

Get Started with Intel® Distribution for GDB* on Windows* OS Host



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Chapter 1: Get Started with Intel® Distribution for GDB* on Windows* OS Host



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Start using the Intel® Distribution for GDB* for debugging applications. Follow the instructions below to set up the debugger to debug applications with kernels offloaded to CPU devices.

Intel® Distribution for GDB* is available as part of the Intel® oneAPI Base Toolkit. For more information on oneAPI toolkits, visit the [product page](#).

Visit the [Release Notes](#) page for information about key capabilities, new features, and known issues.

You can use a SYCL* sample code, Array Transform, to get started with the Intel® Distribution for GDB*. The sample does not generate errors and simply illustrates debugger features. The code processes elements of the input array depending on whether they are even or odd and produces an output array. You can use the sample to debug on a CPU.

Prerequisites

- Install the [Intel® oneAPI Base Toolkit for Windows* OS](#).
- [Install Microsoft Visual Studio*](#) 2019 or 2022.

NOTE Support for Visual Studio* 2017 is removed starting Intel® oneAPI 2022.2 release.

Get Started with CPU Debugging

Build the Application

1. In Microsoft Visual Studio*, go to **File > New > Browse Intel oneAPI Samples** and select **Debugger: Array Transform**.

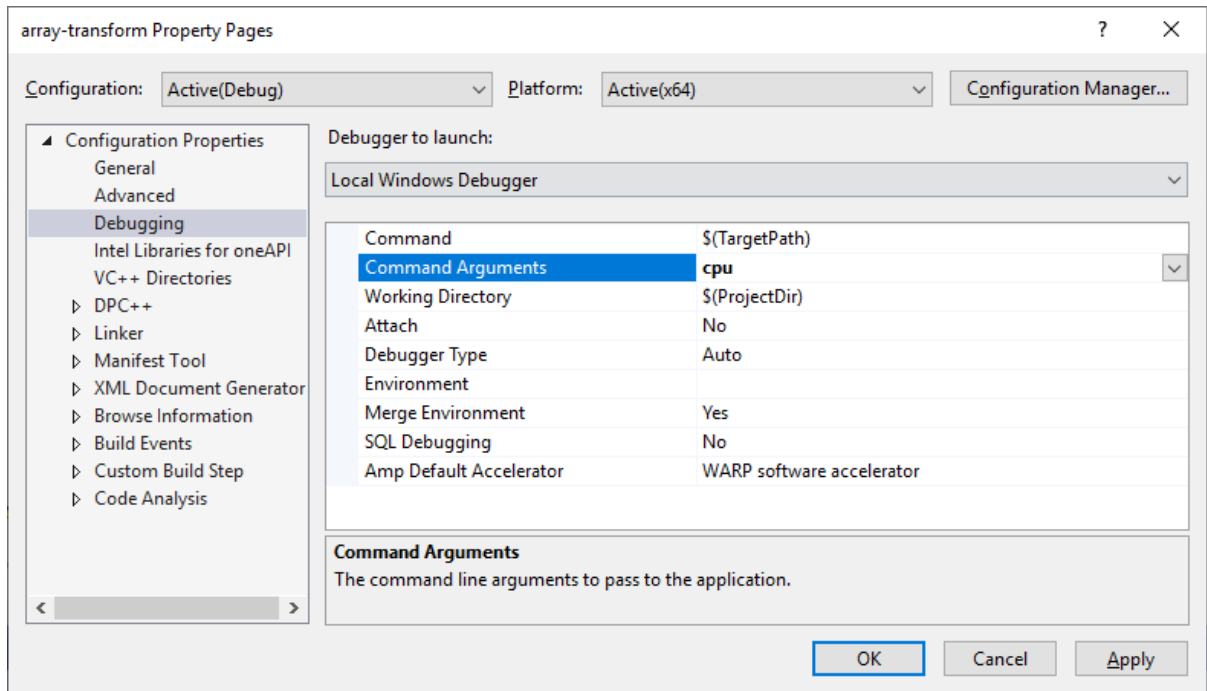
If you have already fetched the sample or you have your own sample, simply open the solution file with Microsoft Visual Studio*.

2. In the **Solution Explorer**, right-click the `array-transform` project and select **Properties**.

Alternatively, press Alt+Enter.

