

# Developing Collaborative Portlets

A Developer's Perspective

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# Agenda

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- Domino Integration
- Standard Portlets
- Collaborative Services Objects
- Jsp Tags
- Sample Portlets
- Demo

# Konferenz Agenda

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- IBM WebSphere Portal 4.1
  - ▶ Apollo 9:45
- WPS 4.1 Portlet Development – Best Practices
  - ▶ Apollo 11:00
- Business Integration with MQ and Crossworlds
  - ▶ Apollo 11:55
- WebSphere Security – Technical Overview
  - ▶ Apollo 13:40
- Collaborative Portlet Development
  - ▶ Diana I/II 11:55
- WebSphere Everyplace Access
  - ▶ Apollo 14:35

# Integration Points

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- Lotus Domino integration
  - ▶ Domino Directory server must be LDAP enabled
  - ▶ Any Domino data source server must have HTTP, LDAP and Domino IIOp enabled
    - HTTP to access Domino data via Domino XML
    - Domino IIOp to access servers, databases and views
  - ▶ Domino/WebSphere Single Sign On must be enabled on participating Domino servers
- Lotus Sametime integration
  - ▶ Sametime 2.5 FP 1 (WebSphere Portal 4.1.2)
  - ▶ ST Links 3.0 Toolkit
  - ▶ Modify Sametime.ini to allow remote server access
- Lotus QuickPlace integration
  - ▶ DIIOP task used
  - ▶ "Allow clients to browse databases" to get a list of QuickPlaces
- Lotus Discovery Server integration
  - ▶ allows a find button to open the Discovery Server K-map for all portal searches

# CSEnvironment.properties (<washome>/lib/app/config)

```
CS_SERVER_WEBSPHERE_PORTAL_EXTEND.enabled=true
#####
#
# SAMETIME properties
# Only valid property is enabled. Other values configured
# through hostAddress.xml
#####

CS_SERVER_SAMETIME.enabled=true

#####
#
# QUICKPLACE properties
# enabled indicates whether or not QP creation is allowed.
#####

CS_SERVER_QUICKPLACE.enabled=true
CS_SERVER_QUICKPLACE_1.hostname=yourserver.yourco.com

#####
#
# DISCOVERY SERVER properties
#####

CS_SERVER_DISCOVERY_SERVER.enabled=true
CS_SERVER_DISCOVERY_SERVER_1.hostname=server.yourco.com

#####
#
# DOMINO DIRECTORY properties
# (LDAP server)
# Only valid property is hostname. Leave enabled flag as true.
#####

CS_SERVER_DOMINO_DIRECTORY.enabled=true
CS_SERVER_DOMINO_DIRECTORY_1.hostname=directory.yourco.com
```

# Standard Portlets

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- QuickPlace (in an iframe)
- Webpage (scrollable iframe that displays URLs)
- Notes View
- Notes Mail
- My Notes To Do
- My Notes Mail
- My Notes Calendar
- Notes Discussion
- Notes Teamroom
- Bookmarks popup
- iNotes portlets (in an iframe)
- My iNotes portlets
- Sametime (simple client launching portlet)
- QuickPlace (simple launching portlet)

# Overview of Collaborative Components

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- Infrastructure Objects

- ▶ CSEnvironment

- initializes the components and retrieves credentials of logged in user

- ▶ CSCredentials

- authentication information for the logged in user

- CSFactory uses this to authenticate against the worker servers

- ▶ CSFactory

- Constructs a Java service object and generates a connection to the worker server

- Java Service Objects (instanciated by CSFactory)

- ▶ DominoService

- standardized access to all versions of Domino from R4.6

- ▶ QuickPlaceService

- provides the ability to create a QuickPlace

- ▶ PeopleService

- Sametime awareness plus the ability to obtain information about a specified person

- ▶ DiscoveryServerService

- ability to discover, search for, and retrieve Categories, People, Places, and Documents

