



IBM Software Group

IBM® Rational® Web Developer V6
IBM® Rational® Application Developer V6
New Features in Eclipse 3.0



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Goals

- Provide an overview of Eclipse platform
- Describe new features and improvements in the Eclipse platform
- Describe new features and improvements in the Java™ Development Tools (JDT)

Agenda

- Overview
- Eclipse Platform enhancements
 - ▶ Eclipse platform
 - ▶ Text editor
 - ▶ Team programming and CVS
 - ▶ Ant
 - ▶ Search
 - ▶ Help
 - ▶ Install and update
 - ▶ Debugging
- Java Development Tools (JDT) enhancements

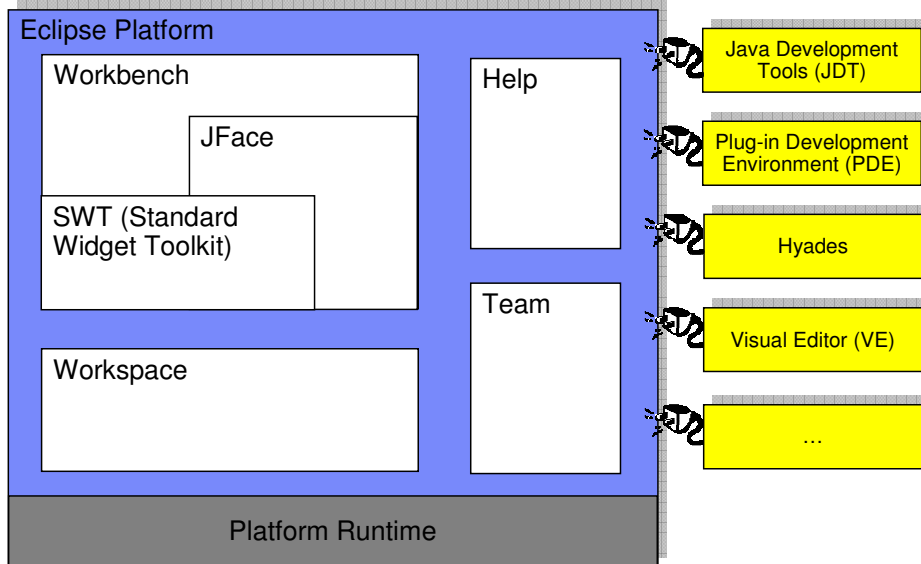
Section

Overview

Eclipse

- Provides an integrated development environment whose functionality is easily extended through plug-ins
- Attractive integration platform for tools
 - ▶ Runs on wide range of operating systems
 - ▶ Seamless tool integration across different content types and tool vendors
 - ▶ Supports construction of wide variety of tools through open, pluggable architecture
 - ▶ Allows IBM and ISVs to develop against same API


Eclipse Platform IDE: Architecture



Section

Eclipse Platform Enhancements

Eclipse Platform Enhancements

- New look
 - ▶ Title bars and tabs have updated look
 - ▶ Perspective management
 - ▶ Collapsible views
 - ▶ Tear-off views
 - ▶ Improved fast view
 - ▶ Tab font type used to show status
- SWT/Swing interoperability (Windows™)
- Improved editor management
 - ▶ Option for single tab or multiple tabs in editor area
 - ▶ Chevrons used to show additional open editors whose tabs are not visible 
- Background operations
 - ▶ Build, search, CVS, etc. operations run in background
 - ▶ Progress view allows you to see background activity and review status or cancel if required

Eclipse Platform Enhancements (cont.)

- Cheat sheets
- Improved key bindings and key customization preferences dialog
- External files can be opened within Workbench
- Switch between workspaces from within the workbench
- Option to have workspace automatically synchronize with local file system
- New plug-in format
 - ▶ Implements OSGi (Open Services Gateway initiative Alliance) framework specification
- Install and activate new function dynamically
- Simplified manual build commands
- Enable or disable builders on projects
- New welcome window



Text Editor Enhancements

- Quick difference of changes made in an editor available as a pop-up (referred to as Quick Diff)
- Regular expressions supported within find/replace dialogs
- Shared preferences between editors
- Additional annotation customizations
- Improved file encoding support
- Additional quick key editing functions

Team Programming & CVS Enhancements

- New and improved Synchronize view
 - ▶ Multiple synchronizations shown
 - ▶ View dynamically updates when changes are made within workspace
 - ▶ Scheduled synchronizations
 - ▶ New layouts: hierarchical, compressed folders, commit sets
- CVS (Concurrent Versions System) operations run in background
- CVS checkout wizard via New > Project or File > Import
- Use date tags to compare, checkout, merge or browse a repository
- Annotate view displays list of authors for each line of a file
- SSH2 support

