



阅读CDT plugins插件代码

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01 ToolchainDefinition.java

ilg.gnuclipse.managedbuild.cross.riscv

```
// 2032619395
public static final String RISC_V_GCC_NEWLIB = "RISC-V GCC/Newlib";
// 344399268
public static final String RISC_V_GCC_LINUX = "RISC-V GCC/Linux";
// 339524431
public static final String RISC_V_GCC RTEMS = "RISC-V GCC/RTEMS";
// 512258282
public static final String GME_RISCV_GCC = "GNU MCU RISC-V GCC";

public static final String DEFAULT_TOOLCHAIN_NAME = GME_RISCV_GCC;
```

01 ToolchainDefinition.java

```
public ToolchainDefinition(String sName) {
    fName = sName;
    fHash = fName.hashCode(); //获取哈希值
    fPrefix = "";
    fSuffix = "";
    fArchitecture = "risc-v"; //定义架构
    fCmdMake = "make";        //构建命令
    fCmdRm = "rm";            //删除命令
    fCmdC = "gcc";            //调用gcc的命令
    fCmdCpp = "g++";          //调用g++的命令
    fCmdAr = "ar";            //调用ar的命令
    fCmdObjcopy = "objcopy";  //复制二进制文件的命令
    fCmdObjdump = "objdump";  //反汇编命令
    fCmdSize = "size";
}

public ToolchainDefinition(String sName, String sPrefix) {
    this(sName);
    fPrefix = sPrefix;
}

public ToolchainDefinition(String sName, String sPrefix, String sArchitecture) {
    this(sName, sPrefix);
    fArchitecture = sArchitecture;
}

public ToolchainDefinition(String sName, String sPrefix, String sArchitecture, String cmdMake, String cmdRm) {
    this(sName, sPrefix, sArchitecture);
    fArchitecture = sArchitecture;
    fCmdMake = cmdMake;
    fCmdRm = cmdRm;
}
```

01 ToolchainDefinition.java

```
public static int findToolchainByName(String sName) {

    int i = 0;
    for (ToolchainDefinition td : fgList) {
        if (td.fName.equals(sName))
            return i;
        i++;
    }
    // not found
    throw new IndexOutOfBoundsException();
}

public static int findToolchainByFullName(String sName) {

    int i = 0;
    for (ToolchainDefinition td : fgList) {
        String sFullName = td.getFullName();
        if (sFullName.equals(sName))
            return i;
        i++;
    }
    // not found
    return getDefault();
}
```

01 ToolchainDefinition.java

```
// Initialise the list of known toolchains
static {
    fgList = new ArrayList<ToolchainDefinition>();

    // 0
    fgList.add(new ToolchainDefinition(GME_RISCV_GCC, "riscv-none-embed-"));

    // 1
    fgList.add(new ToolchainDefinition(RISC_V_GCC_NEWLIB, "riscv64-unknown-elf-"));

    // 2
    fgList.add(new ToolchainDefinition(RISC_V_GCC_LINUX, "riscv64-unknown-linux-gnu-"));

    // 3
    fgList.add(new ToolchainDefinition(RISC_V_GCC RTEMS, "riscv64-unknown-rtems-"));

    // Enumerate extension points and add custom toolchains.
    addToolchains();
}
```

org.eclipse.cdt.managedbuilder.ui.newWizardPages

All Extensions

Define extensions for this plug-in in the following section.

type filter text

- ▶ org.eclipse.cdt.managedbuilder.core.buildDefinitions
- ▼ org.eclipse.cdt.managedbuilder.ui.newWizardPages
 - ▶ **X (wizardPage)**
- ▶ org.eclipse.core.contenttype.contentTypes
- ▶ org.eclipse.cdt.core.templates
- ▶ org.eclipse.cdt.core.templateAssociations
- ▶ org.eclipse.cdt.core.LanguageSettingsProvider
- ▶ org.eclipse.cdt.ui.cPropertyTab
- ▶ ilg.gnuclipse.debug.core.cprojectExtra
- ▶ org.eclipse.ui.preferencePages
- ▶ org.eclipse.ui.propertyPages
- ▶ org.eclipse.core.runtime.preferences
- ▶ org.eclipse.core.expressions.propertyTesters
- ▶ ilg.gnuclipse.managedbuild.cross.riscv.toolchains

Extension Element Details

Set the properties of 'wizardPage' Required fields are denoted by '*'.

