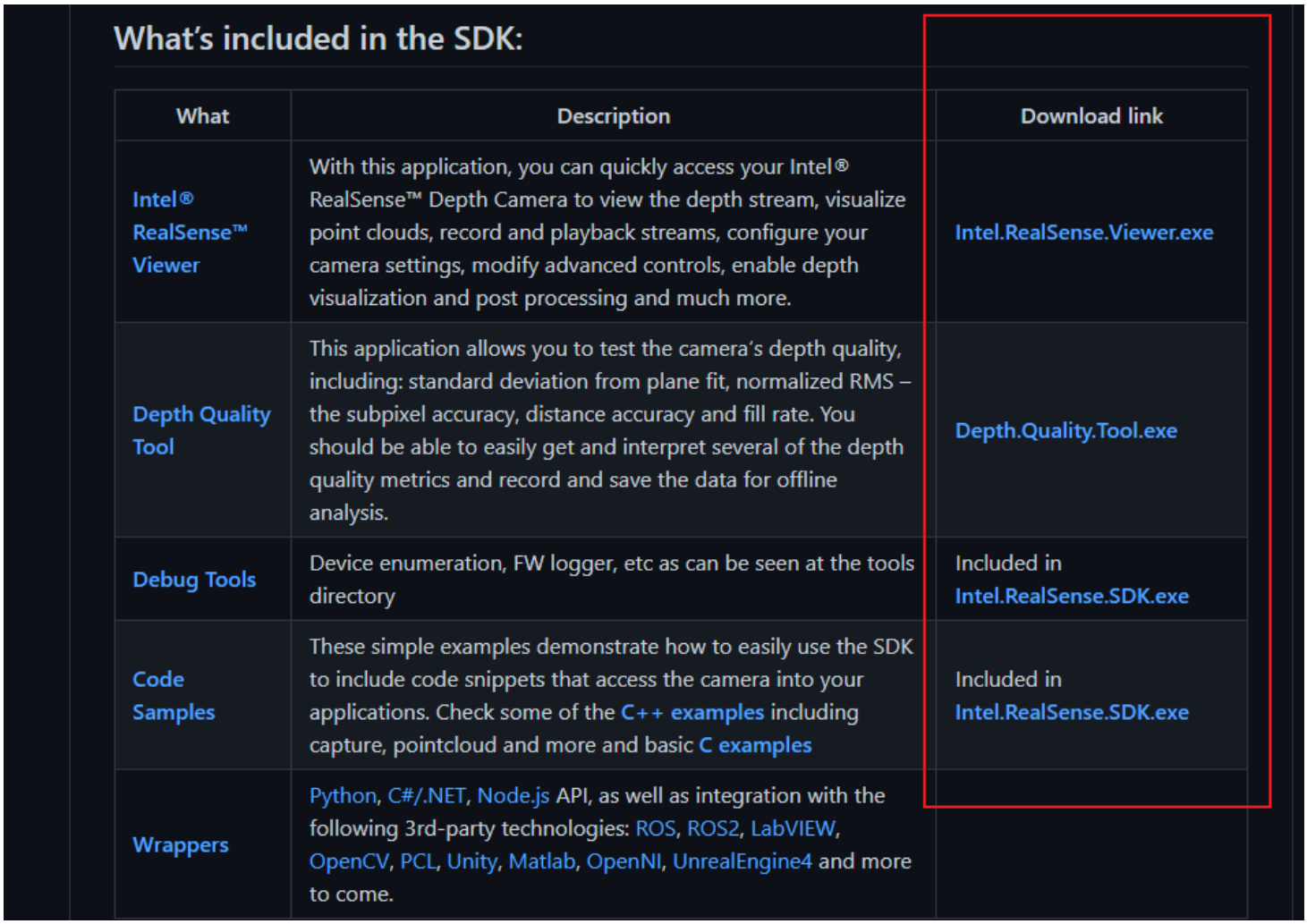
官方链接：https://github.com/IntelRealSense/librealsense/tree/v2.52.1