# Object Relation

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```
CSEnvironment environ = CSEnvironment.getEnvironment(request);  
CSCredentials cred = environ.getCredentials(request);  
DominoService ds = (DominoService) ....  
...CSFactory.getService(cred,CSFactory.DOMINO_SERVICE);
```



# Tag Language - PeopleService Tags

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generate context sensitive menus and Sametime awareness for names found in the LDAP directory

- ▶ "person" Tag
  - enables collaboration on the enclosed name
- ▶ "peopleinit"
  - initializes the people tag functionality
- ▶ "peopleend"
  - finalizes the people tag functionality

# Tag Language - Menu Tags

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Allows developers to add pop-up menus to their Collaborative Components applications. The pop-up menus are Java applets

- ▶ "menuinit"
  - initializes the menu tag functionality
- ▶ "menucontext"
  - starts the definition of one or more menus under a common context name
- ▶ "menu"
  - defines a menu within a menu context
- ▶ "menuitem"
  - defines an entry in a menu
- ▶ "menudisplay"
  - activates and displays the specified menu

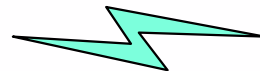
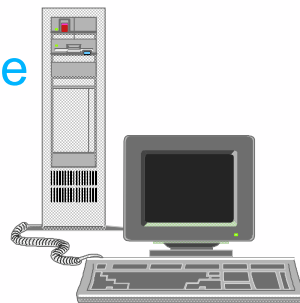
# Portal Toolkit for WebSphere Studio

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- Debug support for remote portal server
- The test server machine should be at least 1GHZ/512MB machine. A faster machine is better!
- Software Requirements
  - ▶ WSAD Advanced 4.03 or WSAD 4.03
- IBM WebSphere Application Server Advanced Single Server Edition 4.01
  - ▶ Fixpack 2 – Updates Application Server to 4.02 Version
  - ▶ eFix PQ56615 – Fixes JSP taglib sharing Problem
  - ▶ eFix PQ58678 – Fixes Dynacache Problem
- DB2 7.1 FP5 or Oracle Database
- WebSphere Portal Version 4.1 Developer Install

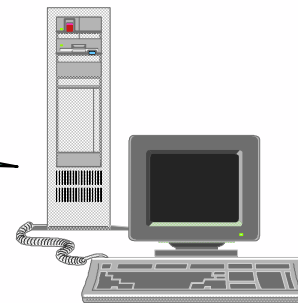
## Developer Machine

WSAD  
Portal Toolkit

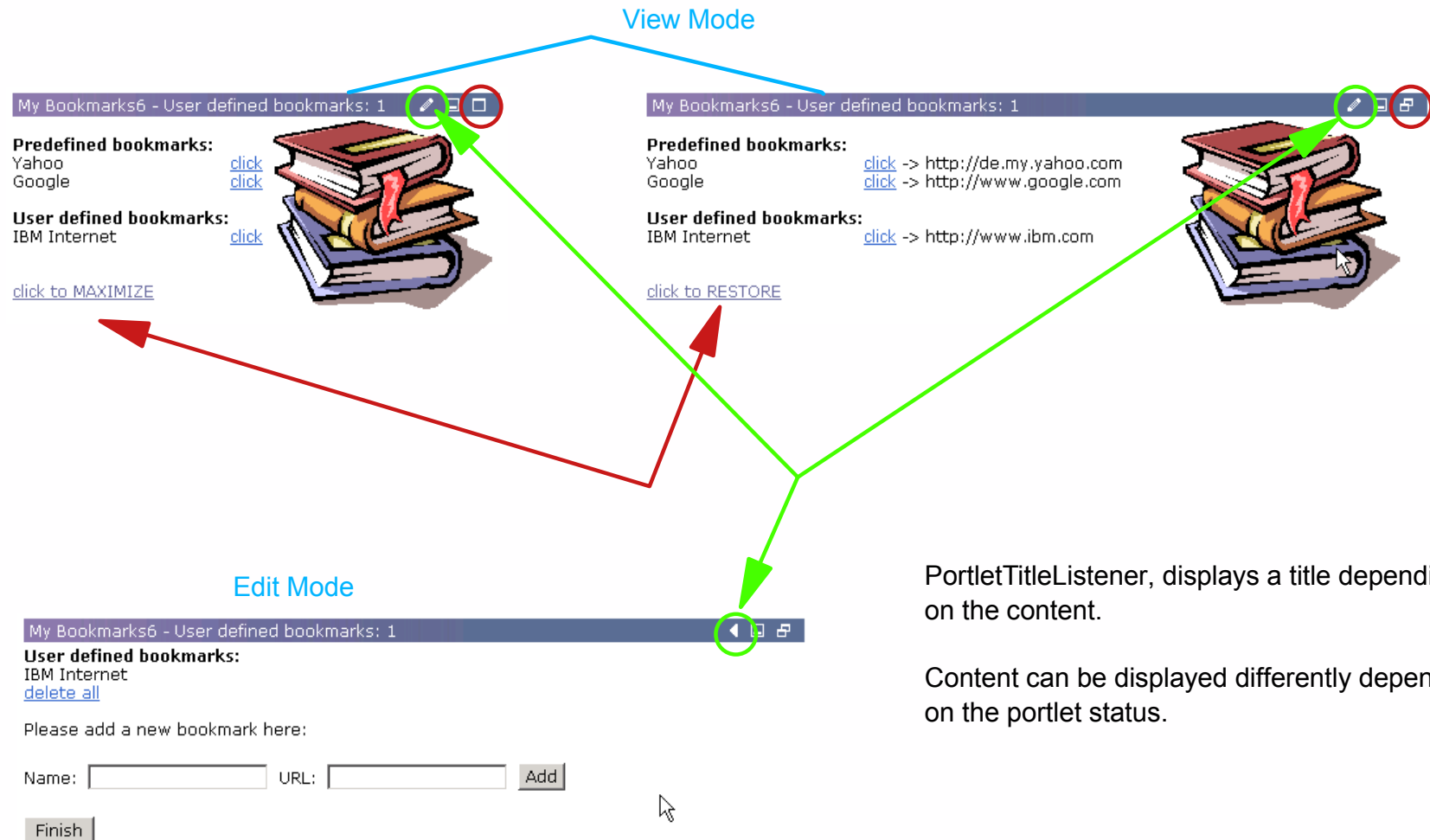


## Test Server

WAS AEs  
Portal 4.1  
DB2/Oracle



# Programming in regards to the Portal UI



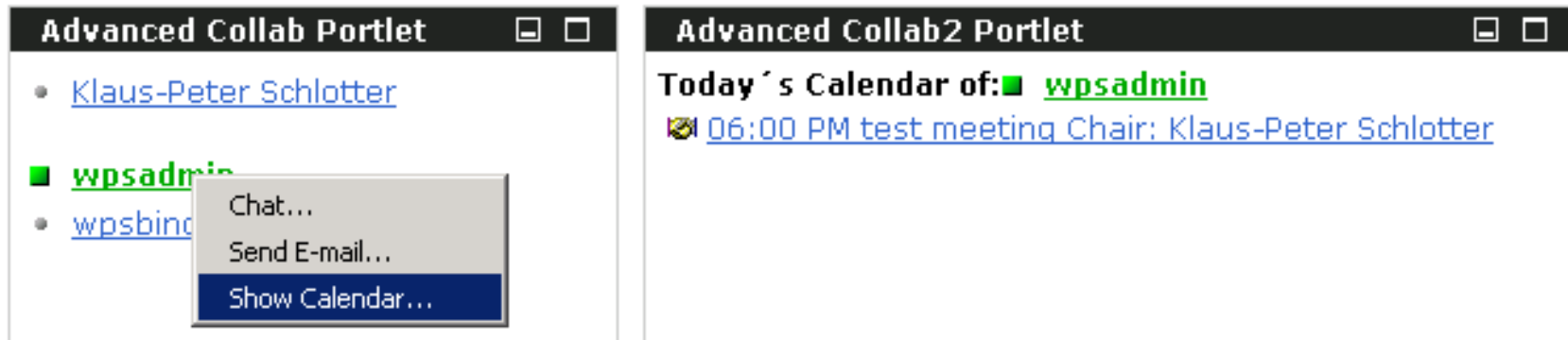
# Simple Hello Portlet