ID:	ilg.gnuclipse.managedbuild.cross.riscv.setCrossCommandWizardPage
operationClass:	ilg.gnuclipse.managedbuild.cross.riscv.ui.SetCrossCommandWizardOperation
pageClass:	ilg.gnuclipse.managedbuild.cross.riscv.ui.SetCrossCommandWizardPage

02 Wizard Page

SetCrossCommandWizardPage.java

ilg.gnuclipse.managedbuild.cross.riscv.ui

```
if (fSelectedToolchainName != null && fSelectedToolchainName.length() > 0) {
    try {
        fSelectedToolchainIndex = ToolchainDefinition.findToolchainByName(fSelectedToolchainName);
    } catch (IndexOutOfBoundsException e) {
        fSelectedToolchainIndex = ToolchainDefinition.getDefault();
    }
} else {
    fSelectedToolchainIndex = ToolchainDefinition.getDefault();
    fSelectedToolchainName = ToolchainDefinition.getToolchain(fSelectedToolchainIndex).getName();
}

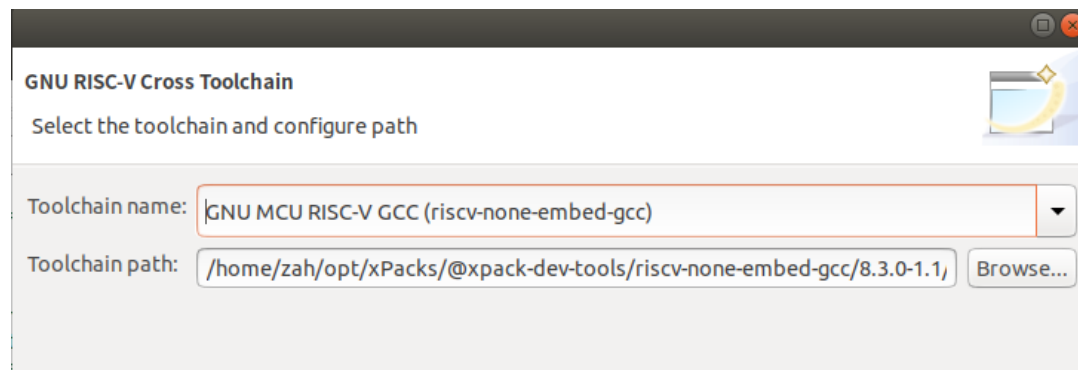
fPathTxt = new Text(fComposite, SWT.SINGLE | SWT.BORDER);
String crossCommandPath = persistentPreferences.getToolchainPath(fSelectedToolchainName, null);
fPathTxt.setText(crossCommandPath);
updatePathProperty();

layoutData = new GridData(SWT.FILL, SWT.CENTER, true, false, 1, 1);
fPathTxt.setLayoutData(layoutData);
fPathTxt.addModifyListener(new ModifyListener() {

    public void modifyText(ModifyEvent e) {

        updatePathProperty();

    }
});
```



02 Wizard Page

SetCrossCommandWizardOperation.java

ilg.gnuclipse.managedbuild.cross.riscv.ui

```
String toolchainName = (String) MBSCustomPageManager.getPageProperty(SetCrossCommandWizardPage.PAGE_ID,  
    SetCrossCommandWizardPage.CROSS_TOOLCHAIN_NAME);  
String path = (String) MBSCustomPageManager.getPageProperty(SetCrossCommandWizardPage.PAGE_ID,  
    SetCrossCommandWizardPage.CROSS_TOOLCHAIN_PATH);
```

03 Preference Page

org.eclipse.ui.preferencePages

All Extensions

Define extensions for this plug-in in the following section.

- ▶ org.eclipse.cdt.managedbuilder.core.buildDefinitions
- ▶ org.eclipse.cdt.managedbuilder.ui.newWizardPages
- ▶ org.eclipse.core.contenttype.contentTypes
- ▶ org.eclipse.cdt.core.templates
- ▶ org.eclipse.cdt.core.templateAssociations
- ▶ org.eclipse.cdt.core.LanguageSettingsProvider
- ▶ org.eclipse.cdt.ui.cPropertyTab
- ▶ ilg.gnuclipse.debug.core.cprojectExtra
- ▼ **org.eclipse.ui.preferencePages**
 - ✕ Workspace RISC-V Toolchains Paths (page)
 - ✕ Global RISC-V Toolchains Paths (page)
- ▶ org.eclipse.ui.propertyPages
- ▶ org.eclipse.core.runtime.preferences
- ▶ org.eclipse.core.expressions.propertyTesters
- ▶ ilg.gnuclipse.managedbuild.cross.riscv.toolchains

id*: ilg.gnuclipse.managedbuild.cross.riscv.preferencePage.workspaceToolchainsPaths

name*: %preferences.workspaceToolchainsPaths

class*: ilg.gnuclipse.managedbuild.cross.riscv.ui.preferences.WorkspaceToolchainsPathsPreferencesPage

category: ilg.gnuclipse.core.ui.preferences.mcu

id*: ilg.gnuclipse.managedbuild.cross.riscv.preferencePage.globalToolchainsPaths

name*: %preferences.globalToolchainsPaths

class*: ilg.gnuclipse.managedbuild.cross.riscv.ui.preferences.GlobalToolchainsPathsPreferencesPage

