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NeuroLOG Client
User Guide

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Summary:

This document is the NeuroLOG client software installation and usage guide.

Document layout

Document history

Version	Date	Action	Comment
V0.01	May 26th, 2009	Creation	
V0.02	Oct. 21st, 2009	Modification	Additions in the pre-requisites section
V0.03	Nov. 2009	Modification	Add details in the client installation procedure.
V0.04	Mar. 19th, 2010	Modification	Add connection data for site ASCLEPIOS

1. Architecture overview

The NeuroLOG middleware is a collaboration of services operating on different sites. There are 3 main components part of the middleware:

- A unique *federation registry*, deployed and maintained on the federation server;
- A *site server*, deployed and maintained on each participating site;
- User *clients*, deployed on each user workstation.

The federation registry is only used for site coordination and it is not visible from the end-users. It is deployed at I3S on host `neurolog.unice.fr`. Each user accesses the middleware functionality through a local client application, which is affiliated to one specific site server. In the middleware version 0.3.0 presented in this document, there is a single site server deployed at I3S (on host `neurolog.unice.fr`). All clients are therefore configured to communicate with this server as exemplified in the following figure:
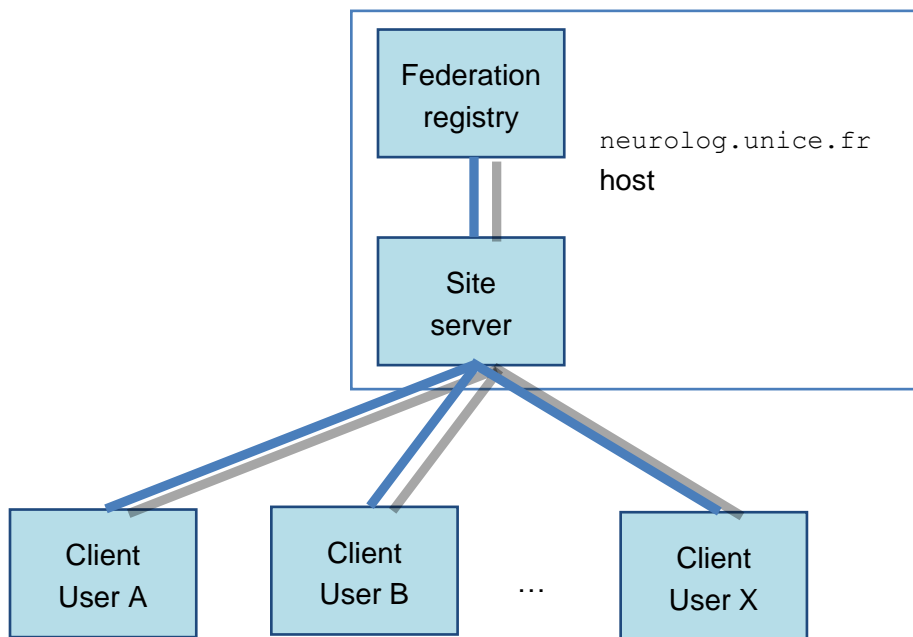
This document first describes how to install the client application, and to configure it for proper communication with the I3S site server. It then documents the use of the NeuroLOG platform accessible through the client.

2. Software installation and start-up

2.1. Pre-requisites

2.1.1. Needed third-party softwares

The client application depends on third-party software packages that should be pre-installed on the client machine prior to the NeuroLOG software installation:

- **OpenSSL** tools to generate user identification certificates. OpenSSL is installed on most standard OS distributions.

  It can be downloaded from http://www.openssl.org, or
  http://www.slproweb.com/products/Win32OpenSSL.html for Windows.

- **Java6 Development Kit (JDK)** to run the core application software
  (http://java.sun.com/javase/downloads).

- **Mono – for non Windows OS -** virtual machine to run the images visualizer (http://www.go-mono.com/mono-downloads/download.html). You should also be able to validate the command "mono – version".

- **.Net – for Windows –** http://www.microsoft.com/net/Download.aspx

- **Graphviz** graph visualizer (dot tool) for workflows visualization and edition
  (http://www.graphviz.org/Download.php).

- **OpenGL** libraries for 3D visualization. This should be pre-installed with the graphic card drivers on any modern distribution.

2.1.2. Environment variables

Set the `JAVA_HOME` variable to the JDK path.

Typically on Windows, this will be like: `C:\Program Files\Java\jdk1.6.0_06.`

Depending on your OS, you may have to update the `PATH` environment variable by adding the bin directory of all JDK, OpenSSL and Graphviz applications.

On a Windows system, add the following to the %PATH% or %Path% variable:

```
C:\Program Files\OpenSSL\bin;C:\Program Files\Graphviz2.22\bin; %JAVA_HOME%\bin
```

2.1.3. Validate the installation

To validate the installation of these components, do the following commands and make sure they do not return any error:

- OpenSSL: execute command "openssl x509 -h" and see the usage of the command.
- Graphviz: execute command "dot -h"
- JDK: execute command "keytool --help" command.

Do not proceed with the next section if this one is not completed successfully.

2.2. NeuroLOG client software installation

The client version documented in this guide is version 0.4.0.

Download the client bundled archive from the NeuroLOG web site:

http://neurolog.polytech.unice.fr/doku.php?id=public_namespace:prototype_v0.4.0
and follow the instructions.

There exists one archive per supported platform (linux, macosx and windows). Expand this archive in your user home directory. The archive expands all files in the `.neurolog` sub-directory. It contains:

- The startup script: `.neurolog/nlog_client` (MacOS and Linux) or `.neurolog/nlog_client.bat` (Windows)
- The client jar archive: `.neurolog/lib`
- The visualizer: `.neurolog/viewer`

In addition, the Windows archive contains additional third-party softwares that need to be installed prior to running the client.

2.3. Start-up

Running the startup script initializes the NeuroLOG client. This script is configured to properly operate when the software has been installed in the `.neurolog` sub-directory of the user home. It needs to be modified otherwise.

On Linux and MacOS X:
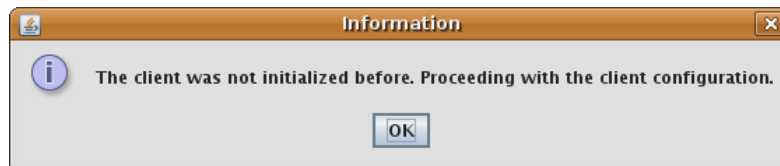
At the prompt enter:

```
> cd $HOME/.neurolog
> ./nlog_client
```

On Windows:

From a file browser, go to the .neurolog directory in your home directory. This will typically be `C:\Documents and Settings\username\.neurolog`.

Then double-click on `nlog_client.bat`.

When the client first starts, it detects that it was not configured before. It displays the message:

Click OK to run the configuration procedure (see next section for details). The configuration procedure will create the client-specific configuration files under the directory named `.neurolog`, in the current user home directory (e.g. `$HOME/.neurolog` under Linux, or `%USERPROFILE%\.neurolog` under Windows).

Note that this default location may be changed with the `-c` option of the `nlog_client` start-up script.

3. Quick start guide

The client configuration is a two stages procedure. On the first run, the client environment is created and a request is sent to the site administrator, in order to validate the new client and the associated user registration request.

Only when the site administrator validated this request can the client actually connect to the middleware. This validation is a manual process that can take some time depending on the site administrator availability. When the request is validated (or rejected) the client owner is notified by email. She/he can then run the client a second time to complete the configuration process and run the middleware (see next section).

3.1. First configuration step
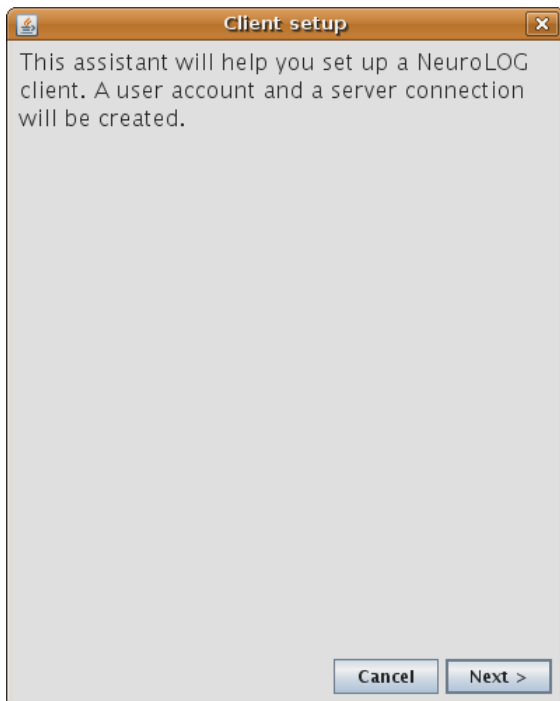
1) One the first run, the configuration procedure with this screen.

During the rest of the procedure, the user will have to fill-in the information requested by the system in the following panels for proper configuration. Most requested fields are pre-filled and should not be changed.

Click next to continue.

2) The next panel is empty.

Please fill-in your complete name (first name and last name), your desired login when accessing the system, your desired password, your phone number and your email contact information for your site administrator to be able to contact you back.

Click next to continue.

