



Eclipse RAP 1.1 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

RAP enables

- coding in Java, developing the UI with SWT, JFace and Workbench extension points
- running the application on the server
- and accessing it with a browser

features



- broad coverage of SWT 3.4 apis
- broad coverage of Jface 3.4 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



View I

- Root
 - Locate in browser view
 - Parent 2
 - Child X - filter me!

13443087.bar

This is an example for the demo presentation implementation

Test Shell 1

- Root
 - Locate in browser view
 - Parent 2
 - Leaf 4
 - Child X - filter me!

SWT.INHERIT_NONE

Label Push Button Radio Button Check Box text

SWT.INHERIT_DEFAULT

Label Push Button Radio Button Check Box text

features – by new and noteworthy



- http://www.eclipse.org/rap/noteworthy/news_11M1.php
- http://www.eclipse.org/rap/noteworthy/news_11M2.php
- http://www.eclipse.org/rap/noteworthy/news_11M3.php
- http://www.eclipse.org/rap/noteworthy/news_11M4.php



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

api



- 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

api



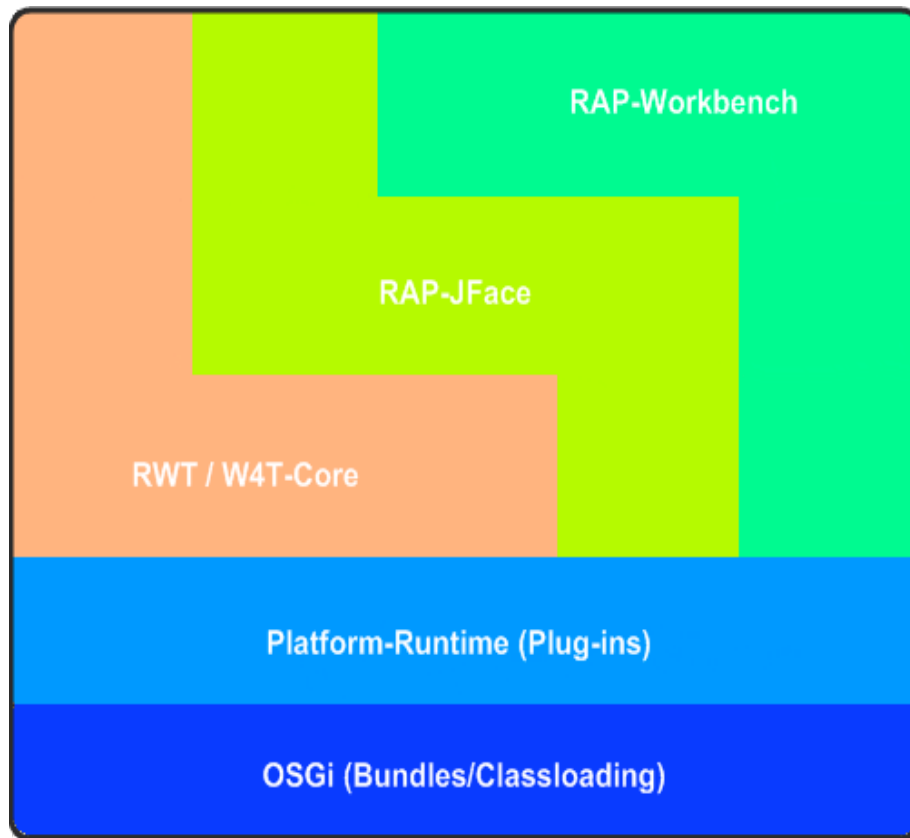
- RAP specific extension points
 - adapterfactory
 - branding
 - entrypoint
 - phaselistener
 - Resources
 - settingstores
 - themeableWidgets
 - themes

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)