category: ilg.gnuclipse.core.ui.preferences.mcu

03 Preference Page

GlobalToolchainsPathsPreferencesPage.java

ilg.gnuclipse.managedbuild.cross.riscv.ui.preferences

```
protected void createFieldEditors() {

    boolean isStrict;

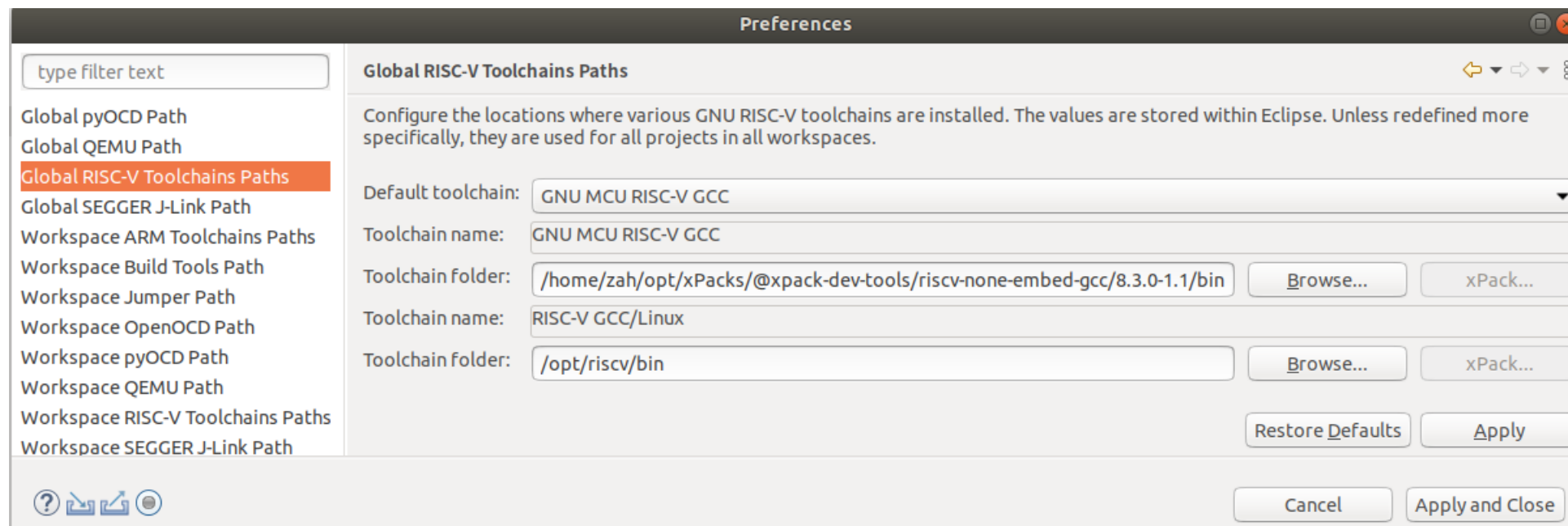
    FieldEditor toolchainNameField = new ToolchainsFieldEditor(PersistentPreferences.TOOLCHAIN_NAME_KEY,
        Messages.ToolchainName_label, getFieldEditorParent());
    addField(toolchainNameField);

    Set<String> toolchainNames = new HashSet<String>();

    IProject[] projects = ResourcesPlugin.getWorkspace().getRoot().getProjects();
    for (int i = 0; i < projects.length; ++i) {
        IConfiguration[] configs = EclipseUtils.getConfigurationsForProject(projects[i]);
        if (configs != null) {
            for (int j = 0; j < configs.length; ++j) {
                IToolChain toolchain = configs[j].getToolChain();
                if (toolchain == null) {
                    continue;
                }
                IOption option = toolchain.getOptionBySuperClassId(Option.OPTION_TOOLCHAIN_NAME);
                if (option == null) {
                    continue;
                }
                try {
                    String name = option.getStringValue();
                    if (!name.isEmpty()) {
                        toolchainNames.add(name);
                    }
                } catch (BuildException e) {
                    ;
                }
            }
        }
    }
}
```

