

FraunhoferFS
Administration and Monitoring System
User Guide

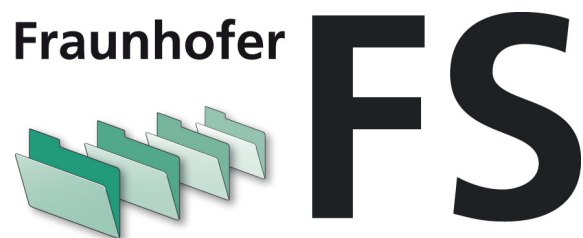


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1. Introduction

FraunhoferFS (short: FhGFS) is a high-performance parallel file system for Linux. For More Information on FhGFS, please refer to the FraunhoferFS User Guide.

The FhGFS Administration and Monitoring System (short: Admon) is a Web-Frontend that allows you to perform administrative management tasks and to monitor the state of the file system and its components. The FhGFS Administration and Monitoring System consists of two components. One of them is a remote daemon which can run on any machine with access to the metadata and storage servers. This daemon gathers the data of the FhGFS components and saves them. The other part is a java-based client, which can be run on your workstation and connects to the remote daemon.

2. Installation and Basic Setup

If you prefer the GUI-based FhGFS installation, the Administration and Monitoring System is an essential part of the installation procedure itself and is therefore included in the installation package. For more information on this kind of installation, please refer to the FhGFS installation manual.

If you installed FhGFS manually, you can download the corresponding RPM- (named `fhgfs_admon`, suffixed with `suse` or `rh`) or DEB-package (named `fhgfsadmon`) from <http://www.fhgfs.com/release> and install it manually. The package will install the daemon executable into the directory `/opt/fhgfs`. The configuration file is located at `/etc/fhgfs/fhgfs_admon.conf`.

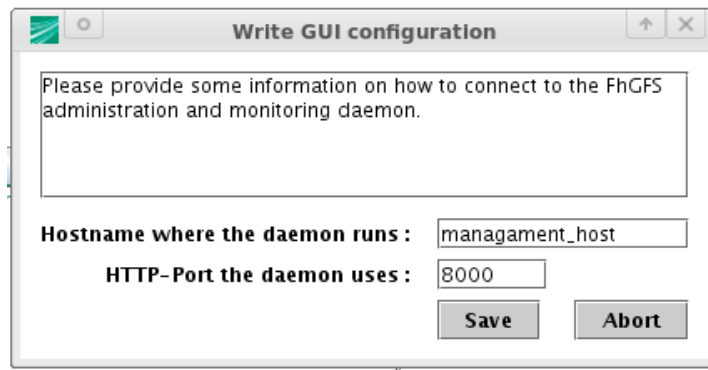
3. Usage

3.1. Start

Upon installation of the package the FhGFS monitoring daemon is usually started automatically. To start or stop the daemon manually use the provided init-script located at `/etc/init.d/fhgfs_admon`. The metadata and storage nodes in your system are usually discovered automatically.

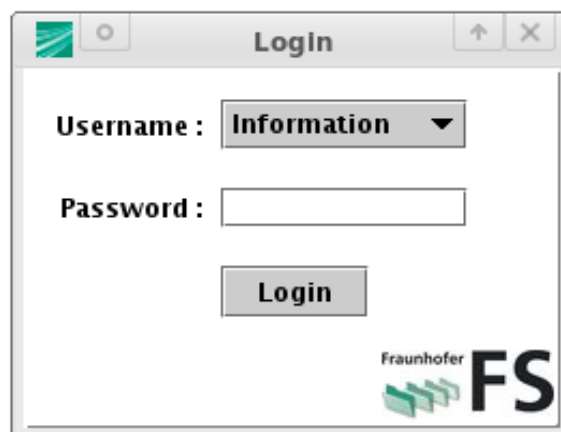
If not configured otherwise, port 8000 will be opened for connections of the java client. To get the client download the file `fhgfs_admon_GUI.jar` from the download section on <http://www.fhgfs.com>. You can start it by either double-clicking the file or using the command `'java -jar fhgfs_admon_GUI.jar'` on the command line (depends on your operating system and configuration).

At first start you will be prompted to provide information on where the daemon runs and how to connect to it.



