GNU MCU Eclipse及插件的安装和配置

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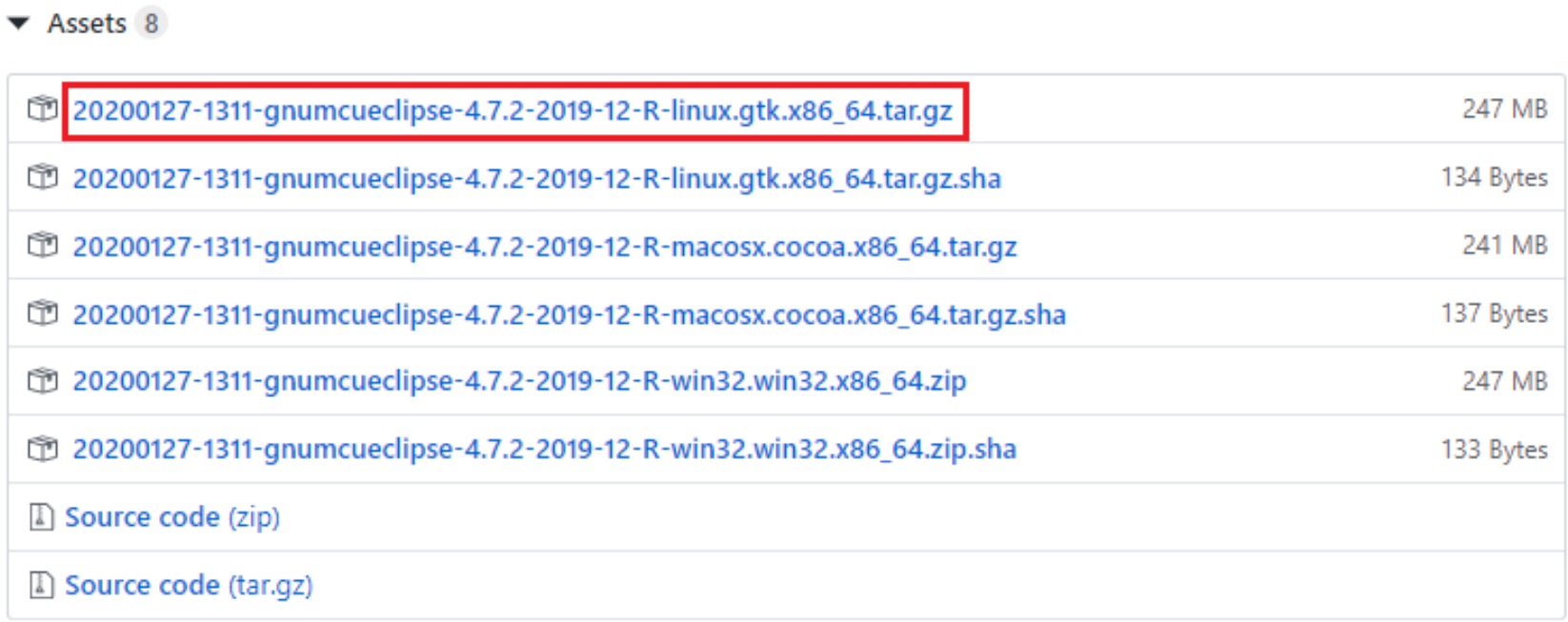
目 录

