



Enabling Grids for E-scienceE

# Practicals on gLite Information Systems

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- The **lcg-infosites** command can be used as an easy way to retrieve information on Grid resources for the most use cases.

**USAGE: lcg-infosites --vo <vo name> options -v <verbose level> --is <BDII to query>**

<b>ce</b>	The information related to number of CPUs, running jobs, waiting jobs and names of the CEs are provided. All these data group all VOs together. With "-v 1" only the names of the queues will be printed while with "-v 2" The RAM Memory together with the operating system and its version and the processor included in each CE are printed.
<b>se</b>	The names of the SEs supported by the user's VO together with the kind of Storage System, the used and available space will be printed. With "-v 1" only the names of the SEs will be printed.
<b>closeSE</b>	The names of the CEs where the user's VO is allowed to run together with their corresponding closest SEs are provided.
<b>lfc</b>	Name of the lfc Catalog for the user's VO.
<b>tag</b>	The names of the tags relative to the software installed in site is printed together with the corresponding CE.
<b>all</b>	It groups together the information provided by ce, se, lrc and rmc.
<b>is</b>	If not specified the BDII defined in default by the variable LCG GFAL INFOSYS will be queried. However the user may want to query any other BDII without redefining this environment variable. This is possible specifying this argument followed by the name of the BDII which the user wants to query. All options admits this argument.

```
$ lcg-infosites --vo gilda ce
```

```
*****
```

These are the related data for gilda: (in terms of queues and CPUs)

```
*****
```

#CPU	Free	Total Jobs	Running	Waiting	ComputingElement
4	3	0	0	0	cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-long
4	3	0	0	0	cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-short
34	33	0	0	0	grid010.ct.infn.it:2119/jobmanager-lcgpbs-long
16	16	0	0	0	grid011f.cnaf.infn.it:2119/jobmanager-lcgpbs-long
1	1	0	0	0	grid006.cecalc.ula.ve:2119/jobmanager-lcgpbs-log
2	1	1	0	1	gildace.oact.inaf.it:2119/jobmanager-lcgpbs-short
[..]					

```
$ lcg-infosites --vo gilda ce --v 2
```

RAMMemory	Operating System	System Version	Processor	CE Name
1024	SLC	3	P4	ced-ce0.datagrid.cnr.it
4096	SLC	3	Xeon	cn01.be.itu.edu.tr
1024	SLC	3	PIII	cna02.cna.unicamp.br
917	SLC	3	PIII	gilda-ce-01.pd.infn.it
1024	SLC	3	Athlon	gildace.oact.inaf.it
1024	SLC	3	Xeon	grid-ce.bio.dist.unige.it
[..]				



```
$ lcg-infosites --vo gilda se
```

```
*****
```

These are the related data for gilda: (in terms of SE)

```
*****
```

Avail Space(Kb)	Used Space(Kb)	Type	SEs
143547680	2472756	disk	cn02.be.itu.edu.tr
168727984	118549624	disk	grid009.ct.infn.it
13908644	2819288	disk	grid003.cecalc.ula.ve
108741124	2442872	disk	gildase.oact.inaf.it
28211488	2948292	disk	testbed005.cnaf.infn.it
349001680	33028	disk	gilda-se-01.pd.infn.it
31724384	2819596	disk	cna03.cna.unicamp.br
387834656	629136	disk	grid-se.bio.dist.unige.it



```
$ lcg-infosites --vo gilda closeSE
```

