

# 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.

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## 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.

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