不使用代码

官方提供了.exe工具：librealsense



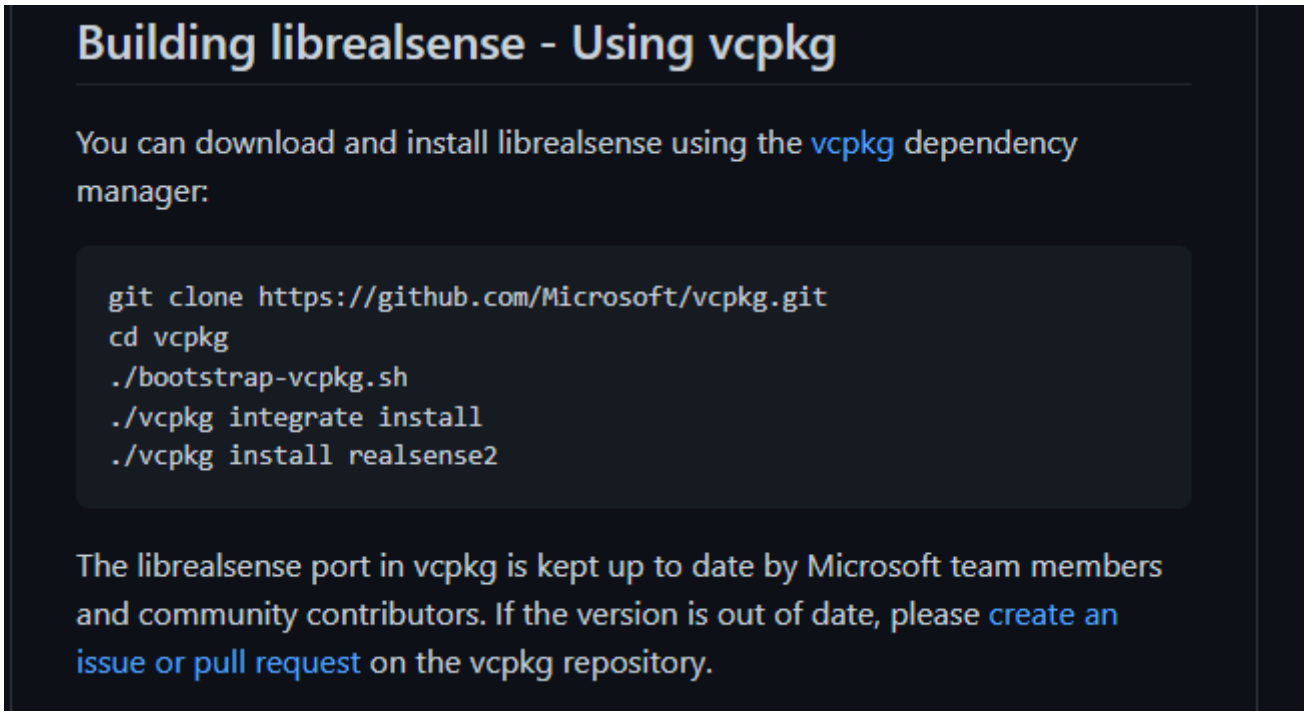
What's included in the SDK:

What	Description	Download link
Intel® RealSense™ Viewer	With this application, you can quickly access your Intel® RealSense™ Depth Camera to view the depth stream, visualize point clouds, record and playback streams, configure your camera settings, modify advanced controls, enable depth visualization and post processing and much more.	Intel.RealSense.Viewer.exe
Depth Quality Tool	This application allows you to test the camera's depth quality, including: standard deviation from plane fit, normalized RMS – the subpixel accuracy, distance accuracy and fill rate. You should be able to easily get and interpret several of the depth quality metrics and record and save the data for offline analysis.	Depth.Quality.Tool.exe
Debug Tools	Device enumeration, FW logger, etc as can be seen at the tools directory	Included in Intel.RealSense.SDK.exe
Code Samples	These simple examples demonstrate how to easily use the SDK to include code snippets that access the camera into your applications. Check some of the C++ examples including capture, pointcloud and more and basic C examples	Included in Intel.RealSense.SDK.exe
Wrappers	Python, C#/.NET, Node.js API, as well as integration with the following 3rd-party technologies: ROS, ROS2, LabVIEW, OpenCV, PCL, Unity, Matlab, OpenNI, UnrealEngine4 and more to come.	