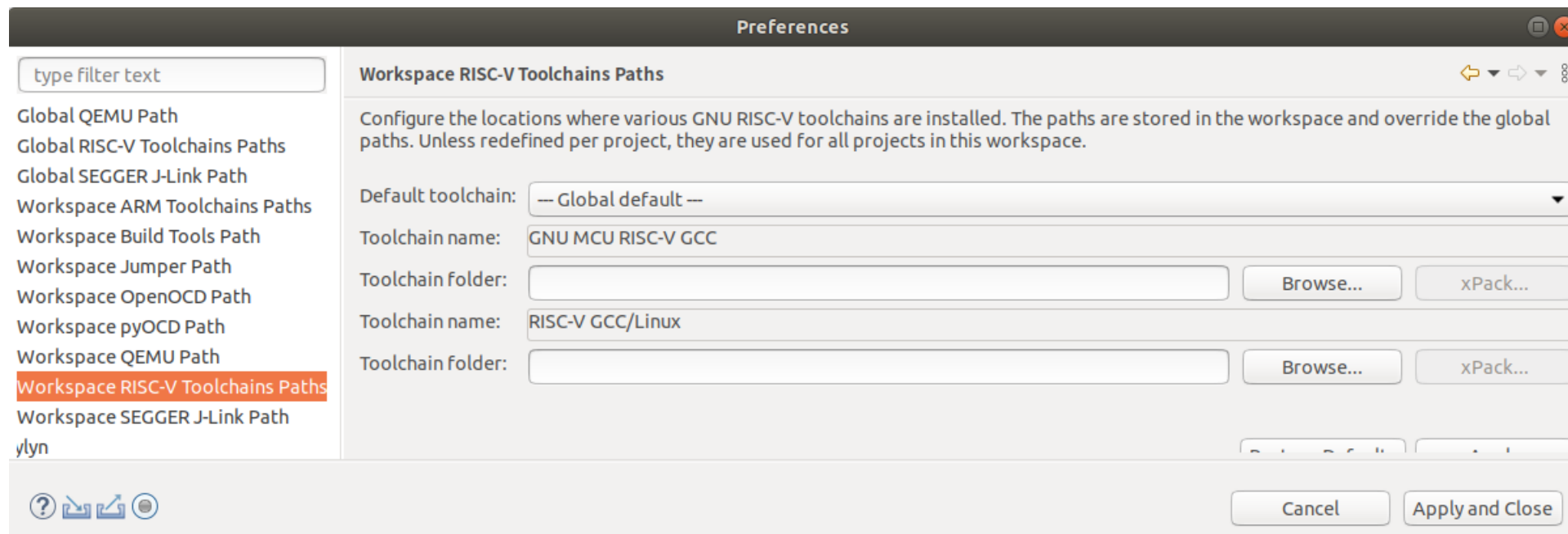
03 Preference Page

GlobalToolchainsPathsPreferencesPage.java



03 Preference Page

WorkspaceToolchainsPathsPreferencesPage.java



04 Property Page

org.eclipse.ui.propertyPages

ilg.gnuclipse.managedbuild.cross.riscv.ui.properties

All Extensions

Define extensions for this plug-in in the following section.

type filter text

- org.eclipse.cdt.managedbuilder.core.buildDefinitions
- org.eclipse.cdt.managedbuilder.ui.newWizardPages
- org.eclipse.core.contenttype.contentTypes
- org.eclipse.cdt.core.templates
- org.eclipse.cdt.core.templateAssociations
- org.eclipse.cdt.core.LanguageSettingsProvider
- org.eclipse.cdt.ui.cPropertyTab
- ilg.gnuclipse.debug.core.cprojectExtra
- org.eclipse.ui.preferencePages
- org.eclipse.ui.propertyPages
 - RISC-V Toolchains Paths (page)**
- org.eclipse.core.runtime.preferences
- org.eclipse.core.expressions.propertyTesters
- ilg.gnuclipse.managedbuild.cross.riscv.toolchains

Extension Element Details

Set the properties of 'page'. Required fields are denoted by '*'. Deprecated fields are denoted by '(!)'.

id*:

ilg.gnuclipse.managedbuild.cross.riscv.properties.toolchainsPage

name*:

%properties.projectToolchainsPaths

class*:

ilg.gnuclipse.managedbuild.cross.riscv.ui.properties.**ProjectToolchainsPathPropertiesPage** Browse...

Properties for hello_rcp

type filter text

- Builders
 - C/C++ Build
 - C/C++ General
 - Linux Tools Path
- MCU
 - Build Tools Path
 - Jumper Path
 - OpenOCD Path
 - pyOCD Path
 - QEMU Path
 - RISC-V Toolchains Paths**
 - SEGGER J-Link Path
- Project Natures
- Project References
- Run/Debug Settings
- Task Repository
- Task Tags
- Validation
- WikiText

RISC-V Toolchains Paths

Configure the location where various GNU RISC-V toolchains are installed. The values are stored in the workspace (not in the project). They are used for all build configurations of this project, and override the workspace or global paths.

Toolchain name: GNU MCU RISC-V GCC

Toolchain folder: Browse... xPack...

Restore Defaults Apply

?

