Viz Graphic Hub

User Guide

2.3

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Table of Contents

1 Introduction

This is the User's Guide for Viz Graphic Hub.

This section contains information on the following topics:

1.1 About the Document

This User's Guide covers the information needed to configure and operate the Viz Graphic Hub (GH).

This section contains information on the following topics:

1.1.1 Document Structure

This document contains information on the following topics:

1.1.2 Related Documents

For complementary information, see the following documents:

- *Viz Artist User's Guide*
- *Viz Engine Administrator's Guide*

1.1.3 Conventions

The following typographic conventions are used in this document:

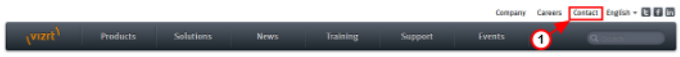
- *Italic is used for non-hyperlink external references, such as related documents, books, or Internet pages. Italic is also used to emphasize words.*
- The color blue is used for hyperlinked external references, and also internal references to sections or document elements (such as tables or figures) in the current document.
- **Bold refers to GUI components.**

1. Numbered paragraphs are used to show tasks that must be followed.

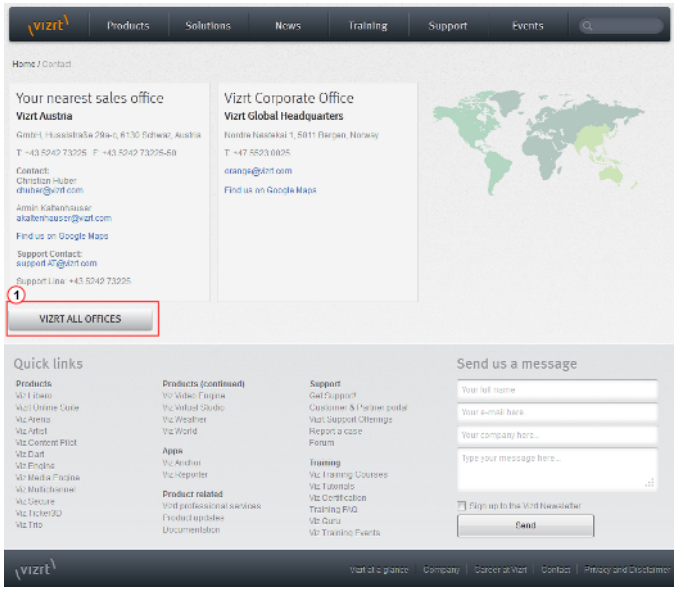
1.2 Customer Feedback and Suggestions

We encourage suggestions and feedback about our products and documentation. To give feedback and, or suggestions, please identify your local Vizrt customer support team at www.vizrt.com.

1. Go to www.vizrt.com.
2. Click on **Contact** (1).



3. The Vizrt office which is nearest to your location will be shown (2), or select from the list of Vizrt offices.
4. Click on ‘Contact’.



5. Complete the required details in the window that opens.

   Note: If this message is for Customer Support, and their is a Support Contract in place, then click on the ‘For support requests, please visit our support portal’ link in the message window.

6. Click on **CONTACT ME**.

A Vizrt representative will contact you as soon as possible.

1.3 Customer Support Request

Support Requests are supported by Vizrt if Customers have a valid Service Agreement in operation. Customers who do not have a Service Agreement and would like to set up a Service Agreement should contact their regional sales representative (see Customer Feedback and Suggestions).

When submitting a Support Request relevant and correct information should be given to Vizrt Support, to make sure that Vizrt Support can give the quickest and best solution to your Support Request.

This section contains information on the following topics:

1.3.1 Before Submitting a Support Request

Before a Support Request is submitted make sure that you:

Read:

- The relevant User Guide or Guides
- The release notes

and Check:

- That the system is configured correctly
- That you have the specified hardware, tested and recommended versions

Always refer to your Vizrt Service Level Agreement document.

See Also

- Customer Support Request
- Submitting a Support Request
- Viz Graphic Hub Log Files

1.3.2 Submitting a Support Request

When completing a Support Request, add as much information as possible.

This section contains information on the following topics:

Content of a Support Request

The report should contain information about these topics:

- **General:**
  - **Problem description:** Include a good description of what the problem is and how to reproduce it. Remember to use simple English.
  - **Screen shots and illustrations:** Use to simplify the message.
  - **System network:** Add a description of how the network, bandwidth, routers, and switches are configured.
  - **System setup:** Describe differences in the installation, if any, from the recommended setup.

- **Viz Graphic Hub:**
  - **System Reports:** Export the System Report files thru the Viz GH Terminal (see Reporting). If Viz Graphic Hub is running as a Viz GH Replication cluster export the reports from Viz GH Main and Viz GH Replication.
- **Viz GH Terminal:**
  - **System Reports:** Export the System Reports thru the Viz GH Terminal on the tasks source and destination server (see Reporting).
  - **System Dump files:** If Viz GH Terminal crashed the dump files can be found in the Viz GH Terminal installation directory (VizGHTerminal_crashtime_.dmp).
- **Viz GH Deploy Agent:**
  - **System Reports:** Export the System Reports thru the Viz GH Terminal on all source and destination servers which the current Viz GH Deploy agent has tasks deploying from and to (see Reporting).
  - **System Dump files:** If the Viz GH Deploy Agent crashed the dump files can be found in the Viz GH Deploy Agent installation directory (VizGHDeployAgent_crashtime_.dmp).

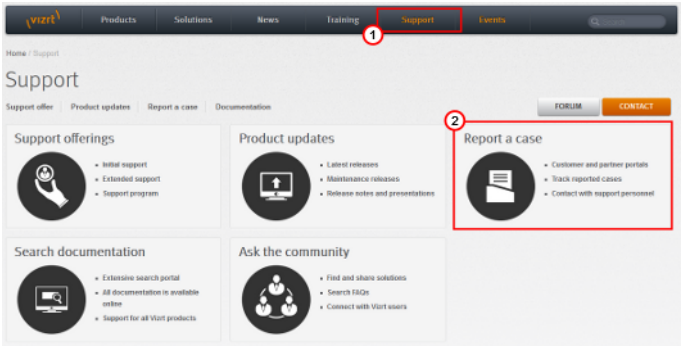
  If there is no Viz GH terminal running on the workstation where the Viz GH Deploy Agent is running, also attach the information detailed below:
  - **Event logs:** Send the system, application and vizrt event logs (see Viz Graphic Hub Log Files).
  - **Viz GH Connection log:** Send the Viz GH connection log files (see Viz Graphic Hub Log Files).
  - **Software configuration:** Add exact versions of software (-build) used.
  - **Hardware configuration:** Add exact versions of hardware (-build) used.
- **Viz GH Manager:**
  - **System Reports:** Export the reports thru the Viz GH Terminal on the workstation where the Viz GH Manager was running (see Reporting).
  - **System Dump files:** If the Viz GH Manager crashed the dump files can be found in the Viz GH Manager installation directory (VizGHManager_crashtime_.dmp).

  If there is no Viz GH Terminal running on the workstation where the Viz GH Manager is running also attach the information detailed below:
  - **Event logs:** Send the system and application event logs (see Viz Graphic Hub Log Files).
  - **Viz GH Connection log:** Send the Viz GH connection log files (see Viz Graphic Hub Log Files).
  - **Software configuration:** Add exact versions of software (-build) used.
  - **Hardware configuration:** Add exact versions of hardware (-build) used.
- **Viz GH REST:**
  - **System Reports:** Export the System Reports thru the Viz GH Terminal on the configured Viz Graphic Hub (see Reporting).
  - **System Dump files:** If the Viz GH REST crashed the dump files can be found in the Viz GH REST installation directory (VizGHREST_crashtime_.dmp).
  - **Event logs:** Send the system and application event logs (see Viz Graphic Hub Log Files).
  - **Viz GH Connection log:** Send the Viz GH connection log files (see Viz Graphic Hub Log Files).

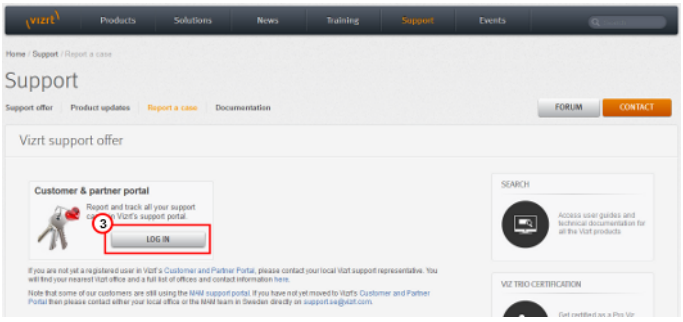
- **Viz GH REST logs:** Send all Viz GH REST log files (see Viz Graphic Hub Log Files).
- **Software configuration:** Add exact versions of software (-build) used.
- **Hardware configuration:** Add exact versions of hardware (-build) used.

To submit a Support Request

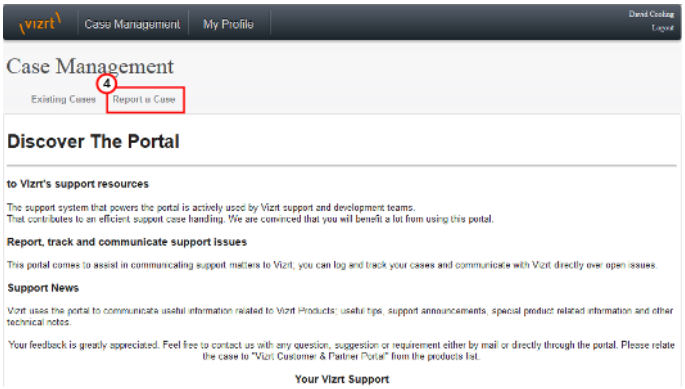
1. Go to Vizrt.com.
2. Click on Support (1).
3. Click on Report a case (2).



4. Click on **LOG IN** (3).
5. Login to the Customer and Partner portal.



6. Click on **Report a Case** (4).



7. In the online form complete the required minimum information (shown by a red asterisk):
   - **Contact:** Your name
   - **Account:** Your account

- **Product:** The product the support request refers to.
- **Case Type:** The type of support request required

8. Click **SAVE**.
9. In the saved Support Case that opens, complete the various text boxes and upload any required documents, files, etc. (see Content of a Support Request).

Note: The entered text or uploaded documents / files are automatically added.

To track the status of open support tickets, login to the Customer and Partner portal. Add information or communicate about the cases directly with the support team.

See Also

- Customer Support Request
- Before Submitting a Support Request
- Viz Graphic Hub Log Files

1.3.3 Viz Graphic Hub Log Files

Viz GH Reports

Generate a compressed log report thru the Viz GH Terminal (see Reporting).

- **Purpose:** All Viz Graphic Hub log files and additional system information.

If there is no Viz GH terminal running on the workstation where the Viz GH Deploy Agent is running select and generate these log files:

- **Viz GH Log files**
  - **Location:** <current Viz GH data directory>/LogFiles
  - **Purpose:** Viz Graphic Hub runtime and error information.
- **System Event Log**
  - **Location:** *Start -> Run... -> eventvwr.exe -> Event Viewer -> Windows Logs*
  - **Name:** System
  - **Purpose:** Information from the current windows system.
  - **To create:** Right click on **System** and select **Save all Events as...**
- **Application Event Log**
  - **Location:** *Start -> Run... -> eventvwr.exe > Event Viewer -> Windows Logs*
  - **Name:** Application
  - **Purpose:** Windows crash information of programs
  - **To create:** Right click on **Application** and select **Save all Events as...**
- **Vizrt Event Log**

  Viz GH Deploy Agent system log (only exists if Viz GH Deploy Agent is installed).
  - **Location:** *Start -> Run... -> eventvwr.exe > Event Viewer -> Applications and Services Logs*
  - **Name:** Vizrt
  - **Purpose:** Deploy agent event log.

- **To create:** Right click on **Vizrt** and select **Save all Events as...**

Viz GH Connection Log

Viz GH Manager, Viz GH Terminal, Viz GH Rest and Viz GH Manager also log their connection to their connected Viz Graphic hubs.

- **Location:** Application installation directory
- **Name:** VizGH<application>.log
- **Purpose:** Information on the Viz Graphic Hub database connection

Viz GH REST Log files

- **Location:** <Viz GH Rest Installation Directory>\logs\
- **Purpose:** Connection, error and event logs of the Viz GH REST.

1.4 Overview

This chapter contains information on the following topics:

1.5 Application Overview

Viz Graphic Hub is the database solution where all Viz Artist items are taken care of. Items can be scenes, geometry, images, materials, fonts, and so on.

To start Viz Artist successfully, you must log in to a running Viz Graphic Hub. The database can either be a local instance, where only one user can log in, or it can be a multi-user database.

The Viz Graphic Hub solution consists of various applications:

- Viz Graphic Hub
- Viz Graphic Hub Namingservice
- Viz Graphic Hub Terminal
- Viz Graphic Hub Manager
- Viz Graphic Hub Deploy Agent
- Viz Graphic Hub REST

The **Viz Graphic Hub** is the physical back-end server where the database content is stored.

The **Viz Graphic Hub Namingservice** monitors all applied servers in the network. For more information about this application, see Viz Graphic Hub Namingservice .

The **Viz Graphic Hub Terminal** provides a user interface to configure and start/stop both the Viz Graphic Hub Namingservice and the Viz Graphic Hub Server. For more information about this application, see Viz Graphic Hub Terminal Workbench .

The **Viz Graphic Hub Manager** is used to administer one or more databases. For example, the server items and access levels for users and groups can be managed from this application. For more information, see Viz Graphic Hub Manager Workbench .

The **Viz Graphic Hub Deploy Agent** upgrades the Viz Graphic Hub solution with a powerful service to copy directories/projects/files with all necessary data (referenced directories/projects/files) from one server to another. For more information, see Direct Deploy Copy (DDC).

The **Viz Graphic Hub REST** is a web-service for Viz Graphic Hub. Viz Graphic Hub REST is an interface to retrieve and send data to and from Viz Graphic Hub thru HTTP requests.

The Viz Graphic Hub Interface Agent provides easy access to all data on a Viz Graphic Hub. Simply following a URL the client is able to retrieve any kind of data like scenes, images, etc., and its metadata like owner, creation date, etc. What's more, all metadata like users, types, keywords can be retrieved. Any skilled web developer and designer can build an application based upon the Viz Graphic Hub Interface Agent.

For example, if you have a scene from the Super Bowl which contains an image of the quarterback, this image can be retrieved by an external application, like a blog, by doing a search on the Viz Graphic Hub Interface Agent. The blogger is also able to insert this in his article for publishing to the web.

1.6 General Database Information

The Viz 3 product family uses a database to store the items clients work with. The items can be of the following types, among others:

- Scenes
- Objects
- Materials
- Advanced materials
- Images
- Fonts
- Audio files

For more information about the various item types, see the *Viz Artist User's Guide*.

The individual items are stored in the Viz Graphic Hub data directory as file objects. The database manages the items in terms of properties and Universally Unique Identifiers (UUIDs). These are visualized in Viz Graphic Hub Manager as folders and projects. These folders and projects are only virtual, and cannot be treated in the same way as folders in Microsoft Windows.

Clients can work with and organize items through the Viz Artist GUI in a logical project and folder structure provided by the database. Although each item can be listed in/referenced from more than one project or folder, it will reside in the database in a single instance. A checksum will be calculated for each item, so that duplicate items can be easily found. For more information about finding duplicates, see Locating Duplicates .

Item Properties

Various properties are associated to each individual item in the database:

- Name
- Path
- Item type
- File size
- Checksum
- UUID
- Rights
- Keywords
- File-links
- References
- Etc.

For more information about the properties, see Item Properties .

Projects and Folders

The database is able to maintain a logical structure composed of projects and folders. This helps Viz Artist users to keep an overview of the items they work on. The tree of projects/folders is only virtual, the items are not actually stored on the hard disk with such a structure. All the projects/folders an item is shown in, are stored in the properties of the item. The main benefit of this virtual structure is that the item itself is stored only once in the database, with links to it. The hard disk space is then kept low and the administration of the items is much easier.

Links and References

In the database, items are linked and referenced. Every item “knows” which project or folder it is placed in, which other items it uses, and also by which other items it is used. For example, in a scene, fonts and images are used. If one of the items that are used in the scene changes, the scene will use the item in its new state. Every item holds a list of links and references in its properties. For more information, see References and Link Properties .

Three types of links and references are handled by the database: folder-links, file-references, and file-links.

Folder-Links

 Every item in the database holds information about the projects/folders it is placed in. These entries are called folder-links. Each item can hold as many folder-links as necessary. The item is physically stored in the database only once, but it can be virtually available in various folders. The UUID of the item will be identical in all folders.

If an item is deleted within a project or folder, only the folder-link to this project or folder will be removed. The item will remain in the database, unless every folder-link is removed. When the last folder-link is removed, the item will be deleted from the database.

 In the Explorer, an item that holds more than one folder-link will be shown as an icon with an arrow.

File-References

In everyday use, it is necessary for an item to reference other items. For example, a scene can contain images. The root item must be linked to all the items it utilizes. The file-reference feature keeps track of all other items being used by this item.

File-Links

In everyday use, it is also necessary for an item to be referenced by other items. The root item must be linked to all the items it is utilized by. The file-links feature keeps track of all other items the item is used by.

Keywords

To help users organize their work, keywords can be applied to items. Up to 20 keywords can be applied to each item. Every item holds a list of keywords in its properties (see Keywords).

Tip: Keywords can be used as a database search criteria.

Data Locking

Three different types of data locking exist within the database: session lock, check out, and access rights.

Session Lock

As long as the session lock is active, only the user who has locked the item is able to save it in the database. Other users can only view the item.

A locked item is marked in Viz Artist and Viz Graphic Hub Manager (if the files view type is set to icons) with a keyhole icon.

A session lock is automatically applied to an item when a user opens it in Viz Artist. The session lock is removed once the item is closed. A session lock is valid as long as the user who has locked the item is connected to the server. When the user disconnects, the lock is opened. To end a session lock, the user who locked it, or the administrator, can manually unlock it.

Check Out

As long as the check out is active, only the user who has checked out the item is able to save it in the database. Other users can just view the item.

A checked out item is marked in Viz Artist and Viz Graphic Hub Manager (if the files view type is set to icons) with a stop icon.

Every item in the database can be checked out. The check out of an item is valid until it is checked in again. Check in can be performed by the user who checked out the item, or the check out can be cancelled by the administrator.

Access Rights

The database is able to maintain rights on items and projects/folders. Individual rights for user, group, and world can be set either to allow or disallow reading and/or writing rights.

IMPORTANT! Viz Artist 3.3.x cannot handle access rights. It is strongly inadvisable to make changes in the server that may impact work on the clients.

- **User:** Sets the rights for the owner of an item or project or folder.
- **Group:** Sets the rights for all the members of the group the owner belongs to.
- **World:** Sets the rights for all database users.

See Also

- Managing Users and Groups
- To set rights for a project or folder

1.7 Viz Graphic Hub

The Viz Graphic Hub makes the database available to clients in the network. To log in to and work with Viz Artist, the user must connect to a running Viz Graphic Hub server on a machine in the network. The server is started and shut down from the Viz Graphic Hub Terminal.

Note: Servers in a replication configuration must be shut down from the Viz Graphic Hub Manager (see Shutting Down a Server).

Various parameters can be defined in Viz Graphic Hub Terminal before startup, for example the name and the data directory to where the database should have its root folder (see Terminal Options).

1.8 Viz Graphic Hub Namingservice

As there can be many Viz Graphic Hub Servers running on the same network, the Viz Graphic Hub Namingservices monitor and keep track of all the servers. A Viz Graphic Hub Server cannot run without a running namingservice. A namingservice can be started together with a server, or a running namingservice in the network can be applied.

When a server is started, the applied namingservice will be informed. The namingservice then knows that the server is available for client connections.

The namingservice application is started and shut down from the Viz Graphic Hub Terminal. The port used for the communication between the namingservice and the clients can be defined in the terminal before startup.

To avoid having a single point of failure, for main and replication server configurations, it is absolutely necessary that each instance to have its separate namingservice.

1.8.1 Supported Configurations

Both the Viz Graphic Hub Namingservice and Viz Graphic Hub Server can run independently of each other, even on separate physical machines. The following two configuration scenarios are supported.

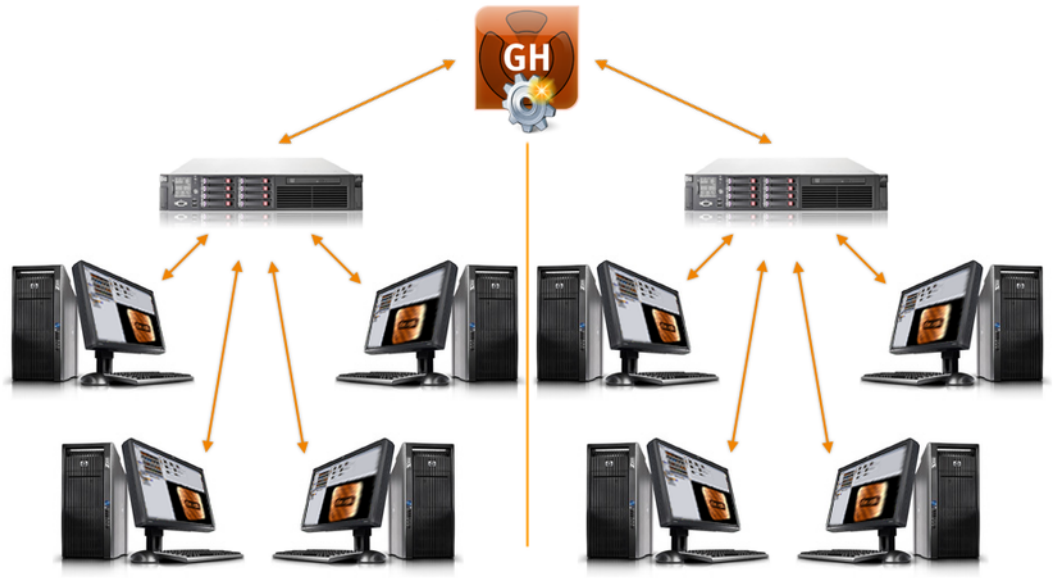
Each Server Connecting to its own Namingservice

In this type of configuration, the clients are able to connect to only one server. Such a configuration is used when working in single-user mode. In single-user mode, the server, namingservice, and all other Viz 3 products that connect to the database must be installed on the same physical machine. As the server is working on the “localhost” in this configuration, other clients cannot see the namingservice or server.

IMPORTANT! Although a localhost can never be accessed from client applications such as Viz Artist, it is possible to monitor and start/stop localhost servers/ namingservices if enabling this in Viz Graphic Hub Manager.

This type of configuration is typically used when working on a stand-alone computer.

Multiple Servers Connecting to one Namingservice



In this type of configuration, the clients are able to connect to all servers managed by the defined namingservice. In multi-user mode, the server and namingservice will be available to all clients in the network. The namingservice will use the hostname of the computer it runs on as its name. By default, the name of the server will be **Viz Graphic Hub**, but this can be modified in Viz Graphic Hub Terminal before startup. For more information, see Terminal Options .

2 Getting Started

This section contains information on the following topics:

2.1 System Prerequisites

The system requirements depend on the type of installation:

See Also

- Deploy Agent Requirements
- Viz Graphic Hub Rest Requirements

2.1.1 Minor Installations

Minor installations mean laptops and single workstations. The ideal configuration is Viz Graphic Hub 5/4 Free and Viz Graphic Hub Localhost.

The following hardware is required:

- PC with Window XP, Vista or 7 installed
- Any network card

2.1.2 Major Installations

Major installations refer to servers that will handle multiple clients accessing the Viz Graphic Hub.

The following hardware is required:

- PC with Windows 2003 Server SP2 or Windows 2008 Server 32/64 bit installed
- No other applications may be installed on the server machine!
- Anti-virus software without endpoint protection

Hardware specs at a glance

CPU1	Quad-Core Intel® Xeon® E5345 (2.33GHz, 1333MHz FSB, 80W)
CPU2	Quad-Core Intel® Xeon® E5345 (2.33GHz, 1333MHz FSB, 80W)

Main memory	4GB consisting of 4x1GB FBD PC2-5300
Graphics	Integrated ATI ES1000, 32MB video standard 16 bit color: maximum resolution of 1600 x 1200 32 bit color: maximum resolution of 1280 x 1024
HDD	4x HP 146GB Hot Plug 2.5 SAS 10.000 RPM, configured as RAID5 leaving ~400GB of free disk space for data- and ~40 GB for separate OS partition. **(customizable, up to 8x 146 GB SAS)**
Optical drive	HP 8X Slim DVD+RW Drive
Dimensions	3.38 x 17.54 x 26.01 in (8.59 x 44.54 x 66.07 cm)
Weight	Min: 47.18 lb (20.41 kg) Max: 60 lb (27.22 kg)
OS	Microsoft Windows 2003 Server Standard Edition (32bit)

Hardware specs at in details

Slots	4 available - 3 full, 1 low profile PCI-Express slots and optional PCI-X slots (riser card required)
Network (redundant)	2 Embedded NC373i Multifunction Gigabit Network Adapters with TCP/IP Offload Engine.
Power supply (redundant)	800W
Ports	1x Serial 1x Pointing Device (Mouse) 1x Graphics 1x Keyboard 2x VGA (1 front, 1 back) 2x Network RJ-45 1x iLO 2 remote management port 5x USB 2.0: 2 front, 2 back, 1 internal

Configuration Details

- RAID5 over all disks
- Disable indexing service for directory containing Viz Graphic Hub data
- Expand priority: medium
- Rebuild priority: high
- Cache Usage: 50% (read) - 50% (write)

2.1.3 Deploy Agent Requirements

The system requirements depend on the type of installation:

- Major Installations
- Minor Installations

Major Installations

Major installations refer to servers that will handle large data transfers and/or multiple tasks to several Viz Graphic Hubs.

The following hardware is required:

- PC with Windows 2003 Server SP2 or Windows 2008 Server 32/64 bit installed
- No other applications, *including Viz Graphic Hub,* may be installed on the server machine!
- Anti-virus software without endpoint protection

Hardware specs at a glance

CPU	Intel Core 2 Duo E7500, 2x 2.93GHz
Main memory	4GB consisting of 4x1GB
HDD	~80GB of free disk space for data- and ~40 GB for separate OS partition.
OS	Microsoft Windows 2003 Server Standard Edition (32bit)

Minor Installations

Minor installations mean laptops and single workstations. The ideal configuration is a deploy agent that runs a tasks with moderate volumes of data transfers.

The following hardware is required:

- PC with Window XP, Vista or 7 installed
- 5 GB of free disk space
- Any network card

2.1.4 Viz Graphic Hub Rest Requirements

The system requirements depend on the type of installation:

- Major Installations
- Minor Installations

Major Installations

Major installations refer to servers that will handle lots of client calls to Viz Graphic Hub Rest and/or having backend Viz Graphic Hub servers with a large number of files.

The following hardware is required:

- PC with Windows 2003 Server SP2 or Windows 2008 Server 32/64 bit installed
- No other applications, *except for Viz Graphic Hub in 5/4 Free or Localhost configuration,* may be installed on the server machine!
- Anti-virus software without endpoint protection

Hardware specs at a glance

CPU1	Quad-Core Intel® Xeon® E5345 (2.33GHz, 1333MHz FSB, 80W)
CPU2	Quad-Core Intel® Xeon® E5345 (2.33GHz, 1333MHz FSB, 80W)
Main memory	4GB consisting of 4x1GB FBD PC2-5300
HDD	4x HP 146GB Hot Plug 2.5 SAS 10.000 RPM, configured as RAID5 leaving ~400GB of free disk space for data- and ~40 GB for separate OS partition. **(customizable, up to 8x 146 GB SAS)**
OS	Microsoft Windows 2003 Server Standard Edition (32bit)

Note: If you also want to run this machine as your general web server, Vizrt cannot make specific recommendations regarding hardware requirements.

Minor Installations

Minor installations mean workstations with moderate workloads. The following hardware is required:

- PC with Windows 2003 Server SP2 or Windows 2008 Server 32/64 bit installed
- No other applications, *except for Viz Graphic Hub in 5/4 Free or Localhost configuration,* may be installed on the server machine!
- Anti-virus software without endpoint protection

Hardware specs at a glance

CPU	Intel Core 2 Duo E7500, 2x 2.93GHz
Main memory	4GB consisting of 4x1GB
HDD	~200GB of free disk space for data- and ~40 GB for separate OS partition.
OS	Microsoft Windows 2003 Server Standard Edition (32bit)

2.2 Normal Installation

The Viz Graphic Hub solution comes with an install wizard that helps to setup the system. There are five system configurations. Check the System Configurations to see if a dongle is necessary.

This section describes how to setup a single-database solution. To setup a cluster solution that handles failover situations, a combination of the Main and Replication system configurations must be setup. This is detailed in Installation for Replication.

2.2.1 Important Before Installation

There are a few things that must be taken into notice before uninstalling/installing a Viz Graphic Hub solution.

- When upgrading Viz Graphic Hub, make sure that there are no open transactions in the existing system. Then remove the old version of the system before reinstalling it.
- Do not use Windows Remote Desktop to install and/or work with Viz Graphic Hub. Instead, use another remote tool, for example VNC.
- On the server machine, make sure that no other applications on the same workstation can cause performance problems. Examples of situations when databases should not be installed; the general CPU usage is above normal, Viz Artist is used on the same machine, other databases run on the same machine, the network traffic is extensive, and so on. Also note that running a virus scanner on the Viz Graphic Hub machine can decrease the performance of the database.
- The performance of the database depends upon the performance of the physical machine the database runs on. As system performance increases, so does the database performance. This is why it is highly recommended to use a server with high performance.
- The cluster solution is the only server setup with built-in backup. For all other system configurations, it is imperative that other backup procedures are manually applied. Note that backup operations can only be performed when the server is shut down.

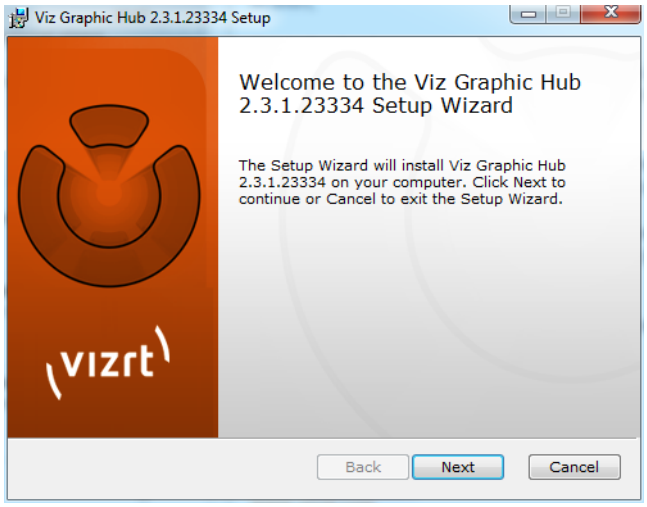
2.2.2 Running the Installation Wizards

You have the option of installing Viz Graphic Hub Terminal as a service. To do so, make sure to perform the steps for custom installation indicated below.

To install Viz Graphic Hub Terminal

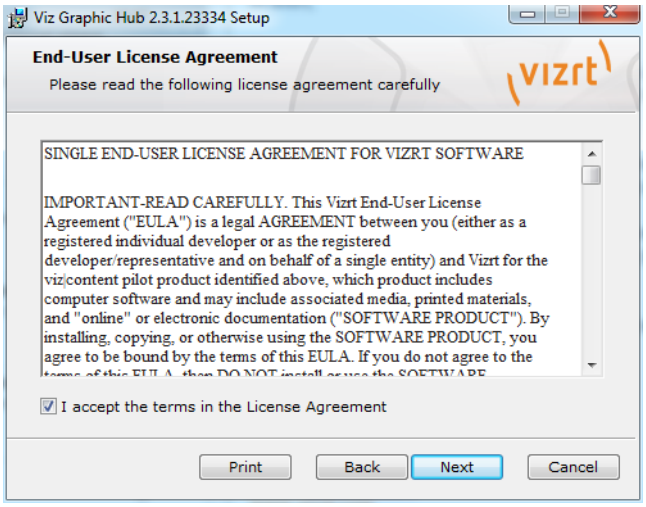
1. Double-click the **VizGraphicHub.x.x.msi** file.