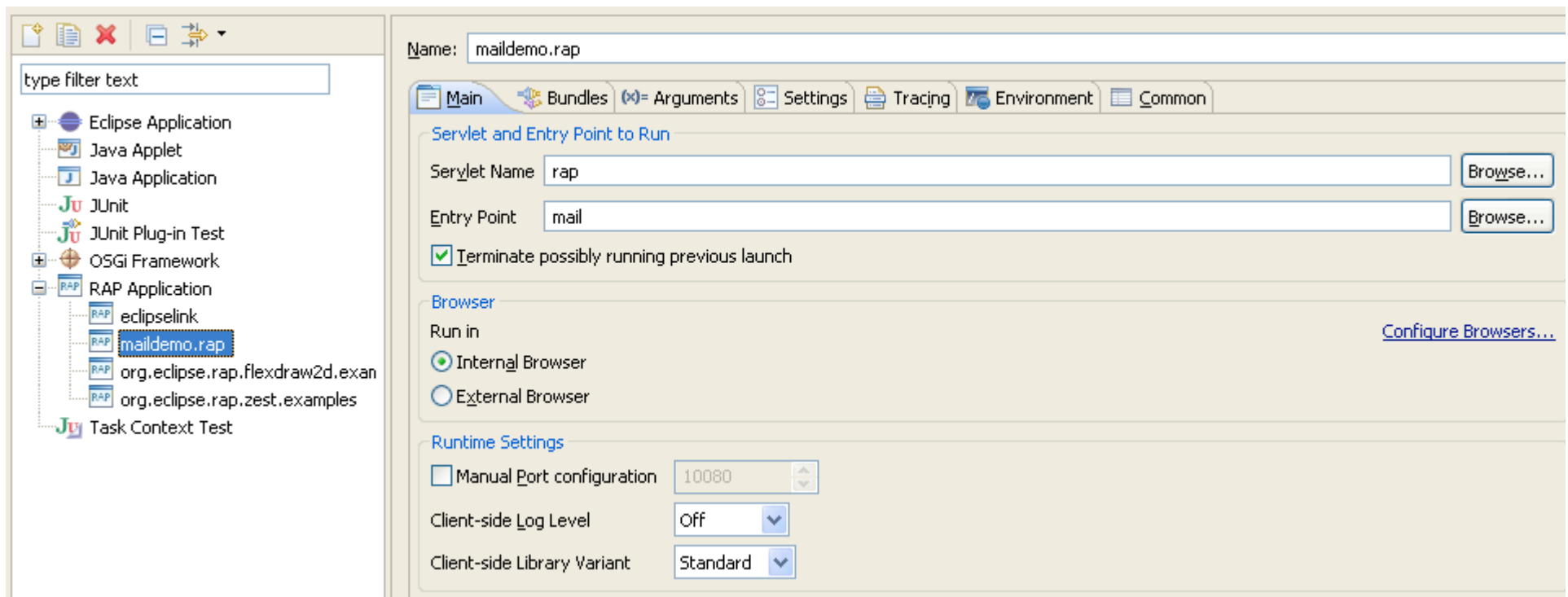


Client Side (Browser)

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



tool usability (cont'd)



```
org.eclipse.rap.demo *DemoTreeViewPart.java x
+ * 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
viewer.
viewer.
getSite
)
- private f
- public
    if (
    < >
    Press 'Ctrl+Space' to show Template Proposals
```

The AbstractTreeViewer implementation of this method checks to ensure that the content provider is an ITreeContentProvider.

end-of-life



- does not apply

bugzilla



- as of Mai 23 2008

		Severity							
		blocker	critical	major	normal	minor	trivial	enhancement	Total
Status	NEW	.	.	2	66	3	1	11	83
	ASSIGNED	.	1	2	89	4	2	11	109
	REOPENED	.	.	.	2	.	.	.	2
	RESOLVED	12	19	15	253	11	7	23	340
	VERIFIED	.	.	.	10	.	.	3	13
	CLOSED	.	.	.	3	.	1	.	4
	Total	12	20	19	423	18	11	48	551

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 1.1 release
 - PresentationFactory allows web style UI for workbench
 - Introduced CSS for better stylability of widgets

schedule



- <http://wiki.eclipse.org/RapPlan>
- 2008-01-07 M1 Performance (Client side)
- 2008-02-20 M2 Display#readAndDispatch(), workbench, Table Keyboard Navigation, Image Decoration
- 2008-04-07 M3 Drag & Drop, workbench MouseEvents, Improved Theming Support, Split off LCA implementations in fragment, Activity Support, PreferenceStore
- 2008-05-06 M4 Split off LCA implementations in fragment, Adopt 3.4 workbench RCP code base
- 2008-05-20 RC1

communities



- **committers**
 - 7 committers from Innoopract
 - 1 committer from Critical Systems
 - 2 committers from CAS Software GmbH (just becoming active)
 - -> 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 2008, Eclipse Summit Europe 2007, Jax 2008, JFS 2007, Eclipse Runtime Summit, e4 Summit

cross project:

- have been one of the driving forces for the Eclipse RT project to help cross project communication / fertilization
- joining forces with the eclipse project for e4

articles:

- cover article on RAP published in German “Eclipse Magazin”
- devx article on RAP
- article series on developerWorks (by Chris Aniszczyk)

communities / process



- open and transparent planning (using the wiki)
- development has been driven by the community to a large extent
 - Requesting move from W4T to SWT api
 - Requesting ability to single source RCP and RAP
 - Requesting moving the package names to SWT / JFace / Workbench originals
 - Requesting to use original extension point ids
 - Requesting full api compatibility for dialog handling
- developer discussion do often happen off the mailing list -> we are working to improve this

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

planning



- next release RAP 1.2 planned for October 2008
 - adding a couple of apis that haven't made it into 1.1
 - DragDrop
 - KeyEvents
 - Moving to gooxdoo 0.8
 - Client side performance improvements (pooling)
 - Further improve styling
 - Increase the number of properties that can be styled with CSS
 - Introduce the ability to have rounded corners
- RAP will move to the Eclipse RT top level project
- RAP is contributing to the Eclipse e4 effort

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