



Eclipse RAP 1.2 Release Review

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eclipse rich ajax platform project (RAP)

mission statement: rap enables developers to build rich, AJAX-enabled web applications by using the eclipse development model, plug-ins and a java-only api

RAP implements a subset of SWT, JFace, Workbench APIs

- is built on top of Equinox, running in server environments
- provides the Eclipse extension point mechanism
- enables single sourcing of rich client and rich internet apps
- uses the Qooxdoo JavaScript library for client side rendering in the browser

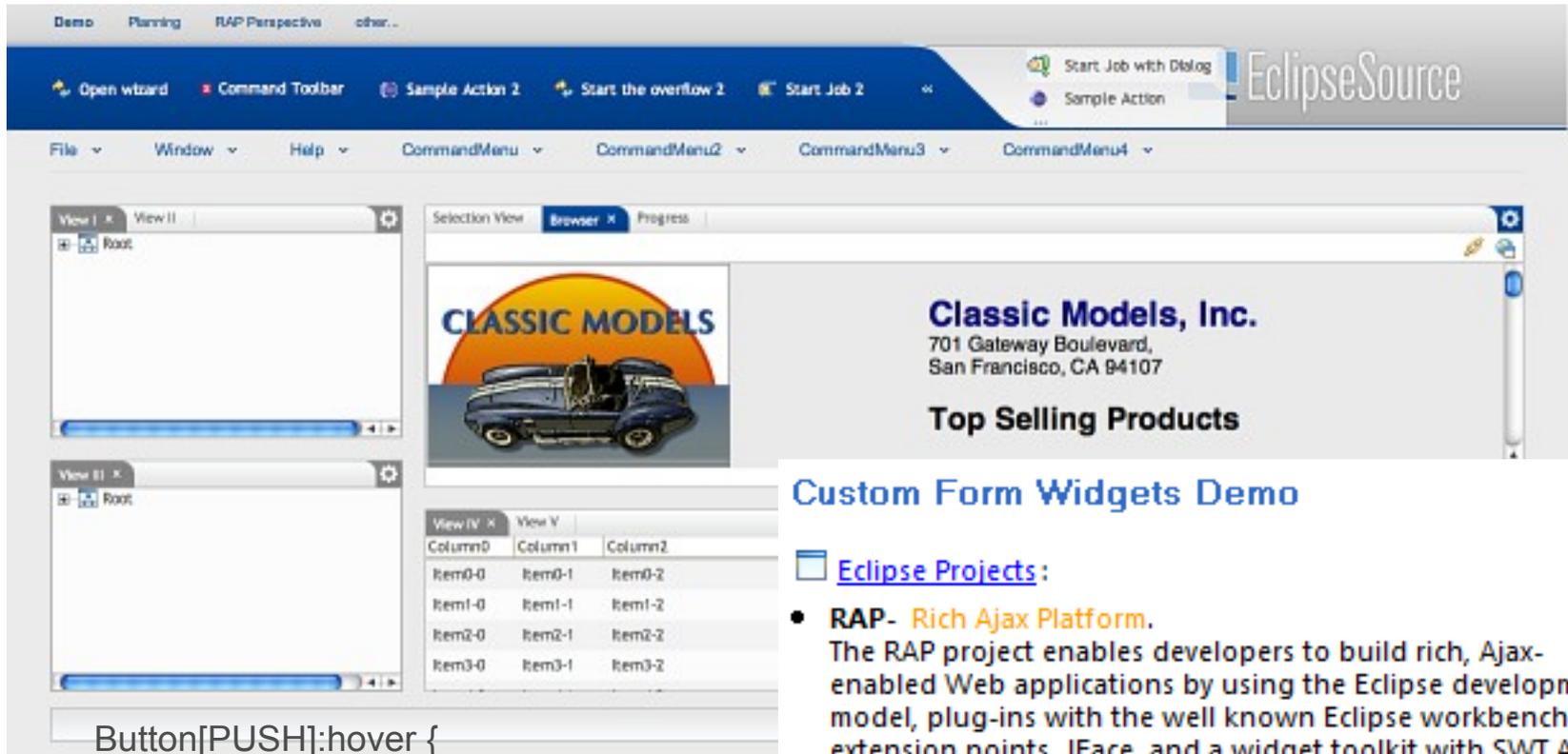
With the combination of RCP and RAP desktop (RCP) and web (RAP) applications can be built from a single code base (single sourcing)

features



- broad coverage of SWT 3.5 apis
- broad coverage of Jface 3.5 apis
 - includes JFace databinding
- good coverage of Workbench 3.4 apis
 - `org.eclipse.ui.workbench`
 - `org.eclipse.ui.views`
 - `org.eclipse.ui.forms`
- tools for launching and automated testing (JUnit)

