

# GRID storage access tools installation

The following documentation was developed for the installation of a GRID tools and certificate on an Ubuntu 12.04 system using a bash shell (using `.bashrc` as a configuration script). Please note that especially some of the srm scripts only work under bash, not csh derivatives. Thanks goes to Martin van den Akker for providing most of this information.

There is also an instruction for installing on an [old version of Ubuntu](#) that doesn't have the apt-get packages yet. There is also an instruction for installing on [Scientific Linux 5 using gLite version 3.2](#) or [Scientific Linux 4 using gLite version 3.1](#). These use RPM and might also work on Redhat or SuSE or derivatives.

## 1 Installation of software packages

Note: all installations require root permissions.

### 1.1 globus

You will need to install the file transfer tools from the Globus package, most importantly globus-url-copy:

```
sudo apt-get install globus-gass-copy-progs globus-common-progs globus-core
```

### 1.2 voms

You will need to install the VOMS tools for logging in and user account management:

```
sudo apt-get install voms-clients
```

### 1.3 srmtools

You will need to install the SRM tools to be able to communicate with the storage management system.

1. Download srmtools
  - [srm.tar.gz](#)
  - <http://www.astro.ru.nl/~martinva/software/srm.tar.gz>
2. Extract and install the srmtools in `/opt/`  
this will create a subdirectory `srm` under `/opt/`
3. Add the path to the srmtools to `.bashrc`:  

```
export SRM_PATH=/opt/srm  
export PATH=$SRM_PATH/bin:$PATH
```

## 2 Installation of certificates

### 2.1 Personal certificate

- Request a user certificate using jGridstart  
<http://ca.dutchgrid.nl/start/jgridstart.jnlp>  
and follow the instructions
  - Install the certificate as described in the certificate e-mail
1. Save this entire mail as `$HOME/.globus/usercert.pem` and make sure that the `userkey.pem` file in that directory matches this certificate. As these `*.pem` files are strictly personal their permissions should be set properly by the following command:  

```
> chmod 600 *.pem
```
  2. Load the certificate into your web browser on your own system. See <http://ca.dutchgrid.nl/info/browser> for instructions. Installation can also be done using the jGridstart tool (see above) for supported browsers.
  3. [optional] Apply for authorization to use resources or services. Please consult your service provider or help desk for more information, e.g.:
    - <https://voms.grid.sara.nl:8443/voms/lofar> for access to the LOFAR LTA storage
    - [deisa-support@sara.nl](mailto:deisa-support@sara.nl) for access to DEISA HPC Grid resources
    - <https://voms.grid.sara.nl:8443/vomses> for other GRID communities hosted in the Netherlands
    - <https://cic.gridops.org/index.php?section=home&page=volist> for all Grid communities registered in Europe by discipline

### 2.2 Additional certificates from the site of the European Grid Infrastructure (EGI).

Execute the following commands to install the certificates from the site of the European Grid Infrastructure (EGI) (root permissions are required).

```
sudo add-repository 'deb
http://repository.egi.eu/sw/production/cas/1/current egi-igtf core'
sudo apt-get update
sudo apt-get install ca-policy-egi-core
```

## 3 Additional configuration

### 3.1 Add VOMSES string

Add the vomses string for the LOFAR Virtual Organization (VO) to the vomses file. You can find this string on the following website  
<https://voms.grid.sara.nl:8443/voms/lofar/configuration/configuration.action> in the text block under *VOMSES string for this VO*

The string should be copied to the following file: `$HOME/.glite/vomses`

### 3.2 List of certificates (voms.grid.sara.nl.lsc)

Put the following string (without the quotes):

```
"/O=dutchgrid/O=hosts/OU=sara.nl/CN=voms.grid.sara.nl"
```

in the file (root permissions required):

```
/etc/grid-security/vomsdir/lofar/voms.grid.sara.nl.lsc
```

### 3.3 Environment

Add the following settings to `.bashrc` or another initialisation/startup script.

```
export X509_VOMS_CERT=$HOME/.globus/usercert.pem
export X509_VOMS_KEY=$HOME/.globus/userkey.pem
export X509_VOMS_DIR=/etc/grid-security/vomsdir
export VOMS_USERCONF=$HOME/.glite
```

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<https://www.astron.nl/lofarwiki/> - **LOFAR Wiki**

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