

Joint EGEe and EDGeS Summer School on Grid Application Support
www.egee.hu/grid09

===== Please report any observations to fotis@mail.cern.ch =====

```
Login:      budapestXX
Password:   GridBUDXX
Hostname:   glite-tutor.ct.infn.it
Access:     ssh budapestXX@glite-tutor.ct.infn.it
```

```
[budapest25@glite-tutor ~]$ ls -las .globus/
total 40
8 drwxr-xr-x  2 budapest25 users 8192 Jun 19 09:49 .
8 drwx----- 4 budapest25 users 8192 Jun 19 09:49 ..
8 -rw-r--r--  1 budapest25 users 1757 Jun 19 09:49 BUDAPEST25.p12
8 -rw-r--r--  1 budapest25 users 1054 Jun 19 09:49 usercert.pem
8 -r-----  1 budapest25 users  963 Jun 19 09:49 userkey.pem
```

```
[budapest25@glite-tutor ~]$ voms-proxy-init --voms gilda
Cannot find file or dir: /home/budapest25/.glite/vomses
Enter GRID pass phrase: BUDAPEST
Your identity: /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25
Creating temporary proxy ..... Done
Contacting voms.ct.infn.it:15001 [/C=IT/O=INFN/OU=Host/L=Catania/CN=voms.ct.infn.it] "gilda" Done
Creating proxy ..... Done
Your proxy is valid until Sat Jun 27 05:52:38 2009
```

```
[budapest25@glite-tutor ~]$ voms-proxy-info
subject    : /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25/CN=proxy
issuer     : /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25
identity   : /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25
type       : proxy
strength   : 512 bits
path       : /tmp/x509up_u11837
timeleft   : 11:59:16
```

```
[budapest25@glite-tutor ~]$ ls -las test*
4 -rw-r--r--  1 gs001 users 321 Apr 29 17:59 test
4 -rw-r--r--  1 gs001 users 168 Apr 29 17:59 test.jdl
```

```
[budapest25@glite-tutor ~]$ cat test.jdl
Executable = "test";
StdOutput  = "test.out";
StdError   = "test.err";
InputSandbox = {"test"};
OutputSandbox = {"test.out", "test.err"};
```

```
[budapest25@glite-tutor ~]$ cat test
#!/bin/sh
/bin/echo "=====
date
/bin/echo "=====
hostname -f
/bin/echo "=====
```

```
[budapest25@glite-tutor ~]$ glite-wms-job-list-match -a test.jdl
```

```
Connecting to the service https://gilda-wms-02.ct.infn.it:7443/glite_wms_wmproxy_server
```

```
=====
COMPUTING ELEMENT IDs LIST
The following CE(s) matching your job requirements have been found:
```

- ```
CEId
- cel-egee.srce.hr:2119/jobmanager-sge-prod
- iceage-ce-01.ct.infn.it:2119/jobmanager-lcgpbs-infinite
- iceage-ce-01.ct.infn.it:2119/jobmanager-lcgpbs-long
- iceage-ce-01.ct.infn.it:2119/jobmanager-lcgpbs-short
- grid010.ct.infn.it:2119/jobmanager-lcgpbs-short
- vega-ce.ct.infn.it:2119/jobmanager-lcgsge-gilda
- gn0.hpc.sztaki.hu:2119/jobmanager-lcgpbs-gilda
- dc01.nesc.ed.ac.uk:2119/jobmanager-lcgpbs-gilda
- ce.hpc.iit.bme.hu:2119/jobmanager-lcgpbs-gilda
- gilda-ce.rediris.es:2119/jobmanager-lcgpbs-gilda
- gilda-ce.rediris.es:2119/jobmanager-lcgpbs-long
- dgt01.ui.savba.sk:2119/jobmanager-lcgpbs-gilda
- ce-edu.grid.acad.bg:2119/jobmanager-pbs-gilda
- gilda-01.pd.infn.it:2119/jobmanager-lcgpbs-gilda
- gilda-ce.rediris.es:2119/jobmanager-lcgpbs-infinite
- gilda-ce.rediris.es:2119/jobmanager-lcgpbs-short
- grid010.ct.infn.it:2119/jobmanager-lcgpbs-infinite
- grid010.ct.infn.it:2119/jobmanager-lcgpbs-long
```

```
[budapest25@glite-tutor ~]$ glite-wms-job-submit -o JobID -a test.jdl
```

```
Connecting to the service https://gilda-wms-01.ct.infn.it:7443/glite_wms_wmproxy_server
```

```
===== glite-wms-job-submit Success =====
```

```
The job has been successfully submitted to the WMPProxy
Your job identifier is:
```

```
https://gilda-lb-01.ct.infn.it:9000/5MA6Pvu36_NqBRFwcKFcOg
```

```
The job identifier has been saved in the following file:
/home/budapest25/JobID
```

```
[budapest25@glite-tutor ~]$ cat JobID
```

```
###Submitted Job Ids###
https://gilda-lb-01.ct.infn.it:9000/5MA6Pvu36_NqBRFwcKFcOg
```

```
[budapest25@glite-tutor ~]$ glite-wms-job-status -i JobID
```

```

BOOKKEEPING INFORMATION:
```

```
Status info for the Job : https://gilda-lb-01.ct.infn.it:9000/5MA6Pvu36_NqBRFwcKFcOg
Current Status: Running
Status Reason: Job successfully submitted to Globus
Destination: iceage-ce-01.ct.infn.it:2119/jobmanager-lcgpbs-short
Submitted: Fri Jun 26 17:58:53 2009 CEST