RAP in action



```
Button[PUSH]:hover {  
    font: bold 12px Helvetica;  
    color: white;  
    background-color: #1695d4;  
    border: 2px solid #9dd0ea;  
}
```

Custom Form Widgets Demo

[Eclipse Projects:](#)

- **RAP- Rich Ajax Platform.**
The RAP project enables developers to build rich, Ajax-enabled Web applications by using the Eclipse development model, plug-ins with the well known Eclipse workbench extension points, JFace, and a widget toolkit with SWT API (using qooxdoo for the client-side presentation).

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New and noteworthy features



- New for RAP 1.2 M7 (May 11, 2009)
- New for RAP 1.2 M6 (March 23, 2009)
- New for RAP 1.2 M5 (February 16, 2009)
- New for RAP 1.2 M4 (January 12, 2009)
- New for RAP 1.2 M3 (November 19, 2008)
- New for RAP 1.2 M2 (October 8, 2008)



non-code aspects

- the project has a active community of users and contributors
- there is extensive API documentation (several thousand javadocs)
- a huge set of resources available for RCP can be reused for RAP
- i18n is now implemented



- RAP provides a subset of the proven SWT, JFace and Workbench java apis and extension points
- more than 1000 published and documented interface methods from the above mentioned packages

- RAP provides a large subset of the Workbench extension points

- org.eclipse.ui.activities
- org.eclipse.ui.activitySupport
- org.eclipse.ui.actionSetPartAssociations
- org.eclipse.ui.actionSets
- org.eclipse.ui.commands
- org.eclipse.ui.commandImages
- org.eclipse.ui.contexts
- org.eclipse.ui.handlers
- org.eclipse.ui.decorators
- org.eclipse.ui.editorActions
- org.eclipse.ui.editors
- org.eclipse.ui.elementFactories
- org.eclipse.ui.encodings
- org.eclipse.ui.exportWizards
- org.eclipse.ui.importWizards
- org.eclipse.ui.keywords
- org.eclipse.ui.menus
- org.eclipse.ui.newWizards
- org.eclipse.ui.perspectiveExtensions
- org.eclipse.ui.perspectives
- org.eclipse.ui.popupMenus
- org.eclipse.ui.preferencePages
- org.eclipse.ui.preferenceTransfer
- org.eclipse.ui.presentationFactories
- org.eclipse.ui.propertyPages
- org.eclipse.ui.services
- org.eclipse.ui.startup
- org.eclipse.ui.statusHandlers
- org.eclipse.ui.systemSummarySections
- org.eclipse.ui.themes
- org.eclipse.ui.viewActions
- org.eclipse.ui.views
- org.eclipse.ui.workingSets
- org.eclipse.ui.browserSupport
- org.eclipse.ui.internalTweaklets



