

An EPICS IDE Using Eclipse

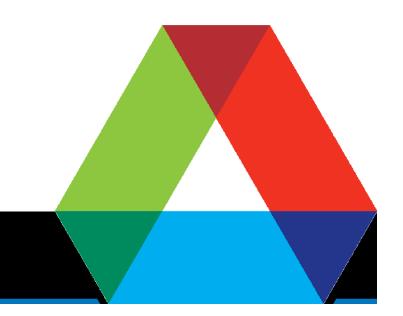
Kenneth Evans, Jr. Presented at the EPICS Collaboration Meeting June 15, 2006 Argonne National Laboratory, Argonne, IL







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Topics

- Eclipse
- CDT Plug-in (C/C++)
- CVS
- Wind River Workbench
- EPICS IDE Plug-in



The Eclipse IDE Out of the Box

Java - JProbe.java - Eclipse SDK e <u>E</u> dit <u>S</u> ource Refac <u>tor N</u> avigate Search <u>P</u> roje	ct Run RCP Book Window Help	
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- 🔂 build.properties	43 // Set Window decorations	GEF and Draw2d Plug-in Developer Guide
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	44 // Make it exit when the window manager close button is clicked	R S XSD Programmer's Guide
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🗠 🚖 import declarations	47 // Make the menu (This will override the plug-in menu)	KCP BOOK Samples manager More Arthorne/Laffra
- 🕞 Probe	48 // frame.makeMenu(parent.getShell());	The Official Eclipse 3.0 FAQs - Arthorne/Laffra
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EPICS Development in Eclipse Overview

- The C/C++ Development Tools (CDT) plug-in supplies most of what you need
 - Is comparable to Java Development Tools (JDT) but for C/C++
 - It supports C/C++ Standard Make
 - EPICS builds via Make
 - That's all you need
- The Eclipse Team support may be useful if you use CVS for EPICS
- The Wind River Workbench is available for device software
- The EPICS IDE Plug-in is designed for new and casual users
 - Provides New Project and New Application Wizards
 - Based on EPICS MakeBaseApp
 - You can have an IOC up and running with a few mouse clicks and a little typing
 - Will (sometime) provide adding and configuring support modules, etc.



CDT Necessary Ingredient

- C development Tools
 - It does not come with Eclipse
 - You have to download and install the plug-in
- Primarily it runs Make
 - You supply the Make
 - Can be C/C++ Standard Make (Just runs Make on your Makefile)
 - Or C/C++ Managed Make (Decides what needs to be built)
- Editor
 - Has content assist, syntax highlighting, other modern features
 - Does not have a good indentation engine, customization
 - Far less developed than the JDT Java editor
 - You probably want to turn off Build Automatically
 - Should work on all the major platforms



IOC Development using Eclipse A Convenient Way to Organize Your Work

APS Front-End IOCs in Eclipse, as checked out from CVS

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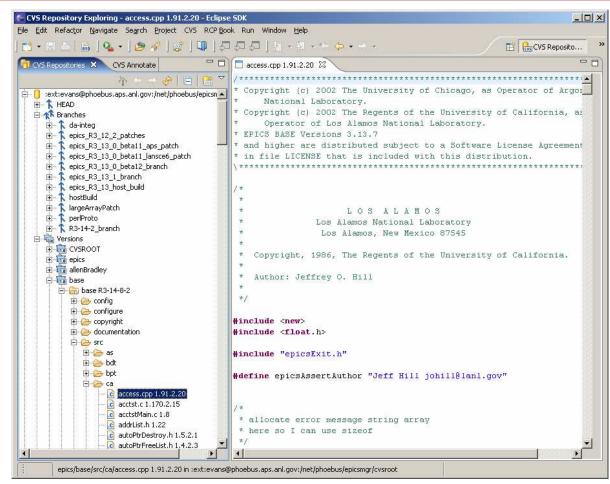
Managing an IOC on Several Platforms Including VxWorks

- You can build on the platform you are on and cross compile
- This IOC was built
 - On Windows
 - cygwin-x86
 - vxWorks-68040
 - On Solaris
 - solaris-sparc (outside Eclipse)