```

```
[budapest25@glite-tutor ~]$ glite-wms-job-output -i JobID
```

```
Connecting to the service https://gilda-wms-01.ct.infn.it:7443/glite_wms_wmproxy_server
```

```
=====
```

```
JOB GET OUTPUT OUTCOME
```

```
Output sandbox files for the job:
https://gilda-lb-01.ct.infn.it:9000/5MA6Pvu36_NqBRFwcKFcOg
have been successfully retrieved and stored in the directory:
/tmp/jobOutput/budapest25_5MA6Pvu36_NqBRFwcKFcOg
```

```
[budapest25@glite-tutor ~]$ cd /tmp/jobOutput/budapest25_5MA6Pvu36_NqBRFwcKFcOg
```

```
[budapest25@glite-tutor budapest25_5MA6Pvu36_NqBRFwcKFcOg]$ ls -las
```

```
total 20
4 drwxr-xr-x 2 budapest25 users 4096 Jun 26 18:06 .
12 drwxrwxrwt 105 root users 12288 Jun 26 18:06 ..
0 -rw-r--r-- 1 budapest25 users 0 Jun 26 18:06 test.err
4 -rw-r--r-- 1 budapest25 users 312 Jun 26 18:06 test.out
```

```
[budapest25@glite-tutor ~]$ cat test.out
```

```
=====
```

```
Fri Jun 26 18:00:45 CEST 2009
```

```
=====
```

```
iceage-wn-10.ct.infn.it
```

```
=====
```

```
How to list available computing resources
```

```
[budapest25@glite-tutor budapest25_5MA6Pvu36_NqBRFwcKFcOg]$ lcg-infosites --vo gilda ce
```

