



Enabling Grids for E-science

User Interface: installation, configuration & testing

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EMBRACE-EGEE Tutorial



www.eu-egee.org



- **What is a User Interface (UI) ?**
- **How to install a User Interface**
- **UI Testing**

- The UI is a suite of clients and API that users and applications can use to access the gLite services
- The gLite UI includes the following components:
 - VOMS command-line tools
 - Workload Management System clients and APIs
 - Logging and Bookkeeping clients and APIs
 - Data Transfer command-line clients and APIs
 - Data Catalog command-line clients and APIs
 - gLite I/O client and APIs
 - R-GMA client and APIs



Installing the User Interface

- **Start from the Virtual Machine Base that you can download from :**

`https://gilda.ct.infn.it/GILDAVM/GILDAVM_Base.tar.bz2`

- **Verify that these packages are installed and properly configured:**

- **Java SDK 1.4.2 (or greater)**

- **edg_VO_Gilda rpm** (`https://gilda.ct.infn.it/RPMS/`)

- **glite-yaim-3.0.0**

(`http://glitesoft.cern.ch/EGEE/gLite/APT/R3.0/rhel30/RPMS.Release3.0/`)

- **gilda_ig-yaim-3.0.0**

(`http://grid018.ct.infn.it/apt/gilda_app-i386/utils/`)

- Because of SUN licence used for Java SDK, it is not possible to redistribute it with the middleware.
- You have to download Java SDK 1.4.2 from Sun web site:
<http://java.sun.com/j2se/1.4.2/download.html>
- Select **``Download J2SE SDK``**, and download the **``RPM in self-extracting file``**. Follow the instruction on the pages to extract the rpm.

- A general requirement for the gLite nodes is that they are synchronized.
- Configure the file `/etc/ntp.conf` by adding the lines dealing with your time server configuration such as, for instance:

```
# Prohibit general access to this service.
restrict default ignore
restrict 193.206.144.10 mask 255.255.255.255
    nomodify notrap noquery

server 127.127.1.0      # local clock
fudge 127.127.1.0 stratum 10
server ntp-1.infn.it
```

- **Edit the file `/etc/ntp/step-tickers` adding a list of your time server(s) hostname(s)**

```
cat /etc/ntp/step-tickers
193.206.144.10
```

- **# If you are running a kernel firewall, you will have to allow inbound communication on the NTP port.**
- **If you are using iptables, you can add the following to `/etc/sysconfig/iptables`**

```
-A INPUT -s <NTP-serverIP-1> -p udp --dport 123 -j
ACCEPT
```

- **You can then reload the firewall : `/etc/init.d/iptables restart`**

- **Activate the ntpd service with the following commands:**

```
# ntpdate <your ntp server name>
```

```
# service ntpd start
```

```
# chkconfig ntpd on
```

- **You can check ntpd's status by running the following command :**

```
# ntpq -p
```

Install glite-yaim and gilda_ig-yaim

- Download and install latest version of glite-yaim-3.0.0 -* on your machine

<http://glitesoft.cern.ch/EGEE/gLite/APT/R3.0/rhel30/RPMS.Release3.0/glite-yaim-3.0.0-11.noarch.rpm>

- Download and install the latest version of gilda_ig-yaim-3.0.0 -* on your machine

http://grid018.ct.infn.it/apt/gilda_app-i386/utils/gilda_ig-yaim-latest

- glite-yaim and gilda_ig-yaim provide a set of bash ``mini-scripts''. Each ``mini-script'' implements one bash function and it is stored in file with the same name of the function. Each function configures a specific middleware module. The functions are stored in the two directories:

`/opt/glite/yaim/functions` (glite-yaim functions)

`/opt/glite/yaim/functions/local` (gilda_ig-yaim functions)

- Copy the yaim configuration template file into the root dir:

```
cp /opt/glite/yaim/examples/gilda_ig-site-info.def
/root/my-site-info.def
```

- Open /root/my-site-info.def file using a text editor and set the following values according to your grid environment:

```
MY_DOMAIN=<your DOMAIN>
RB_HOST=glite-rb.ct.infn.it
WMS_HOST=glite-rb3.ct.infn.it
PX_HOST=grid001.ct.infn.it
BDII_HOST=grid004.ct.infn.it
MON_HOST=rgmasrv.ct.infn.it
REG_HOST=rgmasrv.ct.infn.it
NTP_HOSTS="193.206.144.10"
```

