

Ubuntu to Raspberry Pi OS Cross C++ Development

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This guide explains how to set up a **cross-compilation development environment for the Raspberry Pi**. We'll be using the familiar APT package manager for **installing cross-compilation dependencies**, so you can just `apt-get install` any library from the Debian or Raspberry Pi OS repositories.

We use a modern GCC 11 toolchain for C, C++ and Fortran. Configuration files for **easy on-target debugging** in Visual Studio Code are provided. A *hello world* CMake project is included as an example.

Everything was tested on Ubuntu 20.04 LTS on the build machine and Raspberry Pi OS Buster on a Raspberry Pi Zero. A similar guide for a Raspberry Pi running Ubuntu 20.04 is being worked on as well.

Installation and Setup

Installing Raspberry Pi OS and setting up SSH to prepare for remote development.

Development setup

Installing the necessary tools and setting everything up for cross-compilation.

Building the C++ example project

Cross-compiling a C++ project using CMake and with a dependency on the Boost libraries, as an example of how to build any C++ project with nontrivial dependencies.

Remote debugging

Debugging your C++ program from your computer while it is running on the Raspberry Pi.
