done

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Expression Language

1

portlet.xml

```
<portlet-preferences>
      <preference>
          <name>forumPosts</name>
          <value>25</value>
         ...
```

home.xhtml

2

```
<h:form>
    <h:inputText
        value="#{mutablePortletPreferencesValues['forumPosts'].value}" />
    <h:commandButton actionListener="#{myBean.savePref}"
        value="Save Preferences" />
</h:form>
```

myBean#savePref()

3

```
Object request = FacesContext.getCurrentInstance().getExternalContext().getRequest();
      if (request instanceof ActionRequest) {
         ActionRequest actionRequest = (ActionRequest) request;
            PortletPreferences portletPreferences = actionRequest.getPreferences();
            portletPreferences.store();
```

Debugging

- Your JSF portlet runs as a servlet in parallel.
- Namespacing (combined portlet+JSF)

```
#{facesContext.externalContext.response.namespace}
```

- Custom JS will require its own namespace
- Remember that portlets may be asked to render more than once (interaction or not)

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