使用代码

使用vcpkg

- 下载



Building librealsense - Using vcpkg

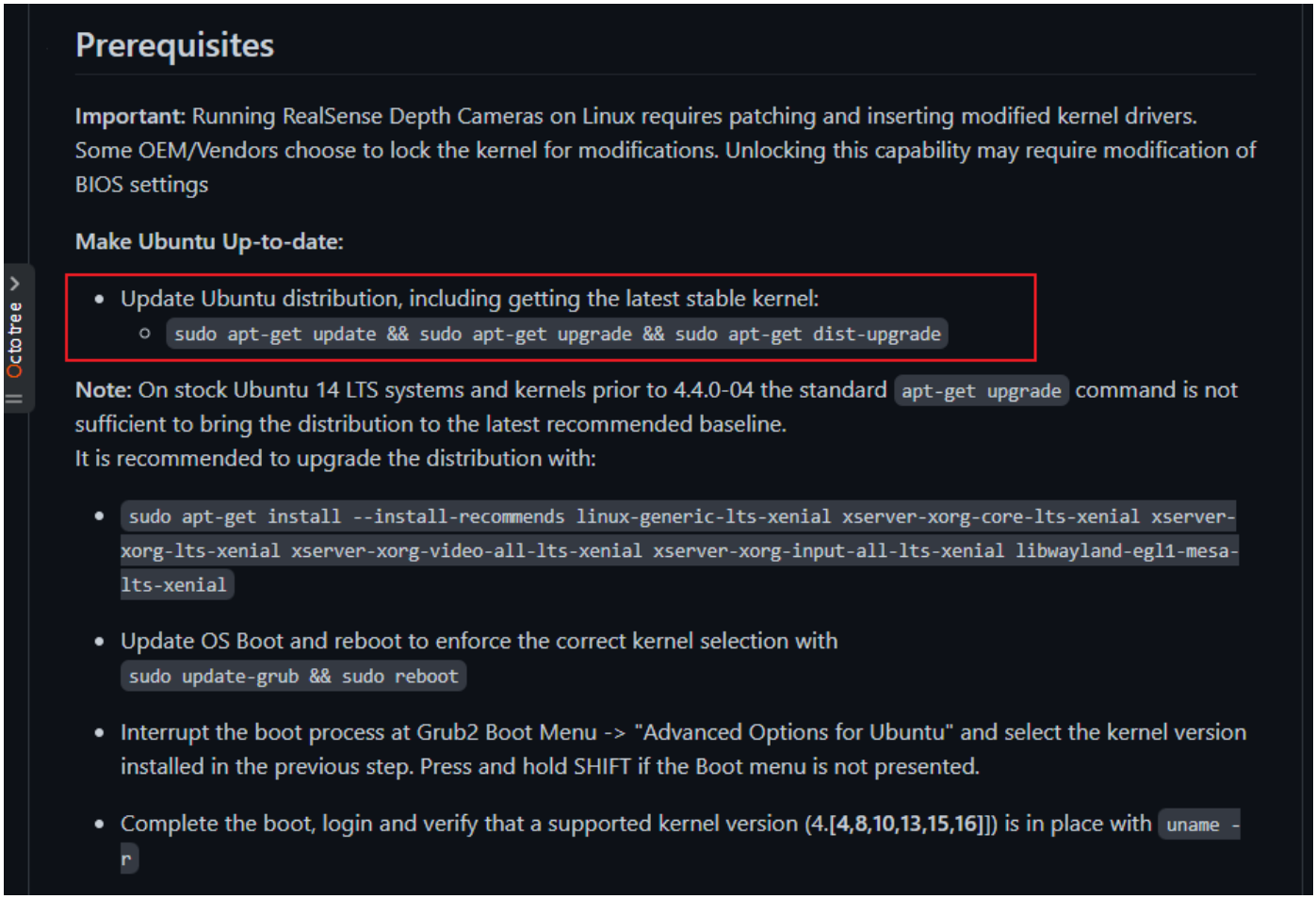
You can download and install librealsense using the vcpkg dependency manager:

```
git clone https://github.com/Microsoft/vcpkg.git
cd vcpkg
./bootstrap-vcpkg.sh
./vcpkg integrate install
./vcpkg install realsense2
```