**Name of the CE: cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-long**

**Name of the close SE: cn02.be.itu.edu.tr**

**Name of the CE: cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-short**

**Name of the close SE: cn02.be.itu.edu.tr**

**Name of the CE: grid010.ct.infn.it:2119/jobmanager-lcgpbs-long**

**Name of the close SE: grid009.ct.infn.it**

**Name of the CE: grid011f.cnaf.infn.it:2119/jobmanager-lcgpbs-long**

**Name of the close SE: testbed005.cnaf.infn.it**



```
$ lcg-infosites --vo gilda tag
```

```
*****
```

**Information for gilda relative to their software tags included in each CE**

```
*****
```

**Name of the TAG: VO-gilda-GEANT**  
**Name of the TAG: VO-gilda-GKS05**  
**Name of the CE:cn01.be.itu.edu.tr**

**Name of the TAG: VO-gilda-slc3\_ia32\_gcc323**  
**Name of the TAG: VO-gilda-CMKIN\_5\_1\_1**  
**Name of the TAG: VO-gilda-GEANT**  
**Name of the TAG: VO-gilda-GKS05**  
**Name of the CE:grid010.ct.infn.it**

[..]



- This command can be used to list either CEs or the SEs that satisfy a given set of conditions, and to print the values of a given set of attributes.
- The information is taken from the BDII specified by the **LCG\_GFAL\_INFOSYS** environment variable.

- The query syntax is like this:

**attr1 op1 valueN, ...**  
**attrN opN valueN**

After the upgrading of the new GLUE SCHEMA it's not possible use the operators '>' and '<'

where *attrN* is an attribute name

op is =, >= or <=, and the cuts are ANDed.

The cuts are comma-separated and spaces are not allowed.



## USAGE

**lcg-info --list-ce [--bdii bdii] [--vo vo] [--sed] [--query query] [--attrs list]**

**lcg-info --list-se [--bdii bdii] [--vo vo] [--sed] [--query query] [--attrs list]**

**lcg-info --list-attrs**

**lcg-info --help**

<b>--list-attrs</b>	Prints a list of the attributes that can be queried.
<b>--list-ce</b>	Lists the CEs which satisfy a query, or all the CEs if no query is given.
<b>--list-se</b>	Lists the SEs which satisfy a query, or all the SEs if no query is given.
<b>--query</b>	Restricts the output to the CEs (SEs) which satisfy the given query.
<b>--bdii</b>	Allows to specify a BDII in the form <code>[:]</code> . If not given, the value of the environmental variable <code>LCG_GFAL_INFOSYS</code> is used. If that is not defined, the command returns an error.
<b>--sed</b>	Print the output in a "sed-friendly" format.
<b>--attrs</b>	Specifies the attributes whose values should be printed.
<b>--vo</b>	Restricts the output to CEs or SEs where the given VO is authorized. Mandatory when VO-dependent attributes are queried upon.

```
$ lcg-info --list-attrs
```

Attribute name Glue object class

Glue attribute name

MaxTime	GlueCE	GlueCEPolicyMaxWallClockTime
CEStatus	GlueCE	GlueCEStateStatus
TotalJobs	GlueCE	GlueCEStateTotalJobs
CEVOs	GlueCE	GlueCEAccessControlBaseRule
TotalCPUs	GlueCE	GlueCEInfoTotalCPUs
FreeCPUs	GlueCE	GlueCEStateFreeCPUs
CE	GlueCE	GlueCEUniqueID
WaitingJobs	GlueCE	GlueCEStateWaitingJobs
RunningJobs	GlueCE	GlueCEStateRunningJobs
CloseCE	GlueCESEBindGroup	GlueCESEBindGroupCEUniqueID
CloseSE	GlueCESEBindGroup	GlueCESEBindGroupSEUniqueID
SEVOs	GlueSA	GlueSAAccessControlBaseRule
UsedSpace	GlueSA	GlueSAStateUsedSpace
AvailableSpace	GlueSA	GlueSAStateAvailableSpace
Type	GlueSE	GlueSEType
SE	GlueSE	GlueSEUniqueID
Protocol	GlueSEAccessProtocol	GlueSEAccessProtocolType
ArchType	GlueSL	GlueSLArchitectureType
Processor	GlueSubCluster	GlueHostProcessorModel
OS	GlueSubCluster	GlueHostOperatingSystemName
Cluster	GlueSubCluster	GlueSubClusterUniqueID
Tag	GlueSubCluster	GlueHostApplicationSoftwareRunTimeEnvironment
Memory	GlueSubCluster	GlueHostMainMemoryRAMSize