```
<%@ page language="java" import="com.lotus.cs.*, java.util.*" %>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<%@taglib uri="/WEB-INF/tld/people.tld" prefix="peopleservice" %>
<%@taglib uri="/WEB-INF/tld/menu.tld" prefix="menu" %>
<HEAD>
<META name="GENERATOR" content="IBM WebSphere Studio">
</HEAD>
<h1>Collaborative Components Hello JSP</h1>
<%
CSEnvironment environ = CSEnvironment.getEnvironment(request);
CSCredentials cred = environ.getCredentials(request);
%>
<BR>
<H2>Hello,
<peopleservice:person><%=cred.getUserLoginName()%></peopleservice:person>
</H2>
```



# The Sample Application

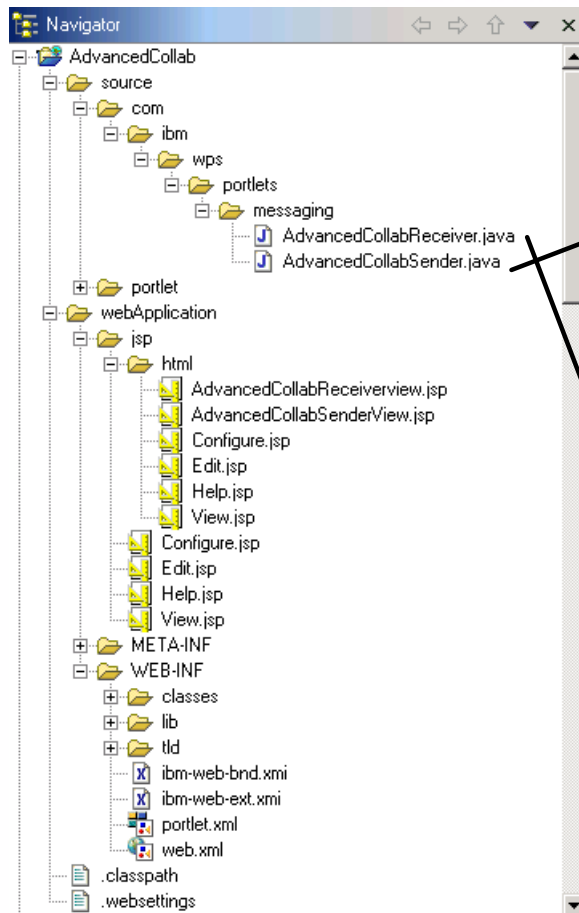
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Two portlets that communicate together using

- portlet messaging
- person tags
- menu tags
- DominoService
- ViewInfoService
- CalendarService

# Sample Application in WSAD



```
public void actionPerformed(ActionEvent event) {
```

```
    PortletRequest request = event.getRequest();  
    String username = request.getParameter("username");  
    String portletName = request.getParameter("portletName");  
    if ( username != null && username.trim().length() > 0 ) {  
        DefaultPortletMessage message = new DefaultPortletMessage(username);  
        try {  
            getPortletConfig().getContext().send(portletName, message);  
            // to send message to all portlets on the page  
            //getPortletConfig().getContext().send(null, message);  
        } catch ( AccessDeniedException ade ) {  
            System.out.println("Could not send Message to "+ portletName);  
        }  
    }  
}
```

```
public void messageReceived(MessageEvent event) {
```

```
    DefaultPortletMessage message = (DefaultPortletMessage) event.getMessage();  
    PortletRequest request = event.getRequest();  
    request.getSession().setAttribute(USERNAME_KEY, message.getMessage());  
}
```

# Tags in the Sender JSPs

Additional menu entry

