Rich Ajax Platform (RAP) 1.5 – Release Review

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Project page: http://eclipse.org/rap

Communication Channel: RAP Mailing List rap-dev@eclipse.org

IP Log: http://eclipse.org/rap/iplog/ - has been approved

Project Plan: http://eclipse.org/projects/project-plan.php?planurl=http://www.eclipse.org/rap/plan/plan-1.5.xml

New and Noteworthy: http://eclipse.org/rap/noteworthy/

Eclipse Rich Ajax Platform (RAP)

RAP is a platform for modular business applications that run on the desktop, on the web, and on custom client implementations. It enables developers to build rich applications by using the Eclipse development model.

RAP provides a powerful, multi-platform widget toolkit with SWT API that enables developers to write applications entirely in Java and re-use the same code on different platforms. Regardless of the client platform, RAP applications run on a server that communicates with the clients over HTTP. Applications can be deployed on any servlet container. The default web client uses JavaScript to render the UI in the browser.

The project provides a complete target platform based on Equinox, including subsets of SWT, JFace, and Workbench APIs. The combination of RCP and RAP allows to develop desktop and web applications from a single code base (single sourcing). With the RAP OSGi integration, they can be composed of modules and communicate using the OSGi service model. The core library can also be used in traditional web applications without OSGi.

Features

The RAP project provides these three features:

Runtime

The RAP runtime includes all org.eclipse.rap.* runtime bundles, i.e.:
- RWT, the RAP implementation of SWT
    - provides broad coverage of SWT 3.7 APIs
    - additional API for the web, such as theming, browser history, session store, etc.
    - includes the default web client that uses JavaScript to render the UI in the browser
    - complies with the Servlet specification 2.3 … 3.0
    - can also be used as a library in traditional web applications without OSGi
- RWT OSGi integration
    - provides API to launch application in an OSGi environment
    - auto-starts RAP applications that are registered as an OSGi service
- RAP versions of JFace and JFace databinding
    - broad coverage of JFace 3.7 APIs

- RAP versions of Workbench 3.7 bundles
  - org.eclipse.ui.workbench
  - org.eclipse.ui.views
  - org.eclipse.ui.cheatsheets
  - org.eclipse.ui.forms
- a RAP demo bundle

Basic Target Requirements

This feature complements the runtime with bundles from the Eclipse Platform that are needed for a complete RAP target platform:
- Equinox OSGi, including
  - the Eclipse extension registry
  - the Equinox console
  - declarative services
  - the servlet bridge to deploy RAP applications as web archive (.war)
- Eclipse core bundles, basically
  - core.commands
  - core.databinding
  - core.runtime
  - core.jobs
- Servlet API
- ICU replacement (icu.base)
- Jetty

Tools

The RAP Tools include
- the RAP Developer's Guide integrated into the Eclipse help
- a simple target installer to download and install a RAP target platform
- launcher for RAP applications to start application from the IDE
- project templates

Project Health

Committer Activity

- active committers: 5
- continuous committer activity (average > 500 commits per month)
- organizations: EclipseSource, Texas Center of Applied Sciences, Individuals
- see http://dash.eclipse.org/dash/commits/web-app/project-diversity.cgi

Software Quality
- continuous integration including more than 4,500 unit tests
- more than 1,600 JavaScript unit tests for the client
- strict coding standards back our code quality (http://wiki.eclipse.org/RAP/CodingStandards)
- active community of users and testers

Contributers

There are various third-party contributions in the RAP Incubator project such as a CNF port, an experimental GEF port, a file upload component, and more. Moreover, the IP log lists more than 100 patches from external contributors to the RAP project itself.

Community

RAP has an active community that discusses with the RAP team in the newsgroup and reports issues in Bugzilla. The RAP team participates in many Eclipse Demo Camps and conferences including EclipseCon, Eclipse Summit Europe and Eclipse Day Florence.

Bug Statistics

including enhancement request, without RAP Incubator
Bugs newly reported since June 22, 2011:   702

Bugs RESOLVED FIXED since June 22, 2011:   537

Bugs RESOLVED with a 1.5 target milestone: 532

Documentation

- Extensive API documentation available (several thousand javadocs)
- A huge set of resources available for RCP that can be reused for RAP
- See http://eclipse.org/rap/documentation/ for more information

Integration with other Eclipse projects

- EMF provides RAP support
- Riena provides RAP support
- Scout uses RAP for the web client
- The Gyrex Admin UI is based on RAP

Schedule

RAP 1.5 delivered milestone builds every 6 weeks according to the Juno schedule (M1–M7), see [1]. All milestones have been delivered on time.

For the end game, our ramp down plan [2] applies.

[1] http://www.eclipse.org/projects/project-plan.php?projectid=rt.rap#release_milestones
[2] http://wiki.eclipse.org/RAP/Ramp_down_plan

Main Achievements in RAP 1.5

- Introduction of a new, JSON-based client-server protocol, allows to connect alternative clients
- Decoupling from Eclipse 3.x stack, new API enables lightweight RWT applications
- Enable fully JEE-compatible mode
- Support for clustering (transparent session failover) in RWT
- Support for HTML markup in widgets
- A new, contemporary default theme
- Tree and Table enhancements, full VIRTUAL support in Tree, fixed columns
- Rework of key events in RWT

Project Plan for RAP 2.0

We plan to release RAP 2.0 either together with Eclipse Kepler in June 2013, or earlier. The plan is still in an early stage, but will likely include:

- Completion of the new client-server protocol
- Completion of the new API to develop applications independent from the Eclipse 3.x stack
- Rework of the RWT events system
- Rework of the resources management in RWT

Further Information

- http://eclipse.org/rap - RAP project page
- http://wiki.eclipse.org/RAP - RAP wiki
- http://eclipse.org/rap/demos/ - Demo applications