

Lakshmi Priya

**Create Multi-Channel Digital Experiences with IBM Rational
Application Developer, IBM WebSphere Portal & IBM Worklight**



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The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remains at our sole discretion.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

Agenda

What our customers are telling us?

- What's new?
- Multi-channel Web Experience: RAD, Worklight and Portal
- Important Enablers
- Best Practices
- Summary

Royal Bank of Canada transformed their online experience and self-service capabilities to increase customer satisfaction

The screenshot shows the RBC Royal Bank Customer Service website. At the top, there is a navigation bar with 'Products & Services', 'My Accounts', and 'Customer Service'. Below this, a search bar is visible with the text 'Search Customer Service...' and a 'Search' button. The main content area features a large banner with the text 'RBC Customer Service' and 'Let us help you find all the answers you need!'. Below the banner, there is a 'Customer Service' section with a welcome message and a list of links for 'Answer Centre', 'Communications', and 'Site Maps'. A 'Top Frequently Asked Questions' section is also present, listing five common questions such as 'Open a TFSA?' and 'Know When to Expect the Tax Receipt for My RRSP Contribution?'. At the bottom, there is a 'Branch & ATM Locator' section with radio buttons for 'ATMs' and 'Branches'.

Challenge

- New online channel experience that deepens client relationships
- Leverage the online channel to grow product revenue, improve self-service, and reduce cost of fulfillment
- Flexibility to quickly deploy new business functions and services
- Integrate and leverage the existing RBC back-end online infrastructure

Benefits

- Advanced from 5th to 1st in online banking satisfaction rankings
- Increased online self service transactions by 2X
- Awarded 2011 Best Consumer Internet Bank in Canada - Global Finance Magazine

CEMEX's Shift: Innovation through Collaboration

The image displays three screenshots of the CEMEX Shift intranet interface. The top screenshot shows a banner with the text "Innovative thinking is our strength, applying it everyday is my duty and pride" and the slogan "transform > transcend". The middle screenshot features a "19th Edition of CEMEX's Conservation Book Launch" announcement with the text "OCEANS HEART OF OUR BLUE PLANET". The bottom screenshot shows a user profile for "Josue Ricardo Rodriguez Perez" with a "Share" section containing various updates and a "Coming Events" section.

- Changed the corporate culture
- Deploy 1/3 faster
- Launching new ready mix product GLOBALLY in under 4 months to dominate the market

"For the first time in our history, we are creating products designed to be successful in other marketplaces. This innovation is a direct result of collaboration enabled by the IBM solution."

— Gilberto Garcia, innovation director, CEMEX



Why I Love Rational? EVERY SINGLE THING I need in one IDE (except for ...)

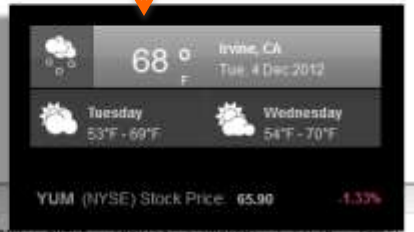


Cody Burleson
Enterprise Web Architect

Easy leverage of IBM product features. For example, here I'm using the WebSphere Application Server DynaCache

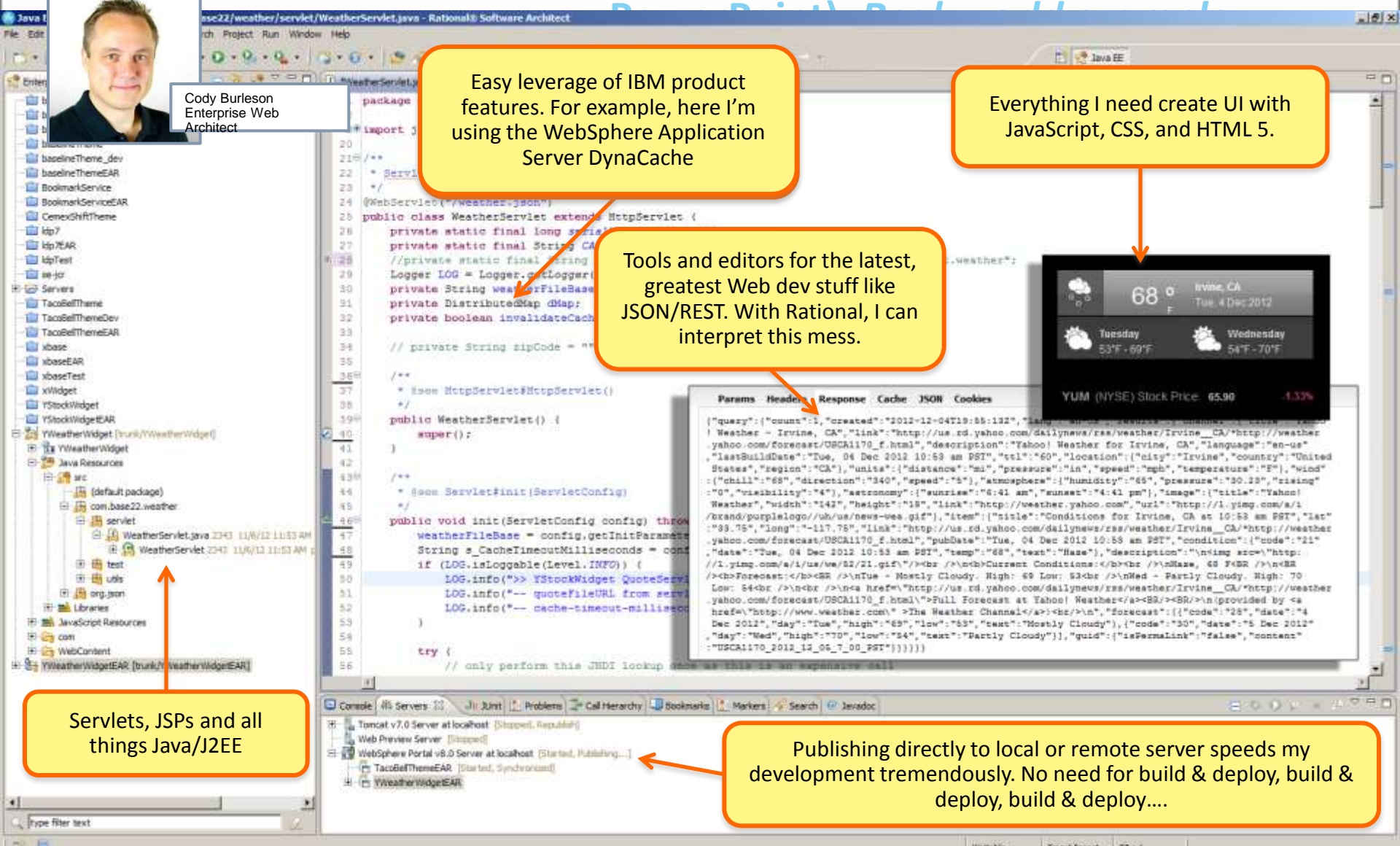
Everything I need create UI with JavaScript, CSS, and HTML 5.

Tools and editors for the latest, greatest Web dev stuff like JSON/REST. With Rational, I can interpret this mess.



Servlets, JSPs and all things Java/J2EE

Publishing directly to local or remote server speeds my development tremendously. No need for build & deploy, build & deploy, build & deploy....



Agenda

- What our customers are telling us?

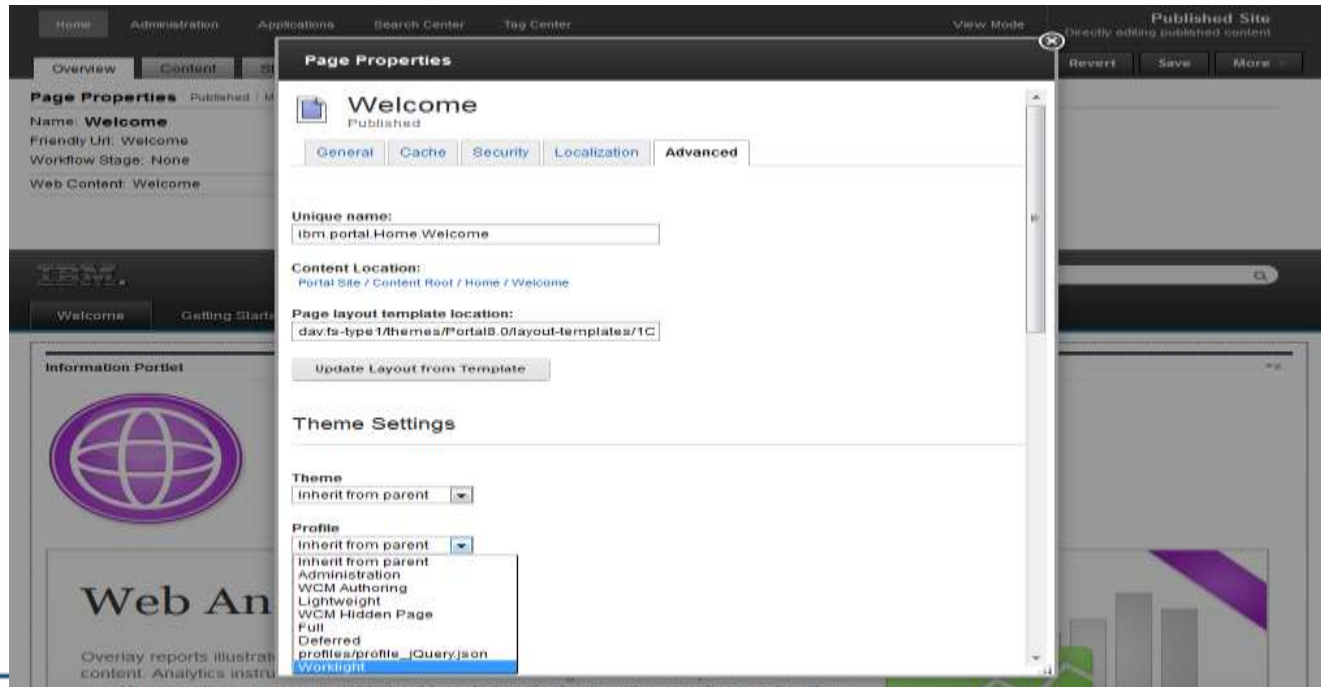
What's new?