The librealsense port in vcpkg is kept up to date by Microsoft team members and community contributors. If the version is out of date, please create an issue or pull request on the vcpkg repository.

注意：需要翻墙访问github，curl命令可能会失效，需要手动用wget下载包到对应位置再运行./vcpkg install realsense2。

- 运行一些命令
  Linux Ubuntu Installation



Prerequisites

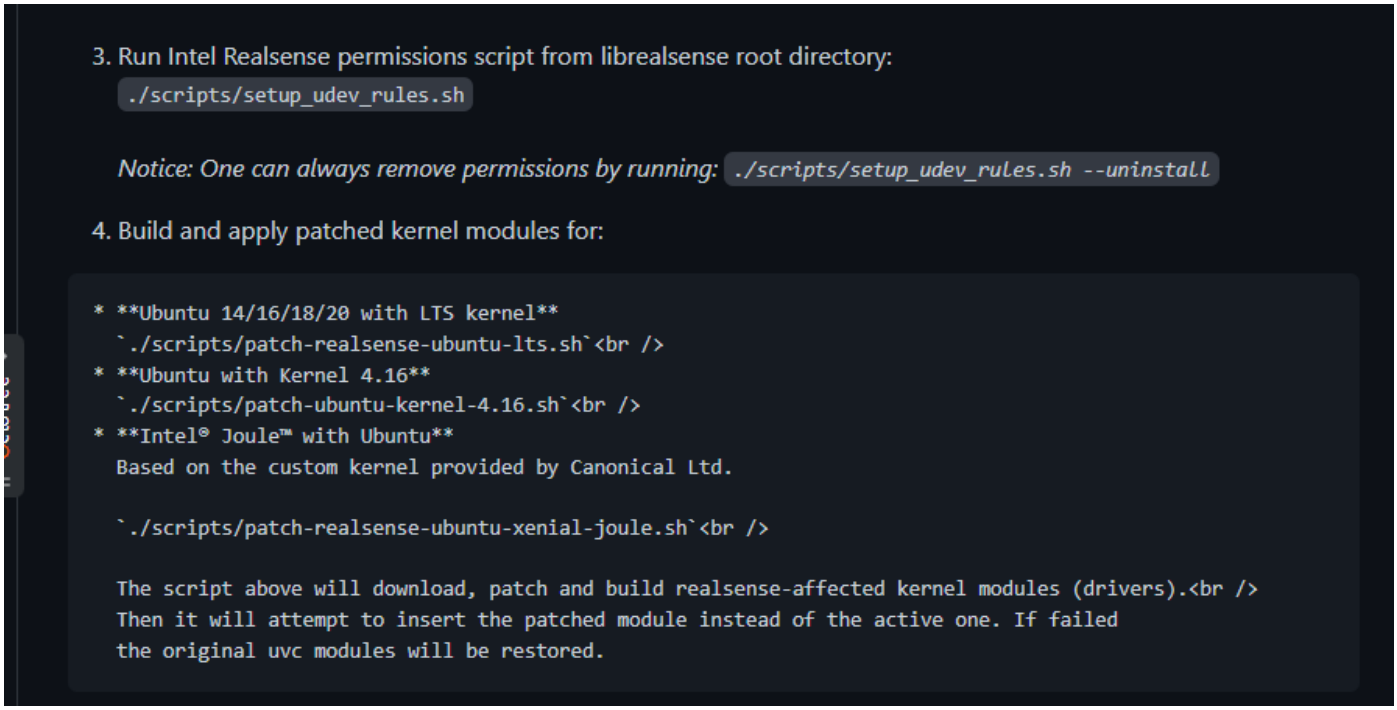
Important: Running RealSense Depth Cameras on Linux requires patching and inserting modified kernel drivers. Some OEM/Vendors choose to lock the kernel for modifications. Unlocking this capability may require modification of BIOS settings