| #CPU | Free | Total | Jobs | Running | Waiting | ComputingElement                                        |
|------|------|-------|------|---------|---------|---------------------------------------------------------|
| 26   | 26   | 2     | 0    | 2       | 0       | grid010.ct.infn.it:2119/jobmanager-lcgpbs-long          |
| 6    | 6    | 1     | 0    | 1       | 0       | gilda-ce.rediris.es:2119/jobmanager-lcgpbs-infinite     |
| 104  | 82   | 22    | 22   | 0       | 0       | cel-egee.srce.hr:2119/jobmanager-sge-prod               |
| 26   | 26   | 0     | 0    | 0       | 0       | grid010.ct.infn.it:2119/jobmanager-lcgpbs-short         |
| 6    | 6    | 0     | 0    | 0       | 0       | gilda-ce.rediris.es:2119/jobmanager-lcgpbs-long         |
| 14   | 14   | 1     | 0    | 1       | 0       | gilda-01.pd.infn.it:2119/jobmanager-lcgpbs-gilda        |
| 6    | 6    | 1     | 0    | 1       | 0       | gilda-ce.rediris.es:2119/jobmanager-lcgpbs-short        |
| 48   | 38   | 0     | 0    | 0       | 0       | iceage-ce-01.ct.infn.it:2119/jobmanager-lcgpbs-long     |
| 16   | 16   | 0     | 0    | 0       | 0       | gn0.hpcc.sztaki.hu:2119/jobmanager-lcgpbs-gilda         |
| 9    | 9    | 0     | 0    | 0       | 0       | dc01.nesc.ed.ac.uk:2119/jobmanager-lcgpbs-gilda         |
| 5    | 5    | 0     | 0    | 0       | 0       | dgt01.ui.savba.sk:2119/jobmanager-lcgpbs-gilda          |
| 48   | 38   | 10    | 10   | 0       | 0       | iceage-ce-01.ct.infn.it:2119/jobmanager-lcgpbs-infinite |
| 0    | 0    | 0     | 0    | 0       | 0       | ce-edu.grid.acad.bg:2119/jobmanager-pbs-gilda           |
| 48   | 38   | 0     | 0    | 0       | 0       | iceage-ce-01.ct.infn.it:2119/jobmanager-lcgpbs-short    |
| 26   | 26   | 1     | 0    | 1       | 0       | grid010.ct.infn.it:2119/jobmanager-lcgpbs-infinite      |
| 24   | 6    | 0     | 0    | 0       | 0       | ce.hpc.iit.bme.hu:2119/jobmanager-lcgpbs-gilda          |
| 20   | 18   | 0     | 0    | 0       | 0       | vega-ce.ct.infn.it:2119/jobmanager-lcgsge-gilda         |
| 6    | 6    | 0     | 0    | 0       | 0       | gilda-ce.rediris.es:2119/jobmanager-lcgpbs-gilda        |

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[www.egee.hu/grid09](http://www.egee.hu/grid09)

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```
Login: budapestXX
Password: GridBUDXX
Hostname: glite-tutor.ct.infn.it
Access: ssh budapestXX@glite-tutor.ct.infn.it
```

```
How to list available storage resources
[budapest25@glite-tutor ~]$ lcg-infosites --vo gilda se
Avail Space(Kb) Used Space(Kb) Type SEs

1100000000 1846389 n.a gilda-se.rediris.es
1 1 n.a fn2.hpcc.sztaki.hu
295370000 75822888 n.a aliserv6.ct.infn.it
n.a 999999 n.a se-edu.grid.acad.bg
60880000 2840165 n.a iceage-se-01.ct.infn.it
30330000 3199460 n.a gilda-02.pd.infn.it
3618219 16087128 n.a se.hpc.iit.bme.hu
53600000 23 n.a vega-se.ct.infn.it
243000000 1147190 n.a sel-egee.srce.hr
97180229 6515970 n.a dgt02.ui.savba.sk
```

```
[budapest25@glite-tutor ~]$ voms-proxy-init --voms gilda
Cannot find file or dir: /home/budapest25/.glite/vomses
Enter GRID pass phrase: BUDAPEST
Your identity: /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25
Creating temporary proxy Done
Contacting voms.ct.infn.it:15001 [/C=IT/O=INFN/OU=Host/L=Catania/CN=voms.ct.infn.it] "gilda" Done
Creating proxy Done
Your proxy is valid until Sat Jun 27 05:52:38 2009
[budapest25@glite-tutor ~]$ lcg-infosites --vo gilda lfc
lfc-gilda.ct.infn.it
[budapest25@glite-tutor ~]$ export LFC_HOST=lfc-gilda.ct.infn.it
[budapest25@glite-tutor ~]$ lfc-ls -l /grid/gilda/users/fotis/
drwxrwxr-x 1 966 104 0 Jun 27 21:19 I
drwxrwxr-x 0 966 104 0 Jun 27 21:18 PLEASE_RUN_YOUR_EXERCISES_HERE
```