- Multi-channel Web Experience: RAD, Worklight and Portal
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What's new in WebSphere Portal 8.0

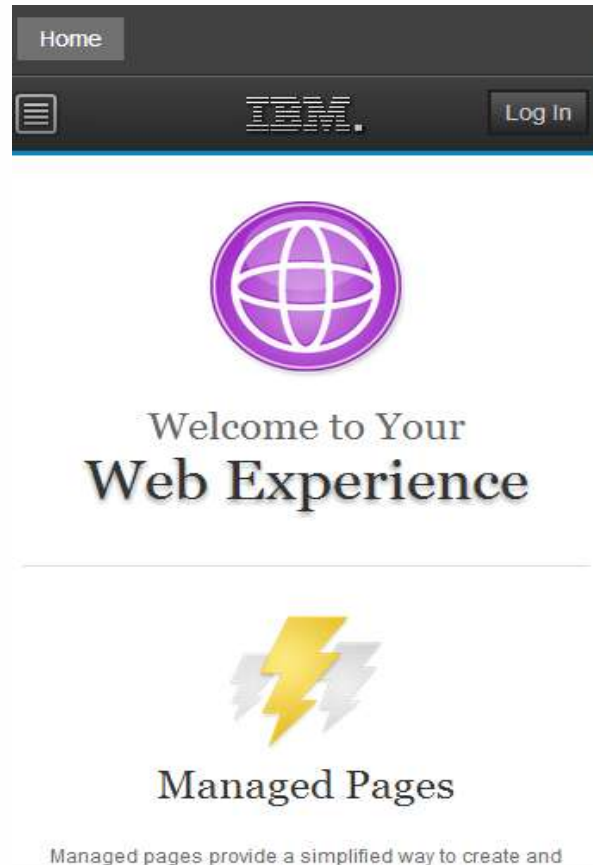
Theme Optimization framework

- Optimized theme presents a modularized framework for greater control of web site design, staging and production. Theme optimization allows the theme to be highly adaptive to the content you are displaying on certain pages.
- On pages where only simple content is displayed you can define a lightweight profile. A lightweight profile causes the system to download few static resources such as JavaScript and CSS files.
- On pages where more advanced scenarios are required you can choose to switch to a more powerful profile that causes more resources to download than on the other pages.
- Only the capabilities you need on certain pages, but all other pages do not pay the penalty. As a result the overall system performance increases significantly.



What's new in WebSphere Portal 8.0

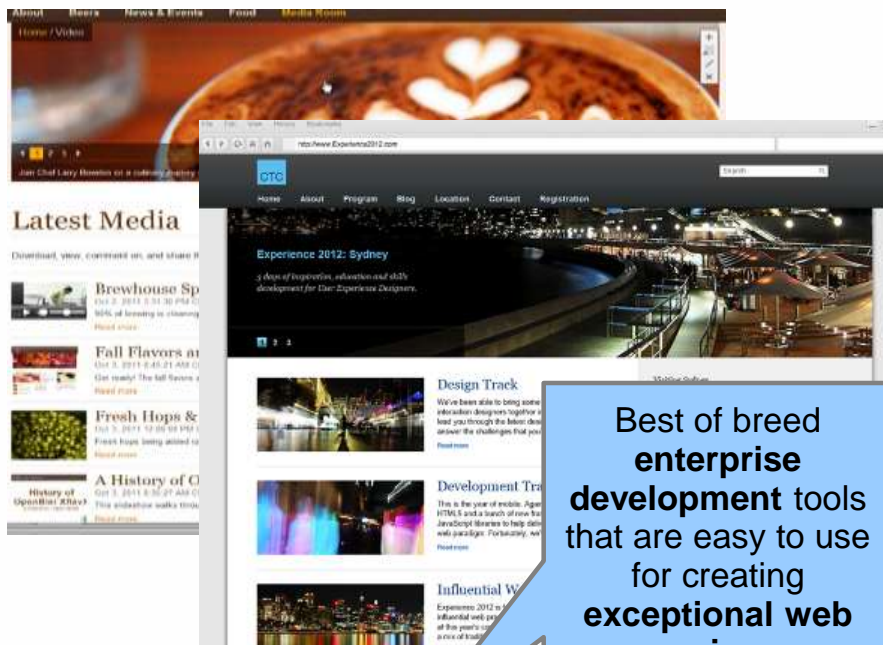
- **IBM Installation Manager support:** WebSphere Portal V8.0 and Web Content Manager are installed using new IBM Installation Manager, providing a faster, streamlined install, uninstall, modify and update process.
- **Responsive Web Design based theme** (introduced in WP 8.0.0.1)



Rational Application Developer Portal Toolkit

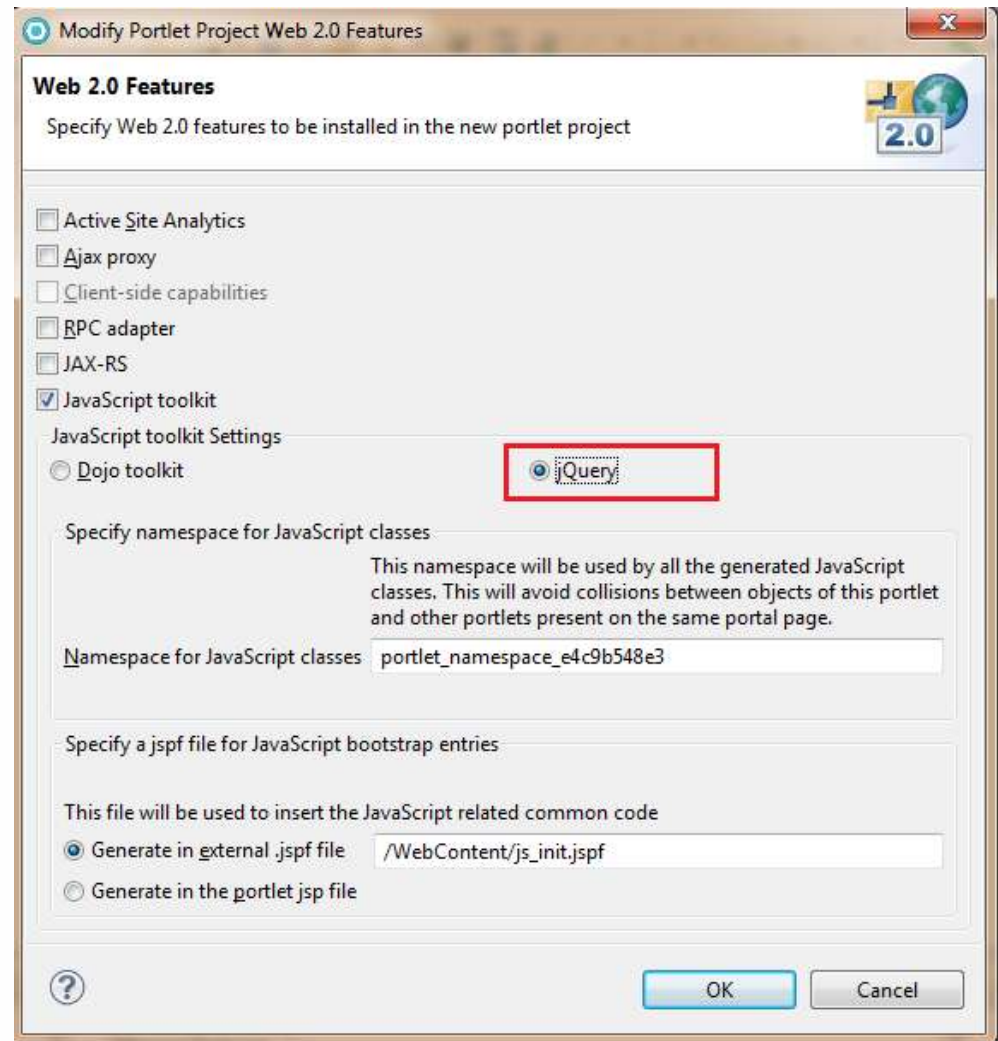
XwebX development got simpler

- **Improved developer productivity and capabilities:**
 - **Single Click Web 2.0 Features** → enabling AJAX proxy, JAX-RS, Dojo, jQuery etc.. for **exceptional user interfaces**
 - **Rich Page Editor** → massively improved developer and design time tools, including WYSIWYG dojo, html5, css3 and JS mobile designing **reducing time to develop**
- **Multi-Channel development:**
 - Mobile Browser Simulator → fast and **easy to preview and test multi-channel** applications
 - Improved Smartphone and Tablet Support → **reducing developer and test time**
 - Mobile Dojo, jQuery support → providing an **exceptional user interface**
 - based on the Composite Capabilities/Preference Profiles (CC/PP) profile and device classes that ensures standardized and uniform development experience

