Wikiprint Book

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wrf4g_framework

Usage

wrf4g_framework {start|stop|restart|reload|status}

Synopsis

wrf4g_framework manages WRF4G framework components: GridWay and MySQL (in case it is needed). It load the framework configuration from `$WRF4G_LOCATION/etc/framework4g.conf`.

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wrf4g_prepare

Usage

wrf4g_prepare [--dry-run] [--reconfigure] [--verbose] [--help]

Synopsis

Given a file (experiment.wrf4g) describing the experiment, prepare the experiment creating the realization and chunks needed to perform it.

Options

```
 --dry-run        Perform a trial run with no changes made.
--reconfigure    Reconfigure experiment. With this option we can change the start and end date of the experiments
                 and add new physics. Values are taken from a modified experiment.wrf4g.
--verbose        Verbose mode. Explain what is being done
--help           Shows this help
```

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wrf4g_submit

Usage

wrf4g_submit [--dry-run] [--{exp Experiment|rea Realization|frea File|chunk ChunK|nchunk Number_of_chunks|nrea Number_of_realizations}] [--rerun] [--run-just-one][--priority P] [--verbose] [--force] [--tdep afterok | afternotok | afterany] [--help]

Synopsis

wrf4g_submit command submits an experiment or realization. If the user do not specify an experiment or realization with the options, the name of the experiment will be retrieved from experiment.wrf4g in case it exists in the current folder.

Options

```
 --version             show program's version number and exit
-h, --help             show this help message and exit
-n, --dry-run          Perform a trial run with no changes made
-e name, --exp=name    Name of the experiment to sumbit
-r name, --rea=name    Name of the realization to sumbit
-F FILE, --frea=FILE   File containing the name of the realization to sumbit.
-a, --rerun            Force to run although ths realization or experiment
                       has finished
-o, --run-just-one     Run just the first chunk of the first realization.
                       Only for testing purposes.
-C N, --nchunk=N       Run the next N chunks not finished of each realization
-R N, --nrea=N         Run the next N realizations not finished of the
                       experiment
-p P, --priority=P     P is the priority of the experiment or realization is
                       going to be launched (P is a integer between 0 and 20)
```

```
 -v, --verbose         Verbose mode. Explain what is being done
 -f, --force           Don't ask the user if he wants to submit an experiment
                       already submitted
 -d TYPE_DEP, --tdep=TYPE_DEP
                       Specify dependencies between Chunks. afterok: The
                       chunk may be scheduled for execution only after jobs
                       jobid have terminated with no errors.  afternotok: The
                       chunk may be scheduled for execution only after jobs
                       jobid have terminated with errors. afterany: The chunk
                       may be scheduled for execution after jobs jobid have
                       terminated, with or without errors.
```

---

wrf4g_status

Usage

wrf4g_status [--{exp Experiment|rea Realization}] [--long] [--ncharacters N] [--help]

Synopsis

wrf4g_status command prints the experiment or realization status.

Options

```
  --version             show program's version number and exit
 -h, --help            show this help message and exit
 -e name, --exp=name   Name of the experiment.
 -r name, --rea=name   Name of the realization
 -l, --long            Show a detailed status.
 -n NUMBER_OF_CHARACTERS, --ncharacters=NUMBER_OF_CHARACTERS
                       Print n characters of the name of the Experiment or
                       Realization (default value is 20 characters)
```

Output field description

Summarized output: Shows realizations' status of each experiment (Default).

```
[user@mycomputer~]$ wrf4g_status
Experiment P   W   R   D   F
test       0   0   0   1   0
uc_phys    0   4   1   0   0
uc_single  1   0   0   0   0
```

- P: Prepared
- W: Waiting
- R: Running
- F: Failed

Long output: Shows a detailed realization status of every experiment

```
[user@mycomputer~]$ wrf4g_status --long
Realization        GW  Stat Chunks Comp.Res   WN         Run.Sta       ext   %
test               2     D  3/3    mycomputer sipc18     Finished       0 100.00
uc_phys__phys1     3     R  1/3    mycomputer sipc18     WRF            - 0.00
uc_phys__phys2     6     W  1/3    -          -          Submitted      - 0.00
uc_phys__phys3     9     W  1/3    -          -          Submitted      - 0.00
```

```
uc_phys__phys4     12    W  1/3    -          -          Submitted      - 0.00
uc_phys__phys5     15    W  1/3    -          -          Submitted      - 0.00
uc_single          -     P  0/3    -          -          Prepared       - 0.00
```

