

Building software with EasyBuild

The [EasyBuild](#) framework is available on the system by loading the module `EasyBuild-custom`. This module defines the location of the EasyBuild configuration files, recipes and installation directories. Once you have loaded the EasyBuild modulefile, you can check the EasyBuild version loaded and the default configuration executing the EasyBuild command `eb` with the options `--version` or `--show-config` respectively, as shown in the example below (we report only the most useful configuration options in the output):

EasyBuild configuration

```
$ module load EasyBuild-custom/cscs

$ eb --version
This is EasyBuild 4.5.1 (framework: 4.5.1, easyblocks: 4.5.1) on host uan03.

$ eb --show-config
# Current EasyBuild configuration
# (C: command line argument, D: default value, E: environment variable, F: configuration file)
#
buildpath                (E) = /run/user/21827/easybuild/build
installpath              (E) = /users/lucamar/easybuild/eiger
optarch                  (E) = x86-rome
prefix                   (E) = /users/lucamar/easybuild/eiger
robot-paths              (E) = /apps/common/UES/jenkins/production/easybuild/easyconfigs/, /apps/common/UES
/easybuild/software/EasyBuild/4.5.1/easybuild/easyconfigs
sourcepath               (E) = /apps/common/easybuild/sources
tmpdir                   (E) = /run/user/21827/easybuild/tmp
```

As reported in the output of the command `eb --show-config`, the configuration items labeled with (E) are defined by an environment variable `EASYBUILD_<item>`, where `item` is in uppercase letters. Therefore the `buildpath` is defined by the variable `EASYBUILD_BUILDPATH`, whereas the `prefix` (that defines the `installpath` of the modules created by EasyBuild) is defined by `EASYBUILD_PREFIX`. You can change these configuration items editing the corresponding environment variable. Please use the EasyBuild search option `--search` to access the EasyBuild script (also known as `easyconfig` file) used to build a software. For instance, we can search the most recent script available to build the software `GROMACS` with the toolchain `cpeGNU`:

EasyBuild search

```
$ eb --search GROMACS | grep cpeGNU | tail -1
* /apps/common/UES/jenkins/production/easybuild/easyconfigs/g/GROMACS/GROMACS-2021.5-cpeGNU-21.12.eb
```

In the example above, we have filtered the results of the search with the linux command `grep` to match the selected toolchain. The outcome is the full path of the script used to build the modulefile: this is a python script that can be invoked using the EasyBuild command `eb` followed by the recursive flag `-r` to build the selected software together with its dependencies. For more options, please have a look at the short help message returned by `eb -h` or the full help message with the command `eb -H`.



The usage of EasyBuild on the system follows the same guidelines of the production systems at CSCS, that are available on the [dedicated page](#) of the User Portal.