

# The Lofar Login Environment (LLE)

This page describes the standard login environment for new users on the LOFAR cluster nodes. Existing accounts can be easily modified; see below for a manual to do this.

## General

The Lofar Login Environment sets a few things for your account, and allows you to easily initialise often used packages and tools at login time. To this purpose we provide a few simple standardized login-scripts.

## Use (t)csH or bash!

To be able to use the LLE environment you must either use a (t)csH or bash login shell. We do not support scripts for any other shells.

## What to do when you get an account

### (t)csH

If you have chosen for the (t)csH shell, you do as follows:

- Log in to the frontend node lhn001 or lfe001 and go to your (empty) \$HOME directory
- > ln -s /opt/cep/login/cshrc .cshrc.
- Log out and login again; you should see a welcome message (and no errors...).

### bash

If you have chosen for the bash shell, you do as follows:

- Log in to lhd002 and go to your (empty) \$HOME directory
- > ln -s /opt/cep/login/bashrc .bashrc
- > ln -s /opt/cep/login/profile .profile
- Log out and login again; you should see a welcome message (and no errors...).

## How to transform existing accounts?

To use the LLE in an existing account, rename your existing .cshrc or .bashrc in your \$HOME and follow the instructions given above.

Make sure that possibly existing files \$HOME/.login, \$HOME/.setenv and \$HOME/.alias that you

still want to use at login time are renamed to `$HOME/.mylogin`, `$HOME/.mysetenv`, `$HOME/.myalias`.

## The LLE scripts

Some of the details are presented here.

### What is `$APS_LOCAL` ?

The root directory for the scripts is provided in environment variable `$APS_LOCAL`, whose value is set in the `.cshrc` and `.bashrc` scripts. The actual value is:

- CEP processing clusters (CEP1, CEP2, CEP3): `/opt/cep`

### Login scripts

In directory `${APS_LOCAL}/login` are a number of default login scripts. The scripts ending with `.bash` are for the bash shell, the others for the `(t)csh` shell:

- `cshrc` → Sets `APS_LOCAL` and calls the other scripts for `(t)csh` environments
- `bashrc` → Sets `APS_LOCAL` and calls the other scripts for bash environments
- `profile` → Needed for bash users on Ubuntu systems; calls `bashrc`.
- `login` → Displays welcome message; no settings
- `setenv` → adds some items to `$PATH`, sets your prompt, etc.
- `alias` → some default aliases to make life easy
- `setpackages` → script to define packages to initialize at login-time

Users should **NEVER** modify these default scripts. In their `$HOME` sthey should be symlinks to the versions in `/opt/cep/login`. Personalization of your login is possible through other scripts like `.myalias` and `.mysetenv`.

### Personal command aliases: `.myalias`

Personal command aliases can be added to a file `$HOME/.myalias`. When this file exists, the `.cshrc` or `.bashrc` script will read this file after reading the default `${APS_LOCAL}/login/alias(.bash)`.

### Personal environment settings: `.mysetenv`

Personal extensions to `$PATH`, personal environment variables, personal prompt setting, or overloaded existing environment variables should be done in a file `$HOME/.mysetenv`. If this file exists, the `cshrc` or `bashrc` script will read this file.

## Package initialisation

Many packages are available from the distribution of the Operating System. Several packages are added later on. To activate these, environment variables like `PATH`, `LD_LIBRARY_PATH`, `PYTHONPATH` must be set correctly. To help you, we have created package initialization scripts that you can call to set these parameters correctly.

A list of packages available on the offline processing cluster can be found [on this page](#).

### On the commandline

To initialize a package, you must know the name of the initialization file. These can be found in directory `${APS_LOCAL}/scripts`. An example of such a filename is `doLofIm`. This file initializes the LofIm package. You can execute it by typing:

```
> use LofIm
```

It can be quite cumbersome to have to initialize all your required packages each time in each shell window you open. Therefore we have made available an option to initialize a list of packages at login time.

For packages that are build daily and that have a version available for all days of the week (LUS, LofIm), you can also specify a day of week on the commandline:

```
> use LofIm Tue
```

### .mypackages

To initialize the use of installed packages at login time you must create a file `$HOME/.mypackages`. If this file exists, it is used by the LLE script `setpackages`.

In the directory `${APS_LOCAL}/scripts` you will find available package initialization scripts, named like `do<package>` (e.g., `doCasa`, `doLofIm`). Whenever you add a package to the file `$HOME/.mypackages`, the associated script in `$APS_LOCAL/scripts` will be source'd.

The file `$HOME/.mypackages` can look like this example:

```
Casa  
LofIm
```

Provide only one package per line. Also note the use of `<package>` and `do<package>`; both are accepted. If an initialization script for a package cannot be found, it will be reported to the user.

For packages that are build daily and that have a version available for all days of the week (LUS, LofIm), you can also specify a day of week in the `.mypackages` file:

```
LofIm Tue
```

## How to add a personal package

Apart from the systemwide `do<package>` files provided in directory `$APS_LOCAL/scripts`, users can add their personal `do<package>` files in their `$HOME` and have these run at login time. If there is a `do<package>` file both in `$HOME` and in `$APS_LOCAL/scripts`, the version in `$HOME` has preference and will be executed. This can be used to test a different version of a package, etc... To add a new, personal, package, act as follows:

- Install the package
- Create a `$HOME/do<package>` initialization script (e.g., adding the installation directory to your `$PATH`)
- Add `<package>` to the list of packages in file `$HOME/.mypackages`

## Starting X environment

To start up an X environment you have to make sure that

- The files `$HOME/.xinitrc` and `$HOME/.xsession` are removed

Determine the colordepth that you need (8, 16, 24 bit display) and type:

```
startx -- :1 -depth <colordepth>
```

This should start your X environment at the proper colordepth. This will create an additional X Server next to the one you are already running. You can access this with Alt-F8 or Cntl-Alt-F8. The F7 variant will give you back your normal X.

Due to the large latency and large bandwidth required for X-traffic, it is advisable to connect to the CEP systems with the NX-client on your system. See [this page for more info](#).

## Help!

If you need help, or have questions, or want to give any other comments, contact Arno Schoenmakers or Adriaan Renting.

New `do<xxxx>`-files can be added at any time if you have a new package that should be available systemwide. Contact Arno Schoenmakers or Adriaan Renting in this case.

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