

# Building Portlets with ColdFusion

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- What are Portals & Portlets?
- Standards (JSR-168, JSR-286, WSRP)
- Writing Portlets in ColdFusion
- Deploying ColdFusion Portlets
- Web Services for Remote Portlets

- **portal** (n) – Door, Entrance ; especially : a grand or imposing one
  - Source: Merriam-Webster

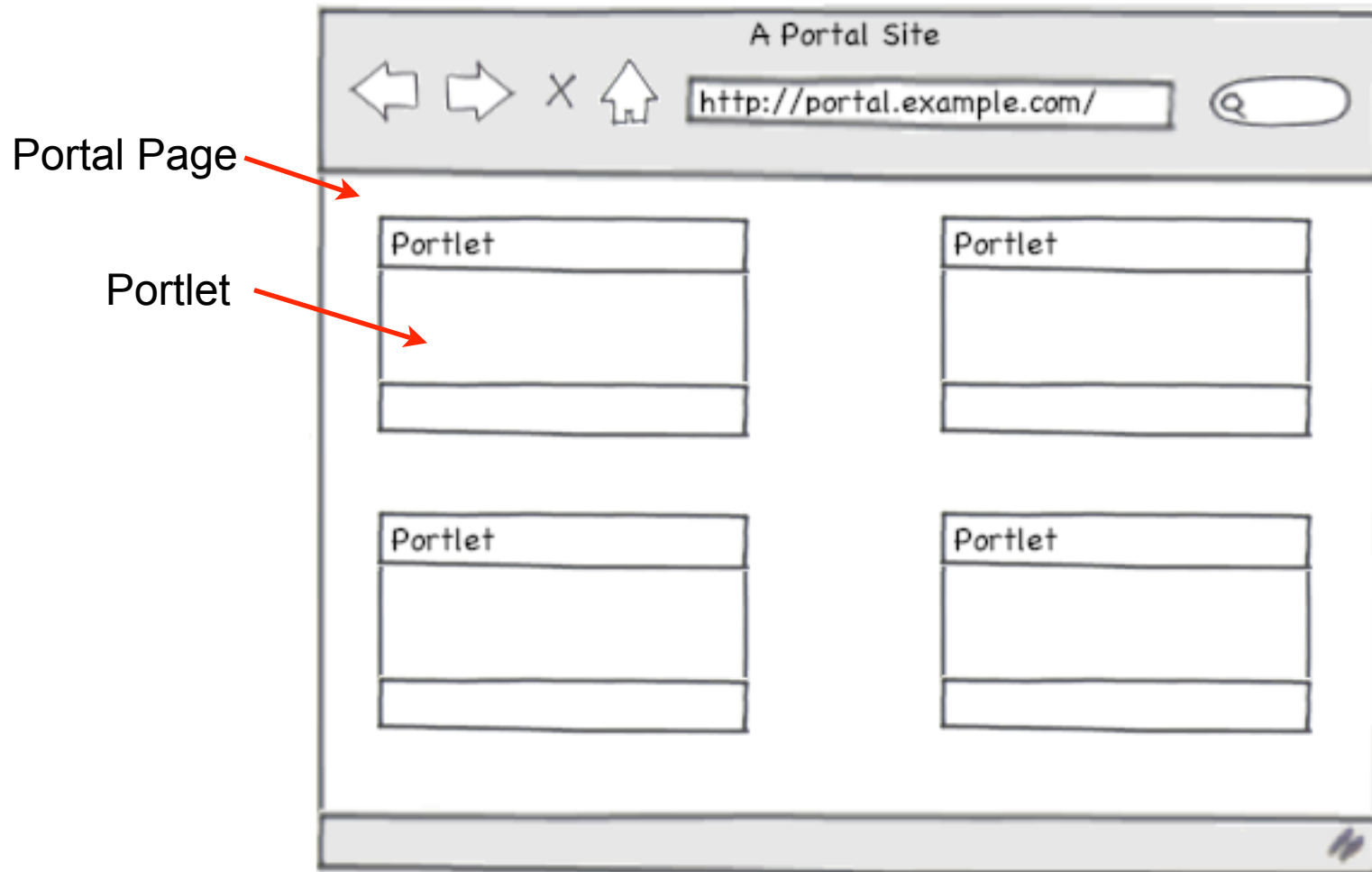
- Public Portal Sites

- MyYahoo: [my.yahoo.com](http://my.yahoo.com)
- iGoogle: [google.com/ig](http://google.com/ig)

- Corporate Portal Sites

- Provides employees, partners or customers with access to company data and web applications.

