

Installing ISIS-Fish on the Datarmor supercomputer

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General

These instructions apply specifically to the installation of ISIS-Fish on the Datarmor supercomputer, but the process should be similar for most Linux-based supercomputers.

In all cases, the user must have an account set up on the supercomputer.

Windows users must also have administrator rights on their own workstation.

Installing Cygwin (Windows only)

First install Cygwin on your workstation.

The current version can be downloaded from <https://cygwin.com/install.html>.

Execute the setup file

- In the **Choose Installation Type** window, select Install from Internet
- In the **Choose Installation Directory** window, leave the default settings
- In the **Select Local Package Directory** window, leave the default setting (the installation files will be downloaded to an oddly named subdirectory in the same directory as the setup file)
- In the **Select Connection Type** window, set the proxy settings if required
- In the **Choose Download Sites** window, choose a server in the same or a neighboring country (For example, in Germany choose one of the .de servers, for South America a .br server)
- In the **Select Packages** window, scroll down to the **Net** category and click to expand the category then scroll down to **openssh: The OpenSSH server and client programs**. Click the word **Skip** to toggle it to the package version number (e.g. 7.7p1-1). This will automatically select any other packages required. Click **Next** to verify the download and then **Next** to start the download.
- When the download and installation is complete, in the **Installation Status** window, click **Finish**.

Note: if you need any further information on installing Cygwin, try the [Cygwin documentation](#).

Installing JDK on the supercomputer

Download the latest JDK version 8 from the [Oracle Java download page](#).

The filename will be something like “jdk-*version*_linux-x64_bin.tar.gz”. Remember the version, in the following commands, you will need to replace *version* by the version number.

The rest of the installation uses a terminal emulator. Windows users should run Cygwin (as installed above), Linux users should use the terminal.

Copy the tarball (from the download directory *DldDir*) to the supercomputer

```
$ scp DldDir/jdk-version_linux-x64_bin.tar.gz username@datarmor.ifremer.fr
```

Connect to the supercomputer

```
$ ssh username@datarmor.ifremer.fr
```

If you have already configured your SSH connection with a key, you will not need a password

Install the JDK on the supercomputer

```
$ tar -xzvf jdk-version_linux-x64_bin.tar.gz
$ sh jdk-version_linux-x64.bin
```

Installing ISIS-Fish on the supercomputer

The ISIS-Fish version should be the same as that installed on the workstation.

The installation uses a terminal emulator. Windows users should run Cygwin (as installed above), Linux users should use the terminal.

Copy the ISIS-Fish zip file to the supercomputer.

```
$ scp /path/vers/isis-fish-4.x.x.x-bin.zip username@datarmor.ifremer.fr
```

Connect to the supercomputer

```
$ ssh username@datarmor.ifremer.fr
```

Unzip ISIS-Fish

```
$ unzip isis-fish-4.x.x.x-bin.zip
```

Configuring ISIS-Fish on the workstation

A simple configuration menu is provided to set up ISIS-Fish to use a remote computer for running simulations that have been set up on the workstation.

This configuration menu (Figure 1) is accessed through the main menu bar Configuration / Datarmor configuration

Datarmor launcher configuration

Connection information

Simulation server: datarmor.ifremer.fr

SSH identifier: Tony

SSH key: D:\Users\Tony\ssh\isis_rsa

Datarmor configuration

User home directory: /home/Tony

ISIS-Fish database: /home/Tony/isis-fish-4/isis-database

ISIS-Fish home: /home/Tony/isis-fish-4.4.1

Server temp directory: /home/Tony/isis-tmp

Java path: /home/Tony/jdk8/bin/java

Qsub arguments: -m n -l mem=2GB -l walltime=01:00:00

SSH threads count: 1

Ssh simulation Xmx allocated memory: 2000M

Control check interval (seconds): 120

Status

Used space disk:

Size of isis-database : 0

Size of isis-tmp : 0

Figure 1: Datarmor configuration menu

Step 1 – Fill in the connection information

Simulation server field: set the address of the supercomputer SSH server. The address is datarmor.ifremer.fr for the Datarmor server. The default port number is 22.

SSH identifier: set your username for the server.

SSH key: if you have already set up an SSH key for the connection, the address of the key will be shown grayed. If not, the address will be highlighted in red and you can either generate a key by clicking the **Generate** button or give your password each time you log into the SSH server.

Step 2 – Test the connection

Clicking the **Test configuration** button will try to connect to the SSH server. If you have not set up an SSH key, or the key has not been validated on the server, a pop-up window will request your password. ISIS-Fish will then try to validate the SSH key on the server.



Figure 2: SSH password menu

If the connection has been successfully configured the message “Connection successful” will be displayed.