## List all the CE(s) in the BDII satisfying given conditions

```
$ lcg-info --vo gilda --list-ce
--query 'TotalCPUs=10,OS=SL*' --attrs 'RunningJobs,FreeCPUs'
```

- CE: dgt01.ui.savba.sk:2119/jobmanager-lcgpbs-long
    - RunningJobs 0
    - FreeCPUs 10
  - CE: dgt01.ui.savba.sk:2119/jobmanager-lcgpbs-short
    - RunningJobs 0
    - FreeCPUs 10
  - CE: dgt01.ui.savba.sk:2119/jobmanager-lcgpbs-infinite
    - RunningJobs 1
    - FreeCPUs 10
  - CE: gilda-ce-01.pd.infn.it:2119/jobmanager-lcgpbs-long
    - RunningJobs 0
    - FreeCPUs 10
  - CE: grid011f.cnaf.infn.it:2119/jobmanager-lcgpbs-gilda
    - RunningJobs 0
    - FreeCPUs 10
- [..]



```
$ lcg-info --vo gilda --list-ce
--query 'CE=*grid-ce.bio.dist.unige.it*' --attrs 'Tag'
```

**PBS**  
**INFN**  
**LCG-2**  
**LCG-2\_1\_0**  
**LCG-2\_1\_1**  
**LCG-2\_2\_0**  
**LCG-2\_3\_0**  
**LCG-2\_3\_1**  
**LCG-2\_4\_0**  
**R-GMA**  
**AFS**  
**CMS-1.1.0**  
**ATLAS-6.0.4**  
**GATE-1.0.0-3**  
**LHCb-1.1.1**  
**IDL-5.4**  
**CMSIM-125**  
**ALICE-4.01.00**  
**ALIEN-1.32.14**  
**POVRAY-3.5**  
**DEMTTOOLS-1.0**

**CMKIN-VALID**  
**CMKIN-1.1.0**  
**CMSIM-VALID**  
**CSOUND-4.13**  
**MPICH**  
**VIRGO-1.0**  
**CMS-OSCAR-2.4.5**  
**LHCb\_dbase\_common-v3r1**  
**GEANT4-6**  
**VLC-0.7.2**  
**EGEODE-1.0**  
**RASTER3D**  
**SCILAB-2.6**  
**G95-3.5.0**  
**MAGIC-6.19**  
**CODESA3D-1.0**  
**VO-gilda-slc3\_ia32\_gcc323**  
**VO-gilda-CMKIN\_5\_1\_1**  
**VO-gilda-GEANT**  
**VO-gilda-GKS05**



```
$ lcg-info --vo gilda --list-ce
--query 'Tag=*MPICH*' --attrs 'CE'
```

- CE: cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-long
- CE                   cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-long
  
- CE: cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-short
- CE                   cn01.be.itu.edu.tr:2119/jobmanager-lcglsf-short
  
- CE: grid010.ct.infn.it:2119/jobmanager-lcgpbs-long
- CE                   grid010.ct.infn.it:2119/jobmanager-lcgpbs-long
  
- CE: grid011f.cnaf.infn.it:2119/jobmanager-lcgpbs-long
- CE                   grid011f.cnaf.infn.it:2119/jobmanager-lcgpbs-long
  
- CE: ced-ce0.datagrid.cnr.it:2119/jobmanager-lcgpbs-long
- CE                   ced-ce0.datagrid.cnr.it:2119/jobmanager-lcgpbs-long

[..]



```
$ lcg-info --vo gilda --list-se  
--query 'AvailableSpace=912356260' --attrs 'CloseCE'
```

- SE: grid005.iucc.ac.il
- CloseCE    grid004.iucc.ac.il:2119/jobmanager-lcglsf-long  
              grid004.iucc.ac.il:2119/jobmanager-lcglsf-short  
              grid004.iucc.ac.il:2119/jobmanager-lcglsf-infinite

