# Working on Ada

## Table of Content

## 1. IDRIS users' manual

- See: ■http://www.idris.fr/ada/ for ada
- See: ■http://www.idris.fr/adapp for adapp : pre-post-treatment

## 2. Commands to manage jobs on ada

- The job's time limit is measured in real time, for example 1 hour on 32 procs accounts for 32 hours. Be careful not to have too much time on 1 processor.
- llsubmit --> submit a job
- llcancel --> cancel a job
- llq -u *login* --> indicates all jobs in the queue or running for the login *login*
- Trick: parameterize the llq display to see the job names

```
llq -u $(whoami) -f %jn %id %st %c %dq %h -W
```

- Post-mortem : jar , jar -l -j #jobid#, to obtain detailed information: memory, real time, efficiency,...
  - on adapp, use : /smplocal/bin/jar
- Example of jar output :

```
ada > jar
|-------------------------------------------|
|--- IDRIS/CNRS. Version du 18 février 2013 ---|
|-------------------------------------------|

Sorties concernant l'identifiant rpslxxx pour la période du
       ==> 01 juin 2013 au 19 juin 2013


Owner    Job Name       JobId       Queue tEse  tCpu   #T   (%)   S
-------  -----------  ---------------  -----  ----  ------  ---  -------  -
rpslxxx  ADA337       ada338.290170.0 c32t2  133    1232   32   28.95 C
rpslxxx  ADA337       ada338.290333.0 c32t2  5425 165141   32   95.13 C
rpslxxx  PACKDEBUG    ada338.290610.0 t2      11       2    1   18.18 C
rpslxxx  ADA337       ada338.290438.0 c32t2  5471 166878   32   95.32 C
rpslxxx  PACKRESTART  ada338.290611.0 t2     182      25    1   13.74 C
rpslxxx  REBUILDWRK   ada338.290612.0 t2    1577     503    1   31.90 C
rpslxxx  PACKOUTPUT   ada338.290730.0 t2     114      43    1   37.72 C
```

## 3. Example of a job to start an executable in MPI

Here is an example of a simple job to start an executable orchidee_ol (or gcm.e commented). The input files and the executable must be in the directory before starting the executable.

```
#!/bin/ksh
# #####################
# ##   ADA IDRIS   ##
# #####################
# Query's name
# @ job_name = test
# Job type
# @ job_type = parallel
# Standard output file
# @ output = Script_Output_test
# Error output file (the same)
# @ error = Script_Output_test
# Number of requested processes
# @ total_tasks = 8
```

```
# max. CPU time per MPI process hh:mm:ss
# @ wall_clock_limit = 1:00:00
# Number of task OpenMP/pthreads per MPI process
### @ parallel_threads = 4
# End of header
# @ queue

export LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:/smplocal/pub/NetCDF/4.1.3/lib:/smplocal/pub/HDF5/1.8.9/seq/lib

poe ./orchidee_ol
#poe ./gcm.e
```

## 4. Information on Gaya files from Ada

The `mfls` command on Ada provides information on the Gaya files.

## 5. Specificities libIGCM on Ada

At IDRIS and for Ada, output files are 'packed' using libIGCM_v2, i.e. they are grouped by periods (in general 1 year) using the command `tar` or `ncrcat` for NetCDF output files.

This has been a default setup at TGCC for a few months. It is a new feature since February 2013 for IDRIS.

The diagram below shows the different options offered by libIGCM. The 3rd option is currently activated by default at IDRIS. This option implies that files must be temporarily stored on the $WORKDIR space, which means that a large storage is needed (at least 20 To).