3) The next panel describes the site server you will be connecting to. Change the parameters corresponding to your site as listed below:

I3S	
Server	neurolog.unice.fr
Port	8445 **(not 8444 as on the picture)**
Unsec. Server	neurolog.unice.fr
Unsec. Port	8082
IFR49	
Server	neurolog.imed.jussieu.fr
Port	8443
Unsec. Server	neurolog.imed.jussieu.fr
Unsec. Port	8080
IRISA	
Server	neurolog.irisa.fr
Port	8443
Unsec. Server	neurolog.irisa.fr
Unsec. Port	8080
GIN	
Server	euterpe.ujf-grenoble.fr
Port	8443
Unsec. Server	euterpe.ujf-grenoble.fr
Unsec. Port	8080
ASCLEPIOS	
Server	neurolog.inria.fr
Port	8443
Unsec. Server	neurolog.inria.fr
Unsec. Port	8080

4) The next panel gathers information that will be integrated into your X509 user certificate, namely: country code (C, 2 letters), organization name (O), organization unit (OU) and complete user name (CN).

Fill in the organization name and organization unit and click next. For now, the following conventions have been applied:

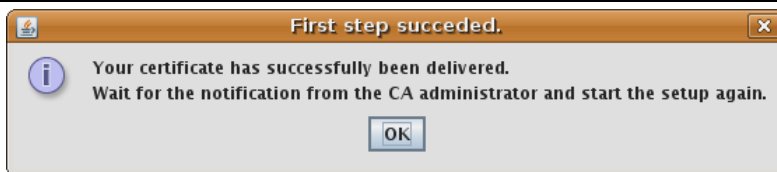| I3S	C=FR, O=CNRS, OU=I3S
IFR49	C=FR, O=INSERM, OU=IFR49 or C=FR, O=INSERM/IMPC, OU=UMR_S 678 LIF
IRISA	C=FR, O=INRIA, OU=IRISA
GIN	C=FR, O=INSERM, OU=GIN
ASCLEPIOS	C=FR, O=INRIA, OU=SOPHIA

5) The next panel requires to enter the path the graphviz executable file. Check that the path is correct, then click next.

Client setup

The user certificate now needs to be signed by the server CA. The certificate request will be transferred to the CA administrator. You will be notified directly when the certificate is ready for retrieval and you can restart the client installation procedure to retrieve it.

Cancel | < Previous | Terminate
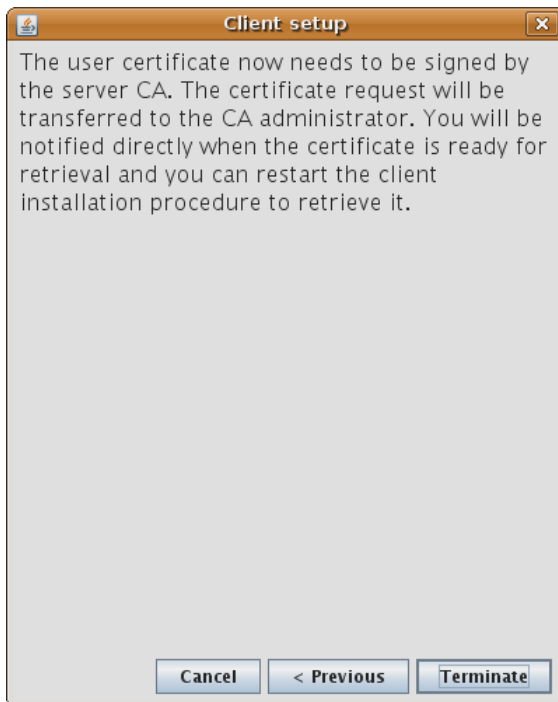
6) The next panel indicates the end of the first step of the configuration process. Clicking on terminate will cause the necessary information and your certificate signature request to be sent to the site administrator for validation.

First step succeded.

Your certificate has successfully been delivered.
Wait for the notification from the CA administrator and start the setup again.

OK

7) Upon correct transfer of this data you will receive a confirmation message:

You now need to wait for the administrator validation. Once you receive the successful notification email, restart the client and proceed with the second configuration step (next section).

3.2. Second configuration step

Login

login | jlapin
password | ●●●●●●

Cancel | Login
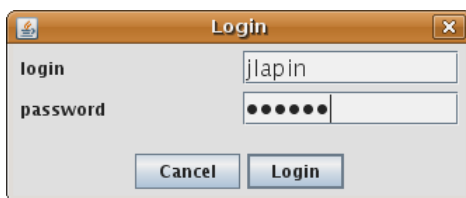
Once you have been notified (by phone or email) that your user registration request has been validated, you can restart the client to finalize the installation procedure. On start-up, the client will prompt you with a login window: enter your selected login and password.

On successful login, the client contacts its server and imports a security certificate that will guarantee the protection of all subsequent communications. This certificate transfer is unprotected, since the client and server have not already exchanged the necessary elements. The user is prompted to validate this exchange. This will only be needed once, on the first login. The server certificate is validated through a hash signature similar to the one given in the example window below (`1A:4D:0F:6F:1B:47:E3:C5…`). You can verify this signature from you site administrator. The signature is typically published on a public web site for checking. It is important that this signature is trusted before you continue. If the signature does not match the expectation, click No. Only otherwise, click yes.
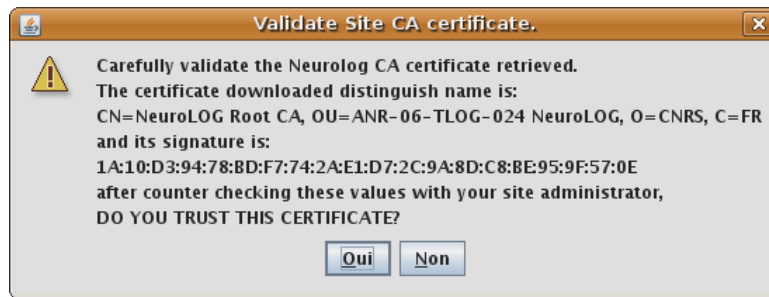
Once the signature is validated, the client interface will be started. Any further transaction between the client and server will be secure. The interface main window provides access to all the middleware functionality (data management, processing, workflows…). Each function will operate in a different window tab. On start-up, a single tab displaying the content of the user cart (the result of former data selection). It is empty on first start-up as illustrated below:
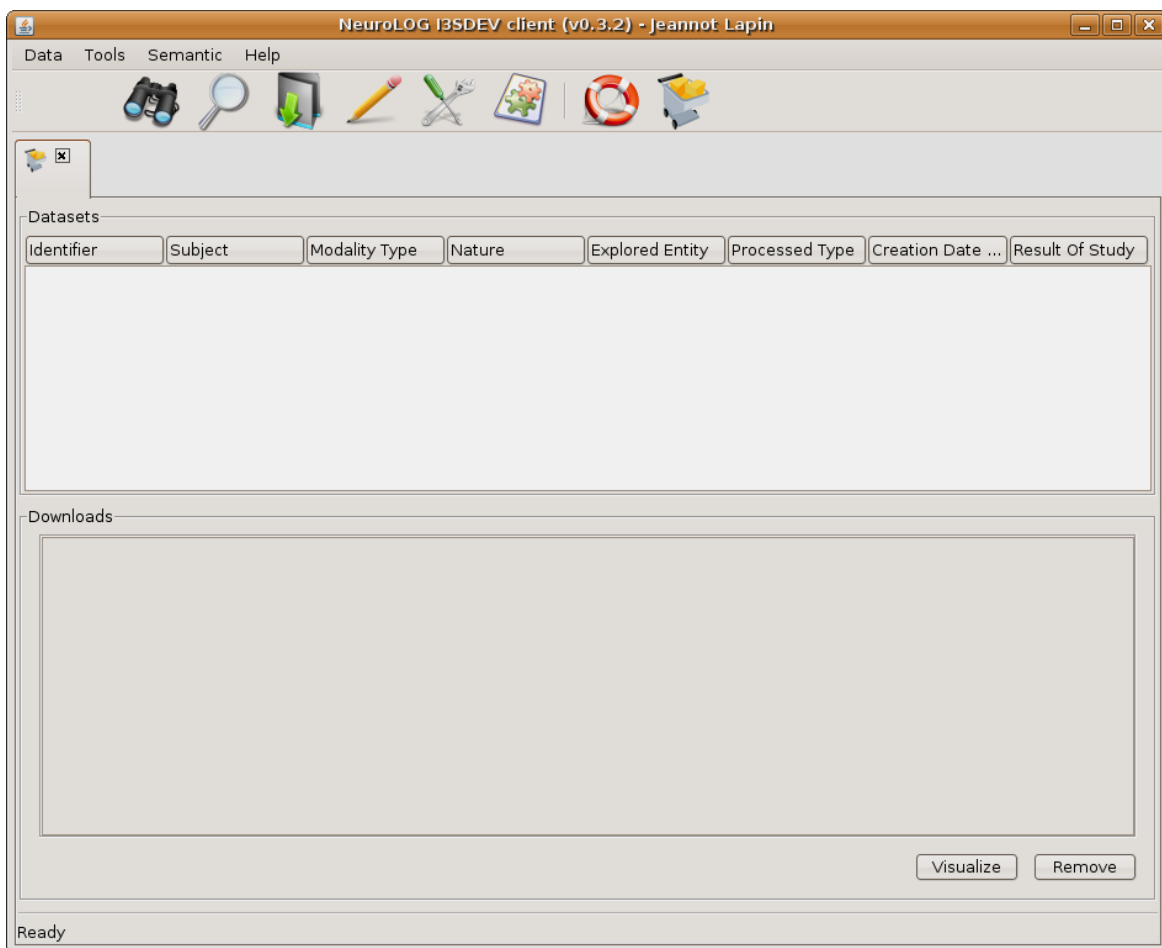
The button bar and the menu will cause specific tabs to be added to the main window, containing specific interfaces for each function. The following sections describe each function available.

Tip: At any time, the *user cart* icon can be used to display the cart tab content:

4. Data Management

The data management is the set of features that allow a user to gather datasets into the cart, in order to later visualize these datasets or use them as input of processing tools and workflows.