For this tutorial substitute
grid018.ct.infn.it/rep with 192.168.0.50

```
OS_REPOSITORY="rpm  
http://grid018.ct.infn.it/rep slc306-i386 os  
updates extras"
```

```
LCG_REPOSITORY="rpm  
http://grid018.ct.infn.it/rep glite_sl3-i386  
3_0_0 3_0_0 externals 3_0_0 updates"
```

```
IG_REPOSITORY="rpm  
http://grid018.ct.infn.it/rep ig_sl3-i386  
3_0_0 utils"
```

```
GILDA_REPOSITORY="rpm  
http://grid018.ct.infn.it/rep gilda_app-i386  
app 3_0_0"
```

```
CA_REPOSITORY="rpm  
http://grid018.ct.infn.it/rep glite_sl3-i386  
security"
```

- **Add LFC settings:**

```
LFC_HOST=lfc-gilda.ct.infn.it
```

- **Configure DPM host:**

```
DPM_HOST=aliserv6.ct.infn.it
```

- **Check/Modify VO and VOMS specific configurations:**

```
VOS="gilda .."
```

```
ALL_VOMS="gilda .."
```

SITE_EMAIL=<customize here>



#Specific VO settings

VO_GILDA_SW_DIR=\$VO_SW_DIR/gilda

VO_GILDA_DEFAULT_SE=\$DPM_HOST

VO_GILDA_STORAGE_DIR=\$CLASSIC_STORAGE_DIR//gilda

VO_GILDA_QUEUES="short long infinite"

VO_GILDA_VOMS_SERVERS="vomss://voms.ct.infn.it:8443/voms
/gilda?/gilda"VO_GILDA_VOMSES="'gilda voms.ct.infn.it
15001 /C=IT/O=GILDA/OU=Host/L=INFN
Catania/CN=voms.ct.infn.it/Email=emidio.giorgio@ct.infn.
it gilda'"

JAVA_LOCATION="/usr/java/j2sdk1.4.2_12/"



- **We are ready to install the UI:**

```
/opt/glite/bin/gilda_ig_install_node
/root/my-site-info.def GILDA_ig_UI
```

- **This command will download and install all the needed packages**
- **Now we can configure the node:**

```
/opt/glite/bin/gilda_ig_configure_node
/root/my-site-info.def GILDA_ig_UI
```

- You can set the default Virtual Organization for user accessing your UI editing the file

```
/opt/glite/etc/glite_wmsui_cmd_var.conf:
```

```
[
  ErrorStorage = "/tmp/glite/glite-ui" ;
  DefaultLogLevel = 1 ;
  LoggingTimeout = 10 ;
  rank = - other.GlueCEStateEstimatedResponseTime ;
  NSLoggerLevel = 1 ;
  LoggingSyncTimeout = 10 ;
  DefaultVo = "gilda" ; ← Set your default VO here
  OutputStorage = "/tmp/glite/glite-ui" ;
  ListenerStorage = "/tmp/glite/glite-ui" ;
  RetryCount = 3 ;
  DefaultStatusLevel = 1 ;
  requirements = other.GlueCEStateStatus == "Production" ;
]
```


- `/opt/glite/etc/gilda/glite_wms.conf:`

```
[
  WmsClient = [
    virtualorganisation = "gilda";
    requirements = other.GlueCEStateStatus == "Production";
    MyProxyServer = "grid001.ct.infn.it";
    WMPProxyEndpoints = {
      "https://glite-rb3.ct.infn.it:7443/glite_wms_wmproxy_server"
    };
    ListenerStorage = "/tmp/glite/glite-ui";
    ErrorStorage = "/tmp/glite/glite-ui";
    ShallowRetryCount = 10;
    AllowZippedISB = true;
    PerusalFileEnable = false;
    rank =- other.GlueCEStateEstimatedResponseTime;
    OutputStorage = "/tmp/glite/glite-ui";
    RetryCount = 3;
  ];
]
```



UI Testing

- Use the Unix commands:

```
# adduser <your surname>  
# passwd <your surname>
```

- Log on it with:

```
# su - gildauser
```

- or type:

```
# exit
```

- Then logon with the new user credentials

- **Copy your own certificates to the UI:**

```
# scp mycerts.tar.gz <UI IP>:/home/gildauser
```

- **... or**

```
# scp -p *.pem <UI IP Address>:/home/gildauser
```

- **Verify permissions of the certificates; they must be:**

```
-rw-r--r--      1 root root      1127   Jun 14 12:27
usercert.pem
-r-----      1 root root       887   Jun 14 12:28
userkey.pem
```

- **If file permissions are wrong use:**

```
# chmod 400 userkey.pem
# chmod 644 usercert.pem
```

```
export LCG_CATALOG_TYPE=lfc
```

```
export LFC_HOST=lfc-gilda.ct.infn.it
```

```
export LCG_GFAL_INFOSYS=grid004.ct.infn.it:2170
```

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

```
valor del bdii: grid004.ct.infn.it:2170
```