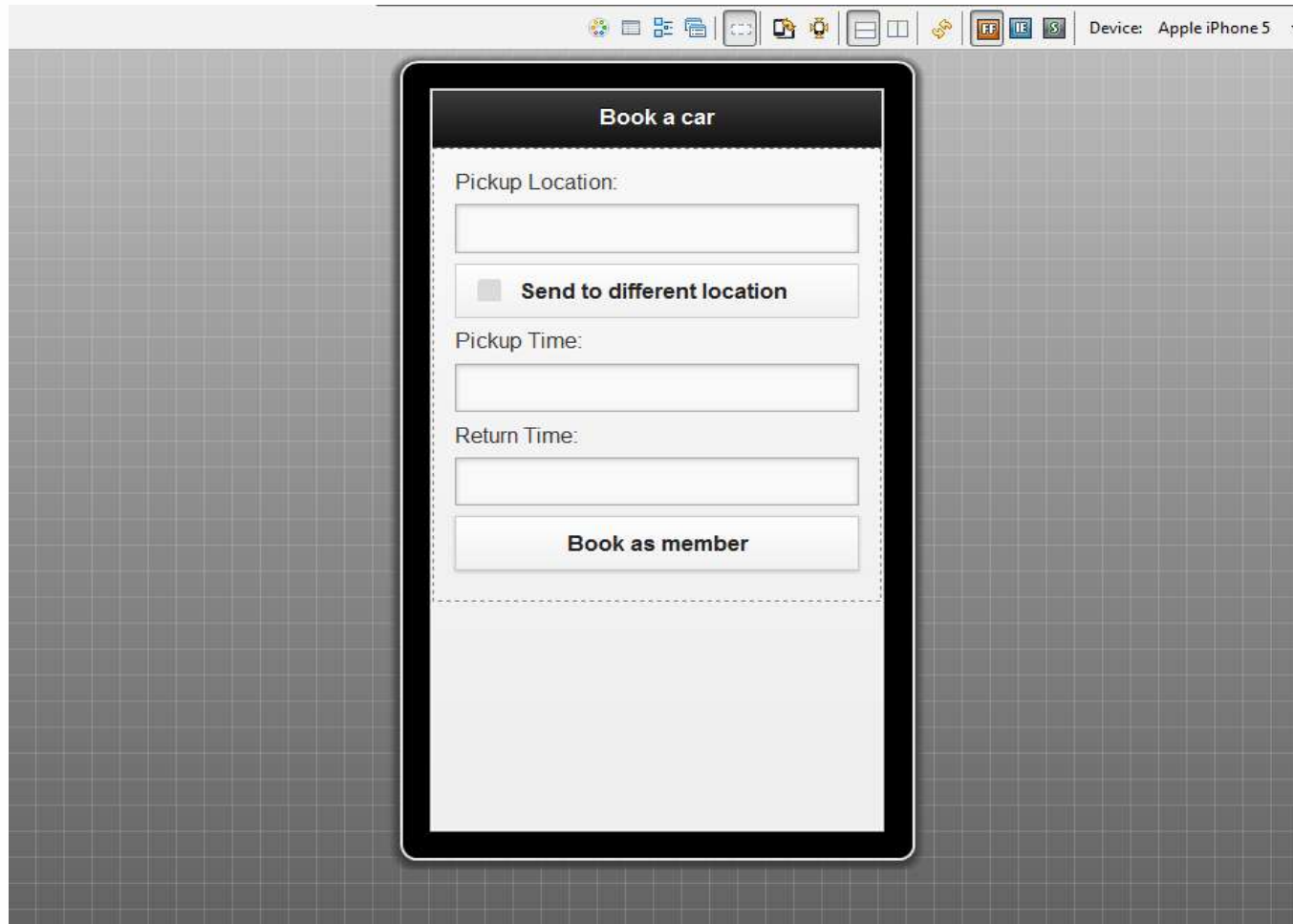


jQuery Tools

- Client side best practices incorporated
- Auto-generated code to get one started with jQuery
- Content assist in portlet JSP
- Drag and drop of jQuery mobile widgets from palette
- Visualization of jQuery mobile widgets in Rich Page Editor
- jQuery mobile page generation using Mobile Navigation View
- Properties view to help setting jQuery widget properties



jQuery Widget Visualization in Rich Page Editor



Palette, Outline and Properties view

Book a car

Pickup Location:

Pickup Time:

Return Time:

Send to different location

Location: `</label><input type="text" name="text">`

Design Source Split

Problems Servers Properties Quick Edit Console

Page Content Text Input

jQuery Tag Styles Layout All

input

Id: `text0_<portlet:namespace/>`

Name: `text`

Input type: Text Password

Columns:

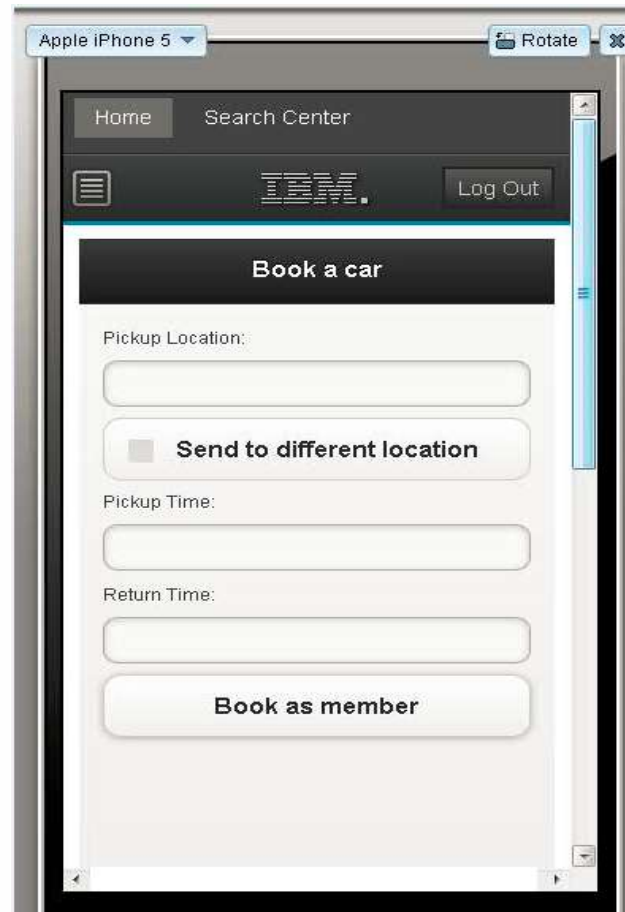
Maximum length:

Initial state: Disabled Read-only

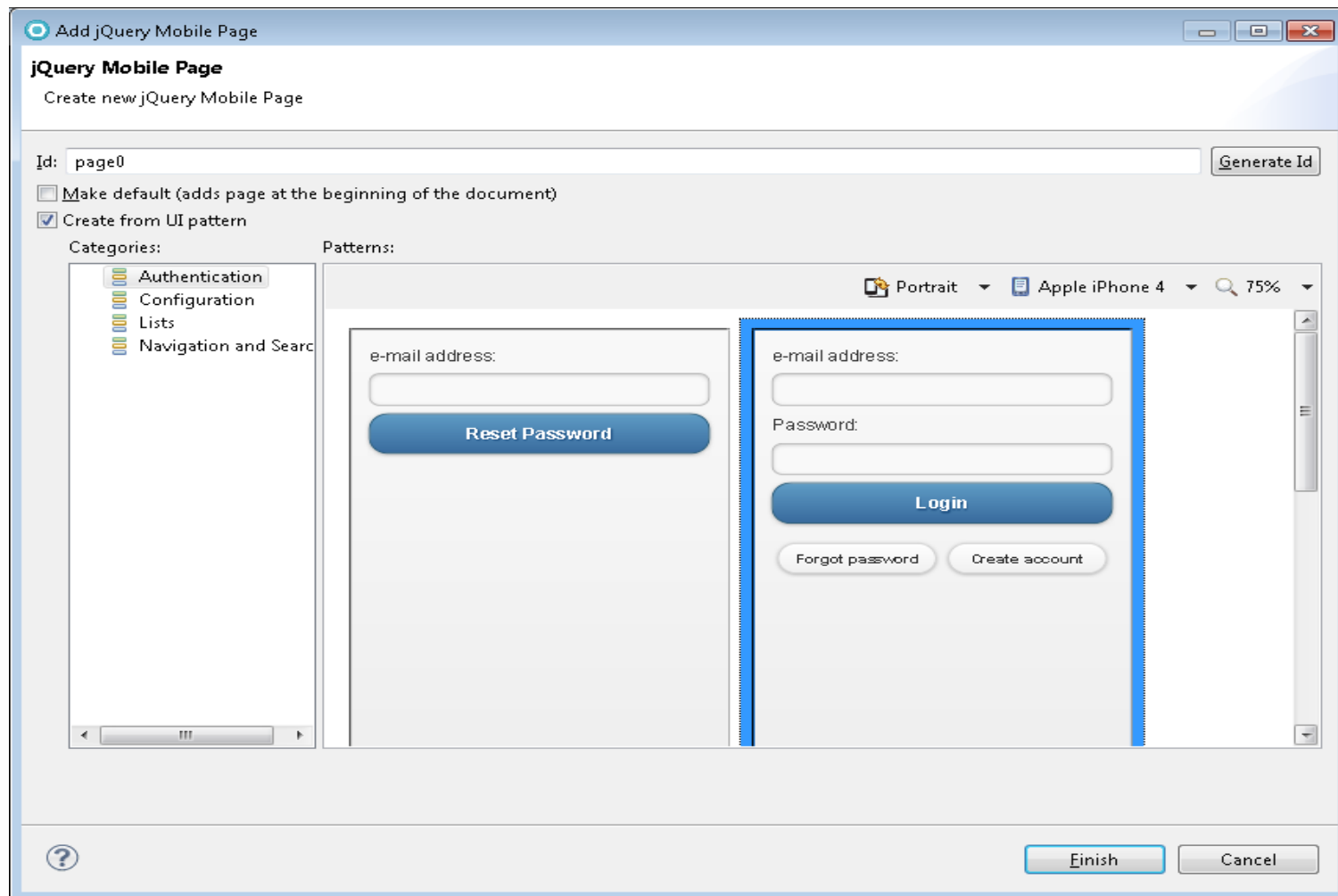
Initial value:

- HTML Tags
- HTML Form Tags
- Portlet
- jQuery Mobile Widgets
 - Button
 - Checkbox
 - Collapsible
 - Collapsible Set
 - Content
 - Control Group
 - Dialog
 - Field Container
 - Footer
 - Form
 - Grid
 - Header
 - Label
 - Link
 - List View
 - List View Item
 - Navbar
 - Page
 - Radio Button
 - Search Input
 - Select Menu
 - Slider
 - Text Area

jQuery Mobile Widgets on a device browser



jQuery mobile page creation - using UI patterns



jQuery mobile pattern - visualized in RPE

The image shows a web development IDE interface. The main workspace displays a mobile device simulation (Apple iPhone 4) with a login form. The form includes an "e-mail address:" label, a text input field, a "Password:" label, another text input field, a blue "Login" button, and two buttons at the bottom: "Forgot password" and "Create account". The form is enclosed in a dashed border. The IDE's top bar shows several open files: "TestCollapsiblePortletView_Devices.jsp", "DojoMobilePortletView_Devices.jsp", and "TestCollapsiblePortletView_Tablets.jsp". The right-hand panel shows a tree view of portlet namespaces:

- page_<portletnamespace/> (default)
- page0_<portletnamespace/>
- reset_password_<portletnamespace/>
- register_<portletnamespace/>

At the bottom of the IDE, there are tabs for "Design", "Source", and "Split".

jQuery theme profile creation option

The screenshot displays an IDE interface with a context menu open over a web application. The menu items include:

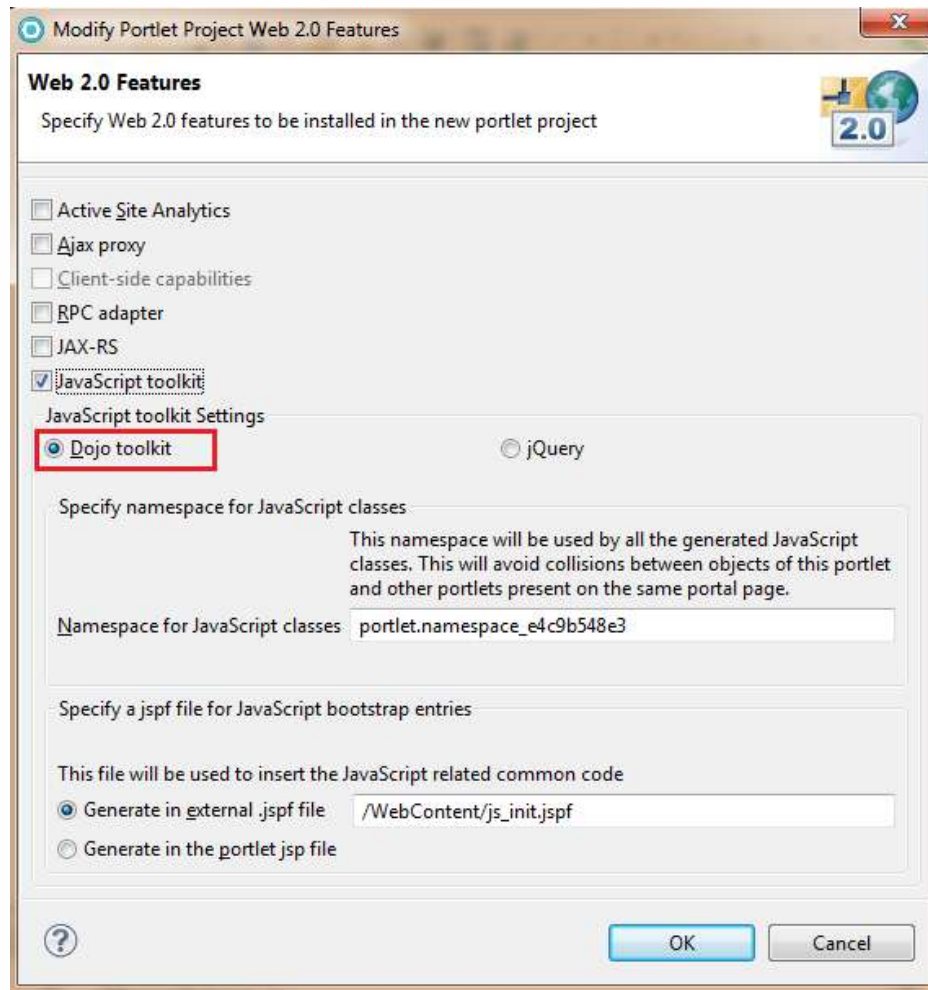
- Restart in Debug (Ctrl+Alt+D)
- Restart (Ctrl+Alt+R)
- Restart in Profile
- Stop (Ctrl+Alt+S)
- Publish (Ctrl+Alt+P)
- Clean...
- Add and Remove...
- Monitoring
- Create Tables and Data Sources
- Deactivate server
- Reconnect Debug Process
- Site Designing Portlet
- Restore original artifacts
- Open Portal
- Administration
- Universal Test Client
- Server Configuration
- Apply theme profile** (highlighted) - sub-menu:
 - jQuery (highlighted)
- Login automatically
- Development Mode
- Properties (Alt+Enter)

The background shows a 'Welcome!' page with the text: 'This is a sample view mode page. You have to edit...'. Below the page is XML code for a portlet, with the following snippet highlighted:

```
<portlet:defineObjects />  
<portlet-client-model:init>  
  <portlet-client-model:require module=  
  <portlet-client-model:require module=  
</portlet-client-model:init>  
<%@ include file=" / / /is init isnf"%
```

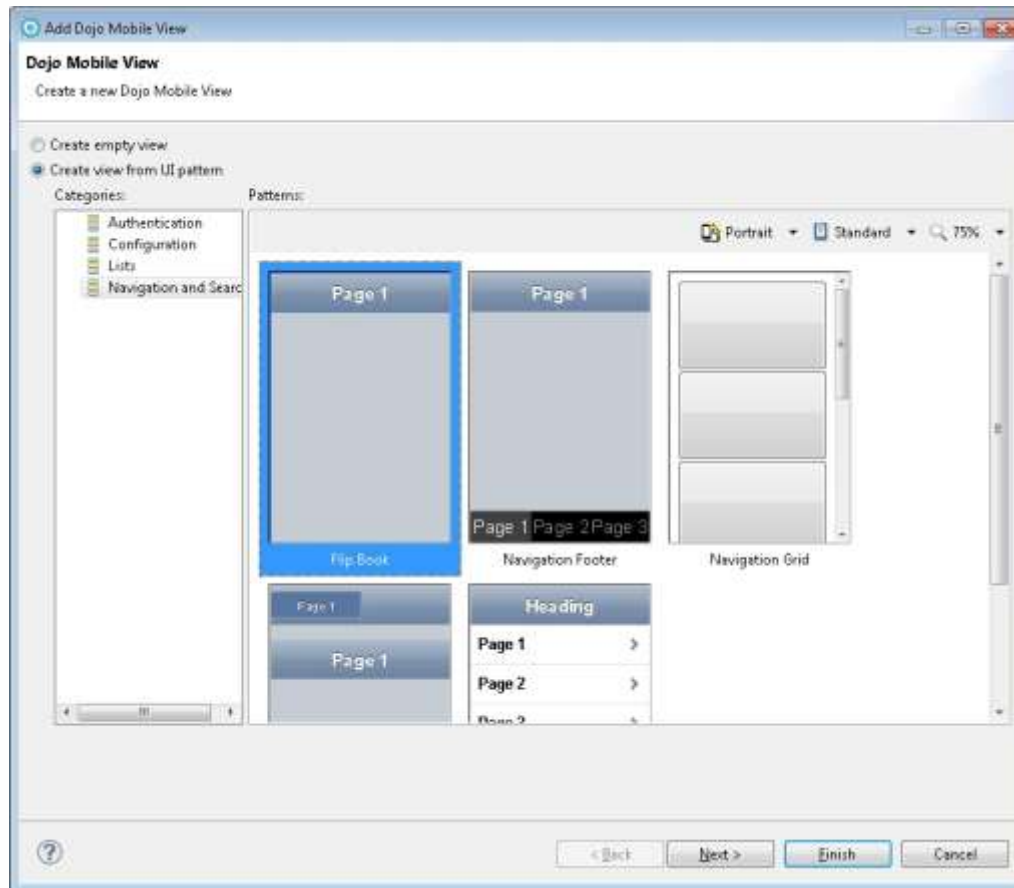
At the bottom, the 'Servers' tab shows 'WebSphere Portal v8.0 Server at localhost [Started, S...]' highlighted with a red box.

Dojo configuration settings can be provided at project creation time



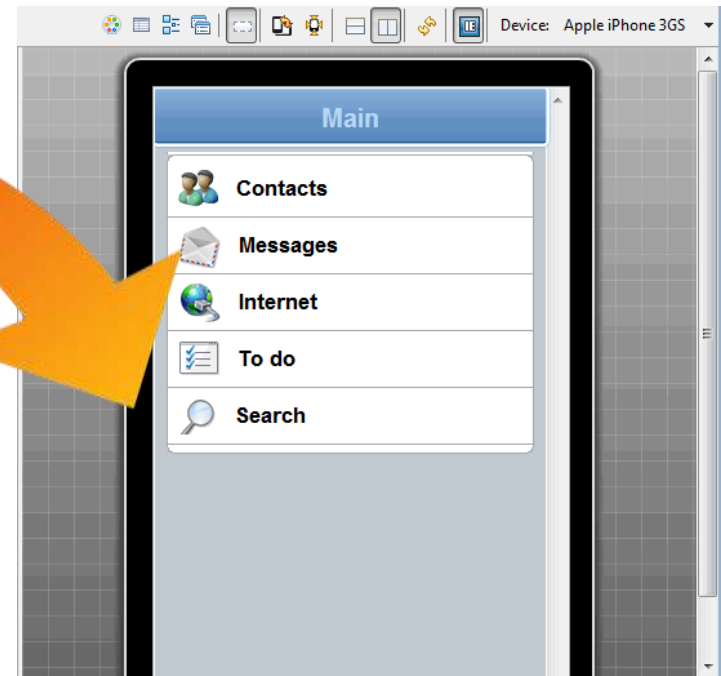
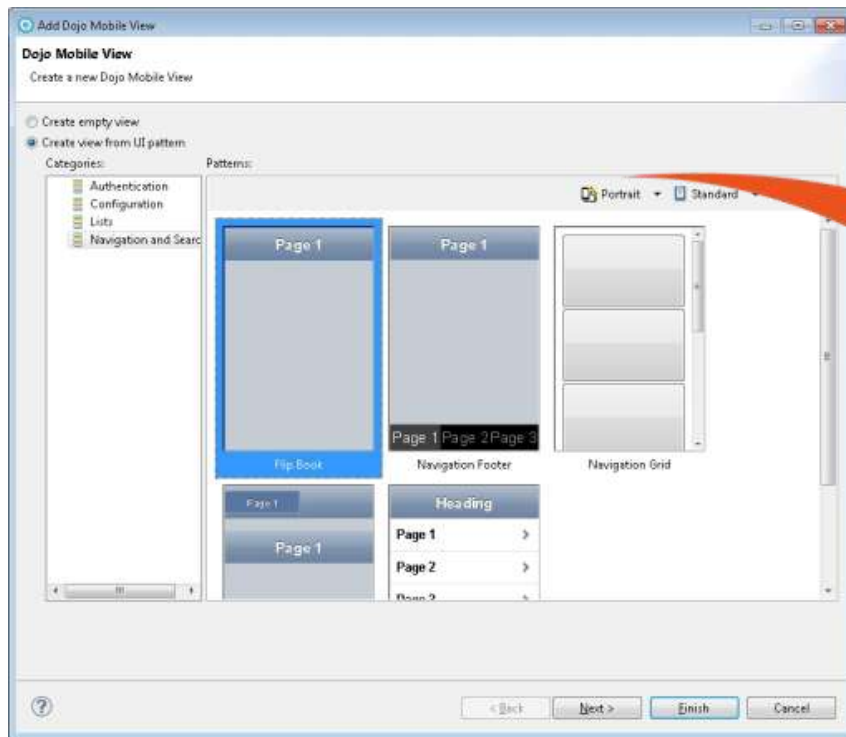
Wizard to create and configure new dojo mobile views for portlets

- Views are default containers for any mobile UI.
- Wizards offer an easy out of the box way to insert and configure views



Wizard to create and configure new dojo mobile views for portlets...