01 下载安装 IDE for C/C++ Developers

GNU MCU Eclipse IDE for C/C++ Developers

- 下载地址： https://github.com/gnu-mcu-eclipse/org.eclipse.epp.packages/releases/



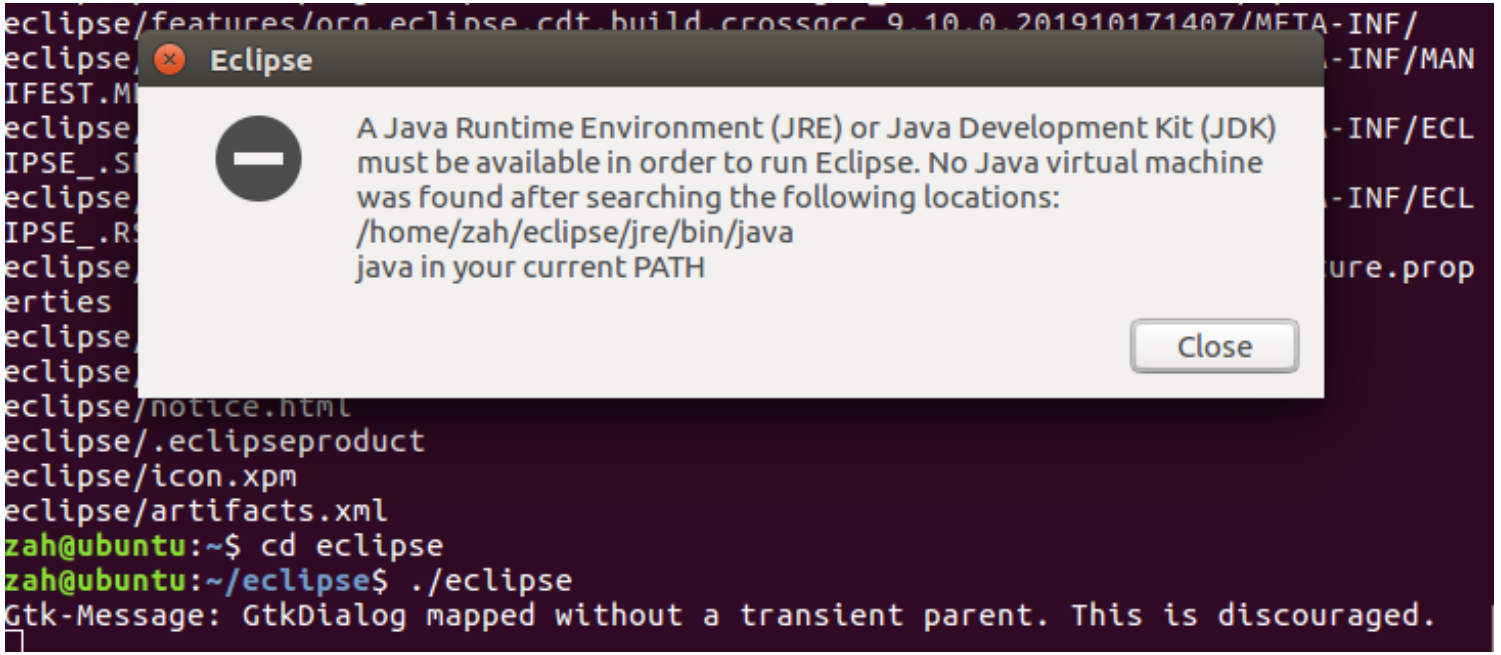
01 下载安装 IDE for C/C++ Developers

GNU MCU Eclipse IDE for C/C++ Developers

- 解压安装包

```
zah@ubuntu:~$ tar -xzvf 20200127-1311-gnumcueclipse-4.7.2-2019-12-R-linux.gtk.x8
6_64.tar.gz
```

- 无法运行



01 下载安装 IDE for C/C++ Developers

下载安装 JDK

- Oracle官网下载地址：https://www.oracle.com/java/technologies/javase-jdk8-downloads.html

Linux x86 Compressed Archive	186.6 MB	jdk-8u251-linux-i586.tar.gz
Linux x64 RPM Package	171.16 MB	jdk-8u251-linux-x64.rpm
Linux x64 Compressed Archive	186.09 MB	jdk-8u251-linux-x64.tar.gz

01 下载安装 IDE for C/C++ Developers

下载安装 JDK

- 解压JDK安装包：在 /usr/local 下创建了个新文件夹 java，将安装包移动到该文件夹下，用 tar –zxvf {name of file} 命令解压。
- 配置环境：用 sudo vim /etc/profile 命令进入配置文件，配置环境变量。

```
export JAVA_HOME=/usr/local/jdk/jdk1.8.0_241
export JRE_HOME=$JAVA_HOME/jre
export CLASSPATH=.:$:CLASSPATH:$JAVA_HOME/lib:$JRE_HOME/lib
export JAVA_PATH=$JAVA_HOME/bin:$JRE_HOME/bin
export PATH=$PATH:$JAVA_PATH
:wq
```

- 更新文件：用 source /etc/profile 命令，立即更新文件。之后重启终端。
- 测试：输入命令 java –version，若显示其版本信息，则安装配置成功。

```
zah@ubuntu:~$ java -version
java version "1.8.0_241"
Java(TM) SE Runtime Environment (build 1.8.0_241-b07)
Java HotSpot(TM) 64-Bit Server VM (build 25.241-b07, mixed mode)
zah@ubuntu:~$
```

