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# Notes about Installation and Configuration of EMI2 VOMS MySQL on SL6 (WORK IN PROGRESS)

- These notes are provided by site admins on a best effort base as a contribution to the IGI communities and **MUST not be considered as a substitute of the Official IGI documentation** .
- This document is addressed to site administrators responsible for middleware installation and configuration.
- The goal of this page is to provide some hints and examples on how to install and configure a VOMS server based on EMI middleware.

## References

1. About IGI - Italian Grid infrastructure
2. VOMS System administrator guide
3. EMI website: VOMS
4. EMI website: VOMS Admin
5. EMI2 Generic Installation Guide
6. About IGI Release
7. IGI Official Installation and Configuration guide
8. Troubleshooting Guide for Operational Errors on EGI Sites
9. Grid Administration FAQs page
10. VOMS Replication

## Service installation

O.S. and Repos [▶](#) O.S. and Repos [▼](#)

### O.S. and Repos

- Starts from a fresh installation of Scientific Linux 6.x (x86\_64).

```
# cat /etc/redhat-release
Scientific Linux release 6.2 (Carbon)
```

\* Install the additional repositories: EPEL, Certification Authority, EMI2

```
# # yum install yum-priorities yum-protectbase epel-release
# cd /etc/yum.repos.d/
# wget http://repo-pd.italiangrid.it/mrepo/repos/egi-trustanchors.repo
# rpm -ivh http://emisoft.web.cern.ch/emisoft/dist/EMI/2/sl6/x86_64/base/emi-release-2.0.0-1.sl6
```

- Be sure that SELINUX is disabled (or permissive). Details on how to disable SELINUX are here :

```
# getenforce
Disabled
```

- Check the repos list (sl-\*.repo are the repos of the O.S. and they should be present by default).

```
# ls /etc/yum.repos.d/
cnafl-local.repo          emi2-base.repo           emi2-third-party.repo   epel.repo                lemon.repo
egi-trustanchors.repo    emi2-contribs.repo      emi2-updates.repo      epel-testing.repo       puppetlabs.repo
```

yum install [▶](#) yum install [▼](#)

## yum install

```
# yum clean all
Loaded plugins: downloadonly, kernel-module, priorities, protect-packages, protectbase, security,
Cleaning up Everything
```

```
# yum install ca-policy-egi-core
# yum install emi-voms-mysql
# yum install xml-commons-apis
```

see here for details

## Service configuration

You have to copy the configuration files in another path, for example root, and set them properly (see later):

```
# cp -r /opt/glite/yaim/examples/siteinfo/* .
```

and rename glite-voms\_mysql as glite-voms

**mysql configuration**  **mysql configuration** 

## mysql configuration

- if not running, start mysqld

```
# service mysqld start
Initializing MySQL database: Installing MySQL system tables...
OK
Filling help tables...
OK
```

To start mysqld at boot time you have to copy support-files/mysql.server to the right place for your system

```
PLEASE REMEMBER TO SET A PASSWORD FOR THE MySQL root USER !
To do so, start the server, then issue the following commands:
/usr/bin/mysqladmin -u root password 'new-password'
/usr/bin/mysqladmin -u root -h vomsmania.cnaf.infn.it password 'new-password'
```

Alternatively you can run:  
/usr/bin/mysql\_secure\_installation

which will also give you the option of removing the test databases and anonymous user created by default. This is strongly recommended for production servers.

See the manual for more instructions.

You can start the MySQL daemon with:  
cd /usr ; /usr/bin/mysqld\_safe &

You can test the MySQL daemon with mysql-test-run.pl  
cd mysql-test ; perl mysql-test-run.pl

Please report any problems with the /usr/bin/mysqlbug script!