Cancel Apply and Close

org.eclipse.cdt.managedbuilder.core.buildDefinitions

All Extensions

Define extensions for this plug-in in the following section.

type filter text

▼

org.eclipse.cdt.managedbuilder.core.buildDefinitions

4.0.0 (managedBuildRevision)

Common options (tool)

Compiler common options (tool)

Linker common options (tool)

RISC-V Targets common options (tool)

RISC-V Cross GCC (toolChain)

ilg.gnuclipse.managedbuild.cross.riscv.target.elf (projectType)

ilg.gnuclipse.managedbuild.cross.riscv.target.so (projectType)

ilg.gnuclipse.managedbuild.cross.riscv.target.lib (projectType)

org.eclipse.cdt.managedbuilder.ui.newWizardPages

org.eclipse.core.contenttype.contentTypes

org.eclipse.cdt.core.templates

org.eclipse.cdt.core.templateAssociations

org.eclipse.cdt.core.LanguageSettingsProvider

org.eclipse.cdt.ui.cPropertyTab

ilg.gnuclipse.debug.core.cprojectExtra

org.eclipse.ui.preferencePages

org.eclipse.ui.propertyPages

org.eclipse.core.runtime.preferences

org.eclipse.core.expressions.propertyTesters

ilg.gnuclipse.managedbuild.cross.riscv.toolchains

Extension Element Details

Set the properties of 'toolChain' Required fields are denoted by '*'.

archList:	all
configurationEnvironmentSupplier:	ilg.gnuclipse.managedbuild.cross.riscv.EnvironmentVariableSupplier
configurationMacroSupplier:	ilg.gnuclipse.managedbuild.cross.riscv.ConfigurationBuildMacroSupplier
id:	ilg.gnuclipse.managedbuild.cross.riscv.toolchain.base
isAbstract:	false
languageSettingsProviders:	org.eclipse.cdt.managedbuilder.core.GCCBuildCommandParser;ilg.gnuclipse.managedbuild.cross.riscv.LanguageSettingsProvider
name:	%toolchain.name
osList:	all
targetTool:	ilg.gnuclipse.managedbuild.cross.riscv.tool.c.linker;ilg.gnuclipse.managedbuild.cross.riscv.tool.c.preprocessor