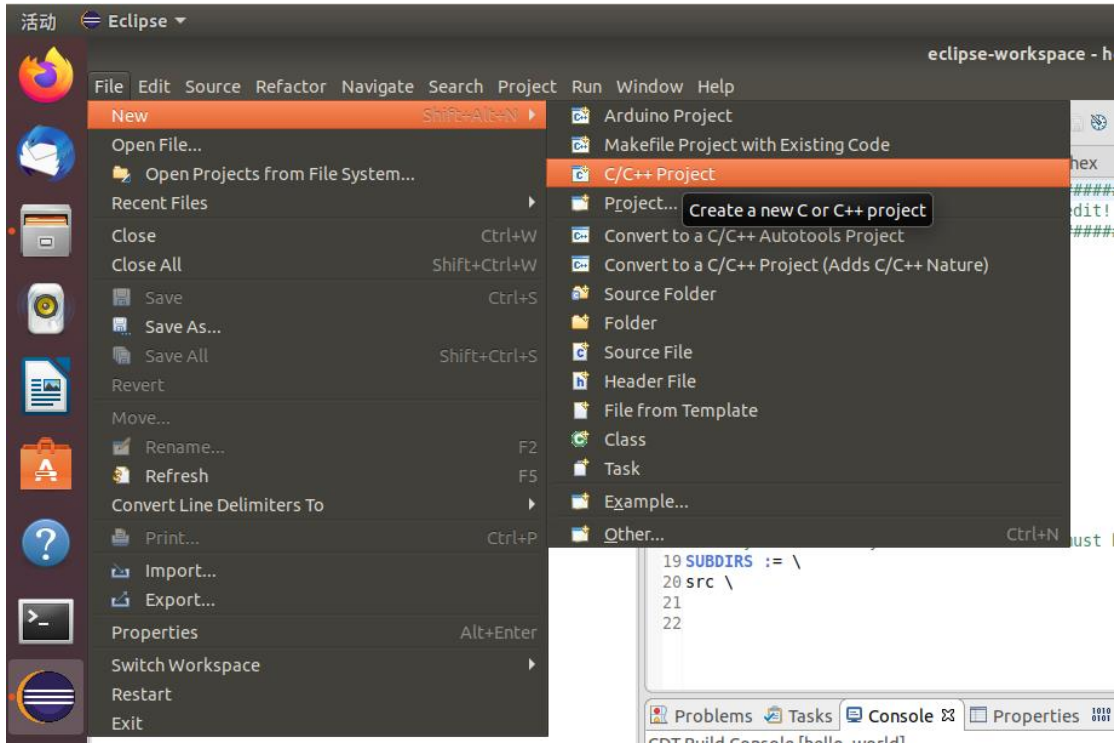
- 重新执行 eclipse 则可成功打开

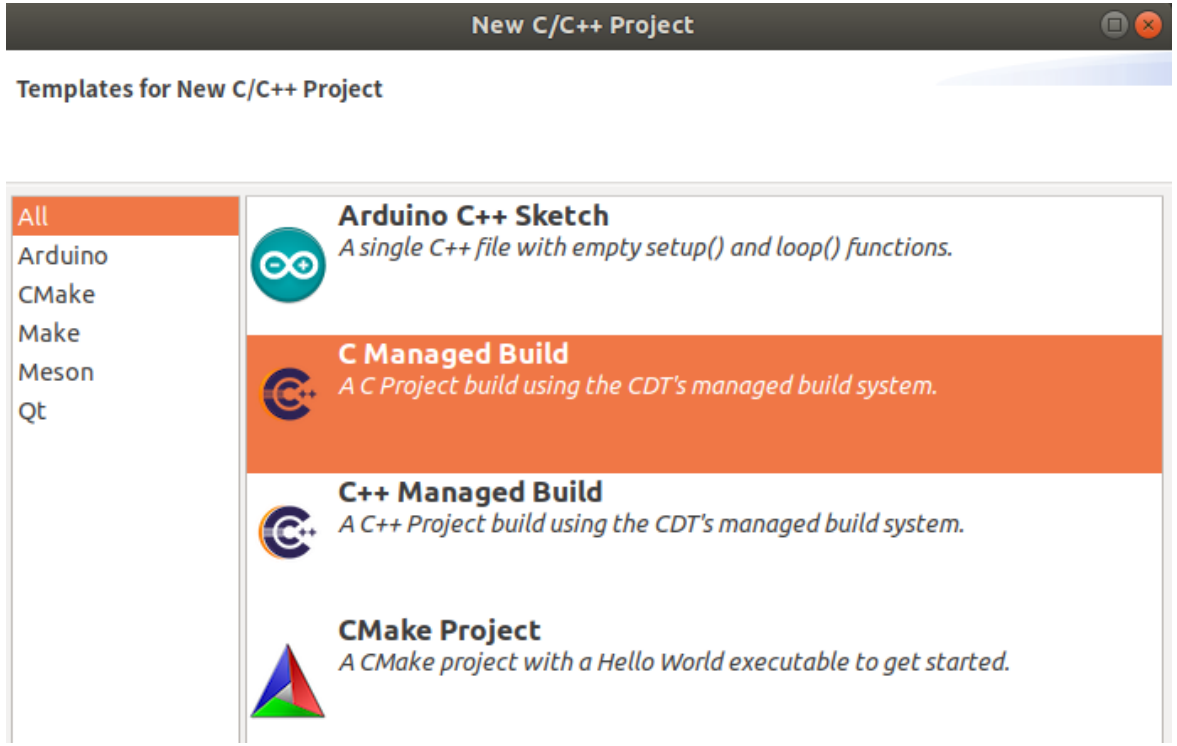
参考资料：

[1] https://blog.csdn.net/qq_42815754/article/details/82968464
[2] https://blog.csdn.net/hua_faded/article/details/80535870