# What is a Portlet?



- Portal Servers consist of multiple Portal Pages
- A Portal Page May Serve Multiple Portlets
- A Portlet May have multiple instances on multiple pages
  - It may also have multiple instances on the same page.

- Window States

- Normal
- Minimized
- Maximized

- Portlet Modes

- View
- Edit
- Help

- Portal Server Implementation may support additional states or modes.



# What does a Portal Server do?



- Supports standard cross-vendor APIs for building portlets
- Provides Authentication & Authorization
- Portlet Deployment & Configuration
- UI Management
- High Level Controller

- JSR-168 (Java Portlet 1.0 API)
  - Portal Vendors had proprietary API's for writing portlets.
  - Finalized in 2003
  - Provides a basic set of functionality for building portlets.
- JSR-286 (Java Portlet 2.0 API)
  - Mostly backwards compatible with JSR-168
  - Added features such as:
    - Events
    - Caching
    - Filters
    - Resource Serving

- Deploy ColdFusion as a Portal Application in a Java Portal Server
  - JSR-168 or JSR-286
- Web Services for Remote Portlets
  - WSRP Version 1.0

- ❑ Download JBoss Portal Server bundled with JBoss Application Server.
- ❑ Extract JBoss Portal Server
- ❑ Start JBoss: {jboss.dir}/bin/run.sh (or run.bat)
  - ❑ Get some Coffee, it will take a while
- ❑ Login at: <http://localhost:8080/portal/>
  - ❑ Default username and password are both “admin”
- ❑ Stop JBoss

## □ Run ColdFusion 9 Installer to Generate a WAR File



- ❑ Unzip contents of **cfusion.war** to {jboss.dir}/server/default/deploy/cfusion.war/
  - ❑ War files are in the same format as zip files, you can use any zip file extraction tool to extract a war file.
- ❑ Start JBoss
  - ❑ Better go refill your coffee
- ❑ Complete CF Installation visit: /cfusion/CFIDE/administrator/
  - ❑ Enable J2EE Sessions Recommended

- We now have ColdFusion Running inside a Portal Server!

- Your ColdFusion Instance can host multiple Portlets.
- Portlets defined in the same ColdFusion instance are considered to be in the same **Portal Application**.
  - Portal Applications can share data, and session variables.



- Create an instance of the Portlet in your Portal Server
- Add the Portlet to a Portal Page
- Above steps differ by portal vendor.
- Demo.

- ❑ ColdFusion 9 Introduces the ColdFusion Portlet API
- ❑ CFC API Designed to align with JSR-168 & JSR-286
- ❑ ColdFusion Portlets should extend the **CFIDE.portlets.ColdFusionPortlet** component.

- At a minimum your portlet should implement the **doView** method.
  - `doView(renderRequest, renderResponse)`
    - `renderRequest` is a `javax.portlet.RenderRequest` java object
    - `renderResponse` a `javax.portlet.RenderResponse` java object

# A Hello World ColdFusion Portlet



```
<cfcomponent extends="CFIDE.portlets.ColdFusionPortlet">

    <cffunction name="doView" returntype="void" output="true">
        <cfargument name="renderRequest" type="any" required="true">
        <cfargument name="renderResponse" type="any" required="true">
        <h1>Hello ColdFusion</h1>
        <cfoutput>
            <p>Today is #DateFormat(Now(), "long")#.</p>
            <p>Rendered at: #TimeFormat(Now(), "h:mm:ss tt")#</p>
        </cfoutput>
    </cffunction>

</cfcomponent>
```

# Portlet Output



The screenshot shows a web browser window titled "JBoss Portal 2.6.7-GA". The browser's address bar is empty, and the search bar contains "Google". The browser's bookmark bar shows "post to del.icio.us", "Add to Spendfish", "Gmail", "cbf", "localhost", and "Foundeo". The JBossPortal header is blue with the text "JBossPortal" on the left and "Logged in as: admin" on the right. Below the header is a navigation bar with buttons for "Home", "News", "Weather", and "Test Page". The "Test Page" button is highlighted. Below the navigation bar is a portlet titled "Hello ColdFusion Portlet". The portlet's content area displays "Hello ColdFusion", "Today is November 25, 2008.", and "Rendered at: 1:09:07 PM". A mouse cursor is hovering over the text. Below the portlet is the text "Powered by JBoss Portal".

