NeuroLOG ANR-06-TLOG-024
Software technologies for integration of process, data and knowledge in medical imaging

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NeuroLOG Server
Installation and Administration Guide

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Version: V1.2 – NeuroLOG middleware version 0.5.3
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Summary:
This document is the NeuroLOG middleware installation and administration guide.

Document layout

Document history

Version	Date	Action	Comment
V0.01	April 14, 2009	Creation	Created as a copy of former installation guide
V0.02	Jul. 22nd, 2009	Modification	Update Data Federator license key and additional fine tuning
V1.0	Dec. 22nd, 2009	Modification	Major update including server install procedure, Data Federator and Tomcat scripts install.
V1.1	Feb. 24th, 2010	Modification	Update Data Federator license key. Misc. updates and clarifications.
V1.2	Mar. 19th, 2010	Modification	Minor updates and fixes during installation of site ASCLEPIOS. Add JRE security config.

1. Introduction

This document describes the procedure to deploy a new NeuroLOG registry or site server, that is:

- install the major third-party components: MySQL database server, Data Federator, Apache Tomcat;
- deploy the site server binaries;
- configure and deploy a NeuroLOG registry;
- configure and deploy a NeuroLOG site server.

Pre-requisites: to start this procedure, the user should be aware of the NeuroLOG project architecture, should be familiar with usual Linux administration (install package, create user account), MySQL administration, Apache Tomcat administration and web applications in general.

2. Installation procedure

2.1. Server fine tunings

The NeuroLOG server is hosted on an Linux Ubuntu server.

/etc/hosts

Verify or add that the `/etc/hosts` file contains the following line:

```
<public ip address>  neurolog.mydomain.com neurolog
```

like for instance:

```
134.59.132.67        neurolog.unice.fr neurolog
```

The libraries below should only be installed if the Visioscopie viewer should be run on this server. Most NeuroLOG servers will not need this.

Mono librairies

From the Synaptic packages manager, add the Mono System Windows Forms library: libmono-winforms2-0.cli. Accept all dependent libraries.

Mesa libraries

Note from Visioscopie: this should be done by an experimented administrator as it may propose to remove libraries => **to be done very carefully**!

From the Synaptic packages manager, add the Mesa OpenGL Runtime library: libgl1-mesa-swx11-i686.cli. Accept all dependent libraries.

2.2. Java SE

NeuroLOG runs with the Java SE 6 environment. If it is not installed yet, download and install the last release of Java 6 from http://java.sun.com/javase/downloads/widget/jdk6.jsp.

Then, in the neurolog account environment, define the JAVA_HOME variable to the installation directory of the JDK. As an example, the following line is added to file `$HOME/.bashrc`:

```
export JAVA_HOME=/home/neurolog/Soft/jdk1.6.0_13
```

In file $JAVA_HOME/jre/lib/security/java.security, add the following line:

```
security.provider.9=org.bouncycastle.jce.provider.BouncyCastleProvider:
```

And in directory $JAVA_HOME/jre/lib/ext, copy the two following jars:

```
bcprov-ext-jdk16-144.jar
```

bcprov-jdk16-144.jar

2.3. Install MySQL

2.3.1. On Windows XP / 2003 Server

2.3.1.1. Packages installation

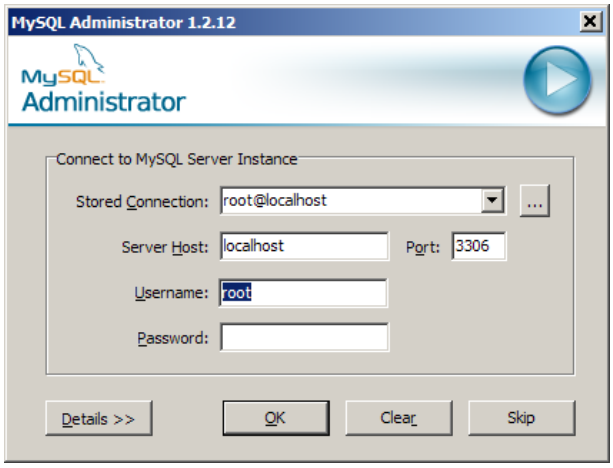
The user needs administrator rights to perform the installation. Download and install the following packages (the version is the last one available at the date this document is written; you may choose to install later version).

File name	Comment
mysql-essential-5.0.51b-win32.msi	MySQL core package. http://dev.mysql.com/downloads/mysql/5.0.html#win32 Follow the installation steps described here: http://maximilian.developpez.com/mysql/installation_mysql5/ Use login root and password root when requested to enter administrator identity.
mysql-gui-tools-5.0-r12-win32.msi	MySQL GUI tools: administrator, query browser, configuration wizard… http://dev.mysql.com/downloads/mysql/5.0.html#win32
mysql-jdbc-connector-java-5.1.6.jar	JDBC driver that will be used by Data Federator and the NeuroLOG server to access the database. http://dev.mysql.com/downloads/connector/j/5.1.html

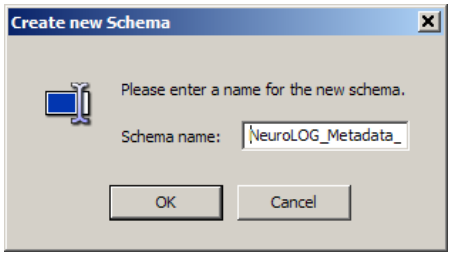
2.3.1.2. NeuroLOG user and database creation

Once MySQL is installed and running, create the *neurolog_meta* MySQL user and default schema, by following the steps below:

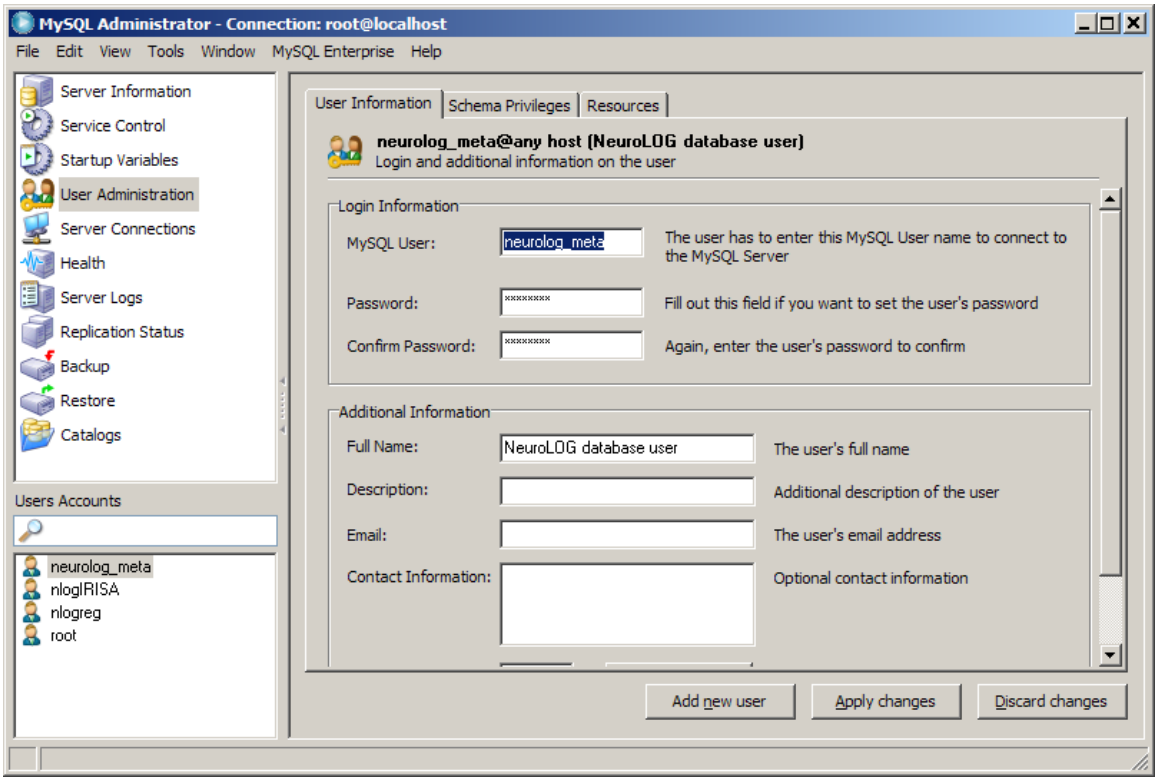
1. Connect on MySQL Administrator (root).



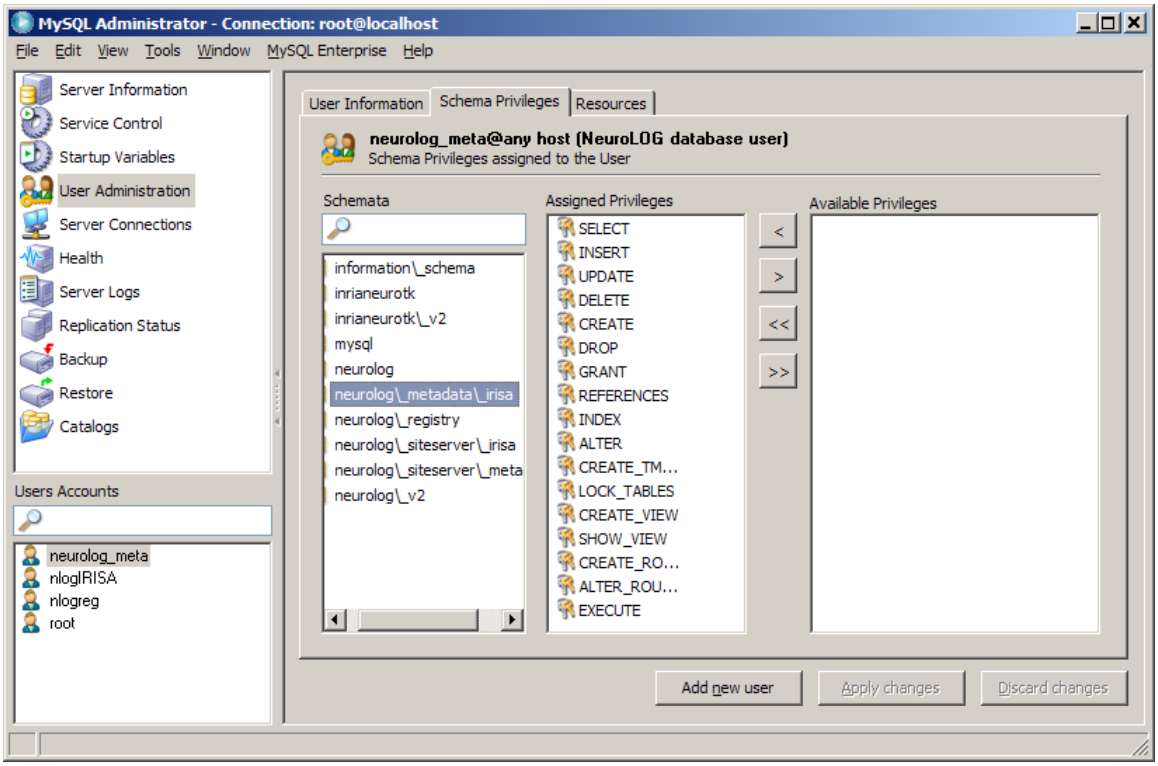
2. Go to the section *Catalogs*, in the list of schemas, right click and select *Create new Schema*, enter the name *NeuroLOG_Metadata_<Sitename>* where *<Sitename>* stands for IRISA, I3S, GIN, etc.



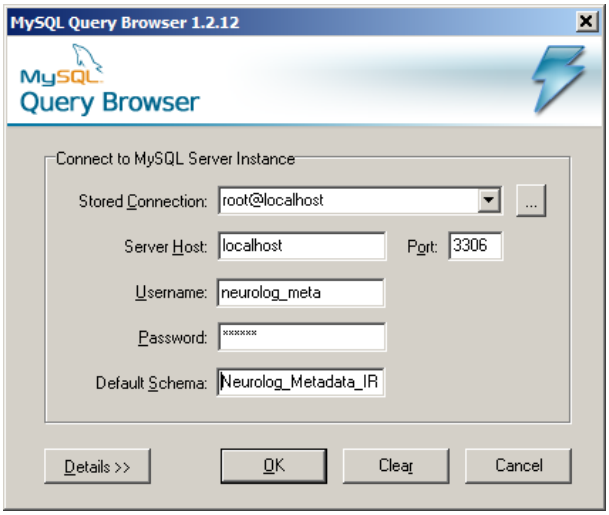
3. Go to section *User Administration*, click *Add new user*: Fill-in user information: username *neurolog_meta*, password *<your choice>*, click *Apply Changes*.