The latest information about MySQL is available on the web at  
<http://www.mysql.com>  
Support MySQL by buying support/licenses at <http://shop.mysql.com>

[ OK ]

Starting MySQL:

[ OK ]

- define the password for root user:

```
# /usr/bin/mysqladmin -u root password qualcosa;
```

Make sure that the MySQL administrator password that you specify in the YAIM VOMS configuration files matches the password that is set for the root MySQL account

**OPTIONAL: importing a DB** ▾ **OPTIONAL: importing a DB** ▾

## OPTIONAL: importing a DB

**Previously:** dump the voms databases before schratch your server:

```
mysqldump -uroot -p --all-databases --flush-privileges > voms2_database_dump.sql
```

**Now:** restore the databases:

```
# mysql -uroot -p < voms2_database_dump.sql
```

**site-info.def** ▾ **site-info.def** ▾

## site-info.def

```
MYSQL_PASSWORD=qualcosa
SITE_NAME=INFN-CNAF
BDII_DELETE_DELAY=0
VOS="icarus-exp.org"
```

**services/glite-voms** ▾ **services/glite-voms** ▾

## services/glite-voms

```
# VOMS server hostname
VOMS_HOST=vomsmania.cnaf.infn.it

# The port on the VOMS server listening for request for each VO
# This is used in the vomses configuration file
# By convention, port numbers are allocated starting with 15000

VO_ICARUS_EXP_ORG_VOMS_PORT=15000

# Database name to be used to store VOMS information.
# Required on oracle installations, refers to the tns alias associated with the db.
#VO_<vo_name>_VOMS_DB_NAME=db_name

VO_ICARUS_EXP_ORG_VOMS_DB_NAME=voms_icarusexp_org

# Name of database user.
#VO_<vo_name>_VOMS_DB_USER=user_name

VO_ICARUS_EXP_ORG_VOMS_DB_USER=vo_adm

# Password of database user account.
#VO_<vo_name>_VOMS_DB_USER_PASSWORD=password

VO_ICARUS_EXP_ORG_VOMS_DB_PASS=qualcosa

# Hostname of the database server. Put 'localhost'
# if you run the database on the same machine.
# This parameter can be specified per VO in the following way:
# VO_<vo_name>_VOMS_DB_HOST
VOMS_DB_HOST='localhost'
```

```

# Host to which voms-admin-service-generated emails should
# be submitted. Use 'localhost' if you have an fully configured SMTP
# server running on this host. Otherwise specify the hostname of a working
# SMTP submission service.
# This parameter can be specified per VO in the following way:
# VO_<vo_name>_VOMS_ADMIN_SMTP_HOST
VOMS_ADMIN_SMTP_HOST=postino.cnaf.infn.it

# E-mail address that is used to send notification mails
# from the VOMS-admin.
# This parameter can be specified per VO in the following way:
# VO_<vo_name>_VOMS_ADMIN_MAIL
#VOMS_ADMIN_MAIL=mail

VO_ICARUS_EXP_ORG_VOMS_ADMIN_MAIL=indirizzo

# The path of the certificate file (in pem format) of an initial VO administrator.
# The VO will be set up so that this user has full VO administration
# privileges.
# Uncomment this variable if you want to set up an initial VO administrator.
# This parameter can be specified per VO in the following way:
# VO_<vo_name>_VOMS_ADMIN_CERT
# VOMS_ADMIN_CERT=user_certificate
VOMS_ADMIN_CERT=/root/qualcuno.pem

# The UNIX group that Tomcat is run under
# voms admin default is tomcat 5
# VOMS_ADMIN_TOMCAT_GROUP=new_value

# The UNIX group that the VOMS core service is run under
# voms admin default is voms
# VOMS_ADMIN_VOMS_GROUP=new_value

```

**yaim verify**  **yaim verify** 

## yaim verify

```

# /opt/glite/yaim/bin/yaim -v -s site-info.def -n VOMS
INFO: Configuring HOST: voms2.cnaf.infn.it
INFO: Using site configuration file: site-info.def
INFO: Sourcing service specific configuration file: ./services/glite-voms
INFO:
#####

.          /'-. ' )
.   yA,-"-,( ,m,:/ ) .oo.   oo   o   ooo o.   .oo
.   /          .-Y a  a Y-.   8. .8'   8'8.   8   8b  d'8
.   /          ~ ~ /          8'   .8oo88.   8   8 8' 8
.   (_/          '===='      8   .8'   8.   8   8 Y 8
.   Y,-''-,Yy,-.,/          o8o  o8o   o88o  o8o  o8o   o8o
.   I_))_) I_))_)

current working directory: /root
site-info.def date: Dec 21 09:46 site-info.def
yaim command: -v -s site-info.def -n VOMS
log file: /opt/glite/yaim/bin/./log/yaimlog
Wed May 30 12:19:39 CEST 2012 : /opt/glite/yaim/bin/yaim

Installed YAIM versions:
glite-yaim-bdii 4.3.9-1
glite-yaim-core 5.1.0-1
yaim-voms 1.1.1-1.el6

