Installing DPC++ - Sycl

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1 Install Intel OneAPI

1. Intel oneapi dpc++ compiler: `https://www.intel.com/content/www/us/en/developer/tools/oneapi/dpc-compiler.html#gs.ezsgy4`

2. The compiler is part of intel oneapi base toolkit as well as HPC toolkit. Download and install any of the above to install the compiler

3. To initialize the environement **.   /intel/oneapi/2024.2/oneapi-vars.sh**

4. source the oneapi-setvar script: **source   /intel/oneapi/2024.2/oneapi-vars.sh**

2 Oneapi for nvidia gpu

1. Oneapi for nvidia gpu - `https://developer.codeplay.com/products/oneapi/nvidia/2024.2.1/guides/get-started-guide-nvidia.html#run-sycl-applications-on-nvidia-gpus`

2. Compile using cuda in the backend - **icpx -fsycl -fsycl-targets=nvptx64-nvidia-cuda simple-sycl-app.cpp -o simple-sycl-app**

3. execute in gpu using cuda - **ONEAPI_DEVICE_SELECTOR="cuda:*" SYCL_PI_TRACE=1 ./simple-sycl-app**

4. compile in cpu - **icpx -fsycl matrix_add_sub.cpp -o matrix_add_sub_cpu**