4. On tab *Schema Privileges*, select schema *NeuroLOG_Metadata_<Sitename>*, and give the user all rights on this schema, and click *Apply Changes*.



5. Verify the user is ok by connecting to *MySQL Query Browser* using user *neurolog_meta* and schema *NeuroLOG_Metadata_<Sitename>:*



2.3.2. On Linux Ubuntu

2.3.2.1. Packages installation

In Linux Ubuntu distribution, packages must be installed using the Synaptic Package Manager (see Figure 1).

Use *root* when requested to enter administrator identity. Additional information may be found here: http://maximilian.developpez.com/mysql/installation_mysql5/

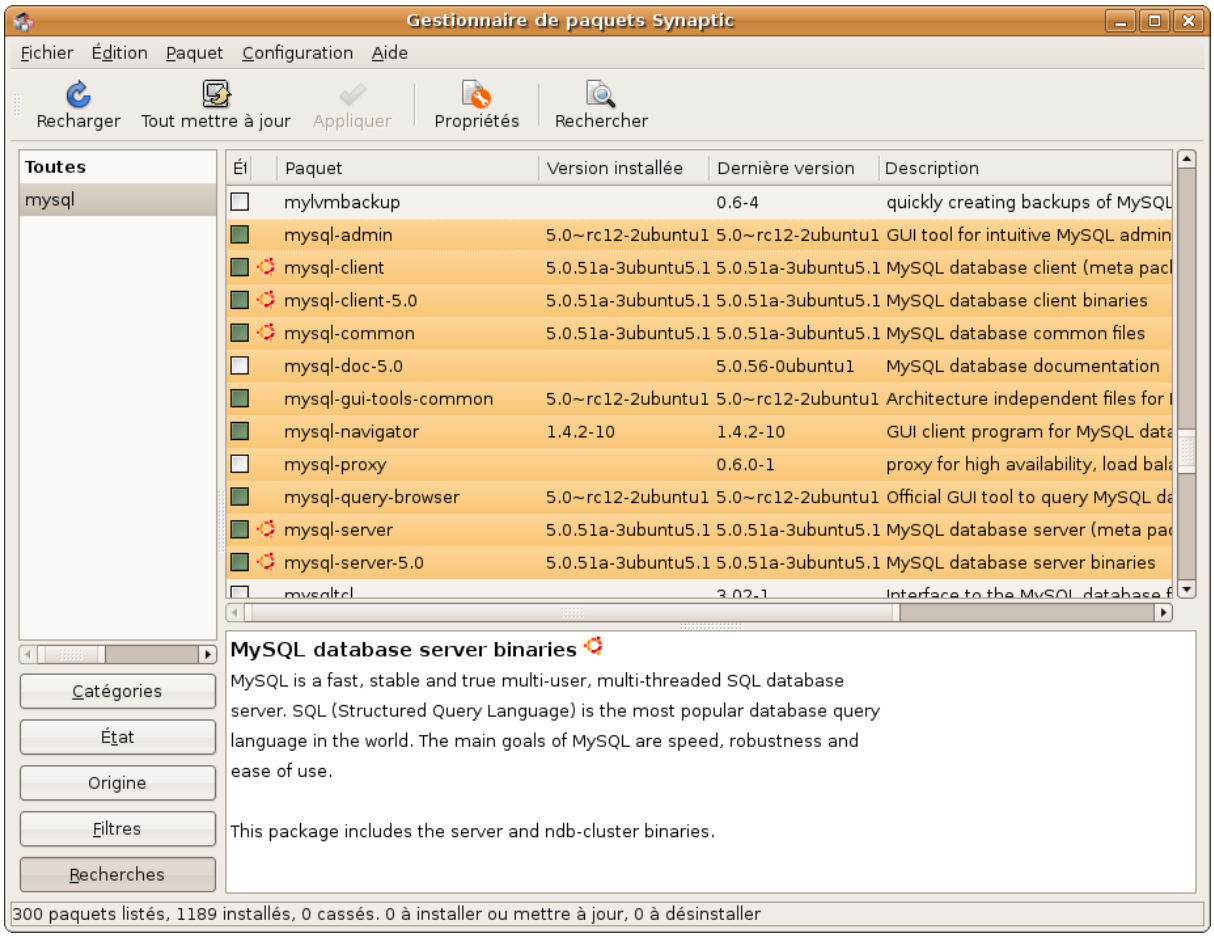


Figure 1. MySQL Packages

Allow MySQL Administrator run to as super user

Once installed, the MySQL Administrator application shortcut must be changed in order to run as super user.

- Run the Main Menu Manager: `sudo alacarte`
- Get the short cut Applications > Programmation > MySQL Administrator:

Change the properties of the shortcut: replace the command by

```
gksudo /usr/bin/mysql-admin
```

Allow MySQL to listen for incoming connections

Edit the MySQL configuration file:

```
sudo vi /etc/mysql/my.cnf
```

Change the bind-address parameter as follows :

```
bind-address = 0.0.0.0
```

NeuroLOG user and database follow the procedure described in 2.3.1.2.

2.3.2.2. Configuration

Using the MySQL Administrator tool, configure the database instance to use the InnoDB engine.

Note: when Hibernate imports a schema from an existing database, it seems that it can't see foreign keys when the database uses the MyIsam engine, although this works fine with InnoDB.

TBC: tune parameters for a server configuration.

2.4. Install Data Federator

Data Federator is currently provided as two archives, available at the following URLs:

1. http://neurolog.unice.fr:64000/~neurolog-test/datafederator/DF_XI_3.0-12.1.0.0.SP1_Dev_RC4.zip
2. http://neurolog.unice.fr:64000/~neurolog-test/datafederator/DF_XI_3.0-12.1.2.0-SP1_FixPack2.zip

Below is a simple installation procedure. For further installation details or issues, please refer to the installation guides included in each archive.

2.4.1. On Windows XP / 2003 Server

Install the Data Federator middleware:

1. Uncompress the archive DF_XI_3.0-12.1.0.0.SP1_Dev_RC4.zip into directory C:\tmp (or any temporary directory with enough room ~2 GB).
2. From a file explorer, run file
   `C:\tmp\DF_XI_3.0-12.1.0.0.SP1_Dev_RC4\32-bit\InstData\Windows\VM\install.exe`
3. When requested, enter use the following license number (valid until Sept. 2010): `C1R0K-M5UZAN7-001EEBD-AVYZ`
4. Select the *Typical* installation mode. Accept the default installation directory, hereafter referred to as <DF_install_dir>:
   `C:\Program Files\Business Objects\BusinessObjects Data Federator 12`
5. Uncompress the archive DF_XI_3.0-12.1.2.0-SP1_FixPack2.zip into directory C:\tmp (or any temporary directory with enough room ~200 MB).
6. From a file explorer, run file
   `C:\tmp\DF_XI_3.0-12.1.2.0-SP1_FixPack2\win-32\install_fixpack_2.exe`

Start and stop Data Federator:

Data Federator is installed as a Windows service, and thus starts automatically. Use the services panel to stop and start the service.

2.4.2. On Linux Ubuntu

Create the following Linux user, with default desktop user privileges:

Login	neurolog
Password	<your choice>
Group	neurolog

Log in as user *neurolog*, and run the installation procedure:

Install the Data Federator middleware:

1. Uncompress the archive DF_XI_3.0-12.1.0.0.SP1_Dev_RC4.zip into directory /tmp (or any temporary directory with enough room ~2 GB).

2. From a shell, run file
   `/tmp/DF_XI_3.0-12.1.0.0.SP1_Dev_RC4/32-bit/InstData/Linux/VM/install.bin`
3. When requested, enter use the following license number (valid until Sept. 2010): `C1R0K-M5UZAN7-001EEBD-AVYZ`
4. Select the *Typical* installation mode. Change the def*ault in*stallation directory, hereafter referred to as <DF_install_dir> to:
   `~/Soft/Business Objects/Data_Federator_12`
5. Uncompress the archive DF_XI_3.0-12.1.2.0-SP1_FixPack2.zip into directory /tmp (or any temporary directory with enough room ~200 MB).
6. From a shell, run file
   `/tmp/DF_XI_3.0-12.1.2.0-SP1_FixPack2/linux-32/install_fixpack_2.bin`

Start and stop Data Federator:

Use the following command to start Data Federator servers:

`~/Soft/Data_Federator_Links/Data_Federator_Servers_Startup`

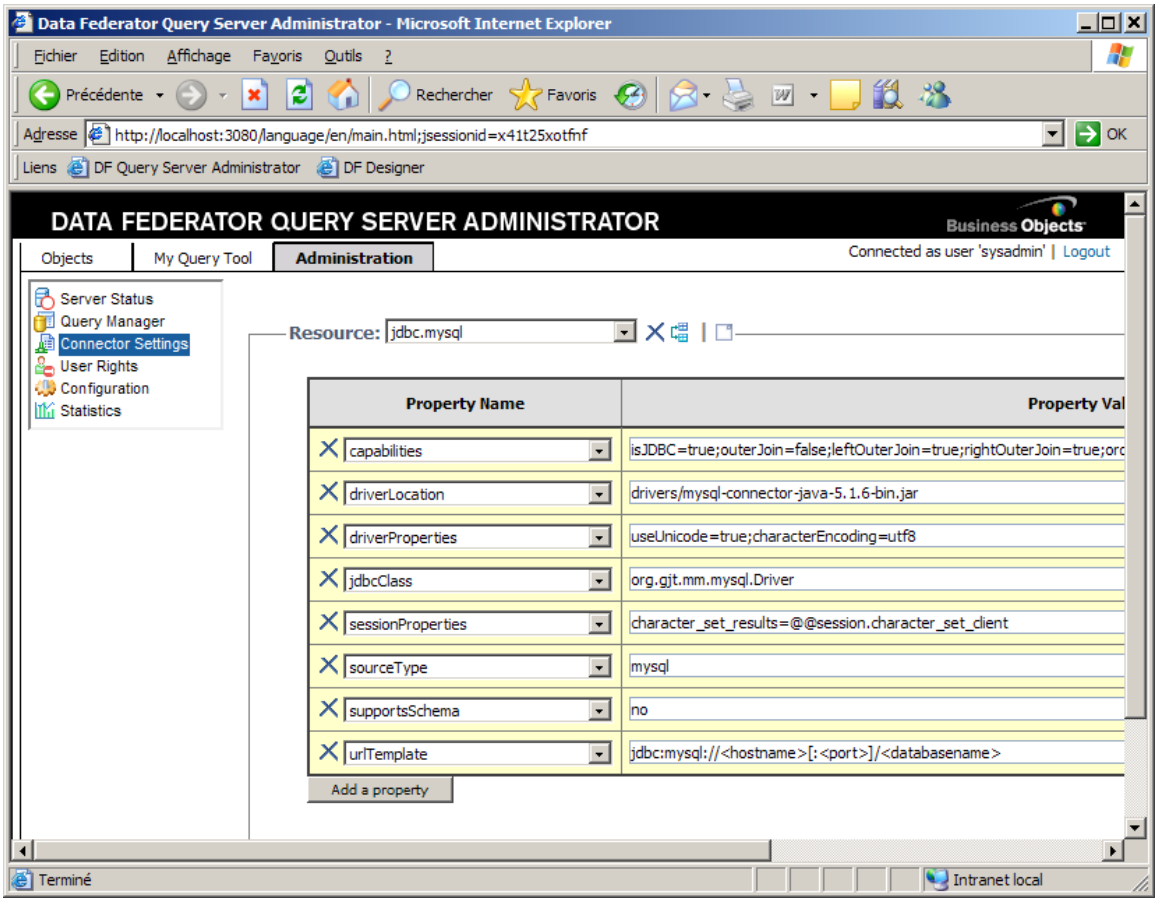
Use the following command to stop Data Federator servers:

`~/Soft/Data_Federator_Links/Data_Federator_Servers_Shutdown`

2.4.3. Post-install configuration

2.4.3.1. Install the MySQL JDBC driver

1. MySQL JDBC driver is available at
   http://dev.mysql.com/downloads/connector/j/5.1.html.
2. Copy the last MySQL connector file (mysql-connector-java-5.1.6-bin.jar at the time this document is to written) into directory
   `<DF_install_dir>/LeSelect/drivers`
3. Connect to *Data Federator Administrator* at http://server_hostname:3080/ as user *sysadmin*, default password is *sysadmin*:
   Select *Administration* pane > *Connector Settings* > *Resource* > *jdbc.mysql*.
   Set property *driverLocation* to drivers/mysql-connector-java-5.1.6-bin.jar.