#CPU	Free	Total	Jobs	Running	Waiting	ComputingElement
2	2	0	0	0	0	trigrig- ce00.unime.it:2119/jobmanager-lcgpbs-short
2	2	0	0	0	0	trigrig- ce00.unime.it:2119/jobmanager-lcgpbs-long
2	2	0	0	0	0	trigrig- ce00.unime.it:2119/jobmanager-lcgpbs-infinite
4	4	0	0	0	0	gildace01. roma3.infn.it:2119/jobmanager-lcgpbs-long
4	4	0	0	0	0	gildace01. roma3.infn.it:2119/jobmanager-lcgpbs-short
4	4	0	0	0	0	gildace01. roma3.infn.it:2119/jobmanager-lcgpbs-infinite
1	1	0	0	0	0	gildace. oact.inaf.it:2119/jobmanager-lcgpbs-short
1	1	0	0	0	0	gildace. oact.inaf.it:2119/jobmanager-lcgpbs-long
1	1	1	1	1	0	gildace. oact.inaf.it:2119/jobmanager-lcgpbs-infinite
2	2	0	0	0	0	grid036. ct.infn.it:2119/jobmanager-lcgpbs-short
2	2	0	0	0	0	grid036. ct.infn.it:2119/jobmanager-lcgpbs-long
2	2	0	0	0	0	grid036. ct.infn.it:2119/jobmanager-lcgpbs-infinite
60	60	0	0	0	0	grid010. ct.infn.it:2119/jobmanager-lcgpbs-short
60	60	0	0	0	0	grid010. ct.infn.it:2119/jobmanager-lcgpbs-long
60	60	0	0	0	0	grid010. ct.infn.it:2119/jobmanager-lcgpbs-infinite
14	14	0	0	0	0	grid011f. cnaf.infn.it:2119/jobmanager-lcgpbs-short
14	14	0	0	0	0	grid011f. cnaf.infn.it:2119/jobmanager-lcgpbs-long
14	14	0	0	0	0	grid011f. cnaf.infn.it:2119/jobmanager-lcgpbs-infinite
10	10	0	0	0	0	grid004. iucc.ac.il:2119/jobmanager-lcgpbs-short
10	10	0	0	0	0	grid004. iucc.ac.il:2119/jobmanager-lcgpbs-long
10	10	0	0	0	0	grid004. iucc.ac.il:2119/jobmanager-lcgpbs-infinite

```
[..]
```

```

$ _ myproxy-init -s grid001.ct.infn.it --voms gilda
Cannot find file or dir: /home/larocca/.glite/vomses
Your identity: /C=IT/O=GILDA/OU=Personal Certificate/L=INFN
               Catania/CN=Giuseppe La
               Rocca/Email=giuseppe.larocca@ct.infn.it
Enter GRID pass phrase:
verify OK
Creating temporary proxy ..... Done
Contacting voms.ct.infn.it:15001
  [/C=IT/O=GILDA/OU=Host/L=INFN
  Catania/CN=voms.ct.infn.it/Email=emidio.giorgio@ct.infn.it
  ] "gilda"gi Done
Creating proxy
.....
..... Done
Your proxy is valid until Mon Sep 11 15:38:48 2006
Enter MyProxy pass phrase:
Verifying password - Enter MyProxy pass phrase:
A proxy valid for 168 hours (7.0 days) for user larocca now
exists on grid001.ct.infn.it.

```

```

$_ lcg-cp -v --vo gilda lfn:/grid/gilda/ozdenfile
file:/home/larocca/ozdenfile.out

Using grid catalog type: lfc
Using grid catalog : lfc-gilda.ct.infn.it
Source URL: lfn:/grid/gilda/ozdenfile
File size: 134
VO name: gilda
Source URL for copy:
  gsiftp://grid009.ct.infn.it/flatfiles/SE00/gilda/generated
  /2006-04-17/filec74af563-4e07-4932-869e-25771723ffdb
Destination URL: file:/home/larocca/ozdenfile.out
# streams: 1
# set timeout to 0 (seconds)
          0 bytes          0.00 KB/sec avg          0.00 KB/sec
  inst
Transfer took 2090 ms

```


- **gLite v3.0 Advanced Installation and Configuration Guide**
 - http://glite.web.cern.ch/glite/packages/R3.0/R20060502/doc/installation_guide_3.0-2.html

- **GILDA gLite 3.0 installation notes wiki**
 - <https://grid.ct.infn.it/twiki/bin/view/GILDA/GliteElementsInstallation>

- **GILDA gLite-3.0 installation instructions**
 - https://gilda.ct.infn.it/docs/GILDAsiteinstall-3_0_0.html