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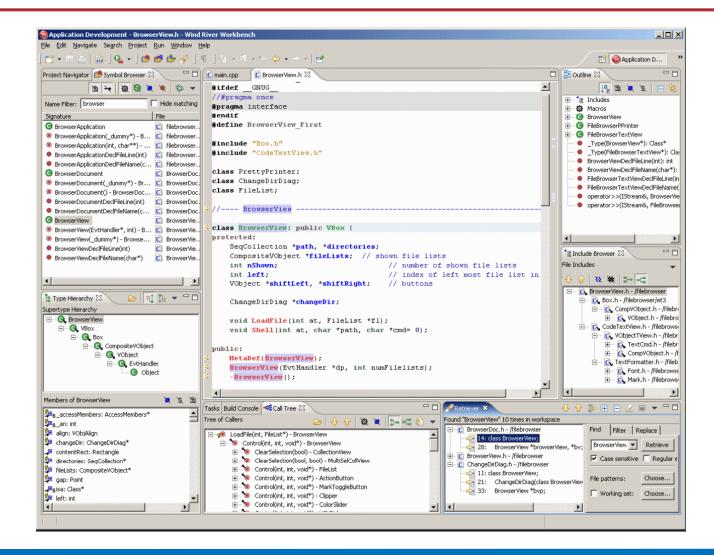


Eclipse Team Support CVS via GUI



There is also a Subversion plug-in

Wind River Workbench Extensive Features For Devices



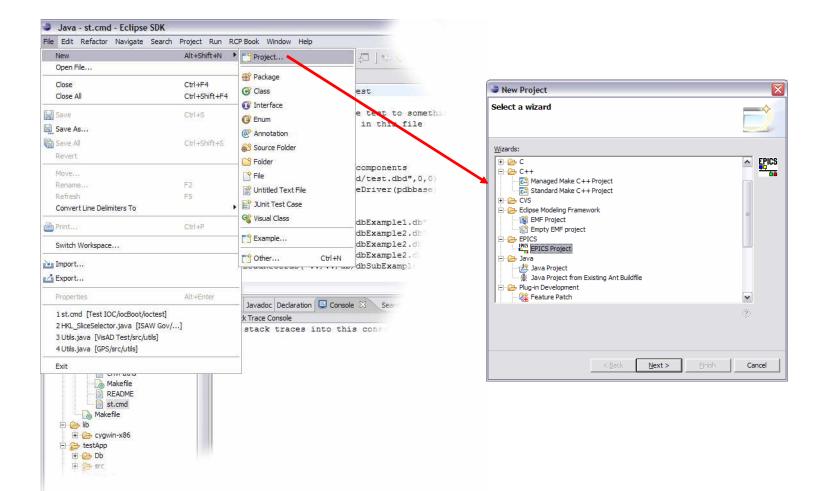


EPICS IDE Plug-in

- Designed to make it simple to manage IOCs
 - Especially for new and inexperienced IOC managers
 - Or those that have other responsibilities
 - Aim is to provide Wizards to ease and speed development
- Most of the work is done by CDT and the EPICS build system
- The EPICS IDE has its own nature plus C/C++ natures
 - Thus it has all the features of a C/C++ project and more of its own
- Relies on EPICS MakeBaseApp to create new projects and applications
- Is not limited to IOCs
 - Will also do applications
 - Actually, anything with a template MakeBaseApp understands