```

```
#####
INFO: The default location of the grid-env.(c)sh files will be: /usr/libexec
INFO: Sourcing the utilities in /opt/glite/yaim/functions/utils
INFO: Detecting environment
INFO: Executing function: config_host_certs_check
INFO: Executing function: config_edgusers_check
INFO: Executing function: config_add_pool_env_check
INFO: Executing function: config_info_service_voms_check
INFO: Executing function: config_info_service_voms_admin_check
INFO: Executing function: config_glue2_info_service_voms_check
INFO: Executing function: config_voms_check
INFO: Detecting TOMCAT
INFO: Executing function: config_voms_logrotate_check
INFO: Executing function: config_bdii_5.2_check
INFO: Checking is done.
INFO: All the necessary variables to configure VOMS are defined in your configuration files.
INFO: Please, bear in mind that YAIM only guarantees the definition of variables
INFO: controlled in the _check functions.
INFO: YAIM terminated succesfully.
```

**yaim config** ▾ **yaim config** ▾

## **yaim config**

```
# /opt/glite/yaim/bin/yaim -c -s site-info.def -n VOMS
INFO: Using site configuration file: site-info.def
INFO: Sourcing service specific configuration file: ./services/glite-voms
[...]
Stopping vo eumed
Starting vo eumed
Stopping siblings webapp
Starting siblings webapp
INFO: User and password for read-only database access for VOMS-CORE not specified.
INFO: Using the credentials for read-write access (VOMS-ADMIN).
voms-admin-configure, version 2.7.0

Checking installation...
Checking local installation...
Installation ok.
Setting up user credentials...
Using host credentials (/etc/grid-security/hostcert.pem) since running as root.
Setting defaults for the VOMS AA credentials
AA certificates settings:
cert:/etc/grid-security/tomcat-cert.pem
key:/etc/grid-security/tomcat-key.pem
Prefix: //usr
Configuration dir: /etc/voms-admin
Cheking input parameters
Installing vo euchina
Skipping voms core configuration creation
Will not set read-only access for authenticated clients as the --skip-database option is set
VO euchina configured correctly.

VO euchina installation finished.

You can start the voms services using the following commands:
//etc/init.d/voms start euchina
//etc/init.d/voms-admin start euchina
voms_euchina
INFO: Checking VOMS database schema existence and deploying one if missing...
Checking database connectivity...
Database contacted succesfully
Checking database existence...
Found existing voms-admin 2.5.x database...
Existing voms database found. Will not overwrite the database!
```

**yaim verify**

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```
INFO: Opening the VO to all authenticated clients.
Checking that the database is writable...
Database is writable.
Granting read-only access to any authenticated user on group '/euchina'
Granting read-only access to any authenticated user on role '/euchina/Role=SoftwareManager'
Granting read-only access to any authenticated user on role '/euchina/Role=VO-Admin'
INFO: Adding default admin from /etc/grid-security/hostcert.pem
INFO: Ignoring email from the administrator certificate: /etc/grid-security/hostcert.pem
Admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it,/C=IT/O=INFN/CN=INFN CA' already exists
This admin will be granted full privileges on the VOMS database.
Adding ALL permissions on '/euchina' for admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it'
Adding ALL permissions on role '/euchina/Role=SoftwareManager' for admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it'
Adding ALL permissions on role '/euchina/Role=VO-Admin' for admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it'
Stopping vo euchina
Starting vo euchina
Stopping siblings webapp
Starting siblings webapp
INFO: User and password for read-only database access for VOMS-CORE not specified.
INFO: Using the credentials for read-write access (VOMS-ADMIN).
voms-admin-configure, version 2.7.0

Checking installation...
Checking local installation...
Installation ok.
Setting up user credentials...
Using host credentials (/etc/grid-security/hostcert.pem) since running as root.
Setting defaults for the VOMS AA credentials
AA certificates settings:
cert:/etc/grid-security/tomcat-cert.pem
key:/etc/grid-security/tomcat-key.pem
Prefix: //usr
Configuration dir: /etc/voms-admin
Checking input parameters
Installing vo glast.org
Skipping voms core configuration creation
Will not set read-only access for authenticated clients as the --skip-database option is set
VO glast.org configured correctly.