```
Example usage and response of lfc-ls, lfc-mkdir, lfc-rename
[budapest25@glite-tutor ~]$ lfc-mkdir /grid/gilda/users/fotis/
cannot create /grid/gilda/users/fotis/: File exists
[budapest25@glite-tutor ~]$ lfc-mkdir /grid/gilda/users/fotis/30
[budapest25@glite-tutor ~]$ lfc-rename /grid/gilda/users/fotis/30 /grid/gilda/users/fotis/25
[budapest25@glite-tutor ~]$ lfc-ls /grid/gilda/users/fotis/25
[budapest25@glite-tutor ~]$ lfc-mkdir /grid/gilda/users/fotis/25/newdir
```

```
Examples of Data Management
[budapest25@glite-tutor ~]$ cat /etc/issue
Scientific Linux SL release 4.5 (Beryllium)
Kernel \r on an \m
Copying a file *to* a remote server and testing the result
[budapest25@glite-tutor ~]$ lcg-cr -d aliserv6.ct.infn.it -l lfn:/grid/gilda/users/fotis/25/issue
/etc/issue
guid:d2b98ec9-368b-4c2b-8d23-3c87a29cce4b
[budapest25@glite-tutor ~]$ lcg-lr lfn:/grid/gilda/users/fotis/25/issue
srm://aliserv6.ct.infn.it/dpm/ct.infn.it/home/gilda/generated/2009-06-27/filed86c5bdd-0a3c-4181-81dd-9194a08b0478
```

```
Copying a file *from* a remote server and testing the result
[budapest25@glite-tutor ~]$ lcg-cp lfn:/grid/gilda/users/fotis/25/issue /tmp/issue
[budapest25@glite-tutor ~]$ ls -als /etc/issue /tmp/issue
8 -rw-r--r-- 1 root root 64 Jun 25 2007 /etc/issue
4 -rw-r--r-- 1 budapest25 users 64 Jun 27 21:45 /tmp/issue
[budapest25@glite-tutor ~]$ cat /tmp/issue
Scientific Linux SL release 4.5 (Beryllium)
Kernel \r on an \m
Creating and removing replicas of a file on remote storage elements
[budapest25@glite-tutor ~]$ lcg-rep -d gilda-se.rediris.es lfn:/grid/gilda/users/fotis/25/issue
[budapest25@glite-tutor ~]$ lcg-lr lfn:/grid/gilda/users/fotis/25/issue
srm://aliserv6.ct.infn.it/dpm/ct.infn.it/home/gilda/generated/2009-06-27/filed86c5bdd-0a3c-4181-81dd-9194a08b0478
srm://gilda-se.rediris.es/dpm/rediris.es/home/gilda/generated/2009-06-27/file45982a72-f28f-47fa-ab81-1fae4d2e8d67
[budapest25@glite-tutor ~]$ lcg-rep -d vega-se.ct.infn.it lfn:/grid/gilda/users/fotis/25/issue
[budapest25@glite-tutor ~]$ lcg-lr lfn:/grid/gilda/users/fotis/25/issue
srm://aliserv6.ct.infn.it/dpm/ct.infn.it/home/gilda/generated/2009-06-27/filed86c5bdd-0a3c-4181-81dd-9194a08b0478
srm://gilda-se.rediris.es/dpm/rediris.es/home/gilda/generated/2009-06-27/file45982a72-f28f-47fa-ab81-1fae4d2e8d67
srm://vega-se.ct.infn.it/dpm/ct.infn.it/home/gilda/generated/2009-06-27/file91d9989f-0895-4b83-9da8-c9a975cb260f
```

```

Removing replicas of a file on remote storage elements
[budapest25@glite-tutor ~]$ lcg-lr lfn:/grid/gilda/users/fotis/25/issue
srm://aliserv6.ct.infn.it/dpm/ct.infn.it/home/gilda/generated/2009-06-27/filed86c5bdd-0a3c-4181-81dd-9194a08b0478
srm://gilda-se.rediris.es/dpm/rediris.es/home/gilda/generated/2009-06-27/file45982a72-f28f-47fa-ab81-1fae4d2e8d67
[budapest25@glite-tutor ~]$ lcg-del -a lfn:/grid/gilda/users/fotis/25/issue
[budapest25@glite-tutor ~]$ lcg-lr lfn:/grid/gilda/users/fotis/25/issue
lfc-gilda.ct.infn.it: /grid/gilda/users/fotis/25/issue: No such file or directory
lcg_lr: No such file or directory