- a. Under **Configuration Properties**, select **General** and set **Platform Toolset** to **Intel® oneAPI DPC++ Compiler**.
- b. Under **Configuration Properties**, select **Debugging**. Set **Command Arguments** to `cpu`.





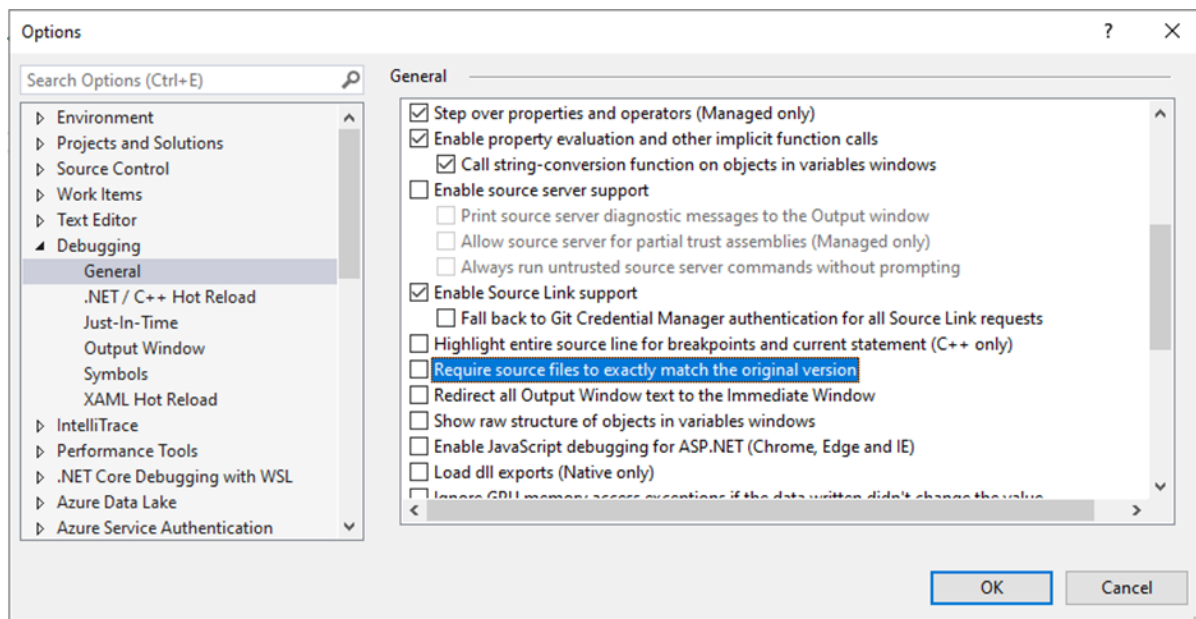
- c. Select **Linker** and set the **Pass additional options to device compilers** field to `/Od`. This setting disables kernel optimizations to provide a smooth debug experience.
- d. Click **Apply** to save the changes.
3. To build the solution, select **Build > Build Solution** in the main Visual Studio toolbar. In the **Output** window, verify that the build is successful.

Debug the Application

You are ready to debug your project.

1. Open **Tools > Options > Debugging**.

Uncheck the option "**Require source files to exactly match the original version**".



2. Set breakpoint at line 83 in the `array-transform.cpp` file.



3. From the **Debug** menu, select **Start Debugging**.
4. Click the **Local Windows Debugger** menu.

You will see when the thread hits the breakpoint.

Learn More

Document	Description
Tutorial: Debugging with Intel® Distribution for GDB*	This document describes the basic scenarios to follow while debugging SYCL* and OpenCL with Intel® Distribution for GDB*.
Intel® Distribution for GDB* User Guide	This document describes all common tasks that you can complete with Intel® Distribution for GDB* and provides necessary technical details.
Intel® Distribution for GDB* Release Notes	The notes contain information about key capabilities, new features, and known issues of Intel® Distribution for GDB*.
oneAPI Product Page	This page contains brief introduction on oneAPI toolkits and links to useful resources.
Jacobi Sample	This small SYCL* application has two versions: bugged and fixed. Use the sample to exercise application debugging with Intel® Distribution for GDB*.

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