

Hands-On Environment for Score-P/Scalasca on Emmy P3, Grete P2

■ Project local modules:

```
% module use $PROJECT/modules
```

■ Using GCC + OpenMPI tool chain on the Emmy P3 CPU partition:

```
% module load gcc/14.2.0 openmpi/4.1.7
% module load scorep/10.1-emmy3-gcc-openmpi scalasca/2.6.2-emmy3-gcc-openmpi cubelib/4.9.1
```

■ Using GCC + OpenMPI tool chain on the Grete GPU partition:

```
% module load gcc/13.2.0 openmpi/5.0.7
% module load scorep/10.1-grete-gcc-openmpi scalasca/2.6.2-grete-gcc-openmpi cubelib/4.9.1
```

■ Hands-on materials for Score-P in the training scratch space:

```
% mkdir -p /scratch/lustre-grete/projects/tr_20260831-vi-hps-tuning/$USER/scorep
% cd /scratch/lustre-grete/projects/tr_20260831-vi-hps-tuning/$USER/scorep
% tar xfv $PROJECT/training-materials/scorep/NPB-BT-MZ.tar.gz
% tar xfv $PROJECT/training-materials/scorep/TeaLeaf_CUDA.tar.gz

% cd NPB-BT-MZ      # For Emmy P3 CPU Partition and MPI+OpenMP
% cd TeaLeaf_CUDA  # For Grete GPU Partition and MPI+CUDA
```

Cube GUI – Usage via Local Client

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▪ Local Client Options:

- User installation from tarball
- **Running binary:**
 - win32 binary, Mac OS .dmg, Linux binary .AppImage
 - Example for the AppImage:

```
desk$ wget https://apps.fz-juelich.de/scalasca/\
releases/cube/4.9/dist/CubeGui-4.9.1.AppImage

desk$ chmod u+x CubeGui-4.9.1.AppImage
desk$ ./CubeGui-4.9.1.AppImage
```

- Available in Fedora distribution

▪ Accessing Cube files

- copy .cubex file (or entire scorep directory) to desktop from remote system via scp
- **locally mount remote filesystem via sshfs**

```
desk$ mkdir $HOME/mnt
desk$ sshfs <user>@glogin-p3.hpc.gwdg.de:/scratch/lustre-grete/\
projects/tr_20260831-vi-hps-tuning /$HOME/mnt
```

- Running a `cube_server` on the remote system and connect to it

```
desk$ ssh -L 3300:localhost:3300 <user>@glogin-p3.hpc.gwdg.de
login$ module load cubelib/4.9.1
login$ cube_server
```

All download options:

<https://www.scalasca.org/scalasca/software/cube-4.x/download.html>

Alternative Toolchain for Score-P and Scalasca

- Using oneAPI tool chain on the Emmy P3 CPU partition:

```
% module load intel-oneapi-compilers/2025.0.0 intel-oneapi-mpi/2021.14.0  
% module load cubelib/4.9.1 scalasca/2.6.2
```