```
<menu:menucontext contextName="peoplemenu_moreContext">
  <menu:menu menuName="peoplemenu_more" menuID="peoplemenu_more">
    <menu:menuitem itemName="Show Calendar..." callbackFn="ShowCalendar();" />
  </menu:menu>
</menu:menucontext>
```

```
<SCRIPT language="Javascript">

function ShowCalendar() {

  <%=portletResponse.encodeNamespace("submitForm")%>.<%=portletResponse.
    encodeNamespace("username")%>.value=linkId;
  <%=portletResponse.encodeNamespace("submitForm")%>.
    <%=portletResponse.encodeNamespace("portletName")%>.value="AdvancedCollab2 Portlet";
  <%=portletResponse.encodeNamespace("submitForm")%>.submit();
}
```

callback function for the new menu entry  
defines and sets the message content



# Tags in the Receiver JSP

<b>Today's Calendar of:</b><people:person><%=username%></people:person><br>

```
<%
CSEnvironment environ = CSEnvironment.getEnvironment(request);
CSCredentials cred = environ.getCredentials(request);
DominoService ds = (DominoService) CSFactory.getService(cred,CSFactory.DOMINO_SERVICE);
String domain = portletRequest.getPortletSettings().getAttribute("Domain");
String ldapname = "cn="+ username +",o="+ domain;
String [] MailData = ds.getMailServerFile(ldapname);
ds.cleanup();
ds = (DominoService) CSFactory.getService(cred,CSFactory.DOMINO_SERVICE,"myserver.ibm.com:81","http");
ViewInfo vi = ds.getViewInfo(MailData[1], "($calendar)");
String urlBase = "http://" + MailData[0] + ":81/" + MailData[1] + "/($calendar)";
String date = null;
CalendarDayInfo[] days = vi.getCalendarDayInfo(date,ViewInfo.ONE_DAY);
CalendarDayInfo today = days[0];

EntryInfo[] entrylist = today.getEntryInfo();
EntryInfo entry;
String alttext;
String rowtext;
String iconid;
String launchURL;
String urlicons= portletRequest.getPortletSettings().getAttribute("URL Images");
%>
```

<table><tr> // Build the table with the calendar entries

WebSphere software



# "Collaborative Components" Redbook

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<http://www.redbooks.ibm.com>

# Demo

The screenshot displays the IBM WebSphere Portal interface. At the top, the header includes the 'WebSphere Portal' logo on the left and 'Welcome wpsadmin!' on the right. Below the header is a navigation bar with a 'Home' dropdown menu, a 'Bookmarks' link, and several utility icons. The main content area is divided into several widgets:

- Welcome to WebSphere Portal:** Displays server information including 'IBM WebSphere Portal Server', 'Version: 4.1.2', and 'Build Level: 412xt\_118\_20020621 2002-06-22 01:51'. It also includes a copyright notice: 'Licensed Materials - Property of IBM 5724-B88 (C) Copyright IBM Corp. 2001, 2002 All Rights Reserved.'
- QuickLinks:** Features a 'Quick Browse' section with a list of links: 'IBM Alphaworks', 'IBM Developer Works', 'IBM Pervasive Computing', 'IBM', 'WebSphere Application Server', and 'WebSphere Portal Server'. Each link has a 'Go' button next to it. Below this is a 'Url:' field with the text 'http://' and another 'Go' button.
- World Clock:** Shows a world map and displays the 'Local Time: 11:41 AM Eastern Time (US & Canada) - 11/13/02'. It includes a table for 'Time Zone' and 'Local Time':

Time Zone	Local Time
Brussels, Berlin, Bern	5:41 PM (11/13/02)
Eastern Time (US & Canada)	11:41 AM (11/13/02)

At the bottom of this widget is a 'Quick Search' field with a dropdown menu and a search button.
- Reminder:** A light blue sticky note with a yellow warning icon and the text: 'Check the readme for late-breaking news.'

# Fragen

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