3.2. Login

The login mechanism is based on two predefined users. The user “Information” (which has the initial password “information”) is only able to view statistics, whereas the user “Administrator” (which has the initial password “admin”) is also able to perform administrative tasks. It is highly recommended that the first thing you do is to log in using the administrative account and change the predefined passwords.



A user with administrative privileges can also turn off the need for authentication for the informational user (see Section 3.8).

3.3. The Menu

The menu is a floating window, just as every other component of the client. It is organized in tree-like view and the associated windows will open on double-click.

The following sections will give a short overview of the different items.

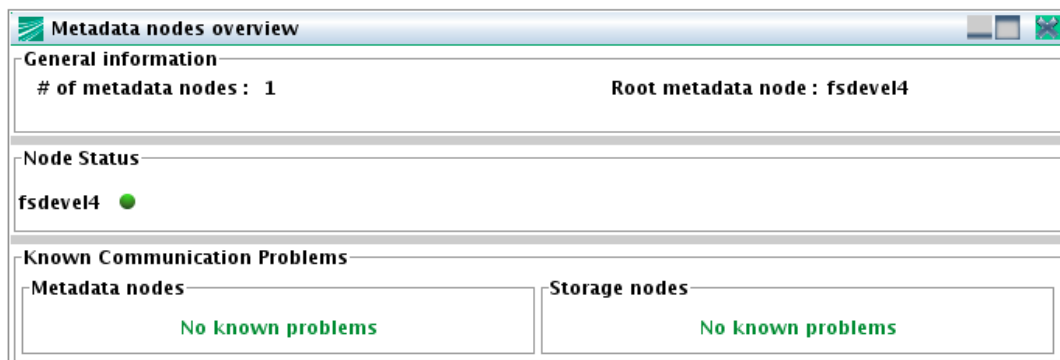
3.4. General

The page “Known Problems” is designed as a quick overview of the system's health. All problems related to the status of the nodes and their interconnection are listed here.

3.5. Meta Nodes

The menu item “Meta Nodes” contains an overview page, as well as a dedicated page for each metadata node in the system.

The overview shows basic information on the status of all nodes and on the reachability of the nodes among each other.