02 初尝试构建项目

创建项目





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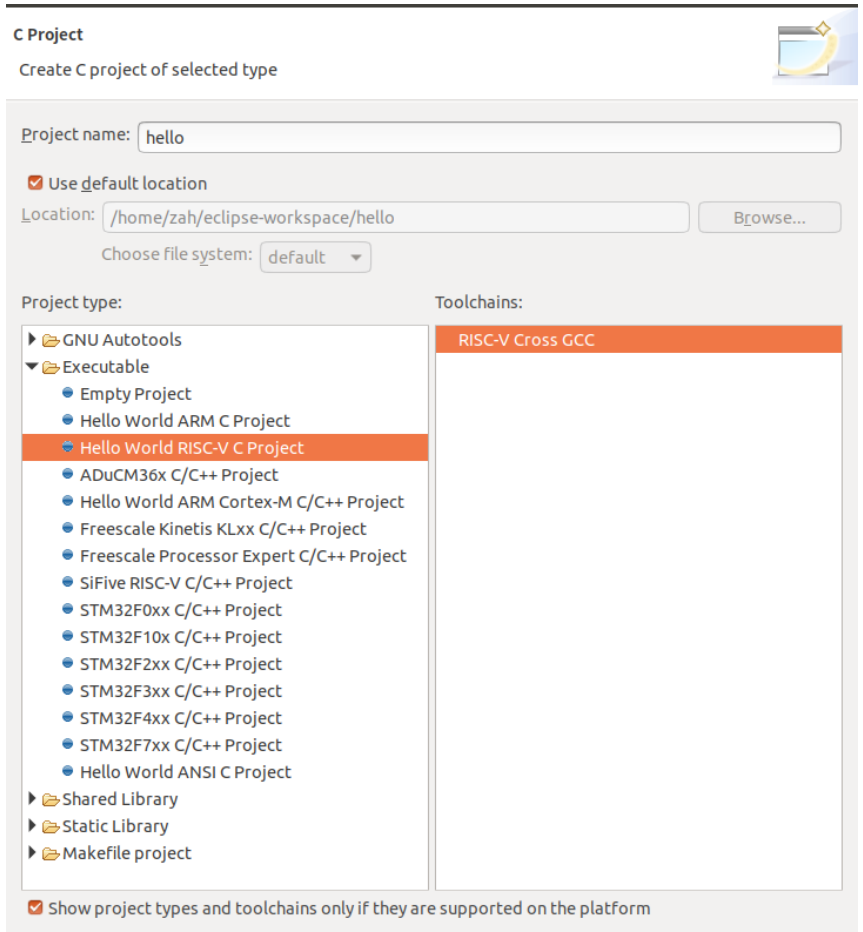
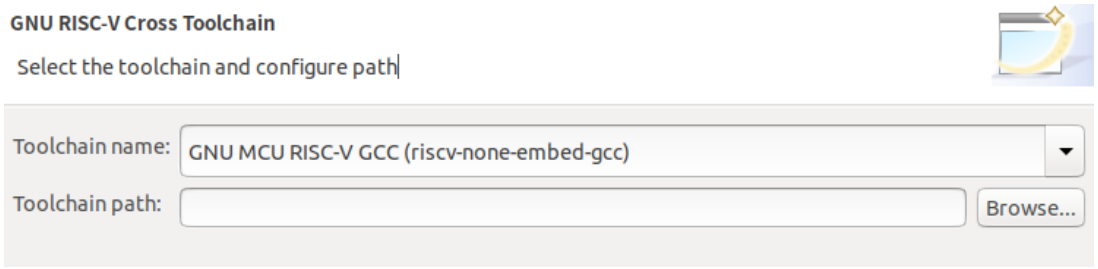
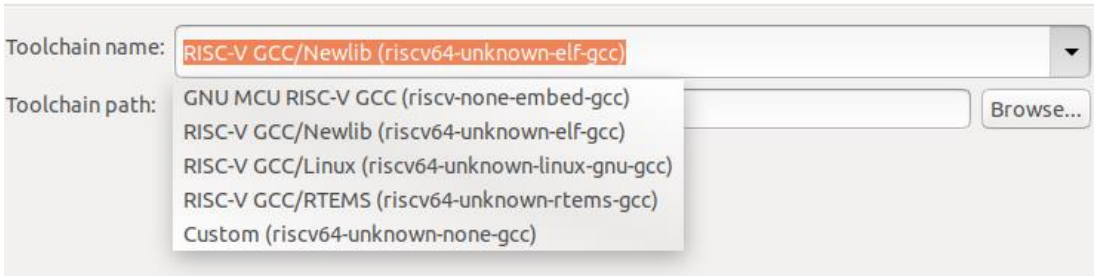
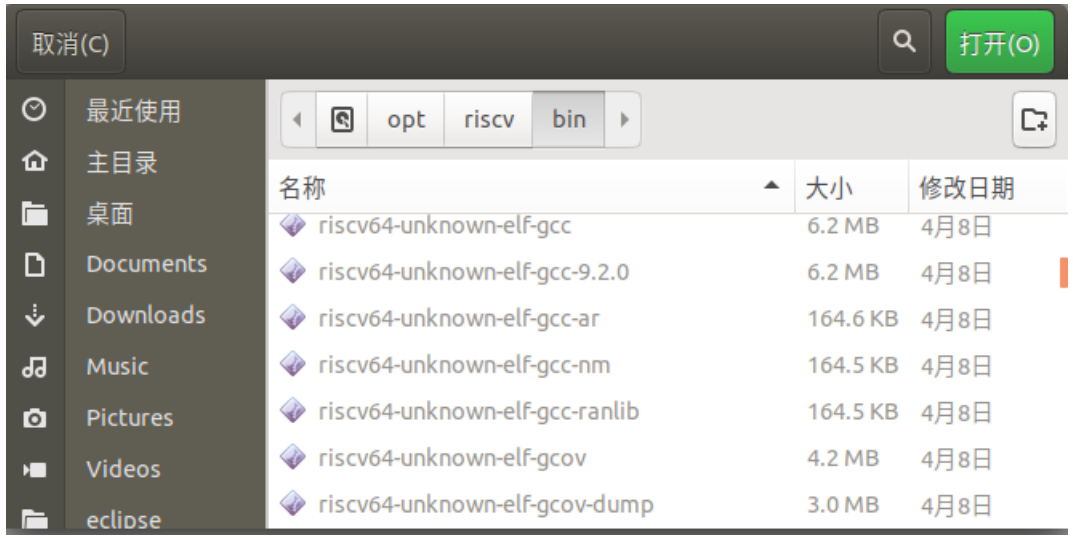