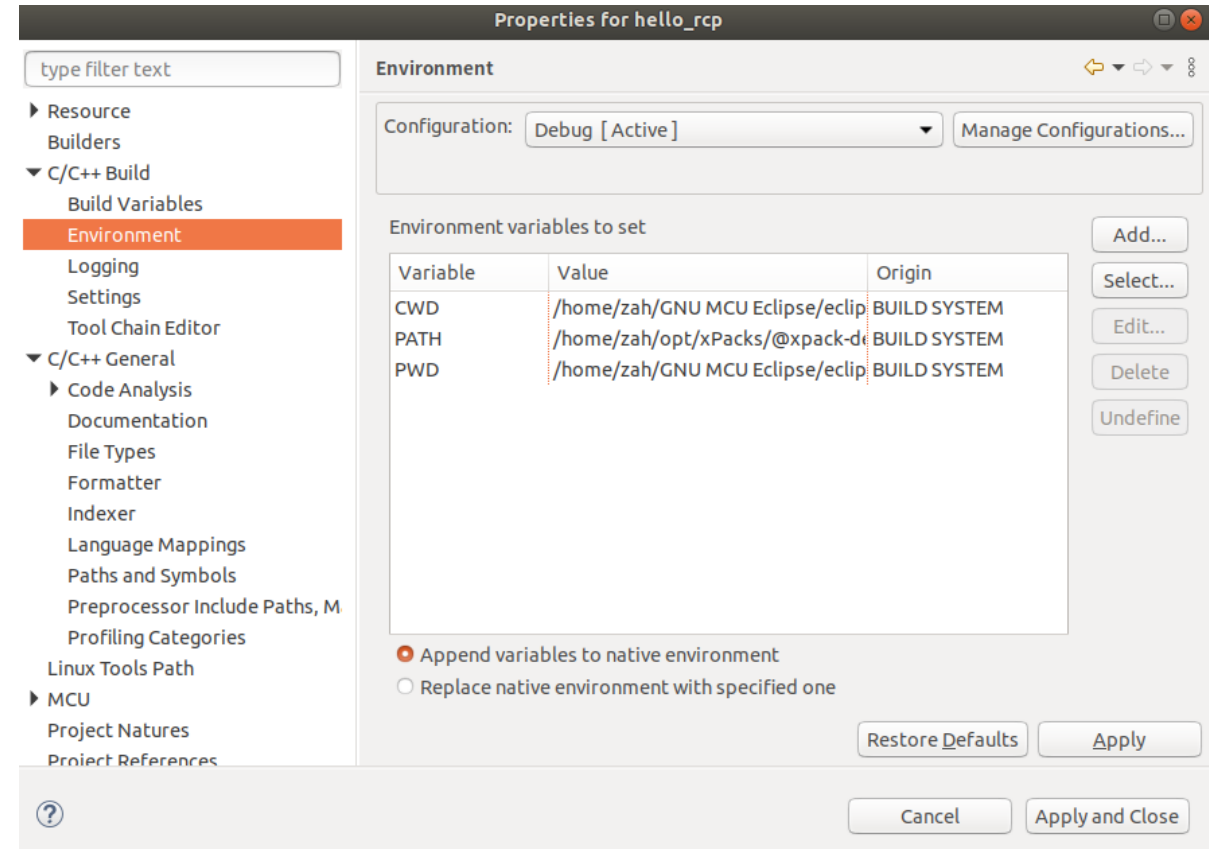
04 Property Page

EnvironmentVariableSupplier.java

ilg.gnuclipse.eclipse.managedbuild.cross.riscv

create ()

```
.95 // Get the toolchain path from this plug-in store.
.96 PersistentPreferences persistentPreferences = Activator.getInstance().getPersistentPreferences();
.97 // Get the most specific toolchain path (project, workspace,
.98 // Eclipse, defaults).
.99 toolchainPath = persistentPreferences.getToolchainPath(toolchainName, project);
.100
.101 if (path.isEmpty()) {
.102     path = toolchainPath;
.103 } else {
.104     if (!toolchainPath.isEmpty()) {
.105         // Concatenate build tools path with toolchain path.
.106         path += EclipseUtils.getPathSeparator();
.107         path += toolchainPath;
.108     }
.109 }
```



ConfigurationBuildMacroSupplier.java

ilg.gnuclipse.managedbuild.cross.riscv

```
public IBuildMacro[] getMacros(IConfiguration configuration, IBuildMacroProvider provider) {  
  
    IToolChain toolchain = configuration.getToolChain();  
    ArrayList<IBuildMacro> oMacrosList = new ArrayList<IBuildMacro>();  
  
    String sValue;  
    for (String cmd : fCmds) {  
        String sId = Option.OPTION_PREFIX + ".command." + cmd.replace("cross_", "");  
  
        IOption option = toolchain.getOptionBySuperClassId(sId); // $NON-NLS-1$  
        if (option != null) {  
            sValue = (String) option.getValue();  
  
            oMacrosList.add(new BuildMacro(cmd, BuildMacro.VALUE_TEXT, sValue));  
        }  
    }  
  
    sValue = Option.getToolChainFlags(configuration);  
    if (sValue != null && sValue.length() > 0) {  
        oMacrosList.add(new BuildMacro(CROSS_FLAGS, BuildMacro.VALUE_TEXT, sValue));  
    }  
  
    return oMacrosList.toArray(new IBuildMacro[0]);  
}
```

04 Property Page

org.eclipse.cdt.managedbuilder.core.buildDefinitions

All Extensions

Define extensions for this plug-in in the following section.

type filter text

org.eclipse.cdt.managedbuilder.core.buildDefinitions

- 4.0.0 (managedBuildRevision)
- Common options (tool)
- Compiler common options (tool)
- Linker common options (tool)
- RISC-V Targets common options (tool)
- RISC-V Cross GCC (toolChain)**
 - ilg.gnuclueclipse.managedbuild.cross.riscv.targetPlatform (targetPlatform)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.builder (builder)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.prefix (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.suffix (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.c (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.cpp (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.ar (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.objcopy (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.objdump (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.size (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.make (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.command.rm (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.toolchain.useglobalpath (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.toolchain.path (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.addtools.createflash (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.addtools.createlisting (option)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.addtools.printsize (option)
 - Target Processor (optionCategory)
 - ilg.gnuclueclipse.managedbuild.cross.riscv.option.target.isa.base (option)

Properties for hello_rcp

type filter text

Settings

Configuration: Debug [Active] Manage Configurations...

< Tool Settings Toolchains Devices Container Settings Build Steps Build Artifact >

Name: GNU MCU RISC-V GCC (riscv-none-embed-gcc)

Architecture: RISC-V

Prefix: riscv-none-embed-

Suffix:

C compiler: gcc

C++ compiler: g++

Archiver: ar

Hex/Bin converter: objcopy

Listing generator: objdump

Size command: size

Build command: make

Remove command: rm

Toolchain path: /home/zah/opt/xPacks/@xpack-dev-tools/riscv-none-embed-gcc/8.3.0-1.1/bin
(to change it use the [global](#) or [workspace](#) preferences pages or the [project](#) properties page)

Build tools path:
(to change it use the [global](#) or [workspace](#) preferences pages or the [project](#) properties page)

☒ Create flash image
☐ Create extended listing
☒ Print size

04 Property Page

org.eclipse.cdt.managedbuilder.core.buildDefinitions

All Extensions

Define extensions for this plug-in in the following section.