This process of gathering datasets is performed through the querying of metadata attached with datasets, in a *metadata browsing* manner. A future version of the NeuroLOG software will allow to fill-in fields of pre-defined multi-criteria complex queries.

4.1. Metadata querying

4.1.1. Understanding the browsing tree

Browsing the metadata is performed by following the branches of a predefined browsing tree. This tree, which may evolve along with users feed-back, helps query metadata step by step, and ultimately gather datasets. Typically, a user may want to query studies matching some criteria, then get some subjects involved in these studies, and finally get the datasets of those subjects, produced within these studies (outlined in red in the figure below).

The figure below describes the current status of the browsing tree, at the time this document is written:
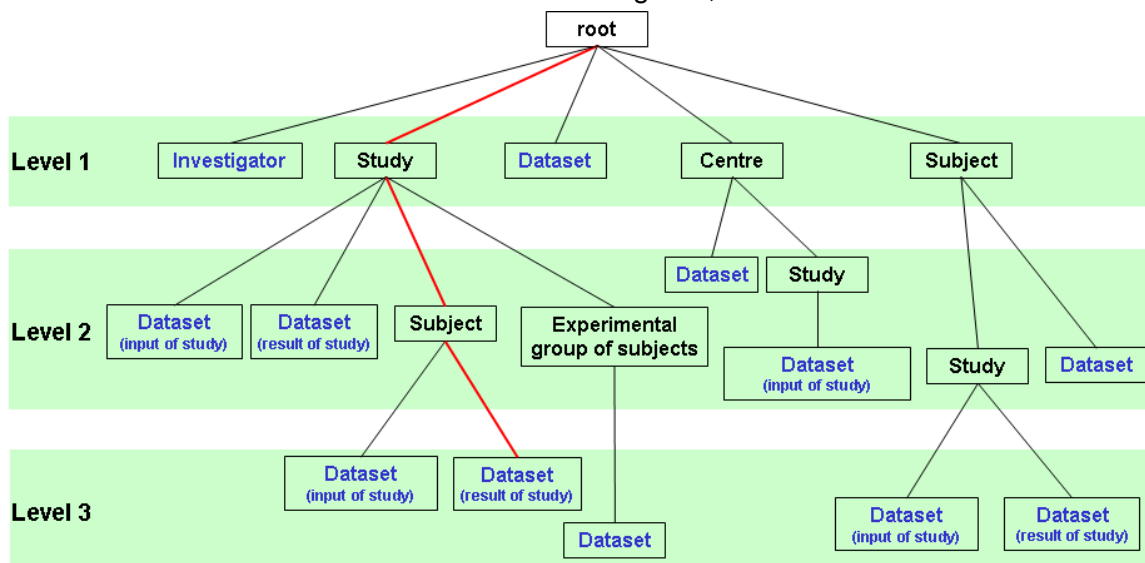
Figure 1. Metadata browsing tree

Thus, the metadata browser will help browse through this tree, starting by a query on an entity of level 1, possibly going on with level 2, etc.

4.1.2. Using the query column

Select the *Data* > *Browse Metadata* menu, or select the *Browse Metadata* icon:

The browse metadata panel is initially displayed with one query column on its left side. Several such query columns may be later displayed along with the browsing process.

The query column is always composed of the same parts:

- The entity selection drop-down list allows to select the type of entity to search, at this stage of the browsing process: the first query column lists entities in level 1 of the browsing tree, and so on.

> **Tip**: each type you change the selection, the status bar displays a description of the query you will perform at this stage.

- the set of search criteria depending on the type of entity;

- the search result list will display a synthetic results list (entity identifier and possibly a name or common identifier).

> **Tip**: A drop down menu allows to view or explore entities, or to select all of them.

- Once some results are selected, the *Next* button opens a new query column, to go on browsing.

4.1.3. Usual browsing process

From the drop-down list, select the type of entity you would like to query first.

Note that the search criteria panel is refreshed based on the selected type of entity.

Fill-in the search criteria, then click on the *Search* button.

After a few seconds, the results are displayed in the results list, while the status bar displays the number of results.

Select the result you're interested in, and then click on the *Next* button.

Clicking on the *Next* button opens an additional query column on the right of the first one. This new column will help continue the browsing process, one level ahead in the browsing tree.

In this new column, the drop-down list proposes types of the second level of the browsing tree in Figure 1.

Follow the same process again in the second column:

- select the entity type (note that the status bar changes on each selection to describe the type of query this will perform);
- Fill-in the criteria, and click on *Search* button;
- Select results and proceed with the next step by clicking on the *Next* button.

Ultimately, you will get to a leaf of the browsing tree, like on the example branch: Study > Subject > Dataset. Once datasets are retrieved, the *Next* button is no longer availbable. Instead, use the pop-up menu in the results list to add selected datasets to the cart, as shown below.

Refer to sections 4.2 for datasets management from the cart.

Tips:
- You may rerun this process again, following any other branch of the browsing tree, until you have collected required datasets.
- You may open any number of *Browse Metadata* panels, or continue browsing on the same panel: note that clicking on the *Search* button will remove any query column on the right.
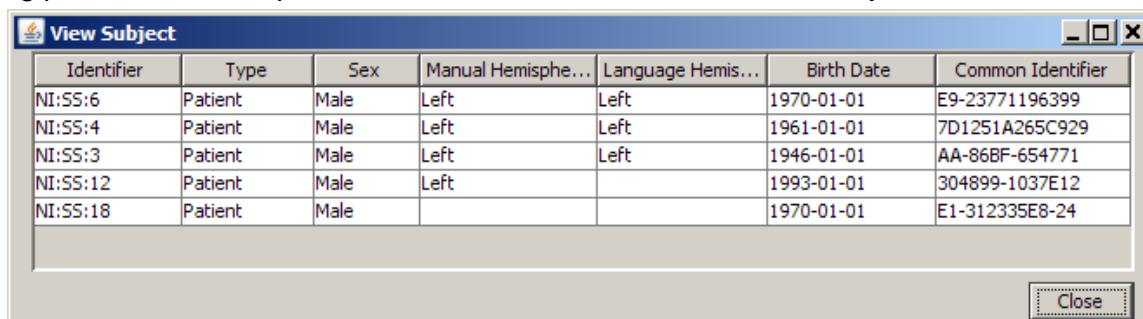
4.1.4. Viewing entities details

During the browsing process, it may be necessary to review entities in more details than simply getting their identifier. For this purpose, a pop-up menu is available from the results list, whatever the selected type of entity.

View selected menu

The *View selected* menu displays a set of entities in a tabular form. Columns of the tab represent the entity basic properties like the identifier, name, type, status, dates, etc. But it does not display relations of the entity with others, typically a subject will not be displayed with the studies he's involved in, or his datasets.

The following presents an example of the *View selected* window for some subjects.

> **Tip**: each column may be sorted in ascending or descending order by simply clicking on the column title.

Explore selected menu

The *Explore selected* menu allows for a more in-depth presentation of a single entity, that is check the context of one entity: how it is related with others. The entity properties are displayed on the right pane, along with a tree-like view of its relation to other entities on the left pane.

For instance, a study will provide data about the centre in which it is hosted, the involved subjects, the datasets (either produced or used as input of the study), etc. Each such related entity is presented as a node that can be expanded, in which case a request to the NeuroLOG server may be needed to retrieve the properties of the related entity.

The example below presents a study tree:
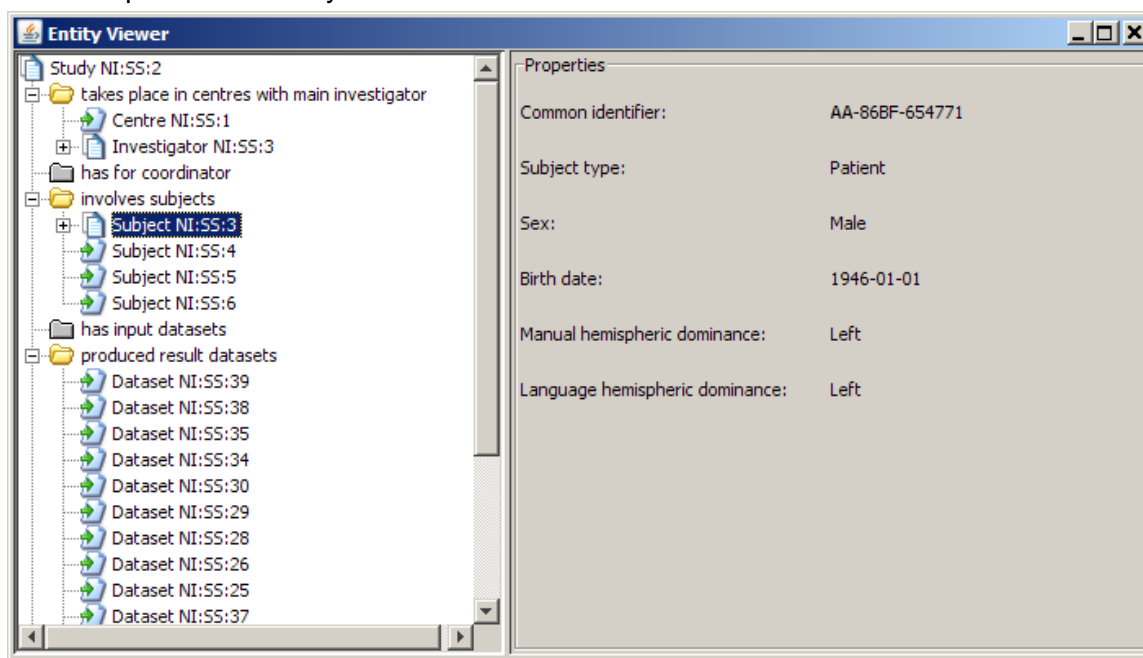
The icons in the tree structure have the following meaning:

	Any entity, like a study, dataset or centre. Properties are displayed on the right pane by simply clicking on the entity.
	Any entity, like a study, dataset or centre. Getting its properties will require a query to the NeuroLOG server. Once it is retrieved, the icon will be changed into .
or	Folder depicting a certain relation to other entities. Click on the + to expand.
	Folder depicting a certain relation to other entities, but currently with no entity.

