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Notes about Installation and Configuration of VOMS MySQL (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. About IGI Release
6. IGI Official Installation and Configuration guide
7. Troubleshooting Guide for Operational Errors on EGI Sites
8. Grid Administration FAQs page

Service installation

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

O.S. and Repos

- Starts from a fresh installation of Scientific Linux 5.x (x86_64).

```
# cat /etc/redhat-release
Scientific Linux SL release 5.7 (Boron)
```

* Install the additional repositories: EPEL, Certification Authority, UMD

```
# yum install yum-priorities yum-protectbase
# cd /etc/yum.repos.d/
# rpm -ivh http://mirror.switch.ch/ftp/mirror/epel//5/x86_64/epel-release-5-4.noarch.rpm
# wget http://repo-pd.italiangrid.it/mrepo/repos/egi-trustanchors.repo
# rpm -ivh http://repo-pd.italiangrid.it/mrepo/EMI/1/sl5/x86_64/updates/emi-release-1.0.1-1.sl5.n
# wget http://repo-pd.italiangrid.it/mrepo/repos/igi/sl5/x86_64/igi-emi.repo
```

- Be sure that SELINUX is disabled (or permissive). Details on how to disable SELINUX are here : [http://www.linux.com/tech/techtips/386-selinux-is-not-for-you](#)

```
# 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/
adobe.repo          egi-trustanchors.repo  emil-updates.repo    lemon.repo           sl-debuginfo.repo    sl
atrmps.repo         emil-base.repo         epel.repo            puppetlabs.repo     sl-fastbugs.repo     sl
cnafl-local.repo   emil-third-party.repo  epel-testing.repo    sl-contrib.repo     sl.repo              sl
```

IMPORTANT: remove the dag repository if present

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>

Starting MySQL:

[OK]
[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

[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 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
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,-.,/          oo0 oo0   oo8oo oo0 oo0   oo0
.   I_)_) I_)_)

current working directory: /root
site-info.def date: Feb 29 09:43 site-info.def
yaim command: -c -s site-info.def -n VOMS
log file: /opt/glite/yaim/bin/./log/yaimlog
Wed Feb 29 10:07:16 CET 2012 : /opt/glite/yaim/bin/yaim

Installed YAIM versions:
glite-yaim-bdii 4.3.8-1
glite-yaim-core 5.0.2-1
glite-yaim-voms 1.0-10

#####
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_voms_check
INFO: Executing function: config_voms_logrotate_check
INFO: Executing function: config_bdii_5.2_check
INFO: Executing function: config_host_certs
```

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```
INFO: Executing function: config_edgusers
INFO: Executing function: config_add_pool_env_setenv
INFO: Executing function: config_add_pool_env
INFO: Executing function: config_crl
INFO: Now updating the CRLs - this may take a few minutes...
Enabling periodic fetch-crl: [ OK ]
INFO: Executing function: config_info_service_voms_setenv
INFO: Executing function: config_info_service_voms
INFO: Executing function: config_info_service_voms_admin_setenv
INFO: Executing function: config_info_service_voms_admin
INFO: Executing function: config_voms_setenv
INFO: Executing function: config_voms
INFO: MySQL configuration
INFO: Check that java is installed
INFO: Check that tomcat is installed
INFO: Stop tomcat in case it's running
Stopping tomcat5: INFO: Copying hostcert to /etc/grid-security/tomcat-cert.pem for tomcat:root
INFO: Copying hostkey to /etc/grid-security/tomcat-key.pem for tomcat:root...
INFO: Configuring /etc/tomcat5/server.xml...
INFO: Copying trustmanager log4j properties to tomcat configuration directory..
INFO: Linking log4j and bouncycastle jars to tomcat server lib directory..
INFO: Linking trustmanager jars to tomcat server lib directory..
INFO: Defining JAVA_HOME in the Tomcat configuration file
INFO: Starting Tomcat
Starting tomcat5: [ OK ]
INFO: Ready to start VOMS configuration
voms-admin-configure, version 2.6.1
```

```
Checking glite installation...
VOMS_LOCATION: /usr
VOMS_LOCATION_VAR: /var
VOMS_LOCATION_CONF: /
VOMS_ADMIN_LOCATION: /usr/share/voms-admin
VOMS_ADMIN_LOCATION_VAR: /
Checking local installation...
Glite 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
Setting host credentials defaults for VOMS AA.
Cheking input parameters
Installing vo icarus-exp.org
Skipping voms core configuration creation
VO icarus-exp.org configured correctly.
```

VO icarus-exp.org installation finished.