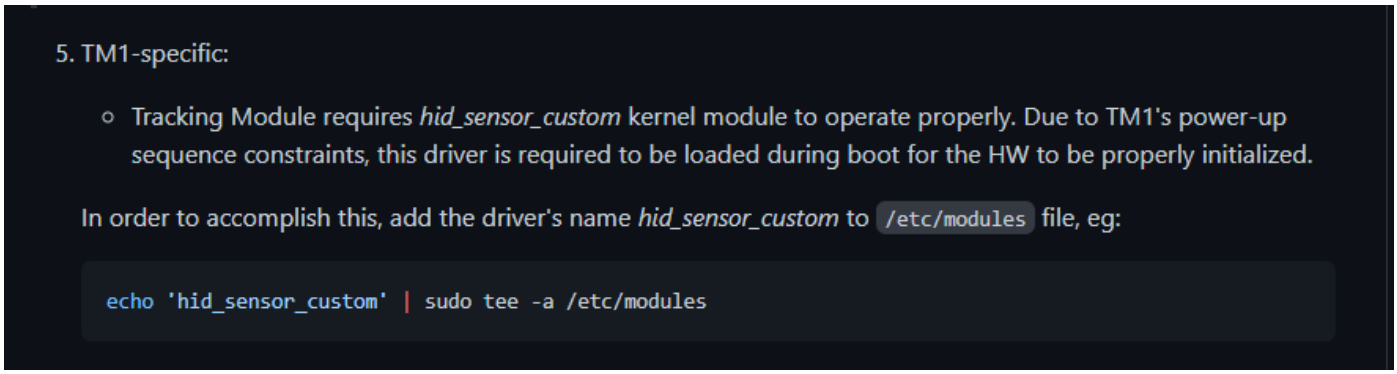
Make Ubuntu Up-to-date:

- Update Ubuntu distribution, including getting the latest stable kernel:
  - `sudo apt-get update && sudo apt-get upgrade && sudo apt-get dist-upgrade`

Note: On stock Ubuntu 14 LTS systems and kernels prior to 4.4.0-04 the standard `apt-get upgrade` command is not sufficient to bring the distribution to the latest recommended baseline.
It is recommended to upgrade the distribution with:

- `sudo apt-get install --install-recommends linux-generic-lts-xenial xserver-xorg-core-lts-xenial xserver-xorg-lts-xenial xserver-xorg-video-all-lts-xenial xserver-xorg-input-all-lts-xenial libwayland-egl1-mesa-lts-xenial`
- Update OS Boot and reboot to enforce the correct kernel selection with `sudo update-grub && sudo reboot`
- Interrupt the boot process at Grub2 Boot Menu -> "Advanced Options for Ubuntu" and select the kernel version installed in the previous step. Press and hold SHIFT if the Boot menu is not presented.
- Complete the boot, login and verify that a supported kernel version (4.**[4,8,10,13,15,16]**) is in place with `uname -r`





- vcpkg结合cmake调用相机
  - vcpkg

在 CMake 中使用 vcpkg

若您希望在 CMake 中使用vcpkg，以下内容可能帮助您：

Visual Studio Code 中的 CMake Tools

将以下内容添加到您的工作区的 `settings.json` 中将使 CMake Tools 自动使用 vcpkg 中的第三方库：

```
{
  "cmake.configureSettings": {
    "CMAKE_TOOLCHAIN_FILE": "[vcpkg root]/scripts/buildsystems/vcpkg.cmake"
  }
}
```