4.2. Using the cart for data retrieval

Section 4.1 describes the process of how to browse metadata in order to collect datasets into the cart. Once datasets are collected, their actual data files can be handled in different manner.

To open the cart, select the *User Cart* icon from the top icons bar:

The cart panel is made up of two parts, *Datasets* and *Downloads* (described in section 4.2.2). The *Datasets* part provides a tabular view of collected datasets, very similar to the *View selected* menu in section 4.1.4, as shown in the following picture:

> **Tip**: each column may be sorted in ascending or descending order by simply clicking on the column title.

From the cart pop-up menu, the *Explore* menu provides the ability to explore a dataset, as already described in section 4.1.4.
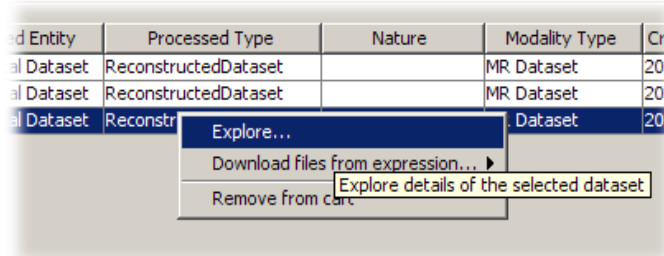
As a result, a window of the following type pops up:

Entity Viewer

Tree panel:

- MR Dataset NI:SS:145
  - is result of study
    - Study NI:SS:3
  - is input data for studies
  - concerns subject
    - Subject NI:SS:18
  - concerns experimental groups of subjects
  - has dataset expressions
    - Dataset Expression NI:SS:146
      - is expression of dataset
      - has parent dataset expression
        - Dataset Expression NI:SS:145
    - Dataset Expression NI:SS:145
  - has same sampling grid as datasets
  - is result of MR dataset acquisition

Properties panel:

Nature:	
Modality type:	MR Dataset
Explored entity:	Anatomical Dataset
Processed dataset type:	ReconstructedDataset
Creation date/time:	2008-05-30 00:00:00
MR Dataset nature:	T1WeightedMRDataset

4.2.1. Data access rights

For the "normal user" user point of view (i.e. not a site administrator) data can be retrieved only if the "good role" has been beforehand assigned the user, by an administrator. We will see later how an administrator can grant access right to hosted data through roles. A role subscription process has been integrated within the client application. Using *Data → Subscribe to role*, the user can select the role she wants to subscribe to (the role names should be enough explicit, such as for instance "partnerInStudyXX"). Then the system retrieves the coordinator site of the role (only one site is responsible for a given role) and stores a role subscription request in the administration panel of the application (a mail notification is also sent to each administrator). If an administrator approves the request, the role is assigned to the user and consequently, she can retrieve data whose access has been granted through this particular role.

The data access authorization manager is only accessible to site administrators. The normal users do not have access to the menu and icon.

Use *Administration > Authorizations manager* menu, or the administration icon:

Administration is divided into three main activities which correspond to the three tabs of the administration panel : users management, requests management and finally study access control management.

(i) Users management:
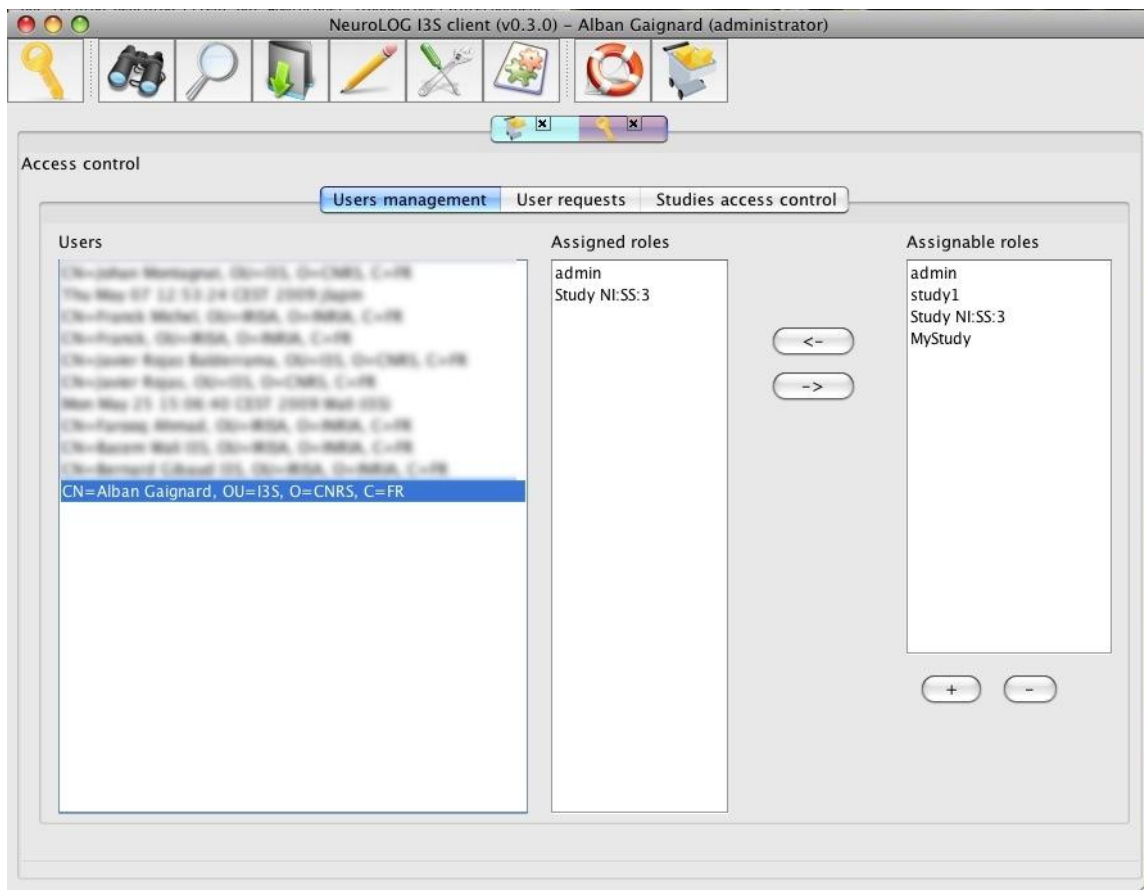
Once a user certificate has been signed by the site administrator, the corresponding user (identified by its distinguished name, i.e. the DN of its certificate) is registered in the system. The list of registered users in a particular site is shown on the left part of the users management tab. When the administrator select a user, the

center column of the tab displays the roles which have been already assigned to her. The last column displays the roles managed by this site and thus assignable to users. To assign a role to a user, the administrator selects both user and roles to assign, then by clicking on the left arrow button, selected roles are effectively assigned to the user. Roles can be dropped by selecting an assigned role and by clicking then on the right arrow button.

(ii) User requests management:
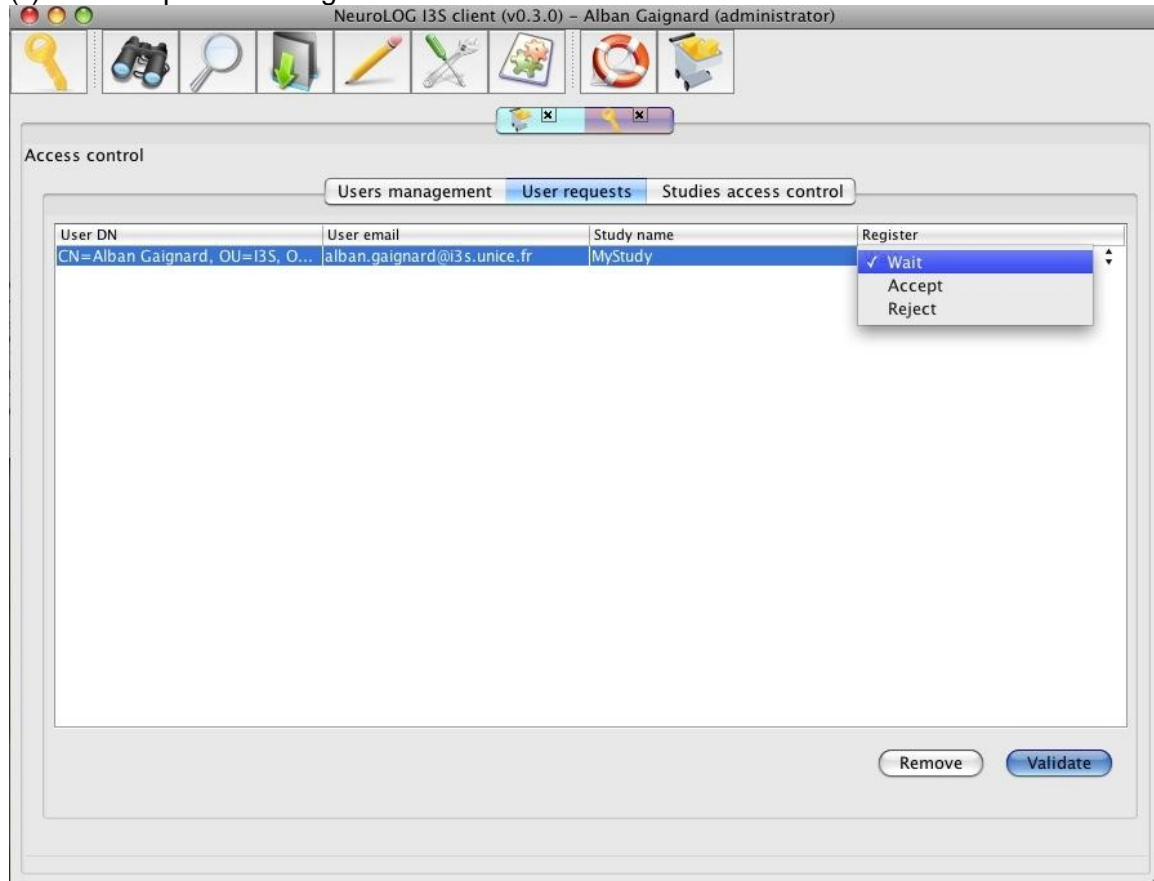
This tab display the list of all pending requests for role subscription. An administrator can either wait, accept, or reject a request by selecting a user and selecting the action to perform in the Register column. All requests are finally processed when the administrator clicks on the Validate button. Selected requests can be removed but do it carefully because the user won't receive any notification.