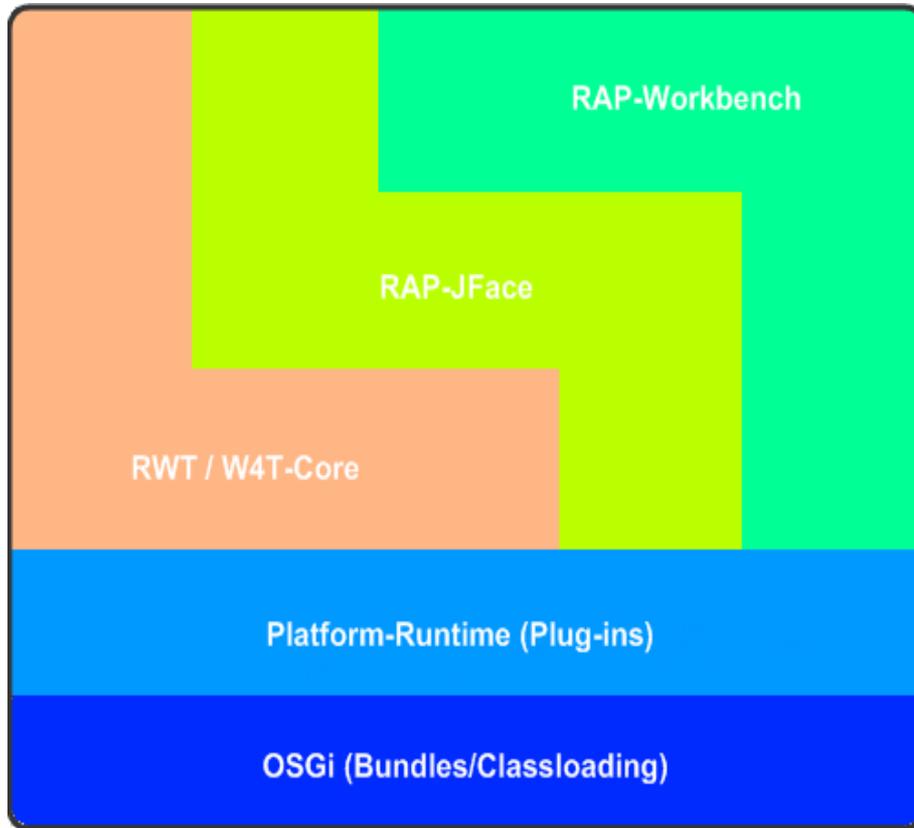
- RAP specific extension points
 - adapterfactory
 - branding
 - entrypoint
 - phaselistener
 - Resources
 - settingstores
 - themeableWidgets
 - themes

architectural issues



- RAP enables the usage of the fundamental eclipse architecture for web applications
- RAP uses OSGi bundles and the extension point mechanism
- running on the server side RAP faces the challenge of enabling eclipse bundles to run in a multi-user environment
- RAP is a server centric approach to AJAX
 - scalability has been a key topic for the implementation
 - state information about every client is maintained on the server
 - processing of UI and business logic mainly occurs on the server
- applications can be deployed as standard JEE web applications (war) to standard application servers

architectural overview



Server Side (JEE Servlet Container)



Client Side (Browser)

tool usability



- RAP is a runtime technology and not installed into the Eclipse IDE
- however, PDE and JDT provide a well established and superb tooling infrastructure for RAP
- RAP offers tooling for running and debugging applications

The screenshot displays the Eclipse IDE interface for configuring a RAP application. On the left, the Project Explorer shows a tree structure with 'maildemo.rap' selected under the 'RAP Application' category. The main editor area shows the configuration for 'maildemo.rap' with the following settings:

- Name:** maildemo.rap
- Servlet and Entry Point to Run:**
 - Servlet Name: rap
 - Entry Point: mail
 - Terminate possibly running previous launch
- Browser:**
 - Run in: Internal Browser (selected)
 - External Browser (unselected)
 - [Configure Browsers...](#)
- Runtime Settings:**
 - Manual Port configuration: 10080
 - Client-side Log Level: Off
 - Client-side Library Variant: Standard

tool usability (cont'd)



The screenshot shows the Eclipse IDE with a Java file named `*DemoTreeViewPart.java` open. The code is as follows:

```
* Copyright (c) 2002-2006 Innoopract Informationssysteme GmbH.

package org.eclipse.rap.demo;

import java.util.ArrayList;

public class DemoTreeViewPart extends ViewPart implements IDoubleClickListener {

    private TreeViewer viewer;

    public void createPartControl( final Composite parent ) {
        viewer = new TreeViewer( parent );
        viewer.setLabelProvider( new DecoratingLabelProvider( new LabelProvider(),
                                                            new LeafStarLabelDecorator() ) );
        viewer.setc
    }

    private f
    public
        if (
```

A code completion popup is visible for the method `viewer.setc`. The popup lists several methods with their signatures and return types:

- `setCellModifier(ICellModifier modifier) void - ColumnViewer`
- `setChildCount(Object elementOrTreePath, int count) void - T`
- `setColumnProperties(String[] columnProperties) void - Colum`
- `setComparator(ViewerComparator comparator) void - Structu`
- `setComarper(IElementComarper comparer) void - Structured`
- `setContentProvider(IContentProvider provider) void - TreeVi`

The method `setContentProvider(IContentProvider provider) void - TreeVi` is highlighted. A tooltip for this method is displayed on the right side of the popup, stating: "The AbstractTreeViewer implementation of this method checks to ensure that the content provider is an ITreeContentProvider."