Wizards Appear Along with Other Eclipse Wizards





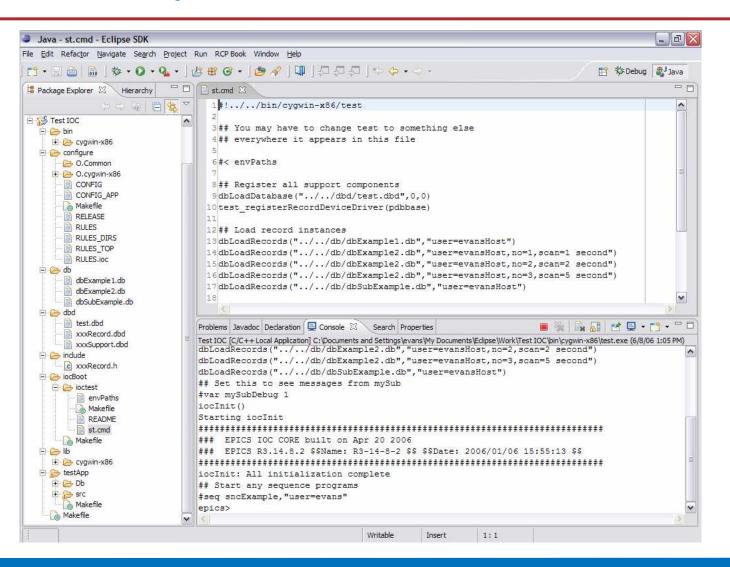
EPICS IDE New Project Wizard

- You can make an empty EPICS project or a project based on a template
 - Example application (xxxApp)
 - Example IOC (iocyyy)
- If examples are selected, you specify:
 - EPICS base
 - Target architecture (HOST_ARCH)
 - Names and other parameters
- Choose from available types and architectures
- Dialog is populated from
 - MakeBaseApp
 - Looking at what is built in base
 - Dialog checks responses are valid

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Result of New Project Wizard





EPICS IDE New Application Wizard

- Add to the project via the New menu on a selected project, folder, file, etc.
 - e.g. add an IOC
- Dialog is populated from
 - Project properties
 - MakeBaseApp
 - Looking at available builds

Sector 10 (1998)
EPICS Application
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EPICS IDE Preferences and Properties

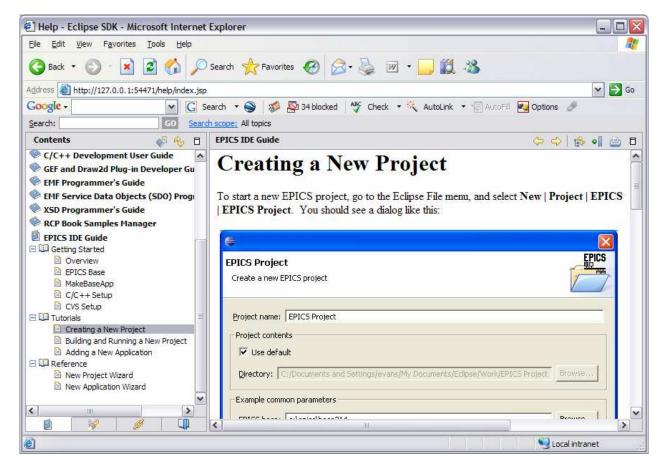
- Preferences exist to set defaults
 - Window | Preferences | EPICS IDE
- Properties are set for a project
 - By the New Project Wizard or by the user

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EPICS IDE Help

Help is implemented as separate plug-in (gov.anl.epics.ide.help)



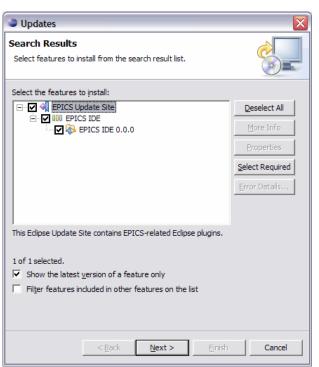


EPICS IDE Feature

Is implemented as a Feature with an Update Site

- http://www.aps.anl.gov/epics/eclipse/updates
- Web page is at
 - http://aps.anl.gov/epics/eclipse/plugins/epicsIde/epicsIde.html

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	Version: 3.1.2 Build id: M20060118-1600
	(c) Copyright Eclipse contributors and others 2000, 2005. All rights reserved Visit http://www.eclipse.org/platform
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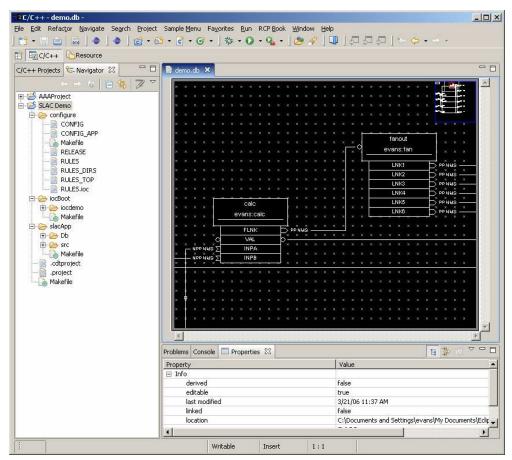




VisualDCT in Eclipse

This picture came from Photoshop, not Eclipse

- But it can be done



Thank You

This has been an APS Controls Presentation