(iii) Study access control management:

This last tab displays the access control policy of the site. Each line corresponds to an authorization rule (triplet {StudyID, Role, Permission}). Authorization rules can be modified by clicking on the role or on the permission, or can be removed by selecting a rule and by clicking on the remove button.
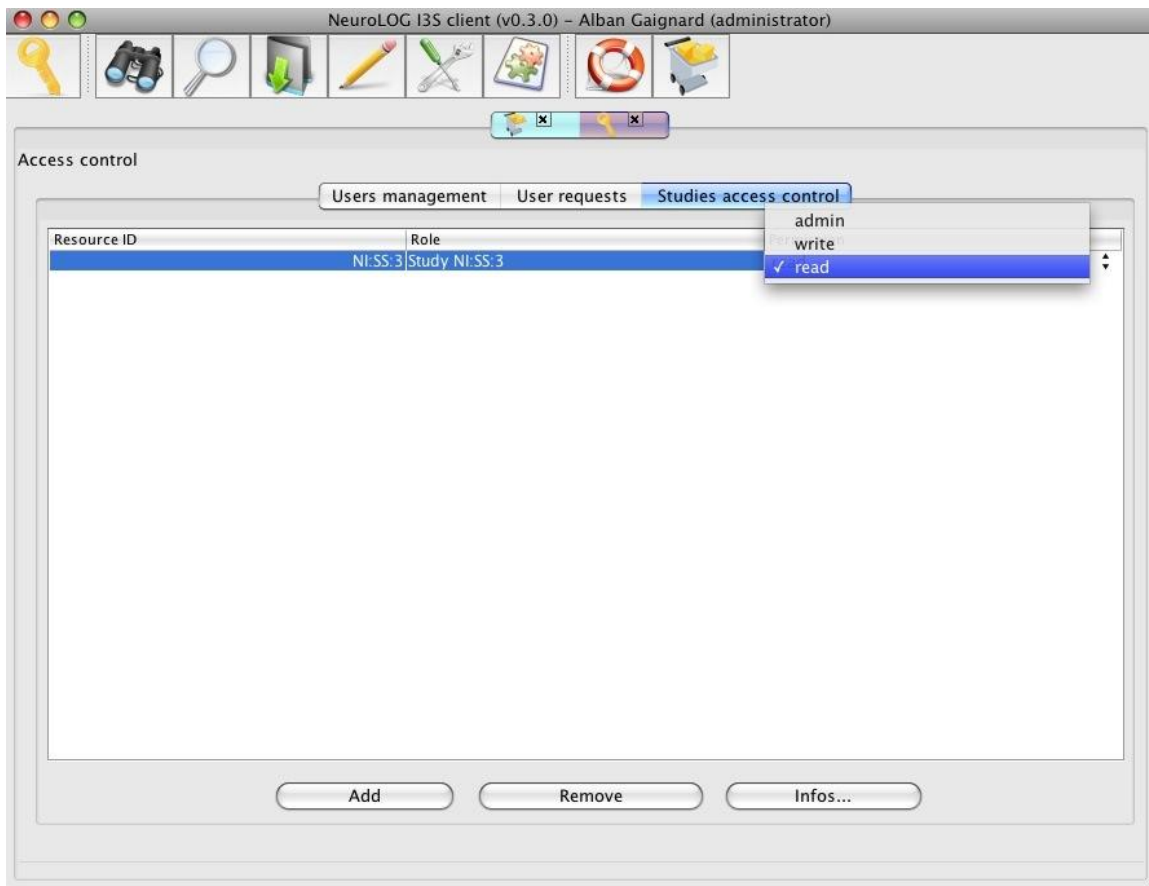
In order to add a new rule, the administrator clicks on the add button which opens a new window:
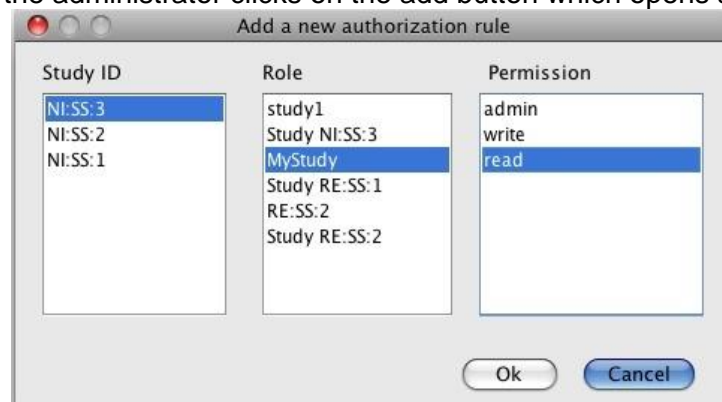
A new rule can be constructed by selecting an element for each column : studyID, role and permission. When the administrator clicks on the ok button, the window is closed and the new rule is added to the access control policy.

4.2.2. Data retrieval

Before data files can be visualized, they should be downloaded onto the user workstation.

From the cart pop-up menu, select the D*ownload files from expression* menu. From the sub-menu, select the dataset expression which files must be downloaded. Each dataset expression is given by its identifier, format type (DICOM, Nifti, etc.) and record date, as depicted below:

As a result, a new download entry is added to the *Downloads* section of the car panel. The download entry section provides the identifiers of both the dataset and its dataset expression, the dataset expression format type (DICOM, Nifti, etc.) and the record date:

Once the progression bar reaches 100%, the *selection check box* becomes active.

You may then select the check box and use buttons at the bottom of the *Downloads* section to either visualize the dataset (see section 4.3 for a description of the visualization tool), or remove a download and its temporary files from the user workstation.

4.3. Data visualization

Visioscopie image viewer is in a beta status, with limited functions.

This guide will include a description of this tool later on. Fow now, please contact David Godard for any issue on this matter: david.godard@visioscopie.com

4.4. Semantic data querying

In semantic querying section of current version of NeuroLOG client, available functionality is:

1) Fetching data from RDBMS and generating RDF files
2) Querying this generated file and displaying result in XML format.

Step 1 is an automatic procedure and each time on the launch of window system updates its files from the database. Results in tabular format and query builder will be available in next releases.

To launch semantic window either use Semantic > semantic query or icon ✎ . In semantic window there are 3 major sections as shown in figure below
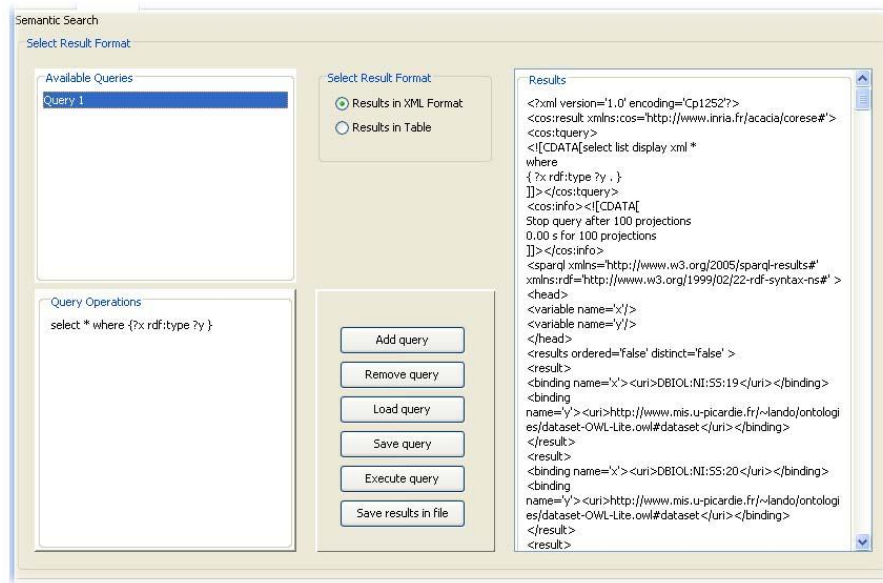
4.4.1. Available queries:

This section provides a list of available queries for execution. To view any query available in this section just double click the query and it will be visible in the query operations window.

4.4.2. Query operations

Purpose of this section is available to view or addition a query.

4.4.3. Result window

Result window is to display results of executed query.

We have following set of buttons for different purposes.

Add query

To add a new query, type query in *query operations* and click add query button. It will validate the query. If query is valid then it will ask for query name. Query will be available for execution in available queries.