Simulations avec libIGCM : les options
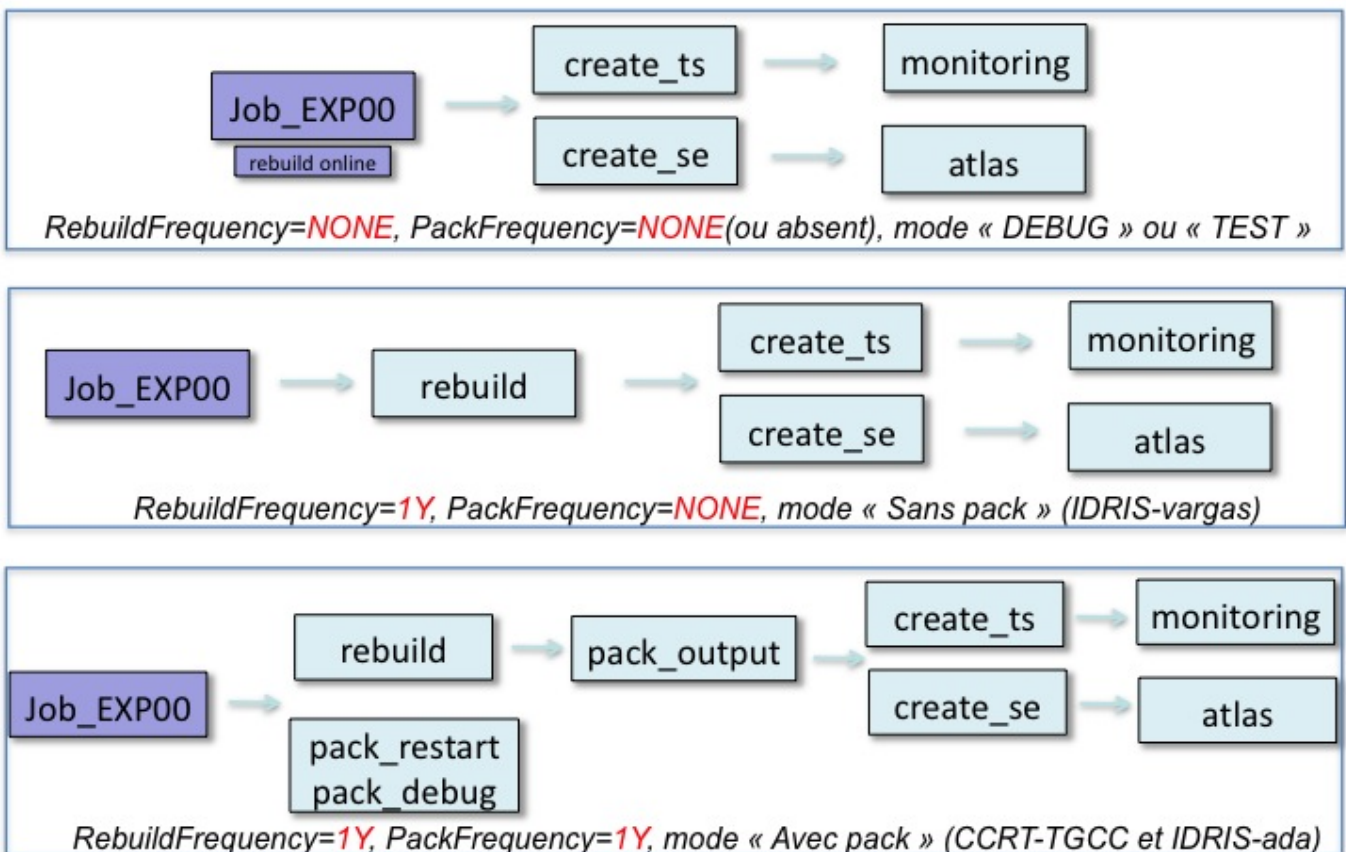
The diagram below details the added jobs `pack_debug`, `pack_restart` and `pack_output` as well as the directories those jobs are using. Note that the files are temporarily stored in the $WORKDIR/IGCM_OUT directories before being grouped and sent on Gaya in the IGCM_OUT directories.
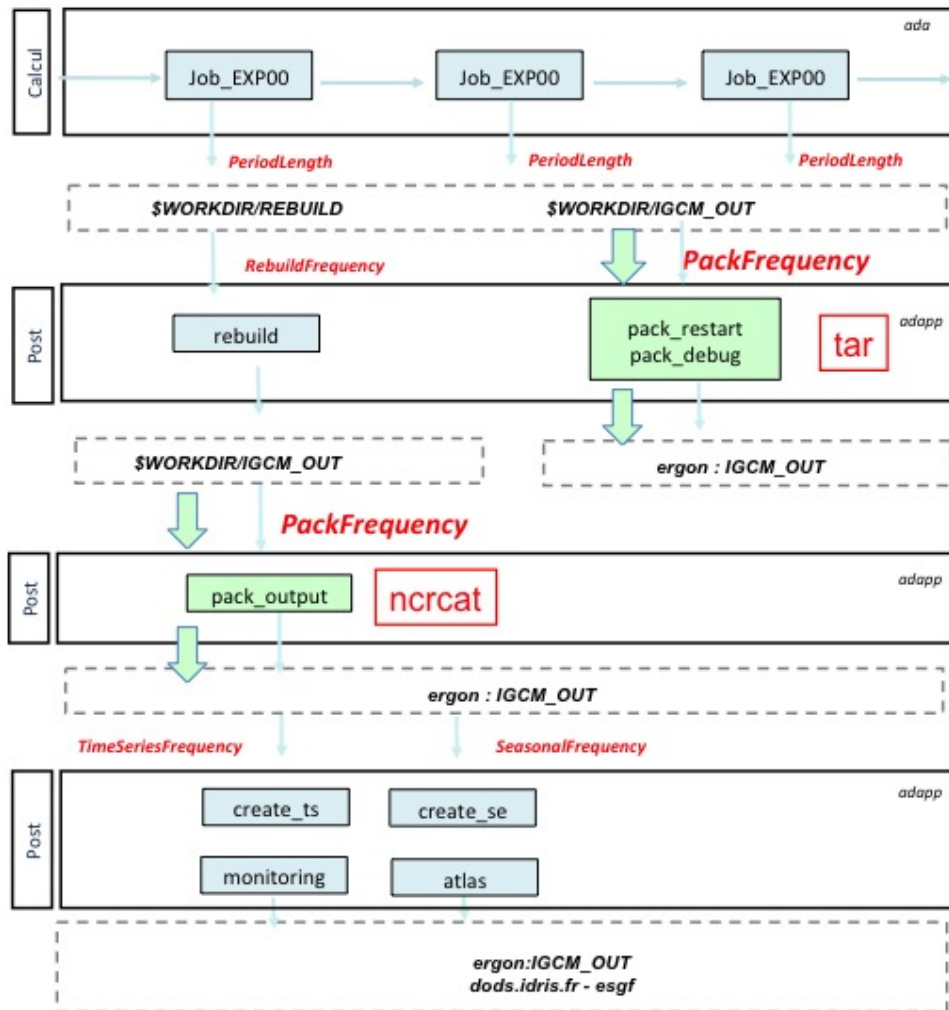


You will obtain annual output files with 12 monthly values in the Output/MO directory if you put `PackFrequency=1Y` in `config.card`. This is the default grouping period of most configurations but you can of course change it.

What you must remember:

- The tool RunChecker.job is meant to help you monitoring your simulations. It offers a synthetic view of the different post processing jobs' status.
- The tool clean_year.job is meant to help you clean until the last successfully computed pack period.
- If you detect anomalies and must rerun part of the simulation, you will have to make new complete pack periods (e.g. filling a gap by running 1 month of simulation is out of the question).
- The restart files are stored and grouped on Gaya in the directory IGCM_OUT/.../RESTART
- The different output text-files are stored and grouped on Gaya in the directory IGCM_OUT/.../DEBUG
- The listings for pack-jobs outputs stay on Ada in the directory $WORKDIR/IGCM_OUT/.../Out
- If you put the `SpaceName=TEST`parameter in `config.card` the pack jobs will not be started and your simulation will be stored as before in the WORKDIR/IGCM_OUT directory. This can be very useful for short tests.

To learn more about this Section, you can read the documentation on Simulation and post-processing and on Monitor, debug and relaunching.

Finaly, in case of panic, visit us or send your questions to the list platform-users.