2.4.3.2. Set the server IP

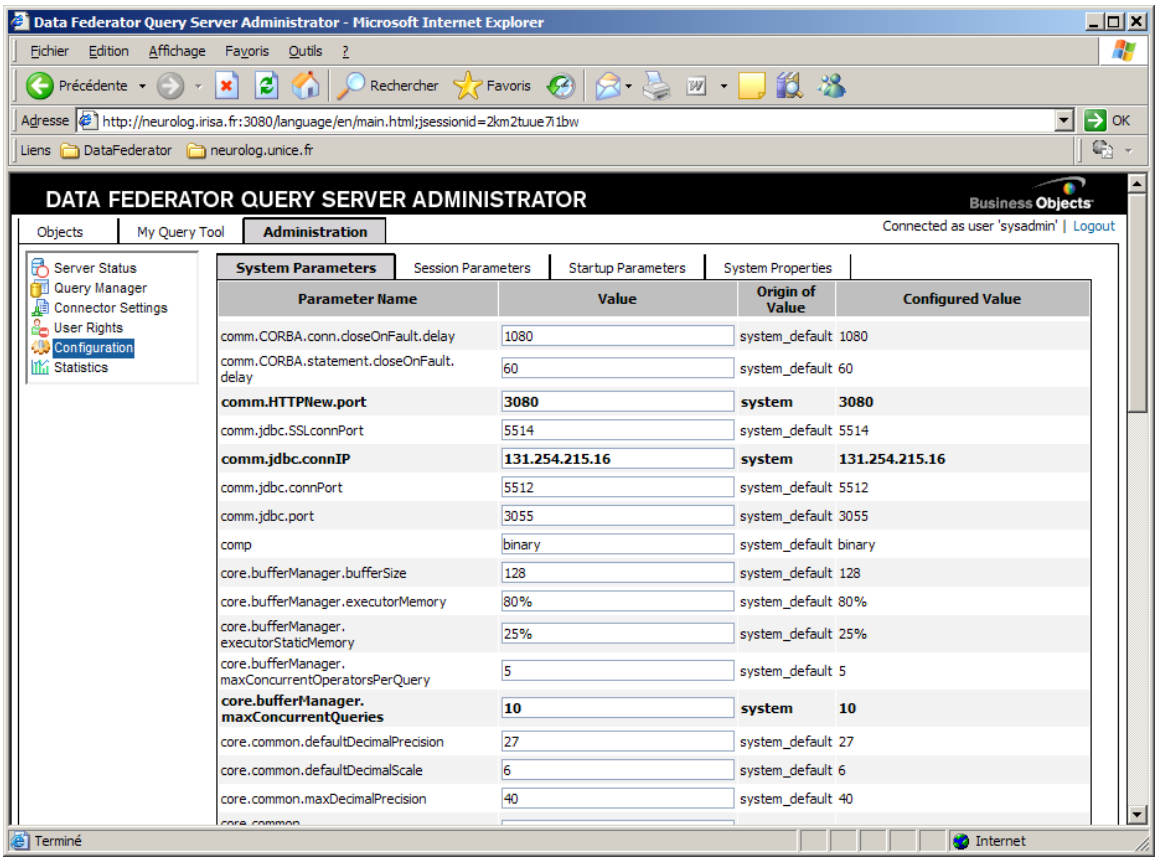
Data Federator listens on one interface only of the host. As a default, it may be the localhost interface (127.0.0.1), which prevents any connection from another host.

Therefore the server must be configured to listen on the public IP address.

1. Connect to *Data Federator Administrator* at http://server_hostname:3080/ as user *sysadmin*, default password is *sysadmin*:

   Select *Administration* pane > *Configuration* > *System Parameter*

   - Set property *comm.jdbc.connIP* to the host public IP address of your server.
   - Set property *core.bufferManager.maxConcurrentQueries* to 10.
   - Click Ok to validate the changes.

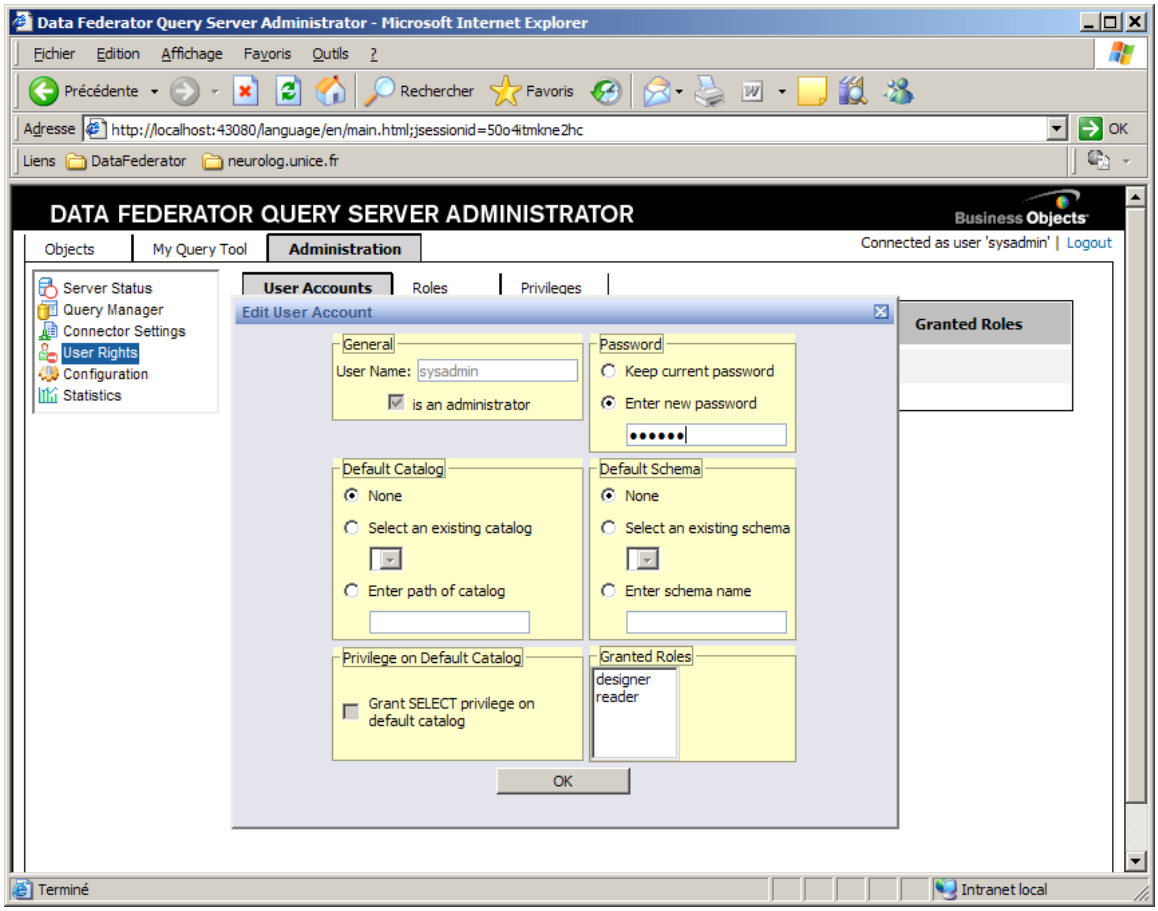


2. Restart the server for the change to be taken into account.

2.4.3.3. Change the administrator default password

Connect to Data Federator Administrator again, select *User Rights* pane and change the *sysadmin* user parameters.

Change the password to <*your choice*>. See the picture below.



2.4.3.4. Additional user accounts

Later on, when the mappings will be deployed, 2 additional DF users must be defined (replace SITE with the name of the site on which DF is installed):

- **localSITE**, default catalog localSITE, default schema targetSchema
- **neurologSITE**, default catalog globalSITE, default schema targetSchema

  Both shall have as password the administrator password that will be defined when the middleware is installed on the site (see §2.9, step 4).

2.4.3.5. Install the stop/start script

On Linux, as super user, create the following script with name: /etc/init.d/datafederator.

```
!/bin/bash
# description: Starts and stops the Data Federator servers

# Basic support for RedHat style chkconfig
# chkconfig: 35 98 01

DF_ROOT='/home/neurolog/Soft/Business_Objects/Data_Federator_Links'
```

```
    [ -f $DF_ROOT/Data_Federator_Servers_Startup ] || { echo "ERROR:
$DF_ROOT/startup.sh doesn't exist" ; exit 1; }

    start()
    {
      $DF_ROOT/Data_Federator_Servers_Startup
    }

    stop()
    {
      $DF_ROOT/Data_Federator_Servers_Shutdown
      kill -9 `ps -ef | grep Business_Objects | grep -v grep | awk '{print
$2}'`
    }

    restart()
    {
      $DF_ROOT/Data_Federator_Servers_Shutdown
      kill -9 `ps -ef | grep Business_Objects | grep -v grep | awk '{print
$2}'`
      $DF_ROOT/Data_Federator_Servers_Startup
    }

    case "$1" in
    'start')
      dfProcId=`ps -ef | grep Business_Objects | grep -v grep | awk '{print
$2}'`
      if [[ ($dfProcId != "") ]]
      then
        echo "Service already running."
      else
        start
      fi
      ;;

    'stop')
      dfProcId=`ps -ef | grep Business_Objects | grep -v grep | awk '{print
$2}'`
      if [[ ($dfProcId == "") ]]
      then
        echo "Service is not running."
      else
        stop
      fi
      ;;

    'restart')
      dfProcId=`ps -ef | grep Business_Objects | grep -v grep | awk '{print
$2}'`
      if [[ ($dfProcId == "") ]]
```

```
      then
        echo "WARNING: Service was already stopped, trying to start."
        start
      else
        restart
      fi
      ;;

    'status')
      procId=`ps -ef | grep Business_Objects | grep -v grep | awk '{print $2}'`
      if [[ ($procId == "") ]]
      then
        echo "Service is not running."
      else
        echo "Service is running."
      fi
      ;;

    *)
      echo "Usage: $0 {start|stop|restart|status}"
      exit 1
      ;;
    esac
```

Then, give this file the execution rights, and register the service.

On Ubuntu:

```
    chmod 755 /etc/init.d/datafederator
    sudo update-rc.d datafederator defaults
```

On Fedora:

```
    chmod 755 /etc/init.d/datafederator
    chkconfig --add datafederator
```

2.4.4. Configure a database client

Data Federator comes with a JDBC driver, so that it is possible to configure a usual database client to access to it as any other database. This section provides a way to configure the connector to Data Federator for two examples of SQL clients, namely DB Visualizer and Squirrel SQL. This is not a mandatory step, this is not an installation procedure: for installation, refer to the appropriate documentation.

2.4.4.1. DB Visualizer

The following describes the configuration steps for the DB Visualizer client (http://www.minq.se/products/dbvis/). See further details at http://www.dbvis.com/products/dbvis/doc/6.0/doc/ug/getConnected/getConnected.html.

1. Add the Data Federator driver:

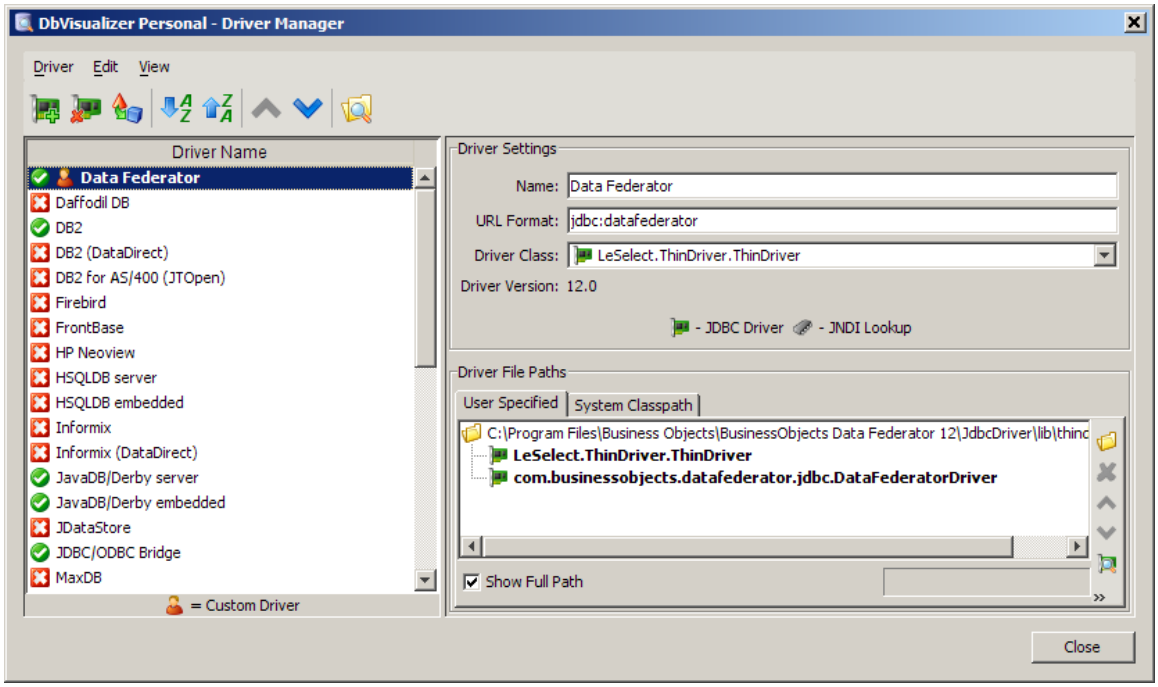
Select menu *Tools* > *Driver Manager*: opens the *Driver Manager* window.