- Each Portal Application has a /WEB-INF/portlet.xml file.
- Configuration for each portlet is stored in this file.
  - Specify the full package name of the CFC to use for this portlet.
  - Which portlet modes does it support (View, Edit, Help)?
  - Default Title and Description
  - Custom Initialization Parameters

# Hello World portlet.xml



```
<?xml version="1.0" encoding="UTF-8"?>
<portlet-app version="1.0">
  <portlet>
    <portlet-name>ColdFusionPortlet</portlet-name>
    <portlet-class>coldfusion.portlet.ColdFusionPortlet</portlet-class>
    <supports>
      <mime-type>text/html</mime-type>
      <portlet-mode>VIEW</portlet-mode>
    </supports>
    <portlet-info>
      <title>ColdFusion Hello World Portlet</title>
    </portlet-info>

    <init-param>
      <name>cfcName</name>
      <value>portlets.hello.HelloPortlet</value>
    </init-param>
  </portlet>
</portlet-app>
```

- To build portlets with multiple views, we need to create links with variables.
  - The variables are called parameters
  - Must use the Portlet API to create the link
  - The ColdFusionPortlet CFC has a method **createRenderURL** to make this easy.
    - **createRenderURL**( parameters, portletMode, windowState, secure )
      - **parameters** – a struct, your variables.
      - **portletMode** – VIEW, EDIT, HELP, default stays same.
      - **windowState** – MINIMIZED, MAXIMIZED, NORMAL, default same
      - **secure** – if true uses HTTPS, otherwise same