   The wizard launches

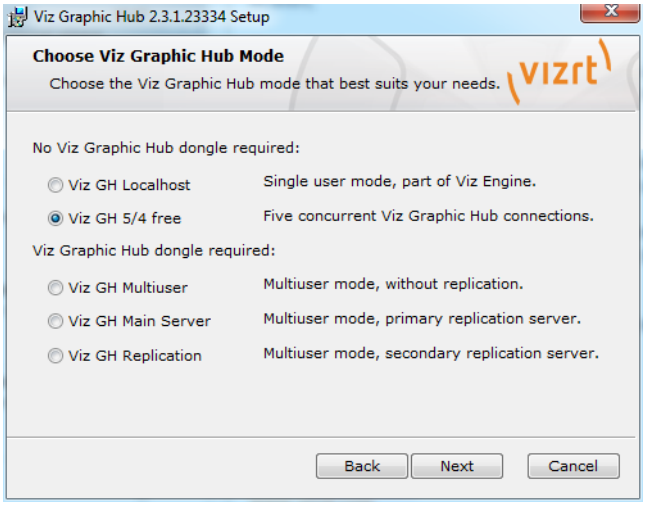


2. Click **Next** to proceed.

The end user license agreement is shown.

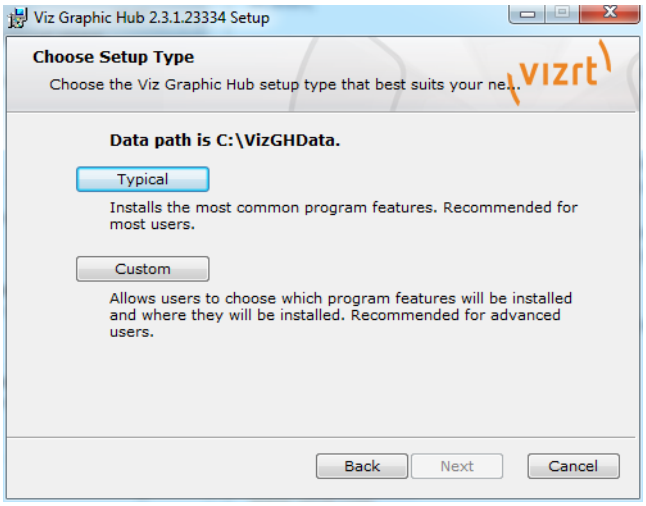


3. Read the agreement, check the **I agree** check box, and click **Next** to proceed.
   You are presented with your options for System Configurations.

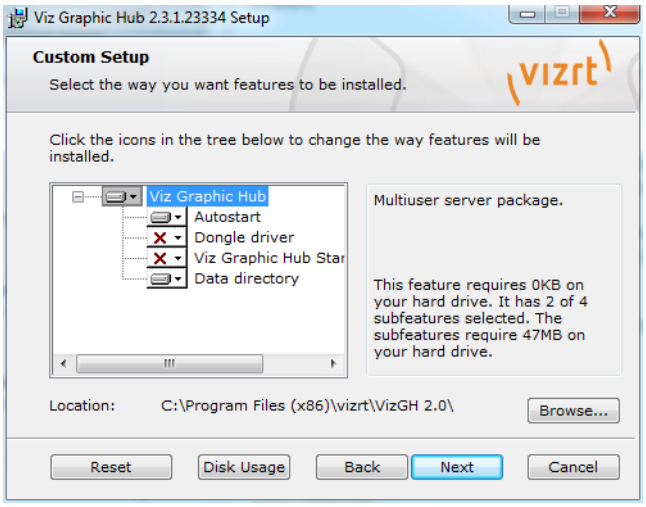


4. Select the mode most suitable for your system configuration, and click **Next** to proceed.

You are presented with setup type options. The recommended option is **Typical**, unless you have chosen a mode above that required a Viz Graphic Hub dongle and/or you want to install Viz Graphic Hub Terminal as a service.



5. If you opt for **Custom** installation, proceed with the following steps:



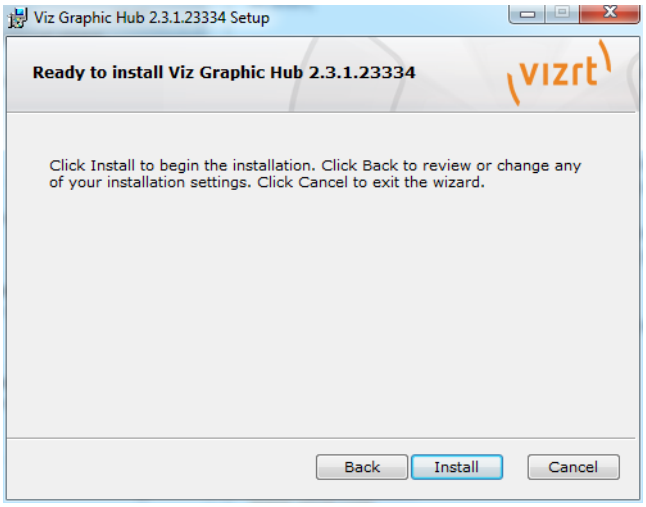
1. To install Viz Graphic Hub Terminal as a service, click **Viz Graphic Hub Startup Service** and select **Will be installed on local hard drive**.

Note: This option does not work on all operating systems; consult the release notes for details.

2. To manually set the data directory, click **Data Directory** and then click **Browse**. Select a folder to be the data directory.
3. If you *do not want* the Viz Graphic Hub Terminal to start up automatically when you start your machine, click **Autostart** and select **Entire feature will be unavailable**.
4. The Dongle driver option is selected by default if the mode you selected requires it. You have the option of deselecting it as well (in which case you can update your drivers through Windows).

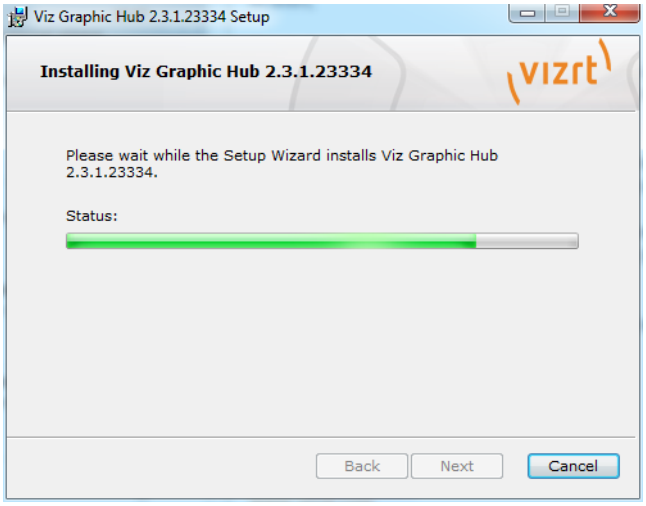
6. Select the setup type and click **Next** to proceed.

Viz Graphic Hub is now ready for installation.

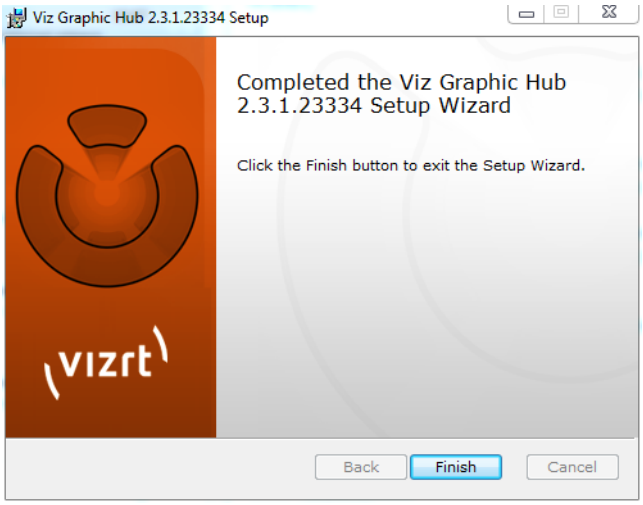


7. Click **Install**.

   Viz Graphic Hub is installed on your machine.



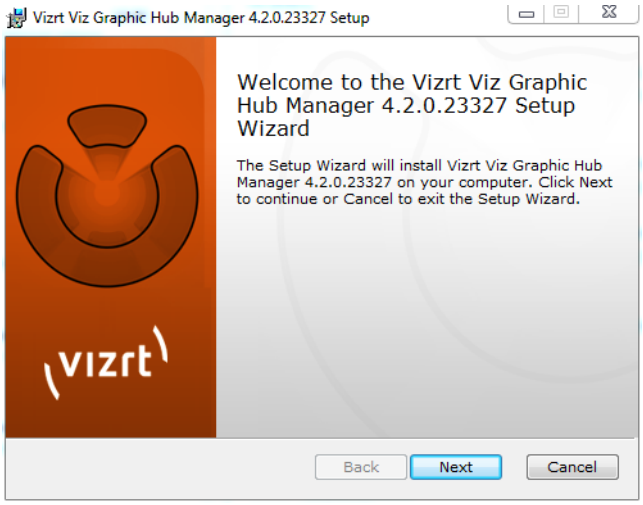
When the installation is finished, the final screen is shown.



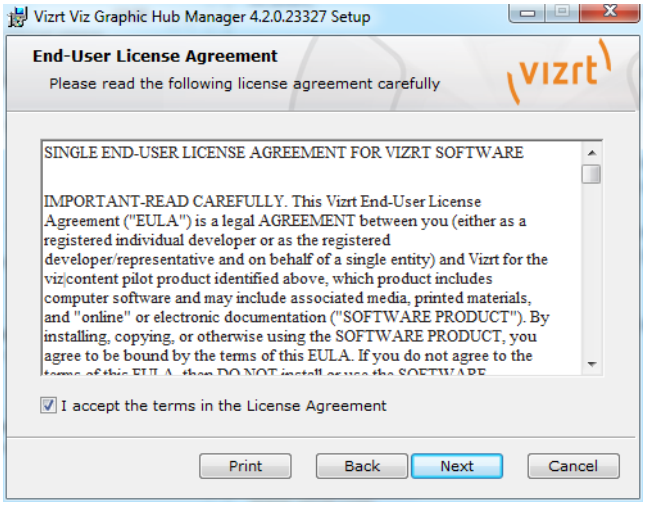
8. Click **Finish**.

To install Viz Graphic Hub Manager

1. Double-click the **VizGHManager.x.x.msi** file.
   The wizard launches.

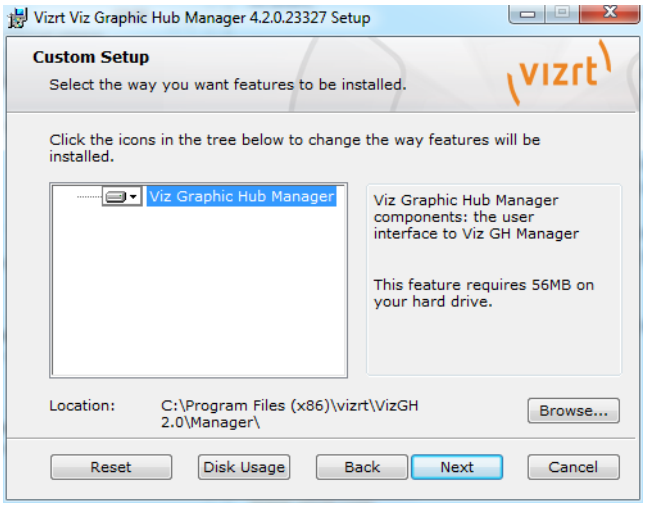


2. Click **Next** to proceed.

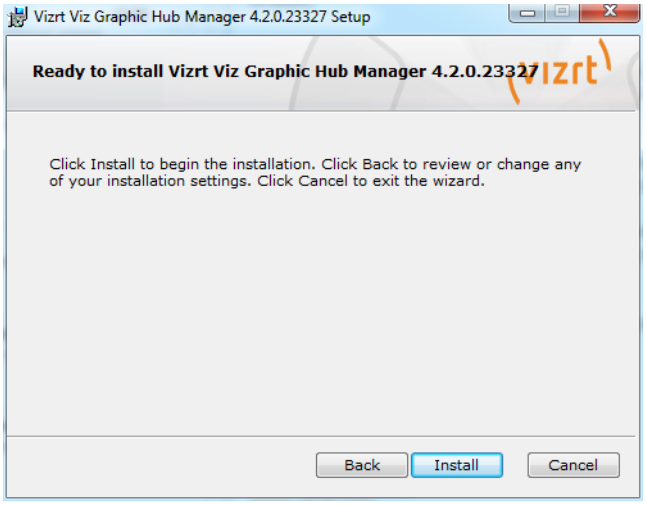


3. In the End-User License Agreement panel that opens, select the **I accept the terms in the License Agreement** check box.

4. Click the **Next** to proceed.



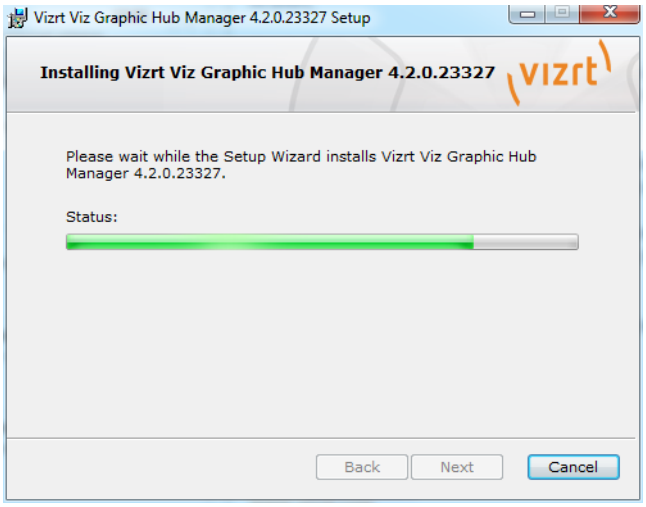
5. Click **Next** to proceed.



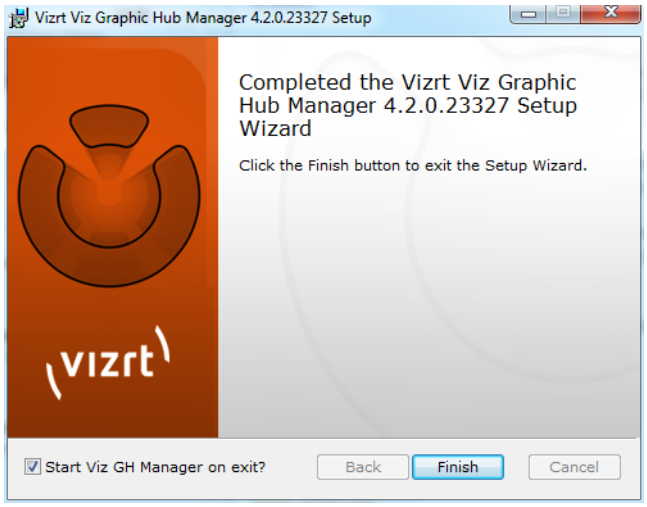
Viz Graphic Hub Manager is ready to install;

6. Click **Install**.

The applications is installed on your machine.



Installation finishes.



7. Click **Finish**.

2.3 Installation for Replication

Replications in Viz Graphic Hub means that every transaction performed on the primary server is immediately mirrored on the replication server. In failover situations where the main server becomes unavailable, the system will automatically redirect all clients from the main server to the replication server.

A failover situation occurs when one of the servers become unavailable due to hardware failure, software errors, power loss, etc. A main server crash results in a failover situation, where the main server will switch to the replication server in real-time. A regular Viz Artist user will not detect the server switch. On the main server machine, the Viz Graphic Hub Terminal GUI will show the *Cluster Not Connected* status, and if the e-mail functionality is enabled, one or more error e-mails will be sent.

Usually a Viz Graphic Hub Server in a cluster configuration is running in real-time replication. In case of network overload, loss of another server in the cluster, or other serious system instabilities, Viz Graphic Hub automatically switches to recovery mode. This means that one server buffers all necessary transactions, for example saving files. Then Viz Graphic Hub deploys these files to the other server in the cluster when the resources are available again. After 15 seconds of no incoming transactions, Viz Graphic Hub Server will switch to real-time replication again, and the data structure will be updated so that it is reflected on both servers. If clients were directed to another server than the primary during the down-time, the clients will be re-directed to the primary server again.

2.3.1 Important Before Installation

There are a few issues that must be taken into notice before uninstalling/installing a Viz Graphic Hub solution.

- When upgrading Viz Graphic Hub, make sure that there are no open transactions on either of the existing systems. To check this, Perform the procedure To verify there are no open transactions.

Note: The Open Transactions setting is only available for servers in a cluster environment.

- In a cluster configuration, the Viz Graphic Hub version number must be identical on the Main and Replication machines. Mixed versions of Viz Graphic Hub are not supported. Failure to heed this can lead to serious system failure and data loss. See also Cluster Timeout Settings for Viz Graphic Hub Replication Server Mode.
- Make sure that the data directories of the main and replication servers are unique, so that no other solutions share these directories.
- Do not use Windows Remote Desktop to install and/or work with Viz Graphic Hub. Instead, use another remote tool, for example VNC.
- Make sure that no other applications on the server workstations can cause performance problems. Examples of situations when databases should not be installed; the general CPU usage is above normal, Viz Artist is used on the same machine, other databases run on the same machine, the network traffic is extensive, and so on. Also note that running a virus scanner on the Viz Graphic Hub machine can decrease the performance of the database.
- The performance of the database depends upon the performance of the physical machine the database runs on. As system performance increases, so does the database performance. This is why it is highly recommended to use a server with high performance.

To verify there are no open transactions

1. Open Viz Graphic Hub Manager on both the machines (main and replication).
2. From the main menu, select *Tools -> Monitor Servers.*
3. Verify that Open Transactions are zero.
4. Remove the old version of Viz Graphic Hub before reinstalling it.

2.3.2 Important Upgrade Information

Using the same content is essential. As such, the underlying data directory must be available on both hosts as well as the server. The data directory must be copied first, rather than two points accessing a single directory.

2.3.3 Installing the Replication

To setup a Viz Graphic Hub solution in replication mode, two separate workstations must be available. Special Viz Graphic Hub dongles must be applied to each machine, otherwise the installation will not be successful. On one machine, the Main server will be installed and configured. On the other machine, the Replication server will be installed and configured.

Installation for replication consists of the following tasks:

- Installing the Main Server
- Installing the Replication Server
- Testing a Replication
- Detecting and Solving Server Differences

2.3.4 Installing the Main Server

To install the main server

1. Run the Viz Graphic Hub install wizard, and then in the Welcome panel, click the **Next** button.
2. In the End-User License Agreement panel that opens, select the **I accept the terms in the License Agreement** check box.
3. Click the **Next** to proceed.
4. In the Choose Viz Graphic Hub Mode panel that opens, select **Viz GH Main Server**.
5. Click the **Next** to proceed.
6. In the Choose Setup Type panel that opens, select the **Custom** installation type.
7. In the Custom Setup panel that opens, select the **Data Directory** from the tree, and then click the **Browse** button.
8. From the Change Destination panel that opens, define the location of the data directory, and then click the **Ok** button.

   Note: Make sure that the location of the data directory is unique, so that no other data directory is pointed to the same folder.
9. Back in the Custom Setup panel, click the **Next** button.
10. In the Ready to Install Viz Graphic Hub panel that opens, click the **Install** button.

The setup wizard will then install Viz Graphic Hub on the main machine, and Viz Graphic Hub Terminal will automatically be launched.

2.3.5 Installing the Replication Server

To install the replication server

1. Run the Viz Graphic Hub install wizard, and then in the Welcome panel, click the **Next** button.
2. In the End-User License Agreement panel that opens, select the **I accept the terms in the License Agreement** check box.
3. Then click the **Next** button.
4. In the Choose Viz Graphic Hub Mode panel that opens, select **Viz GH Replication Server**.
5. Then click the **Next** button.
6. In the Choose Setup Type panel that opens, select the **Custom** installation type.
7. In the Custom Setup panel that opens, select the **Data Directory** from the tree, and then click the **Browse** button.
8. From the Change Destination panel that opens, define the location of the data directory, and then click the **Ok** button.

   Note: Make sure that the location of the data directory is unique, so that no other data directory is pointed to the same folder.
9. Back in the Custom Setup panel, click the **Next** button.
10. In the Ready to Install Viz Graphic Hub panel that opens, click the **Install** button.

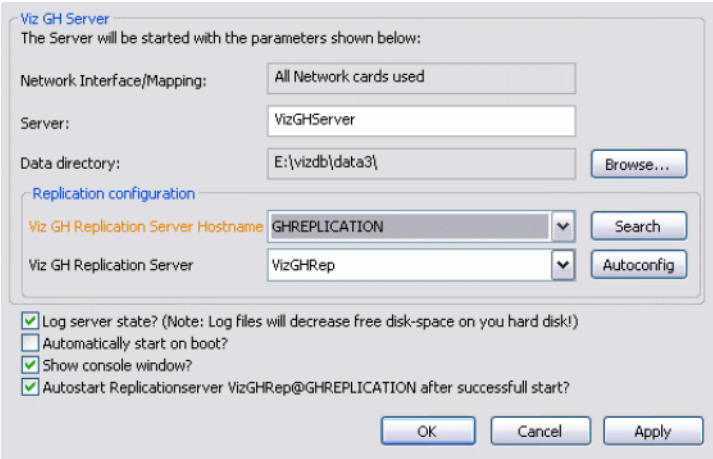
The setup wizard will then install Viz Graphic Hub on the replication machine, and Viz Graphic Hub Terminal will automatically be launched.

Setup in Viz Graphic Hub Terminal

To setup a cluster configuration in Viz Graphic Hub Terminal

1. In Viz Graphic Hub Terminal on the main machine, make sure that the replication machine is defined as the **Viz GH Replication Server Host**.
2. Verify that the server on the replication machine is defined as the **Viz GH Replication Server Name**.

   Note: For more information on user interface message color schemes, see Main/Replication Colors.



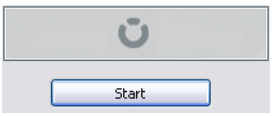
3. If the system cannot detect the replication server automatically in the drop-down list, try clicking **Search** to locate it. If no replication server is found through the search, and Viz Graphic Hub Terminal is running on the Replication machine, see Troubleshooting .
4. Double-check that the data directory is the same as the one defined in the installation wizard.

   Note: If a previous Viz Graphic Hub version has been installed on the machine before, the system will remember the old data directory and use this by default instead of the new one.

5. Select the **Autostart Replication Server After Successful Start** check box.
6. Next, click the **Autoconfig** button.

   This will automatically configure the replication server so that it corresponds to the settings of the main server.
7. To save the changes on the main machine, click either the **Ok** or **Apply** button.
8. To verify that the configuration has been auto-configured correctly on the replication machine, view the Viz Graphic Hub Terminal settings on the replication machine.

The replication cluster is now ready to be started.



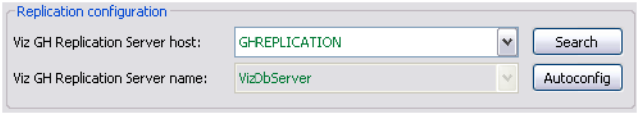
9. On the main machine, click the **Start** button.

IMPORTANT! Always make sure that the main server is started before the replication server.

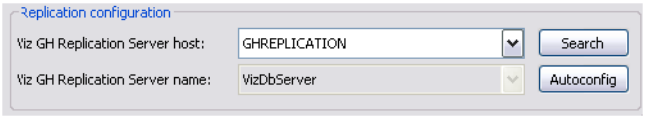
After a successful start on the main machine, the server on the replication machine should start automatically in replication system configuration. During startup, when only the main server is up and running, the status is Cluster Down. After a successful startup, the status is changed to Cluster Running, and the server/namingservice icon turns orange. The label on the Start button also switches to Shutdown. Clicking the Shutdown button shuts down the server.

Main/Replication Colors

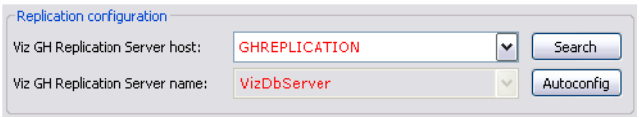
The labels related to the main/replication configuration in the Viz Graphic Hub Terminal can be colored in various ways.



- **Green (Valid) -** Viz Graphic Hub Terminal is ready to start Viz Graphic Hub Server with the current cluster configuration.



- **Black (Incomplete Configuration) -** One of the cluster machines has not selected the other machine as its dependant, so the current cluster configuration cannot be started. To verify the cluster configuration, click the **Autoconfig** button, or manually select the server on the dependant terminal. Always remember to click the **Ok** or **Apply** button in the main window to commit any changes.



- **Red (Invalid) -** The main/replication server is already running in another cluster, so it is not possible to start the current configuration.

- **Orange (Connected in Running Cluster) -** A replication server is configured and running in the current cluster. The main server that is currently being configured is not running. It is possible to start and modify some of the parameters, but it is not possible to change for example the current server start up mode.

2.3.6 Testing a Replication

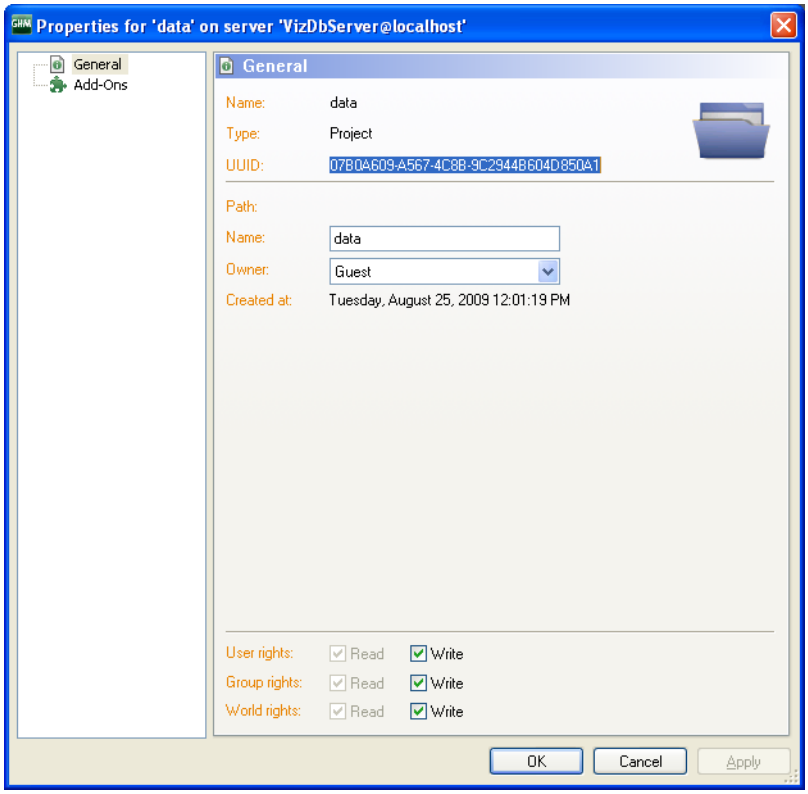
This section describes how to verify a running replication, including failover. It is strongly recommended that you test the replication in a production environment.

IMPORTANT! Before testing, make sure that no clients are working on any of the servers in the cluster. Also, verify that the Viz Graphic Hub solution is a fresh setup a of a replication cluster, and that the data directories on both servers are empty.

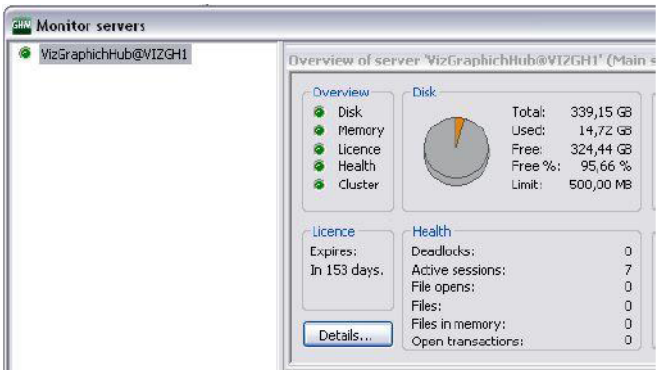
To test a replication

1. On the main machine, start Viz Graphic Hub Manager, and log in as administrator.
2. On the replication machine, start Viz Graphic Hub Manager, and log in as administrator.

Note: Only the administrator can modify the settings for the replication server.



3. Open the properties of the data directory on both machines (right-click the **data** folder, and then from the menu that appears, select **Properties**), and make sure that the UUIDs on both machines are identical. If they are not identical, shut down the servers, and then log in the two Viz Graphic Hub Terminal applications, delete the data directories and restart the cluster with Viz Graphic Hub Main Server first.
4. Logout from Viz Graphic Hub Manager on the replication machine.



5. In Viz Graphic Hub Manager on the main machine, from the main menu, select *Tools -> Monitor Servers.* Verify that the Health LED is green.
6. From the main menu, select *View -> Messages (Chat).*
7. Unplug the network cable on the main machine, and then wait for a few seconds.

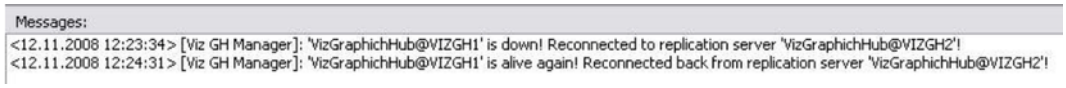
The main server should now automatically shut down to prevent data loss and corrupted configurations in the cluster environment.

The Viz Graphic Hub Manager chat panel should show that the main server is down and that the replication server has automatically taken over.

The main server name in the Servers and Folders Panel should also be colored red.

8. Plug the network cable in on the main machine again, and then start the main server from the Viz Graphic Hub Terminal.
9. If no users have been working with the system while the main server was down, proceed to the next step. Otherwise, wait a minute or two for the system to refresh.

   The Viz Graphic Hub Manager chat panel should now show that the main server is up and running again, and that the main server has automatically taken over as the primary server in the cluster.



   If the steps above have been carried through correctly, the cluster configuration has been tested sufficiently and is ready to work in a real production environment.
10. Query the Journal log for replication-related errors. See Querying the Journal.

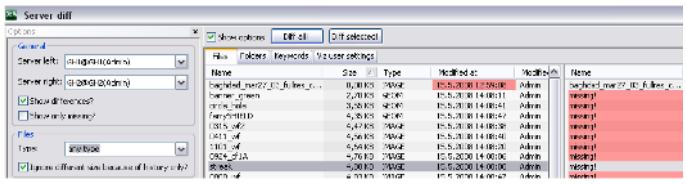
2.3.7 Detecting and Solving Server Differences

When Viz Graphic Hub is running in a cluster environment and switching from realtime replication to recovery mode, or the replication server has been performing a cluster rebuild, the data on the servers may differ. In such situations, Viz Graphic Hub may not be able to perform an automatic rebuild.

To detect and solve server differences

1. Make sure that the replication and main servers are up and running.
2. On the main server machine, log in to Viz Graphic Hub Manager.
3. On the replication server machine, log in to Viz Graphic Hub Manager as administrator.
4. From the main menu, select *Server -> Differences.*

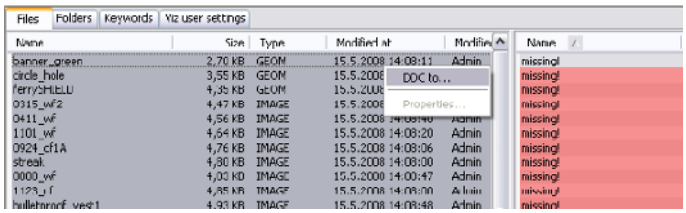
   The Server Diff window is shown.



5. In the Server Diff window, click the **Diff All** button.

   This will scan all items on the selected servers.

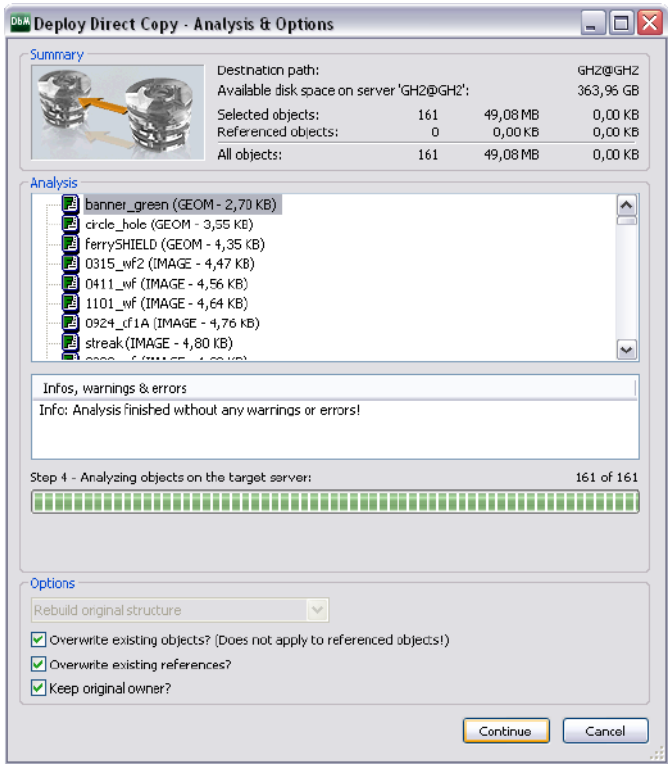
6. Sort the entries on both servers by size (click the **Size** columns), and then delete all files with a size of 0.00 KB.
7. Click the **Diff All** button again.
8. Now sort the entries by type, and then select all entries of type **Scene**, where the row on the opposite side is labelled **missing**.