- Easy way to specify the UI control that results in visualization of this view
- Allows for inclusion of default view header
- Convenient way to add a back button that transitions back to base view



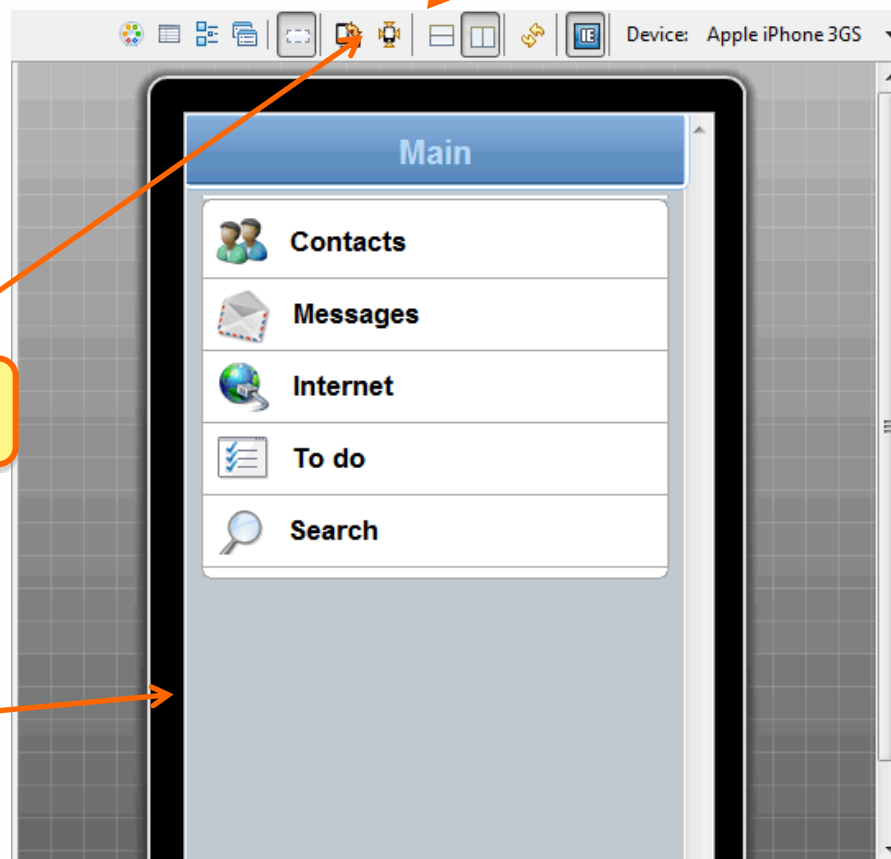
Rich Page Editor

- Better design-time visualization, much closer to actual device
- Landscape and portrait screen modes added – so you can view design time UI in either
- Automatic refresh on every widget addition for instant preview

Shrink to fit into window

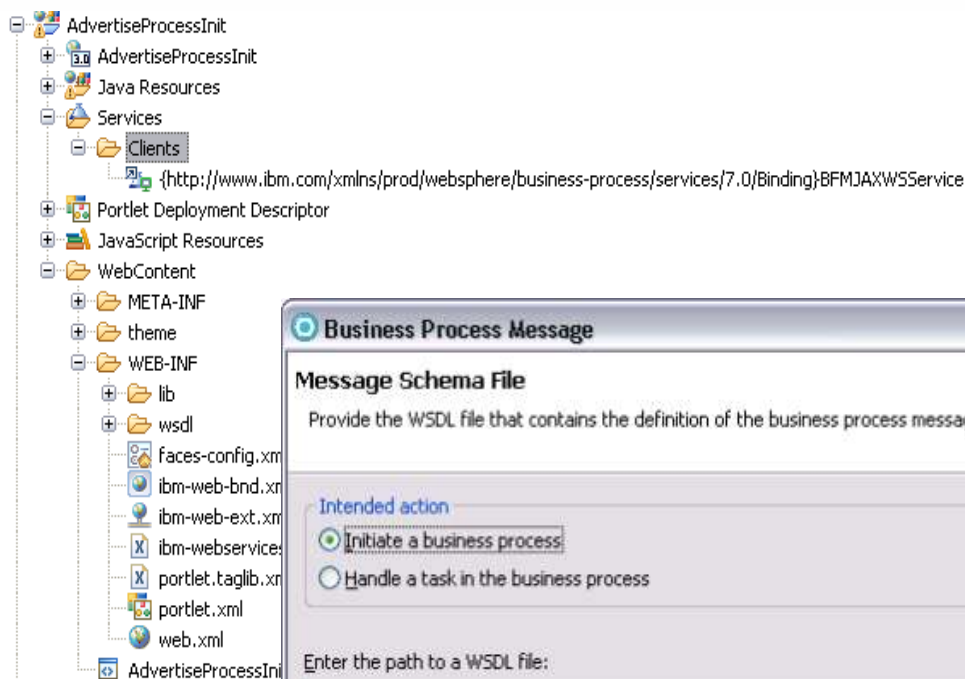
Toggle portrait/ landscape

New simulated border



Business Process Portlet using JAX-WS

- EJB APIs used for communicating with WebSphere Process server deprecated
- With WebSphere Portal v8.0, JAX-WS is the supported technology for communication with WebSphere Process server
- Process Initiation and Task processing portlets use web services exposed by WebSphere Process server
- Business Process portlet projects created using wizard generate proxy classes for the Web service.
- “Business process message” palette option auto generates the code for business process operations
- Business Process UI generation with simple drag and drop option from page data view



Business Process UI auto-generation using page data view

The screenshot displays an IDE interface for Business Process UI auto-generation. The left-hand pane shows a project tree with the following structure:

- Scripting Variables
- Flash Variables
- Portlet
- Page Bean
 - initiateProcess()**
- Faces Managed Beans
 - address (wsapimodule.BOAddress)
 - customer (wsapimodule.BOCustomer)
 - operation1 (wsapimodule.advertiseprocessinterface.Operation1)
- JPA
- SDO Relational Records
- Services
- RPC Adapter Services for Portal

The right-hand pane shows a visual representation of the generated UI form, titled "AdvertiseProcessInitView.xhtml - Untitled *". The form contains the following elements:

- Fields for "FirstName", "LastName", "Street", and "City", each with a corresponding data binding expression: `{firstName}`, `{lastName}`, `{street}`, and `{city}`.
- A "Submit" button.
- An error message icon and text: `{Error Messages}`.

Below the visual form, the corresponding XHTML code is displayed:

```
<f:view>
<p></p>
<h:form styleClass="form" id="form1">
  <table>
    <tbody>
      <tr>
        <td align="left">FirstName:</td>
        <td style="width: 5px">{#160}</td>
        <td><h:inputText styleClass="inputText" id="firstName1
...></td></tr>
    </tbody>
  </table>
</h:form>
</f:view>
```

Maven Support for portlet projects

- Maven Benefits:
 - ✓ Easier build process
 - ✓ Uniform build system
 - ✓ Can provide project info
- Features:
 - ✓ IBM archetype for portlet project based on Maven
 - ✓ IBM deployment plugin for WebSphere Portal based on Maven
 - ✓ Capabilities to mavenize existing portlet project
 - ✓ Tools to integrate public API jars with pom.xml

New Maven Project

New Maven project

Group Id:

Artifact Id:

Version: 0.0.1-SNAPSHOT

Package: foo

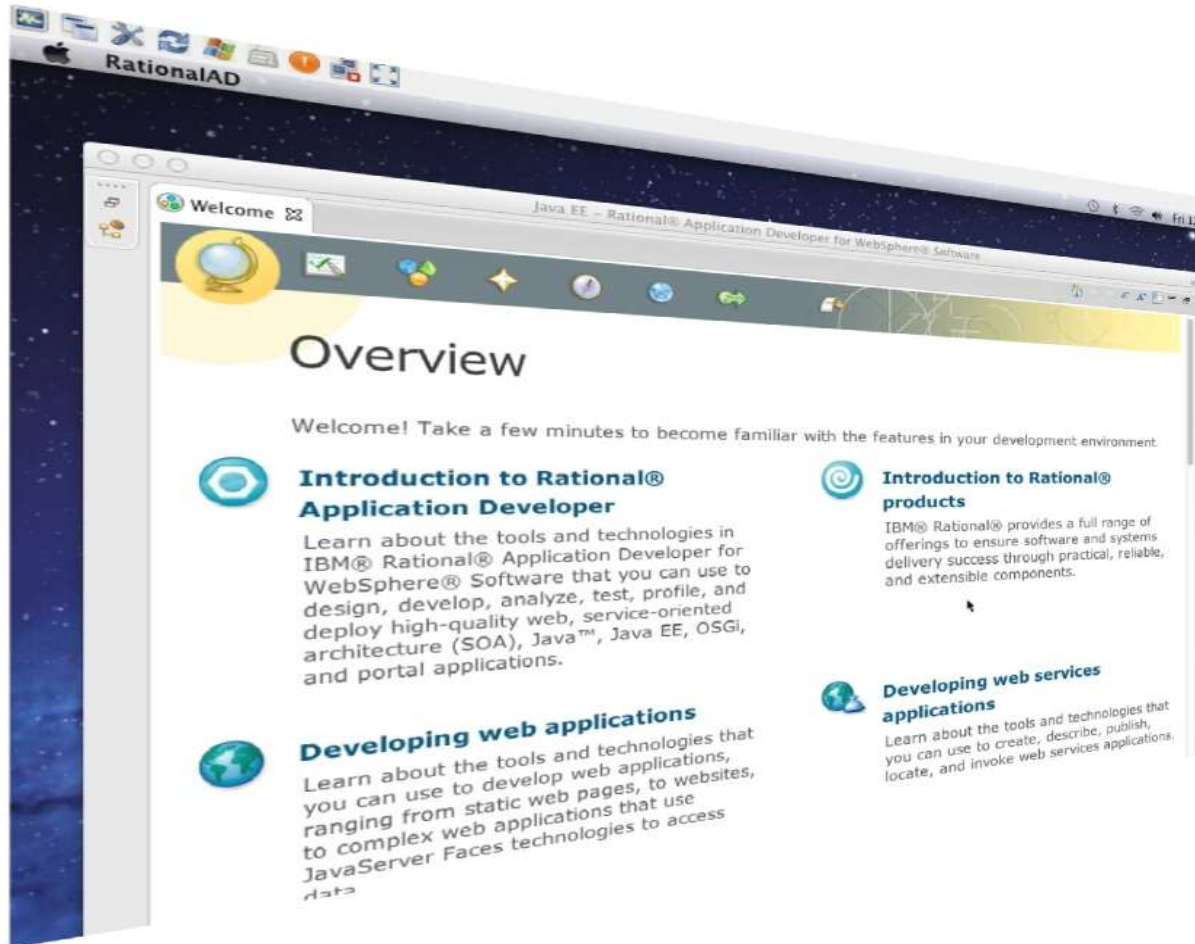
Properties available from archetype:

Name	Value	
portlettitle	Sample portlet title	Add... Remove
portletclass	SamplePortlet	

▶ Advanced

? < Back Next > Finish Cancel

Support for Apple Mac



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The Industry's Most Comprehensive Mobile Portfolio

IBM **MobileFirst**



1

The Broadest
Portfolio of
Mobile
Solutions

2

The Deepest
Set of Services
Expertise

3

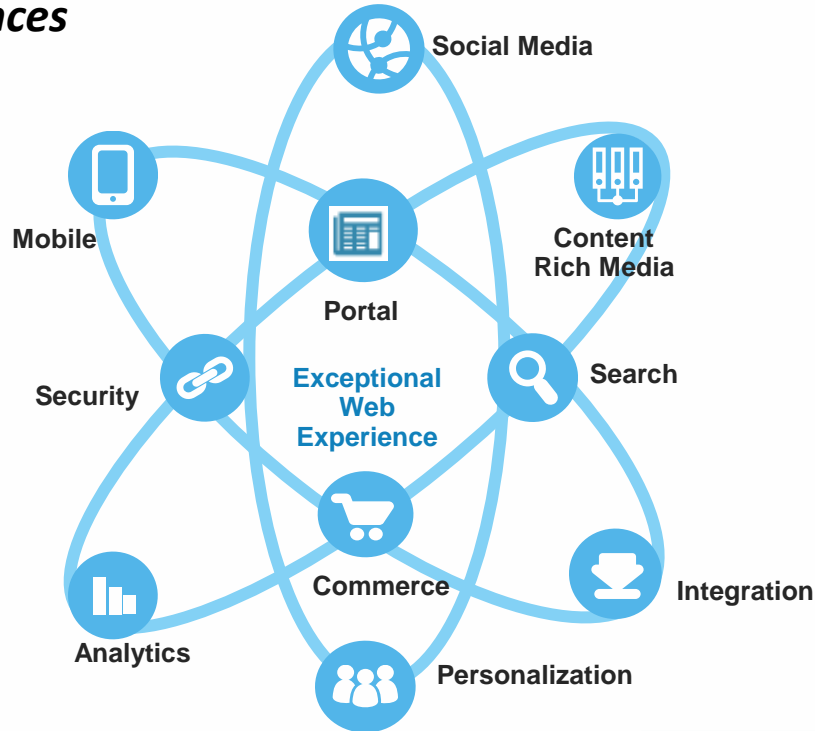
New Industry
Partnerships
and Resources
for Developers

IBM's Vision for Exceptional Web Experiences

Bringing together the essential capabilities to create, manage, and deliver powerful multichannel web experiences

Customer Experience Suite

Intranet Experience Suite



Social



Start conversations, build stronger relationships and communities to win new customers, increase revenue and productivity

Mobile



Interact with content, applications, & processes intuitively across devices to help customers buy & employees work more efficiently

Content



Deliver content that is relevant and compelling to each user to attract new business, and increase customer and employee satisfaction

Analytics



Optimize, measure, and respond to customer and employee interactions in real time for better business results

Integration



Give customers and employees the capabilities they need – in context of their goals



Delivering Web experiences for the device requesting it

Business Benefits

- Reach as many customers as possible
- Consistent messaging and branding across channels and form factors
- Provide right experience for the right device
- Faster time to market
- Write once and deliver to many strategy can save time and money
- Maintenance and updates can quickly be pushed to all channels

Capabilities

- Out of the box Web Experience themes built using responsive design techniques that are:
 - Extensible
 - Built on open web technologies (HTML5, CSS3, Java Script)
 - Sites created are multichannel ready (desktop, smart phone, tablet)
 - Extend web experience to use on device (camera, secure off-line storage, accelerometer, maps) features
 - Device classification capabilities help deliver the right CSS for the appropriate device

Web Sites



Integrated content/applications into a unified web experiences optimized for desktop browsers

Mobile Web



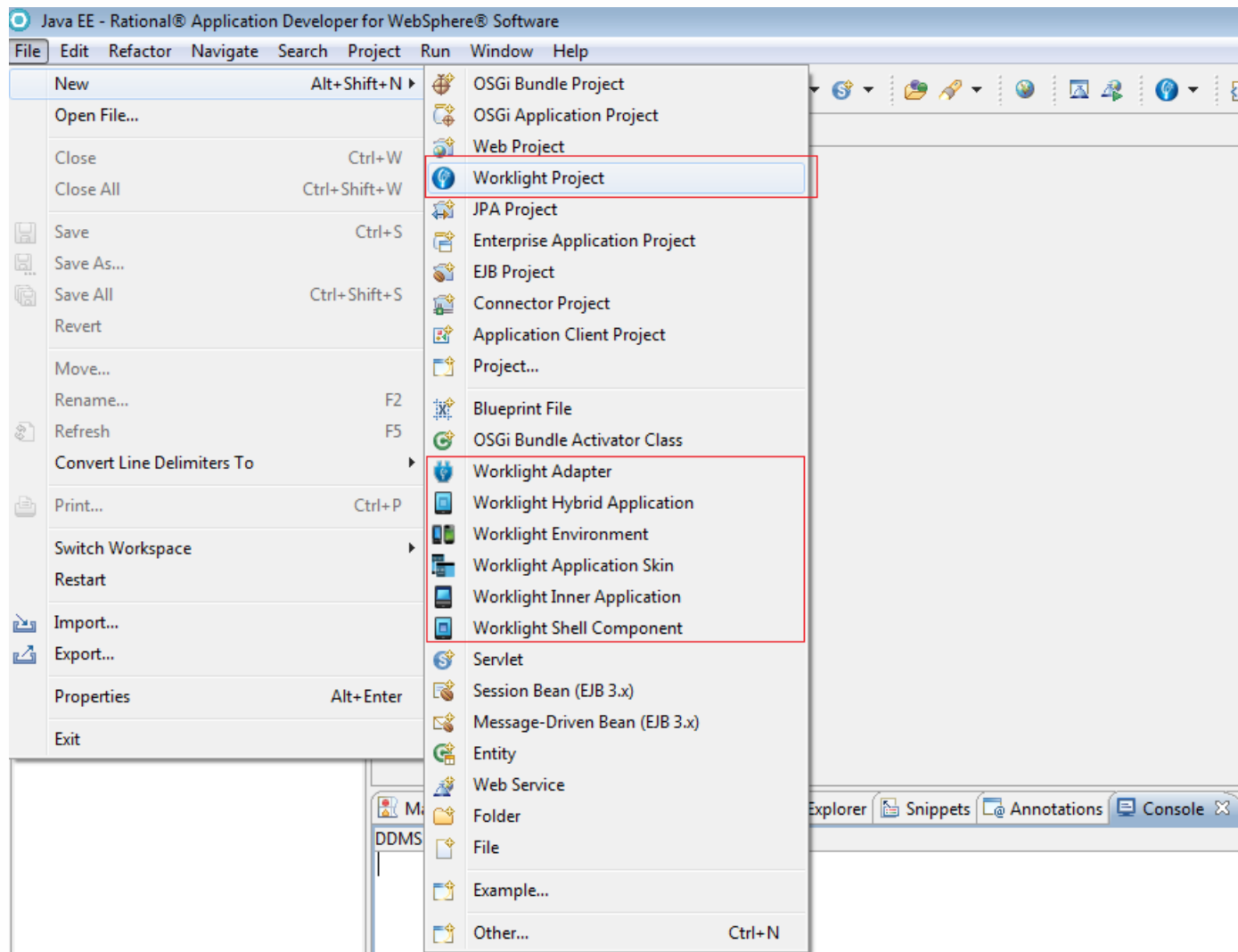
Optimized for mobile browsers (phones, tablets) using themes and responsive web design techniques

Hybrid Mobile



Extending web experiences to include on-device capabilities and app stores with entitled IBM Worklight capabilities

IBM Worklight – shell share installation with RAD



IBM Worklight – shell share installation with RAD

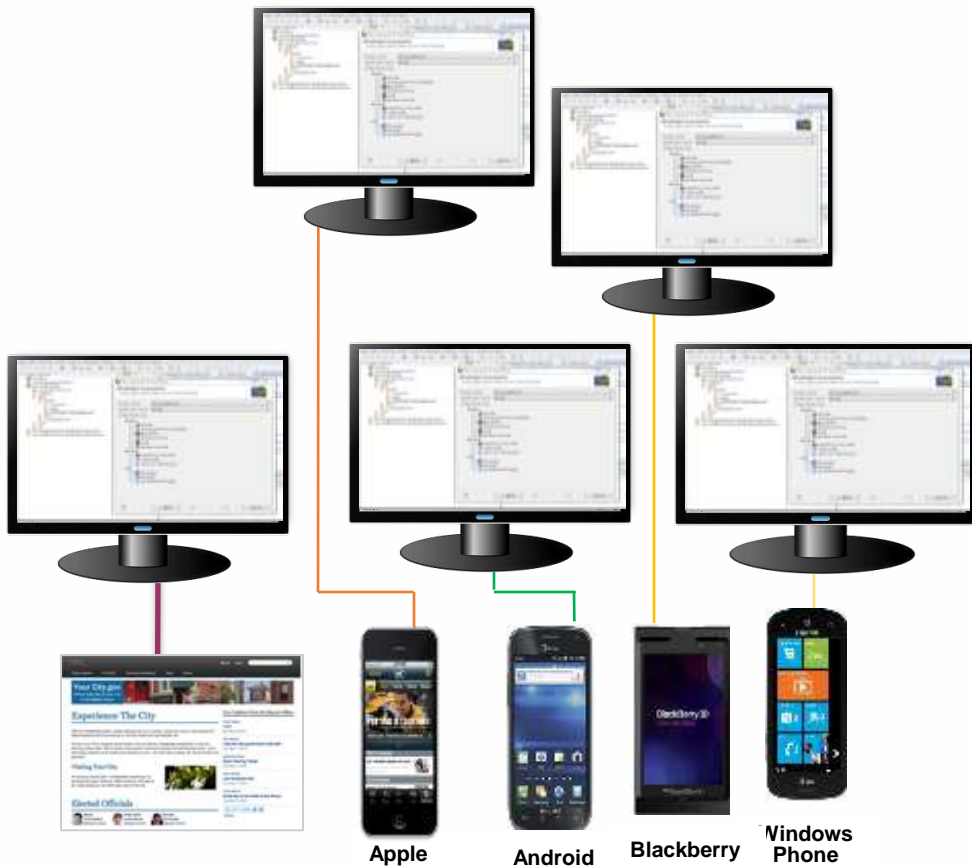
The screenshot displays the IBM Rational Application Developer (RAD) interface. The main window is titled "Design - WorklightInRAD/apps/MyApp/application-descriptor.xml - Rational® Application Developer for WebSphere® Software". The interface is divided into several panes:

- Project Explorer:** Shows the project structure for "WorklightInRAD", including folders for "JavaScript Resources", "WL Server Library", "JRE System Library [jdk]", "server/java", "adapters", "apps", "components", and "server". The "apps" folder is expanded to show "MyApp", which contains sub-folders "common" and "legal", and the file "application-descriptor.xml".
- Outline:** Shows a list of elements: "?-? xml", "#comment", "#comment", and "application".
- Application Descriptor Editor:** The main editing area, titled "Application Descriptor Editor", is split into two tabs: "Overview" and "Details".
 - Overview:** Contains a search box labeled "type filter text" and a list of applications. One application, "Application 'MyApp'", is selected. To the right of the list are buttons for "Add...", "Remove", "Up", and "Down".
 - Details:** Contains configuration fields for the selected application:
 - Id*:** "MyApp". A note below states: "The ID must be an alphanumeric string that starts with a letter. It may contain underscore ('_') characters. The ID must not be a reserved word in JavaScript. Once the application Id has been defined it cannot be modified."
 - Display name*:** "MyApp". A note below states: "Application name. Appears in the Worklight Console and is copied to the descriptor files of various web and desktop environments."
 - Description*:** "MyApp". A note below states: "Appears in the Worklight Console".
 - A lightbulb icon with a note: "Click on 'Add' on the left-hand side to set environments for this application".
 - worklightServerRootURL:** "http://\${local.IPAddress}:8080".
 - Common (optional):** A section with a "Security test:" field.
 - SMS Gateway (optional):** A section with an "Id:" field.

Rapid multi-platform development using a single shared codebase

From the complexity of many...

- Multiple sets of tools & frameworks
- Four codebases to develop and maintain



To the simplicity of one

- One development environment
- One codebase to develop and maintain



IBM Worklight app fetching content from IBM WebSphere Portal

5554:Android

3G 7:35

Home Administration Applications

IBM Log Out

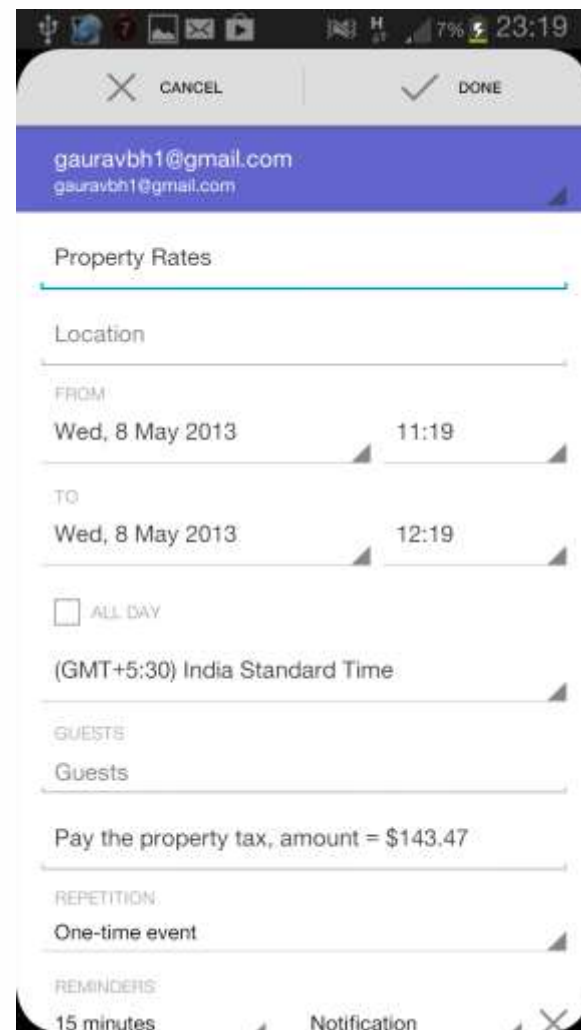
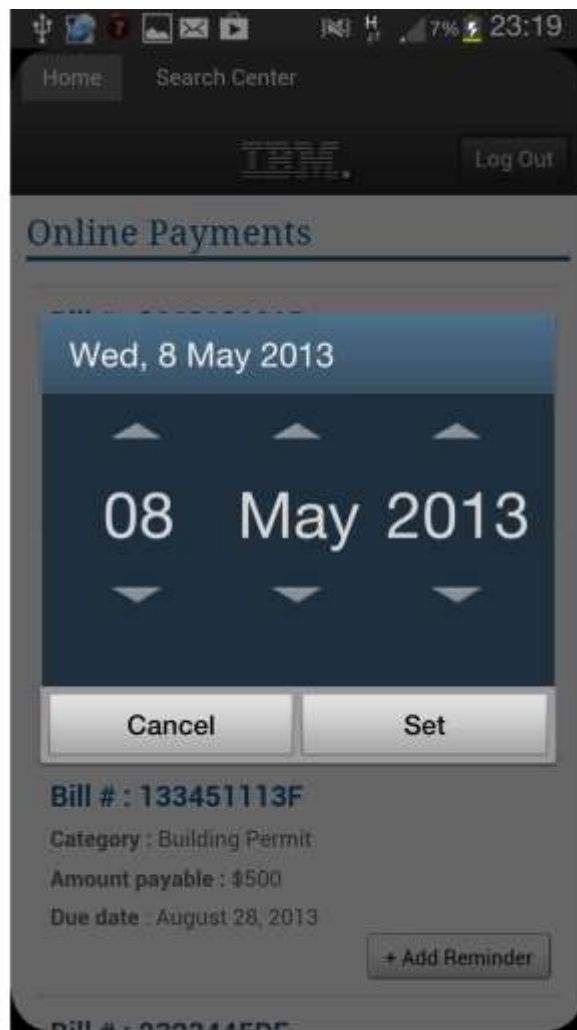
Markets

SAUAGA	-1.82%
JASSIN	-0.13%
MANANE	-0.44%
MANGAB	-0.45%

Markets Portfolio Trading Watchlist

<http://ibm.co/12e7QWm>

IBM Worklight app fetching content from IBM WebSphere Portal and invoking native functionality from Worklight shell

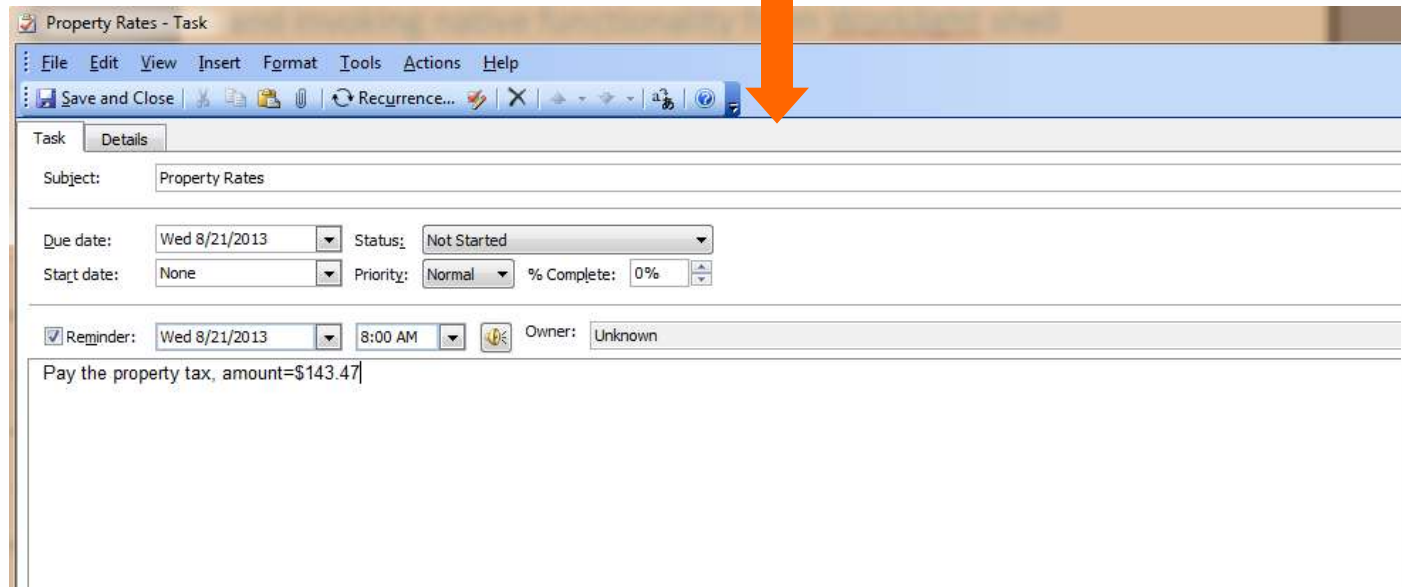
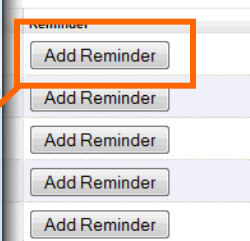
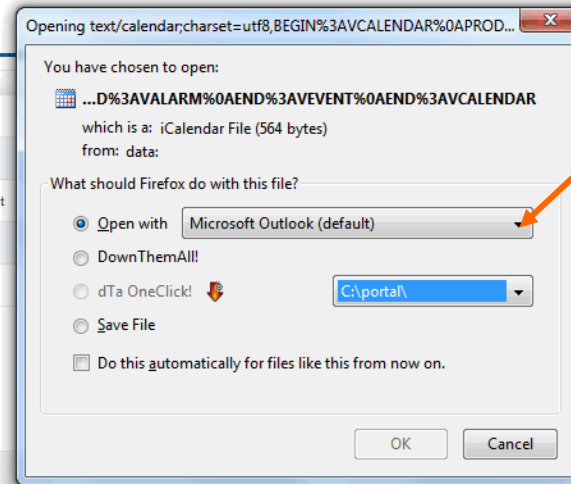


Multi-channel portlet application

- Desktop view of the same application serves different UI.
- Clicking on **Add Reminder** button invokes the desktop calendar app.