`<a href="#createRenderURL({sort="name"})#">Sort by Name</a>`

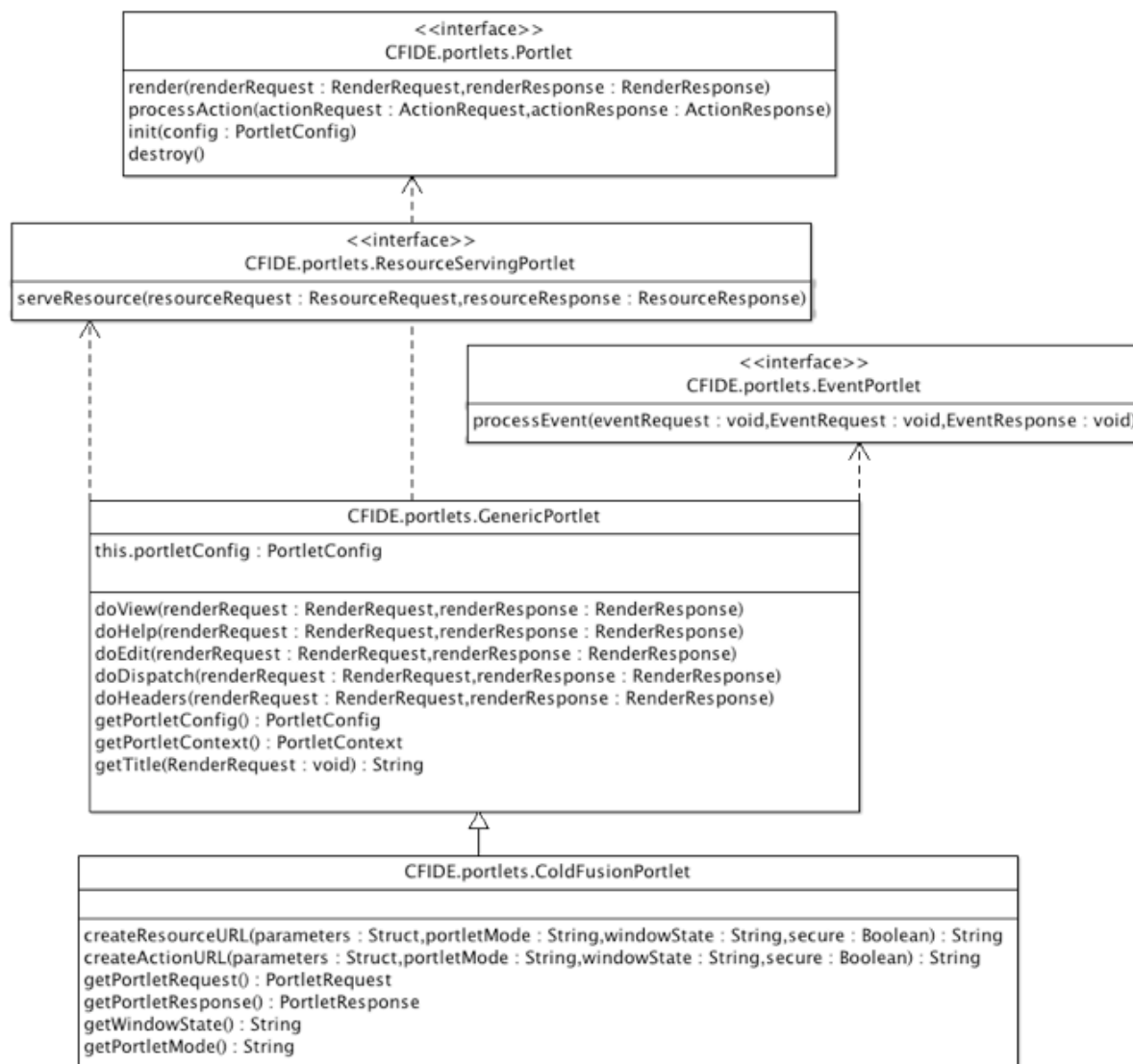


- The ColdFusion Portlet API populates the **request.portlet.parameters** struct to access parameters passed to the portlet.
  - eg: #request.portlet.parameters.sort#
  - You can also use `renderRequest.getParameter("name")`, but it returns a null if the parameter is not defined.

- Forms should be method=POST
- The form action should be generated by the Portlet API
  - **createActionURL**(parameters, portletMode, windowState, secure)
    - similar to createRenderURL()

- ❑ The **processAction**(actionRequest, actionResponse) method is invoked in the Portlet CFC when form is submitted.
  - ❑ The form variables are available in the **request.portlet.parameters** struct
  - ❑ **actionRequest** is the portal's implementation of javax.portlet.ActionRequest
  - ❑ **actionResponse** is the portal's implementation of the javax.portlet.ActionResponse interface.
- ❑ The processAction() method does not generate any output, a doView request is subsequently rendered.
  - ❑ You can call **setRenderParameter**(key, value) on the actionResponse object to pass values to the view.
    - ❑ eg: actionResponse.setRenderParameter("success", "true")

- ❑ `init(portletConfig)`
- ❑ `render(renderRequest, renderResponse)`
- ❑ `doView(renderRequest, renderResponse)`
- ❑ `doHelp(renderRequest, renderResponse)`
- ❑ `doEdit(renderRequest, renderResponse)`
- ❑ `processAction(actionRequest, actionResponse)`
- ❑ `getWindowState()`
- ❑ `getPortletMode()`
- ❑ `createActionURL(parameters, portletMode, windowState, secure)`
- ❑ `createRenderURL(parameters, portletMode, windowState, secure)`
- ❑ `destroy()`



- WSRP is a SOAP driven API for hosting portlets on external servers.
  - WSRP Producer – Hosts Portlets using WSRP
  - WSRP Consumer – Displays portlets hosted by the Producer
- Most Current Portal Servers can consume portlets via WSRP

- ❑ ColdFusion 9 is a WSRP Producer!
  - ❑ You can host portlets on a dedicated ColdFusion server
  - ❑ ColdFusion does not need to be installed on the Portal Server
  - ❑ The Consumer Portal Server does not need to be written in Java

- Consumers must register with the Producer
  - ColdFusion doesn't have any mechanism to authorize or distinguish one consumer from another. Use IP restrictions to limit communication.
- Upon successful registration the Producer provides a list of portlets that the consumer may use.
- Each time the portlet is rendered, or interacted with a SOAP request to the Producer is made.