VO glast.org installation finished.

You can start the voms services using the following commands:
//etc/init.d/voms start glast.org
//etc/init.d/voms-admin start glast.org
voms_glast_org
INFO: Checking VOMS database schema existence and deploying one if missing...
Checking database connectivity...
Database contacted succesfully
Checking database existence...
Found existing voms-admin 2.5.x database...
Existing voms database found. Will not overwrite the database!
INFO: Opening the VO to all authenticated clients.
Checking that the database is writable...
Database is writable.
Granting read-only access to any authenticated user on group '/glast.org'
Granting read-only access to any authenticated user on role '/glast.org/Role=prod'
Granting read-only access to any authenticated user on role '/glast.org/Role=SoftwareManager'
Granting read-only access to any authenticated user on role '/glast.org/Role=VO-Admin'
INFO: Adding default admin from /etc/grid-security/hostcert.pem
INFO: Ignoring email from the administrator certificate: /etc/grid-security/hostcert.pem
Admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it,/C=IT/O=INFN/CN=INFN CA' already exists
This admin will be granted full privileges on the VOMS database.
Adding ALL permissions on '/glast.org' for admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it'
Adding ALL permissions on role '/glast.org/Role=prod' for admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it'
Adding ALL permissions on role '/glast.org/Role=SoftwareManager' for admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it'
Adding ALL permissions on role '/glast.org/Role=VO-Admin' for admin '/C=IT/O=INFN/OU=Host/L=CNAF/CN=voms2.cnaf.infn.it'
```

```
Stopping vo glast.org
Starting vo glast.org
Stopping siblings webapp
Starting siblings webapp
  INFO: User and password for read-only database access for VOMS-CORE not specified.
  INFO: Using the credentials for read-write access (VOMS-ADMIN).
Stopping tomcat6: [ OK ]
Starting tomcat6: [ OK ]
Stopping voms(ams02.cern.ch): (already stopped)
Stopping voms(compassit): (already stopped)
Stopping voms(comput-er.it): (already stopped)
Stopping voms(cyclops): (already stopped)
Stopping voms(enmr.eu): (already stopped)
Stopping voms(euchina): (already stopped)
Stopping voms(euindia): (already stopped)
Stopping voms(eumed): (already stopped)
Stopping voms(glast.org): (already stopped)
Stopping voms(ipv6.hepix.org): (already stopped)
Stopping voms(pacs.infn.it): (already stopped)
Stopping voms(superbvo.org): (already stopped)
Stopping voms(tps.infn.it): (already stopped)
Starting voms(ams02.cern.ch): [ OK ]
Starting voms(compassit): [ OK ]
Starting voms(comput-er.it): [ OK ]
Starting voms(cyclops): [ OK ]
Starting voms(enmr.eu): [ OK ]
Starting voms(euchina): [ OK ]
Starting voms(euindia): [ OK ]
Starting voms(eumed): [ OK ]
Starting voms(glast.org): [ OK ]
Starting voms(ipv6.hepix.org): [ OK ]
Starting voms(pacs.infn.it): [ OK ]
Starting voms(superbvo.org): [ OK ]
Starting voms(tps.infn.it): [ OK ]
  INFO: Executing function: config_voms_logrotate_setenv
  INFO: Executing function: config_voms_logrotate
  INFO: Executing function: config_bdii_5.2
Stopping BDII: BDII already stopped
Starting BDII slapd: [ OK ]
Starting BDII update process: [ OK ]
  INFO: Configuration Complete. [ OK ]
  INFO: YAIM terminated succesfully.
```

**many VOs workaround**  **many VOs workaround** 

## many VOs workaround

If you have many VOs configured on your server, add the following lines

```
* soft nofile 2048
* hard nofile 2048
```

in the file `/etc/security/limits.conf` and then restart tomcat6

-- AlessandroPaolini - 2012-05-30

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