type filter text

- ilg.gnuclib.managedbuild.cross.riscv.option.debugging.format (option)
- ilg.gnuclib.managedbuild.cross.riscv.option.debugging.prof (option)
- ilg.gnuclib.managedbuild.cross.riscv.option.debugging.gprof (option)
- ilg.gnuclib.managedbuild.cross.riscv.option.debugging.other (option)
- GNU RISC-V Cross Assembler (tool)
- GNU RISC-V Cross C Compiler (tool)
 - (supportedProperties)
 - (envVarBuildPath)
 - ilg.gnuclib.managedbuild.cross.riscv.tool.c.compiler.input (inputType)
 - ilg.gnuclib.managedbuild.cross.riscv.tool.c.compiler.output (outputType)
 - Preprocessor (optionCategory)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.nostdinc (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.preprocessonly (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.defs (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.undef (option)
 - Includes (optionCategory)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.include.paths (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.include.systempaths (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.include.files (option)
 - Optimization (optionCategory)
 - Language standard (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.otheroptimizations (option)
 - Warnings (optionCategory)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.warning.missingprototypes (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.warning.strictprototypes (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.warning.badfunctioncast (option)
 - ilg.gnuclib.managedbuild.cross.riscv.option.c.compiler.otherwarnings (option)

Properties for hello_rcp

type filter text

Settings

Configuration: Debug [Active] Manage Configurations...

Tool Settings Toolchains Devices Container Settings Build Steps Build Artifact

Target Processor

Optimization

Warnings

Debugging

GNU RISC-V Cross Assembler

Preprocessor

Includes

Warnings

Miscellaneous

GNU RISC-V Cross C Compiler

Preprocessor

Includes

Optimization

Warnings

Miscellaneous

GNU RISC-V Cross C Linker

General

Libraries

Miscellaneous

GNU RISC-V Cross Create Flash Image

General

Command: \${cross_prefix}\${cross_c}\${cross_suffix}

All options: -std=gnu11

Expert settings:

Command line pattern: \${COMMAND} \${cross_toolchain_flags} \${FL

Cancel Apply and Close

04 Property Page

TabToolchains.java

```
// ----- Toolchain -----
Label toolchainLbl = new Label(usercomp, SWT.NONE);
toolchainLbl.setLayoutData(new GridData(GridData.BEGINNING));
toolchainLbl.setText(Messages.ToolChainSettingsTab_name);

fToolchainCombo = new Combo(usercomp, SWT.DROP_DOWN);
layoutData = new GridData(SWT.FILL, SWT.CENTER, true, false, 2, 1);
fToolchainCombo.setLayoutData(layoutData);

fToolchainCombo.addSelectionListener(new SelectionAdapter() {
    public void widgetSelected(SelectionEvent event) {
        updateInterfaceAfterToolchainChange();
    }
});

// ----- Architecture -----
Label architectureLbl = new Label(usercomp, SWT.NONE);
architectureLbl.setLayoutData(new GridData(GridData.BEGINNING));
architectureLbl.setText(Messages.ToolChainSettingsTab_architecture);

fArchitectureCombo = new Combo(usercomp, SWT.DROP_DOWN);
layoutData = new GridData();
layoutData.horizontalSpan = 2;
layoutData.widthHint = WIDTH_HINT;
fArchitectureCombo.setLayoutData(layoutData);

// ----- Prefix -----
Label prefixLabel = new Label(usercomp, SWT.NONE);
prefixLabel.setText(Messages.ToolChainSettingsTab_prefix);

fPrefixText = new Text(usercomp, SWT.SINGLE | SWT.BORDER);
layoutData = new GridData();
layoutData.horizontalSpan = 2;
layoutData.widthHint = WIDTH_HINT;
fPrefixText.setLayoutData(layoutData);
```

```
private void updateInterfaceAfterToolchainChange() {
    if (Activator.getInstance().isDebugging()) {
        System.out.println("riscv.TabToolchains.updateInterfaceAfterToolchainChange()");
    }
    int index;
    try {
        String sSelectedCombo = fToolchainCombo.getText();
        index = ToolchainDefinition.findToolchainByFullName(sSelectedCombo);
    } catch (NullPointerException e) {
        index = 0;
    }
    ToolchainDefinition td = ToolchainDefinition.getToolchain(index);

    index = 0;
    fArchitectureCombo.setText(ToolchainDefinition.getArchitecture(index));

    fPrefixText.setText(td.getPrefix());
    fSuffixText.setText(td.getSuffix());
    fCommandCText.setText(td.getCmdC());
    fCommandCppText.setText(td.getCmdCpp());

    if (isManaged()) {
        fCommandArText.setText(td.getCmdAr());
        fCommandObjcopyText.setText(td.getCmdObjcopy());
        fCommandObjdumpText.setText(td.getCmdObjdump());
        fCommandSizeText.setText(td.getCmdSize());

        fCommandMakeText.setText(td.getCmdMake());
        String oldCommandRm = fCommandRmText.getText();
        String newCommandRm = td.getCmdRm();
        if (oldCommandRm == null || !oldCommandRm.equals(newCommandRm)) {
            // if same value skip it, to avoid remove the makefile
            fCommandRmText.setText(newCommandRm);
        }
    }

    updateToolchainPath(td.getName());
}
```

org.eclipse.cdt.managedbuilder.core.buildDefinitions

All Extensions

Define extensions for this plug-in in the following section.

