The Lofar Login Environment (LLE)

This page describes the standard login environment for new users on the LOFAR cluster nodes like CEP3. 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
- `> 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 these should be symlinks to the versions in /opt/cep/login. Personalization of your login is possible through other scripts like .myalias and .mysetenv (see below).

Personal command aliasses: .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 lateron. 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 largte 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 Reinoud Bokhorst.

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 Reinoud Bokhorst in this case.