9. Right-click the scene entries, and then from the menu that appears, select **DDC To**.
10. In the Deploy Direct Copy window that opens, click the **Continue** button.

    For more information about the deploy feature, see To replicate on multiple servers .
11. The Action Log for deploying files is activated. In the resulting window that opens, click the **Do It** button.

    The entries are deployed from one server to the other.



12. Repeat steps 7-10, and this time sort the entries by type **Geom**.
13. Repeat steps 8-10 for all other entry types.

2.4 Configuring Viz Graphic Hub Terminal

This section contains information on the following topics:

2.4.1 Safe Mode

Launching Viz Graphic Hub Terminal in safe mode is done if the database has crashed and needs to be restarted. Rebuilding the database in safe mode can take several hours, as much data may need to be reconstructed. The resulting Recovered directory cannot be seen in Viz Artist; only a system administrator can view it in the Viz Graphic Hub Manager.

Caution: Do not use safe mode for valid data directories!

To prepare for database repair

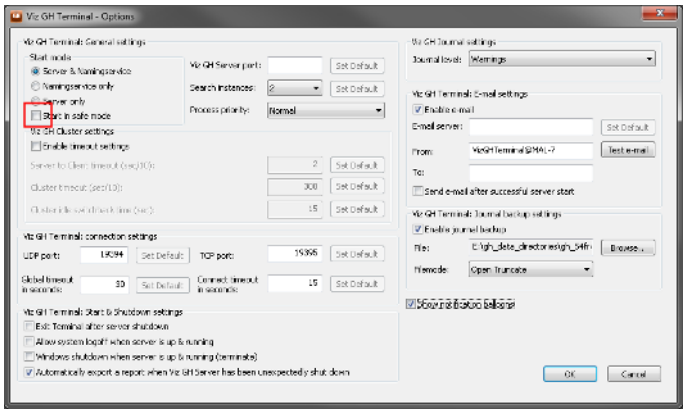
1. Back up the current data directory.
2. Close all Viz Graphic Hub Deploy Agent connections to the server.
3. Close all Viz Graphic Hub Rest Agent connections to the server.
4. Make sure the instance is not part of a Viz Graphic Hub Cluster environment.
5. Make sure you have the latest release of Viz Graphic Hub installed.

To start Viz Graphic Hub Terminal in safe mode

1. Click *Start -> Programs -> Vizrt -> Viz GH Terminal.*

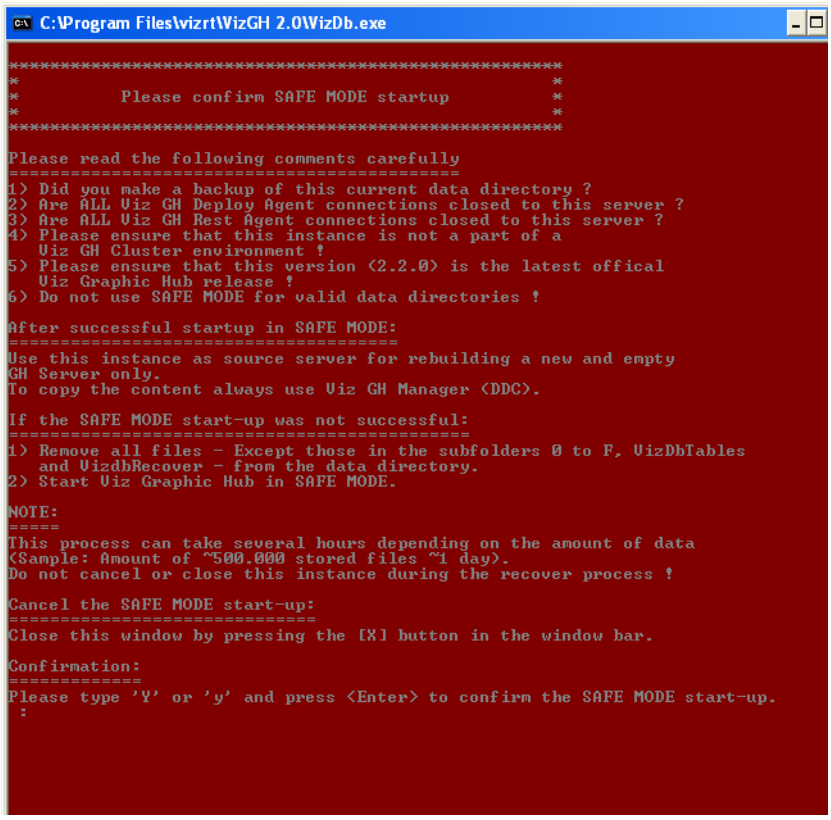
   The application launches.
2. From the main menu, click **Options**.

   The Options window is shown.



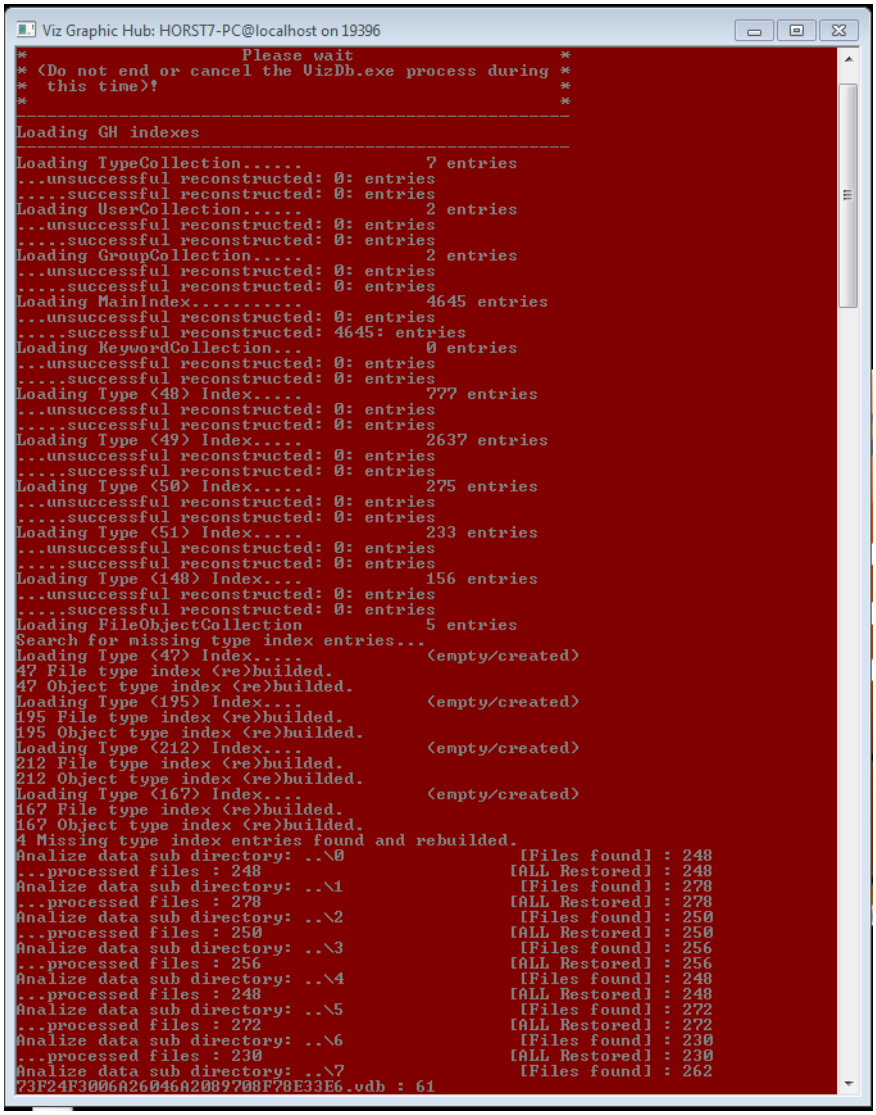
3. Check the **Start in safe mode** check box, and click **OK**.

The safe mode startup console is shown.

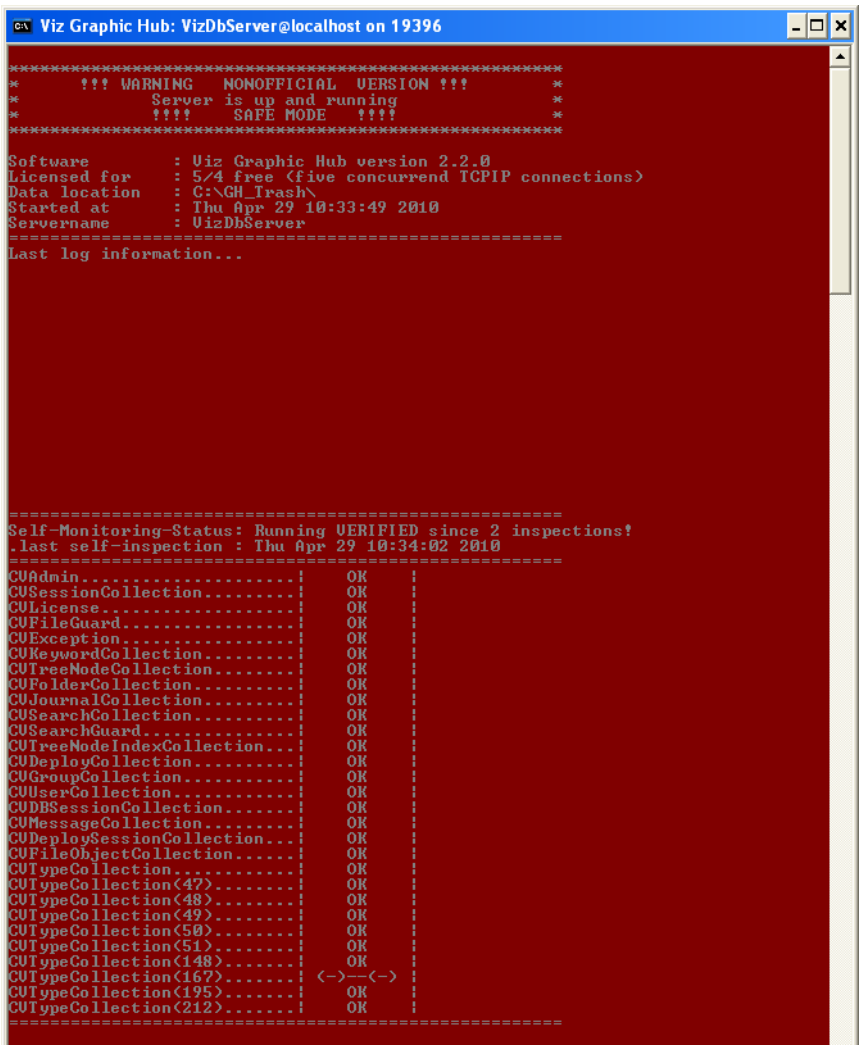


4. If you have completed all instructions shown, enter <Y> and press <ENTER>.

The rebuild process begins. Depending on the size of the database, this may take several hours. During the rebuild process, the following console window is shown.

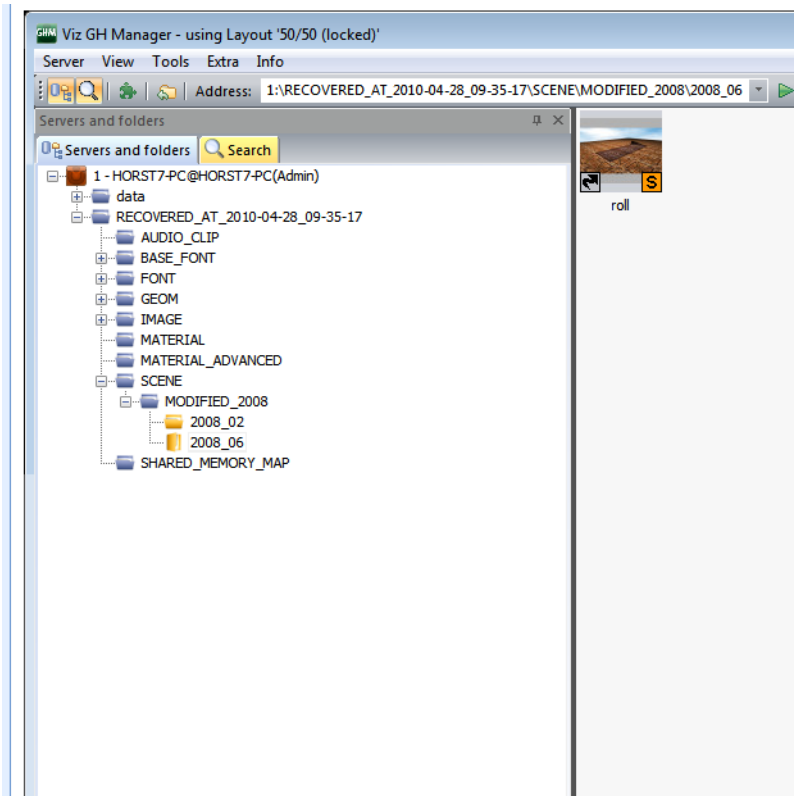


If successful, the console window will end up as follows.



Once you open the Viz Graphic Hub Manager after starting the Viz Graphic Hub Terminal in safe mode, there is a ‘recovered’ folder. It is structured in such as way as to

make clear when changes were made, by showing a folder named for the month and year of last modification.



You know your database was successfully restored when:

1. In the red console window, you see that the server is up and running.
2. In the Reports, you see that the file have been processed.
3. You can view your files in the Viz Graphic Hub Manager.

IMPORTANT! Do not use this instance in a production environment. Safe mode is only to restore a database. This instance can now serve as a source for rebuilding an empty destination database through the DDC functionality in Direct Deploy Copy (DDC).

2.4.2 Running Viz Graphic Hub as a Service

Viz Graphic Hub Service Starter is a service which starts and restarts Viz Graphic Hub Terminal on boot up. Viz Graphic Hub Terminal is able to start and restart the Viz Graphic Hub Server as well.

IMPORTANT! Stopping the Viz Graphic Hub Service Starters from the Services panel will automatically shut down Viz Graphic Hub Terminal. This can lead to corrupted data on Viz Graphic Hub Server if it is running at the time. Make sure Viz Graphic Hub Terminal has been shut down first.

What Viz Graphic Hub Service Starter Can Do

Running Viz Graphic Hub as a service will help you to:

- Start and use Viz Graphic Hub Server before the login of any user
- Windows Remote Desktop sessions
- Switch between different Windows user accounts.

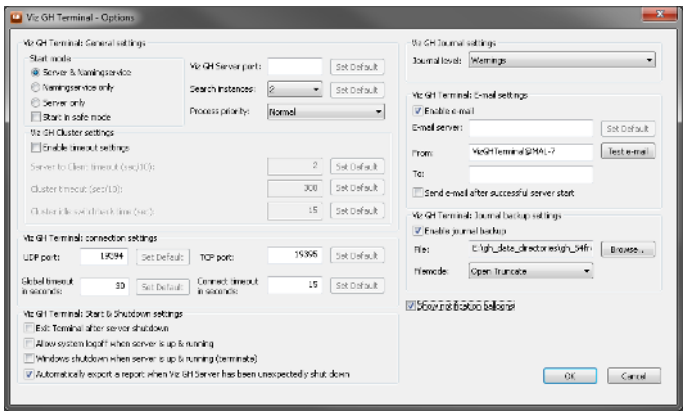
What Viz Graphic Hub Service Starter Cannot Do

All “native” service operations are not be possible for Viz Graphic Hub Server:

- Configuring Viz Graphic Hub Server as a service
- Stop/pause/resume Viz Graphic Hub Server
- Restart Viz Graphic Hub Server if not running but Viz Graphic Hub Terminal is running

To run Viz Graphic Hub as a service

1. Select the option to run Viz Graphic Hub as a service during the installation process, as it requires a custom installation. See Running the Installation Wizards.
2. Enable the following Terminal Options:

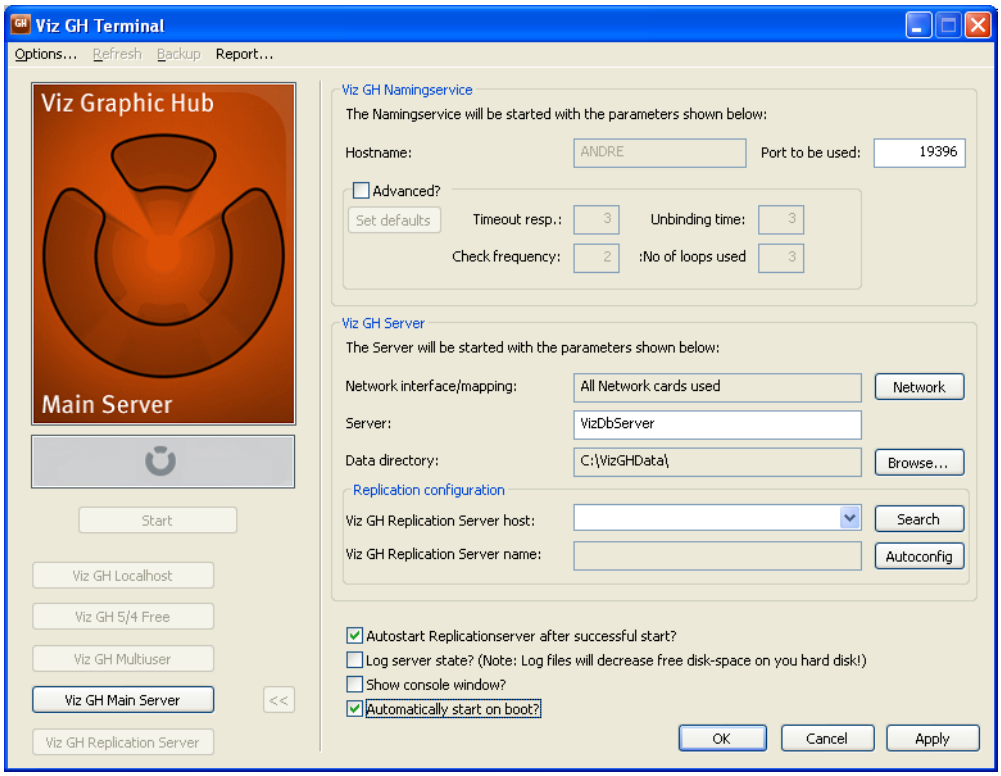


   - **Allow system logoff when server is up & running**
   - **Exit Terminal after server shutdown**

   IMPORTANT! Enabling the options above can lead to corrupted data in Viz Graphic Hub Server if the server is not shut down properly from the application.

3. Click **OK**.

4. Expand the Server Configuration panel and enable the following server options:



- **Autostart on boot**
- **Autostart replication server after successful start** (on main server machine)

5. Click **OK**.
6. Click **Start**.

See Also

- Running Terminal as a Service Troubleshooting

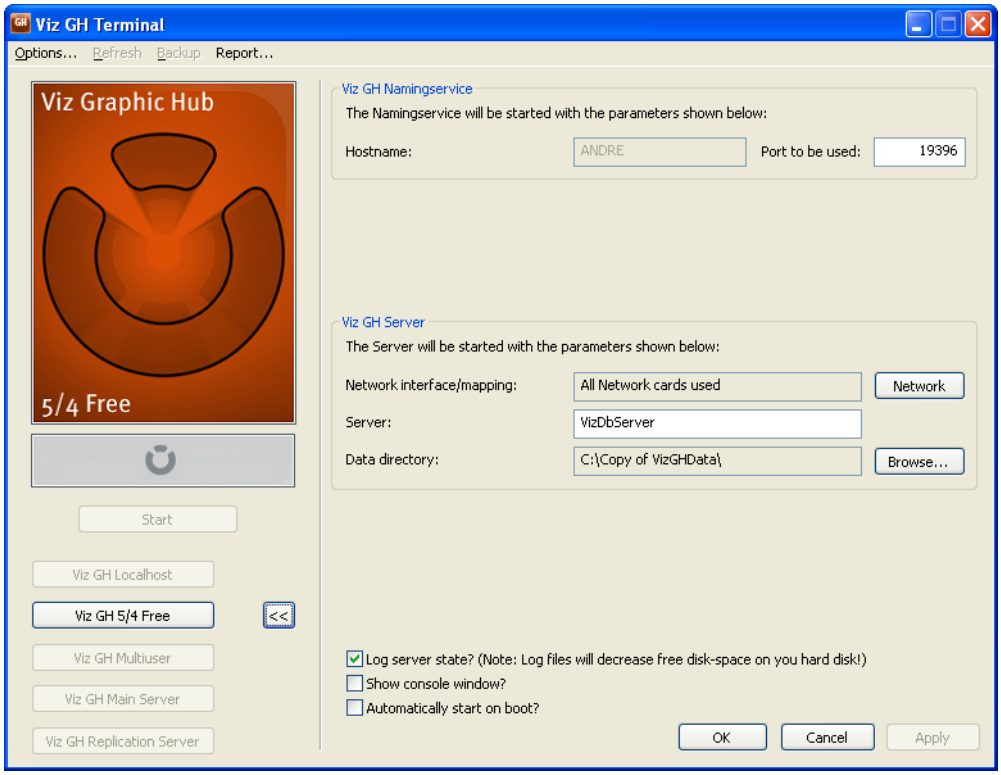
2.4.3 Network Card Selection

If you leave the default as set at installation, the Graphic Hub will connect to all available network cards. However, in every connection mode you have the opportunity to manually select the network card.

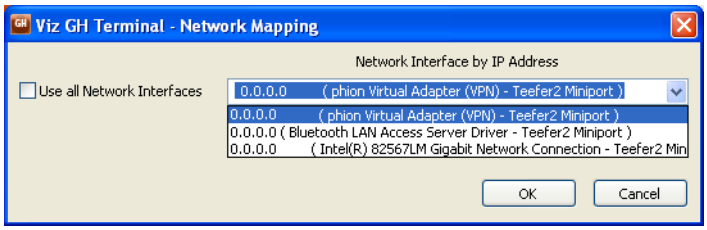
To manually select the network card

1. Open Viz Graphic Hub Terminal.

2. Select your system configuration and click the arrows beside it to open the settings window.



3. Click the **Network** button.



4. Uncheck **Use all network interfaces**.
5. From the drop down box, select one of the network cards available on your computer.

   Tip: Always choose the fastest network card available. Virtual connections tend to be the slowest.

6. In the Network Mapping window, click **OK**.
7. In the settings window, click **OK**.

2.4.4 Setting the Namingservice Hostname

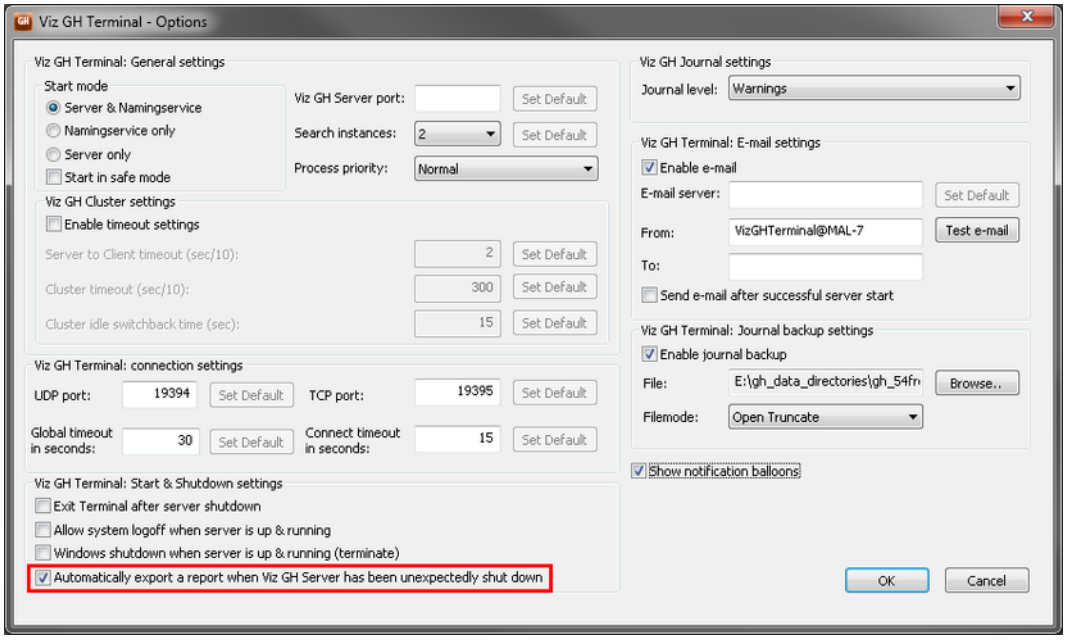
This is only required when working in Viz Graphic Hub Main Server mode. The exact procedure to follow depends on, and is explained in GH Network Configurations.

2.4.5 Server Port Selection

If you leave the default as set at installation, the Graphic Hub will connect to all available server port. However, in every connection mode you have the opportunity to manually select the server port. This may be necessary depending on your firewall configuration.

To manually select the server port

1. Open Viz Graphic Hub Terminal.
2. In the main menu, click **Options**.



3. Enter the Server Port number in the requisite field.

   Tip: Make sure that this port will not be used by any other application.

4. Click **OK**.

2.5 Starting Viz Graphic Hub

IMPORTANT! When starting Viz Graphic Hub in a cluster configuration, ALWAYS start the main server first.

To start Viz Graphic Hub

1. Click *Start -> All Programs -> Vizrt -> Viz GH -> Viz GH Terminal.*

2. Click the **Start** button.

2.6 Starting the Viz Graphic Hub Manager

Before the Viz Graphic Hub Manager is started make sure that the Viz Graphic Hub is started first (see Starting Viz Graphic Hub).

Note: When in a multiuser environment, choose any up and running Viz Graphic Hub instance in the Network.

This section contains information on the following topics:

- Start Up with a Single Server Login
- Start Up with a Multiple Server Login
- Replication Server Login
- Auto Login
- Shutting Down a Server
- Logout

2.6.1 Start Up with a Single Server Login

When the Viz Graphic Hub Manager starts up a User Login window opens. Use this to login to a single server.

Note: For start up with a single server login Auto Login must be disabled. If Auto Login is enabled the start up login window will be for Start Up with a Multiple Server Login.

When the Viz Graphic Hub Manager has started more servers can be logged into.

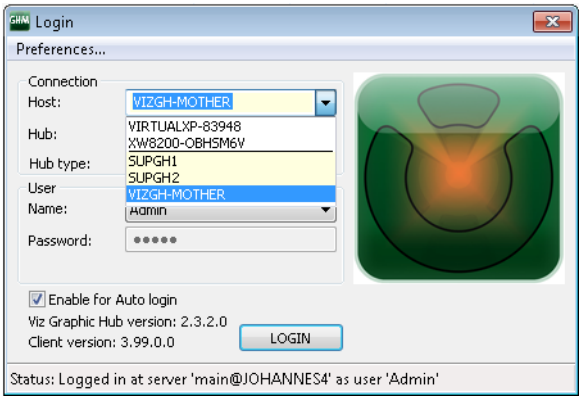
This section contains information on the following topics:

- To start the Viz Graphic Hub Manager with a Single Server Login
- To login to more servers

To start the Viz Graphic Hub Manager with a Single Server Login

1. Click *Start -> All Programs -> Vizrt -> Viz GH -> Viz GH Manager -> Viz GH Manager.*

   The single server login window opens.



2. From the **Host** drop down box, select the hostname of the machine where the server or namingservice is up and running.

   Note: Available Viz Graphic Hub servers are shown in white. Unavailable Viz Graphic Hub servers (available servers on a different sub-net), which are configured for auto-login, are shown in yellow.

3. From the **Hub** drop down box, select the name of the running server.
4. If Auto Login is required, check the **Enable for Auto login** check box (see Auto Login).
5. From the **Name** drop down box, select a user from the list of users registered in the database, on the selected server.
6. In the **Password** field, enter the correct password.

   Note: The default password for administrators is **VizDb**.

7. Click **LOGIN**.

To login to more servers

After Viz Graphic Hub Manager Start Up, login to more servers, if required.

- Click *Server -> Login...*

2.6.2 Start Up with a Multiple Server Login

When the Viz Graphic Hub Manager starts up a User Login window opens. Use this to login to a single server or multiple servers.

Note: For start up with multiple servers (or a single server) login, Auto Login must be enabled (see Login in Preferences). If Auto Login is disabled the start up login window will be for Start Up with a Single Server Login.

When there are several Viz Graphic Hub servers configured in the Viz Graphic Hub Manager, it is possible to login to:

- A single Viz Graphic Hub Server, or
- Several Viz Graphic Hub Servers at the same time

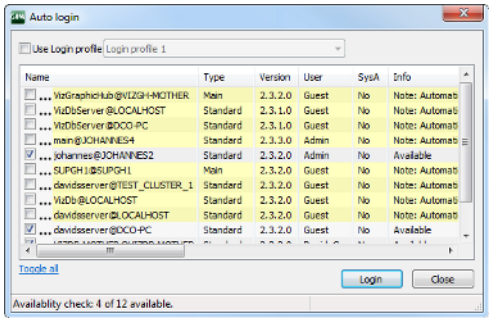
If there are Login Profiles defined, select a profile to have a defined subset of servers and deploy agents to login to.

This section contains information on the following topics:

To start Viz Graphic Hub Manager with a Multiple Server Login

1. Click *Start -> All Programs -> Vizrt -> Viz GH -> Viz GH Manager -> Viz GH Manager.*

   The multiple server login window opens.



   Note: Available Viz Graphic Hub servers are shown in white. Unavailable Viz Graphic Hub servers (available servers on a different sub-net), which are configured for auto-login, are shown in yellow.

2. Select all the relevant servers:
   - Click on each server to be opened, or
   - Click the **Use Login profile** box to select a login profile.
3. Click **Login**.

To login to more servers

- Click *Server -> Login -> to one server...* or *to multiple servers...*

2.6.3 Replication Server Login

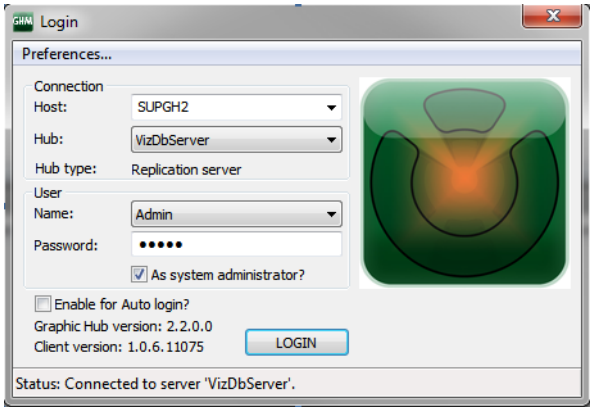
When logged to the Replication server, the administrator has rights to login to the Main server in the Cluster and to change the content of the host (see Installation for Replication).

This is helpful to manually deal with synchronization issues in a Main/Replication server (Cluster). But this can also create risks for synchronization between the servers in a Cluster.

Caution: To avoid unwanted synchronization errors, leave the **As system administrator** check box unchecked. Login as system administrator only when absolutely necessary.

To start Viz Graphic Hub Manager in a Cluster on a replication server

1. Click *Start -> All Programs -> Vizrt -> Viz GH -> Viz GH Manager -> Viz GH Manager.*



2. The Login window opens.
3. From the **Host** drop down box, select the hostname of the machine where the server or namingservice is up and running.
4. From the **Hub** drop down box, select the name of the running server.
5. From the **Name** drop down box, select your user from the list of users registered in the database on the selected server.
6. Enter the password in the **Password** field.

   Note: The default password for administrators is **VizDb**.

7. To log in as system administrator, check the **As system administrator** check box.

   IMPORTANT! Use this feature sparingly and with caution.