Remove selected query

To remove a query from available queries, select query and click remove selected query.

Load query

Load query will validate and load an already available query from a file.

Save query

Save query will save a query from available queries in a file. By default file name will be the same as per query name.

Execute query

To execute any query, first add query in the list of available queries. After addition of query in the list of available queries, select query to execute. Due to limitation of resources, we only display first 100 results in XML format.

Save results in file

To save results in a file select location and provide file name. Results will be available in the file for later processing.
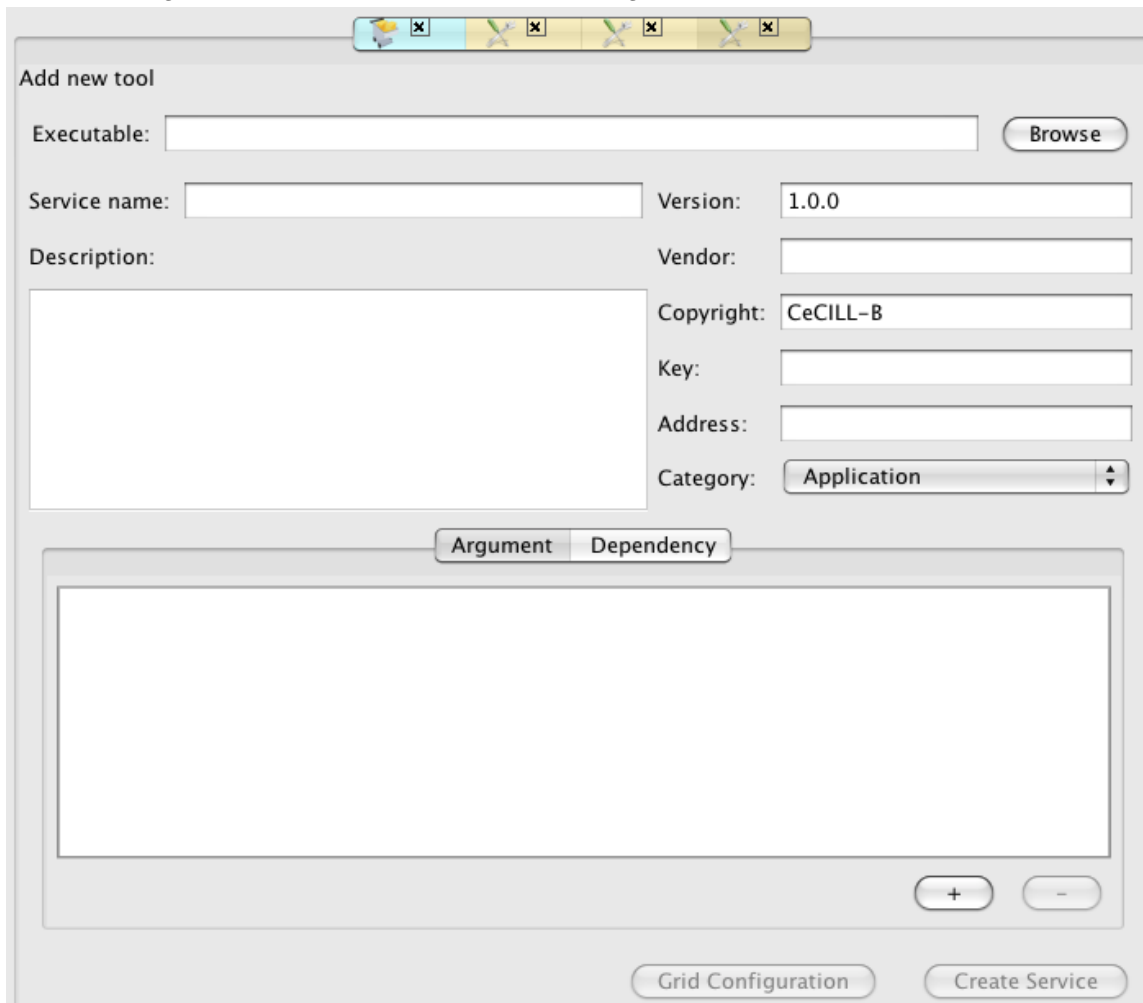
5. Tools management

5.1. Tools registration

New tools can be registered by a system administrator through an <u>admin specific menu</u>.

Use the *Tools > Add new tool* menu.

The tools registration interface is shown in the figure below:

The user first need to select an executable that corresponds to the tool to wrap into the system by clicking the `browse` button. Additional information can be entered such as a name (mandatory, the default is the binary name), a description of the service, licensing information, etc.

The input / outputs of the executable being wrapped then need to be described. Use the + button in the `Argument` tab at the bottom of the window:

A dialog box enables to specify an I/O label (human readable I/O field description), the corresponding command line option (e.g. -o) and an optional value. The kind of argument (input / output) and the type (integer, double, string or file) also needs to be specified). Labels of arguments specified are listed in the `Argument` tab.

When the all arguments have been specified, the `Create Service` button cause the service to be created and registered: a Web Service interface is created, the service is packaged into a jar archive that will be hosted by the middleware web service container, and this archive is transferred to the site server the client depends on for deployment.

5.2. Tools listing

Use the *Tools > Browse processing tools* menu, or the tools icon:

Registered tools are listed in a two columns window. On the left is shown the list of existing services. On the right appears detailed information on the service: its endpoint (WSDL interface), the list of operations exposed by this service and the input parameters for each operation. In the example below, the `echo-1.0.0` service has 2 operations (`output` and `local`). The first operation has no parameter while the second one has a single string input parameter:
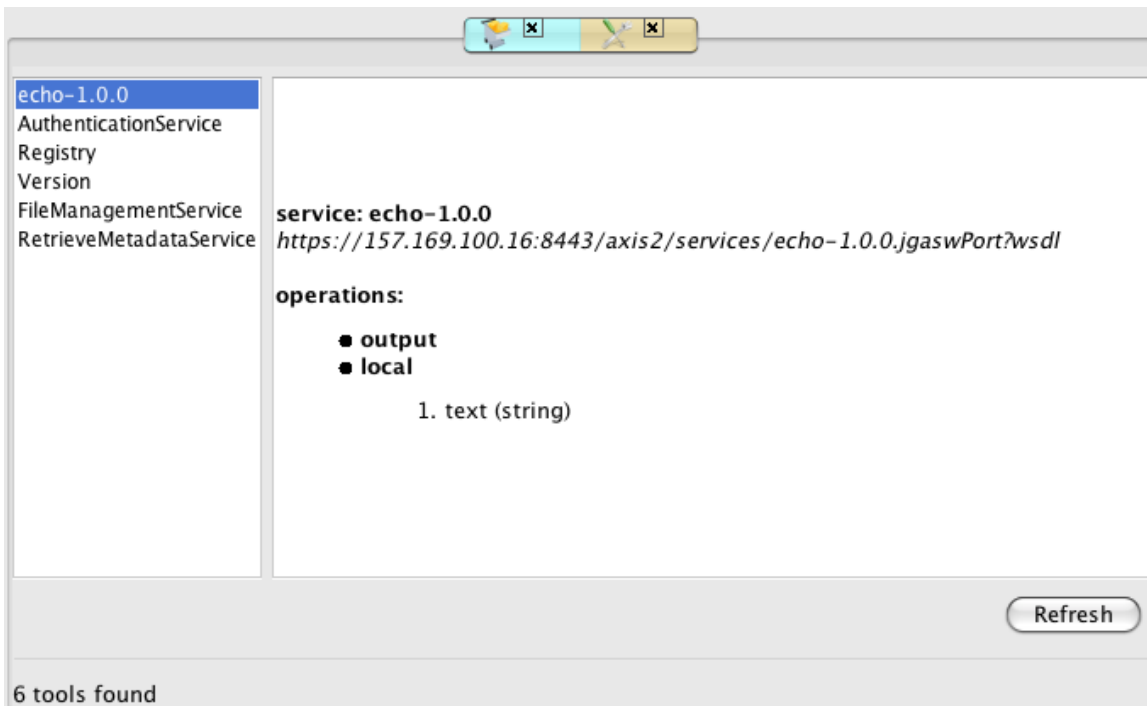
On the first selection of a service, the information may take a little time to display since the remote web service container is queried for the detailed description of the service. First access to a web service typically takes some time as the service has to be loaded by the container.

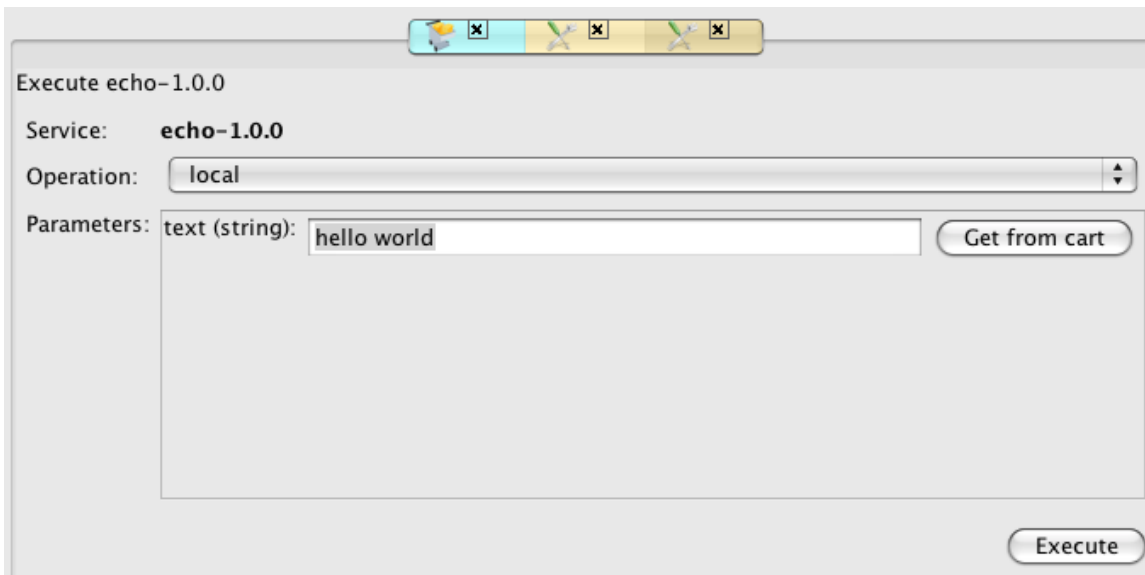## 5.3. Single tool invocation

Use the *Tools > Perform processing* menu.

