

WELCOME! PLEASE TAKE A SEAT

THE ISC 25 TEAM

Speakers



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Ecosystem
Codeplay Software



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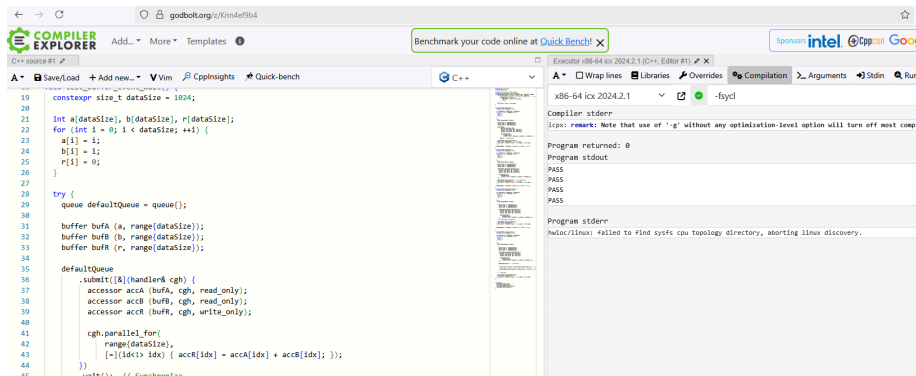


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SCHEDULE

Time	Title
14:00	Introduction and meet the class
14:10	A Quick Introduction to SYCL
15:30	ND Range kernels and concepts
16:00	Break
16:30	Hands-on exercise Enqueueing ND Range kernels
17:00	Data Flow
17:50	Recap and further learning
18:00	Close

HANDS ON SETUP



The screenshot shows the Compiler Explorer web interface. The left pane contains C++ code for a benchmark. The right pane shows the compilation results for the x86_64 icx 2024.2.1 compiler with the -fsycl flag. The output indicates that the program compiled successfully and returned 0.

```
19 constexpr size_t dataSize = 1024;
20
21 int a[dataSize], b[dataSize], r[dataSize];
22 for (int i = 0; i < dataSize; ++i) {
23     a[i] = i;
24     b[i] = i;
25     r[i] = 0;
26 }
27
28 try {
29     queue defaultQueue = queue{};
30
31     buffer bufA (a, range(dataSize));
32     buffer bufB (b, range(dataSize));
33     buffer bufR (r, range(dataSize));
34
35     defaultQueue
36         .submit([&](handler& cgh) {
37             accessor accA (bufA, cgh, read_only);
38             accessor accB (bufB, cgh, read_only);
39             accessor accR (bufR, cgh, write_only);
40
41             cgh.parallel_for(
42                 range(dataSize),
43                 [=](id<1> idx) { accR[idx] = accA[idx] + accB[idx]; });
44         })
45     .wait(); // Synchronize
```

Compiler Explorer interface showing C++ code and compilation results for the x86_64 icx 2024.2.1 compiler. The output indicates successful compilation and execution.

- To reduce setup effort we will use Compiler Explorer
- There are links to the exercises and slides on the GitHub repo branch
- We'll explain how to access this