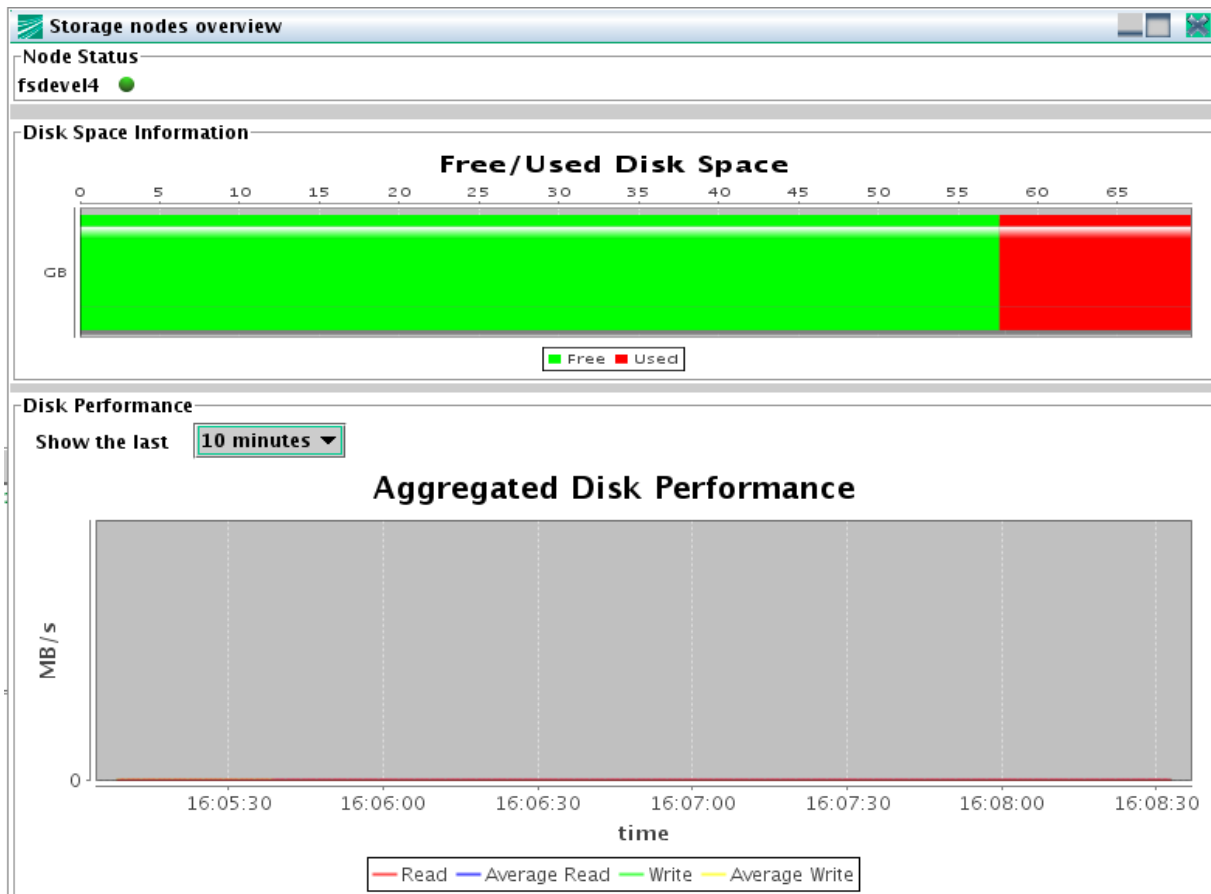


The page for a specific metadata node shows some general information on the node itself, the status of the node, as well as some information on the reachability of other nodes.

3.6. Storage Nodes

Like the meta nodes menu, the menu item “Storage Nodes” also consists of an overview page, as well as a dedicated page for each storage node in the system.

Values which can be retrieved on these pages include the general status information, as well as disk space usage and data throughput.



For disk performance, four values are displayed. While the read and write graphs are very exact (measured every second), they are also very erratic. The averaged graphs are better suited to identify a tendency. These graphs are always an average of the last 30 values.

If you need exact values, you can click at any point in the diagram to see the current throughput.

Note that only the 10 min history view is based on the exact one second interval. The other history views are based on more coarse-grained (averaged) values.

3.7. FS Operations

The menu item "FS Operations" -> "Stripe Settings" allows you to view and change the striping information in your file system. In FhGFS, it is possible to define the chunk-size of data that will be written, as well as the number of storage servers, over which one file will typically be distributed. The corresponding information can be retrieved on this page. Furthermore, if you logged in with administrative privileges, the system will allow you to change these settings for each directory in the file system.

With the file browser you can browse through the global FhGFS and retrieve information on the stored files. Please note, that although you are able to see directories and files, you will not be able to view the content.

3.8. Administration

The options inside the menu item "Administration" -> "User Settings" allow you to change the login passwords and to disable the password for the Information user. The effect of the latter is that users can view the web-frontend without being asked for a password. (The administrative account is not affected by this setting).

The menu item "Administration" -> "Mail Settings" lets you define some values for e-Mail notifications by the software. If configured accordingly, an administrator can receive an e-Mail whenever a node in the system appears to be down.

These pages are only accessible by the user "Administrator".

3.9. Management

The management pages contain elements for automation and simplification of the installation and other administrative tasks. Please refer to the FhGFS installation guide for a detailed description.

4. Notes

- **Java:** It is recommend to use Sun Java Runtime Environment 6 to start the FhGFS Admon client. Although older versions or runtime environments from third party vendors may work, these are not fully tested.

5. Support

FhGFS is available free of charge as a binary package. If you have any trouble installing or running the software, please send an e-mail to support@fhgfs.com. Of course, you are also welcome to send any other kind of question or recommendations to this e-mail address.

6. Licensing

The FhGFS Administration and Monitoring System is licensed under the terms of the FhGFS End User License Agreement (see <http://www.fhgfs.com> for more information).

The software makes use of the following third party libraries, which are all used unmodified:

- Cxxtools and Tntnet by Tommi Mäkitalo (<http://www.tntnet.org>), which are licensed under the GNU Lesser General Public License (LGPL, <http://www.gnu.org/licenses/lgpl.html>).
- Sqlite (<http://www.sqlite.org>), which was given to the [public domain](#) by the authors.
- JFreeChart (<http://www.jfree.org/jfreechart>), which is licensed under the GNU Lesser General Public License (LGPL, <http://www.gnu.org/licenses/lgpl.html>)