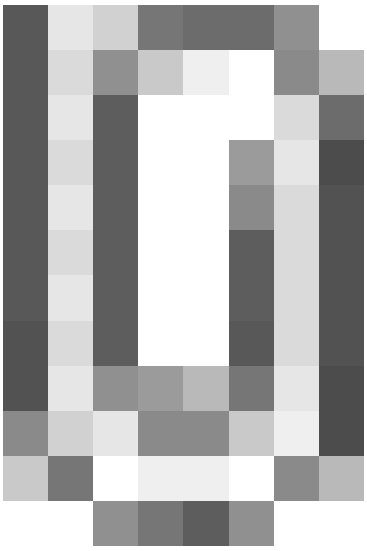
Working on TGCC

Table of Content

1. TGCC presentation

■http://www-hpc.cea.fr/en/complexe/tgcc.htm

2. TGCC's machines and file systems



3. How to install your environment on TGCC

- More information on the open-access website: ■http://www-hpc.cea.fr/en/complexe/tgcc.htm
  Online access to the machines' users manual (you will need a TGCC login and password): ■https://www-tgcc.ccc.cea.fr/ .
  - Online access to technical issues and news : ■https://www-tgcc.ccc.cea.fr/en/news/index.html
- The available TGCC's machine is currently **curie** (Bull Sandybridge).
- Note: the **$HOME/.snapshot** directory contains hourly, daily, and weekly backups of your $HOME files.

It is important to take the time to install a comfortable and efficient environment.

We suggest the user to use the p86ipsl login's environment (in bash) as an example (either copy or source the `~p86ipsl/.bashrc` file). See the `~p86ipsl/.bashrc` file

```
ryyy999@curie: cat ~/.bashrc
#-----------------------------------------------------
# PLATFORM ENVIRONMENT
#-----------------------------------------------------
source ~p86ipsl/.bashrc
ryyy999@curie: cp ~p86ipsl/.profile .
```

In this environement is specified:

the path to the compiler tool `fcm` and to the `rebuild` tool which recombines output files from a parallel model:

```
export PATH=~p86ipsl/fcm/bin:~p86ipsl/X64_CURIE/bin:$PATH
```

- the load of modules giving access to computing or post processing libraries and tools needed on our platform (done in ~p86ipsl/.atlas_env_netcdf4_curie_ksh). The revision numbers may change, currently (23/10/2014) following modules are loaded for computing. Note the netcdf 4 library:

```
module load ghostscript/9.04
module load ferret/6.6.7
module unload cdo
module unload nco
```

```
module unload netcdf
module unload hdf5
module load gsl/1.14
module switch hdf5 hdf5/1.8.9_parallel
module switch netcdf netcdf/4.2_hdf5_parallel
module load cdo
module load imagemagick/6.7.4
module load nco/4.1.0
```

4. Project and computing needs

- To find out the computing time used by the projects you are involved in (daily update):

```
ryyy999@curie: ccc_myproject
```

- Specify in the header the project from which your job will use computing time:

```
#MSUB -A genxxx
```

5. About file systems

5.1. Quotas

To check the available and used storage capacities of `HOME`, `SCRATCH`, `CCCWORKDIR` and `CCCSTOREDIR`:

```
ryyy999@curie: ccc_quota
```

On the curie machine this command will also return the space used by scratch (a specificity of the curie machine).

5.2. SCRATCHDIR

The `$SCRATCHDIR`directory is often cleaned and only files that are less than 40 days are stored.

5.3. CCCWORKDIR

The `$CCCWORKDIR` directory corresponds to the `$WORKDIR` directory on curie. It is large but its content is not backed up.

5.4. CCCSTOREDIR

To manipulate the files in /ccc/store a few commands are useful:

```
# Demigrate a list of files on CCCSTOREDIR, see also "ccc_hsm -h"
ccc_hsm get $CCCSTOREDIR/FICHIER1 $CCCSTOREDIR/FICHIER2 ...

# Demigrate recursively the files from a CCCSTOREDIR directory, see also "ccc_hsm -h"
ccc_hsm get -r $CCCSTOREDIR/REPERTOIRE

# Find out the used space on CCCSTOREDIR
cd $CCCSTOREDIR ; find . -printf "%y %s %p \n"  | \
    awk '{ SUM+=$2 } END {print "SUM " SUM/1000000 " Mo " SUM/1000000000 " Go" }'

# or use --apparent-size with du :
du -sh --apparent-size
```

5.5. ccc_home command to know directory complete pathname

ccc_home could help you to find directory complete pathname for an other user or for you .

```
>ccc_home -h
ccc_home: Print the path of a user directory (default: home directory).
usage: ccc_home [ -H | -s | -t | -W | -A | -G | -a] [-u user]
               [-h, --help]

-H, --home         :  (default) print the home directory path ($HOME)
-s, -t, --scratch  :  print the scratch directory path   ($SCRATCHDIR)
-W, --cccwork      :  print the CCC work directory path  ($CCCWORKDIR)
-A, --cccstore     :  print the CCC store directory path ($CCCSTOREDIR)
-G, --cccgenostore :  print the CCC genostore directory path ($CCCGENOSTOREDIR)
-a, --all          :  print all paths
-u user            :  show paths for the specified user instead of the current user
-h, --help         :  display this help and exit

> ccc_home -A -u ryyy999
/ccc/store/cont003/dsm/ryyy999
```

5.6. Storage spaces available from DODS

To store a file for the first time on dods, you must ask for dods write access by mail to the TGCC hotline access : `hotline.tgcc@cea.fr`.

6. End-of-job messages

To receive the end-of-job messages sent by the job itself: end of simulation, error,... you must specify your address in the `$HOME/.forward` file.

7. Simulation outputs

Final simulation outputs are stored in `$CCCSTOREDIR/IGCM_OUT` and on `$CCCWORKDIR/IGCM_OUT` regarding the `ATLAS` and `MONITORING` directories.

The dods servers on TGCC are available via: `dods.extra.cea.fr/store` (files such as `Analyse/TS` and `Analyse/SE`) and `dods.extra.cea.fr/work` for `ATLAS` and `MONITORING`.

Since June 2014, thredds server are also available and will replace dods server early 2015:

- ■http://esgf.extra.cea.fr/thredds, click on DODSSTORE, click on your login or directly :
  ■http://esgf.extra.cea.fr/thredds/catalog/DODSSTORE/YOURLOGIN/catalog.html and ATM (or an other component) for `Analyse` files (TS or SE)
- ■http://esgf.extra.cea.fr/thredds, click on DODSWORK, click on your login or directly :
  ■http://esgf.extra.cea.fr/thredds/catalog/DODSWORK/YOURLOGIN/catalog.html for `ATLAS` and `MONITORING`

8. About password

ccc_password_expiration helps you to know expiration date of your password. Currently password have to be changed one time per year.

```
 > ccc_password_expiration
Password for xxxxx@USERS-CCRT.CCC.CEA.FR: PPPPPPPPPP
Your password will expire in 70 days on Fri Nov 22 08:42:59 2013
> ccc_password_expiration -h
Usage: ccc_password_expiration [username[@realm]]
```

9. The TGCC's machines

- Curie