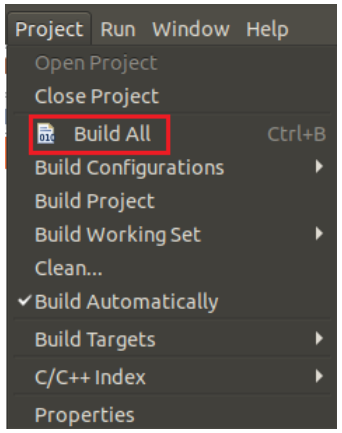


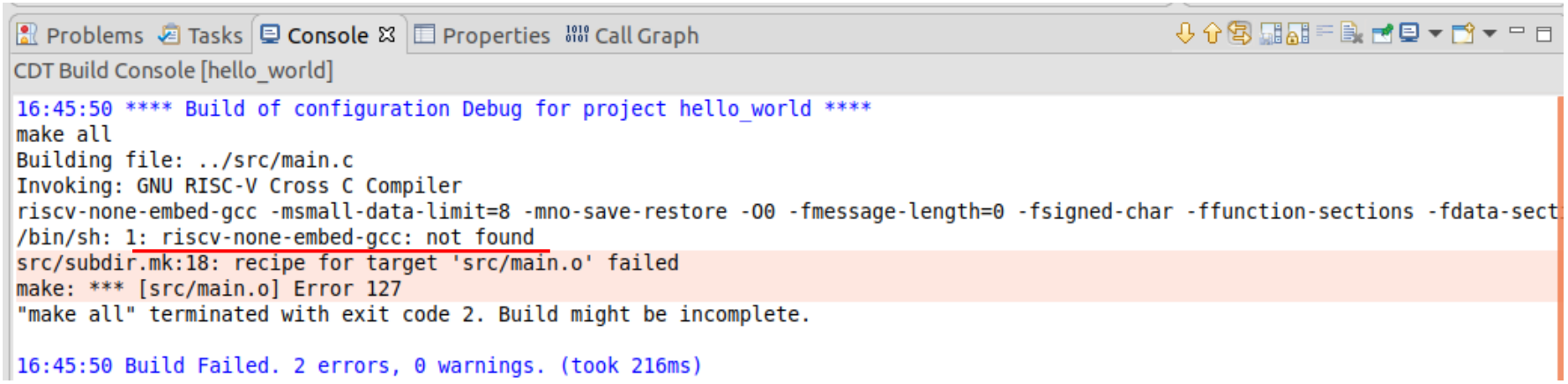




02 初尝试构建项目

遇到的问题





分析

- The RISC-V corner

// Downloads

- GNU MCU Eclipse IDE for C/C++ Developers
- GNU MCU Eclipse plug-ins
- GNU MCU Eclipse Windows Build Tools
- xPack GNU RISC-V Embedded GCC
- xPack OpenOCD

- Plus-ins

GNU MCU Eclipse IDE for C/C++ Developers 2019-12 20200127 which pack together the **2019-12** version (Eclipse 4.14) of the **Eclipse IDE for C/C++ Developers** standard distribution with the **GNU MCU Eclipse plug-ins**.

- Windows Build Tools

Only binaries for **Windows** are provided.

They were built with mingw-w64, and run on any reasonably recent **i686** and **x86_64** Windows machines.

参考资料：
[1] https://gnu-mcu-eclipse.github.io/arch/riscv/
[2] https://github.com/eclipse-embed-cdt/eclipse-plugins/releases
[3] https://gnu-mcu-eclipse.github.io/blog/2019/04/22/windows-build-tools-v2-12-20190422-released/

03 下载安装 xPack GNU RISC-V Embeded GCC

xPack

- GitHub 网址：https://github.com/xpack-dev-tools/riscv-none-embed-gcc-xpack

Easy install

The easiest way to install GNU RISC-V Embedded GCC is using the **binary xPack**, available as `@xpack-dev-tools/riscv-none-embed-gcc` from the `npmjs.com` registry.

Prerequisites

The only requirement is a recent `xpm`, which is a portable Node.js command line application. To install it, follow the instructions from the xpm page.

Install

With the `xpm` tool available, installing the latest version of the package is quite easy:

```
$ xpm install --global @xpack-dev-tools/riscv-none-embed-gcc@latest
```

03 下载安装 xPack GNU RISC-V Embeded GCC

xpm

- 页面网址：https://xpack.github.io/xpm/install/

Prerequisites

A recent Node.js (>=8.x), since the ECMAScript 6 class syntax is used, and a recent npm.

For details, please read (carefully!) the prerequisites page.

xpm install

Windows | macOS | GNU/Linux

On GNU/Linux, by default, global Node.js packages are installed in `/usr/local`, and managing them requires administrative rights, but if you followed the instructions in the prerequisites page, you should already have configured npm to use a location in the home folder.

With the environment properly set, the command to install xpm is:

```
$ npm install --global xpm@latest
```

03 下载安装 xPack GNU RISC-V Embeded GCC

nvm、npm

- 页面网址：https://xpack.github.io/install/

nvm install (node version manager)

Node.js can be installed manually, but for a greater flexibility, on POSIX platforms it is possible to automate this process by using nvm, which not only simplifies the install procedure, but also allows advanced users to install multiple versions of Node.js in parallel. For details, see the Using a Version Manager to install Node.js and npm page.

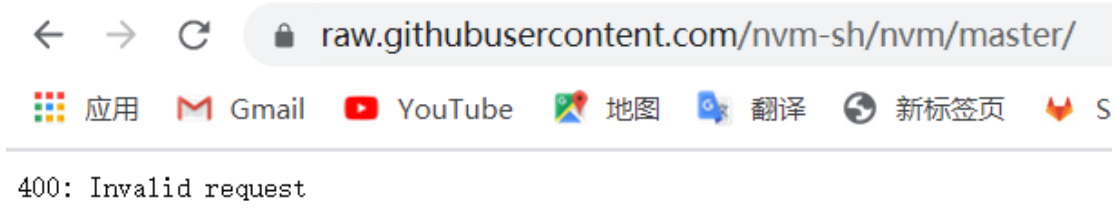
When everything is clean, run the install script:

```
$ curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/master/install.sh | bash
```

遇到问题

- 本地

- VPN



03 下载安装 xPack GNU RISC-V Embeded GCC

解决问题的过程

- GitHub 网址：https://github.com/nvm-sh/nvm

Install & Update Script

To **install** or **update** nvm, you should run the install script. To do that, you may either download and run the script manually, or use the following cURL or Wget command:

```
curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.35.3/install.sh | bash
```