8. If Auto Login is required, check the **Enable for Auto login** check box.
9. Click **LOGIN**.

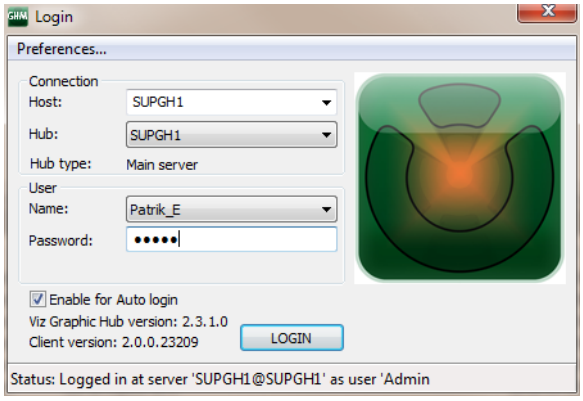
2.6.4 Auto Login

Auto login allows an automatic login to one or more Viz Graphic Hubs, with the option of bypassing the credentials, as well as requiring a password for each and every server in the network.

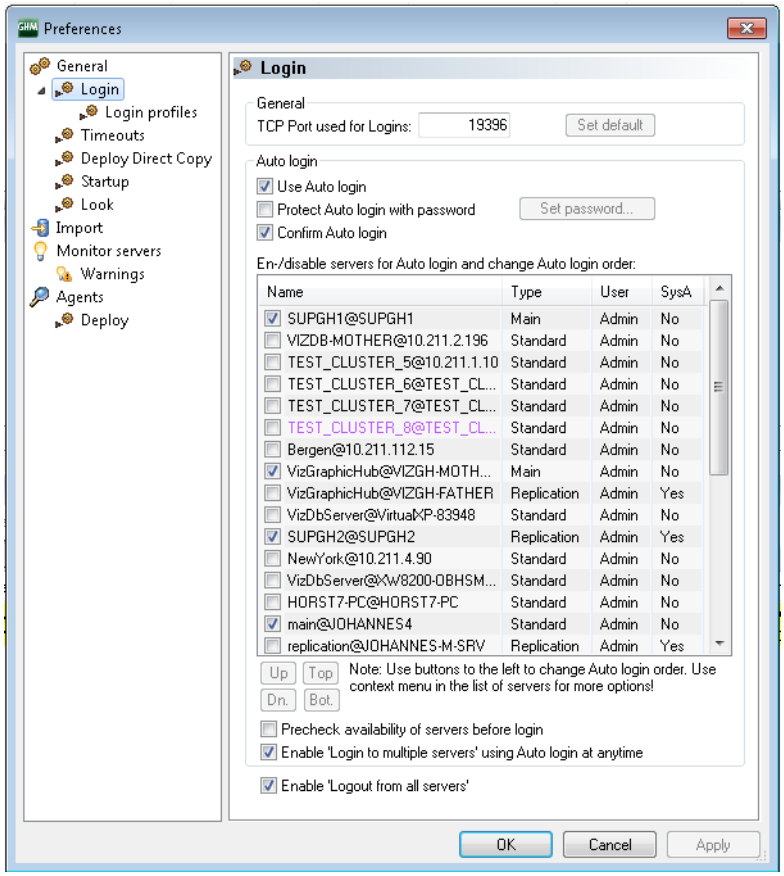
A global password can be set for all registered servers as well.

To enable Auto Login

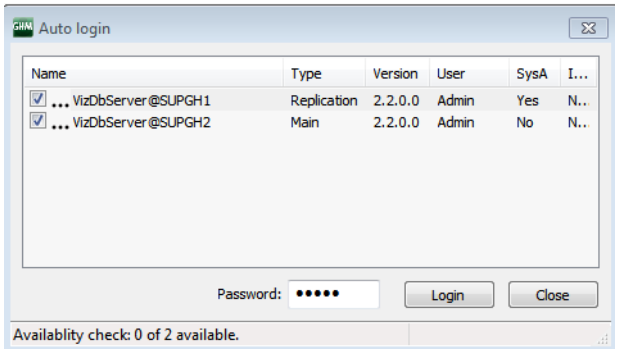
1. Click *Server -> Login.*
2. Click **Preferences..**. in the main Login window,



3. Click the **Use Auto login** box in the Login panel of the Preferences window that opens.

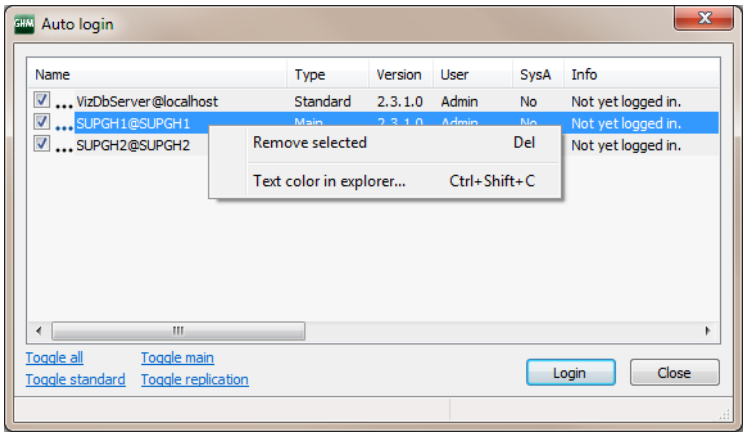


4. To set a global password, select the **Protect Auto login with password** box, and click the **Set password** button. In the dialog box that opens, enter a password, and then click the **OK** button.



5. Alternatively, with no global password set, select the **Confirm Auto login** box, and then select the servers to include in the auto-login process.

   When logging in, you will be prompted to confirm each server to be logged into. To remove a server from the auto login process, right-click the server, and then from the list that appears, select **Remove selected**.

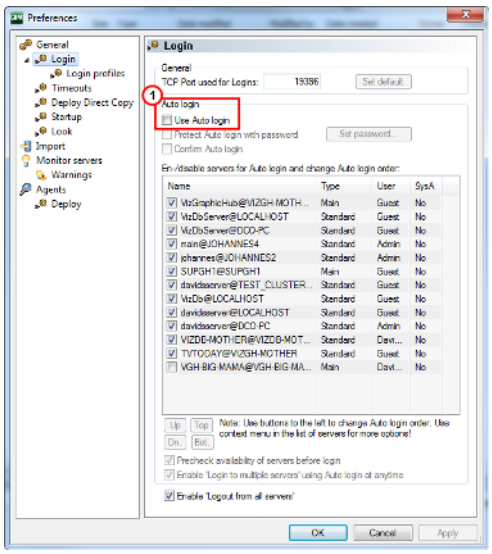


6. Click the **OK** button.

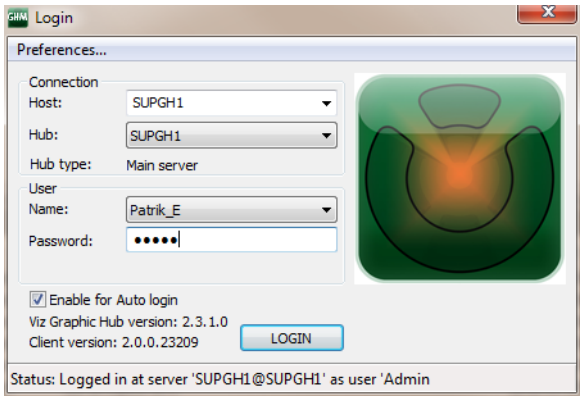
To disable Auto Login

1. Click *Server -> Login -> to one server...*
2. Open the Login preferences window:
   - Click *Tools -> Edit Preferences..., or*
   - <CTRL+8>, or

- <CTRL+F8>



Note: The Login preferences window can also be opened in the main Login window. Click **Preferences...**



3. Clear the **Use Auto login** box (1), in the Login panel of the Preferences window that opens.
4. Click **OK**.

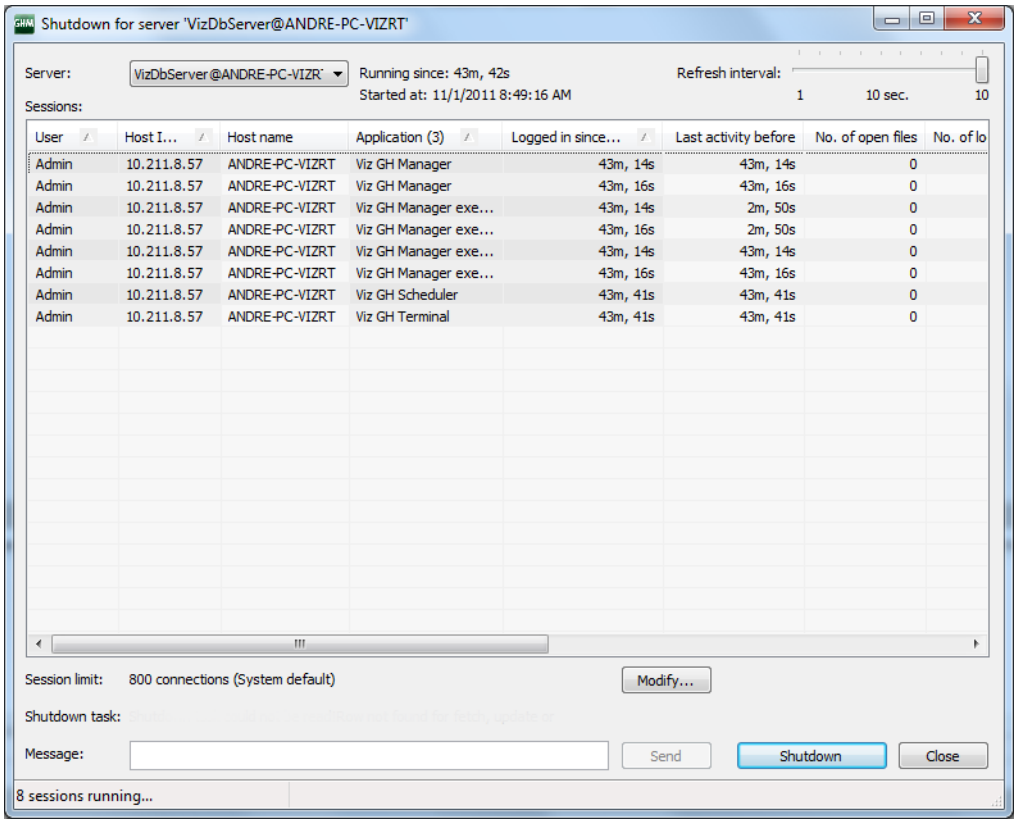
2.6.5 Shutting Down a Server

Detailed below are the options for shut down of one or more servers, without logging off completely or exiting Viz Graphic Hub Manager.

- Normal Shutdown
- Limiting and Shutting Down Sessions
- Scheduled Shutdown
- Emergency Shutdown
- Shutdown Cluster

Normal Shutdown

Normal shutdown is done in the Shutdown window.



Note: Performing a normal shutdown operation takes much longer than an Emergency Shutdown, but is far safer for your data.

To perform a normal shutdown

1. From the main menu, click *Server -> Shutdown.*
2. Click a server from the list.
3. In the **Message** field, optionally write a message to all users of this server informing them that the server is about to be shut down. Click **Send**.
4. Click **Shutdown**.
5. Click **Close**.

Limiting and Shutting Down Sessions

You can limit the active session on the server by limiting the number and/or shutting down individual sessions.

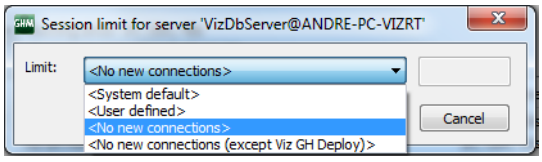
If you are shutting down the system, you can notify clients (message, email, walk-in, etc.) and then not allow them to reconnect (no new connections = nobody is kicked out, but nobody new can come in).

You can limit them to 1 connection, if you just want to use a deploy agent.

Disconnect kicks the clients out unceremoniously.

To limit the number of sessions

1. From the main menu, click *Server -> Shutdown.*
2. Select one or more servers on the list, and click the **Modify** button.
   You are prompted to select how to limit the sessions on the server in question.



3. Select one of the following options:
   - System default
   - User defined (and enter a numerical value)
   - No new connections
   - No new connections (except Viz Graphic Hub Deploy)
4. Click **OK**.

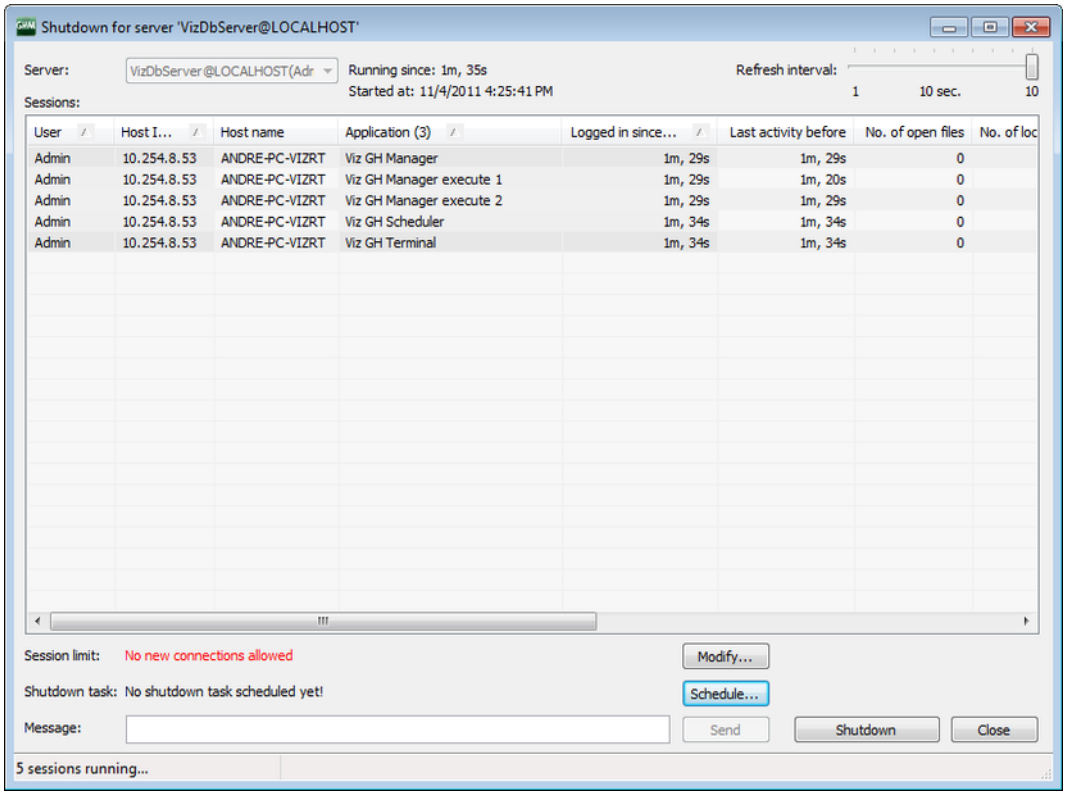
To disconnect a selected session

1. From the main menu, click *Server -> Shutdown.*
2. Select one or more servers on the list, right-click and select **Disconnect selected sessions**.

Scheduled Shutdown

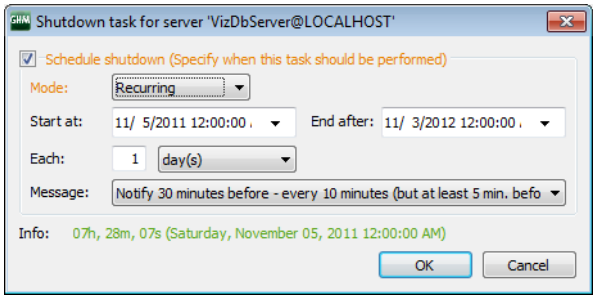
To schedule a server shutdown

1. Click *Server -> Shutdown.*
   The Shutdown Server window is shown.



2. Click the **Schedule** button.

   The Schedule Shutdown window is shown.



3. From the **Mode** drop down box, select one of the following options:
   - Once
   - Recurring
   - Recurring forever
4. In the **Start at** drop down box, click to select a date from the calendar, and if necessary, adjust the time.

   Note: You cannot schedule tasks to begin in the past.

5. If your mode is **Recurring**, in the **End after** drop down box, click to select a date from the calendar, and if necessary, adjust the time.
6. Select a **Message** notification. Your options are:
   - Do not notify at all
   - Just notify 5 minutes before shutdown
   - Notify 15 minutes before - every 5 minutes
   - Notify 30 minutes before - every 10 minutes (but at least 5 min. before)
   - Notify 60 minutes before - every 15 minutes (but at least 5 min. before)
7. Click **OK**.

Emergency Shutdown

An emergency shutdown terminates a server immediately. It can only be performed from the Viz Graphic Hub Terminal. Use sparingly.

Note: If the Viz Graphic Hub server is a main server in a replication environment, the emergency shutdown will cause a failover to the replication server.

To perform an emergency shutdown

- In the Viz Graphic Hub Terminal main window, click **Emergency Shutdown**.

Shutdown Cluster

For system maintenance or network configuration work in a replication environment, the best type of shutdown operation is to shut down the cluster.

To shut down a cluster

1. In Viz Graphic Hub Manager, log in to the main server.
2. Click *Server -> Shutdown.*

   The shutdown window is shown for the replication environment.
3. Click **Shutdown Cluster**.

2.6.6 Logout

This section describes how to logout of one or all servers from Viz Graphic Hub Manager.

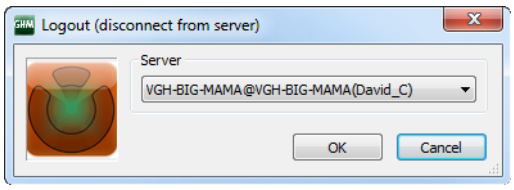
Note: Click *Server -> Exit*, to logout of all servers and exit Viz Graphic Hub Manager at the same time.

This section contains information on the following topics:

To logout of one server

1. Open the logout window:
   - Click *Server -> Logout -> from one server...* or
   - Press <F8>, or

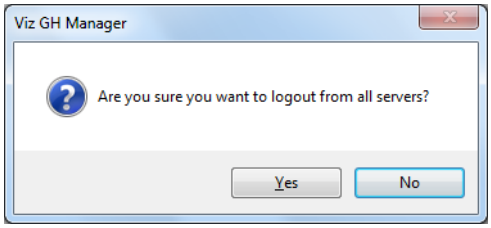
- Press <CTRL+O>



2. Select the server from the drop down box.
3. Click **OK**.

To logout of all servers

1. Click *Server -> Logout -> from all servers...*



2. Click **Yes**.

3 Configurations and Modes

Depending on how you choose to set up your overall system configuration, Viz Graphic Hub offers the following setup options.

- System Configurations
- GH Network Configurations

3.1 System Configurations

The Viz Graphic Hub Terminal can operate in the following configurations:

- Viz Graphic Hub Localhost
- Viz Graphic Hub 5/4 Free
- Viz Graphic Hub Multiuser
- Viz Graphic Hub Main Server
- Viz Graphic Hub Replication Server

Viz Graphic Hub Localhost

The Localhost mode is a single connection Viz Graphic Hub installation. This mode is aimed at local Viz Artist installations without permanent network connections. No dongle required.

Viz Graphic Hub 5/4 Free

The 5/4 Free mode provides five concurrent TCP/IP connections to the Viz Graphic Hub Server. This mode is aimed at sharing content in small Viz Artist workgroups. No dongle required.

Viz Graphic Hub Multiuser

The Multiuser mode provides multiple concurrent connections to the Viz Graphic Hub Server. This mode is recommended for all scalable Viz Artist workgroups. Dongle required.

Viz Graphic Hub Main Server

The Main system configuration is similar to the Multiuser mode. The difference however is that the main server provides mirroring to a running replication server. In failover situations, the system automatically redirects all clients from the main server to the replication server. Dongle required.

Viz Graphic Hub Replication Server

The Replication server is a duplication of the Main server.

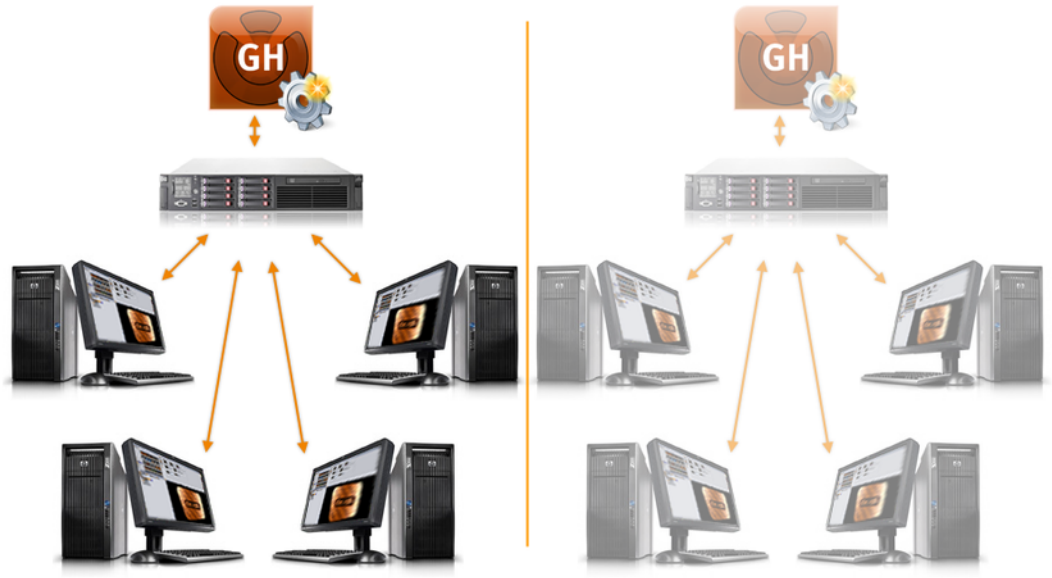
See Also

- Installation for Replication
- Cluster Timeout Settings for Viz Graphic Hub Replication Server Mode

3.2 GH Network Configurations

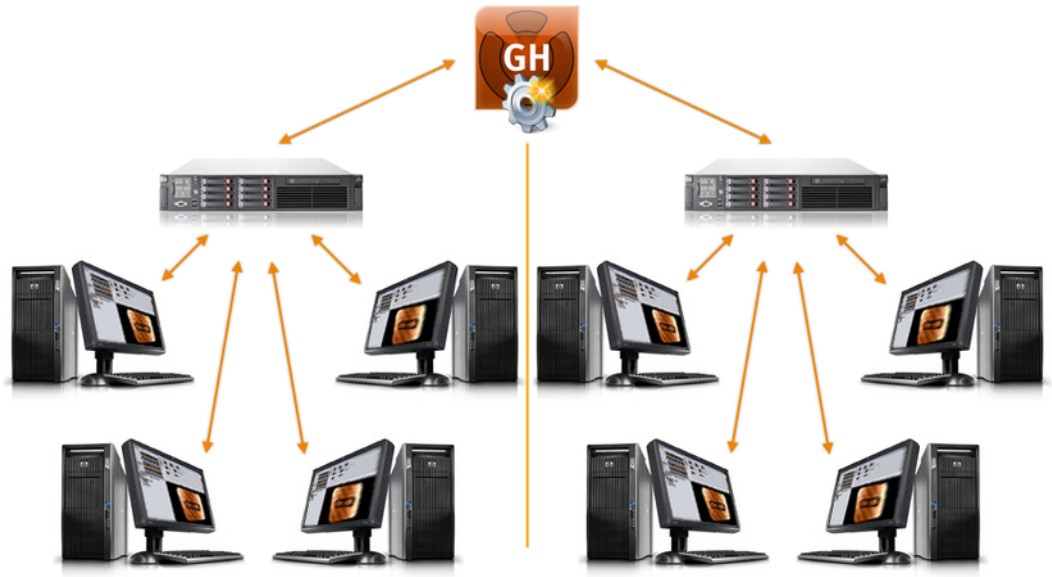
Viz Graphic Hub can be set up in two possible configurations, as described ahead.

Each server has its own namingservice



This configuration is valid for all System Configurations. This is the most standard configuration.

One namingservice for all (or a group of) servers



This configuration is only valid for Viz Graphic Hub 5/4 Free and Viz Graphic Hub Multiuser.

Note: It is necessary to have separate machines for each configuration. In the example above, three machines are required.

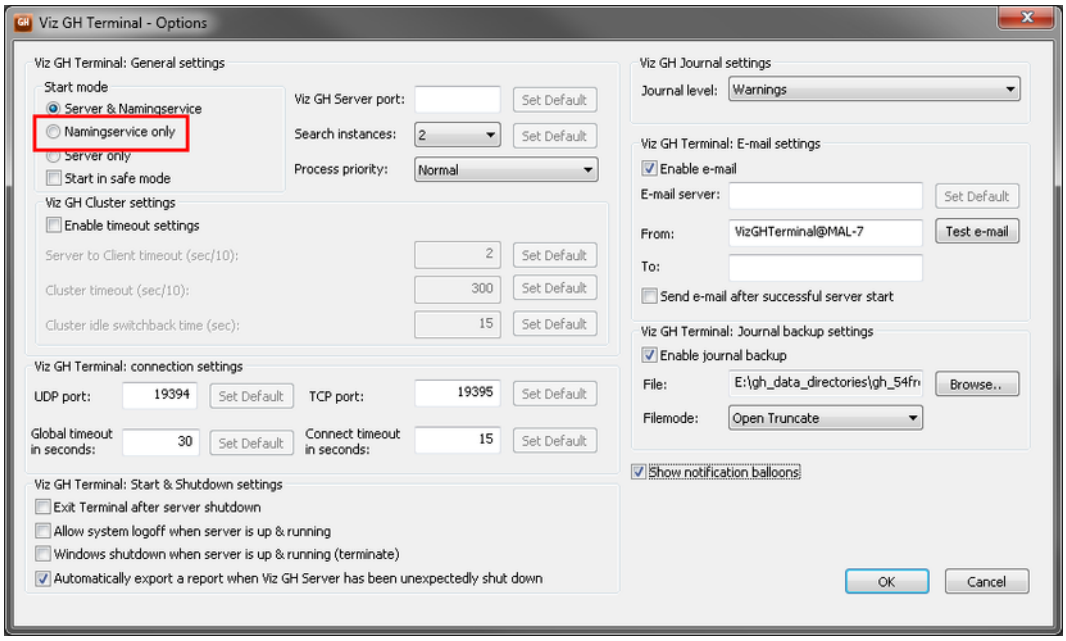
To set this up one Namingservice for all

1. Start Viz Graphic Hub Terminal in Viz Graphic Hub Namingservice Only Mode.
2. Start each of the connecting servers in Viz Graphic Hub Server Only Mode.

3.2.1 Viz Graphic Hub Namingservice Only Mode

To configure Namingservice Only mode

1. Launch Viz Graphic Hub Terminal.
2. From the main menu, click **Options**.



3. Under Start Mode, click the **Namingservice only** button.
4. Click **OK**.

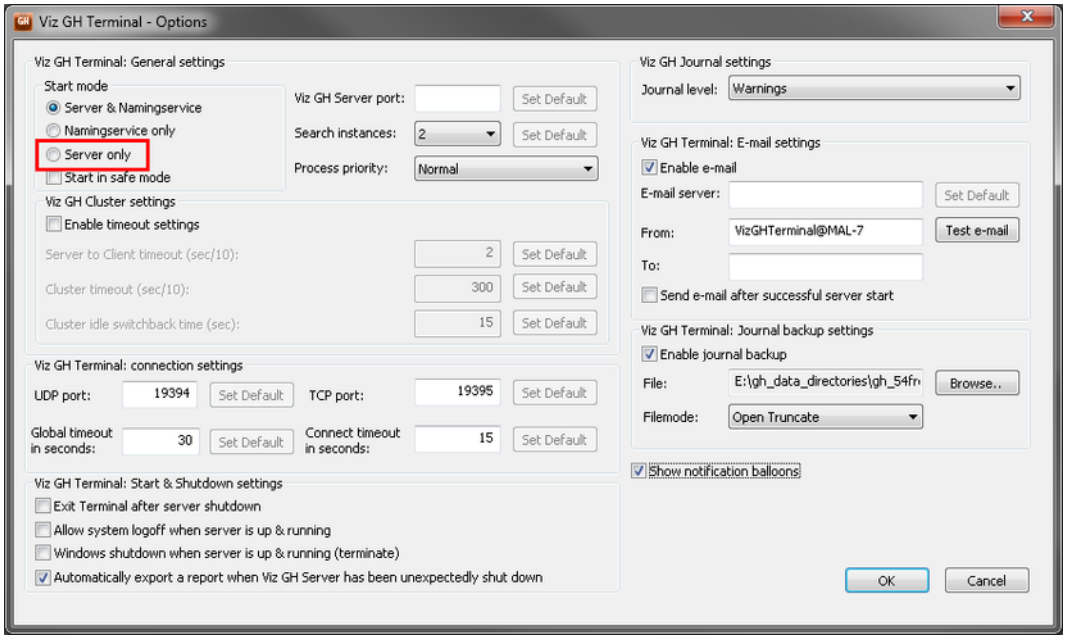
You can now start the Namingservice only.

5. Click **Start**.

3.2.2 Viz Graphic Hub Server Only Mode

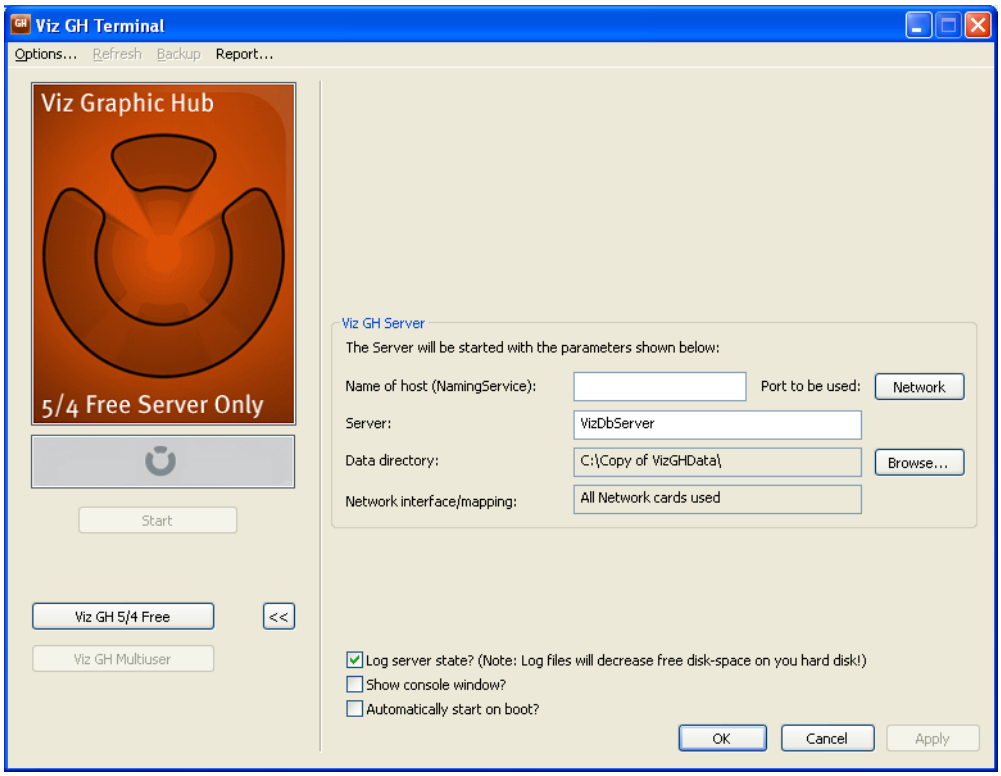
To configure Server Only mode

1. Launch Viz Graphic Hub Terminal.
2. From the main menu, click **Options**.



3. Under Start Mode, click the **Server only** button.

4. Click **OK**.



5. In the **Name of host (Namingservice)** field, enter the hostname of the up and running Namingservice.
6. In the **Server** field, if you are not using the default server, enter the name of the Graphic Hub that the Namingservice is registered under.

   IMPORTANT! Unique names are required for each Graphic Hub server.

7. Click **OK**.
8. Click **Start** to start Viz Graphic Hub Terminal.

4 Viz Graphic Hub Terminal Workbench

This section contains information on the following topics:

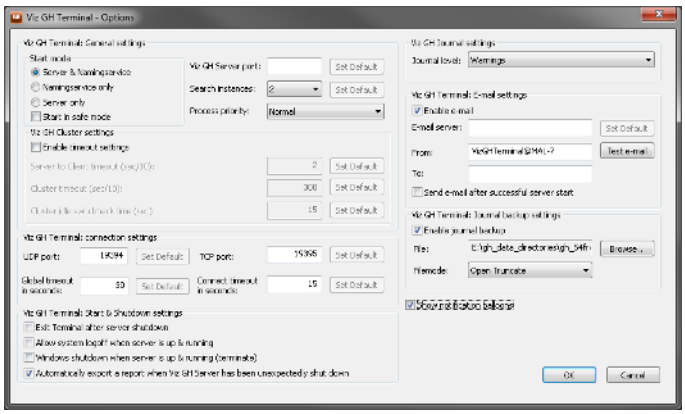
4.1 Terminal Options

A number of important configurations are set from the Viz Graphic Hub Terminal's Options window.

