

Welcome - Valgrind and Sanitizers Tools Training



November 1, 2024

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Introduction

- Change Zoom name: 'GivenName LastName'
 - Click "Participants", then "More" next to your name to rename
- Training agenda and presentation slides, videos, etc. available at <https://www.nersc.gov/users/training/events/2024/valgrind-and-sanitizers-november-1-2024/>
- **Gdoc for Q&A** (instead of Zoom chat): <https://tinyurl.com/45pu8e4r>
- **Survey:** <https://tinyurl.com/45pu8e4r>

Introduction

- Valgrind and Sanitizers tools are command-line interface tools that are relatively simple to use for detecting various errors or doing other tasks
 - Valgrind for C, C++ and Fortran
 - Sanitizers for C and C++
- Objectives
 - Learn how to use Valgrind tools
 - Learn how to use Valgrind4pc with MPI apps for aggregating Valgrind output
 - Learn how to use LLVM Sanitizers to detect memory errors, thread race conditions
 - Learn how to use Sanitizers4hpc with MPI apps for aggregating output

Exercises

- Example codes at <https://github.com/NERSC/debugging>
- Perlmutter CPU and GPU nodes are reserved for today's tutorial (9:00-11:30 am)

```
$ salloc -C gpu -c 32 -G 1 -q shared -t 30 \  
-A ntrain3 --reservation=dbg_gpu  
  
$ salloc -C cpu -c 2 -q shared -t 30 \  
-A ntrain3 --reservation=dbg_cpu
```

- If all the reserved nodes are taken, use your own project account or submit a non-interactive batch job

NERSC Code of Conduct

As NERSC collaborators, we are all bound by the Code of Conduct:

Team Science

Service

Trust

Innovation

Respect



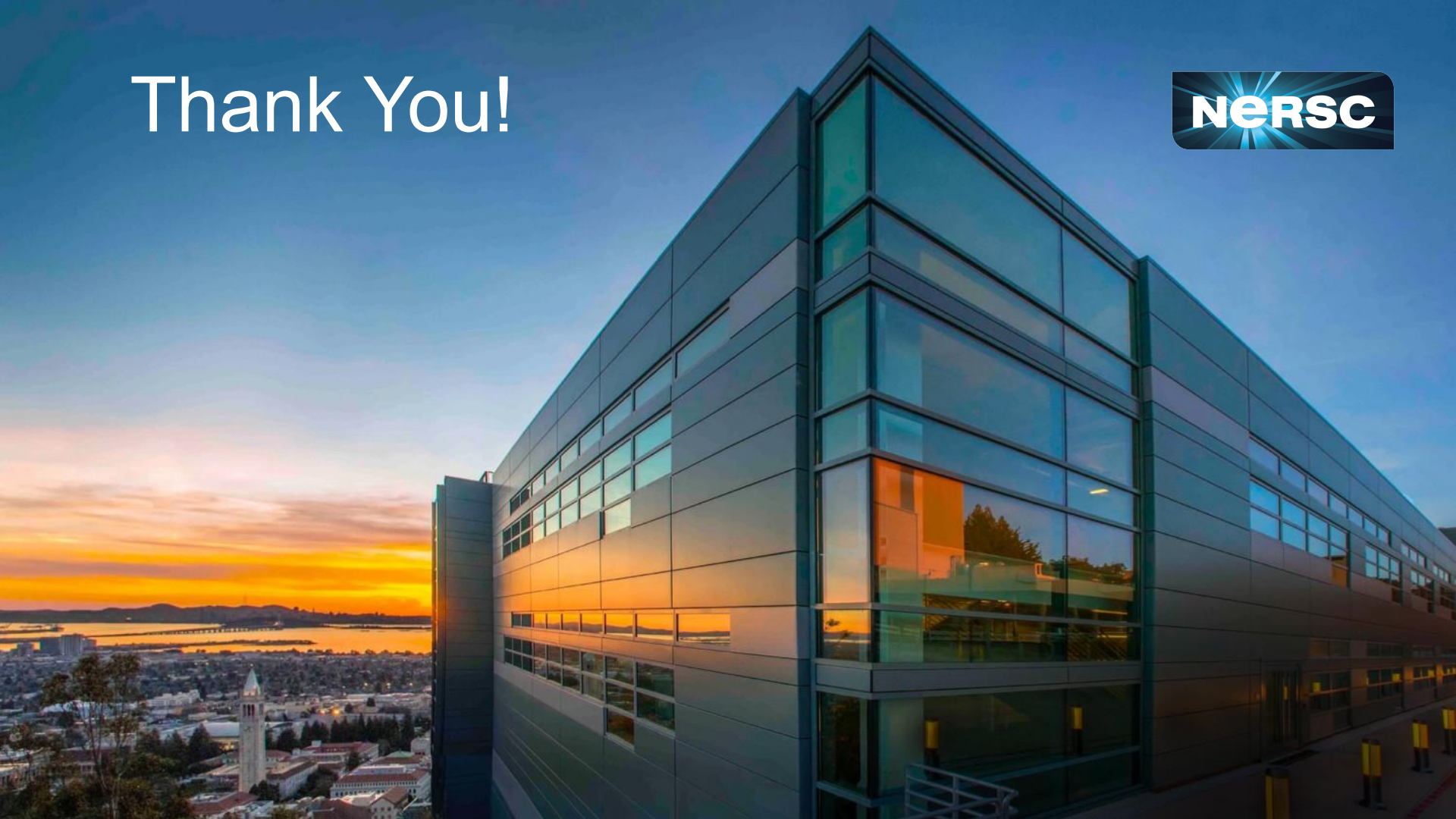
■ We agree to **work together professionally and productively** towards our shared goals while respecting each other's differences and ideas.

■ We should all feel free to speak up to maintain this environment and remember there are resources available to **report violations** to foster an inclusive, collaborative environment.

Email nersc-training@lbl.gov for any concerns

<https://www.nersc.gov/nersc-code-of-conduct> or search “NERSC Code of Conduct”

Thank You!





We will be back at 10:10 am PDT
after the break