Select menu *Driver* > *Create Driver*:

Name: DataFederator, URL format: jdbc:datafederator.

In Driver File Paths, open <DF_install_dir>/JdbcDriver/lib/thindriver.jar.

The Driver Manager automatically finds the dependent jars and the driver class name, as shown below:



2. Add a connection to Data Federator:

In the connections list, manually configure the connection (don't use the wizard), for instance:

URL: jdbc:datafederator://localhost:3055/globalI3S

User: neurolog-test

Password: <some pwd>

Note: the url //localhost:3055/neurolog is provided by Data Federator Designer in the project configuration when it is deployed.

2.4.4.2. Squirrel SQL

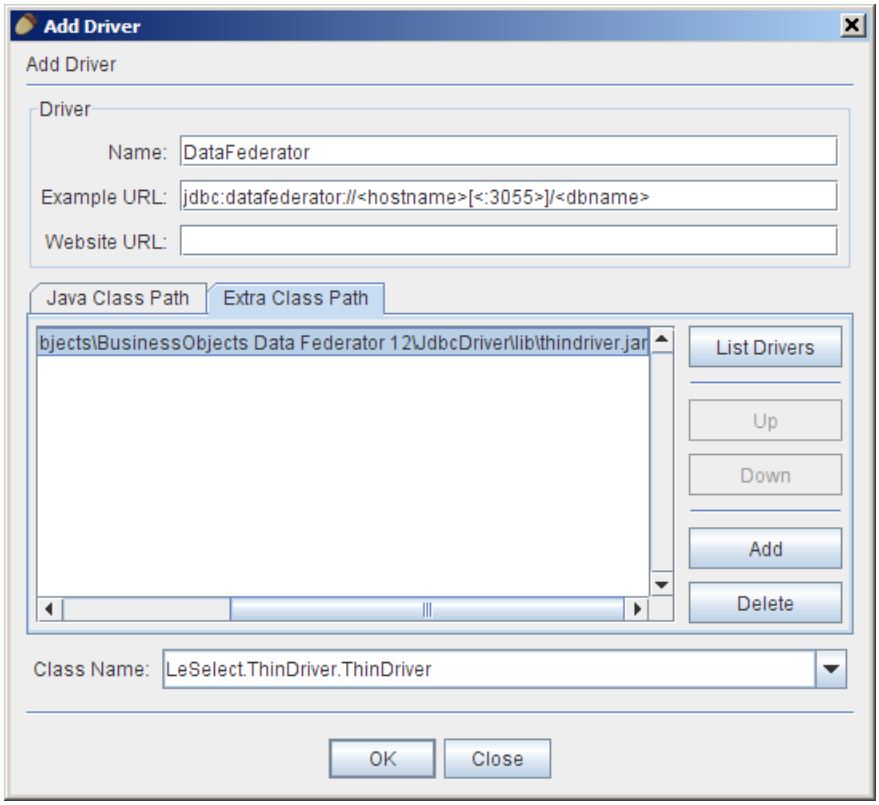
The Squirrel SQL client can be downloaded freely at http://www.squirrelsql.org/.

1. Add the Data Federator driver:

Select the *Drivers* tab, add a driver, and fill the parameter as shown below.

From the *Extra Class Path* tab, add the DataFederator driver from <DF_install_dir>/JdbcDriver/lib/thindriver.jar.

Click *List Drivers*, this automatically finds the driver class name *LeSelect.ThinDriver.Thindrier*. Click ok.



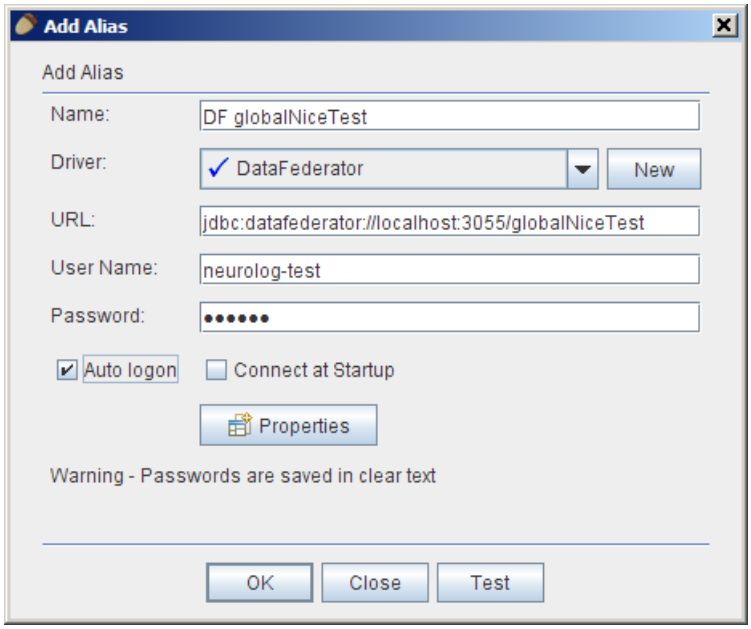
2. Add a connection to Data Federator:

In the *Aliases* tab, add a connection, for instance:

URL: jdbc:datafederator://localhost:3055/globalI3S

User: neurolog-test

Password: <some pwd>



2.5. Uninstall Data Federator

If Data Federator should be uninstalled for some reason, note that the uninstall may fail due to the presence of the fix pack 2, for which there is no uninstallation procedure.

In this case, do the following:

- Stop Data Federator
- Remove installation directory $HOME/Soft/Business_Object
- Remove directory $HOME/.datafederator
- Remove file $HOME/.com.zerog.registry.xml

Then restart the install procedure as described in section 2.4.

2.6. Install and configure Apache Tomcat

2.6.1. Deploy Apache Tomcat

Follow the steps below:

- Unpack the last official archive of Tomcat 6 (current version is v6.0.18 at the time this document is written).

- Set the environment variable $CATALINA_HOME to the directory of the unpacked Tomcat.

- Update the `conf/tomcat-users.xml` as follows:

```
    <tomcat-users>
          <role rolename="manager"/>
          <role rolename="tomcat"/>
          <role rolename="admin"/>
          <user username="tomcat" password="<a password>"
roles="tomcat"/>
          <user username="admin" password="<a password>"
roles="admin,manager"/>
    </tomcat-users>
```

- When deploying Tomcat under Linux, add the jar responsible for java annotations in the Tomcat classpath in `conf/catalina.properties`:

```
    shared.loader=/home/neurolog/Soft/jdk1.6.0_10/lib/*.jar
```

(Replace this path with the appropriate path of your jdk).

- Give the execution rights to the scripts below in the $CATALINA_HOME/bin directory:

```
    cd $CATALINA_HOME/bin
    chmod 755 catalina.sh shutdown.sh startup.sh setclasspath.sh
```

2.6.2. Install the stop/start script

On Linux, as super user, create the following script with name: `/etc/init.d/neurolog`, and if necessary update the values in bold.

```
    #!/bin/bash
    # description: Starts and stops the Tomcat server for NeuroLOG
    # Basic support for RedHat style chkconfig
    # chkconfig: 35 99 01

    export HOME=/home/neurolog
```

```
    export CATALINA_HOME=${HOME}/Soft/apache-tomcat-6.0.18
    export CATALINA_PID=${CATALINA_HOME}/bin/pid

    [ -f $CATALINA_HOME/bin/startup.sh ] || { echo "ERROR:
$CATALINA_HOME/bin/startup.sh doesn't exist" ; exit 1; }

    start()
    {
      $CATALINA_HOME/bin/startup.sh
    }

    stop()
    {
      $CATALINA_HOME/bin/shutdown.sh -force
    }

    restart()
    {
      $CATALINA_HOME/bin/shutdown.sh -force
      $CATALINA_HOME/bin/startup.sh
    }

    case "$1" in
    'start')
      procId=`ps -ef | grep tomcat | grep -v grep | awk '{print $2}'`
      if [[ ( $procId != "") ]]
      then
        echo "Service already running."
      else
        start
      fi
      ;;

    'stop')
      procId=`ps -ef | grep tomcat | grep -v grep | awk '{print $2}'`
      if [[ ($procId == "") ]]
      then
        echo "Service is not running."
      else
        stop
      fi
      ;;

    'restart')
      procId=`ps -ef | grep tomcat | grep -v grep | awk '{print $2}'`
      if [[ ($procId == "") ]]
      then
        echo "WARNING: Service was already stopped, trying to start."
        start
```

```
      else
        restart
      fi
      ;;

    'status')
      procId=`ps -ef | grep tomcat | grep -v grep | awk '{print $2}'`
      if [[ ($procId == "") ]]
      then
        echo "Service is not running."
      else
        echo "Service is running."
      fi
      ;;

    *)
      echo "Usage: $0 {start|stop|restart|status}"
      exit 1
      ;;
    esac
```

Then, give this file the execution rights, and register the service.

On Ubuntu:

```
chmod 755 /etc/init.d/neurolog
sudo update-rc.d neurolog defaults
```

On Fedora:

```
chmod 755 /etc/init.d/neurolog
chkconfig --add neurolog
```

2.7. Configure the server environment

In the following, the variable $HOME or ${HOME} is the home path of the Linux account that runs the NeuroLOG server. Frequently it should be /home/neurolog.

Create directory $HOME/bin and add it to the $PATH environment variable.

2.7.1. Deploy server binaries

2.7.1.1. Create directories

First, create the following directories. The $HOME variable denotes the home of the neurolog account on the NeuroLOG server:

```
$HOME/.neurolog
$HOME/.neurolog/lib
$CATALINA_HOME/site
```

2.7.1.2. From a development environment:

This procedure assumes that the development environment is installed on the server.

Copy all files in $HOME/NetBeansProjects/NeuroLOG/NeuroLOG_Middleware/bin into directory $HOME/bin.

Copy all files in $HOME/NetBeansProjects/NeuroLOG/NeuroLOG_Registry/bin into directory $HOME/bin.

Run the `deploy_site.sh` script to copy all needed binaries.

2.7.1.3. Without the development environment:

A specific script can be made to deploy a new server from an existing one, through the secured copy command: scp. As an example, use the script deploy_site_GIN.sh on the IRISA server.

2.7.2. Global configuration file: server.config

Configuration properties of the server software are set in properties files, bundled in the middleware jar. Any property may be overridden in the `server.properties` (site server, web services server and registry).

During the server installation procedure, this `server.properties` file is created with appropriate properties values. They can be manually modified later on.

2.7.3. Cron configuration

As the super user (sudo) update or create the file `/etc/cron.allow` by adding a line listing the current user name.

2.7.4. Grid certificates

As root or sudo user, copy file

$HOME/NetBeansProjects/NeuroLOG/NeuroLOG_Middleware/bin/grid-security.tar into directory /etc and untar it:

```
cd /etc
tar xvf grid-security.tar
```

Copy the shell script `clear_tempfiles.sh` from the NeuroLOG distribution into directory `$HOME/bin`. Edit the user crontab using the command: `crontab -e`, and add the following line:

```
1,16,31,46 * * * * /home/neurolog/bin/clear_tempfiles.sh
```

If needed, replace directory `/home/neurolog` with the appropriate home directory of the user running the NeuroLOG server.

2.7.5. Enable per-user web sharing

To allow for sharing of files through the Apache web server, the NeuroLOG server must be allowed to share file in the usual public_html directory.

- Create directory `$HOME/public_html`.