To open the Options window

- On the Viz Graphic Hub Terminal's main menu, click **Options**, or

- Press <CTRL+O>.



The options in this window vary according to the System Configurations.

4.1.1 Options for all System Configurations

The following settings apply for all System Configurations.

- **Start mode:** When starting or shutting down the system, the mode can be configured to start/shutdown the server, namingservice, or both.
  - **Server & Namingservice:** When starting the system, both the server and namingservice will be started.
  - **Namingservice only:** If starting the namingservice only, the hostname of this machine will be available to all clients, for example Viz Artist. This makes it possible to connect one or more multi-user servers running in Server Only mode with this machine that runs in Namingservice Only mode. Define the namingservice accordingly for Viz Graphic Hub Namingservice Only Mode.
  - **Server only:** If starting the server only, the namingservice must run on another host. Define the namingservice accordingly for Viz Graphic Hub Server Only Mode. If the remote namingservice is not running or configured properly, the server cannot be started.
  - **Start in safe mode**: Launching Viz Graphic Hub Terminal in Safe Mode is done if the database has crashed and needs to be restarted.
- **Viz GH Server port**: If you leave the default as set at installation, the Graphic Hub will connect to all available server port. However, in every connection mode you have the opportunity to manually select the server port. This may be necessary depending on your firewall configuration. See Server Port Selection.
- **UDP port:** Defines the UDP port number the namingservice uses to directly communicate with the other applications in the network.
- **TCP port:** Defines the TCP port number, which can be used to start the Viz Graphic Hub Server remotely from Viz Graphic Hub Manager.
- **Global timeout (s):** Global timeout for Viz GH Terminals connection to Viz Graphic Hub. Default: 30 seconds
- **Connect timeout (s):** Global timeout for Viz GH Terminal to initialize the Connection to Viz Graphic Hub. Default: 15 seconds
- **Search instances**: Set the number of instances available for Viz Graphic Hub to execute a search (the range is 1 to the number of CPU cores in the system (default value is the number of CPU cores in the system)). This will only take effect if the server is started as a multiuser or main/replication.

- **Process priority:** Defines Viz Graphic Hub's Windows process priority level. You have six options ranging from **Low** to **Realtime**.

Caution: Setting the process priority level above normal may cause system stability issues.

- **Windows shutdown when server is up & running (Kill Server):** This feature is disabled by default, so that Windows cannot shut down without Viz Graphic Hub being properly terminated. If enabled, Windows can shut down and end all Viz Graphic Hub related processes without warning.

Caution: Enabling this feature may lead to data corruption problems.

- **Allow system logoff when server is up running**: This feature is disabled by default, so that Windows cannot log off without Viz Graphic Hub being properly terminated. If enabled, Windows can log off and end all Viz Graphic Hub related processes without warning.

Note: When Running Viz Graphic Hub as a Service, logging off from Windows will not terminate the Viz Graphic Hub Server.

- **Exit Terminal after server shutdown**: Enabling this setting makes sure that your server is kept alive all the time, even after Viz Graphic Hub crashes, provided that you are Running Viz Graphic Hub as a Service.
- **Show notification balloons:** If enabled, balloon tips are shown in the notification area, for example when the server is started or shut down.

Note: The *Show notification balloons* option should be disabled if Viz Artist is running in on-air mode.

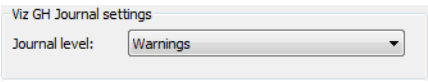
- **Automatically export a report when Viz Graphic Hub Server has been unexpectedly shut down:** Enable this for the Automatic Exporting of Reports.

4.1.2 Options for System Configurations with Viz Graphic Hub Dongle

The following advanced settings only apply for the System Configurations that require a special Viz Graphic Hub dongle, namely:

- Viz Graphic Hub Multiuser
- Viz Graphic Hub Main Server
- Viz Graphic Hub Replication Server

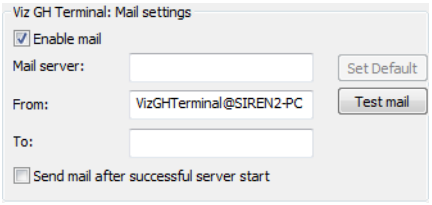
Viz Graphic Hub Journal settings



- **Journal level:** The journal level defines how the system writes journal entries and which entries should be included when Configuring Email Notifications. Available log levels:
  - **No Logging:** Disables the logging functionality

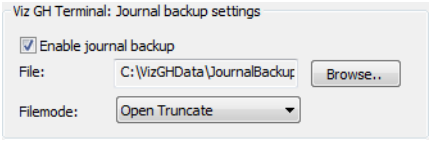
- **All:** Logs all the entries listed below
- **Errors:** Logs fatal errors, replication errors, and so on
- **Warnings:** Logs errors and warnings
- **File news:** Logs errors, warnings, and new file entries
- **File updates:** Logs errors, warnings, and updated file entries
- **File deletes:** Logs errors, warnings, and deleted file entries

Viz Graphic Hub Terminal: Mail settings



- **Enable mail:** You must enable email for Configuring Email Notifications. E-mails can be sent to defined recipients when unexpected server shutdowns occur, or the license is about to expire or is invalid. The system will also send e-mails according to the defined log level.
- **Mail server:** Defines a valid SMTP server.
- **Set Default:** Sets the address to the predefined format (VizGHTerminal@<HostName>).
- **From:** Defines the email account that the messages should be sent from.
- **Test mail:** Sends a test mail to the defined recipients.
- **To:** Defines the default email accounts that the messages should be sent to. To add more than one recipient, insert a blank between the addresses.
- **Send mail after successful server start:** In addition to the default and log level e-mails, notifications can be sent when the server is started successfully.

Viz Graphic Hub Terminal: Journal backup settings



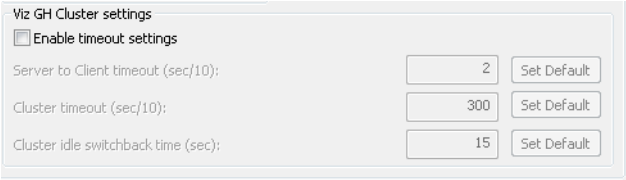
- **Enable journal backup:** If enabled, allows you To automatically export journal entries to an XML file. By default, the journal backup interval is set to once a week, starting one week from 01.01.2007 at 00:00:00.
- **File:** Defines the file name and path to where the journal backup XML file should be placed.
- **Filemode:**
  - **Open Truncate:** Only one journal backup XML file exists. The first time this operation is performed, a new file is created. Later, the system overwrites the existing journal file.
  - **New By Date:** Every journal backup generates a new separate XML file. The current date is added to the file name.

4.1.3 Cluster Timeout Settings for Viz Graphic Hub Replication Server Mode

The following settings only apply for the Viz Graphic Hub Replication Server mode.

When the connection between servers fails, the connections between servers and Viz Artist clients fail, or the main server itself fails, you can enable timeout to stabilize the network environment.

Cluster timeout settings



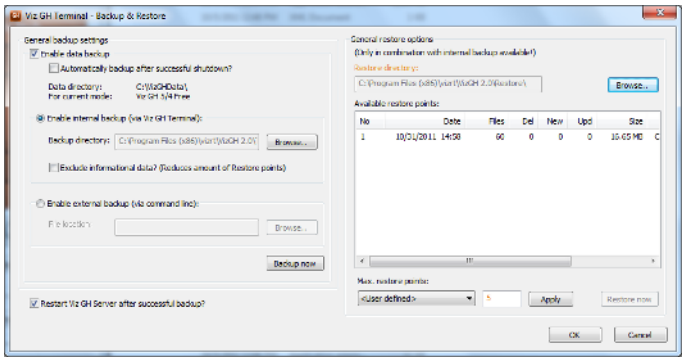
- **Enable timeout settings**: Enable this feature if you expect to experience network problems in your replication setup. It must be enabled on both the Main and Replication servers.
- **Server to Client timeout (sec/10)**: The recommended setting is **2**. This represents 2/10 of a second.
- **Cluster timeout (sec/10)**: The recommended setting is **300**. This represents 30 seconds.
- **Cluster idle switchback time (sec):** Set the time Viz Graphic Hub waits for no activity from clients to return from a failover or switchback. Range is 1 to 30 seconds. The default time is 15 seconds.

4.2 Refresh

The Refresh item in the main menu allows you to change System Configurations. It is only enabled when the server is down.

4.3 Backup

The Backup item in the main menu allows you to launch backup and restore operations.

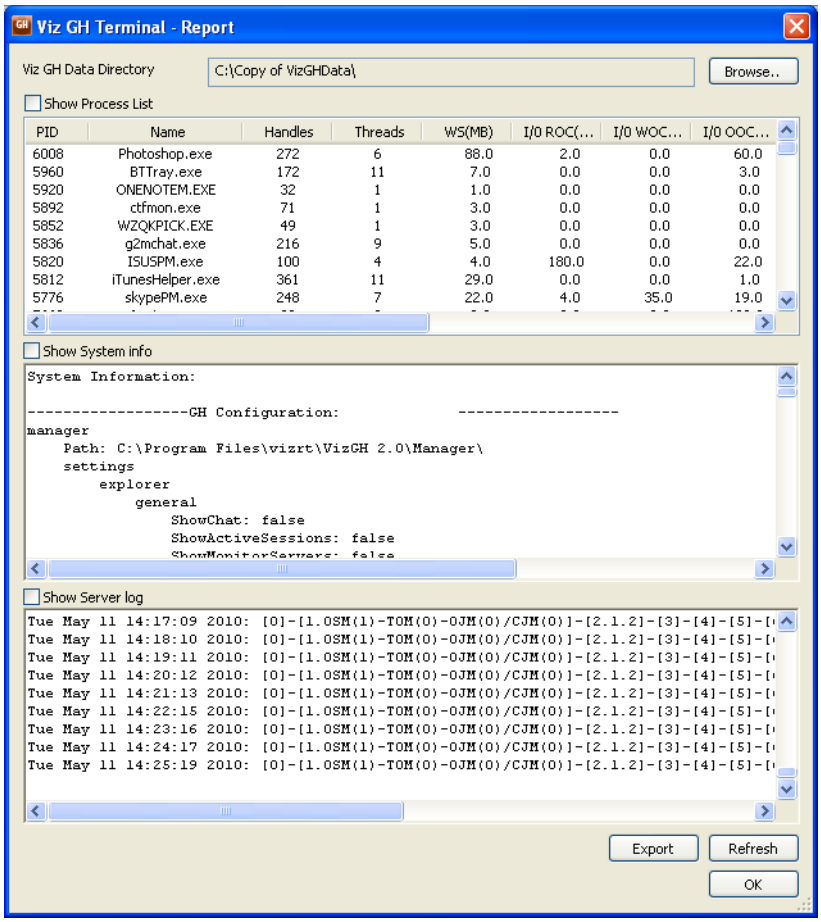


For information on backing up and restoring, see Back Up and Restore.

4.4 Report

Clicking Report in the main menu opens up the report window.

Report Window



For information on generating reports, see Reporting.

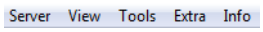
5 Viz Graphic Hub Manager Workbench

The Viz Graphic Hub Manager is the main administrative tool for the Viz Graphic Hub. It enables you to administer files and folders over multiple Viz Graphic Hubs, performing such tasks as searching, and working with deploy agents.

This section contains information on the following topics:

5.1 Main Menu

At system startup, the main window shows on the screen. At the top of the main window is the main menu.



The main menu contains the following items:

5.1.1 Server

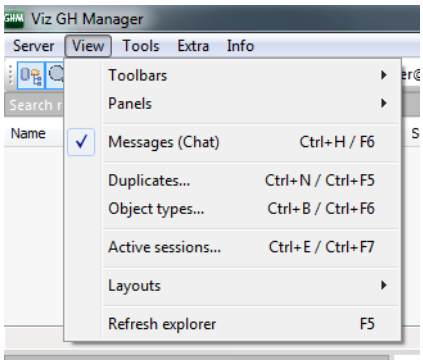
- **Login:** Opens the Login window. From this window it is possible to log in to one or more Viz Graphic Hubs. For more information, see Start Up with a Single Server Login .
- **Logout**: Opens the Logout window. From this window it is possible to logout from a Viz Graphic Hub. For more information, see Logout .
- **Terminals**: Opens the Terminals Window. From this window it is possible to monitor the available terminals in the network.
- **Shutdown:** Opens the Shutdown window. From this window it is possible to remotely shut down a server. For more information, see Shutting Down a Server .
- **Import**:

- **Viz 2.x data:** Opens the Import window. From this window it is possible to import a Viz 2.x data folder to the selected database. For more information, see Importing Data Directories .
- **Viz 2.x archive(s):** Opens the Import window. From this window it is possible to import one or more Viz 2.x archives from a folder to the selected database. For more information, see Importing Viz 2.x Archives .
- **Manually selected Viz 2.x archive(s):** Opens the Import window. From this window it is possible to import one or more Viz 2.x archives to the selected database. For more information, see Importing Viz 2.x Archives .
- **Resume from canceled or crashed import:** Opens the Import window. From this window it is possible to resume from a failed import by using an automatically created import backup file. For more information, see Resuming a Cancelled/Crashed Import Operation .
- **Edit preferences:** Opens the Preferences window. From this window it is possible to define various preferences for the import operation, for example the root directory for import log files.

- **Differences:** Opens the Server Diff window. From this window it is possible to detect differences between the servers in a cluster environment. For more information, see Detecting and Solving Server Differences .

  The Differences option is only available if logged in to a server in a cluster configuration.
- **Administer journal entries:** Shows/hides the Administer Journal Entries panel in the Main window. For more information, see Working with the Journal .
- **Configure alerts:** Opens the Alerts window. From this window it is possible to define email notifications that should be sent when errors occur in the system. For more information, see Configuring Email Notifications .
- **Exit:** Shuts down the Viz Graphic Hub Manager, and also automatically logs out from all connected databases.

5.1.2 View



- **Toolbars:** Select which tool bars to view:
  - Main
  - Servers and Folders
  - Folders and files
  - Quick search
  - Layout
- **Panels:** Select which Panels to view:

    - Servers and folders
    - Search
    - Add-ons
- **Messages (Chat)**: Show/hide the chat panel in the main window (see Chatting with Artists).
- **Duplicates**: Open the duplicates window. From this window it is possible to locate duplicate server items (see Locating Duplicates).
- **Object types:** Opens the Object Types window (see Monitoring Object Types).
- **Active sessions**: Opens the Active Sessions window. From this window it is possible to monitor all active sessions (see Monitoring Active Sessions).
- **Layouts:** Select, save and maintain layouts:
    - **Load layout:** Select a layout to load
    - **Save current layout 'xxx':**
    - **Save current layout 'xxx' as...:** Save the current layout as a new layout
    - **Lock/Unlock current layout 'xxx':** Lock or Unlock the current layout
    - **Maintain layouts:** Opens the Maintenance of layouts window
- **Refresh explorer**: Refreshes the Explorer (see To refresh the explorer).

5.1.3 Tools

- **Monitor servers:** Opens the Monitor Servers window. This window shows an overview of all the servers Viz Graphic Hub Manager is logged in to (see Monitoring Servers).
- **Administer users and groups:** Opens the Administer Users and Groups window. From this window it is possible to manage users and groups on the various servers (see Managing Users and Groups).
- **Administer keywords**: Opens the Keywords window. From this window it is possible to manage the Keywords in the database.
- **Administer add-ons**: Opens the Add-ons Panel.
- **Administer tasks:**
    - **Running deploy tasks:** Shows/hides the Running Deploy Tasks panel in the Main window (see To view running deploy tasks).
    - **Scheduled deploy tasks:** Shows/hides the Scheduled Deploy Tasks panel in the Main window (see To view scheduled deploy tasks).
    - **Finished deploy tasks:** Shows/hides the Finished Deploy Tasks panel in the Main window (see To view finished deploy tasks).
- **Search**: Opens the Search window. From this window it is possible to search for items in the available databases (see Searching).
- **Search by UUID:** Opens the **Search by UUID on server** dialog box. From this dialog box it is possible to search for items in the available databases based on universally unique identifiers.
- **Configure deploy agent:** Opens the **Properties of Deploy Agent** dialog box. From this dialog box it is possible to define various Viz Graphic Hub Deploy agent settings (see Deploy Agent Behavior Overview). This menu-option is only available in setups with an installed Viz Graphic Hub Deploy agent.
- **Export settings (incl. layouts) to file:** Opens a window, from where it is possible to exportall the workstation-based customizations to the Viz Graphic Hub Manager, such as changes to any of the panels, column layout and visibility, as well as the

user interface in general (see Importing and Exporting Viz Graphic Hub Manager Settings).

- **Import settings (incl. layouts) from file:** Opens a window, from where it is possible to importall the workstation-based customizations to a Viz Graphic Hub Manager, such as changes to any of the panels, column layout and visibility, as well as the user interface in general (see Importing and Exporting Viz Graphic Hub Manager Settings).
- **Edit preferences:** Opens the Preferences window. From this window it is possible to define various system preferences.

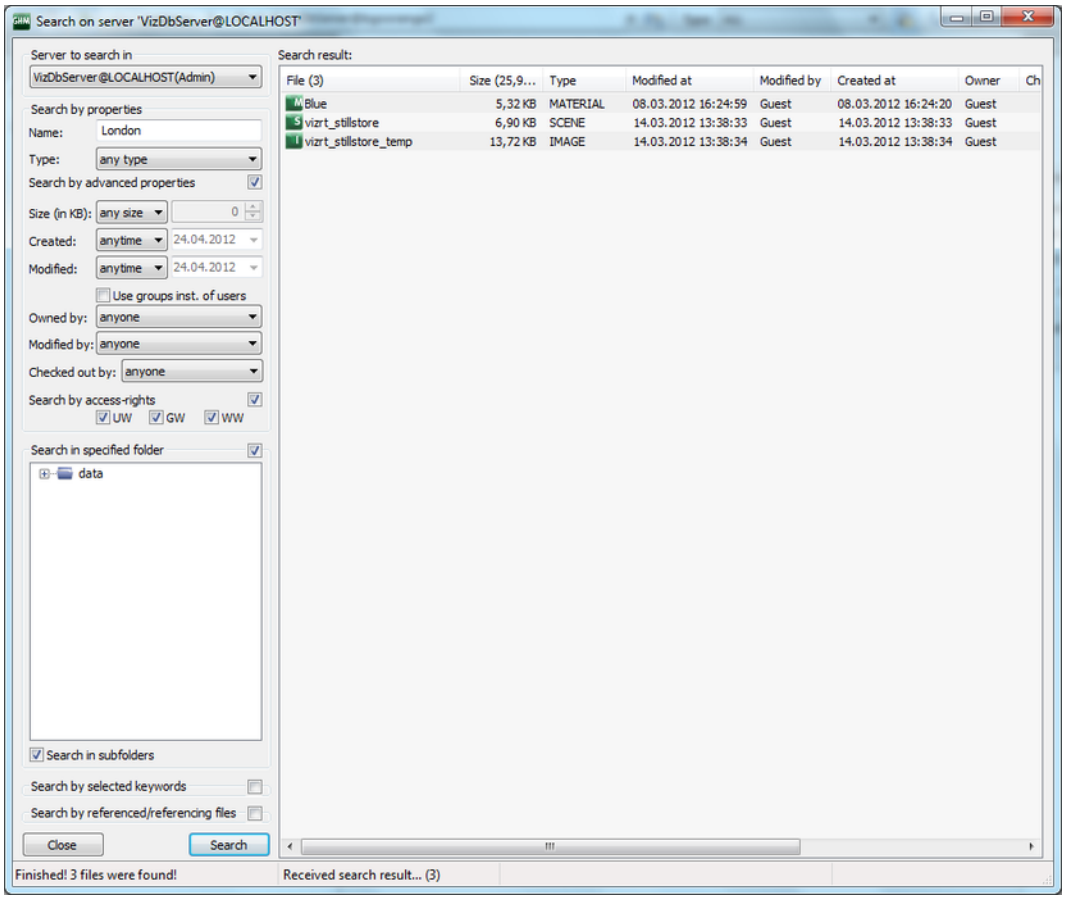
5.1.4 Extra

- **Viz VR Studio Setup**: Allows you to import the enabling XML file so that Viz Graphic Hub can support a virtual set environment (see Enabling Viz Graphic Hub for a Virtual Studio).

5.1.5 Info

- **License info:** Opens the License Info window. From this window it is possible to monitor the license information for the available servers.
- **About:** Shows the software version and build number of the Viz Graphic Hub Manager.
- **Help:** Opens the Viz Graphic Hub online help file.

5.2 Search Window



The Search Window provides the following options:

- **Free text**: Allows you To search with Free text search.
- **Search by advanced properties**: Allows you to Search by advanced properties.
- **Search in specified folder**: Allows you Search by specified folder.
- **Search by selected keywords**: Allows you Search by selected keywords.
- **Search by referenced/referencing files**: Search by References.

5.3 Preferences

The Preferences window allows you to configure a series of system preferences. It has a left panel with options that when selected are shown in the right panel.

To open the Preferences window

- From the main menu, click *Tools -> Edit Preferences*, or
- Press <CTRL+P>, or
- Press <CTRL+F8>.

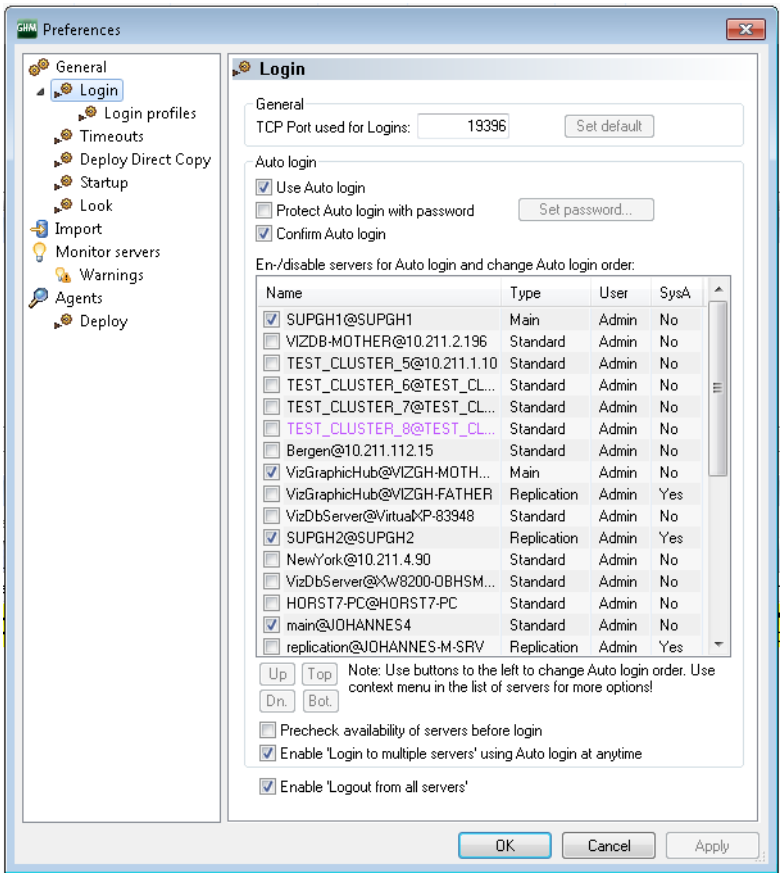
Selecting a preference category from the list opens the respective panels:

- Login

- Timeouts
- Deploy Direct Copy
- Startup
- Look
- Import
- Warnings
- Deploy

5.3.1 Login

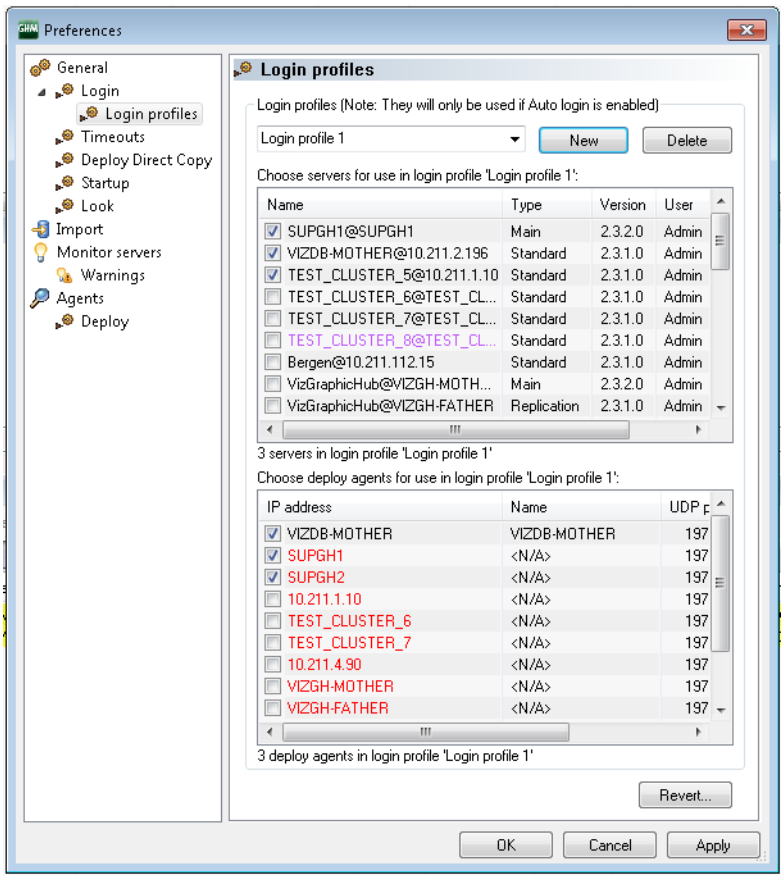
In the Login panel set the Start-up and Login preferences.



Login Profiles

Click this tab to configure different Login Profiles.

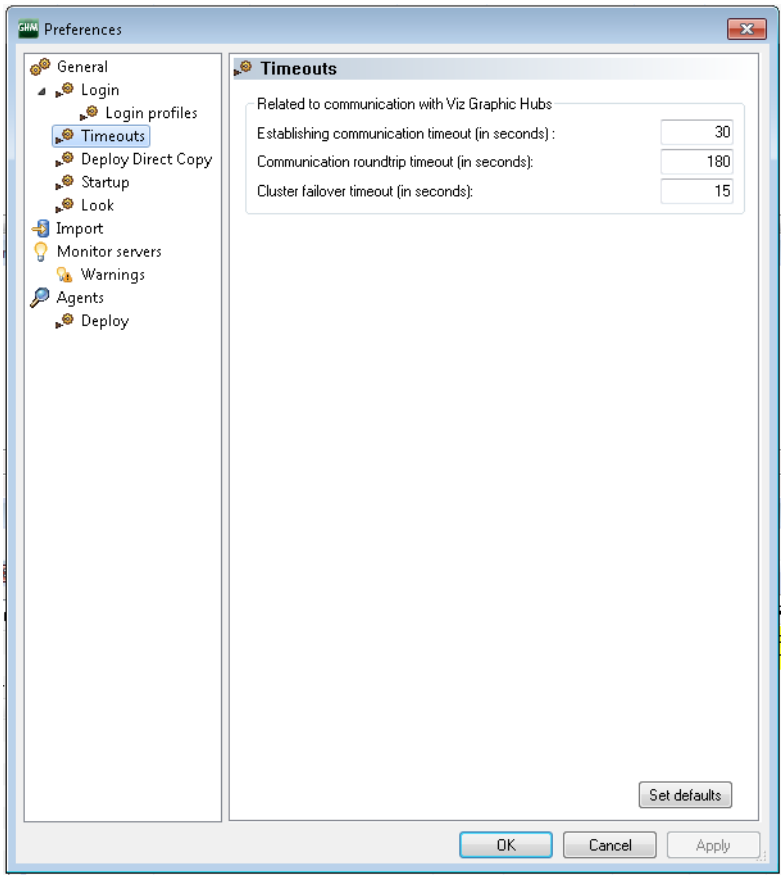
Each Login Profile can be configured to login to only the required servers and their associated deploy agents.



5.3.2 Timeouts

From this panel it is possible to define various timeout values related to communication with Viz Graphic Hubs.

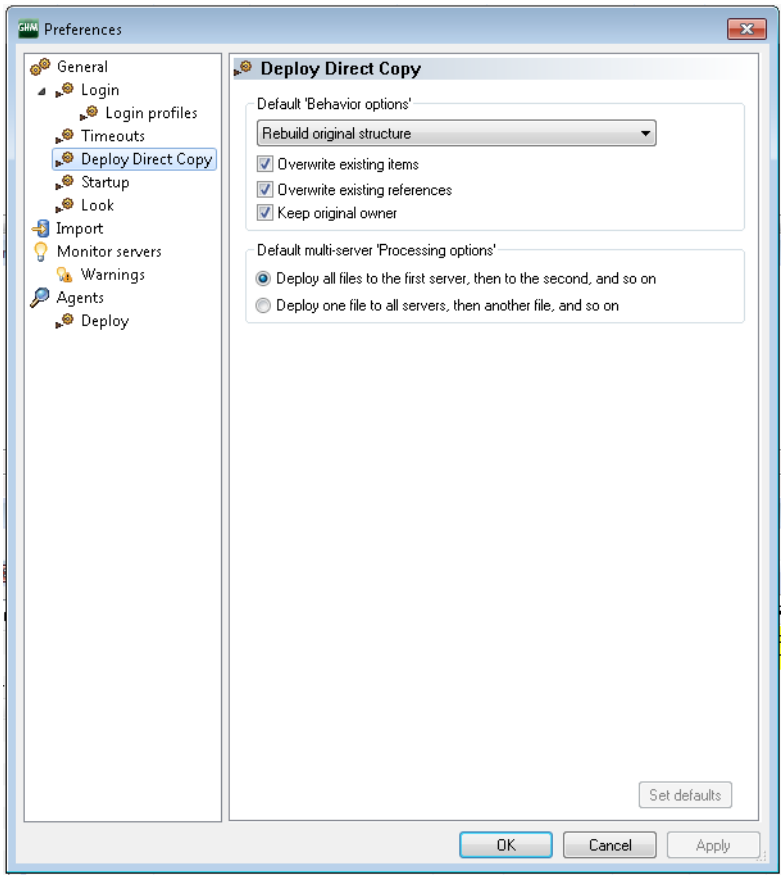
Timeouts preferences



5.3.3 Deploy Direct Copy

From this panel it is possible to define default behavior when deploying entries from one server to another using the Direct Deploy Copy (DDC) functionality.

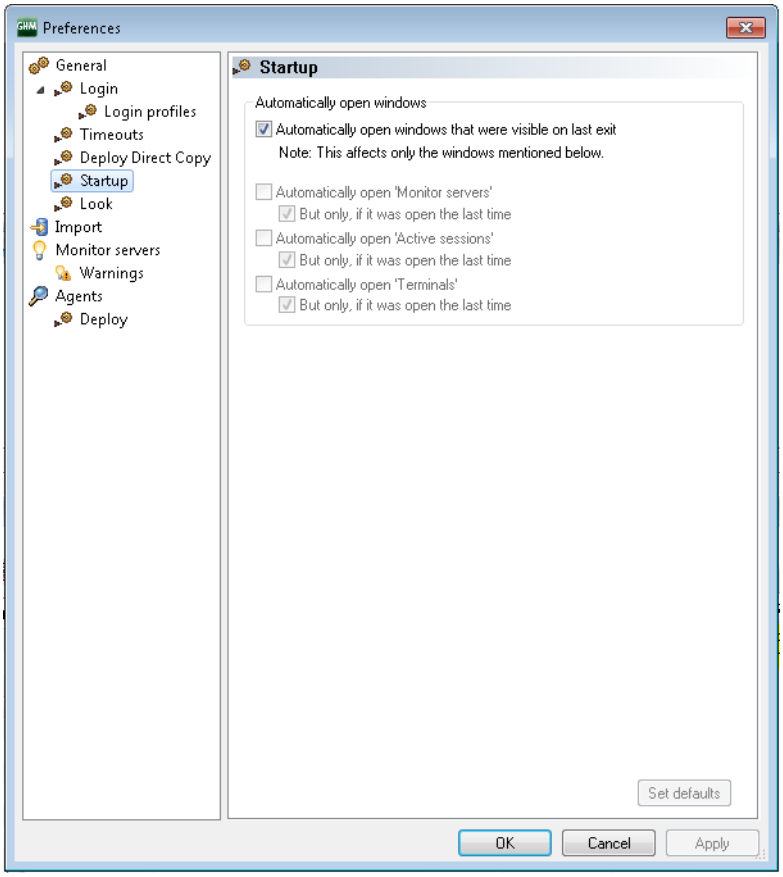
DDC Preferences



5.3.4 Startup

From this panel it is possible to define the position and size of various GUI components based on the settings in this session. It is also possible to open/show windows/panels at system startup automatically.