- 安装 node、npm 与安装 xpm 的网址： https://xpack.github.io/install/ ； https://xpack.github.io/xpm/install/

```
$ nvm install --lts node
$ nvm use node
$ nvm install-latest-npm

$ npm install --global xpm@latest
```

```
$ sudo apt install npm
$ npm install --global xpm
```

- 安装 xPack 教程网址： https://github.com/xpack-dev-tools/riscv-none-embed-gcc-xpack

```
$ xpm install --global @xpack-dev-tools/riscv-none-embed-gcc@latest
```

03 下载安装 xPack GNU RISC-V Embeded GCC

解决问题的过程-手动安装工具链

- GitHub 网址：https://github.com/xpack-dev-tools/riscv-none-embed-gcc-xpack

Manual install

For all platforms, the **xPack GNU RISC-V Embedded GCC** binaries are released as portable archives that can be installed in any location.

The archives can be downloaded from the GitHub Releases page.

For more details please read the Install page.

- GitHub Release 网址：https://github.com/xpack-dev-tools/riscv-none-embed-gcc-xpack/releases/

03 下载安装 xPack GNU RISC-V Embeded GCC

解决问题的过程-手动安装工具链

- 安装教程网址：https://xpack.github.io/riscv-none-embed-gcc/install/

Unpack

To install GNU RISC-V Embedded GCC, unpack the archive and copy it to `/${HOME}/opt/xPacks/riscv-none-embed-gcc/<version>`:

```
$ mkdir -p ~/opt
$ cd ~/opt

$ tar xvf ~/Downloads/xpack-riscv-none-embed-gcc-8.2.1-3.1-linux-x64.tgz
$ chmod -R -w xPacks/riscv-none-embed-gcc/8.2.1-3.1
```

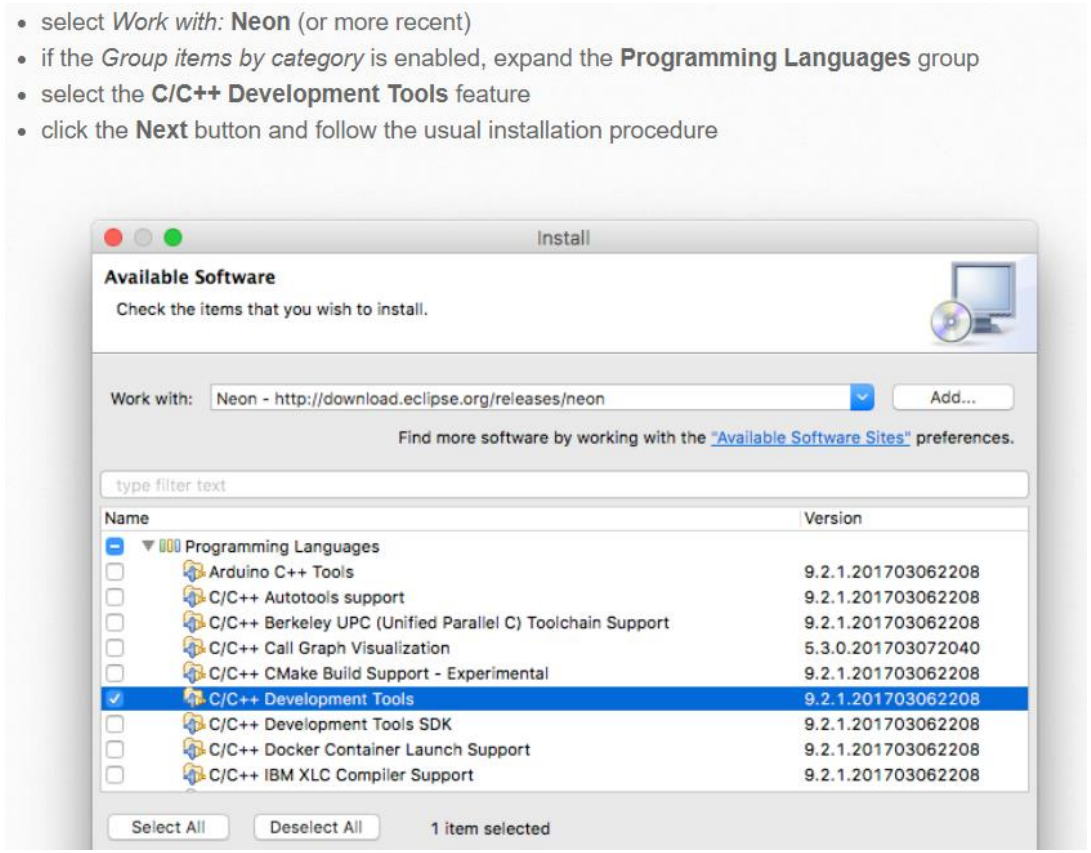
Note: For manual installs, the recommended install location is slightly different from the xpm install folders, which use the scope (like `@xpack-dev-tools`) to group different tools, and `.content` to store the unpacked archive.

