



dmlite-shell: improvements and walkthrough

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dmlite-shell

- From v. 0.8.x (DPM 1.9.0) -> DPM administration
 - FS and QuotaToken (ex SpaceToken) management
- New v. 1.10.x includes bug fixes and enhancements for a DOME based installation
- Made for admins and developers, not for users
- Python based, contributions are welcome 😊
- <https://twiki.cern.ch/twiki/bin/view/DPM/DpmAdminDmliteShell>

dmlite-shell - what's new

Version 1.10.0 has been integrated with the new DOME and contains bug fixes and improvements:

Bug fixes:

- Fixing usage of `userid` and `groupis` in *chown* and *chgrp* commands
- When running the *drain* via shell also the last replica is now removed from the FSs ;-)
- *replicadel* wrongly failed if the replica to remove is not the first returned by `getReplicas`
- *qryinfo/poolinfo* command errors on an empty DPM without Legacy stack
- Fixed return codes of some commands

dmlite-shell - what's new

Enhancements:

- Add recursive option to *acl* command
- *Qryconf* command reports the status of the filesystems (ONLINE, DOWN)
- dmlite-shell does not just exit on simple ^C
- Add extension of the current folder to quotatoken* commands
- Add print for quotatoken* commands (to restart DPM daemon)
- Add a check replica status before running draining
- Add force parameter to use drain command with more than 10 threads
- Functional Tests 😊 (thanks to Oliver)

Part of the code is used by the new Infoprovider (see Oliver's presentation)

dmlite-shell - usage warning

- Some of the commands are only working when DOME is enabled
 - qryconf
 - fs*
 - quotatoken*
- For non-DOME installations the corresponding DPM CLI commands have to be used

dmlite-shell – QuotaTokens

Starting with DPM 1.9.0 it's possible to define via dmlite-shell the Quota Tokens for a particular path of the namespace.

- Quotas will be enforced only when the Dome adapter is enabled

Sysadmins have to define the Quota Tokens via the dmlite-shell, this is possible in 2 ways:

- For namespace paths which are not already managed via a SRM spacetoken a new quotatoken needs to be created via the **quotatokenset** command
- For namespace paths managed via a SRM spacetoken, the existing spacetokens need to be 'converted' into Quota Tokens via the **quotatokenmod** command

dmlite-shell – QuotaTokens

The **quotatokenset** command creates a Quota Token assigning it to a specific namespace path

- *quotatokenset* <path> pool <value> desc <value> size <value> groups <value>

The command accepts the following parameter:

- <path> : the path
- pool <poolname> : the pool name associated to the token
- size <size> : the quota size and the corresponding unit of measure (kB, MB, GB, TB, PB), e.g. 2TB , 45GB
- desc <description> : a description of the token
- groups <groups> : a comma-separated list of the groups that have write access to this quotatoken

Example

```
quotatokenset /dpm.cern.ch/home/dteam pool pool01 size 10TB desc "test token" group dteam
```


dmlite-shell – QuotaTokens

The **quotatokenget** command lists the Quota Tokens defined for a given path

- `quotatokenget <path> [-s]`

The command accepts the following parameters:

- `<path>` : the path
- `-s`: the command will print the quota token associated to the subfolders of the given path (optional)

in order to get all quotatoken defined on the system for instance, the following command can be executed:

`quotatokenget / -s`

dmlite-shell – QuotaTokens

The **quotatokenmod** command can be used to modify a particular Quota Token.

- `quotatokenmod <token_id> path <value> pool <value> size <value> desc <value> groups <value>`

The command accepts the following parameters:

- `token_id` : the token id
- `path <path>` : the namespace path
- `pool <poolname>` : the pool name associated to the token
- `size <size>` : the quota size and the corresponding unit of measure (kB, MB, GB, TB, PB), e.g. 2TB , 45GB
- `desc <description>` : a description of the token
- `groups <groups>` : a comma-separated list of the groups that have write access to this quotatoken

this command is needed in order to 'convert' an existing SRM spacetoken to a Quota Token.

dmlite-shell – QuotaTokens

The **quotatoken**del command removes an existing Quota Token from the system.

- `quotatoken`del <path> <pool>

The command accepts the following parameters:

- <path> : the path to remove the quota from
- <pool> : the pool associated to the quota token to remove

i.e.

```
quotatokendel /dpm/cern.ch/home/dteam pool01
```

dmlite-shell – pools and fs

4 commands are available for the Pools management:

- *pooladd* (option to create a Volatile pool: see Caches talk)
 - *poolmodify*
 - *pooldel*
 - *poolinfo*
-
- N.B. Only pools with filesystems can be added when DOME is enabled (S3 and HDFS are not supported)

3 commands for Filesystems management:

- *fsadd*
- *fsdel*
- *fsmodify* (N.B. filesystem weights are not supported with DOME)

dmlite-shell – drain

- The drain commands in dmlite-shell are making use of HTTP for I/O (while dpm-drain uses RFIO)
 - *drainpool, drainserver, drainfs (replicate and replicamove)*
 - Same options as the old drain implementation (plus dryrun)
 - Multithreading (up to 10, more can be forced)
 - Of course it requires LCGDM-DAV properly configured on all disknodes
 - DOME based version is quite fast (thanks to DOME vs Legacy improvement when writing new replicas) and does not need extra conf (i.e. Headnode DN mapping)

dmlite-shell – utilities

- *getchecksum*: get or recalculate a checksum for a file
 - N.B. DOME supports multiple checksum type per file
- *getlfn*: retrieve the LFN associated to the given PFN
- *find*: find a file on the namespace based on a pattern

Next Steps

- Some commands available in the admin-tools package have still to be implemented in the shell
 - *dpm-disk-to-dpns*
 - *dpm-list-disk*
 - *dpm-dpns-to-disk*
 - *dpm-dbck*
- Add recursion on folders to more commands as we did for *acl*.

Summary

- dmlite-shell has all commands for DPM administration and it's more robust.
- The only available admin tool when moving out from DPM/DPNS
- Thanks to sysadmins for reporting issues or suggestions

Questions?

