



Contributing to an Eclipse Project



Who Are We?

Olivier Prouvost

- OPCoach (www.opcoach.com), Eclipse trainer and consultant
- Committer on e4 tools and Eclipse Platform UI

Wayne Beaton

- Director of Open Source Projects
- The Eclipse Foundation
- Committer on a bunch of projects
- Contributor for a bunch of projects
- Project mentor on everything





Contributor? Committer?

Contributor

- Open bugs, answer questions, submit patches

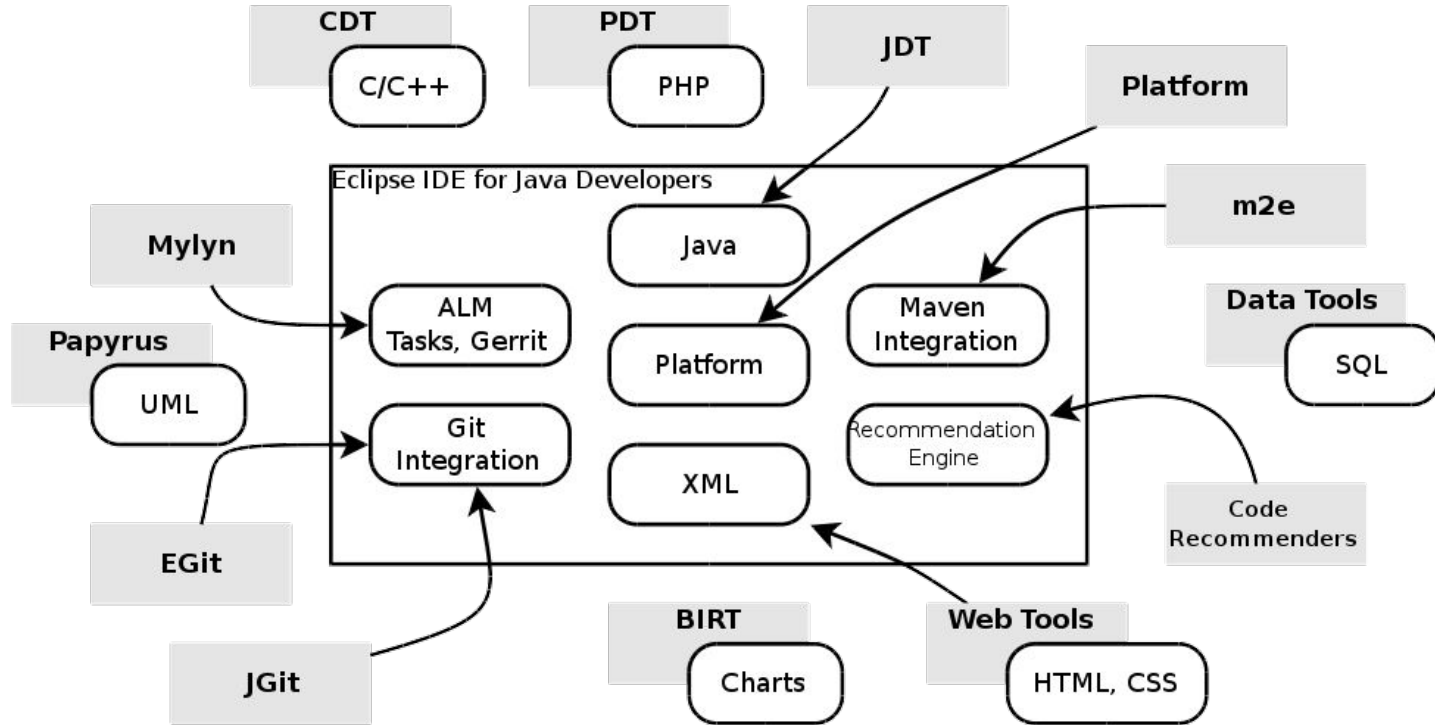
Committer

- Open/Triage/Close bugs, answer questions, write code
- Review and accept patches
- Interact and develop the project community

Contributors with an established record of quality contribution may be invited to join the project team as a committer



What is an Eclipse IDE?