Example usage and response of lfc-ln, lfc-rm commands
[budapest25@glite-tutor ~]$ lcg-cr -d gilda-se.rediris.es -l lfn:/grid/gilda/users/fotis/25/issue
/etc/issue
guid:7b110cbb-b129-475d-a0f6-6641cfc69a64
[budapest25@glite-tutor ~]$ lfc-ln -s /grid/gilda/users/fotis/25/issue /grid/gilda/users/fotis/25/issue2
[budapest25@glite-tutor ~]$ lfc-ls -l /grid/gilda/users/fotis/25/issue /grid/gilda/users/fotis/25/issue2
-rw-rw-r-- 1 966 104 64 Jun 27 22:37 /grid/gilda/users/fotis/25/issue
lrwxrwxrwx 1 966 104 0 Jun 27 22:39 /grid/gilda/users/fotis/25/issue2 ->
/grid/gilda/users/fotis/25/issue
[budapest25@glite-tutor ~]$ lfc-rm /grid/gilda/users/fotis/25/issue2
[budapest25@glite-tutor ~]$ lfc-ls -l /grid/gilda/users/fotis/25/issue /grid/gilda/users/fotis/25/issue2
-rw-rw-r-- 1 966 104 64 Jun 27 22:37 /grid/gilda/users/fotis/25/issue
/grid/gilda/users/fotis/25/issue2: No such file or directory

Example of usage of myproxy-init to store proxy credentials on the myproxy service
[budapest25@glite-tutor ~]$ myproxy-init -s myproxy.ct.infn.it -d -l budapest25@glite-tutor --voms gilda
requesting voms gilda
Cannot find file or dir: /home/budapest25/.glite/vomses
Enter GRID pass phrase: BUDAPEST
Your identity: /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25
verify OK
Creating temporary proxy Done
Contacting voms.ct.infn.it:15001 [/C=IT/O=INFN/OU=Host/L=Catania/CN=voms.ct.infn.it] "gilda" Done
Creating proxy Done
Your proxy is valid until Mon Jul 6 09:39:03 2009
Enter MyProxy pass phrase: BUDAPEST2
Verifying - Enter MyProxy pass phrase: BUDAPEST2
A proxy valid for 168 hours (7.0 days) for user budapest25@glite-tutor now exists on myproxy.ct.infn.it.

Example of usage of myproxy-get-delegation to retrieve proxy credentials from the myproxy service
[budapest25@glite-tutor ~]$ myproxy-get-delegation -s myproxy.ct.infn.it -l budapest25@glite-tutor
Enter MyProxy pass phrase: BUDAPEST2
A credential has been received for user budapest25@glite-tutor in /tmp/x509up_u11837.

Example of testing the proxy by delegation credentials, note gilda VO's extension information
[budapest25@glite-tutor ~]$ voms-proxy-info --all
subject : /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25/CN=proxy/CN=proxy/CN=proxy
issuer : /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25/CN=proxy/CN=proxy
identity : /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25/CN=proxy/CN=proxy
type : unknown
strength : 1024 bits
path : /tmp/x509up_u11842
timeleft : 11:59:55
=== VO gilda extension information ===
VO : gilda
subject : /C=IT/O=GILDA/OU=Personal Certificate/L=BUDAPEST/CN=BUDAPEST25
issuer : /C=IT/O=INFN/OU=Host/L=Catania/CN=voms.ct.infn.it
attribute : /gilda/Role=NULL/Capability=NULL
timeleft : 11:59:29

Have a quick look at the proxy file itself
[budapest25@glite-tutor ~]$ id budapest25
uid=11837(budapest25) gid=100(users) groups=100(users)
[budapest25@glite-tutor ~]$ ls -als /tmp/x509up_u11837
8 -rw----- 1 budapest25 users 6834 Jun 29 09:39 /tmp/x509up_u11837

```