- Realization: Realization name.
- Status: It can be take the following values: P(Prepared), S(Submitted), R(Running), F(Failed) and D(Done).
- Chunks [Chunk currently running/Total Chunks]: A realization is split into chunks. Each chunk is sent as a job.
- Computer resource: Computing Resource where the job is running. (It has to be one of the resources listed by wrf4g_resources)
- WN: Computing node where the job is running.
- Run.Sta: Job status in the WN (Downloading data, running ungrib, real, wrf, ...)
- ext: Exit Code. If exit code is different from 0, there has been an error. Error codes are explained in `$WRF4G_LOCATION/lib/bash/wrf4g_exit_codes.sh`
- % : percentage of simulation finished.

---

wrf4g_resources

Usage

wrf4g_resources [-h] [-c delay] [-nfx] [-m job_id] [host_id]

Synopsis

Prints information about all the resources configured in framework4g.conf (default)

Options

```
  -h           print this help
 -c delay     refresh host information every delay seconds
 -n           do not print the header
 -f           full format
 -x           xml format
 -m job_id    print hosts matching the requirements of a given job
 host_id      only monitor this host_id, printing also queue information
```

Output field description

```
[user@mycomputer~]$  wrf4g_resources
HID PRIO OS              ARCH   NODES(U/F/T) LRMS              HOSTNAME
0   1    GNU/Linux2.6.32 x86_6         0/1/1 FORK              mycomputer
1   1    GNU/Linux2.6.18 x86_6       88/0/88 PBS               asna_t1
2   1    GNU/Linux2.6.18 x86_6     168/0/168 PBS               asna_b2
```

```
FIELD INFORMATION
 HID          host unique identification assigned by the GridWay system
 PRIO         priority assigned to the host
 OS           operating system
 ARCH         architecture
 NODES(U/F/T) number of slots: U = used by GridWay, F = free, T = total
 LRMS         local resource management system, the jobmanager name
 HOSTNAME     FQDN of this hostthe

QUEUE FIELD INFORMATION
 QUEUENAME    name of this queue
 SL(F/T)      slots:  F = Free, T = Total
 WALLT        queue wall time
 CPUT         queue cpu time
 COUNT        queue count number
```

```
MAXR         max. running jobs
MAXQ         max. queued jobs
STATUS       queue status
DISPATCH     queue dispatch type
PRIORITY     queue priority
```

wrf4g_priority

Usage

wrf4g_priority [--dry-run] [--{exp Experiment |rea Realization |frea File}] [--priority P] [--verbose] [--help]

Synopsys

Change the priority of an experiment or realization. The priority must be in range [0,20] and default value is 0. When a chunk gets a priority of 20, it becomes an urgent. This chunk is dispatched as soon as possible, bypassing all the scheduling policies.

Options

```
 --version             show program's version number and exit
-h, --help            show this help message and exit
-n, --dry-run         Perform a trial run with no changes made
-e name, --exp=name   Name of the experiment to sumbit
-r name, --rea=name   Name of the realization to sumbit
-F FILE, --frea=FILE  File containing the name of the realization to change
                      of the priority
-v, --verbose         Verbose mode. Explain what is being done
-p PRIORITY, --priority=PRIORITY
                      The priority must be in range [0,20].
```

wrf4g_kill

Usage

wrf4g_kill [--dry-run] [--{exp Experiment |rea Realization|frea File}] [--verbose] [--help]

Synopsys

wrf4g_kill command kills the jobs that belong to an experiment or realization. Additionally, the experiment and realization ckunks, which have not done, will go back to "Prepared" status.

Options

```
  --version            show program's version number and exit
-h, --help            show this help message and exit
-n, --dry-run         Perform a trial run with no changes made
-e name, --exp=name   Name of the experiment to sumbit
-r name, --rea=name   Name of the realization to sumbit
-F FILE, --frea=FILE  File containing the name of the realization to kill.
-v, --verbose         Verbose mode. Explain what is being done.
```