Contributor License Agreement

Essentially...

- You have authored 100% of the content.
- You have the necessary rights
- Provided under the license(s) associated with the project
- Public record of the contribution

Read the full document.

All contributors must sign the CLA.

<https://www.eclipse.org/legal/CLA.php>



Configure Your Development Environment

For Eclipse Platform Development:

- Download the latest nightly/integration build (e.g. “I20160301-1230”)
- <http://download.eclipse.org/eclipse/downloads>
- https://wiki.eclipse.org/Platform_UI/How_to_Contribute

For other Eclipse Projects, use the advanced mode installer

- “Eclipse Oomphed” with Eike Stepper and Ed Merks



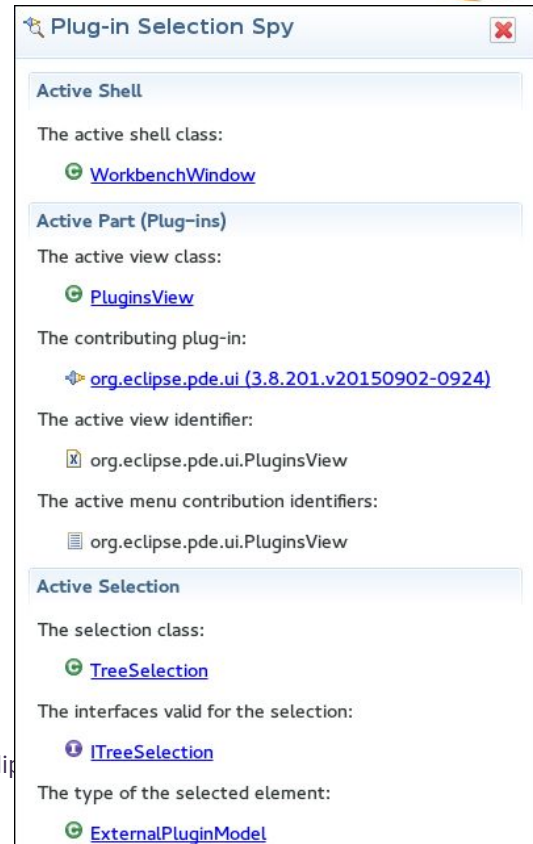
Finding “Where” in the Code

Plug-in Spy (Shift+Alt+F1)

Menu Spy (Shift+Alt+F2)

Stack trace in .metadata/.log file

Bugzilla (helpwanted, bugday)



Find an Error in Your Instance...



The screenshot shows the Eclipse IDE interface. The main editor displays the code for `FileSystemStructureProvider.java`. The `getContents` method is highlighted, showing a `try` block that attempts to open a file. The `catch` block handles `FileNotFoundException` and returns `null`.

The **Problems** view at the bottom shows an error: `/tmp/test (Permission denied)`. The **Event Details** dialog is open, providing the following information:

- Plug-in: org.eclipse.ui.ide
- Severity: Error
- Date: 2016-06-08, 2:51 AM
- Message: /tmp/test (Permission denied)
- Exception Stack Trace:
 - java.io.FileNotFoundException: /tmp/test (Permission denied)
 - at java.io.FileInputStream.open0(Native Method)
 - at java.io.FileInputStream.open(FileInputStream.java:195)
 - at java.io.FileInputStream.<init>(FileInputStream.java:138)
 - at org.eclipse.ui.internal.ide.filesystem.FileSystemStructureProvider.getContents
 - at org.eclipse.ui.wizards.datatransfer.ImportOperation.importFile(ImportOperation
 - at org.eclipse.ui.wizards.datatransfer.ImportOperation.importRecursivelyFrom(Imp
 - at org.eclipse.ui.wizards.datatransfer.ImportOperation.importFileSystemObjects(I
 - at org.eclipse.ui.wizards.datatransfer.ImportOperation.execute(ImportOperation.j
- Session Data:
 - eclipse.buildId=4.6.0.I20160606-1100
 - java.version=1.8.0_91
 - java.vendor=Oracle Corporation

The **Workspace Log** view also shows the error message: `/tmp/test (Permission denied)`.