On Fedora:

- Edit `/etc/httpd/conf/httpd.conf`.
  - Comment out the line `UserDir disable`,
  - change the `UserDir` option to `public_html`,
  - restrict the rights as follows:

```
<Directory /home/*/public_html>
        AllowOverride FileInfo AuthConfig Limit
        Options MultiViews IncludesNoExec
</Directory>
```

- Execute `service httpd reload`

On Ubuntu:

```
    cd /etc/apache2/mods-enabled
sudo ln -s ../mods-available/userdir.conf userdir.conf
sudo ln -s ../mods-available/userdir.load userdir.load
sudo /etc/init.d/apache2 restart
```

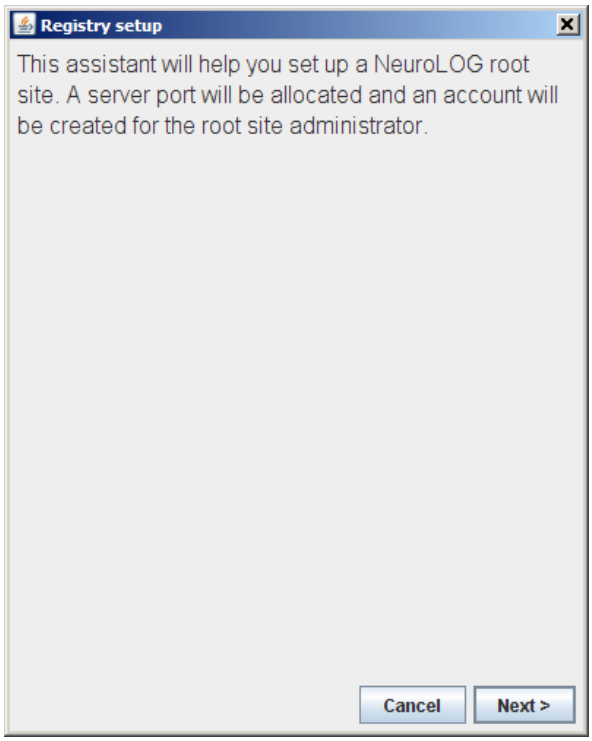
- In the `/etc/apache2/mods-available/userdir.conf` file, restrict rights as follows:

```
<Directory /home/*/public_html>
        AllowOverride FileInfo AuthConfig Limit
        Options MultiViews IncludesNoExec
</Directory>
```

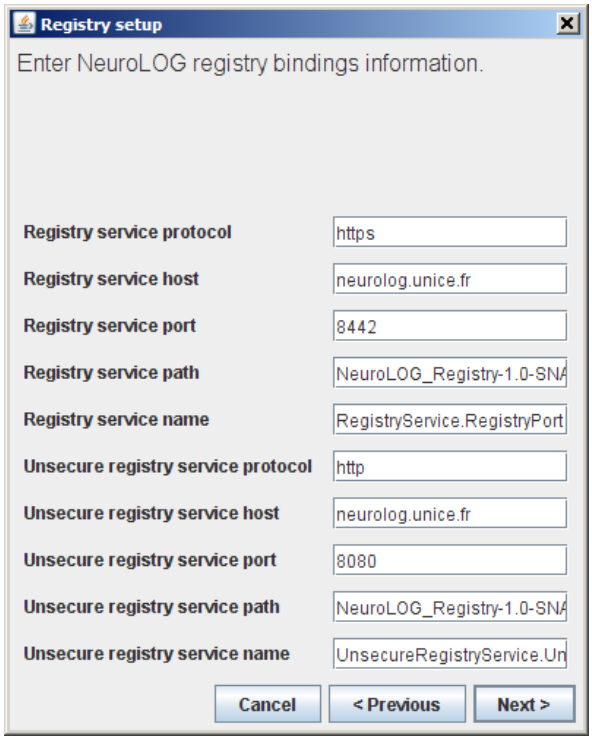
- Execute `service apache2 reload`

2.8. Deploy and configure the a root CA and registry server

To start the procedure, run the script `$HOME/bin/nlog_registryconfig.sh`.

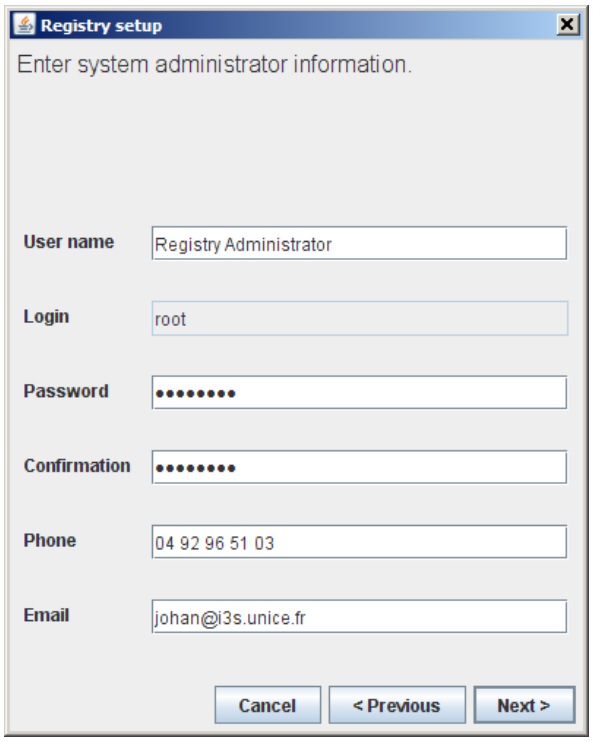


Step 1. The root site defined here consists in 2 components: the NeuroLOG Registry server, and the NeuroLOG Root Certificate Authority.

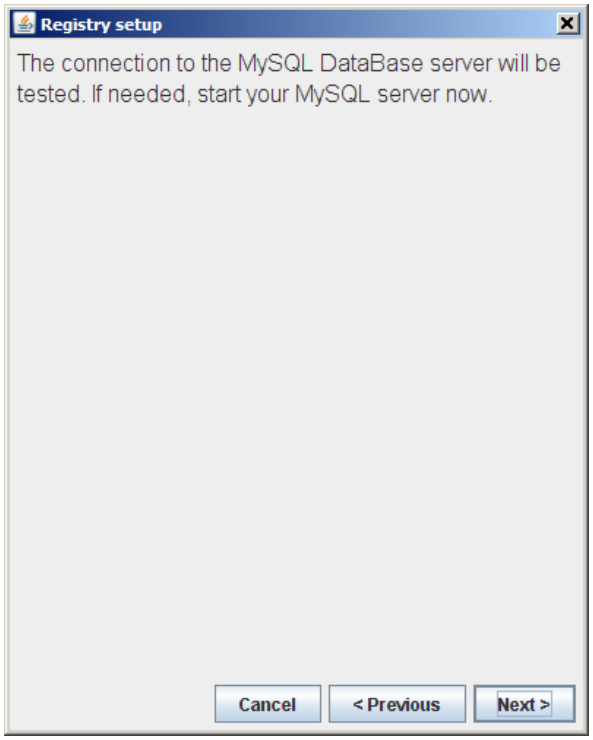


Step 2. These are the default settings to create a registry server on the root server in Nice.

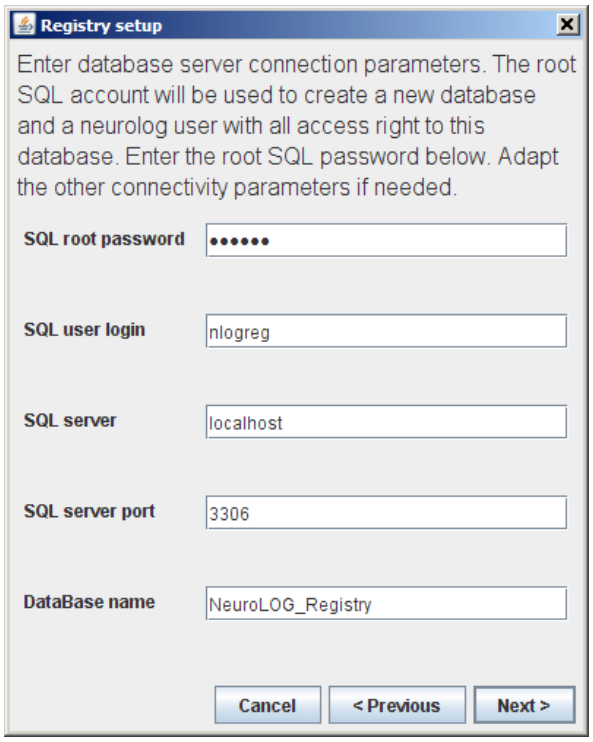
For a local installation, simply set hostname to localhost.



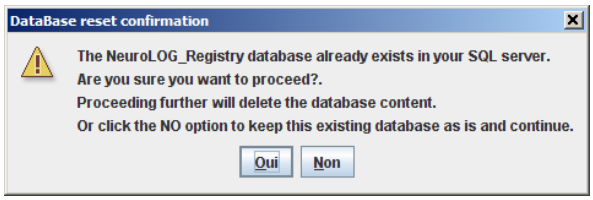
Step 3. The registry administrator password will be used not only to log into the registry, but also as a pass-phrase to protect the self-signed Root CA certificate.



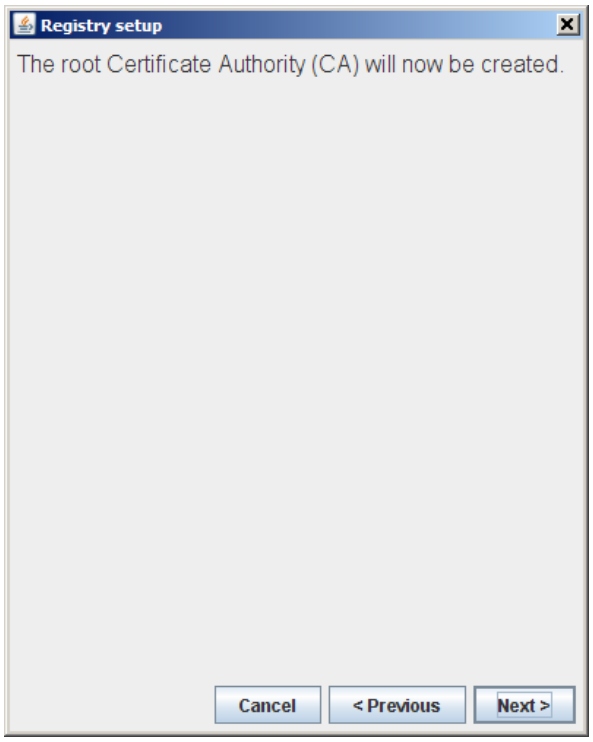
Step 4.



Step 5. An MySQL user and schema must be created to store the registry information.

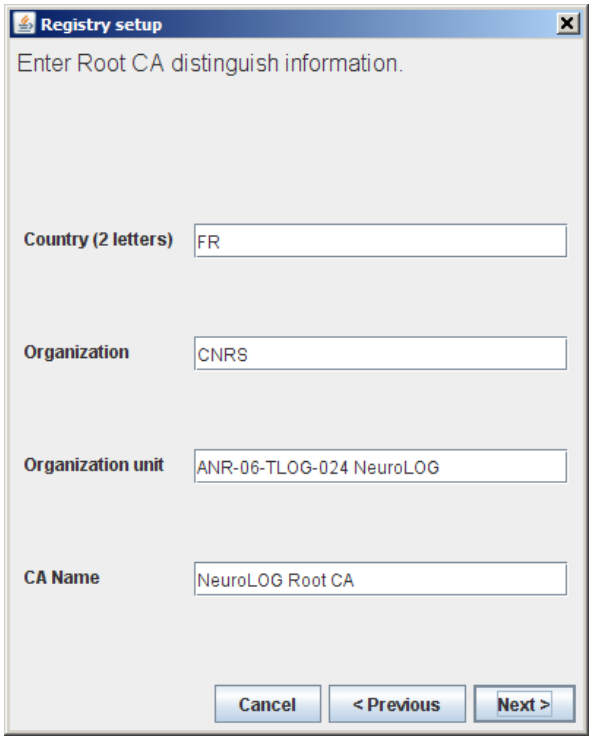


Step 6. This message may occur if you have already installed a registry server before. Answer No to keep the registry database as is, and go on. Answer Yes only if you are sure that there is no important data in it.



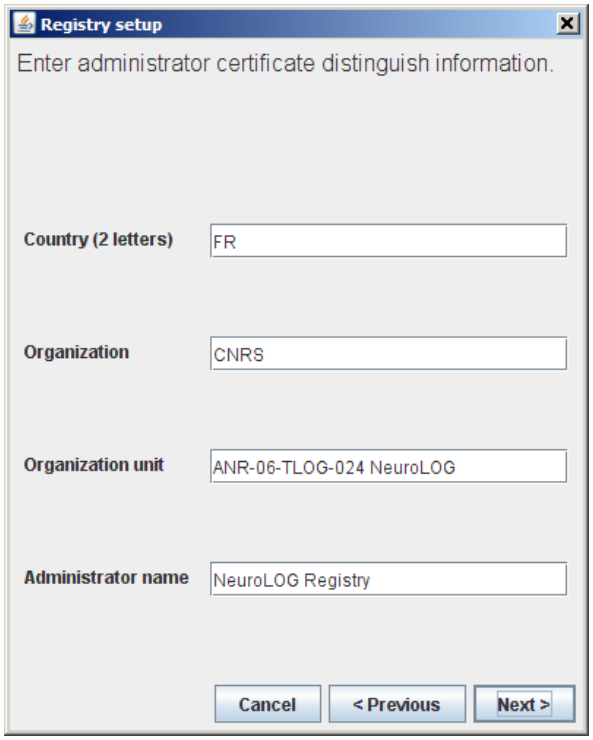
Step 7. The NeuroLOG Root CA will be responsible for signing the site servers certificates.

