

Eclipse and JDT

The Eclipse platform and an Integrated Development Environment for Java

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3 (9) What is Eclipse

- **Eclipse platform:**
Eclipse is an open source community whose projects are focused on providing a vendor-neutral open development platform and application frameworks for building software.
- **Purpose of Eclipse**
The purpose of Eclipse Foundation Inc., (the "Eclipse Foundation"), is to advance the creation, evolution, promotion, and support of the Eclipse Platform and to cultivate both an open source community and an ecosystem of complementary products, capabilities, and services.
- **History**
2001: Borland, IBM, Red Hat, SuSE, MERANT, QNX Software Systems, Rational Software, TogetherSoft and Webgain formed eclipse.org.
2003: Consortium had grown to over 80 members.
2004: Eclipse was reorganized into a non-profit corporation with a royalty-free Eclipse Public License.
2006: 115 member companies, 9 major open source projects with over 50 subprojects

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4 (9) Eclipse Projects

Eclipse Project <ul style="list-style-type: none"> * JDT - Java Development Tools * PDE - Plug Development Environment * Platform 	Data Tools Platform <ul style="list-style-type: none"> * Connectivity (ODA Component) * Model Base * SQL Dev Tools 	Eclipse Technology Project <ul style="list-style-type: none"> * ADT - AspectJ Development Tools Project * Application Lifecycle Management Framework * AspectJ * BPJEL Designer * Business Administrator Component Assembly Project * ECESSIS - Eclipse Community Education Project * Eclipse Communications Framework * ERCP - Embedded Rich Client Platform * Higgins, The Trust Framework * IDE for Lasso * Agile Project * Open Healthcare Framework * Phoenix * Project Phoenix * PTP - PaaS/aaS Platform * Rich Ajax Platform * Vaiaa Tools Project
Tools Project <ul style="list-style-type: none"> * C/C++ IDE * COBOL * GEF - Graphical Editor Framework * PHP Integrated Development Environment * UML2 * VC - Visual Editor 	Device Software Development Platform <ul style="list-style-type: none"> * Device Debugging * ERCP - Embedded Rich Client Platform * Mobile Tools for Java * Native Application Builder * Target Management 	
Eclipse Web Tools Platform Project <ul style="list-style-type: none"> * GWT-OSM * JEE Standard Tools * WST - Web Standards Tools 	Eclipse Modeling Project <ul style="list-style-type: none"> * EMF * GEMT - Generative Model Transformer * Graphical Modeling Framework * Model Driven Development Infrastructure 	
Eclipse Test and Performance Tools Platform Project <ul style="list-style-type: none"> * Monitoring Tools * Platform * Testing Tools * Tracing & Profiling Tools 		

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5 (9) Java Development Toolkit (JDT)

- Java IDE based on the Eclipse framework
- Free
- Huge community
- Very stable and active, new milestone version every six weeks
- Cutting edge, eg. Eclipse compiler is already Java 6.0 compliant
- Java, SWT, JFace
- Fast, "native" user interface
- Platforms: Windows, Linux, HP-UX, AIX, Solaris, QNX, Mac OS X
- Auto Building, Perspectives, Folding editor, Syntax highlighting, Content assist, Auto Completion, Quick Fix, Local History, Code Formatter, ...
- Good JUnit integration
- CVS, Subversion
- Ant, Maven,
- RCP: Rich Client Applications

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6 (9) Plug-ins Overview

<ul style="list-style-type: none"> Ant (11) AspectJ (8) Bug Tracker (10) Business Process Tools (13) Code Generation (27) Code Generation/Modeling (16) Code mgmt (38) Com.Corbajdk... (10) Database (46) Database Persistence (22) Decompiler (4) Deployment (23) Distribution Package (4) Documentation (19) Entertainment (41) Info - Website (16) JEE development platform (86) Languages - C, Net (13) Languages - Javascript (9) Languages - Lasso (3) Languages - Macromedia (5) Languages - others (30) 	<ul style="list-style-type: none"> LDAP (7) Logging (11) Misc (29) Mobile/PDA (14) Modeling (52) Network (19) Ossolete (34) Patterns (7) Profiling (14) Project management (7) Report (8) Rich Client (25) RIS (6) SAP (3) SCM (26) SCM - CVS (11) Source Code Analyzer (34) Source Code Formatter (4) Team (8) Testing (58) Tomcat (7) 	<ul style="list-style-type: none"> Tools (jar.classpath) (9) Tools - ContentMenu (20) Tools - Editor Enhancements (28) Tools - for eclipse (37) Tools - Math (5) Tools - Navigation (22) Tools - special editors (14) Tools - WebSearch (4) Tutorial (37) UI (39) UI components (25) UML (39) Web (62) Web Service (39) XML (41)
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Plug-ins Selection

- Over 1000 plugins: <http://eclipse-plugins.2y.net/eclipse/plugins.jsp>
- Some highlights
 - CheckStyle: Checks coding standards: <http://eclipse-cs.sourceforge.net/>
 - FindBugs: Uses rules to find (possible) bugs: <http://findbugs.sourceforge.net/>
 - PDM: Finds possible bugs: <http://pmd.sourceforge.net/>
 - Metrics: Calculates software metrics <http://metrics.sourceforge.net/>
 - Sysdeo: Web development <http://www.sysdeo.com/eclipse/tomcatplugin>
 - Profiler: A profiler http://eclipsecolorer.sourceforge.net/index_profiler.html

Comparison of the big 4

Eclipse

Eclipse Foundation, Free, Plugin Architecture, Many Plugins, Extensible, Third-Party Vendor Support, SWT, Good Refactoring and J2EE support.

Netbeans

Sun Microsystems, Free, Plugin Architecture, Third-Party Vendor Support, Excellent GUI Designer, AWT/Swing

IntelliJ IDEA

JetBrains, Commercial (\$500), Excellent J2EE and GUI support, Plugin Support, Great Usability, Outstanding Refactoring Functionality, AWT/Swing.

JBuilder

Borland, Commercial (free - \$500 - \$3500), (Free version available but limited), Borland will take over Eclipse as platform in October for plugin development.

Thank you



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Links

- <http://www.eclipse.org/>
- http://wiki.eclipse.org/index.php/Eclipse_FAQs
- http://wiki.eclipse.org/index.php/RCP_FAQ
- <http://eclipse-plugins.2y.net/eclipse/plugins.jsp>
- [http://en.wikipedia.org/wiki/Eclipse_\(software\)](http://en.wikipedia.org/wiki/Eclipse_(software))
- http://java.about.com/od/idesandeditors/tp/top_ides.htm
- <http://www.eclipse.org/community/>
- <http://www.eclipsezone.com>
- <http://www.eclipse.org/evangelism/index.php>

Abstract

Eclipse, the most beautiful Java IDE

While Eclipse is as a generic framework for rich-client applications, it became widely acknowledged as an excellent Integrated Development Environment (IDE) for Java. Many notable software tool vendors such as Adobe, Borland, SAP AG, and IBM Rational have embraced Eclipse as a future framework for their IDEs.

In this talk I will provide background information about Eclipse, give a short introduction into the IDE and demonstrate some of the plug-ins I use. The audience may be warned that this talk is heavily biased since in my opinion Eclipse is the most beautiful piece of software I have used in years.