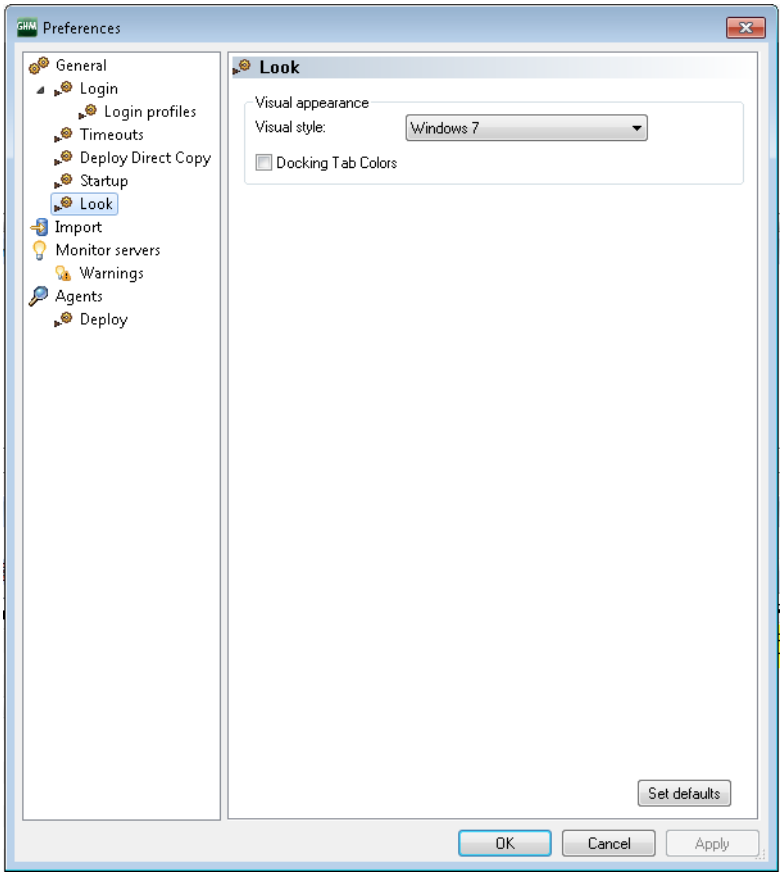
Startup Preferences



5.3.5 Look

The Look panel allows you to define the look-and-feel style of the Viz Graphic Hub Manager’s user interface.

Look Preferences



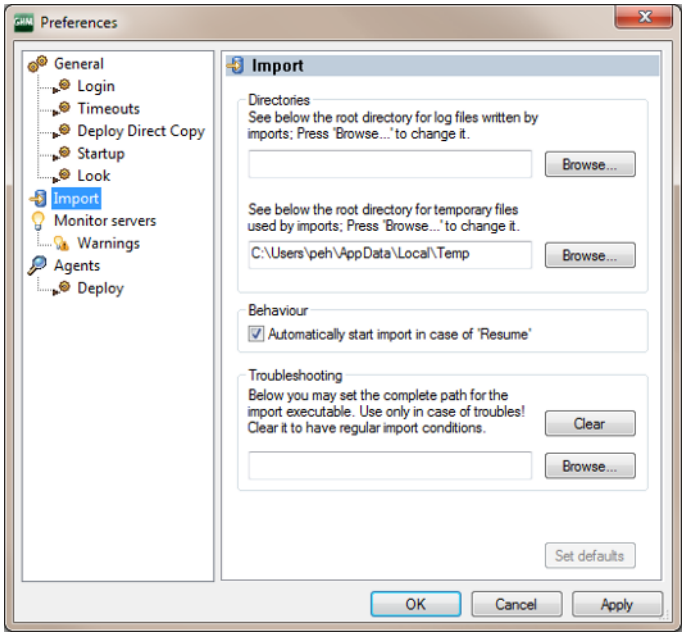
You have the following options:

- **Visual Style:** Sets the user interface look-and-feel.
- **Docking Tab Colors:** If you select this check box, when docking various user interface panels as tabs, each will be assigned a unique color. See Customizing the Interface.

5.3.6 Import

From this panel it is possible to define the data directory for log files and temporary files used during Importing Viz 2.x Data and Archives. It is also possible to disable the auto-import when Resuming a Cancelled/Crashed Import Operation.

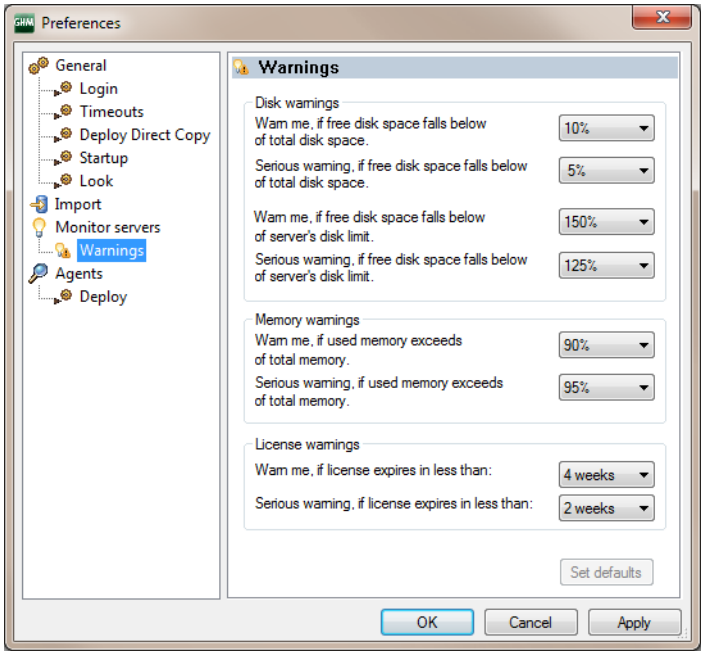
Import Preferences



5.3.7 Warnings

From this panel it is possible to define various disk and memory warnings, related to free disk space/memory. It is also possible to define warnings when the license expiration date approaches.

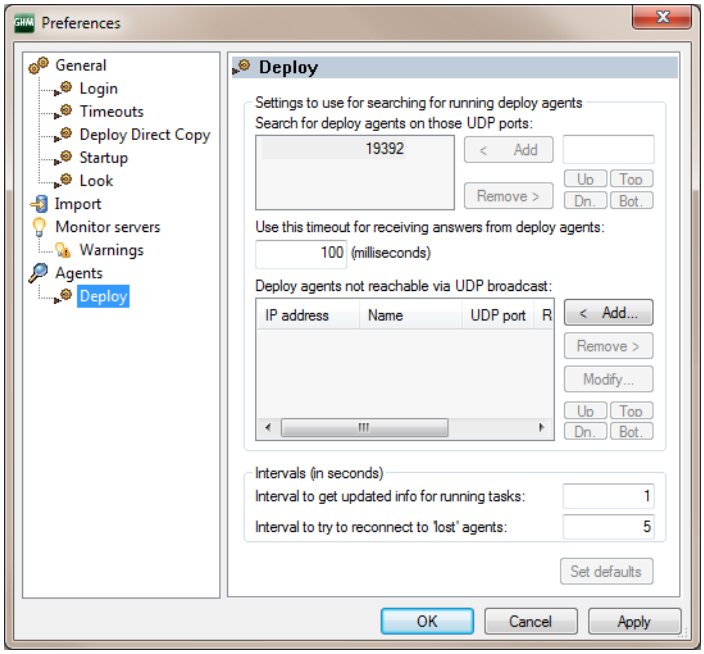
Warning Preferences



5.3.8 Deploy

In this window you can set preferences for automatic updates on running deploy agents.

Deploy Preferences



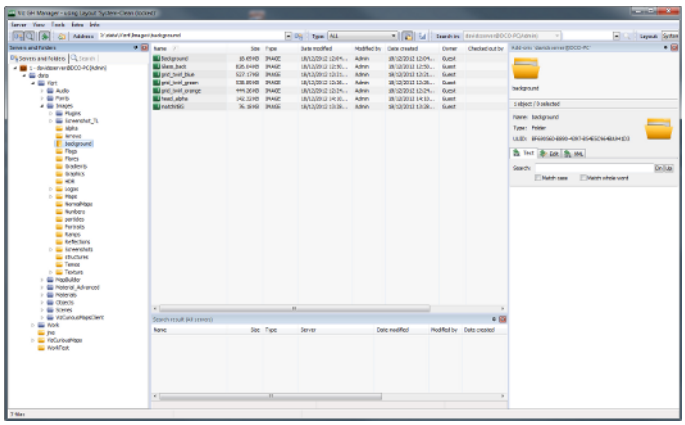
Configure the following settings to use for running deploy agents:

- UDP Ports
- Timeout for receiving answers from deploy agents
- Interval in seconds for getting updated info on running tasks

5.4 Explorer

Below the main menu is the Explorer of the Viz Graphic Hub Manager.

Explorer



Tip: The panels in the Explorer are resizable, and they can be dragged around. Also, it is possible to navigate through the trees in the Explorer with the mouse pointer, arrow keys, or by typing the first character of the desired project or folder/item.

The Explorer is automatically updated immediately after changes made to files and/or folders, but a manual refresh of the Explorer is sometimes necessary, for example after re-enabling columns.

To refresh the explorer

1. From the main menu, click *View -> Refresh Explorer*, or
2. Press <F5>.

This section contains information on the following topics:

5.4.1 Icons

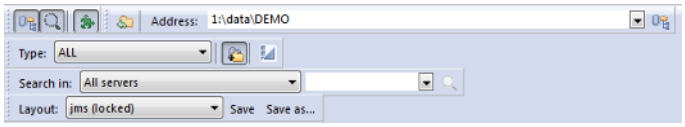
The following icons are used in the Explorer:

Viz Graphic Hub Icons

	Folder		Image
	Project		Material
	Audio		Material advanced
	Base font		Scene
	Font		Video
	Object/Geometry		

5.4.2 Toolbar

At the top of the Explorer is the Toolbar. The Toolbar consists of:



- Show Servers and folders: Show/hide the Servers and Folders Panel, or click View ->Servers and Folders.
- Show search: Show/hide the Search Window.
- Show add-ons: Show/hide the Add-ons Panel.

- One level up: Jump one level up in the Servers and Folders tree structure.
- **Address:** Shows the current folder path.

  From the drop-down list, it is possible to see the history of all folders that have been used within this session. To re-open to one of these folders, select it from the list. The format in which the history is shown is **`<ServerNumber>:\data\<path>`**.

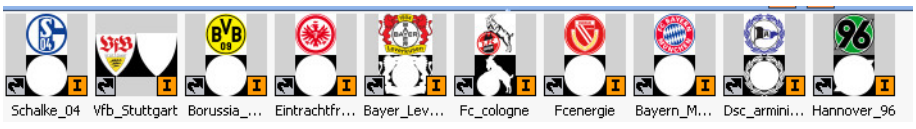
  The history of a server that has been disconnected will no longer be available.
- **Type:** Filter object types. Click the arrow to the right to toggle between the following options:
  - All
  - Base font
  - Font
  - Geometry
  - Image
  - Material
  - Scene
- Show/Hide project and folders: If enabled, the subprojects/subfolders of the selected project or folder will show in the Explorer list.
- Display icons/Details: Toggles between showing items in the Explorer with details or as icons (see Displaying Items as Icons).
- **Search in:** Graphic Hub Quick Search function. Select a server to search in, enter a search string and press <ENTER> or click on to start a Free Text Search on the selected server
- **Layout:** Select a Graphic Hub Manager layout:
  - **Layout:** Click to load a saved layout. Pre loaded layouts are: **System Clean (Locked)** (Basic standard layout) and **System Default** (as last saved (default layout)).
  - **Save:** Click to save the current layout.
  - **Save as...:** Click to save as a new layout.

Note: A Layout is local for the current machine in use.

5.4.3 Displaying Items as Icons

By default, the items in the Explorer are presented with detailed information. To view the items as icons, toggle the (**As Icons**) button in the Toolbar.

Note: The icons can also be enabled from the shortcut menu of the Explorer.



When items are viewed as icons, in the lower right corner of the icon characters will show the item type:

	Scene		Font
	Geometry		Audio
	Image		Unknown
	Material		

Additional information may also be shown on the icon:

	Item holds more than one folder-link		Item is checked out
	Item is session locked		Item is both session locked and checked out

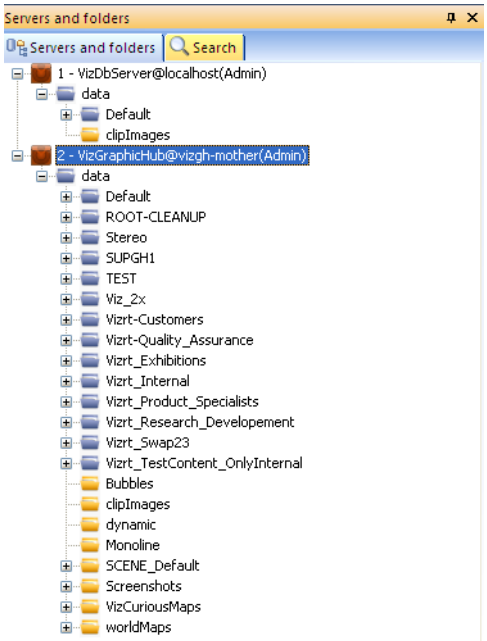
See Also

- Item Properties

5.5 Servers and Folders Panel

In the Servers and Folders panel, the projects/folders, as well as the servers they are on, are shown in a tree.

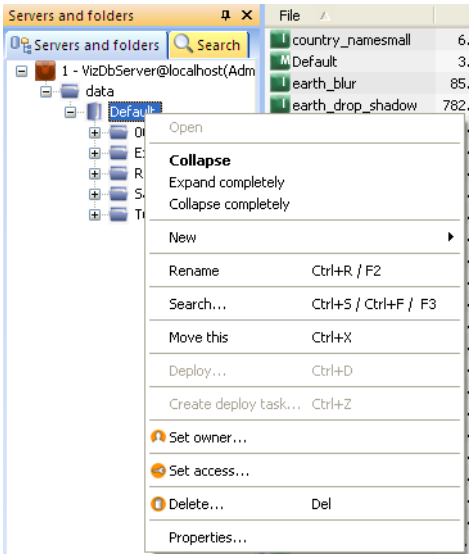
Servers and Folders Panel



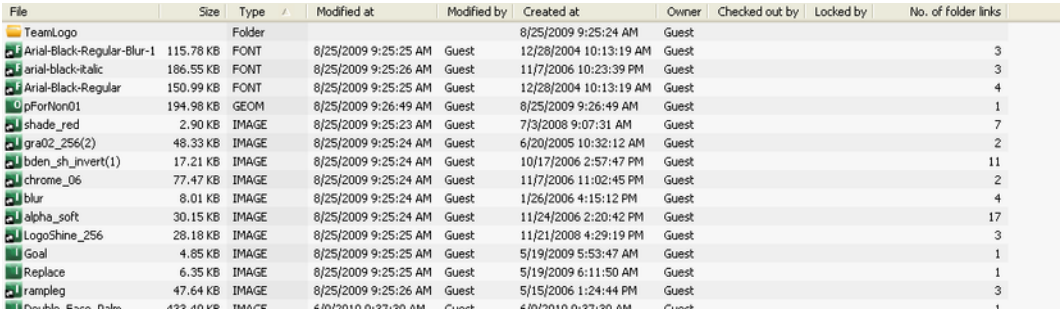
By right-clicking a server or project or folder in the tree, a context menu will is shown. From this menu it is possible to expand/collapse all branches in the tree, create new folders/projects, or set access rights, among others.

You can move around the server order up and down with a drag and drop of the mouse. The server order shown changes, but server numbers remain the same.

Servers and Folders Context Menu



When the server items are shown in regular view, columns are used to show information about the items.



File	Size	Type	Modified at	Modified by	Created at	Owner	Checked out by	Locked by	No. of folder links
TeamLogo		Folder			8/25/2009 9:25:24 AM	Guest			
Arial-Black-Regular-Blur-1	115.78 KB	FONT	8/25/2009 9:25:25 AM	Guest	12/28/2004 10:13:19 AM	Guest			3
arial-black-italic	186.55 KB	FONT	8/25/2009 9:25:26 AM	Guest	11/7/2006 10:23:39 PM	Guest			3
Arial-Black-Regular	150.99 KB	FONT	8/25/2009 9:25:25 AM	Guest	12/28/2004 10:13:19 AM	Guest			4
pForNon01	194.98 KB	GEOM	8/25/2009 9:26:49 AM	Guest	8/25/2009 9:26:49 AM	Guest			1
shade_red	2.90 KB	IMAGE	8/25/2009 9:25:23 AM	Guest	7/3/2008 9:07:31 AM	Guest			7
gra02_256(2)	48.33 KB	IMAGE	8/25/2009 9:25:24 AM	Guest	6/20/2005 10:32:12 AM	Guest			2
bden_sh_invert(1)	17.21 KB	IMAGE	8/25/2009 9:25:24 AM	Guest	10/17/2006 2:57:47 PM	Guest			11
chrome_06	77.47 KB	IMAGE	8/25/2009 9:25:24 AM	Guest	11/7/2006 11:02:45 PM	Guest			2
blur	8.01 KB	IMAGE	8/25/2009 9:25:24 AM	Guest	1/26/2006 4:15:12 PM	Guest			4
alpha_soft	30.15 KB	IMAGE	8/25/2009 9:25:24 AM	Guest	11/24/2006 2:20:42 PM	Guest			17
LogoShine_256	28.18 KB	IMAGE	8/25/2009 9:25:25 AM	Guest	11/21/2008 4:29:19 PM	Guest			3
Goal	4.85 KB	IMAGE	8/25/2009 9:25:25 AM	Guest	5/19/2009 5:53:47 AM	Guest			1
Replace	6.35 KB	IMAGE	8/25/2009 9:25:25 AM	Guest	5/19/2009 6:11:50 AM	Guest			1
rampleg	47.64 KB	IMAGE	8/25/2009 9:25:26 AM	Guest	5/15/2006 1:24:44 PM	Guest			3

The following columns are available:

- **File:** Shows the name of the item.
- **Size:** Shows the size of the item.
- **Type:** Shows the item type, for example material.
- **Modified at:** Shows the date and time when the item was modified the last time.
- **Modified by:** Shows the name of the user that modified the item the last time.
- **Created at:** Shows the date and time when the item was created.
- **Owner:** Shows the name of the user that owns the item.
- **Checked out by:** If the item is checked out, shows the name of the user that has checked it out.
- **Locked by:** If the item is session locked, shows the name of the user that is working on it.
- **No. of folder links:** Shows the number of folder-links (number of projects/folders the item is placed in).
- **Access rights:** Shows the access rights for user, group, and world. For more information, see Managing Users and Groups .
- **Checksum:** Shows the automatically calculated checksum, which is used to make sure that all items in the database are unique.

- **UUID:** Shows the automatically generated UUID of the item.

This section contains information on the following topics:

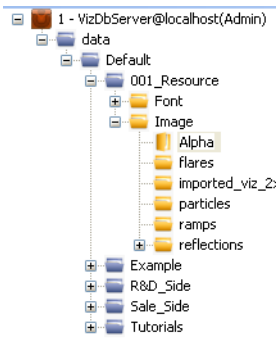
See Also

- Customizing the Interface

5.5.1 Tree Structure

Within the database, the items are organized in a virtual structure of projects and folders. This structure is shown as a tree in the Servers and Folders panel.

Tree Structure



In this panel, all connected servers are shown as root entries. These entries show the name of the Viz Graphic Hub Server, the Viz Graphic Hub Namingservice the server is registered on, and the current user name.

The level below the root entry contains the *data* project, which other clients refer to. New projects/folders/items can be added under the *data* project.

Tip: It is possible to create projects/folders on the same hierarchy level as *data*, but these projects/folders will not be accessible from client applications such as Viz Artist. Into these projects/folders it is practical to move data that should not be worked on anymore, yet is not ready to be deleted.

The *data* directory holds projects/folders that the server items are stored in.

To view the content of a project or folder

1. Click the project or folder in the tree.

   Alternatively, double-click a subproject/subfolder in the Explorer;

   Or right-click the project or folder, and select **Open**.

   The server items in the selected project or folder will then be shown in the Explorer.

2. To jump one level up in the Servers and Folders tree structure, click the **One level Up** button from the Toolbar.

5.5.2 Working with Projects and Folders

This section contains the following procedures:

To expand projects or folders

- After logging in, the branch representing this database will be collapsed. To expand the branches, use *one* of the following options:
  - Click **-** to the left of the branch.
  - Double-click the branch to be expanded.
  - Right-click the desired branch and select **Expand**.
  - Right-click the desired branch and select **Expand Completely** to expand the branch and all its subbranches.

To collapse projects or folders

- Use *one* of the following options:
  - Click **-** to the left of the branch.
  - Double-click the branch to be collapsed.
  - Right-click the desired branch and select **Collapse**.
  - Right-click the desired branch and select **Collapse Completely** to collapse the branch and all its subbranches.

To create a new project

- Right-click the parent node and select *New -> Project.*

  Alternatively, open the parent node and right-click anywhere in the Explorer and select *New -> Project.*

Note: It is not possible to create a project under a folder.

Note: Special characters, such as space, are not allowed in project names. Also, project names must be unique.

To create a new folder

- Right-click the parent node and select *New -> Folder,* or
- Open the parent node and right-click anywhere in the Explorer and select *New -> Folder.*

Note: Special characters, such as space, are not allowed in folder names. Also, folder names must be unique.

To rename a project or folder

- Right-click the project or folder and select **Rename**.

Note: The *data* project below the server root entry cannot be renamed. Also, special characters, such as space, are not allowed in project or folder names, and project or folder names must be unique.

To move a project or folder

1. Drag the project or folder from either the Servers and Folders Panel or Explorer onto the target destination.

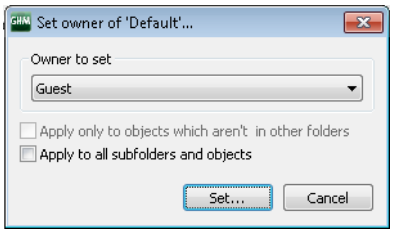
   The Action Log for moving projects/folders is shown.
2. Click the **Do It** button.

Windows functions work, too: <CTRL+X>, <CTRL+V>; right-click Cut/Paste.

Note: This procedure only applies to moving projects/folders within a single server. For information about moving projects/folders between multiple servers, see Multi Server Deploy .

To change the owner of projects or folders

1. Right-click the project or folder and select **Set Owner...** to open the **Set Owner** window.

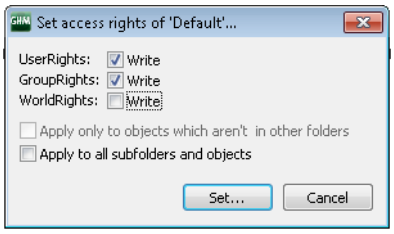


2. Select the new owner from the drop down list
3. Click in the **Apply to all subfolders and objects** check box, if required.
4. Click the **Set...** button.
5. The Action Log opens (Setting owner... window).
6. Click the **Set owner** button.
7. Click on **Close**.

The owner of a project or folder can also be assigned from the project or folder Properties window (see To view a project or folder properties).

To set rights for a project or folder

1. Right-click the project or folder and select **Set access**. The **Set access** window opens.



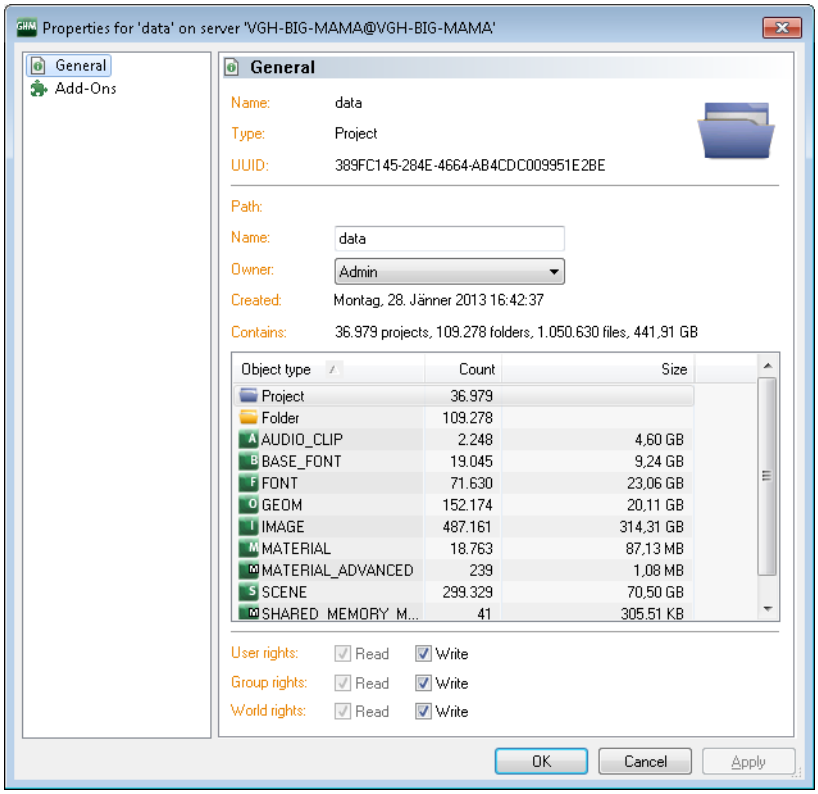
   - **User**: the owner of the project or folder
   - **Group:** all the members of the group the owner belongs to,
   - **World**: all database users.
2. Define the new rights and click the **Set** button.

   The Action Log for changing the rights is shown.
3. Click the **Set access** button.

The rights for a project or folder can also be assigned from the project or folder Properties window. For more information, see To view a project or folder properties .

To view a project or folder properties

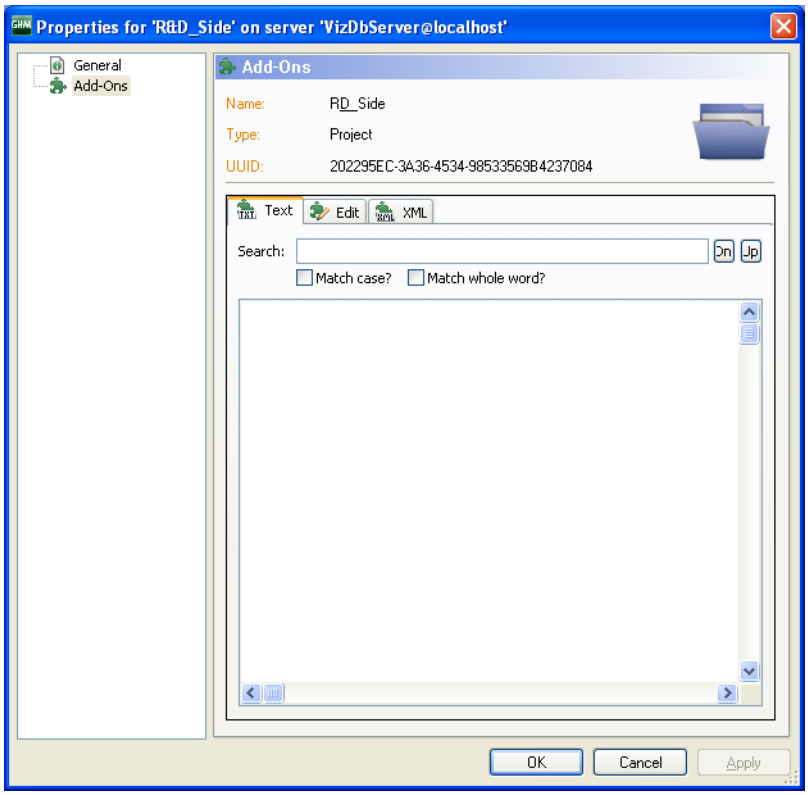
- Right-click a project or folder and select **Properties**.



The following project or folder properties are available in the General panel:

- **Name:** Shows the name of the project or folder.
- **Type:** Shows if the folder is a regular folder or a project.
- **UUID:** Shows the automatically generated UUID of the project or folder.
- **Path**: Shows the path of the project or folder within the data directory of the database.
- **Name:** Shows the name of the project or folder. To rename the project or folder, type a new name in the box.
- **Owner:** Shows the user that owns the project or folder. To reassign the project or folder to a new user, select a user from the list.
- **Created:** Shows the date and time when the project or folder was created.
- **Contains:** Show a summary of all objects within the selected projects/folders.
- **Access Rights:** Shows the access rights for the project or folder. To change the rights, enable/disable one or more check boxes (see Managing Users and Groups).

Tip: The labels of settings that have been modified will be colored red.



The following project or folder properties are available in the Add-ons panel:

- **Name**: Project/folder name
- **Type**: Project or Folder
- **UUID**: Automatically generated UUID of the project or folder
- **Text** tab: Assigned add-ons as text
- **Edit** tab: Enables editing and assignment of add-ons

- **XML** tab: Assigned add-ons as XML
- **Search**: Search text within assigned add-ons

See Also

- Add-ons
- Item Properties

To delete a project or folder

1. Select the project or folder
2. Delete the project or folder:
   - Press <DELETE>, or
   - Right-click the project or folder and select **Delete**...

   The Action Log opens (**Delete files...** window).
3. Click **Delete**.
4. Click **Close**.

Note: Only empty projects or folders can be deleted. Also, by deleting a project or folder from the Graphic Hub, the respective folder-links in the properties of the items will be deleted too.

5.5.3 Working with Files

This section contains the following procedures:

- To create a linked file
- To create a duplicate file(s)
- To move a file(s)
- To overwrite a file

To create a linked file

1. Select the desired file(s)
2. Drag the file(s) to the target folder and release.
3. The Action Log opens (Duplicate, Link or Move... window).
4. Click **Link**.
5. Click **Close**.

or

1. Select the desired file(s)
2. Create a linked shortcut:
   - Right-click and select **Link (create shortcut)**, or
   - Press <CTRL+Y>
3. Select the target folder.
4. Link the file(s):
   - Right-click on the target folder and select **Link here...**, or

- Right-click in the folder area and select **Paste...**

5. The Action Log opens (Duplicate, Link or Move... window).
6. Click **Link**.
7. Click **Close**.

A link to the file is created in the destination folder.

Linking files has the benefit of saving disk space and therefore enhancing system performance. It is especially useful when a file is referenced in many places. For example, a station logo is best to be referenced as a link rather than duplicated in many locations.

To create a duplicate file(s)

1. Select the desired file(s)
2. Press <CTRL> and drag the file(s) to the target folder and release.
3. The Action Log opens (Duplicate, Link or Move... window).
4. Click **Duplicate**.
5. Click **Close**.

or

1. Select the desired file(s)
2. Copy the selected file(s):
   - Right-click the file(s) and select **Duplicate (copy)**, or
   - Press <CTRL+C>.
3. Select the target folder.
4. Duplicate the file(s):
   - Right-click on the target folder and select **Duplicate here...**, or
   - Right-click in the folder area and select **Paste...**
5. The Action Log opens (Duplicate, Link or Move... window).
6. Click **Duplicate**.
7. Click **Close**.

To move a file(s)

1. Select the desired file(s)
2. Press <SHIFT> and drag the file(s) to the target folder.
3. The Action Log opens (Duplicate, Link or Move... window).
4. Click **Move**.
5. Click **Close**.

or

1. Select the desired file(s)
2. Cut the selected file(s):
   - Right-click the file(s) and select **Move (Cut)**, or
   - Press <CTRL+X>.
3. Select the target folder.

4. Move the file(s):
   - Right-click on the target folder and select **Move here...**, or
   - Right-click in the folder area and select **Paste...**
5. The Action Log opens (Duplicate, Link or Move... window).
6. Click **Move**.
7. Click **Close**.

To overwrite a file

A file can only be overwritten if it is in the same folder and of the same type.

1. Select the desired file.
2. Drag the file to the file to be overwritten and release.

Note: Source and target file must be of the same type.

