

Hands-on: Building Intel MPI Benchmark

0. Legend

- `[src_dir]` : directory of source
- `[rist_dir]`: this directory

1. Get source files

```
$ bash 00_d1.sh
$ ls
IMB-v2021.3 ...
```

2. Preparation

- Edit Makefile for Fujitsu C/C++ compiler.
 - `CFLAGS += -Nclang -g -O0 -std=gnu11 -Wall -Wno-long-long`
 - `CXXFLAGS += -Nclang -g -O0 -std=gnu++11 -Wall -Wextra -Wpedantic -Wno-long-long`

```
$ cd [src_dir]/src_cpp
$ cp Makefile Makefile_orig
$ vi Makefile # Any editor is acceptable.
```

- Edit `CACHE_SIZE` and `CACHE_LINE_SIZE` in `IMB_mem_info.h` for A64FX. Recall the measured results of LMBench about the size of cache line.
 - `CACHE_SIZE 32` (Unit is MiB).
 - `CACHE_LINE_SIZE 256` (Unit is byte).

```
$ cd [src_dir]/src_c
$ cp IMB_mem_info.h IMB_mem_info.h_orig
$ vi IMB_mem_info.h
```

3. Compile

```
$ cd [src_dir]
$ cp [rist_dir]/01_build.sh .
$ bash 01_build.sh &> 01_build.log #< 1 min.
$ ls
IMB-MPI1 ...
```

- The executable files will be put in `[src_dir]/`