By double-clicking on a tool name in the tools list, or by selecting the appropriate menu when a tool is selected, a new panel with an execution interface appears:
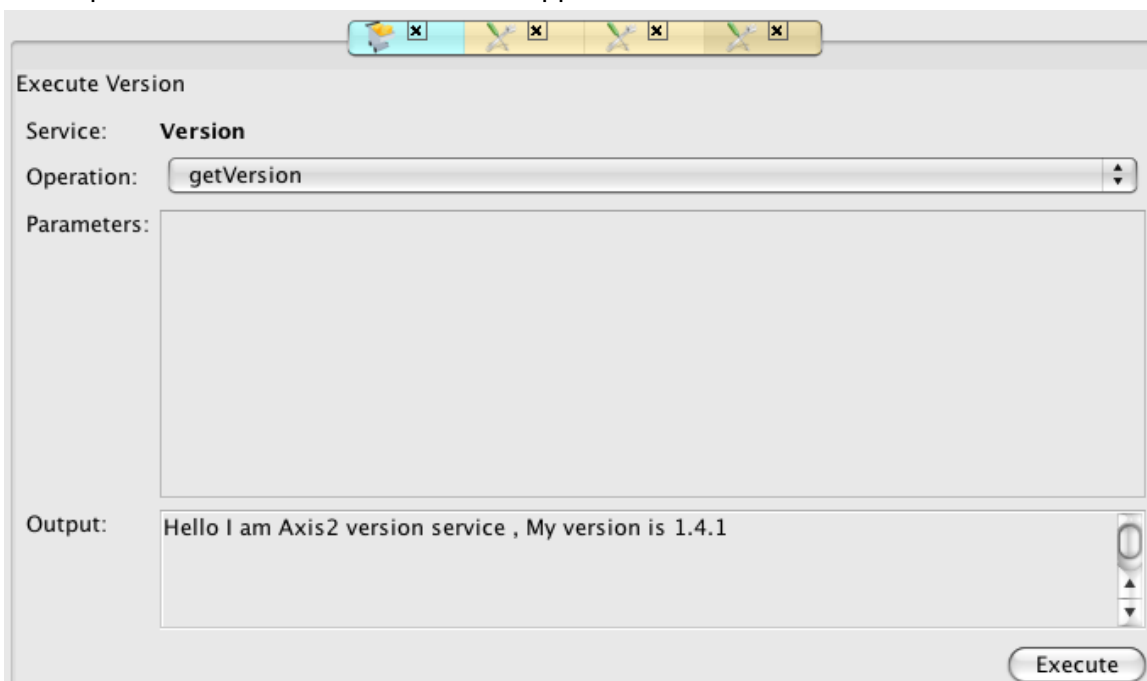
The list of operations that can be invoked is displayed in a selection list. Clicking on the `Execute` button cause the selected operation to be invoked on the site server side and the output is displayed in a new area at the bottom of the window.
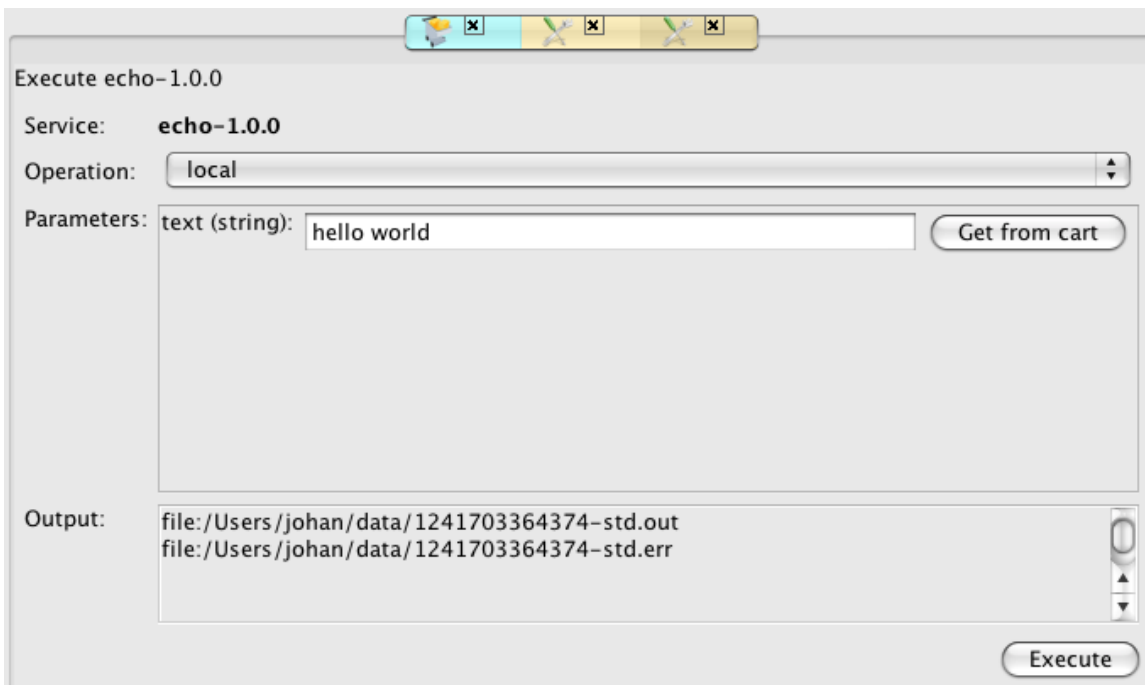
If the service has input parameters, one line appears for each of them in the `Parameters` area:

The user can enter the parameter value manually, or select it amongst the dataset expressions available from the cart (if some datasets where previously selected by performing queries, see section 4).

A tool wrapped with the generic web service tool wrapper as documented above will typically produce file as result of its processing. The file identifiers then appear in the `Output` area after execution:



5.4. Workflow edition and invocation

To open a workflow tab use the *Tools > Workflow engine* menu, or the workflow icon:

The workflow panel is an empty panel that can be used to load or edit a new workflow and then follow on its execution. Use the *load* button in the bottom-right corner of the panel to load and display an existing workflow. To create a new workflow, right-click anywhere on the panel and use the contextual menu to add workflow inputs, outputs and computing processors:
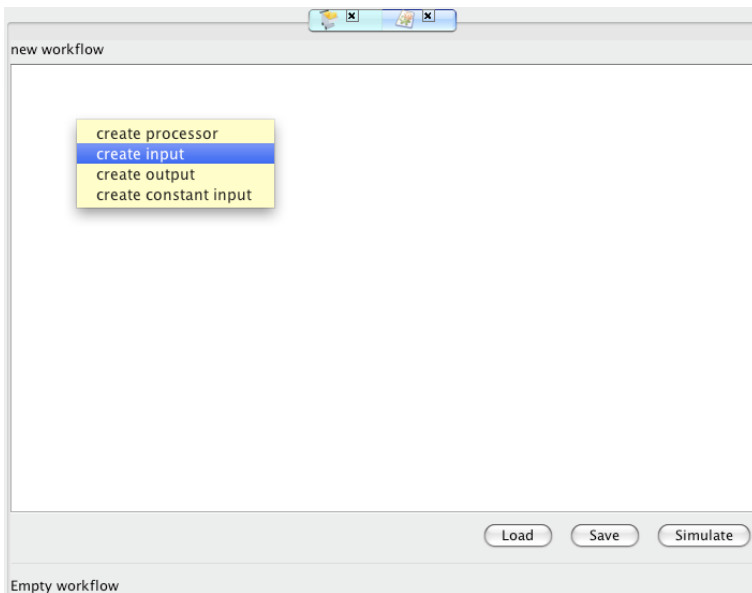
New inputs, outputs and processors appear in the workflow panel at the place of the mouse click. Double click on the processor box to change its name with a meaningful value (or select the *rename* contextual menu item).
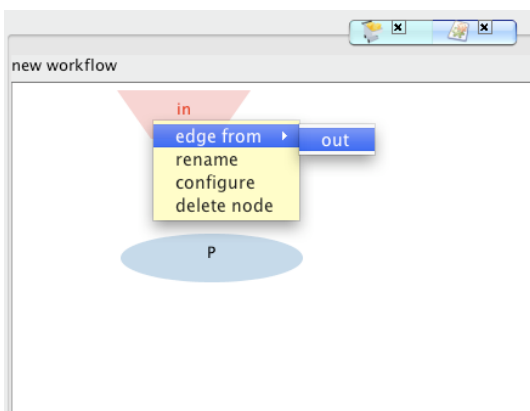
To create a link between processors, move the mouse over the source processor, use the contextual menu item *edge from* and select the source output port from the processor in the sub-menu.
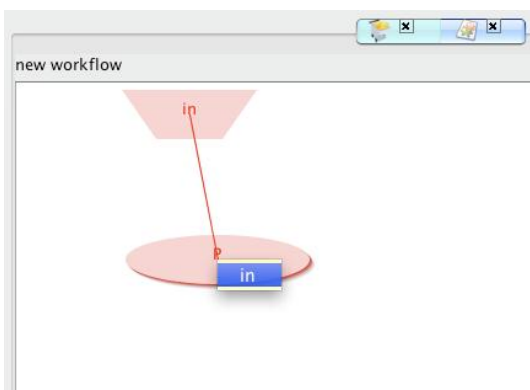
Then move the mouse over the target processor and select the target input port from the processor in the menu. A link is then created. The graph is re-laid out automatically after each link addition for optimizing the graph readability: it is normal for the processor to be redistributed in the panel during this process.
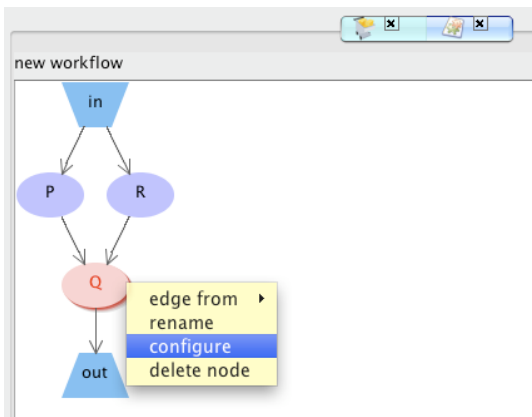
Each processor created has a default structure with one input port (labeled *in*), one output port (labeled *out*) and no computing content defined. To configure a processor, right-click on it and select the *configure* menu item.
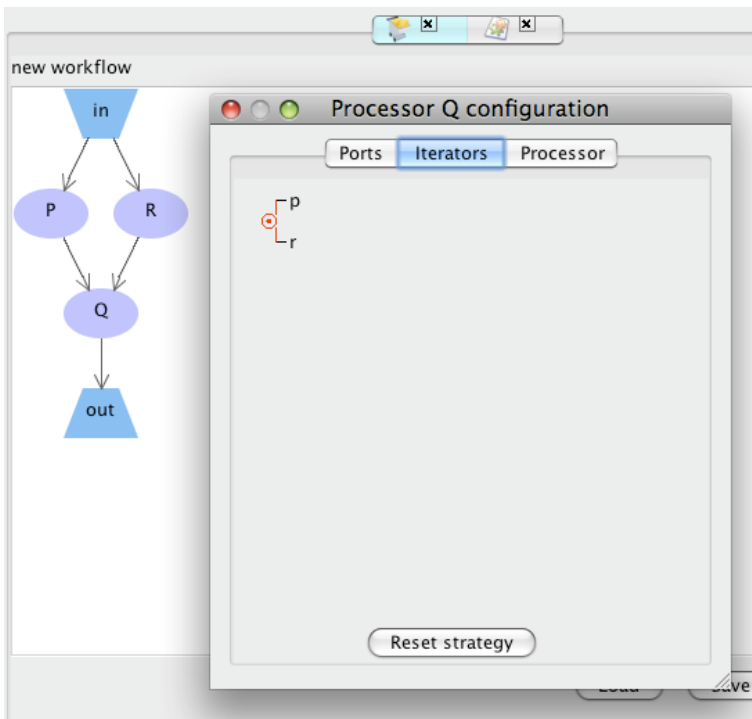
The configuration widget enables the definition of processor ports (first tab), the definition of iteration strategies (second tab, for processors with 2 inputs or more) and the processor content (third tab).

To edit an iteration strategy you can:

- Change ports order by dragging ports names vertically.

- Right-click on an iteration strategy operator to change it.

- Select a group of ports (right-mouse click and drag around ports) to create a new iteration operator.

Once the workflow has been edited, it can be saved through the *save* button in the bottom-right corner of the panel.

The workflow can then be executed. Prior to real execution, it is usually useful to control the data flow that will be generated during execution by simulation. Click the *simulate* button in the bottom-right corner of the panel. This causes two dummy data items to be pushed inside each workflow input and cause all processors that received data items to be activated, just producing an output string trace of the simulated invocation, rather than performing a real computation. The data flow is thus dynamically resolved and the progress of the computation is visualized in the workflow interface.
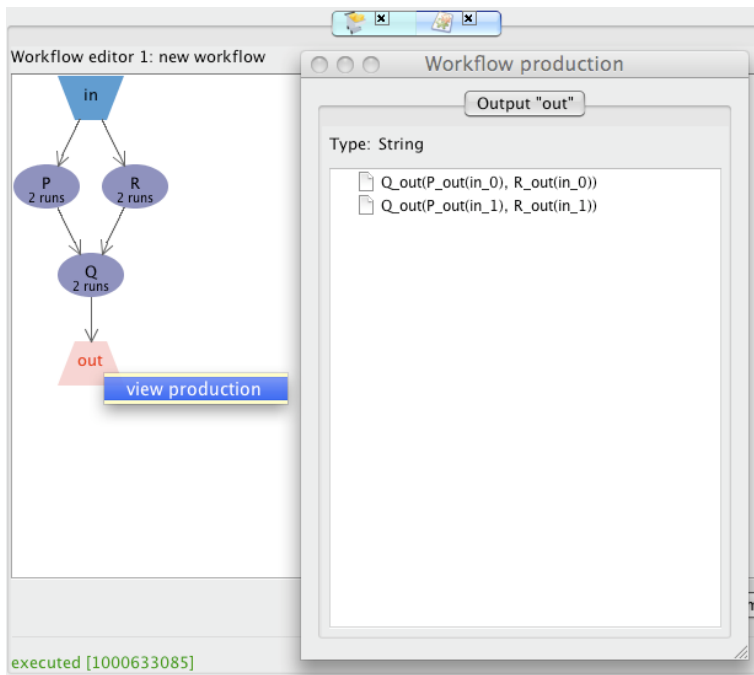
The number of runs of each processor is displayed in the processor box. The processor color changes when they are running and they complete execution. The simulation will end when no processor can fire anymore. It is then possible to check for the workflow production by selecting the *view production* menu item on the contextual menu of workflow outputs.

The production window displays the data item received as exemplified on this figure.
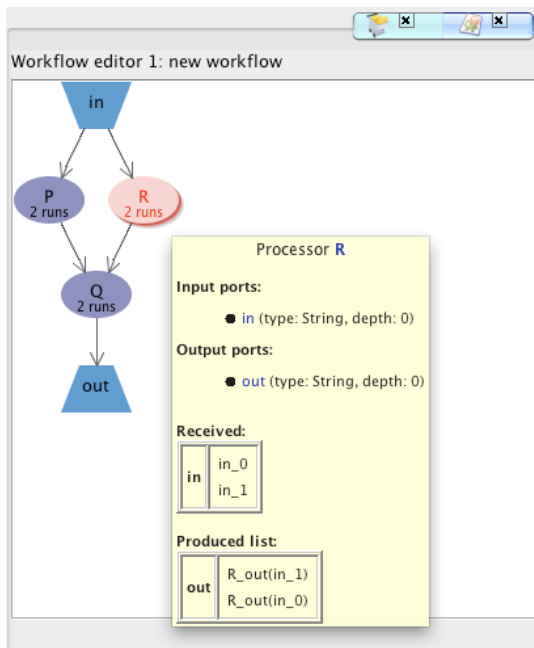
Note that you can get information on any processor by moving the mouse cursor over it and wait for two second until a tip window appears. The following items are documented in this window:

- Processor input and output ports with type and depth.
- Data item received in input ports.
- Data item produced through output ports.

Real enactment of processors and connection between the data management system and the workflow input/outputs still need to be integrated in the workflow manager.

6. Not available yet

More functionality will be available in future versions of the middleware. In particular, the following important functionality was not yet implemented:

- Annotating produced data
- Registering computation results

7. Reporting procedure

This prototype is far from being complete and many improvement will be included in future versions. It is really important for user who test the prototype to give feedback about any issue encountered "playing" with the software. To ease the gathering of this feedback, please use the TRAC portal (https://nyx.unice.fr/projects/neurolog) with **neurolog_guest /neurolog_guest** for *login / password*. User feedback is stored through "tickets". A ticket is textually described (files, like logs or screenshots may be attached to the ticket) by a reporter and can represent issues, such as bugs, or enhancement requests.

The reporting procedure is as follow:

1) Login into in the TRAC portal
2) Search for a similar issue using the search box
   1. If a ticket describing the same issue already exists, add some information to it, and contribute to its description, or resolution
   2. If not, continue this procedure
3) Click on the **New Ticket** button
4) Describe your ticket
   1. Give a short summary
   2. Type your ticket with the more appropriate label : **defec**t, **enhancement** or **task**
   3. Give a full description of the issue
   4. Assign a component to your ticket in the ticket properties area. The project is actually decomposed into several components: administration, data, metadata, semantic, processing tools, security, administration and user interface.
5) Finally submit your ticket.

   ➢ Because all reporters will use the *neurolog_guest* account, please personally sign each textual entries, in order to identify contributors. If you want to benefit from mail notification, please ask a personal account to alban.gaignard@i3s.unice.fr.

Tickets will be then prioritized and grouped in order to enhance and define next development phases.

Create New Ticket

Short summary:

Type: [task ▲▼]

Full description (you may use WikiFormatting here):

B *I* A ⊙ ▤ — ¶ ↵

Ticket Properties

Priority: [major ▲▼]   Milestone: [▲▼]

Component: [Administration ▲▼]   Keywords:

Assign to: Cc:

☐ I have files to attach to this ticket

[Preview] [Submit ticket]

Note: See TracTickets for help on using tickets.

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