## **Colcon**

[Using colcon to build packages — ROS 2 Documentation: Jazzy documentation](https://docs.ros.org/en/jazzy/Tutorials/Beginner-Client-Libraries/Colcon-Tutorial.html#id8)

[build - Build Packages — colcon documentation](https://colcon.readthedocs.io/en/released/reference/verb/build.html)

Colcon (Collective Construction) 是 ROS 2 生态系统中广泛使用的构建工具，colcon is an iteration on the ROS build tools catkin\_make, catkin\_make\_isolated, catkin\_tools and ament\_tools. [A universal build tool](https://design.ros2.org/articles/build_tool.html)

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**Underlay:** An existing ROS 2 installation that will provide our workspace with the necessary build dependencies for the example packages.

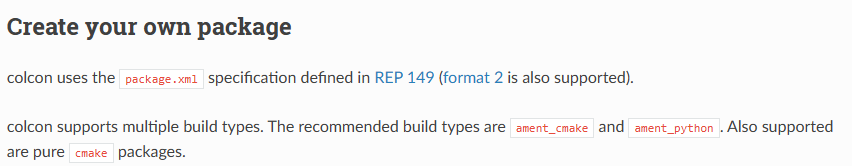
Our workspace, ros2\_ws, will be an **overlay** on top of the existing ROS 2 installation.

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**Colcon** : [Quick start — colcon documentation](https://colcon.readthedocs.io/en/released/user/quick-start.html)

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## **Create your own ROS WS**

[Creating a workspace — ROS 2 Documentation: Jazzy documentation](https://docs.ros.org/en/jazzy/Tutorials/Beginner-Client-Libraries/Creating-A-Workspace/Creating-A-Workspace.html)

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colcon build --symlink-install --executor sequential/parallel --packages-up-to --event-handlers console\_direct+

Always source a workspace from a different terminal than the one you used colcon build. Failure to do so can prevent colcon from detecting incorrect dependencies.

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## **Create your own ROS Package**

[Creating a package — ROS 2 Documentation: Jazzy documentation](https://docs.ros.org/en/jazzy/Tutorials/Beginner-Client-Libraries/Creating-Your-First-ROS2-Package.html)

Package creation in ROS 2 uses ament as its build system and colcon as its build tool. You can create a package using either CMake or Python, which are officially supported, though other build types do exist. 图形用户界面, 文本, 应用程序, 电子邮件

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## **Template1 Publisher & Subscriber of Ros**

[Writing a simple publisher and subscriber (C++) — ROS 2 Documentation: Jazzy documentation](https://docs.ros.org/en/jazzy/Tutorials/Beginner-Client-Libraries/Writing-A-Simple-Cpp-Publisher-And-Subscriber.html)

[Nodes](https://docs.ros.org/en/jazzy/Tutorials/Beginner-CLI-Tools/Understanding-ROS2-Nodes/Understanding-ROS2-Nodes.html) are executable processes that communicate over the ROS graph. In this tutorial, the nodes will pass information in the form of string messages to each other over a [topic](https://docs.ros.org/en/jazzy/Tutorials/Beginner-CLI-Tools/Understanding-ROS2-Topics/Understanding-ROS2-Topics.html).

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注意：测试节点时不要从构造终端进入。

**Appendix A Useful plugin of ros**

Rosdep: [Managing Dependencies with rosdep — ROS 2 Documentation: Jazzy documentation](https://docs.ros.org/en/jazzy/Tutorials/Intermediate/Rosdep.html)

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1. 扫描src目录下的所有ROS包
2. 解析这些包的依赖关系（通过package.xml文件）
3. 自动安装所有缺失的系统依赖
4. 使用Ubuntu/Debian的包管理器（apt）安装这些依赖
5. 针对ROS Jazzy发行版安装适当版本的依赖

Ros pkg creator 

ros2 pkg create --build-type ament\_cmake --license Apache-2.0 cpp\_srvcli --dependencies rclcpp example\_interfaces