The certificate of the Root CA is self-signed.

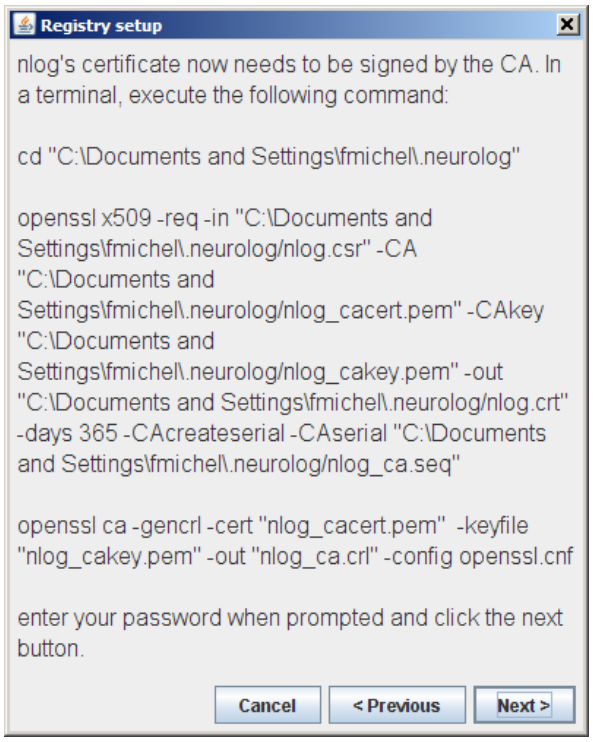


Step 8. The Root CA distinguished information will be part of the Root CA certificate.

Step 9. This “server certificate” is here to be understood as the certificate of the registry server administrator.



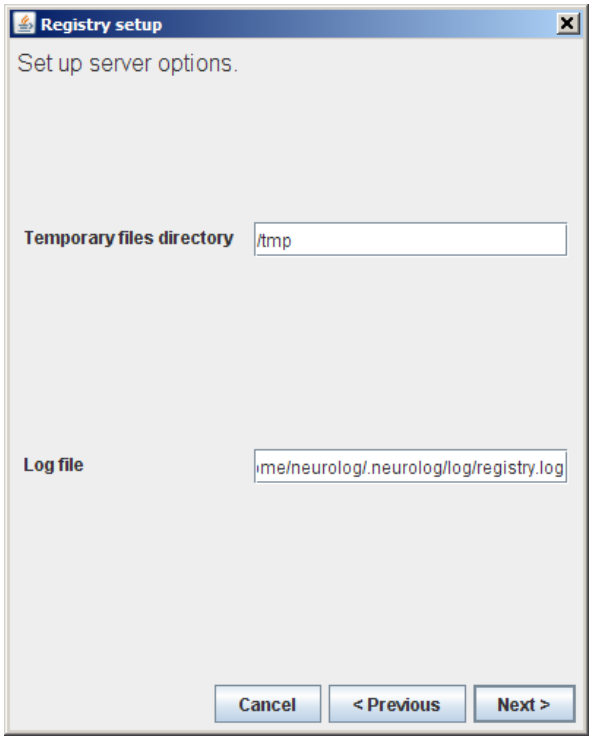
Step 10. The distinguished information will be part of the certificate of the registry administrator.



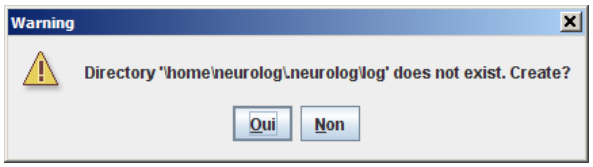
Step 11. In this step, the Root CA will be used to sign the registry administrator certificate.

Note: on Windows, execute the three lines one after the other (cd, openssl x509…, openssl ca…).

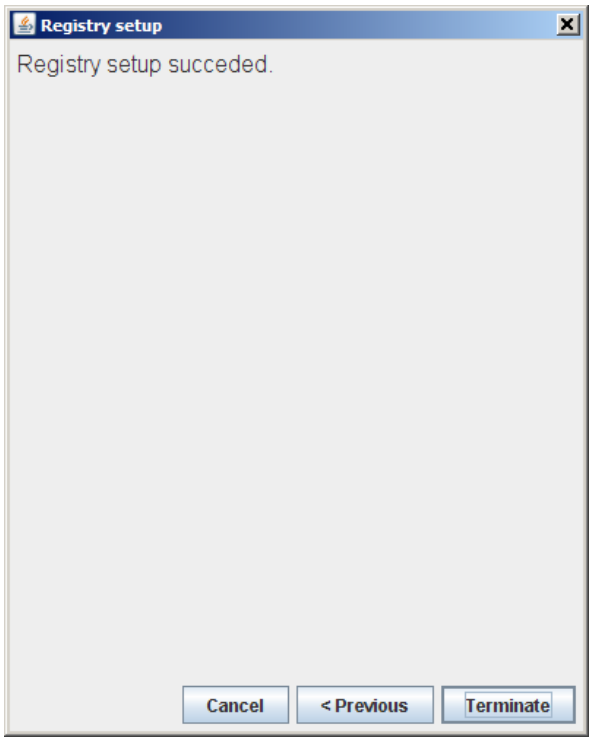
In both openssl commands, use the same password as the one you specified in step 3.



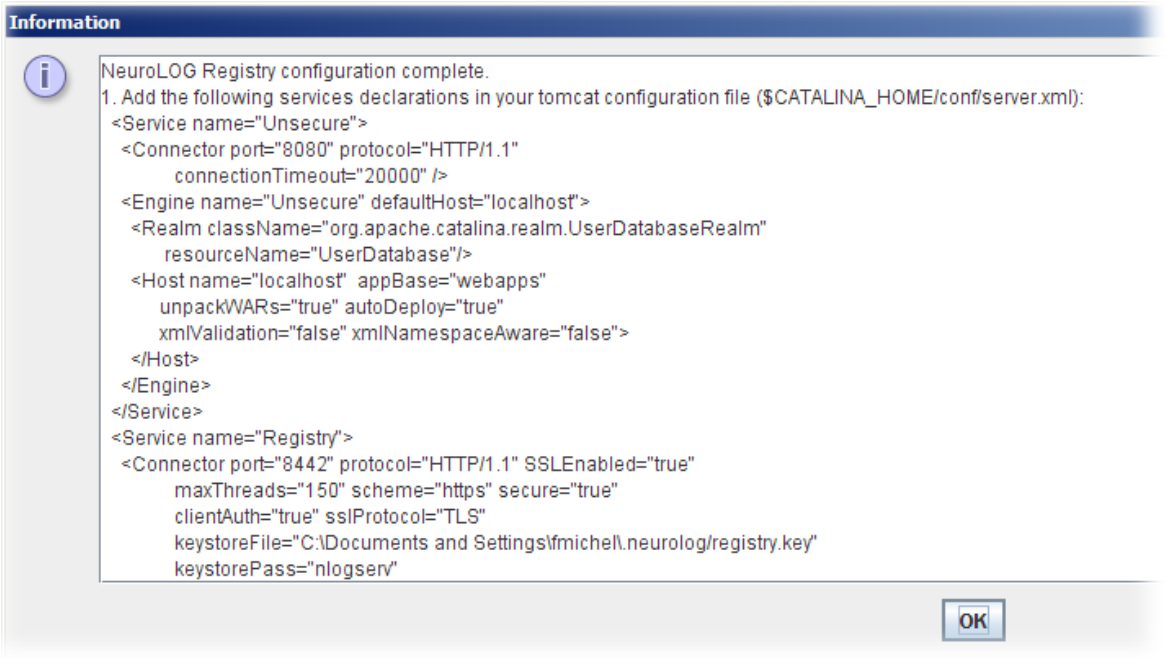
Step 12. Directories listed here may not exist yet, but the application should be able to read and write them.



Step 13.



Step 14.



Step 15. Follow the instructions in this last window: this aims at adding new Tomcat

contexts for the unsecured registry web application (8080, http), and the secure registry web application (https, 8442).

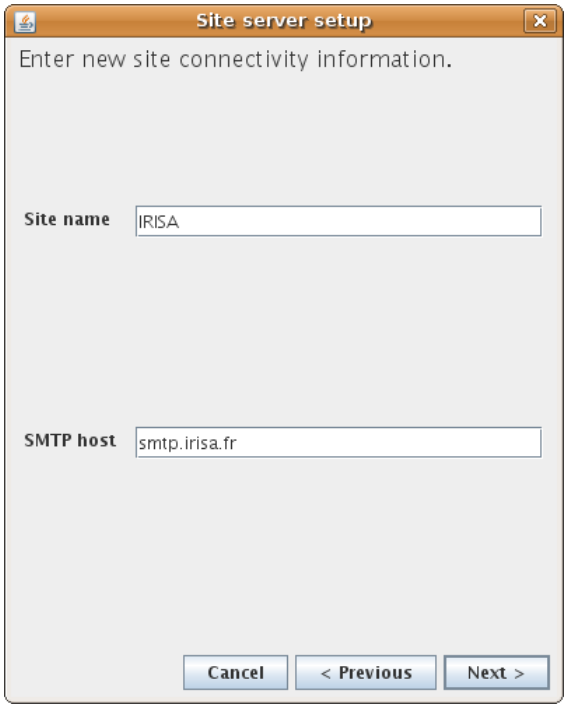
2.9. Deploy and configure a site server

To start the procedure, run the script `$HOME/bin/nlog_siteconfig.sh`.

The snapshots below present all steps of the configuration in the case of the IRISA site. Change the values accordingly to your site.

Note that some snapshots are no longer up to date. In such cases, the notes will describe changes.

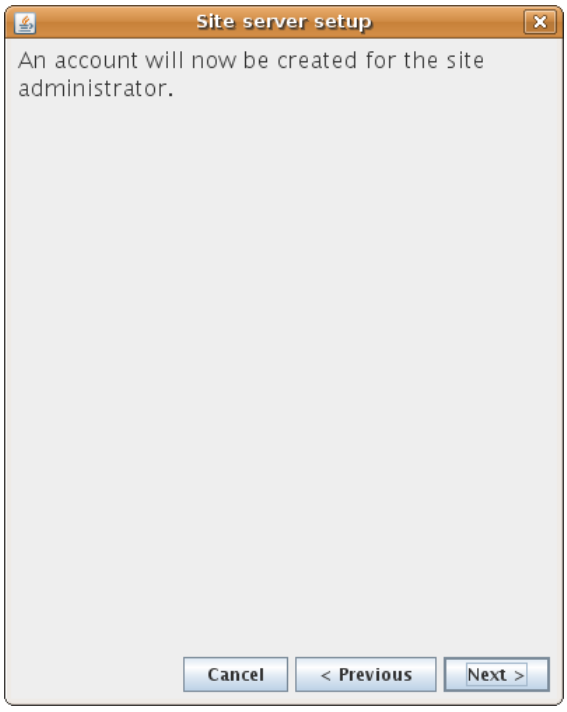
Step 1.



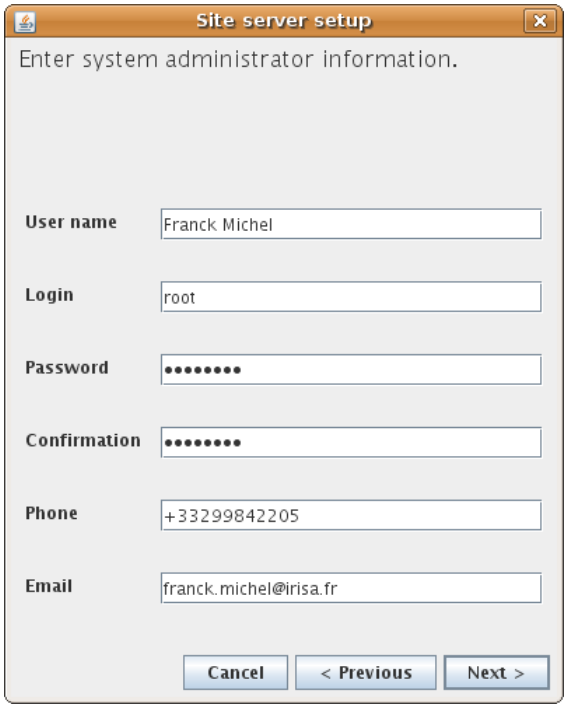
Step 2.