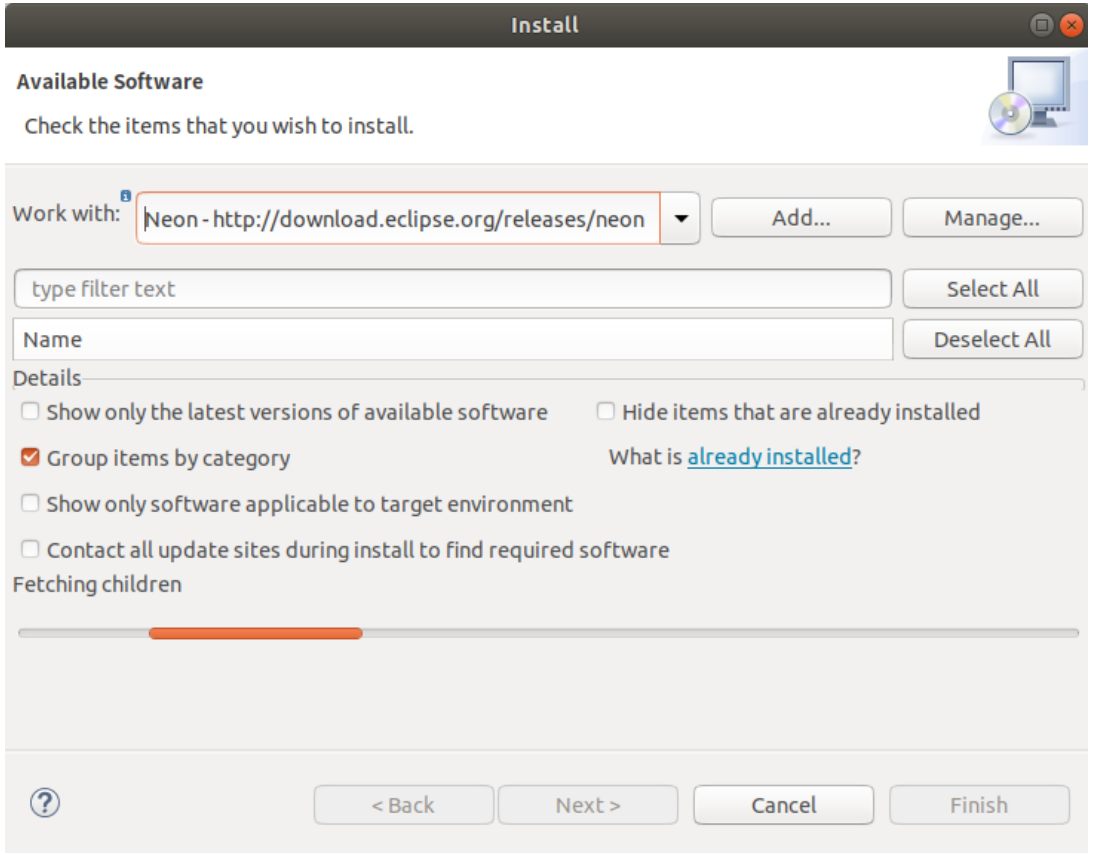
Important: Although perfectly possible to install GNU RISC-V Embedded GCC in any folder, it is highly recommended to use this path, since by default the GNU MCU Eclipse debug plug-ins search for the executable in this location.

03 下载安装 xPack GNU RISC-V Embeded GCC

利用IDE添加工具

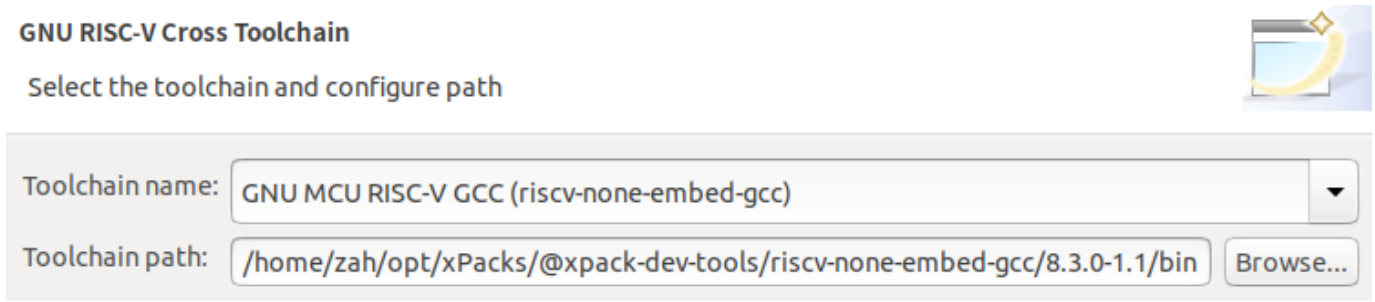
- 官网教程地址：https://gnu-mcu-eclipse.github.io/plugins/install/
- 在 Eclipse 的菜单中选择 Help -> Install New Software

