

Hands-On Environment for Score-P/Scalasca on MN5 – GPP & ACC

- Using GCC + OpenMPI tool chain on the GPP partition:

```
% module purge
% module load gcc/12.3.0 openmpi/4.1.5-gcc12.3 scorep/9.4-gcc-mpi papi/7.1.0-gcc
% module load cubelib/4.9.1 scalasca/2.6.2-gcc-mpi
```

- Using GCC + OpenMPI tool chain on the ACC partition:

```
% module purge
% module load gcc/11.4.0 openmpi/4.1.5-gcc cuda/12.8 scorep/9.4-gcc-mpi papi/7.1.0
% module load cubelib/4.9.1 scalasca/2.6.2-gcc-mpi
```

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

```
% cd /gpfs/scratch/nct_362
% mkdir -p users/<yourName>/hands-on && cd users/<yourName>/hands-on
% tar xf /gpfs/scratch/nct_362/exercises/scorep.tar.gz

% cd scorep/NPB-BT-MZ      # For GPP Partition and MPI+OpenMP
% cd scorep/TeaLeaf_CUDA  # For ACC 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>@transfer1.bsc.es:/gpfs/scratch/nct_362 $HOME/mnt
```

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

```
desk$ ssh -L 3300:localhost:3300 <user>@glogin1.bsc.es
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 Toolchains for Score-P and Scalasca

- Using oneAPI + IntelMPI tool chain on the GPP partition:

```
% module purge  
% module load oneapi/2023.2.0 scorep/9.4 papi/7.1.0-gcc  
% module load cubelib/4.9.1 scalasca/2.6.2
```

- Using NVHPC + NVHPx tool chain on the ACC partition:

```
% module purge  
% module load nvidia-hpc-sdk/25.7 scorep/9.4-nvidia-nvhpcx papi/7.1.0  
% module load cubelib/4.9.1 scalasca/2.6.2-nvidia-nvhpcx
```