The site name will be stored in the NeuroLOG Registry to identify the site. It will also be used to build default values for some parameters, like the site database schema.

The SMTP host is must be reachable from the NeuroLOG server.

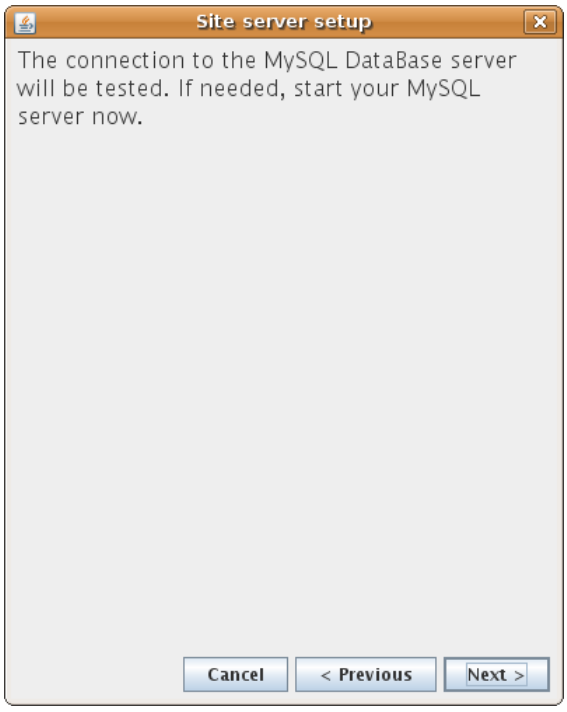


Step 3.

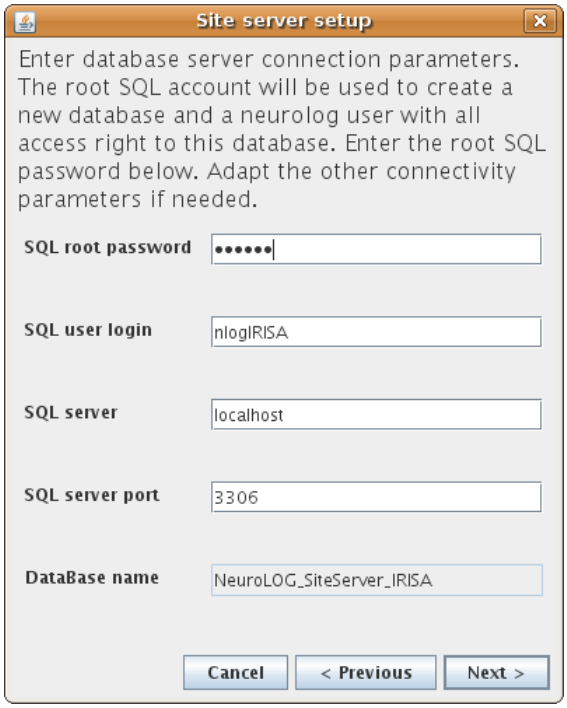


Step 4. This is the administrator of the local NeuroLOG server. The administrator login will later be used to connect to the server through the NeuroLOG client.

The administrator **password** will be used not only to log into the server, but also as a **pass-phrase of the site certificate**.



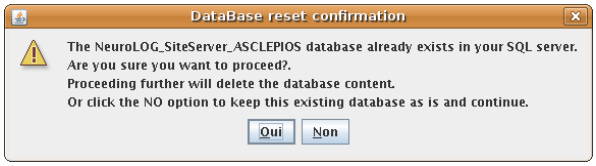
Step 5.



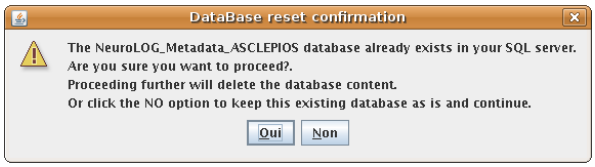
Step 6.

Change the SQL user login to nlog<Your site>.

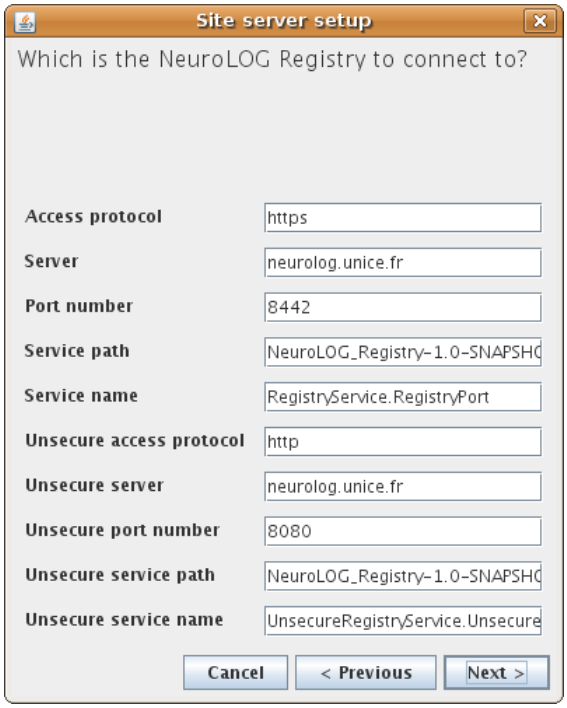
This login will be created along with the site database which name is given at the bottom of the window. It is not the same login as the one used to connect to the NeuroLOG database (metadata database).



Step 7. This message may occur if you have already installed a server before. **Answer No** to keep the site server database as is, and go on. Answer Yes *only if you are sure that there is no important data in it*.



Step 8. This message may occur if you have already installed the NeuroLOG database. **Answer No** to keep the NeuroLOG metadata database as is, and go on. Answer Yes *only if you are sure that there is no important data in it*.



Step 9.

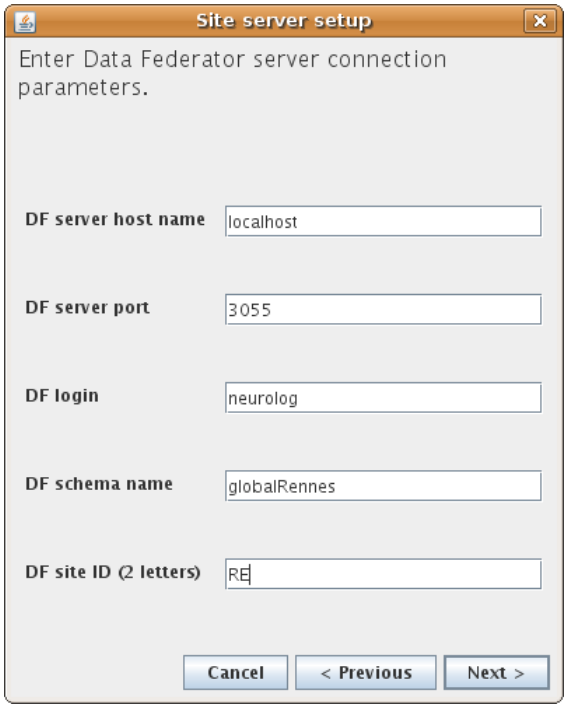
Registry ports may change, thus the default values may be wrong. **Check the right ports first with people managing the registry in I3S.**

At the time this document is been written, the current registry of the NeuroLOG test environment is:

- Port number: 8444,
- Unsecure port number: 8082.

Step 10. Directories listed here may not exist yet. The NeuroLOG server must have read and write access to the directories you will set here.

Step 11. Any such non-existing directory will be created if needed.

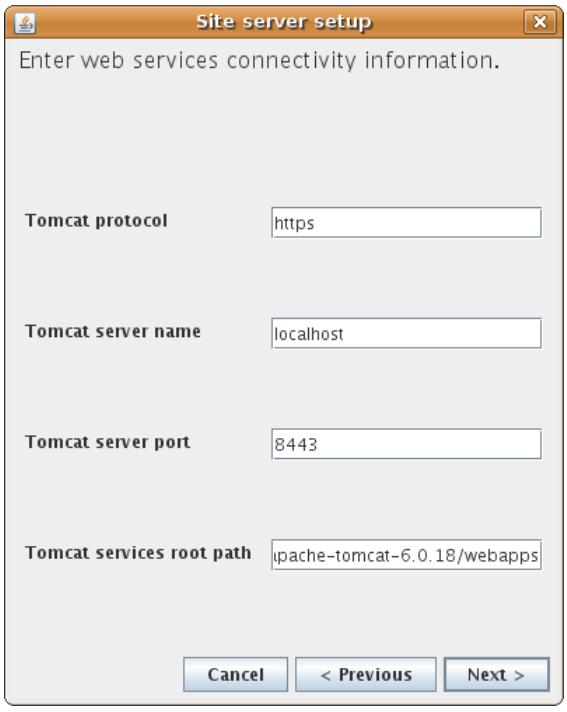


Step 12. The Data Federator configuration has changed since this snapshot. Default values will follow the rules below:

DF login: neurolog<Site name>, for instance neurologRISA.

DF schema name: global<Site name>, for instance globaIRISA.

DF site id: presumably the same as site name: for instance IRISA.

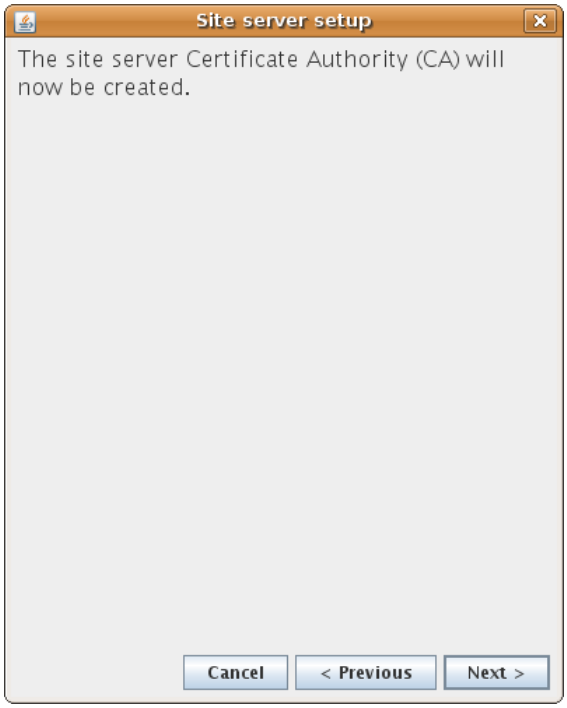


Step 13.

Unlike this screenshot

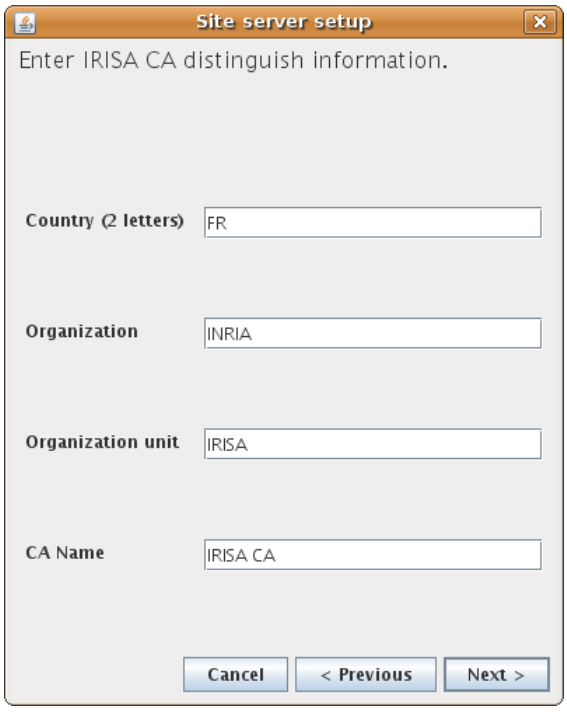
- Instead of localhost, put the full name of the site server, like neurolog.irisa.fr.
- The root path should be ending with “site”, not with “webapps”.

This information will be stored in the registry.

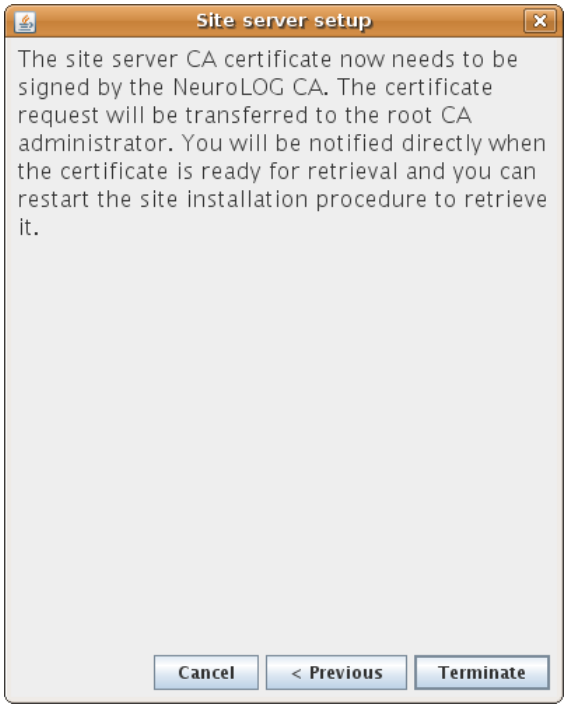


Step 14. Each site has its own Certification Authority (CA), each one has its own CA certificate. The certificate of the site server CA must be signed by the NeuroLOG Root CA.