You can start the voms services using the following commands:

```
/etc/init.d/voms start icarus-exp.org
/etc/init.d/voms-admin start icarus-exp.org
```

INFO: Checking VOMS database schema existence and deploying one if missing...

Checking database connectivity...

Database contacted succesfully

Checking database existence...

No voms-admin database found.

Checking that the database is writable...

Database is writable.

```
create table acl2 (acl_id bigint not null auto_increment, group_id bigint not null, defaultACL bi
create table acl2_permissions (acl_id bigint not null, permissions integer, admin_id bigint not n
create table admins (adminid bigint not null auto_increment, dn varchar(255) not null, email_addr
create table attributes (a_id bigint not null auto_increment, a_name varchar(255) not null unique
create table aup (id bigint not null auto_increment, name varchar(255) not null unique, descripti
create table aup_acc_record (id bigint not null auto_increment, aup_version_id bigint not null, u
create table aup_version (id bigint not null auto_increment, aup_id bigint not null, version varc
create table ca (cid smallint not null auto_increment, subject_string varchar(255) not null uniqu
```

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```
create table capabilities (cid bigint not null auto_increment, capability varchar(255) not null,
create table certificate (id bigint not null auto_increment, creation_time datetime not null, sub
create table certificate_request (certificate tinyblob, certificateIssuer varchar(255) not null,
create table group_attrs (a_id bigint not null, g_id bigint not null, a_value varchar(255), prima
create table group_membership_req (groupName varchar(255) not null, request_id bigint not null, p
create table groups (gid bigint not null auto_increment, dn varchar(255) not null unique, descrip
create table m (mapping_id bigint not null auto_increment, userid bigint not null, gid bigint not
create table memb_req (id bigint not null auto_increment, creation_date datetime not null, evalua
create table membership_rem_req (reason varchar(255) not null, request_id bigint not null, primar
create table personal_info (id bigint not null auto_increment, value varchar(255), visible bit, p
create table personal_info_type (id bigint not null auto_increment, description varchar(255), typ
create table req (request_id bigint not null auto_increment, completionDate datetime, creationDat
create table requester_info (id bigint not null auto_increment, address varchar(255), certificate
create table requester_personal_info (requester_id bigint not null, pi_value varchar(255), pi_key
create table role_attrs (a_id bigint not null, g_id bigint not null, r_id bigint not null, a_valu
create table role_membership_req (groupName varchar(255), roleName varchar(255), request_id bigin
create table roles (rid bigint not null auto_increment, role varchar(255) not null unique, primar
create table seqnumber (seq varchar(255) not null, primary key (seq)) type=InnoDB
create table sign_aup_task (task_id bigint not null, aup_id bigint not null, primary key (task_id
create table tag_mapping (mapping_id bigint not null auto_increment, tag_id bigint not null, gid
create table tags (id bigint not null auto_increment, name varchar(255) not null unique, implicit
create table task (task_id bigint not null auto_increment, completionDate datetime, creationDate
create table task_log_record (id bigint not null auto_increment, adminDn varchar(255), creation_t
create table task_type (id bigint not null auto_increment, description varchar(255), name varchar
create table user_request_task (task_id bigint not null, req_id bigint not null, primary key (tas
create table usr (userid bigint not null auto_increment, address varchar(255), creation_time date
create table usr_attrs (a_id bigint not null, u_id bigint not null, a_value varchar(255), primary
create table version (version integer not null, admin_version varchar(255), primary key (version)
create table vo_membership_req (confirmId varchar(255) not null, request_id bigint not null, prim
alter table acl2 add index FK2D98E8720C9B10 (role_id), add constraint FK2D98E8720C9B10 foreign ke
alter table acl2 add index FK2D98E8FCFA8B04 (group_id), add constraint FK2D98E8FCFA8B04 foreign k
alter table acl2_permissions add index FK35C6CFADD91CE8A3 (acl_id), add constraint FK35C6CFADD91C
alter table acl2_permissions add index FK35C6CFADA4AD9904 (admin_id), add constraint FK35C6CFADA4
alter table admins add index FKAB3A67047C6FEB32 (ca), add constraint FKAB3A67047C6FEB32 foreign k