... Or Debug It



The screenshot shows the Eclipse IDE interface during a debug session. The title bar indicates the project is 'org.eclipse.ui.internal.ide.filesystem.FileSystemStructureProvider.java'. The menu bar includes File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help.

The Debug console shows the following configuration:

- New_configuration [Eclipse Application]
- org.eclipse.equinox.launcher.Main at localhost:34602
- Thread [main] (Running)
- Thread [Active Thread: Equinox Container: f0571efc-412d-0016-15dd-c6e]

The main editor displays the source code of `FileSystemStructureProvider.java`. A breakpoint is set at line 74, which is the start of the `getContents` method. The code snippet is as follows:

```
67         IDEWorkbenchPlugin.log(e.getMessage(), e);
68     }
69 }
70     return false;
71 }
72
73 @Override
74 public InputStream getContents(Object element) {
75     try {
```

The Outline view on the right shows the package structure:

- org.eclipse.ui.internal.ide.filesystem
- FileSystemStructureProvider
 - visitedDirs : Set
 - getChildren(Object) : List

The Console view shows the following output:

```
New_configuration [Eclipse Application] /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.91-2.b14.fc22.x86_64/bin/java (Jun 8, 2016, 2:26:49 AM)
!ENTRY org.eclipse.ui.ide 4 4 2016-06-08 02:30:06.908
!MESSAGE /tmp/test (Permission denied)
!STACK 0
java.io.FileNotFoundException: /tmp/test (Permission denied)
    at java.io.FileInputStream.open0(Native Method)
    at java.io.FileInputStream.open(FileInputStream.java:195)
    at java.io.FileInputStream.<init>(FileInputStream.java:138)
    at org.eclipse.ui.internal.ide.filesystem.FileSystemStructureProvider.getContents(FileSystemStructureProvider.java:76)
    at org.eclipse.ui.wizards.datatransfer.ImportOperation.importFile(ImportOperation.java:555)
    at org.eclipse.ui.wizards.datatransfer.ImportOperation.importRecursivelyFrom(ImportOperation.java:787)
    at org.eclipse.ui.wizards.datatransfer.ImportOperation.importFileSystemObjects(ImportOperation.java:679)
    at org.eclipse.ui.wizards.datatransfer.ImportOperation.execute(ImportOperation.java:404)
```

The status bar at the bottom indicates 'Writable', 'Smart Insert', and '76 : 56'.

Get the Code

A screenshot of an IDE's project browser. The project 'org.eclipse.core.net (1.2.300-20111118-1785)' is selected and highlighted in blue. A context menu is open over it, listing various actions. The 'Import As' option is selected, and a sub-menu is visible, showing options like 'Binary Project', 'Binary Project with Linked Content', 'Source Project', and 'Project from a Repository...'. The 'Project from a Repository...' option is highlighted in blue. Other projects listed in the browser include 'org.eclipse.core.jobs (3.7.0.v20150330-2103)', 'org.eclipse.core.net.linux.x86_64 (3.7.0.v20150330-2103)', 'org.eclipse.core.resources (3.7.0.v20150330-2103)', 'org.eclipse.core.runtime (3.7.0.v20150330-2103)', 'org.eclipse.core.runtime.compatibility.internal (3.7.0.v20150330-2103)', 'org.eclipse.core.variables (3.7.0.v20150330-2103)', 'org.eclipse.datatools.common.core (3.7.0.v20150330-2103)', 'org.eclipse.datatools.connectivity.core (3.7.0.v20150330-2103)', 'org.eclipse.datatools.connectivity.core.tests (3.7.0.v20150330-2103)', and 'org.eclipse.datatools.connectivity.core.tests.resources (3.7.0.v20150330-2103)'.