At the bottom of the popup, there is a scroll bar and the text: "Press 'Ctrl+Space' to show Template Proposals".

end-of-life



- does not apply

- as of Mai 28 2009 for RAP 1.2

		Severity						Total	
		blocker	critical	major	normal	minor	trivial	enhancement	Total
Status	NEW	.	<u>2</u>	<u>2</u>	<u>47</u>	<u>1</u>	<u>2</u>	<u>16</u>	<u>70</u>
	ASSIGNED	.	<u>2</u>	.	<u>25</u>	<u>1</u>	.	<u>10</u>	<u>38</u>
	REOPENED	<u>1</u>	<u>1</u>	.	<u>1</u>	.	.	.	<u>3</u>
	RESOLVED	<u>4</u>	<u>10</u>	<u>11</u>	<u>155</u>	<u>6</u>	<u>10</u>	<u>18</u>	<u>214</u>
	VERIFIED	.	<u>1</u>	<u>1</u>	<u>6</u>	.	.	<u>4</u>	<u>12</u>
	CLOSED	.	.	<u>1</u>	<u>1</u>
	Total	<u>5</u>	<u>16</u>	<u>15</u>	<u>234</u>	<u>8</u>	<u>12</u>	<u>48</u>	<u>338</u>

Bugzilla query: [https://bugs.eclipse.org/..](https://bugs.eclipse.org/)

standards



JEE

- RAP complies with the JEE servlet standards 2.3, 2.4 and 2.5
- RAP applications can be deployed as standard web archives (war)

OSGi

- RAP is built on top of the Eclipse Equinox OSGi reference implementation

Eclipse

- the Eclipse extension point mechanism is a defacto standard utilized by RAP

ui usability



- UI usability has been a main focus of the 1.2 release
 - engaged with a company specialized in usability for designing a new default look & feel
 - implemented new look & feel
 - expanded CSS capabilities for better stylability of widgets

schedule



- M2 October 8 – Reduce gap between RCP and RAP
- M3 November 19 – Reduce gap, new web centric features
- M4 January 12 – Reduce gap, new web centric features
- M5 February 16 – Reduce the gap, Consolidation
- M6 March 23 – Support other Eclipse projects
- M7 May 11 – New web centric features

communities



- **committers**
 - 8 committers from Innoopract (6 active)
 - 1 committer from Critical Systems
 - 2 committers from CAS Software GmbH (1 active)
 - 1 individual committer
 - -> committer diversity is improving
- **contributors**
 - active bugzilla users from several companies / individuals
 - Dozens of patches have been contributed
- **users / adopters**
 - as RAP is not a tool the distinction between users and adopters is difficult, everybody that uses rap is incorporating it in its products (apps)
 - Very active community of users / adopters: 10-50 newsgroup postings per day

communities cont'd



conferences:

- participation in several conferences
 - EclipseCon 2009, Eclipse Summit Europe 2008, Jax 2009, JFS 2008, various Eclipse DemoCamps

cross project:

- talking about integrating RAP with a couple of projects, e.g. Memory Analyzer, BIRT

articles:

- articles on RAP published in German “Eclipse Magazin”

communities / process



- open and transparent planning (using the wiki)
- development has been driven by the community to a large extent
- developer mailing list became more active, but there is still room for improvement

ip issues



see ip log at

http://www.eclipse.org/projects/ip_log.php?projectid=technology.rap

- **committers:**

- Frank Appel
- Istvan Ballok
- Jordi Böhme
- Rüdiger Herrmann
- Jochen Krause
- Benjamin Muskalla
- Joel Oliviera
- Stefan Röck
- Ralf Sternberg
- Elias Volanakis
- Ivan Furnadjiev

- **third party software:**

- qooxdoo 0.7 (rev 9276)
 - ipzilla: #1192
 - location:
org.eclipse.rap.tools
 - license: EPL/LGPL
 - package subset

planning



- next release RAP 1.5 planned for June 2010
 - potential topics
 - SWT Browser Edition for client side rendering
 - ...
 - exact 1.5 plan has not yet been discussed

Thanks



further information:

<http://eclipse.org/rap> - rap open source project

<http://wiki.eclipse.org/RAP> - rap wiki

<http://qooxdoo.org> - javascript widget toolkit

<http://rap.eclipse.org/rap> - demo apps