alter table aup_acc_record add index FKB1979B32EE2D4487 (usr_id), add constraint FKB1979B32EE2D44
alter table aup_acc_record add index FKB1979B32815F1678 (aup_version_id), add constraint FKB1979B
alter table aup_version add index fk_aup_version_aup (aup_id), add constraint fk_aup_version_aup
alter table certificate add index FK745F4197EE2D4487 (usr_id), add constraint FK745F4197EE2D4487
alter table certificate add index FK745F419782107F70 (ca_id), add constraint FK745F419782107F70 f
alter table certificate_request add index FK47CA53E7D75D60A4 (request_id), add constraint FK47CA5
alter table group_attrs add index FK40B1A2E2566C2A8F (a_id), add constraint FK40B1A2E2566C2A8F fo
alter table group_attrs add index FK40B1A2E2DEFC581C (g_id), add constraint FK40B1A2E2DEFC581C fo
alter table group_membership_req add index FKBD145E75D75D60A4 (request_id), add constraint FKBD14
alter table groups add index FKB63DD9D4A3771CD3 (parent), add constraint FKB63DD9D4A3771CD3 forei
alter table m add index fk_m_roles (rid), add constraint fk_m_roles foreign key (rid) references
alter table m add index fk_m_groups (gid), add constraint fk_m_groups foreign key (gid) reference
alter table m add index fk_m_cap (cid), add constraint fk_m_cap foreign key (cid) references capa
alter table m add index fk_m_usr (userid), add constraint fk_m_usr foreign key (userid) reference
alter table membership_rem_req add index FK1877BC10D75D60A4 (request_id), add constraint FK1877BC
alter table personal_info add index FK229FDF4DA8D3C6BC (personal_info_type_id), add constraint FK
alter table req add index FK1B89EC37E889D (requester_info_id), add constraint FK1B89EC37E889D for
alter table requester_personal_info add index FK7E3D7FCAD500B8D2 (requester_id), add constraint F
alter table role_attrs add index FK6BDE9799566C2A8F (a_id), add constraint FK6BDE9799566C2A8F for
alter table role_attrs add index FK6BDE979920304994 (r_id), add constraint FK6BDE979920304994 for
alter table role_attrs add index FK6BDE9799DEF581C (g_id), add constraint FK6BDE9799DEF581C for
alter table role_membership_req add index FK3B9C79ED75D60A4 (request_id), add constraint FK3B9C79
alter table sign_aup_task add index FK7FCB416A32B8C70C (task_id), add constraint FK7FCB416A32B8C7
alter table sign_aup_task add index FK7FCB416ADA1C6363 (aup_id), add constraint FK7FCB416ADA1C636
alter table tag_mapping add index fk_tag_mapping_roles (rid), add constraint fk_tag_mapping_roles
alter table tag_mapping add index fk_tag_mapping_admins (admin_id), add constraint fk_tag_mapping
alter table tag_mapping add index fk_tag_mapping_groups (gid), add constraint fk_tag_mapping_grou
alter table tag_mapping add index fk_tag_mapping_tag (tag_id), add constraint fk_tag_mapping_tag
alter table task add index FK3635859AD54C57 (task_type_id), add constraint FK3635859AD54C57 forei
alter table task add index FK363585EE2D4487 (usr_id), add constraint FK363585EE2D4487 foreign key
alter table task add index FK363585A4AD9904 (admin_id), add constraint FK363585A4AD9904 foreign k
alter table task_log_record add index FK77673CA632B8C70C (task_id), add constraint FK77673CA632B8
alter table user_request_task add index FKACB7D2932B8C70C (task_id), add constraint FKACB7D2932B8
```

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```
alter table user_request_task add index FKACB7D299D73AC35 (req_id), add constraint FKACB7D299D73A
alter table usr add index FK1C5947C6FEB32 (ca), add constraint FK1C5947C6FEB32 foreign key (ca) r
alter table usr_attrs add index FKA39E0E37566C2A8F (a_id), add constraint FKA39E0E37566C2A8F fore
alter table usr_attrs add index FKA39E0E3720331206 (u_id), add constraint FKA39E0E3720331206 fore
alter table vo_membership_req add index FK28EE8AFBD75D60A4 (request_id), add constraint FK28EE8AF
Deploying voms database...
Database deployed correctly!
INFO: Adding default admin from /root/paolini_newcert.pem
Admin '/C=IT/O=INFN/OU=Personal Certificate/L=CNAF/CN=Alessandro Paolini,/C=IT/O=INFN/CN=INFN CA'
Adding ALL permissions on '/icarus-exp.org' for admin '/C=IT/O=INFN/OU=Personal Certificate/L=CNA
Adding ALL permissions on role '/icarus-exp.org/Role=VO-Admin' for admin '/C=IT/O=INFN/OU=Persona
Stopping vo icarus-exp.org
Starting vo icarus-exp.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 tomcat5: [ OK ]
Starting tomcat5: [ OK ]
Stopping voms(icarus-exp.org): (already stopped)
Starting voms(icarus-exp.org): [ 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.
```

-- AlessandroPaolini - 2012-02-29

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Topic revision: r5 - 2012-03-05 - AlessandroPaolini



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