The root CA was previously created and self-signed during the Registry installation procedure.

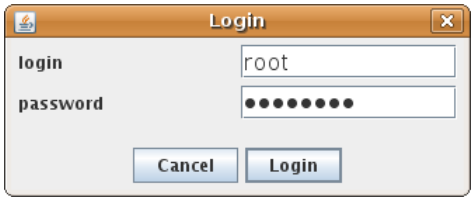


Step 15. The CA distinguish information will be part of the site CA certificate.

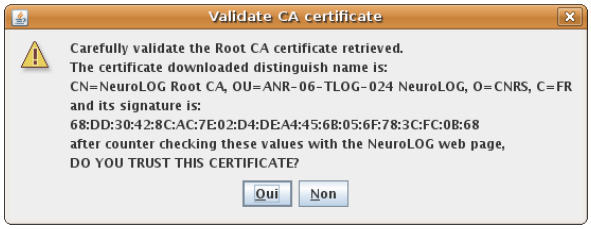


Step 16. Once you click Terminate, go to the registry server, check the notification admin console, or look into the registry log file. Follow the instructions to sign the new site CA certificate.

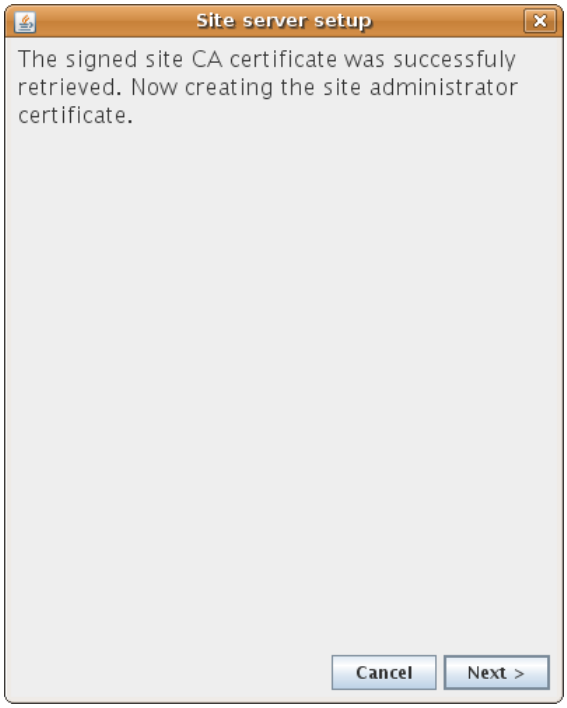
Do not proceed with the next step until this one is completed.



Step 17. Run the script `nlog_siteconfig.sh` again, log in with the administrator login and password you entered in step 4.

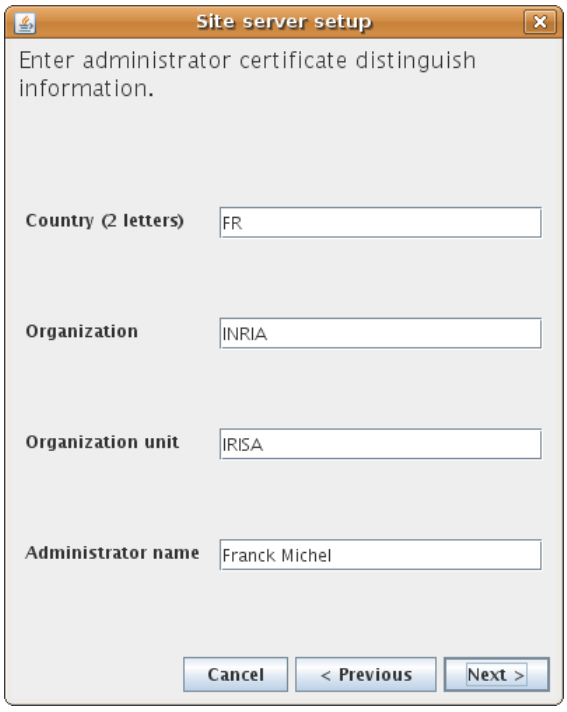


Step 18. Accept the Root CA certificate.

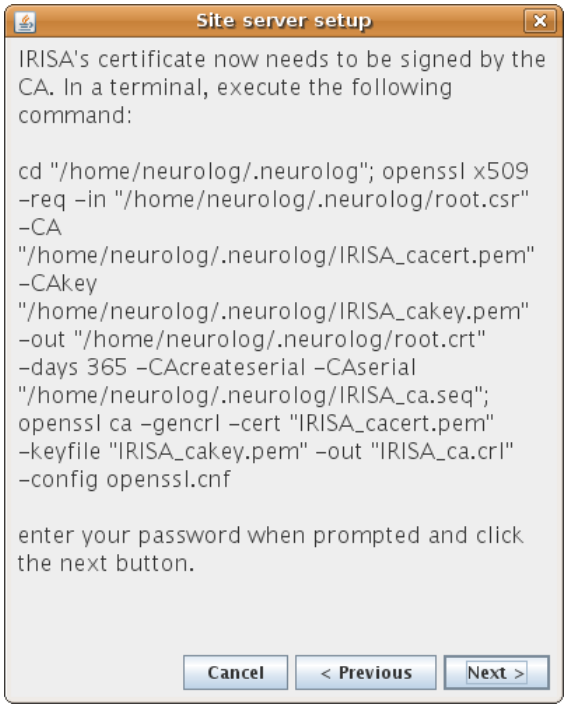


Step 19. Now, the site CA certificate has been correctly signed by the Root CA, and retrieved locally.

In addition to the site CA certificate, an administrator certificate must be created and signed by the site CA.



Step 20. Enter the DN of the administrator. This information will be included in the administrator certificate.

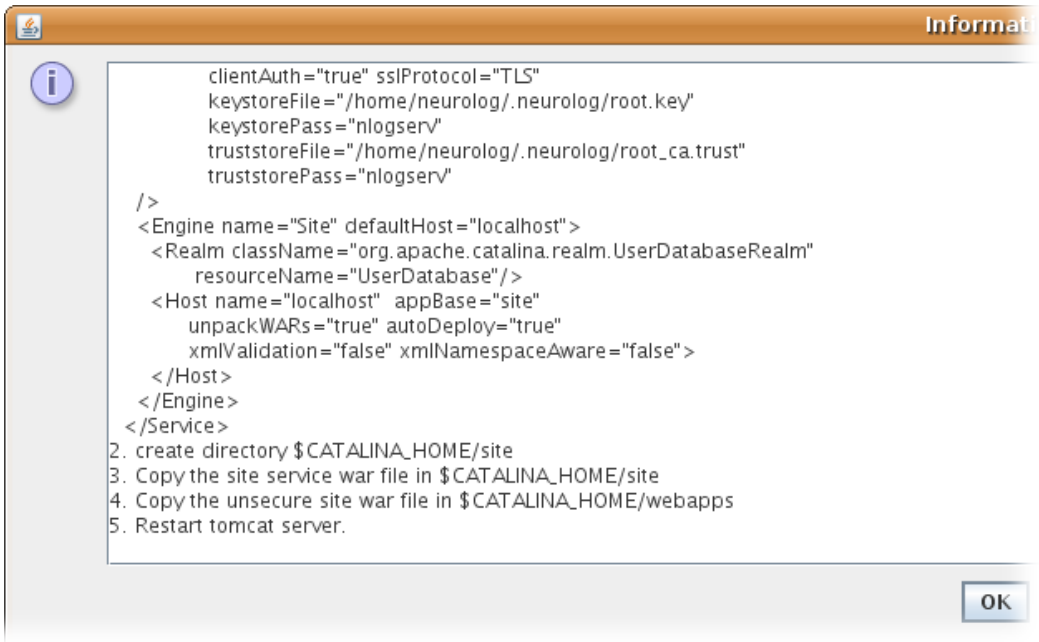


Step 21. In this step, the site local CA will sign the site administrator certificate (the sentence was updated after this snapshot to be more accurate).

Note: on Windows, execute the three lines one after the other (cd, openssl x509…, openssl ca…), do not copy them all at once.

In both openssl commands, use the same password as the one you specified in step 4.

Step 22.



Step 23. Follow the instructions in this last window: this aims at adding new Tomcat contexts for the unsecured site server web application (8080, http), and the secure site server web application (https, 8443).

3. Site administration guide

3.1. Stop and start the service

3.1.1. Stop and start Data Federator

3.1.1.1. On Linux

The script described in §2.4.3.5 allows to check/stop/start/restart the service using the commands:

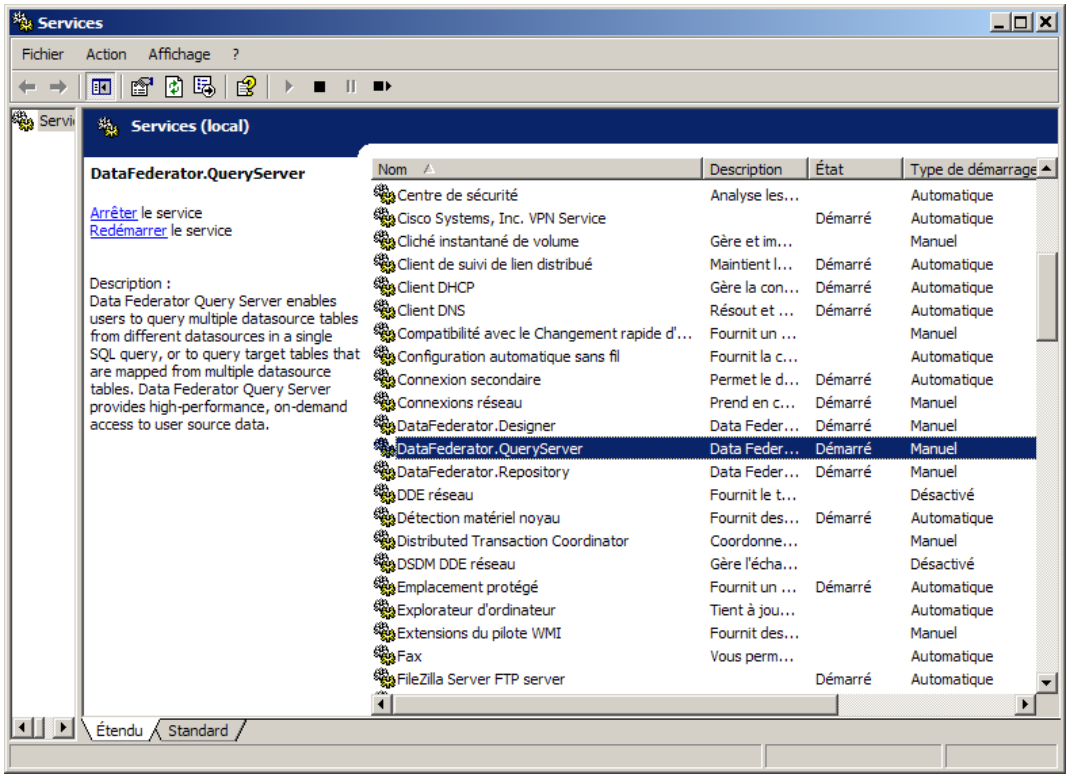
```
service datafederator status
service datafederator stop
service datafederator start
service datafederator restart
```

Note: as a default, Ubuntu may not be installed with this ‘service’ command. In case the commands above do not work, install the sysvconfig package as follows:

sudo apt-get install sysvconfig

3.1.1.2. On Windows

The Data Federator server is installed as a Windows service, it can be managed through the usual Windows services panel.



3.1.2. Stop and start Apache Tomcat

3.1.2.1. On Linux

The script described in §2.6.2 allows to check/stop/start/restart the service using the commands:

```
service neurolog status
service neurolog stop
service neurolog start
service neurolog restart
```

3.1.2.2. On Windows

The Apache Tomcat server is installed as a Windows service, it can be managed through the usual Windows services panel.

3.2. Users registration

<Alban>

3.3. Managing data sharing

<Alban>

3.4. Managing user access rights

<Alban>

3.5. Registering tools

<Javier>