- ❑ Supports WSRP 1.0 Spec
- ❑ ColdFusion portlets can use most feature of JSR-168
  - ❑ The New Features in JSR-286 are not supported by WSRP 1.0
- ❑ Doesn't support Consumer Configured Portlets
  - ❑ Portlets are configured on the Producer (ColdFusion side)

- The WSRP Producer is mapped to the URI /WSRPProducer
- WSDL is rendered by using ?WSDL
  - Example: <http://localhost/cfusion/WSRPProducer?wsdl>
- The list of portlets available to the WSRP Consumers is controlled in /WEB-INF/cf-wsrp-portlet.xml
  - The <portlet-class> tag should hold the full CFC package name
  - Follows the portlet.xml 1.0 Schema

# Setting up WSRP Consumer on JBoss Portal



JBoss Portal 2.6.7-GA

post to del.icio.us Add to Spendfish Gmail cbf localhost Foundeo

JBossPortal

Logged In as: admin

Dashboard | Portal | Copy to my dashboard | Logout

CMS Members **WSRP** Admin

Consumers Configuration Producer Configuration

**Consumers**

**Manage Consumers**

Create a consumer named:  **Create Consumer**

Consumer [status: active, inactive, (refresh needed)]	Actions
adobe (active)	Configure   Refresh   Deactivate   Deregister   Delete
bea-demo (active)	Configure   Refresh   Deactivate   Deregister   Delete
cfwsrp (active)	Configure   Refresh   Deactivate   Deregister   Delete
self (inactive) (refresh needed)	Configure   Refresh   <b>Activate</b>   Delete

Powered by JBoss Portal

# WSRP: Enter WSDL URL



JBoss Portal 2.6.7-GA

post to del.icio.us Add to Spendfish Gmail cbf localhost Foundeo

JBossPortal

Logged In as: admin

Dashboard | Portal | Copy to my dashboard | Logout

CMS Members **WSRP** Admin

Consumers Configuration **Producer Configuration**

Consumers > Consumer 'wsrp-test' configuration (inactive) (refresh needed)

**Producer id:**

**Cache expiration:**  (seconds before expiration)

**Endpoint configuration:** ☒ Use WSDL?

**Refresh & Save** **Cancel**

Powered by JBoss Portal

# WSRP: Registration Handle



JBoss Portal 2.6.7-GA

post to del.icio.us Add to Spendfish Gmail cbf localhost Foundeo

JBossPortal

Logged In as: admin

Dashboard | Portal | Copy to my dashboard | Logout

CMS Members **WSRP** Admin

Consumers Configuration **Producer Configuration**

Consumers > ☐ Consumer 'wsrp-test' configuration (active)

**Refresh was successful.**

**Producer id:**

**Cache expiration:**  (seconds before expiration)

**Endpoint configuration:** ☒ Use WSDL?

**Registration information:**

**Current registration information:**

Registration is indicated as required without registration properties.

**Registration context:** Handle: yruwbciymbi91437567518 **Erase local registration**

**Refresh & Save** **Cancel**

Powered by JBoss Portal

# WSRP: View Portlets, Create Instance



The screenshot shows the JBoss Portal 2.6.7-GA web interface. The browser window has a title bar and a search bar with 'Google'. The page header includes the JBossPortal logo and navigation links for CMS, Members, WSRP, and Admin. The WSRP section is active, showing a sub-navigation bar with Portal Objects, Portlet Instances, Portlet Definitions, and Dashboards. Below this, there is a section titled 'View portlets provided by the portlet provider named: wsrp-test' with a 'View portlets' button. A table lists two portlets: 'Hello Portlet' and 'Test Portlet'. Both have 'Remote' and 'Remotable' checkboxes checked and a 'Create instance' button. The footer of the page says 'Powered by JBoss Portal'.





JBoss Portal 2.6.7-GA

Logged In as: admin  
Dashboard | Portal | Logout

CMS Members WSRP Admin

Portal Objects Portlet Instances Portlet Definitions Dashboards

View portlets provided by the portlet provider named: wsrp-test View portlets

Portlet name	Description	Remote	Remotable	Actions
 Hello Portlet	This Portlet is a Hello World CF Portlet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 Create instance
 Test Portlet	This Portlet is a ColdFusion Test Portlet. Used for testing CF Features.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 Create instance

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# Thank You. Questions?

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