type filter text

Computer common options (tool)

Linker common options (tool)

RISC-V Targets common options (tool)

Architecture (option)

Toolchain default (enumeratedOptionValue)

RV32I (-march=rv32i*) (enumeratedOptionValue)

RV64I (-march=rv64i*) (enumeratedOptionValue)

RV32E (-march=rv32e*) (enumeratedOptionValue)

RV32G (-march=rv32g*) (enumeratedOptionValue)

RV64G (-march=rv64g*) (enumeratedOptionValue)

Multiply extension (RVM) (option)

Atomic extension (RVA) (option)

Floating point (option)

Compressed extension (RVC) (option)

Integer ABI (option)

Floating point ABI (option)

Code model (option)

Small data limit (option)

Small prologue/epilogue (-msave-restore) (option)

Force string operations to call library functions (-mmemcpy) (option)

Allow use of PLTs (-mplt) (option)

Floating-point divide/sqrt instructions (-mfdiv) (option)

Integer divide instructions (-mdiv) (option)

Tuning (option)

Align (option)

RISC-V Cross GCC (toolChain)

ila.anumcueclipse.managedbuild.cross.riscv.target.elf (projectType)

Extension Element Details

Set the properties of 'enumeratedOptionValue' Required fields are denoted by '*'.

id: ilg.gnu.cueclipse.managedbuild.cross.riscv.option.target.arch.rv64i

isDefault:

name: %option.target.isa.base.rv64i

command: -march=rv64i

Option.java

```

public static final String OPTION_PREFIX = IDs.getIdPrefix() + ".option";

// public static final String OPTION_ARCHITECTURE = OPTION_PREFIX +
// ".architecture";
// public static final String ARCHITECTURE_RISCV = "riscv";

public static final String OPTION_TARGET = OPTION_PREFIX + ".target.";

public static final String OPTION_TARGET_ISA_BASE = OPTION_TARGET + "isa.base";
public static final String OPTION_TARGET_ISA_FP = OPTION_TARGET + "isa.fp";
public static final String OPTION_TARGET_ISA_ATOMIC = OPTION_TARGET + "isa.atomic";
public static final String OPTION_TARGET_ISA_MULTIPLY = OPTION_TARGET + "isa.multiply";
public static final String OPTION_TARGET_ISA_COMPRESSED = OPTION_TARGET + "isa.compressed";

public static String getOptionEnumCommand(IConfiguration config, String sOptionId) {
    IOption option = config.getToolChain().getOptionBySuperClassId(sOptionId);
    String sReturn = null;
    if (option != null) {
        try {
            String sEnumId = option.getStringValue();
            sReturn = option.getEnumCommand(sEnumId).trim();
        } catch (BuildException e) {
            Activator.log(e);
        }
    } else {
        Activator.log("enum command " + sOptionId + " not found");
    }

    return sReturn;
}

```

```

private static String getRiscvTargetIsa(IConfiguration config) {

    String sReturn = "";
    String sValue;

    String sIsa = getOptionEnumCommand(config, OPTION_TARGET_ISA_BASE);
    if (sIsa != null && sIsa.length() > 0) {
        sReturn += sIsa;

        if (!("-march=rv32g".equals(sIsa) || "-march=rv64g".equals(sIsa))) {
            // G equivalent to IMAFD
            sValue = getOptionBooleanCommand(config, OPTION_TARGET_ISA_MULTIPLY);
            if (sValue != null && sValue.length() > 0) {
                sReturn += sValue;
            }
            sValue = getOptionBooleanCommand(config, OPTION_TARGET_ISA_ATOMIC);
            if (sValue != null && sValue.length() > 0) {
                sReturn += sValue;
            }
            sValue = getOptionEnumCommand(config, OPTION_TARGET_ISA_FP);
            if (sValue != null && sValue.length() > 0) {
                sReturn += sValue;
            }
        }
        sValue = getOptionBooleanCommand(config, OPTION_TARGET_ISA_COMPRESSED);
        if (sValue != null && sValue.length() > 0) {
            sReturn += sValue;
        }
    }

    if (sReturn != null) {
        sReturn = sReturn.trim();
    }

    return sReturn;
}

```

谢 谢

欢迎交流合作

2020/05/13