Visual Studio CMake 工程中使用 vcpkg

打开 CMake 设置选项，将 vcpkg toolchain 文件路径在 `CMake toolchain file` 中：

```
[vcpkg root]/scripts/buildsystems/vcpkg.cmake
```

CLion 中使用 vcpkg

打开 Toolchains 设置 (File > Settings on Windows and Linux, CLion > Preferences on macOS)， 并打开 CMake 设置 (Build, Execution, Deployment > CMake)。 最后在 `CMake options` 中添加以下行：

```
-DCMAKE_TOOLCHAIN_FILE=[vcpkg root]/scripts/buildsystems/vcpkg.cmake
```

遗憾的是，您必须手动将此选项加入每个项目配置文件中。

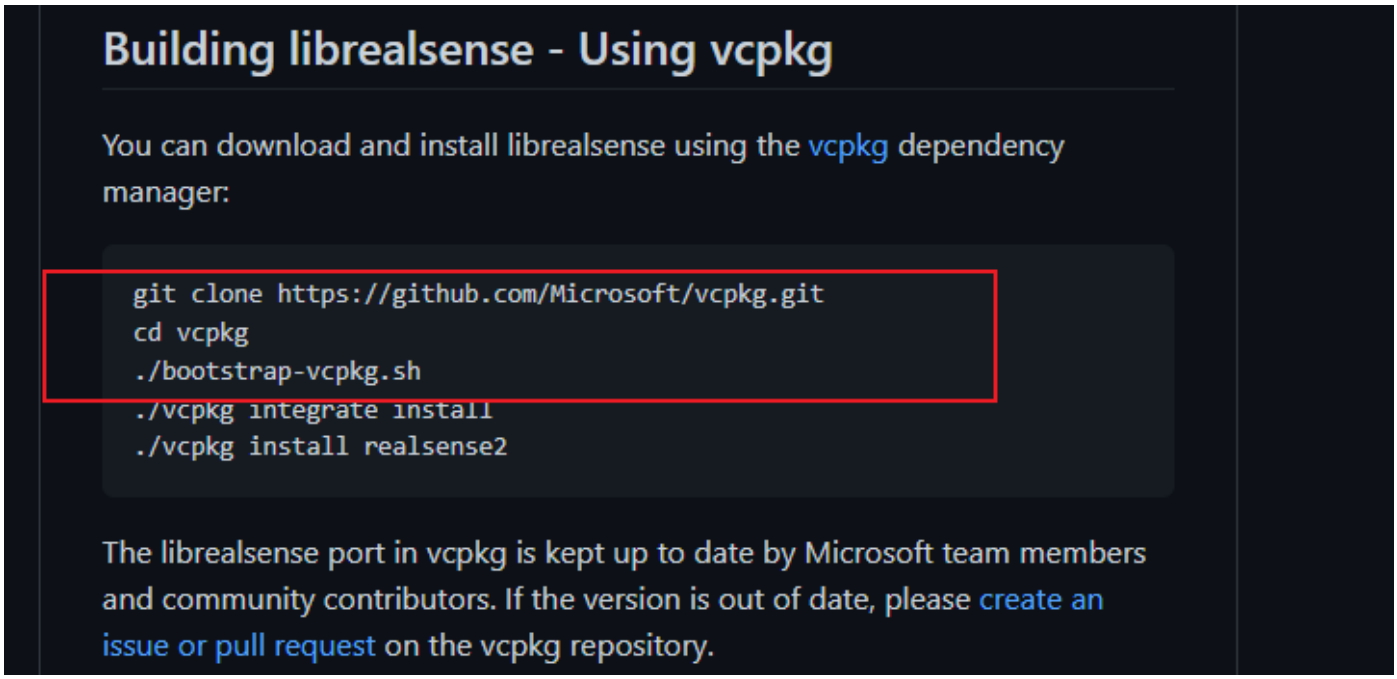
将 vcpkg 作为一个子模块

当您希望将 vcpkg 作为一个子模块加入到您的工程中时， 您可以在第一个 `project()` 调用之前将以下内容添加到 CMakeLists.txt 中， 而无需将 `CMAKE_TOOLCHAIN_FILE` 传递给 CMake 调用。

```
set(CMAKE_TOOLCHAIN_FILE "${CMAKE_CURRENT_SOURCE_DIR}/vcpkg/scripts/buildsystems/vcpkg.cmake"
  CACHE STRING "Vcpkg toolchain file")
```

使用此种方式可无需设置 `CMAKE_TOOLCHAIN_FILE` 即可使用 vcpkg，且更容易完成配置工作。

其中vcpkg在下载realsense的时候已经下了。



- 官网demo。找到Hello-RealSense
- 修改cmakelist

```
cmake_minimum_required(VERSION 3.1.0)

set(THREADS_PREFER_PTHREAD_FLAG ON)

project(RealsenseExamplesHelloRealSense)

find_package(realsense2 REQUIRED)
find_package(Threads REQUIRED)

include_directories(${realsense2_INCLUDE_DIR})
add_executable(rs-hello-realsense rs-hello-realsense.cpp)
target_link_libraries(rs-hello-realsense PUBLIC
${realsense2_LIBRARY}
Threads::Threads
)
```

其中红色箭头开启多线程（不然realsense报错），蓝色是从vcpkg下载的包中找出realsense，链接到cmake。

CMakeLists.txt

```
cmake_minimum_required(VERSION 3.1.0)

set(THREADS_PREFER_PTHREAD_FLAG ON)

project(RealsenseExamplesHelloRealSense)

find_package(realsense2 REQUIRED)
find_package(Threads REQUIRED)

include_directories(${realsense2_INCLUDE_DIR})