Ant Enhancements

- Run in separate JVM
- Formatter support
- Ant-specific problems in build file
- Code assist support
- Template support

Search, Help, and Update/Install Enhancements

- Search
 - ▶ New Search view
 - ▶ Search operations run in background
 - ▶ Regular expressions supported
 - ▶ Global text replace
- Help system
 - ▶ Indexes stored independently of workspaces
 - ▶ Help items filtered according to selected capabilities
 - ▶ Dynamic help documents
- Workspace and plug-in update
 - ▶ Automatic, scheduled updates
 - ▶ Uninstall plug-ins
 - ▶ Additions to the configuration picked up dynamically – no restart required



Debugging Enhancements

- Debug using current perspective
- Breakpoint enhancements
 - ▶ Breakpoints in external code
 - ▶ Skip All Breakpoints option
 - ▶ Class prepare breakpoints
- Refactoring updates breakpoints
- Pop-ups for Display and Inspect
- Restart dialog when hot code replace fails
- Default VM arguments
- Environment variables
- Additional filter options in Debug and Variables views

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Java Development tools (JDT) Enhancements

General Enhancements

- New Call Hierarchy view
- New Javadoc view
- New Declaration view
- External Javadocs from archives
- Search for references in Javadoc comments
- External JARs can be grouped into named libraries
- Type filters limit packages, classes, etc. that appear in quick tips and code assists
- Result filtering and grouping in Search view
- Content assist supported in dialog fields
- Java working sets can contain non-Java projects
- Task definition via additional task tags



Java Editor Enhancements

- Text folding
- Semantics highlighting
- “Smart insert” editor mode
- Refactoring enhancements
 - ▶ New refactorings added
 - ▶ Refactoring can include non-Java source files
- New code formatter
- Format multiple files
- Add/remove block comments
- Template enhancements
 - ▶ New, improved templates
 - ▶ Templates provide proposals when multiple variables exist

Java Editor Enhancements (cont.)

- Additional Quick Fixes
- Additional Quick Assists
- Additional controls over generated code
- Spell checking support
- Dynamic occurrence marking
- Overridden method indicator
- Update imports on paste



Java Compiler Enhancements

- JCK1.4a and JCK1.3a compliant
- Inclusion patterns for source folder
- Additional compiler checks
- Javadoc validation

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Problem Determination

Problem Determination

- Quick Diff functionality has problems with large files
 - ▶ Functionality should be disabled when working with large files to alleviate

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Summary and Reference

Summary

- Eclipse SDK provides an integrated development environment which is highly extensible through the use of plug-ins
- Eclipse SDK is the foundation of many IBM product offerings
- Eclipse 3.0 provides many new features and improvements over previous versions
 - ▶ New user interface
 - ▶ Background tasks
 - ▶ Java Development Tools (JDT) enhancements
 - ▶ New standards-based runtime platform (OSGi)

Reference

- Eclipse Project
 - ▶ <http://www.eclipse.org/>
- Eclipse 3.0 – New and Noteworthy
 - ▶ <http://download.eclipse.org/downloads/drops/R-3.0-200406251208/eclipse-news-R3.html>
- OSGi Alliance web site
 - ▶ <http://www.osgi.org/>

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Appendix

New Key Bindings: All Editors

- **CTRL + E** - Displays drop down list of editors
- **CTRL + SHIFT + Q** - Enables/disables Quick Diff annotations in editors vertical ruler
- **ALT + Arrow Up** - Moves line up in the editor
- **ALT + Arrow Down** - Moves line down in the editor
- **CTRL + ALT + Arrow Up** - Copy line up in the editor
- **CTRL + ALT + Arrow Down** - Copy line down in the editor
- **CTRL + SHIFT + Enter** - Insert new line above current line
- **SHIFT + Enter** - Insert new line after current line
- **CTRL + SHIFT + Y** - Convert line to lowercase
- **CTRL + SHIFT + X** - Convert line to uppercase

New Key Bindings: Java Editor and tools

- **CTRL + T** - When a type, method, or package reference is selected this displays a quick type hierarchy tool tip
- **CTRL + SHIFT + Insert** - Toggles Smart Insert mode
- **CTRL + SHIFT + C** (Replaces CTRL + / & CTRL + \) - Comments/uncomments selected lines in the editor
- **ALT + SHIFT + O** - Adds Occurrence annotations to the editor
- **ALT + SHIFT + U** - Removes Occurrence annotations
- **ALT + SHIFT + S** - Displays quick source menu - displays Source menu options for selected element
- **ALT + SHIFT + T** - Displays quick refactor menu - displays Refactor menu options for selected element
- **SHIFT + Space** - Incremental completion - inserts common prefix of all possible completions at the caret location
- **CTRL + ALT + H** - Opens method call hierarchy view

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