3. The Action Log opens (Overwrite... window).
4. Click **Overwrite**.
5. Click **Close**.

5.5.4 Item Properties

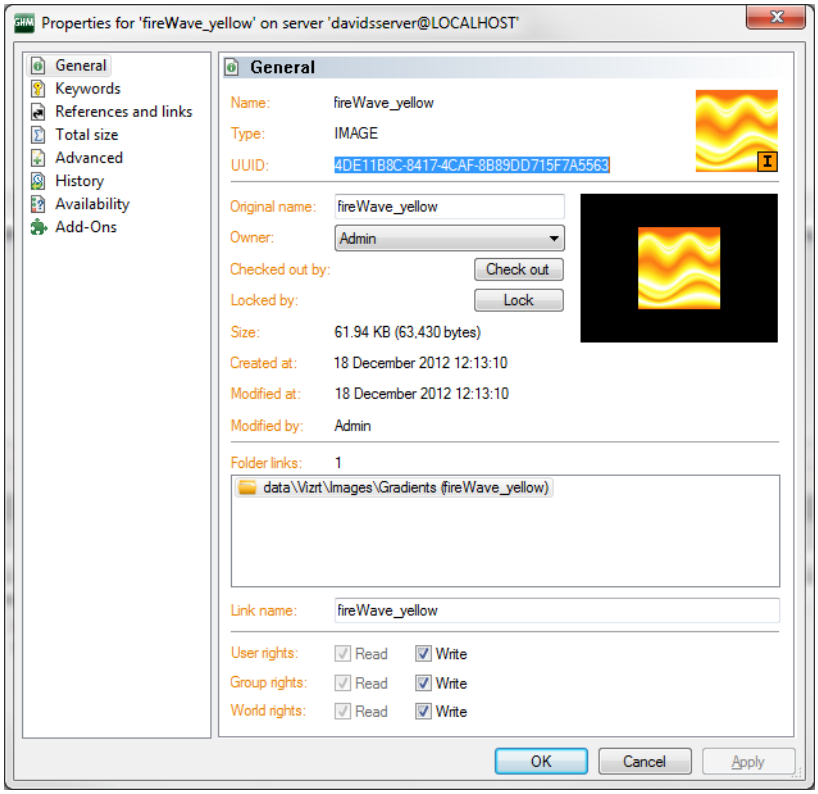
This section describes the available properties of each item.

To view the properties assigned to an item

- Double-click an item in the Explorer, or
- Right-click an item and select **Properties**.

This section contains the following topics:

General Properties



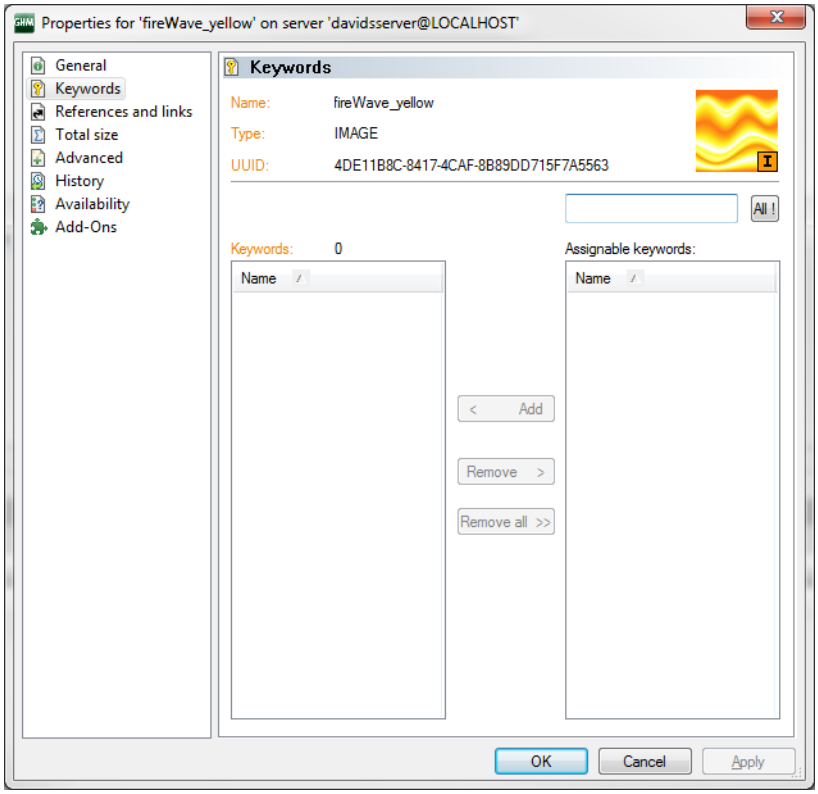
- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.
- **Original name:** Shows the name of the item. To rename the item, type a new name in the box. If changing the name of an item that has more than one folder-link, only the name of this link will be altered. In other projects/folders, the name will not be changed.
- **Owner:** Shows the name of the user that owns the item. To reassign the item to a new user, select a user from the list.
- **Checked out by:** If the item is checked out, shows the name of the user that has checked it out. To check out the item, click the **Check Out** button. To check in the item, click the **Check In** button.
- **Locked by:** If the item is session locked, shows the name of the user that is working on it. To session lock the item, click the **Lock** button. To unlock the item, click the **Unlock** button.
- **Size:** Shows the size of the item.
- **Created at:** Shows the date and time when the item was created.
- **Modified at:** Shows the date and time when the item was modified the last time.
- **Modified by:** Shows the name of the user that modified the item the last time.
- **Folder links:** Shows the number of folder-links (number of projects/folders the item is placed in). The box below shows the paths to projects/folders where the item is linked.
- **Link name:** Shows the name of the folder-link. By default, the folder-link name automatically equals the item name.

- **Access rights:** Shows the access rights for user, group, and world. User refers to the owner of the item, group refers to all the members of the group the owner belongs to, and world refers to all database users.

See Also

- Managing Users and Groups

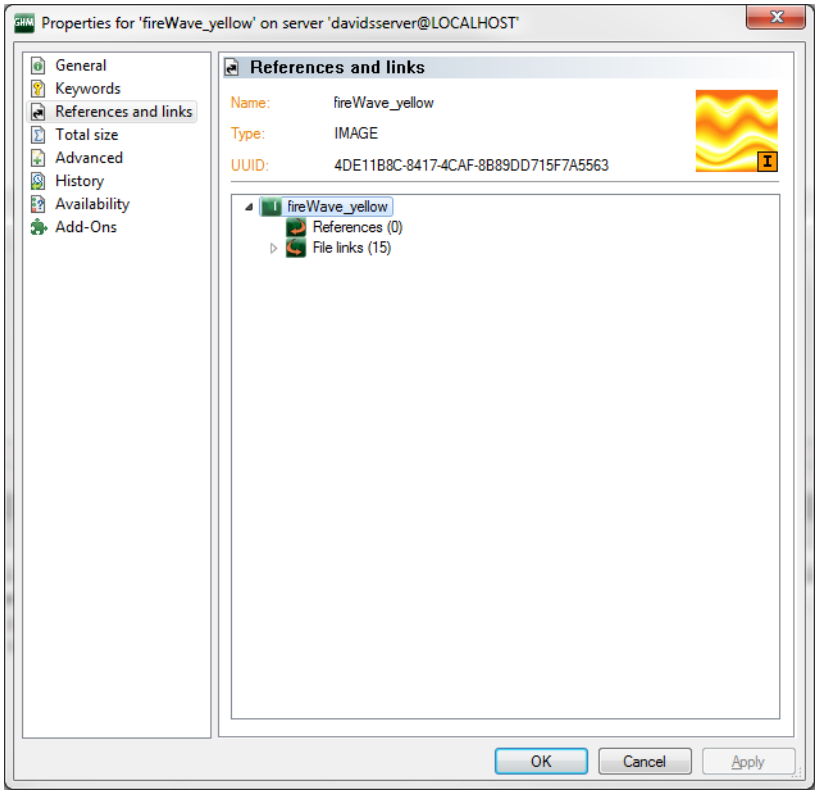
Keyword Properties



- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.

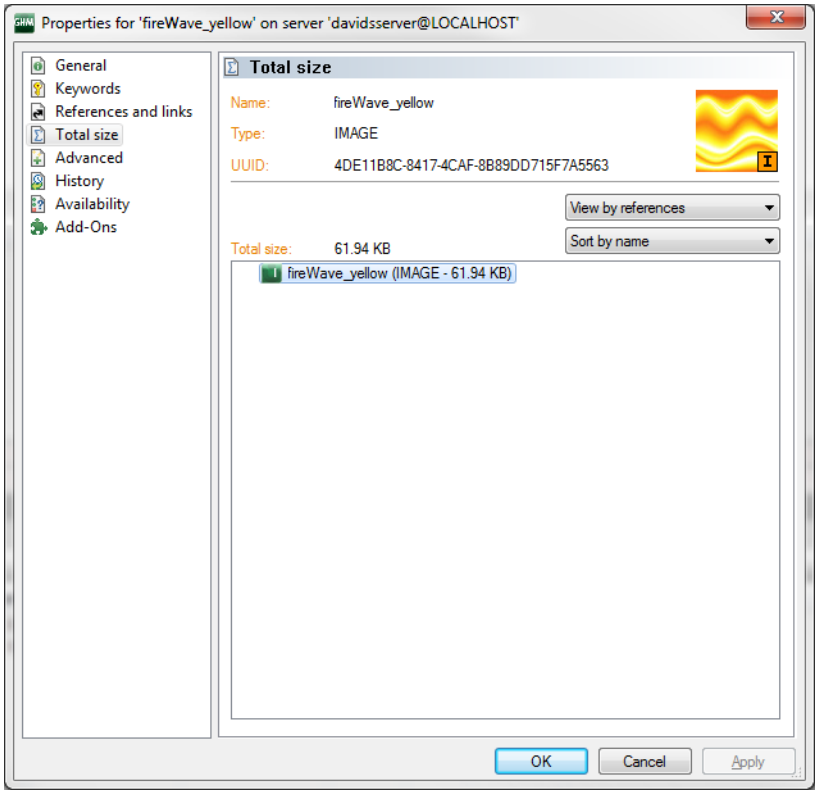
There is a search field for locating keywords and you can assign and remove keywords from the selected item. For more information, see To assign a keyword(s) to an item.

References and Link Properties



- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.
- **References**: Shows the items which are contained in the current item. For example, if you check the references for a scene, you will variously see images, geometries, etc., that are used in this scene. Drilling down, the references of the images show the images used in that item. And so on.
- **File links**: Shows the items where the current item is referenced. For example, with an image used in different scenes, all those scene will appear as file links.
- **Folder links**: Shows all folders where the same file is linked, i.e. all shortcuts.

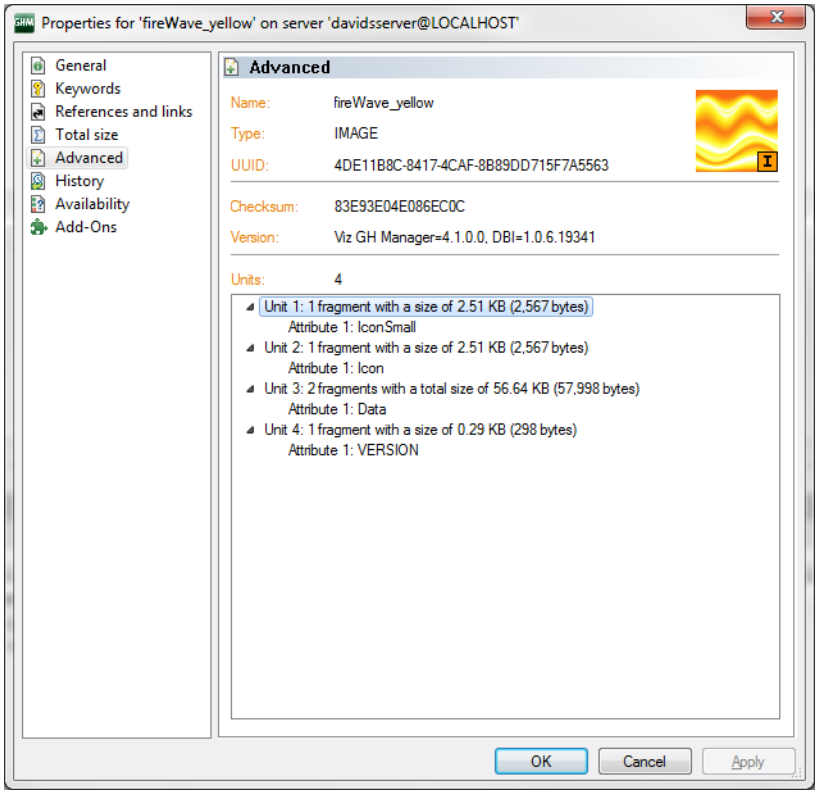
Total Size Properties



- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.
- **Filters**:
  - **View by Reference** or **View by Size**
  - Sort by **Name**, **Size**, **Type and Name**, **Type** and **Size**

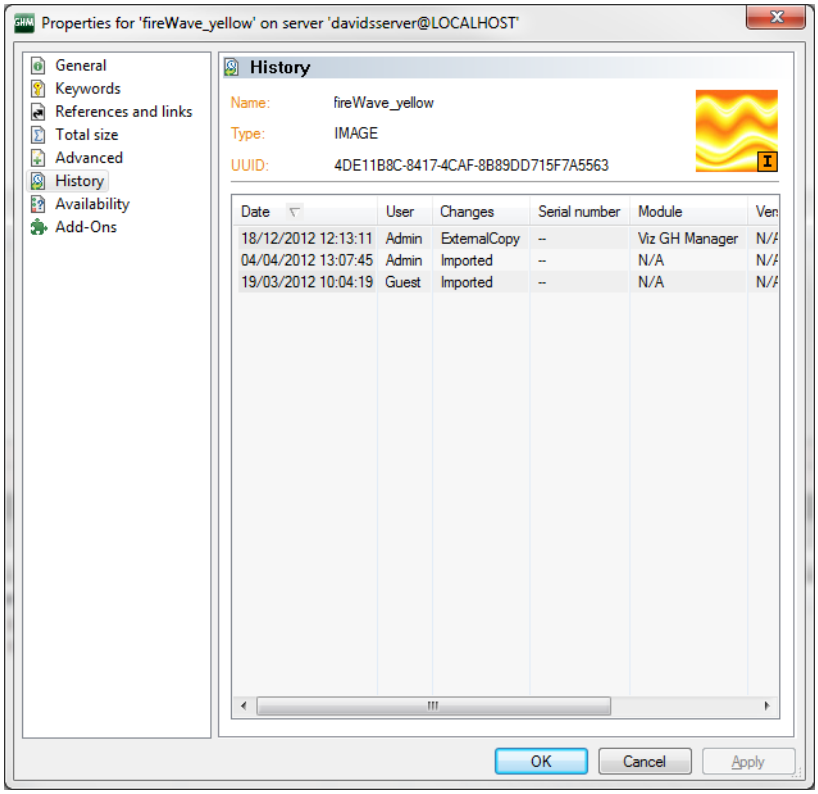
The item's total size in KB, MB or GB is shown. Using the tree, you can see all the component parts and their respective sizes.

Advanced Properties



- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.
- **Checksum**: A server-generated value to detect duplicates and differences between similar items. Useful for importing and replicating and deploying items; when two items are very similar, you can use the checksum to determine whether to overwrite or allow a parallel instance.
- **Units**: The component units of an item. An item consists of multiple units that form part of the internal data. Used in troubleshooting.
- **Attributes**: Each unit has specific attributes describing it. Used in troubleshooting.

Item History

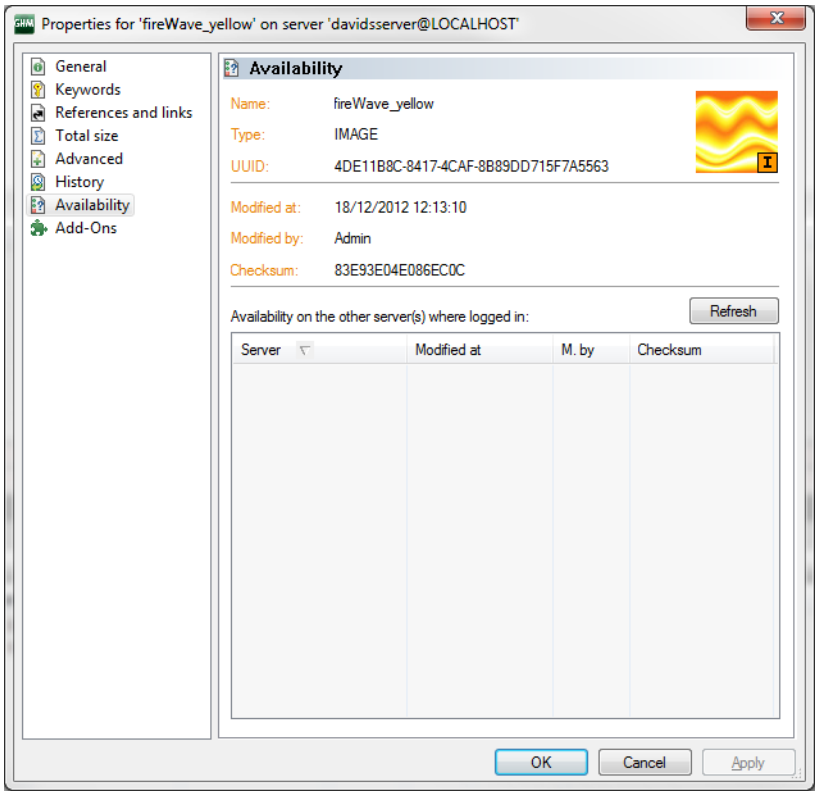


- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.

The item's transaction history is shown with columns for date, user, changes and serial number.

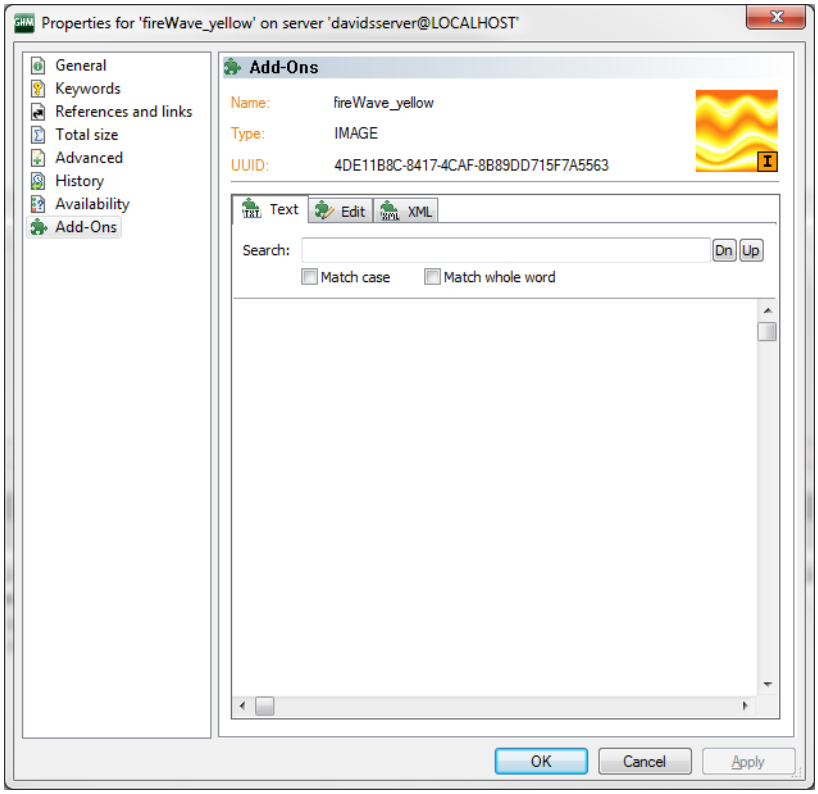
Item Availability

If you are logged into multiple servers, you are able to check whether an item exists and is identical among instances.



- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.
- **Modified at**: Last date and time modified.
- **Modified by**: Last user to modify the item.
- **Checksum**: The checksum indicates whether the item is the identical on every server.
- **Availability on other servers where logged in**: The availability of the same item on other servers where you are logged in. Even if the filename is different, if the UUID and checksum are the same, the item will figure in this panel, shown as OK.

Item Add-ons



- **Name:** Shows the name of the item.
- **Type:** Shows the item type, for example material.
- **UUID:** Shows the UUID of the item.
- **Text** tab: Assigned add-ons as text
- **Edit** tab: Enables editing and assignment of add-ons
- **XML** tab: Assigned add-ons as XML
- **Search**: Search text within assigned add-ons

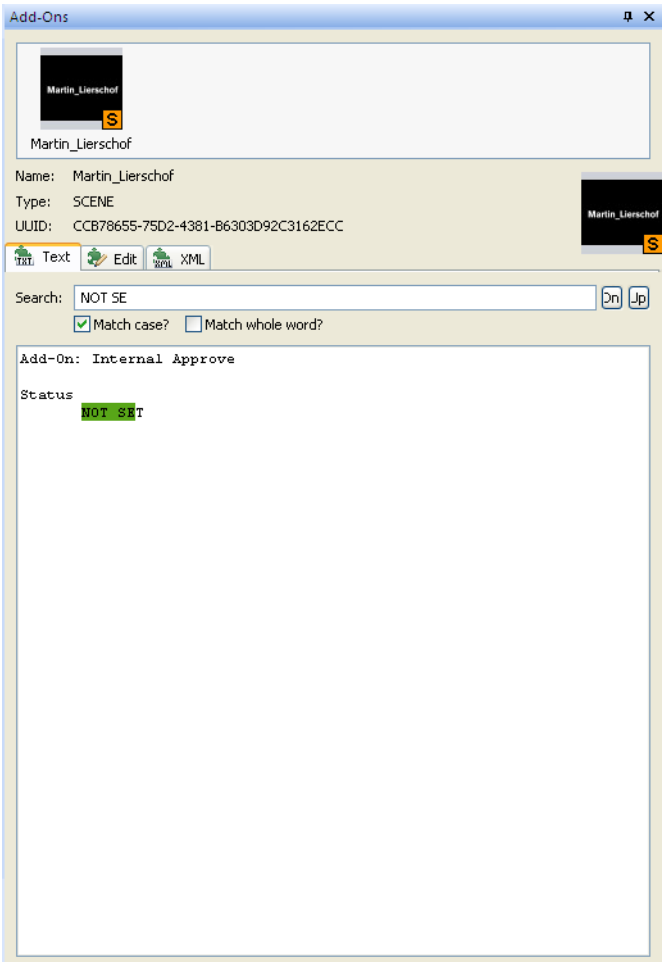
See Also

- Add-ons

5.6 Add-ons Panel

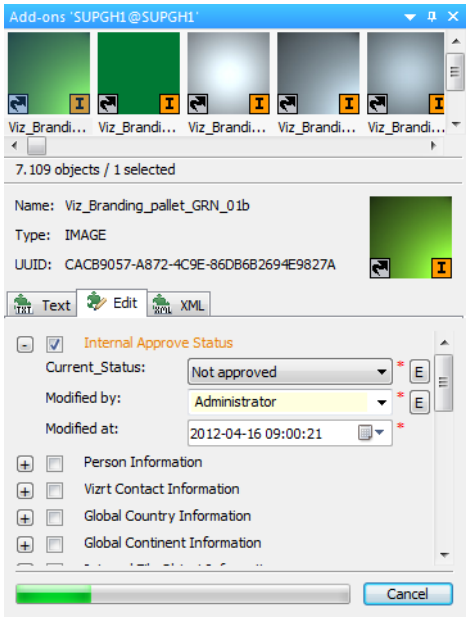
The add-ons panel shows the following properties for all published Add-ons.

Add-ons Panel - Text Tab



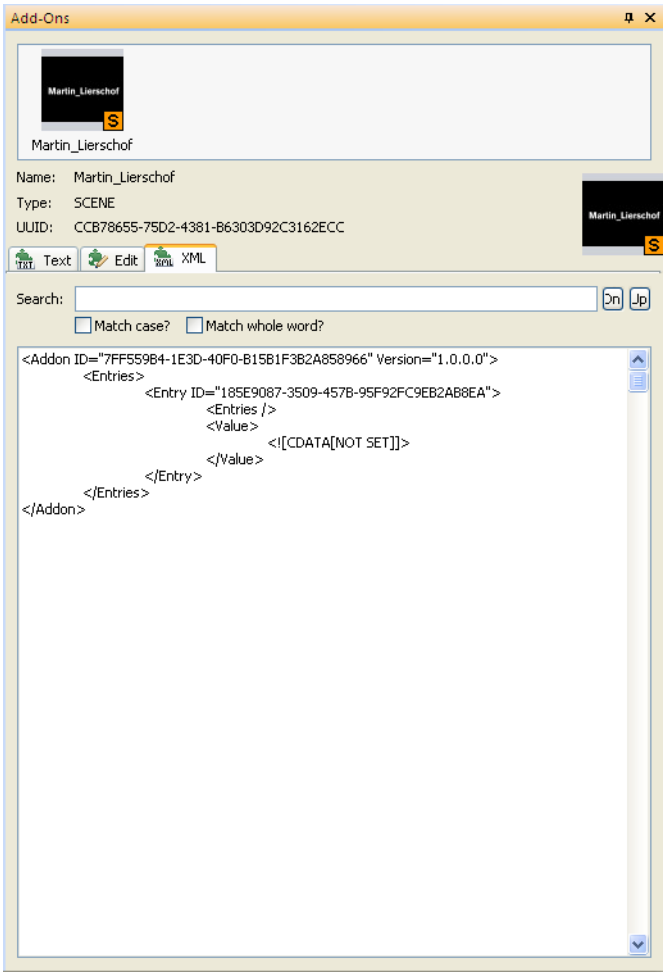
In the Text Tab, you can search for text within published add-ons. This search facility includes matching case and whole words. Text found is highlighted.

Add-ons Panel - Edit Tab



From the Edit Tab, you can assign, unassaign and edit published add-ons for currently selected and multiple items. For more information, see To assign an add-on.

Add-ons Panel - XML Tab

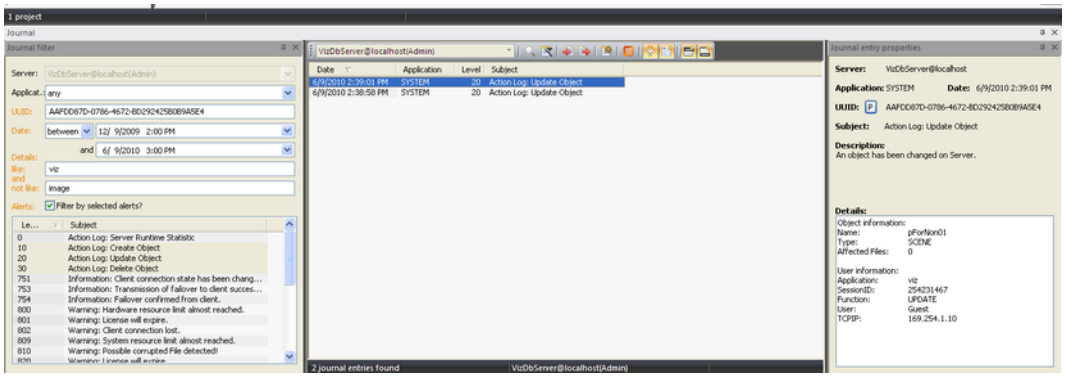


In the XML tab, you can search for text within published add-ons. This search facility includes matching case and whole words. Text found is highlighted.

5.7 Journal Panel

From the Journal panel it is possible to search for journal entries and view their details. Journal entries are log files created according to various alert levels. The Journal is a good place to start for troubleshooting problems encountered. in Viz Graphic Hub.

Journal Panel



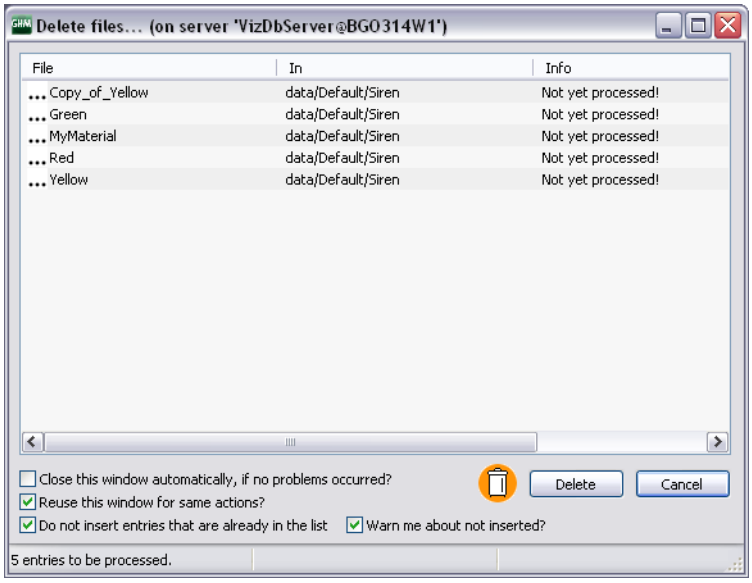
The Journal Toolbar presents you with the following options:

Journal Toolbar

- **Search:** Performs a search for journal entries based on the parameters defined in the Journal Filter frame. See To search the journal with filter settings.
- **Optimize search for export:** If enabled, backup files with a huge number of journal entries will be optimized for export, by not containing all available information about these entries. See Exporting Journal Entries.
- **Import journal entries:** Opens a dialog box, from where it is possible to select an XML journal backup file to import. See Importing Journal Entries.
- **Export selected entries**: Allows you to export only the entries that you choose. See To manually export journal entries.
- **Backup task:** Opens the Configure Journal Backup Task window. See To automatically export journal entries.
- **Switch to feed mode**: Allows you to receive journal updates in real time. See To view a live feed of server activities.
- **Show/hide entry properties:** Shows/hides the Journal Entry Properties frame. See To search the journal with filter settings.
- **Show filter:** Shows/hides the Journal Filter frame. See To search the journal with filter settings.

5.8 Action Log

The Action Log is automatically activated when performing certain operations in Viz Graphic Hub Manager, for example duplicating/deleting items and projects/folders, or changing user rights.



The action to be performed will be shown in the window title, and an icon symbolizing the action will be shown below the file list. For example, a trash can icon is used if items or projects/folders should be deleted.

This section contains information on the following topics:

5.8.1 Action Log Options

Certain options can be set in the Action Log:

- **Close this window automatically, if no problem occurred:** If enabled, the Action Log will be closed when the desired operation finishes successfully.
- **Reuse this window for same actions:** By dragging items or projects/folder onto the Action Log, the action will be performed on these elements too.
- **Do not insert entries that are already in the list:** Prevents adding duplicate entries.

Note: This option is only available if Reuse this Window for Same Actions is enabled.

- **Warn me about not inserted:** If enabled, when trying to add duplicate entries, a dialog box will notify that the duplicates will not be added.

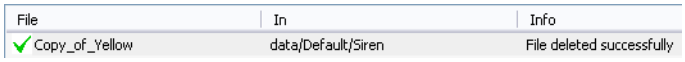
Note: This option is only available if both Reuse this Window for same Actions and Do not Insert Entries that are Already in the List are enabled.

5.8.2 Adding Elements

To add additional items that the same action should be performed on, drag items from the Explorer or the search results onto the list of elements in the Action Log.

5.8.3 Performing the Operation

When the desired items have been added to the Action Log, click the button corresponding to the operation that should be performed.



When the operation has been performed, the Action Log will provide feedback. If the operation has been successful, a check mark, is shown to the left of the item name. If the operation has failed, an X will indicate this. Status information in text form will also be shown in the Info column.

5.9 Customizing the Interface

The graphic user interface can be customized with your own layout in the workspace. Furthermore if a second instance of Viz Graphic Hub Manager is open, the layout in the first instance will not affect any others. The layout in every instance can be saved independently.

To save a layout

- Do *one* of the following:
  - Click *View -> Layouts -> Save current layout.*
  - Click the **Save** (or **Save as**) button in the layout bar.

If you don't save a layout, it will still open in the next session. If you do save it, you will have access to it from the drop-down/menu item should you make other changes and wish to revert back.

