Contributing to Eclipse

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Agenda

- How to contribute
- Bugzilla – issue tracking
- Setup a development environment
- Getting the right sources
- Build and Locate the problem
- Contributing the changes through Gerrit

Contributing

- Eclipse technology is an open development platform supplying frameworks and exemplary, extensible tools
- Eclipse community is a unique open source community. Not only are we interested in building open source code, we are equally committed to creating a commercially successful ecosystem around that code.

- Many way to contribute to community:
  - Report bugs you find
  - Got an idea that would make tools better – submit request for enhancements
  - Submit bug fixes for things that bothers you.
  - Start a new project or become a committer.
  - Share your knowledge through forums, blogs articles.

Reporting issue

- Reporting hidden issues, new use-case, ideas for improvements are always welcome.

  http://bugs.eclipse.org/bugs/

- You will need an eclipse.org account to login

  https://dev.eclipse.org/site_login/createaccount.php

- When reporting issue please specify detailed environment, e.g. what product (e.g. CDT 8.2 Kepler), what host and important for CDT about external dependencies like GCC and GDB version.

Setup development environment for CDT

- Install PDE tools: Eclipse SDK Kepler
- Install target product: CDT 8.2
- In CDT 8.2 , using “Install new features”, install CDT SDK + Platform SDK, optionally Eclipse Test Framework to run unit tests
- In Eclipse SDK setup:
  - CDT target platform to build and debug CDT product
  - API baseline to verify that code changes to not break compatibility
  - Eclipse plugin Launch Configuration. Can leave default options. Recommend to pass “-XX:MaxPermSize=256m” to java VM args
- Now you should be able to run and debug CDT product

Getting the sources

- Most of eclipse projects maintain sources in Git. See https://git.eclipse.org/c/
- Project home pages have details on how to get sources. http://projects.eclipse.org/list-of-projects
- You do not have to build everything. Just the plugins you are interested to modify. PDE runtime will make sure to setup Equinox to load changed plugins in the target product.
- Get “master” CDT sources from Git:
  - Command line “git clone http://git.eclipse.org/gitroot/cdt/org.eclipse.cdt.git”
  - Using “Clone Git Repositories” command from “Git Repositories” view
  - Using “Import Projects from Git”.
- When cloning sources you have to specify branch to clone. Usually “master” will be sufficient . it contains the latest sources in development.
- Open the project of interest for GDB debug support:
  - org.eclipse.cdt.dsf.gdb.
- You can import projects on as needed bases when you discover that have to modify it. Until then you have source level information for all of CDT plugins from CDT SDK you have installed previously

Locate problem and fix example

- Fixing passing empty argument to debugged application
- http://bugs.eclipse.org/bugs/show_bug.cgi?id=412471

- Hint to locate area to investigate:
  - Look at gdb trace console to see what is passed over gdb-mi
  - MIGDBSetArgs command

- Patch sources and verify.
  - Possible solution is in MIStandardParameterAdjustable

Setup Gerrit

Setup a Gerrit remote on your local git repo of CDT. Below is the procedure using EGit:

- Open 'git repositories' view
- Expand the repo that corresponds to the CDT repo
- Right-click on 'Remotes' and select "Create remote..."
- Give it a name like "gerrit_eclipse" and leave "configure push" selected
- Click on the 'Change...' button, next to the 'URI' text box
- Use the following URI https://git.eclipse.org/r/cdt/org.eclipse.cdt.git
- In the Ref mapping section, add a RefSpec specification of HEAD:refs/for/master

Submitting fix proposal

- Make sure the git sources are fresh (fetch + rebase)
- Commit the code you want to review to a local branch
  - Create local branch from local master. e.g. “review412471”
  - From “Git Staging” view:
    - Add modified file to git index
    - Commit and push to local branch
- Push changes from local branch to gerrit:
  - Right-click on the repo in the Git Repositories view and select "Push..."
  - Select the gerrit remote and press Next
  - Authorize with credentials from https://git.eclipse.org/r/#/settings/http-password
- After the fix has been reviewed by a committer it will be promoted to CDT sources

Additional material

- http://www.eclipse.org/contribute/
- http://wiki.eclipse.org/CDT/git#Using_Gerrit_for_CDT
- http://wiki.eclipse.org/Getting_started_with_CDT_development
- http://wiki.eclipse.org/Git
- wiki.eclipse.org/Gerrit
- http://wiki.eclipse.org/Development_Resources/Contributing_via_Git