

Eclipse 4.x Compatibility Layer: What's hot? What's not?

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What's in the compatibility layer?

- A reimplement of the `org.eclipse.ui.workbench` bundle
- No other bundles have been forked
- Changes implementations of public interfaces like `IWorkbenchWindow` and `IWorkbenchPage` to call methods in Eclipse 4 bundles

What's not in the compatibility layer?

- `org.eclipse.ui.presentations` APIs have been deleted
- `org.eclipse.ui.themes` is not honoured for tab styling and such
- APIs from the `org.eclipse.ui.workbench` have not been turned into Java 5 APIs

Can I use plug-ins from the Indigo simultaneous release?

- Based on a random sampling of Indigo plug-ins, they generally seem to run and don't cause ugly NoSuchMethodErrors
 - EGit
 - Web Tools Platform's XML and XSL tooling
 - Memory Analyzer
 - CDT
 - Target Management
 - GMF
- Either everyone's a good citizen or the internals they reference are still there and haven't been deleted ;)

Are you running tests to check for compatibility against 3.x?

- Started running select tests from the 3.x SDK on top of the 4.x SDK in February
- Tests include Ant, Debug, JDT, JFace Text, PDE, User Assistance, p2 UI, and others...
- Over 99% across the board, remaining 1% being worked on

Component	# Tests	Failures	Errors	Success Rate	Time
Ant Tests					
ant.tests.core	85	0	0	100.00%	24.686
ant.tests.ui	211	0	0	100.00%	58.096
debug.tests	185	0	0	100.00%	23.522
JDT Tests					
jdt.text.tests	550	1	0	99.82%	246.399
jdt.compiler.apt.tests	36	0	0	100.00%	5.059
jdt.ui.tests	1888	2	0	99.89%	1539.787
jdt.debug.tests	712	0	1	99.86%	375.152
jface.text.tests	145	0	0	100.00%	7.189
pde.ui.tests	542	1	0	99.82%	97.135
text.tests	499	0	0	100.00%	0.616
compare.tests	113	0	0	100.00%	7.112
ltk.ui.refactoring.tests	1	0	0	100.00%	0.007
ua.tests	1030	0	0	100.00%	21.391
ui.tests.forms	20	0	0	100.00%	0.044
equinox.p2.tests.ui	100	0	0	100.00%	19.328
search.tests	0	0	0	NaN	0.000

Test results from S-4.1M6-201103121300

Did you really mean it when you said plug-ins had to be API-clean?

- We can't guard against obvious violations of API rules
- By that we mean code that...
 - ...references `@noreference` fields and methods...
 - ...or implements methods that are marked with `@noimplement`...
 - ...or extends classes that are marked with `@noextend`...
- If you have API tooling turned on you should already have warnings about these violations
- The WYSIWYG HTML editor from the Web Tools Platform implemented a `@noimplement` interface and their editor currently won't open/function

What should I expect when running vanilla 3.x plug-ins on 4.x?

- If you have some regular editors, views, and perspectives, we expect them to work fairly well
- If you use `org.eclipse.ui.actionSets` and `org.eclipse.ui.menus`, there may be issues, mixing them in the same menu could cause more problems
- Capabilities and activities do not work
- Check over your code and make an effort to...
 - ...not reach out for services and workbench classes...
 - ...avoid singleton access where possible...
 - ...avoid caching of values...

What's wrong with a little caching?

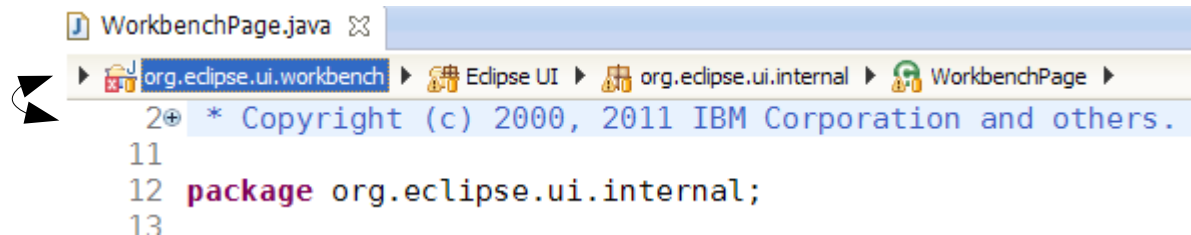
- Parts used to always be constructed under the workbench window first
- New rendering engine meant parts in detached windows really were created under said detached window
- Caching your control's shell can cause problems if the user puts the part back under the main workbench window
- An SWTException occurred because the shell was disposed when the user tried to use the view after it got reattached back to the main workbench window

What should I look out for when running vanilla 3.x plug-ins on 4.x?

- Ensure that your views and their tool bars are only disposed when they're truly gone (closed in all perspectives)
- Make sure your parts are still responding to each other, check that selection events are being propagate properly between your own views and views from the workbench (such as the 'Properties' view if you use it)
- Check that your commands and handlers work and that your menu items and tool items are where they should be
- Test that your part grants keyboard focus to the right control

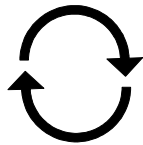
What could possibly go wrong with `setFocus()`?

- `setFocus()` is one of the two methods that had to be implemented for any `IWorkbenchPart` implementation
- One part with display filters on `SWT.FocusIn` and `SWT.FocusOut` failed to work as it kept assigning focus to the same control



```
WorkbenchPage.java
org.eclipse.ui.workbench > Eclipse UI > org.eclipse.ui.internal > WorkbenchPage
2+ * Copyright (c) 2000, 2011 IBM Corporation and others.
11
12 package org.eclipse.ui.internal;
13
```

- In other news, another part got into infinite loop scenario



```
public void setFocus() {
    control.getShell().setFocus();
    control.setFocus();
}
```

How should I port my 3.x plug-in into a native Eclipse 4 plug-in?

- Separate out the code that creates your SWT controls
- Extract the code that interacts with OSGi and workbench services so that they can be provided to you through dependency injection
- For more details, please attend Tom Schindl's “Singlesourcing for Eclipse 4.x and Eclipse 3.x” talk in Ballroom A at 1400 (we are in Ballroom D)

Q&A

Where do I go for more information?

- Eclipse 4 BOF session, 2030 tomorrow on Tuesday (22nd) at “Camino Real” (the committee has said rooms may change, please double check tomorrow)
- Ask questions on the forums or the mailing list
 - http://www.eclipse.org/forums/index.php?t=thread&frm_id=12
 - <https://dev.eclipse.org/mailman/listinfo/e4-dev> (e4-dev@eclipse.org)
- Find us on IRC
 - irc.freenode.net at #eclipse-e4

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