add_executable(rs-hello-realsense rs-hello-realsense.cpp)
target_link_libraries(rs-hello-realsense PUBLIC
${realsense2_LIBRARY}
Threads::Threads
)

```

- 修改main函数代码

```
// Create a Pipeline - this serves as a top-level API for streaming and processing frames
rs2::pipeline p;
rs2::config cfg;
cfg.enable_stream(RS2_STREAM_DEPTH, 640, 480, RS2_FORMAT_Z16, 30);
cfg.enable_stream(RS2_STREAM_COLOR, 640, 480, RS2_FORMAT_BGR8, 30);
// Configure and start the pipeline
p.start(cfg);
```

把分辨率改小。不然会报错。我认为的原因：我找到的usb线是2.0的，传输率没usb3.0高，因此分辨率太大的话会超时。

- 坑：vcpkg结合cmake使用有点恶心，需要了解cmake的find_package运行机制。Cmake之深入理解find_package()的用法。还有include_directories，target_link_libraries的使用。知道find_package的机制后，需要找到realsense2Config.cmake文件，看里面有什么变量才能编写对应的cmakelist。
- todo：官方提供的sdk文档就得你们去研究了。

从源码用cmake下载

没试过，感兴趣自己去摸索。

Download and Install

- **Download** - The latest releases including the Intel RealSense SDK, Viewer and Depth Quality tools are available at: **latest releases**. Please check the **release notes** for the supported platforms, new features and capabilities, known issues, how to upgrade the Firmware and more.
- **Install** - You can also install or build from source the SDK (on Linux \ Windows \ Mac OS \ Android \ Docker), connect your D400 depth camera and you are ready to start writing your first application.

> **Support & Issues**: If you need product support (e.g. ask a question about / are having problems with the device), please check the FAQ & Troubleshooting section. If not covered there, please search our Closed GitHub Issues page, Community and Support sites. If you still cannot find an answer to your question, please open a new issue.