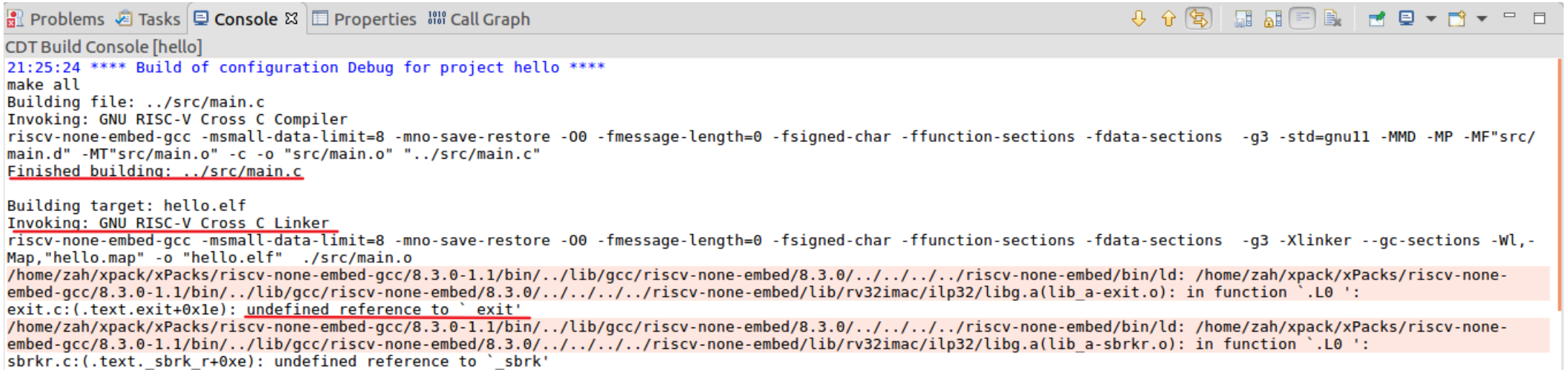




04 配置项目

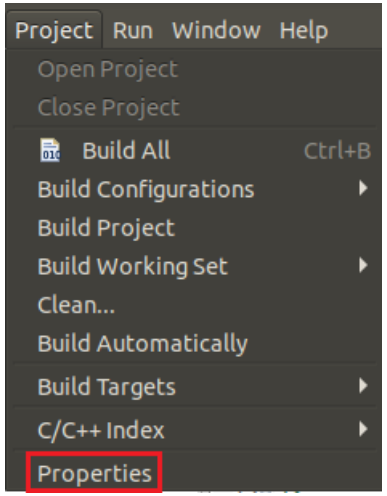
配置编译器

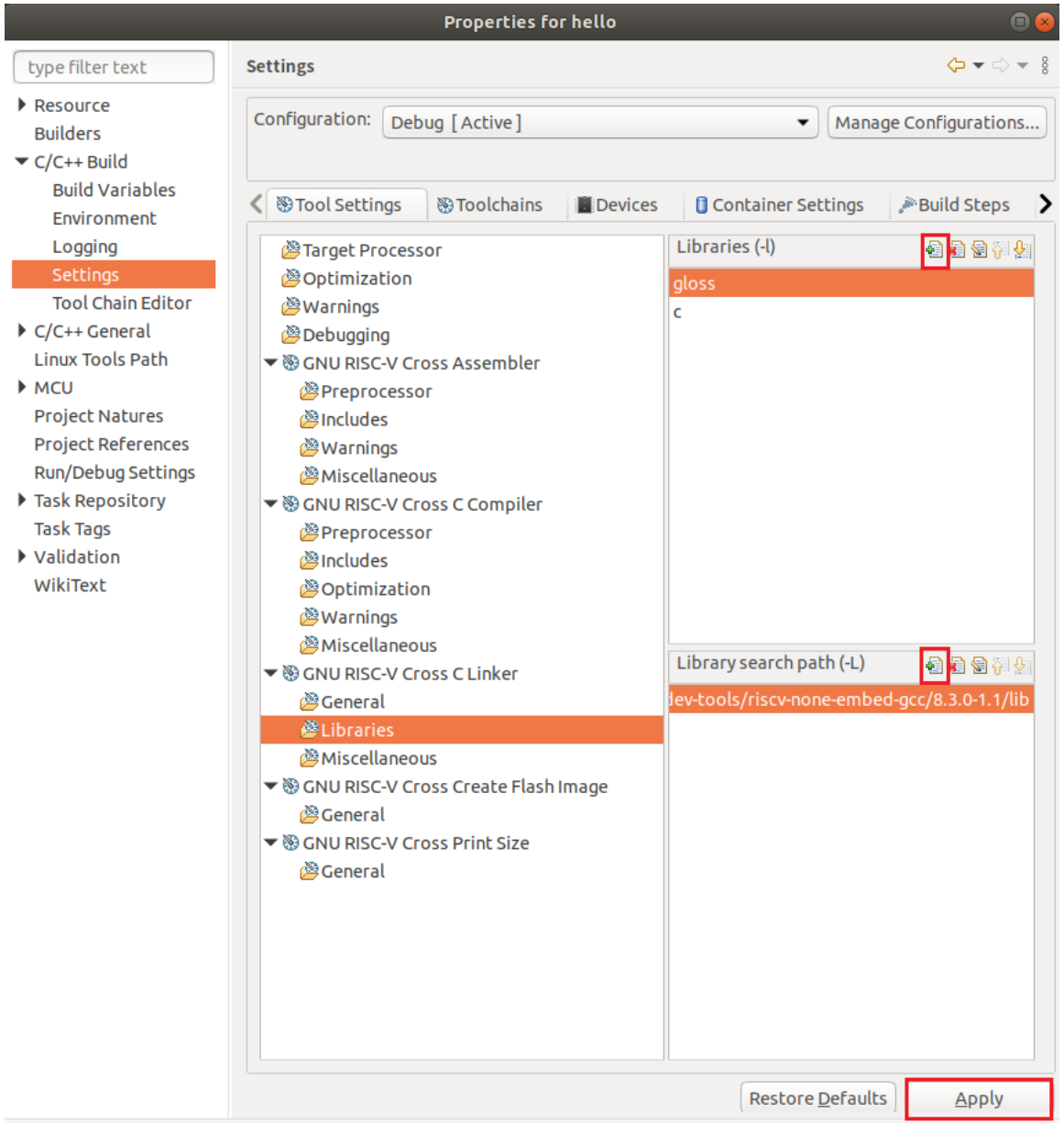




04 配置项目

配置连接器





需要链接的库：

- libgloss.a 库
- libc.a 库

需添加的 C 库：

- 选择工具链路径下的 lib 目录

谢 谢

欢迎交流合作

2020/04/16