Online Payments

Bill #	Category
12312133AD	Property Rates
12334453FG	Parking Permit
133451113F	Building Permit
2323445DF	Drivers License
2DD331311	Parking Fine



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Open Source JSF 2.0 component libraries samples published

- Widely popular UI libraries are tested*
 - ✓ PrimeFaces
 - ✓ ICEFaces
 - ✓ RichFaces
 - ✓ Trinidad
- See product wiki articles on implementation
<http://ibm.co/VzVgQ2>

*These are provided AS-IS by IBM



JEE UI Frameworks samples published

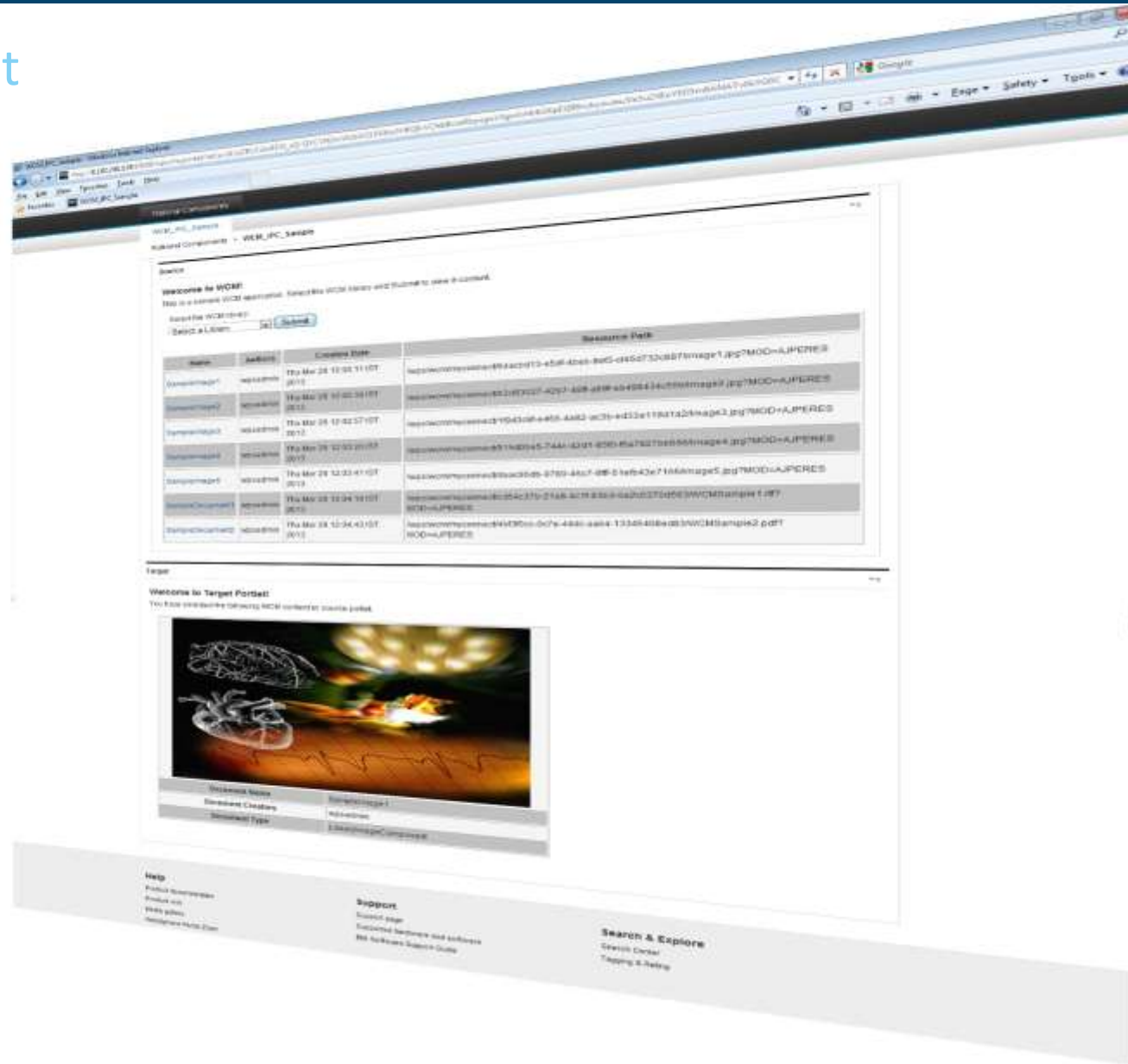
- Whitepapers available for:
 - ✓ Struts
 - ✓ Spring
- See wiki for details:
<http://ibm.co/VzVgQ2>



* These are provided AS-IS by IBM

Custom WCM portlet

- Detail article and sample is created
- See wiki for details:
<http://ibm.co/VzVgQ2>



RAD Portal Tools resources on the web, including the following *knowledge series*:

- Creating a multichannel portlet application accessing data from IBM Connections, MS SharePoint, and IBM DB2, *a 5 part series*
<http://ibm.co/AtzSfj>
- A *collection* of articles detailing latest features of RAD Portal Tools (v8.5.1) <http://ibm.co/VVTnLW>
- RAD Portal Tools *product wiki* for latest articles, tips & suggestions, and samples <http://ibm.co/VzVgQ2>
- Developing Exceptional Multi-Channel Web Experiences *redwiki*
<http://bit.ly/multichannelwiki>

The screenshot shows a technical article page with the following content:

- Navigation:** developerWorks > Technical topics > Rational > Technical library >
- Title:** Rational Application Developer Portal Tools
- Author:** Rational Application Developer Portal Tooling development team, Development team, IBM
- Summary:** This series is authored by Rational Application Developer Portal Tooling development team, and is intended to be one-stop resource to master the new capabilities in portal tooling component that's released in IBM Rational Application Developer Version 8.5, for IBM WebSphere Portal v8.0.
- Date:** 20 Nov 2012
- Level:** Intermediate
- PDF:** [A4 and Letter](#) (112 KB | 4 pages) [Get Adobe® Reader®](#)
- Activity:** 3755 views
- Comments:** 0 ([View](#) | [Add comment](#) - Sign in)
- Rating:** 5 stars (Average rating (2 votes)) [Rate this article](#)
- Table of contents:**
 - Summary
 - Download the articles and their related files
 - Resources
 - About the author
 - Comments
- Next steps from IBM:**
 - Try: Rational Application Developer for WebSphere Software
 - Buy: Rational Application Developer for WebSphere Software
- Dig deeper into Rational on developerWorks:**
 - Overview
- Summary:** This series is written by the IBM® Rational® Application Developer Portal Tools development team. It is a one-stop resource where you can master the new portal and portlet tools released in Rational Application Developer Version 8.5, for IBM® WebSphere® Portal Version 8.0. This is a tutorial approach, so it's easy to understand and includes sample code and snippets. You will learn through using all of these approaches:
 - Java Enterprise Edition (JEE) technologies, such as JavaServer Faces (JSF) 2.0 and Java Persistence API (JPA) 2.0, to develop portlet applications
 - Web 2.0 technologies such as the Dojo toolkit to develop multichannel web applications
 - Java API for XML Web Services (JAX-WS) to create business process portlets
 - Combining the power of JSF 2.0 and JSR 286 (Portlet 2 specifications) for developing portlet applications
- Download the articles and their related files:**
 - [Consuming JPA 2.0 in a JSF 2.0 portlet application](#) (1 MB compressed file)
 - [Consumption of JSF 2.0 in a JSR 286 portlet application using Rational Application Developer 8.5 Portal Toolkit](#) (2.2 MB compressed file)
 - [Creation of business process portlets with JAX-WS using Rational Application Developer Portal Toolkit 8.5.1](#) (1.2 MB compressed file)
 - [Utilizing the power of JSF 2.0 and JSR 286 technology on WebSphere Portal using Rational Application Developer v8.5](#) (portal tools)

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Best Practices

- JSF Portlet application development
<http://ibm.co/UN88m1>
- Portlet application development using JPA
<http://ibm.co/Z37UVW>
- Portlet application development using Dojo
<http://ibm.co/Z3893v>
- WSRP and JSR 286 development
<http://ibm.co/WqPYmB>
- WebSphere Portal Application Development Best Practices using Rational Application Developer
<http://ibm.co/Zkqyxx>

Agenda

- What our customers are telling us?
- What's new?
- Action: RAD, Worklight and Portal
- Important Enablers
- Best Practices
- Summary

Summary

IBM provides an extensive set of tools for creating exceptional multi-channel web experiences:

Strong for developing multi-channel web experiences

Continued investment to help improve developer productivity and support of latest development standards including HTML5 and CSS3

Many new features to help improve creating of exceptional Web Experiences e.g. jQuery tools, Worklight integration



Additional Info:

RAD Community: <http://ibm.co/kpirj6>

Questions

Thank You

For More Information

IBM Customer and Employee Experience Suite, WebSphere Portal and Web Content Manager Software and Solutions

<http://www-01.ibm.com/software/info/customerexperience/>

<http://www-01.ibm.com/software/collaboration/products/employeeexperience/>

WebSphere Portal and IBM Web Content Manager Information Center

<http://www.ibm.com/developerworks/websphere/zones/portal/proddoc.html>

WebSphere Portal and Web Content Manager Version 8 Reviewer's Guide

<ftp://ftp.software.ibm.com/common/ssi/ecm/en/lob14007usen/LOB14007USEN.PDF>

IBM Web Experience Fast Track Offerings

<http://www-01.ibm.com/software/genservers/portal/fasttrack/>

WebSphere Portal and Web Content Manager Business Solutions Catalog

<https://greenhouse.lotus.com/catalog/>

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