



E E S S I

EUROPEAN ENVIRONMENT FOR
SCIENTIFIC SOFTWARE INSTALLATIONS

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Start EESSI

Type `eessi` in your login terminal (**Bash** only):

```
1 zen trainee00@l55:~$ eessi
2 ...
3 welcome in the eessi new world, some exaples to try:
4 ml
5 ma
6 ml ov
7 ml OpenMPI
8 ml
9 {EESSI 2023.06} trainee00@l55:~$
```

There is no way to get *out* of EESSI, you have to login again.

Note how the prompt now shows the **{EESSI 2023.06}** env.

Overview of all modules

Type `ml ov` to show all modules in an overview:

```
1 {EESSI 2023.06} trainee00@l55:~$ ml ov
2
3 ---/cvmfs/software.eessi.io/versions/2023.06/... ---
4 Abseil                (2)    Eigen                (3)
5 ALL                   (1)    elfutils             (2)
6 amdahl                (1)    ELPA                 (2)
```

Where (2) means two versions are installed.

EESSI uses its own modules system **lmod**

Find a module

Use `ma` or `module avail` to find installations of a package:

```
1 {EESSI 2023.06} trainee00@l44:~$ module avail mpi
2 {EESSI 2023.06} trainee00@l55:~$ module avail mpi
```

EESSI will only show packages that fit the current CPU, so packages for VSC-4 nodes will have different names than on VSC-5.

Package names are not case sensitive, you can search for part of a package name too:

```
1 {EESSI 2023.06} trainee00@l55:~$ module avail matplot
```

Load a module

Use `ml` or `module load` to load your package:

```
1 {EESSI 2023.06} trainee00@l55:~$ ml amdahl
```

Package names are **case sensitive**, like **Matlab**, **Mathematica**, **GROMACS**...

List loaded modules

Use `m1` alone, or `module list` to load your package:

```
1 {EESSI 2023.06} trainee00@l55:~$ m1
2 Currently Loaded Modules:
3 1) GCCcore/12.3.0
4 2) GCC/12.3.0
5 3) numactl/2.0.16-GCCcore-12.3.0
6 4) libxml2/2.11.4-GCCcore-12.3.0
7 5) libpciaccess/0.17-GCCcore-12.3.0
```

Unload & remove modules

Type `module purge` to remove all loaded modules:

```
1 {EESSI 2023.06} trainee00@155:~$ module purge
```

Recommended in job scripts before loading any modules (reproducibility).

Use `module rm` or `module unload` to remove/unload a list of modules:

```
2 {EESSI 2023.06} trainee00@155:~$ module rm <modulename> <modulename> ...
```

```
3 {EESSI 2023.06} trainee00@155:~$ module unload <modulename> <modulename> .
```

Inspect modules

Use `module show` to show the variables added to your environment by a module:

```
1 {EESSI 2023.06} trainee00@l55:~$ module show amdahl
2 -----
3 /cvmfs/software.eessi.io/versions/2023.06/software/linux/x86_64/...
4 -----
5 ...
6 load("gomp/2023a")
7 load("Python/3.11.3-GCCcore-12.3.0")
8 load("mpi4py/3.1.4-gomp-2023a")
9 prepend_path("CMAKE_PREFIX_PATH", "/cvmfs/software.eessi.io/versions...
10 setenv("EBROOTAMDAHL", "/cvmfs/software.eessi.io/versions/2023.06/so...
11 ...
```

Sometimes a module has dependencies, it loads them automatically.

No need to load a module before inspecting it.

- Login to VSC-4/5
- Start EESSI
- How many **Armadillo** packages are there?
- Find a **GROMACS** package.
- Which **mpi** packages are available?
- Find an **OpenMPI** compiled with intel.
- Load a **matplotlib** *python* extension.
- List the loaded modules.