org.eclipse.core.jobs (3.7.0.v20150330-2103)

org.eclipse.core.net (1.2.300-20111118-1785)

org.eclipse.core.net.linux.x86_64 (3.7.0.v20150330-2103)

org.eclipse.core.resources (3.7.0.v20150330-2103)

org.eclipse.core.runtime (3.7.0.v20150330-2103)

org.eclipse.core.runtime.compatibility.internal (3.7.0.v20150330-2103)

org.eclipse.core.runtime.compatibility.internal.tests (3.7.0.v20150330-2103)

org.eclipse.core.variables (3.7.0.v20150330-2103)

org.eclipse.datatools.common.core (3.7.0.v20150330-2103)

org.eclipse.datatools.connectivity.core (3.7.0.v20150330-2103)

org.eclipse.datatools.connectivity.core.tests (3.7.0.v20150330-2103)

org.eclipse.datatools.connectivity.core.tests.resources (3.7.0.v20150330-2103)

Open

Open Dependencies

Find References

Import As

Add to Java Search

Copy

Select

Go Home

Go Back

Go Into

Binary Project

Binary Project with Linked Content

Source Project

Project from a Repository...



Important Terms

Target Platform

- The set of bundles that project code builds and runs against

API Baseline

- Compatibility analysis

Start by setting both to the current platform

Configure for Gerrit Code Review



The screenshot shows a web browser window with the URL `https://git.eclipse.org/r/#/admin/projects/platform/eclipse.platform.runtime`. The browser's address bar shows the URL and navigation icons. The page title is "Project platform/eclipse.platform.runtime". The navigation menu includes "All", "My", "Projects", "People", and "Documentation". The "Projects" tab is active, and the "General" sub-tab is selected. The Eclipse logo is displayed prominently. Below the logo, the project name "Project platform/eclipse.platform.runtime" is shown. A row of links for cloning the project is visible: "clone", "clone with commit-msg hook", "Anonymous Git", "Anonymous HTTP", "SSH", and "HTTP". The "SSH" link is highlighted, and the corresponding URL is shown below: `git clone ssh://wbeaton@git.eclipse.org:29418/platform/eclipse.platform.runtime`. A "Description" section contains the text "Eclipse Platform Runtime". The "Project Options" section includes several configuration items: "State" (Active), "Submit Type" (Fast Forward Only), "Automatically resolve conflicts" (FALSE), "Create a new change for every commit not in the target branch" (INHERIT (false)), and "Require Change-Id in commit message" (INHERIT (false)).

Project platform/eclipse.platform.runtime

clone | clone with commit-msg hook | Anonymous Git | Anonymous HTTP | **SSH** | HTTP

```
git clone ssh://wbeaton@git.eclipse.org:29418/platform/eclipse.platform.runtime
```

Description

Eclipse Platform Runtime

Project Options

State: Active

Submit Type: Fast Forward Only

Automatically resolve conflicts: FALSE

Create a new change for every commit not in the target branch: INHERIT (false)

Require Change-Id in commit message: INHERIT (false)



Anatomy of a Git Commit Record

```
commit d6cf52411377a039fc2906378711091a26e932cb
Author: Some Body <somebody@somewhere.com>
Date:   Wed May 29 16:17:36 2013 +0200
```

```
    Bug 350686 - Hide unwanted action bar items
    This change hides unwanted 'Link with Editor' and
    'Customize View...' items from the local toolbar
    and the view menu.
```

```
Change-Id: Ia2bd5091303d1b0a738157effc24e4dac5a7d0c7
Also-by: Some Bodyelse <somebodyelse@nowhere.com>
Signed-off-by: Some Body <somebody@somewhere.com>
```

Let's Get Started



Use cases/Recipes/Cheat Sheets



Look for them on the EclipseCon Website!