GC3Pie - The GC3Pie utils

GC3: Grid Computing Competence Center,
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Low level tools to debug your scripts

gservers	list status of computational resources
ginfo	print detailed information about jobs in a session
gstat	print status of the jobs in a session
gkill	kill jobs.
gclean	cleanup (call it after gkill)

gservers

```
> gservers
+-----------------------------------------------------------+
|                        localhost                          |
+===========================================================+
|                 Accessible? / updated     1               |
|              Total queued jobs / queued   0               |
|             Own queued jobs / user_queued 0               |
|               Own running jobs / user_run 0               |
|         Max cores per job / max_cores_per_job 2           |
| Max memory per core (MB) / max_memory_per_core 2e+09B     |
|  Max walltime per job (minutes) / max_walltime 2.88e+10ns |
+-----------------------------------------------------------+
```

ginfo (failure example)

```
> python ex05c –s session1
> ginfo –s session1

c3.gc3libs: WARNING: Failed loading file 'session1/jobs/GArchApplication.228403':
  ImportError: No module named ex05c
Traceback (most recent call last):
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 115, in load
    obj = self._load_from_file(filename)
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 92, in _load_from_fi
    obj = unpickler.load()
ImportError: No module named ex05c
gc3.gc3libs: WARNING: Ignoring error from loading 'GArchApplication.228403':
  Failed retrieving object from file 'session1/jobs/GArchApplication.228403': ImportError:
  No module named ex05c
gc3.gc3libs: WARNING: Failed loading file '/home/amessina/session1/jobs/GArchApplication.22
Traceback (most recent call last):
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 115, in load
    obj = self._load_from_file(filename)
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 92, in _load_from_fi
    obj = unpickler.load()
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gc3.gc3libs: ERROR: Could not retrieve job 'GArchApplication.228403' (LoadError: Failed
retrieving object from file '/home/amessina/session1/jobs/GArchApplication.228403': ImportE
No module named ex05c). Ignoring.
```

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  No module named ex05c
gc3.gc3libs: WARNING: Failed loading file '/home/amessina/session1/jobs/GArchApplication.228
Traceback (most recent call last):
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 115, in load
    obj = self._load_from_file(filename)
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 92, in _load_from_fil
    obj = unpickler.load()
ImportError: No module named ex05c
gc3.gc3libs: ERROR: Could not retrieve job 'GArchApplication.228403' (LoadError: Failed
retrieving object from file '/home/amessina/session1/jobs/GArchApplication.228403': ImportE:
No module named ex05c). Ignoring.
```

`ginfo` (failure example)

```
> python ex05c -s session1
> ginfo -s session1


c3.gc3libs: WARNING: Failed loading file 'session1/jobs/GArchApplication.228403':
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  Failed retrieving object from file 'session1/jobs/GArchApplication.228403': ImportError:
    No module named ex05c
gc3.gc3libs: WARNING: Failed loading file '/home/amessina/session1/jobs/GArchApplication.228
Traceback (most recent call last):
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 115, in load
    obj = self._load_from_file(filename)
  File "/home/amessina/gc3pie/gc3libs/persistence/filesystem.py", line 92, in _load_from_fil
    obj = unpickler.load()
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retrieving object from file '/home/amessina/session1/jobs/GArchApplication.228403': ImportE
No module named ex05c).  Ignoring.
```

GC3Utils and the PYTHONPATH

In order to work, gc3info and the other tools need to access the class definitions of your script.

To fix this issue, always remember to:

– add in your script file an **if** block like the following:

```
if __name__ == "__main__":
    from ex05c import GArchScript
    GArchScript().run()
```

– set the PYTHONPATH variable to the directory containing your script:

```
> export PYTHONPATH=$(pwd)
```

Reference: https://github.com/uzh/gc3pie/issues/95

ginfo (finally working)

```
> ginfo -s session1

GArchApplication.228404
    execution_targets:
    history:
        Submitting to 'localhost' at Sun Sep 30 12:33:22 2012 at
                Sun Sep 30 12:33:22 2012
        RUNNING at Sun Sep 30 12:33:22 2012
        SUBMITTED at Sun Sep 30 12:33:22 2012
        Submitted to 'localhost' at Sun Sep 30 12:33:22 2012 at
                Sun Sep 30 12:33:22 2012
    lrms_execdir: /tmp/gc3libs.rd5fzT.tmp.d
    lrms_jobid: 27357
    resource_name: localhost
    state_last_changed: 1349001202.21
    timestamp:
        NEW: 1349001202.2
        RUNNING: 1349001202.21
        SUBMITTED: 1349001202.21
```

gstat

```
> gstat –n –s session1

        JobID              Job name          State
Info
========================================================================================)
====================================================
GArchApplication.228404   GArchApplication-N1   SUBMITTED   Submitted to 'localhost' at)
 Sun Sep 30 12:33:22 2012 at Sun Sep 30 12:33:22 2012
```

gkill

Submit a job and check that it's running.

```
> python ex05c.py -s session1
> gstat  -s session1
        JobID                   Job name            State
Info
================================================================================================
GArchApplication.228411  GArchApplication-N1  SUBMITTED  Submitted
to 'argo' at Sun Sep 30 13:04:30 2012 at Sun Sep 30 13:04:30 2012
```

Cancel it using `gkill`:

```
> gkill -s session1 GArchApplication.228411
Sent request to cancel job 'GArchApplication.228411'.
```

check that the job has been killed.

```
> gstat  -s session1/
        JobID                   Job name            State
Info
================================================================================================
GArchApplication.228411  GArchApplication-N1  TERMINATING  Remote job terminated by signa
```

gclean

- To run after (or instead of) `gkill`
- works only on jobs in final state (TERMINATED or TERMINATING)

```
> gclean -s session1 GArchApplication.228411
```

- all the gc3utils have a `--help` option.
- `gkill` and `gclean` accept a `-A` option to operate on all the jobs.
- Documentation of all GC3Pie tools is available on the internet: http://gc3pie.readthedocs.io/en/master/users/gc3utils.html