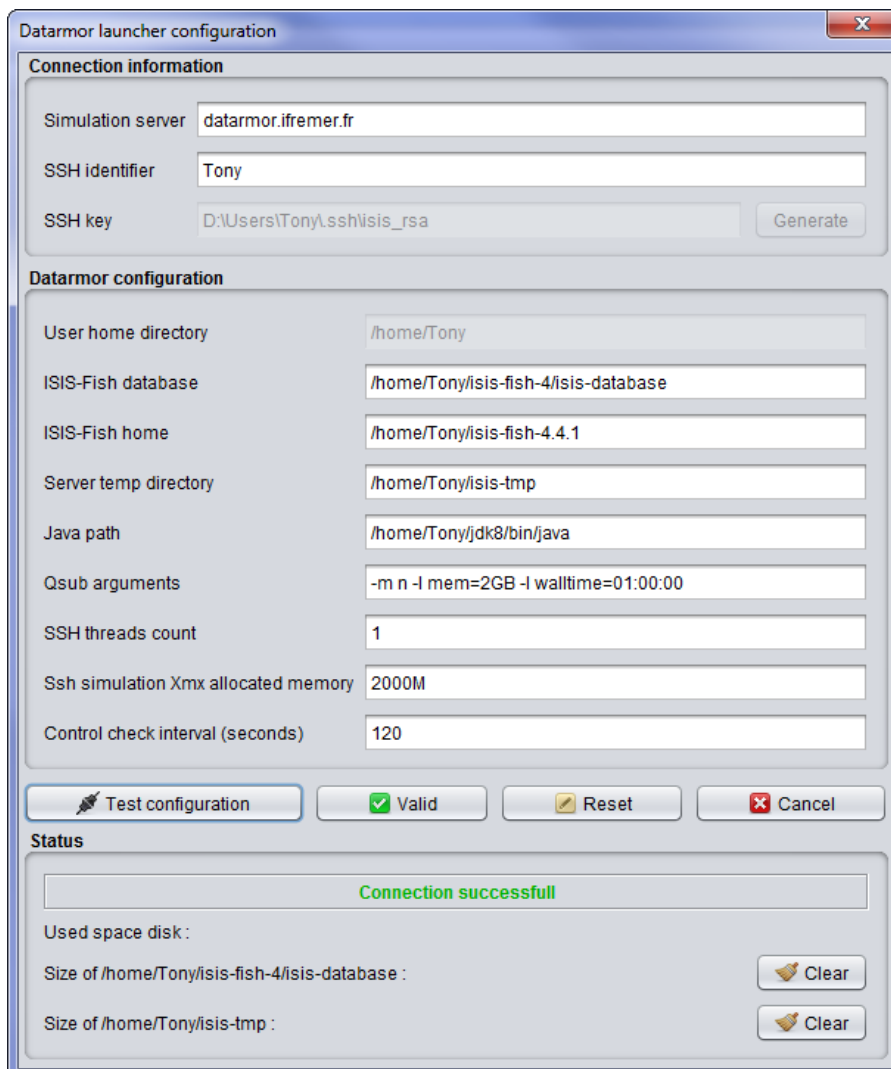


Figure 3: Datarmor configuration menu with a successful connection

User home directory: this is filled in by default and cannot be changed. It is the home directory for all other directories used by ISIS-Fish

Step 3 – ISIS-Fish configuration

The directory paths for the database, the ISIS-Fish installation, temporary files and Java may now be set and the other configuration parameters adjusted as required.

ISIS-Fish database: the normal directory is *User home directory/isis-fish-4/isis-database*

ISIS-Fish home: the normal directory is *User home directory/isis-fish-4/isis-database*

Server temp directory: the normal directory is *User home directory/isis-tmp*

Java path: the normal directory is *User home directory/jdk8/bin/java*

Qsub arguments: these should be set for the task to be executed

- m n do not send notification e-mails
- l mem=2GB sets the memory required to 2 gigabytes
- l walltime=01:00:00 sets the estimated elapsed time (as measured by a “clock on the wall”) to 1 hour
– the time is in the format hh:mm:ss

SSH threads count: number of simultaneous simulations to be started using SSH. Except for certain types of analysis plans this should be left as 1

Ssh simulation Xmx allocated parameter: this value is added to the `-Xmx` parameter (maximum memory) for the Java command launching the simulation

Control check interval: interval, in seconds, between status checks – the longer the interval, the less the load on the supercomputer (5 to 30 seconds is reasonable)

Step 4 – Retest and accept the configuration

Click the **Test configuration** button and, if all is well, click **Valid** to confirm the configuration

Testing the configuration

When the configuration has been set up, all that remains is to run a trial simulation as described in the user manual. If the simulation does not complete normally, please send the error log with a description of the problem to the user mailing list isis-fish-users@list.isis-fish.org.