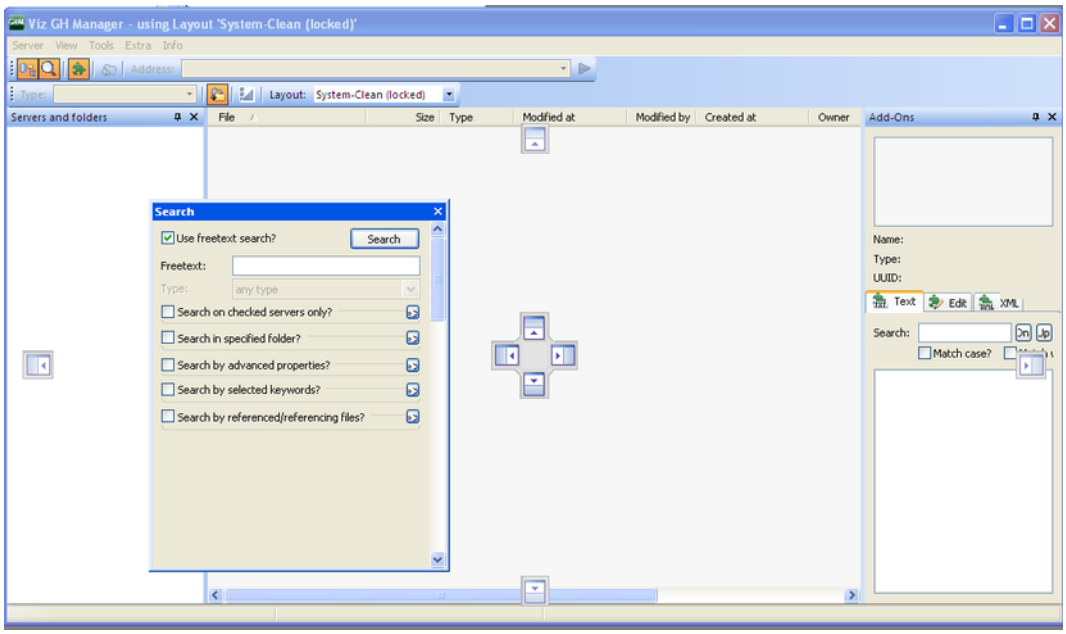
To load a layout

- Do *one* of the following:
  - Click *View -> Layouts -> Load layout - > <layout name>*.
  - In the Toolbar, click the **Layout** button and select the pre-saved layout you wish to load.

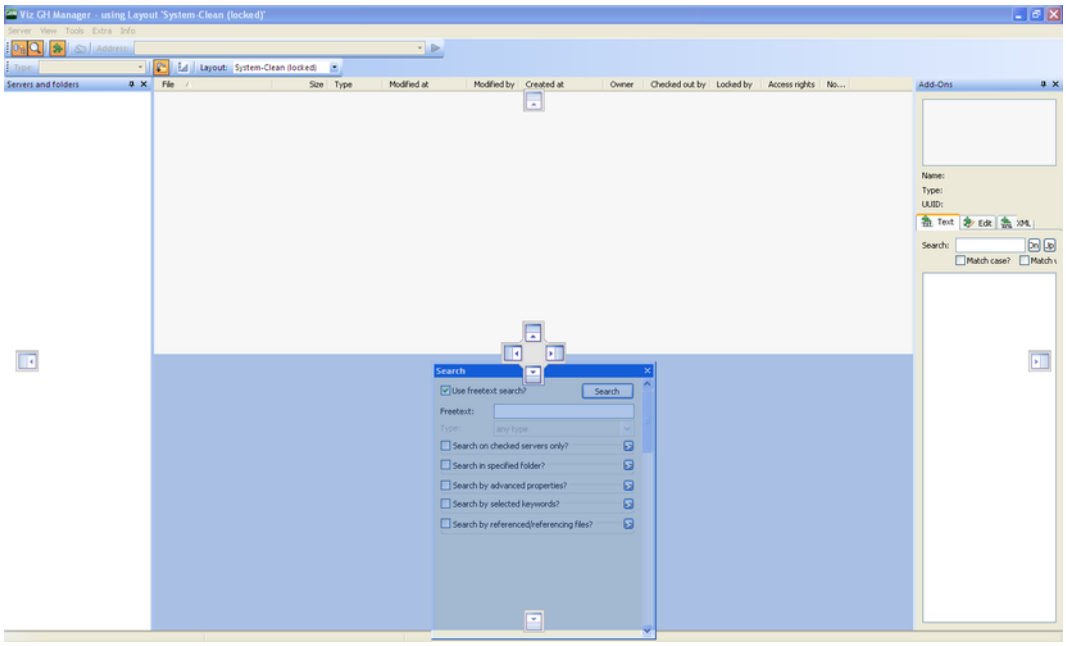
To drag and drop a layout UI elements

1. Click the title bar of the element you want place and move it out by holding the left mouse button down and in any free direction.

Symbols indicating the possible target positions appear.



When a valid place is reached, that area is highlighted.

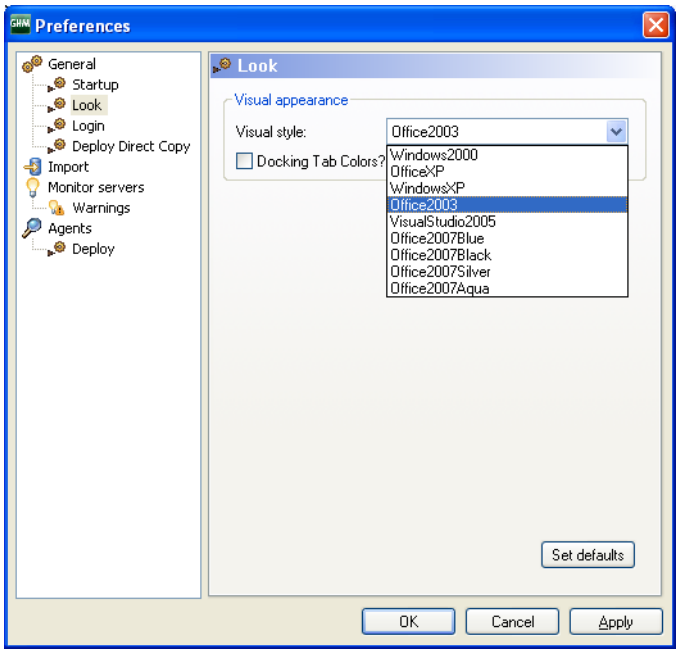


2. Drop the element in the desired target position.

To load a predefined look

1. Click *Tools -> Edit Preferences.*

The Preferences window is shown.

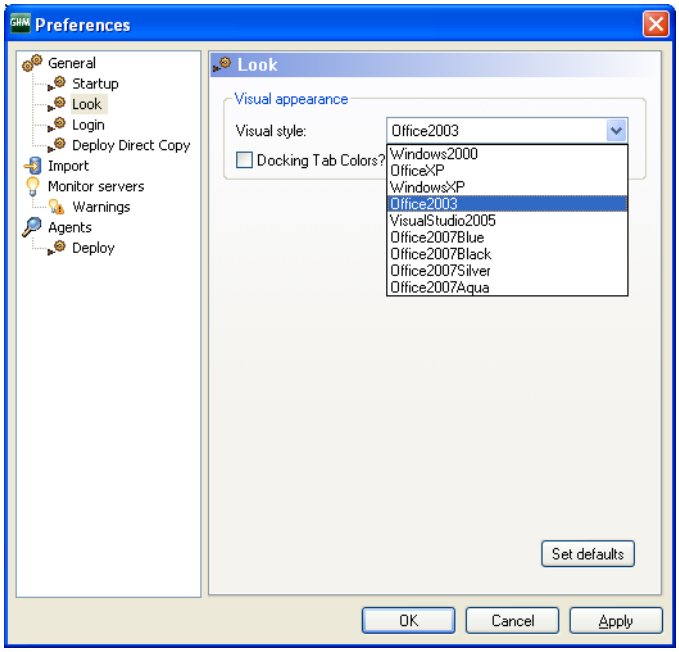


2. In the left panel, click **Look**.
3. From the drop down box, select a visual style.
4. Click **OK**.

To add docking tab colors

1. Click *Tools -> Edit Preferences.*

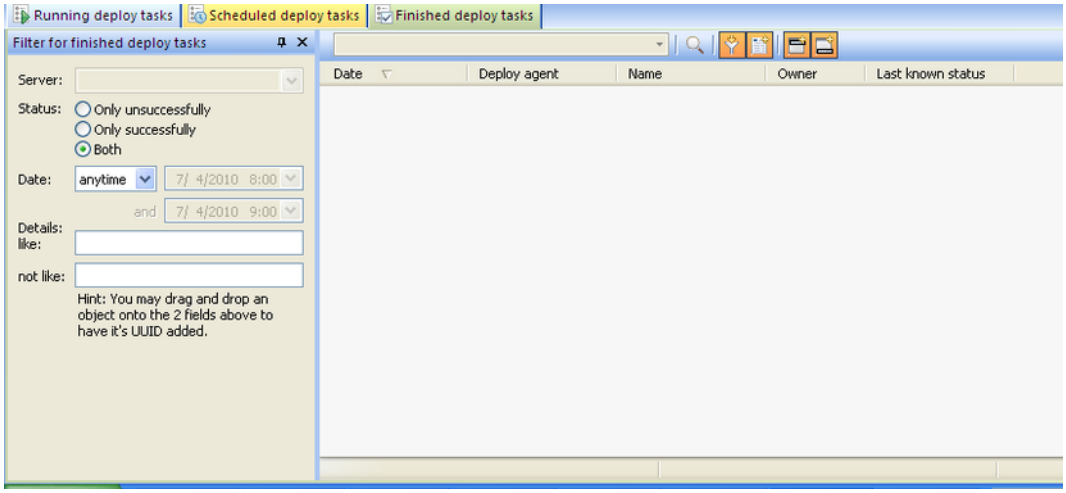
   The Preferences window is shown.



2. In the left panel, click **Look**.
3. Check the **Docking Tab Color** check box.

4. Click **OK**.

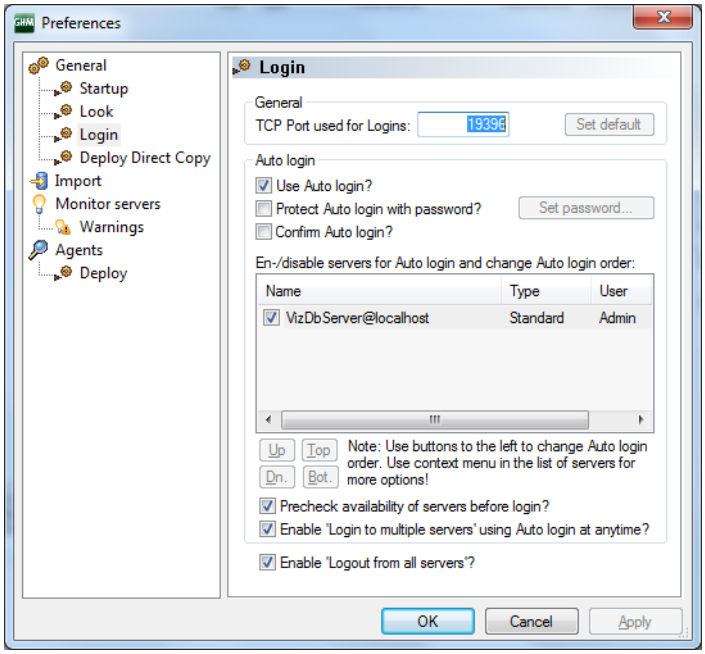
   When a series of elements are docked together, they appear as tabs.



To change the color of a server tree

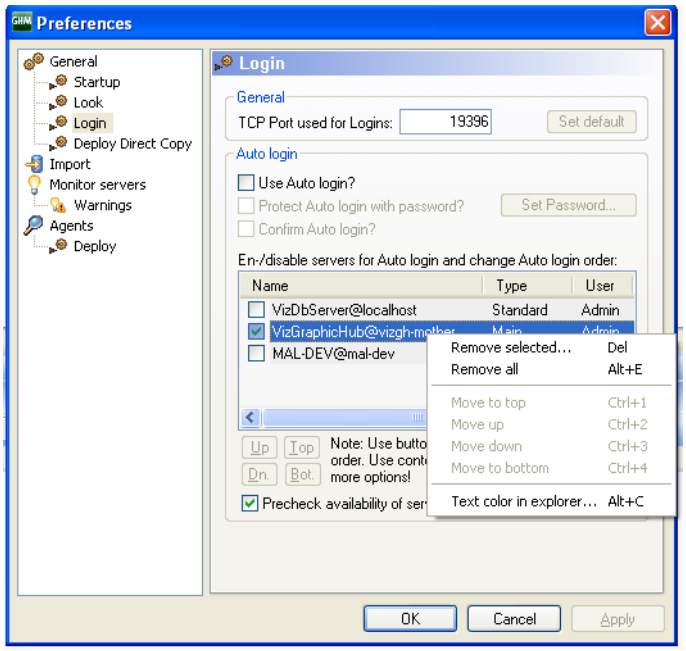
1. Click *Tools -> Edit Preferences.*

   The Preferences window is shown.



2. In the left panel, click **Login**.

3. Right-click a server and select **Text color in Explorer**.



4. Select a color from the color picker and click **OK**.
5. In the Preferences window, click **OK**.

To customize column layouts

- To move columns, click and drag left or right to the desired location.
- The following column options are available by right-clicking a column itself, or just to the right of all columns:
  - Remove column
  - Hide this column
  - Hide column <indicate column>
  - Display column <indicate column>
  - Remove all non-mandatory columns
  - Display all columns
  - Size all visible columns

Column customization works for the Explorer, Search results, Journal, ServerDiff, Scheduled tasks, Action Logs, Running tasks and Finished tasks.

5.10 Importing and Exporting Viz Graphic Hub Manager Settings

All workstation-based customizations to the Viz Graphic Hub Manager, such as changes to any of the panels, column layout and visibility, as well as the user interface in general can be exported (and subsequently re-imported on another machine).

To export local Viz Graphic Hub Manager settings

1. From the main menu, click *Tools -> Export settings (incl. layouts) to file.*
2. Select a file name and location and click **Save**.

The settings are saved with a file extension of **.vghms**.

To import local Viz Graphic Hub Manager Settings from another machine

1. From the main menu, click *Tools -> Import settings (incl. layouts) from file.*
2. Select a file name a file extension of **.vghms** and click **Open**.

6 Task Workflow

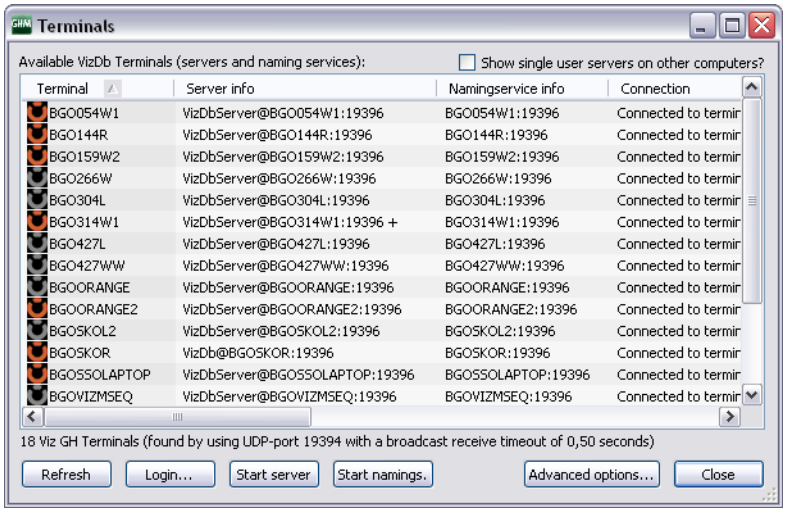
This section contains information on the following topics:

6.1 Server Observation

6.1.1 Viewing the Monitor

The Terminals window provides an interface to view all online terminals within the network. A terminal is the physical machine where the Viz Graphic Hub Terminal application is running.

Terminals Window



To open the Terminals window

- From the Main menu, select *Server -> Terminals*, or
- Press <F9>, or
- Press <CTRL+T>

The following columns are available:

- **Terminal:** Shows the hostname of the physical machine where the namingservice and/or server are installed. An icon represents the status of the server and namingservice:
  - Both the namingservice and server are down.
  - The namingservice is running, but the server is down.
  - The namingservice is down, but the server is running.
  - Both the namingservice and server are running.
- **Server info:** Shows <Viz GH Server>@<Viz Graphic Hub Namingservice>:<port the naming service is listening to>. A plus sign “**+**” is added if you are logged into the server shown.
- **Namingservice info:** Shows <Viz Graphic Hub Namingservice>:<port the naming service is listening to>.
- **Connection:** Shows if Viz Graphic Hub Manager has a valid connection to the Viz Graphic Hub Terminal.
- **Server:** Shows the name of the server.
- **S. host:** Shows the hostname of the physical machine where the server is installed.
- **S. port:** Shows the port number the server communicates through.
- **S. up:** Shows if the server is running. This is also indicated by the icon in the Terminal column.
- **S. in:** Shows if you are logged into this server.
- **Namingservice:** Shows the name of the namingservice.
- **Ns. port:** Shows the port number the namingservice communicates through.

- **Ns. up:** Shows if the namingservice is running. This is also indicated by the icon in the Terminal column.
- **T. TCP-port:** Shows the TCP port number, which can be used to start the server remotely from Viz Graphic Hub Manager.
- **Terminal host network IP:** Shows the IP address of the Terminal machine.

The following additional options are available:

- **Show single user servers on other computers:** If selected, also shows servers/namingservices in the network that are running in single-user mode (localhost).
- **Advanced options:** Opens the Terminals Advanced Options window. Alternatively, press <ALT+A>.
- **UDP-Port:** Defines the UDP port where Viz Graphic Hub Manager searches for Terminals.

  Note: The UDP port must be the same as the port the namingservice is listening to. If no port number figures, go to the Viz Graphic Hub Terminal itself and check in the Terminal Options which UDP port you set there; Change it accordingly in the Manager's Advanced Options.

  - **Timeout to receive answer from Viz Graphic Hub Terminals:** Defines how long the Viz Graphic Hub Manager should listen for Terminals before timing out. The value is set in milliseconds.
- **Refresh:** Updates the list. Alternatively, press <ALT+R>.
- **Login:** To log in to a server, select the desired server from the list, and then click the Login button. Alternatively, press <ALT+L>. This will open the Login window. See Start Up with a Single Server Login .

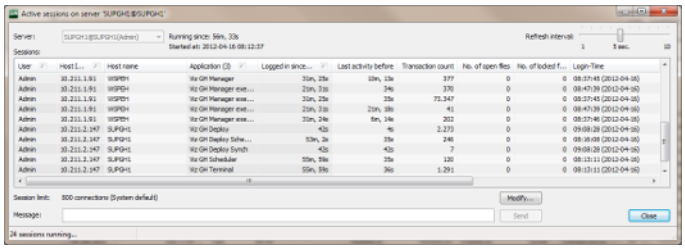
Note: It is not possible to log into a Viz Graphic Hub installation by remote in single-user mode (localhost) from other physical machines.

- **Start server:** If the server on a listed Terminal is not running, it is possible to start the server from this window. To do so, select the desired server from the list, and click the **Start Server** button. Alternatively, press <ALT+S>.
- **Start namingservice:** If the namingservice on a listed Terminal is not running, it is possible to start the namingservice from this window. To do so, select the desired server from the list, and click the **Start Namingservice** button. Alternatively, press <ALT+N>.

6.1.2 Monitoring Active Sessions

From the Active Sessions window it is possible to monitor all logged in users and active sessions. When faced with network or connection problems, checking active sessions can provide important clues. Likewise, performance problems in general are easy to spot in the Active Sessions window, since you can see hosts and servers. In sum, for a

good clue as to where to find connection, network and performance problems, look in the Active Sessions window.



To open the Active Sessions window

- In Viz Graphic Hub Manager, click *View -> Active Sessions.*

  Alternatively, press <CTRL+E>.

The following options are available:

- **Server:** If logged in to more than one server, select which server to monitor from the Server list.
- **Running since:** Shows how long the selected server has been running, counting upwards in hours, minutes, and seconds.

Tip: The time relates to the system time on the server machine.

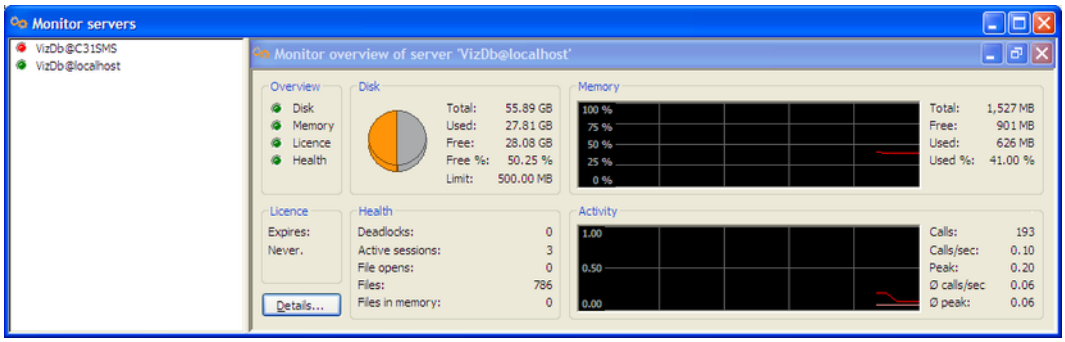
- **Started at:** Shows the time and date when the server was started.
- **Refresh interval:** Defines the interval for when information should be refreshed. It can be set to a value between one and ten seconds.
- **Message:** To send a message to all clients that are logged in to the selected server, type a text in the Message box, and then click the **Send** button.

The Sessions list shows detailed information about the sessions that are active on the selected server. The following columns are available in the Sessions list:

- **User:** Shows the name of the user that activated the session.
- **Host:** Shows the hostname of the machine that the session was started from.
- **Application:** Describes the application and operation that the session belongs to.
- **Logged in since:** Shows how long the user has been logged in to the server, counting upwards in hours, minutes, and seconds.
- **Last activity before:** Shows the last time an operation was performed in the session.
- **No. of open files:** Shows the number of files that are open in the system.
- **No. of locked files:** Shows the number of items that are session locked.
- **Login time:** Shows the time and date when the user logged in to the server.
- **Last activity:** Shows the time and date of the last time an operation was performed in the session.
- **Priority:** Set the priority of the sessions for the correct load balancing.
- **Session rights:** Shows the access (read/write) rights for the session.
- **Notifications:** Description used by the clients, for example to inform that items have been created.

6.1.3 Monitoring Servers

From the Monitor Servers window it is possible to view and analyze all servers that are currently logged in to.



To open the Monitor Servers window

- Click *Tools -> Monitor Servers*, or
- Press <F4>, or
- Press <CTRL+M>.

The left part of the Monitor Servers window lists all available servers.

The right part of the window shows details about one or more selected servers. If all the available servers are working within the desired parameters, this overview is hidden. If one or more servers are in warning state, the overview for these servers will open automatically.

To view server details

- Double-click the server in the Overview panel.

  Alternatively, right-click the server, and select **Open Overview**.
- Select **Open All Overviews** to show details of all available servers.

Overview

The Overview frame shows a quick overview of all the parameters. A green light next to the parameter indicates that all systems are normal. A yellow light indicates that there are non-critical problems. A red light indicates that system limitations have been reached or there are serious errors.

The overview shows this basic information for the following parameters:

- License
- Disk
- Memory
- Health

- Cluster
- Activity

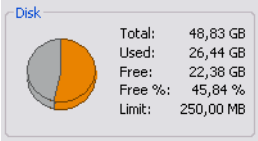
License

The License frame shows the status of the Viz Graphic Hub license.

The status shows license limitations or remaining number of days until the license expires. If your license expires, you will receive instant chat messages with increasing frequency to that effect.

Disk

The Disk frame shows the status of the currently used partition where the data directory is located on the hard disk of the physical machine.

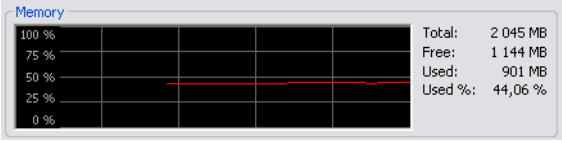


The status shows total, used, and free disk space, and also the warning limit. If the free disk space reaches this limit, you will receive Server Notifications to this effect. The warning will also be logged in the Journal Panel.

The warning limit is defined in the Preferences window.

Memory

The Memory frame shows an overview of the physical memory of the server both in numeric values and over time.



Health

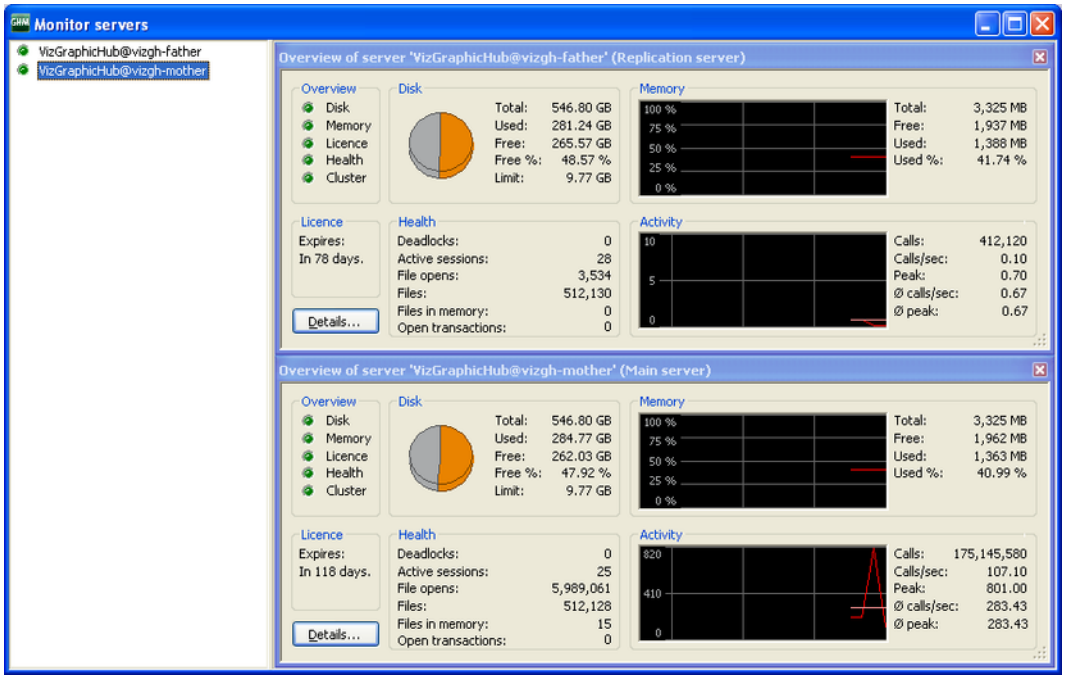
The Health frame shows various Viz Graphic Hub status parameters.

- **Deadlocks:** Shows the number of deadlocks in the system. Any deadlocks will necessitate the restarting of Viz Graphic Hub.
- **Active sessions:** Shows the number of current sessions.
- **Files open:** Shows the number of files that are currently open.

- **Files:** Shows the total number of files stored in the system.
- **Files in memory:** Under normal operating circumstances, this parameter should be either 0 or 1. Greater than 1 indicates locked files. In this case, see the procedures:
  - To restore corrupted files
  - To restore Viz Artist after it crashes
- **Open transactions:** These are transactions that need to be deployed to the other server in the replication environment. If the number is too high, stop working until it is back to zero.

Cluster

If you are logged into both main and replication servers, you are presented with a Monitor Servers screen that reflects this.



- **Title bar:** Each server's title bar shows its current status.
- **Cluster**: Shows if the cluster is connected and healthy.
- **Open transactions**: These are transactions that need to be deployed to the other server in the replication environment. If the number is too high, stop working until it is back to zero.

Activity

The Activity frame shows an overview of the server activity both in numeric values and over time.

- **Calls:** Shows the total number of calls made my any application to the Viz Graphic Hub Server.

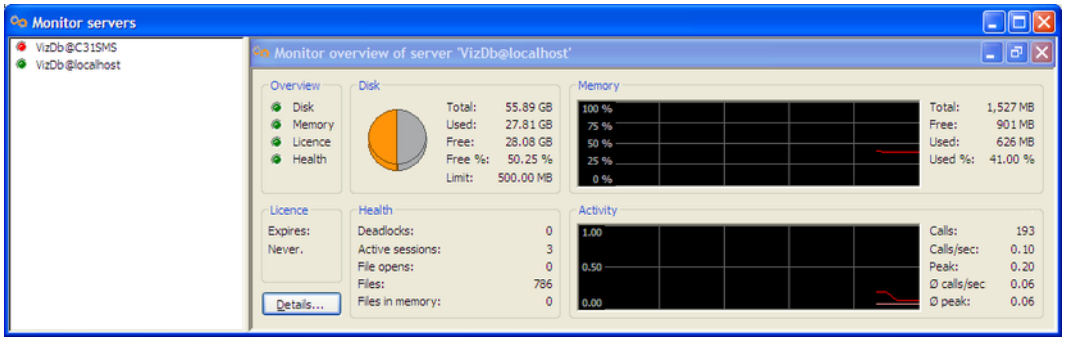
- **Calls/sec:** Shows the average number of calls per second.
- **Peak:** Shows the highest amount of calls during one second.
- **Ø calls/sec:** Shows the average number of calls during one second for the total run time of the server.
- **Ø peak:** Shows the highest amount of calls during one second for the total run time of the server.

Server Details

This window shows information about the projects/folders and items stored in the Viz Graphic Hub and loaded into the memory.

To view server details

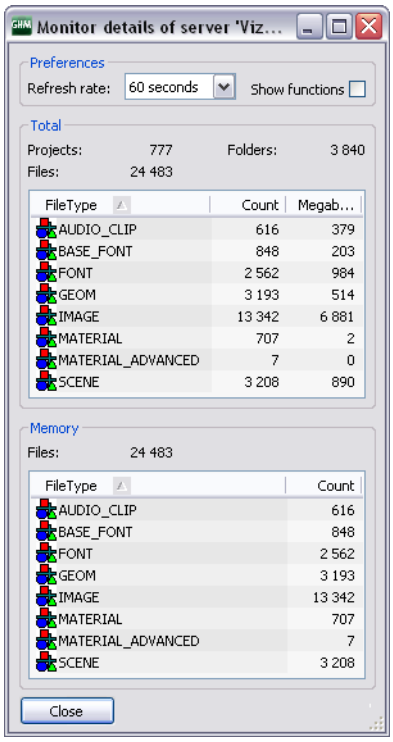
- In the Monitoring Servers window, click the **Details** button.



Note: Only users with administrator rights can access this window.

- From the **Refresh Rate** drop down box it is possible to set the interval of when the information should be updated.

- Selecting the **Show Functions** check box will show additional information used for debugging purposes.



The Total frame shows the following information:

- **Projects:** Shows the total number of projects in the Viz Graphic Hub.
- **Folders:** Shows the total number of folders in the Viz Graphic Hub.
- **Files:** Shows the total number of items in the Viz Graphic Hub.

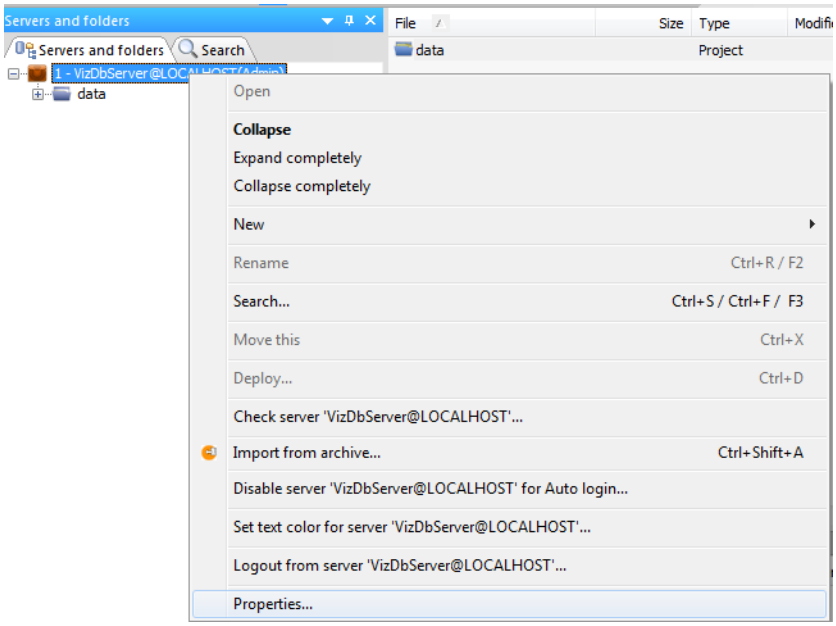
6.1.4 Server Properties

The Server Properties window shows the following types of information:

- General Server Information
- Checksum Information

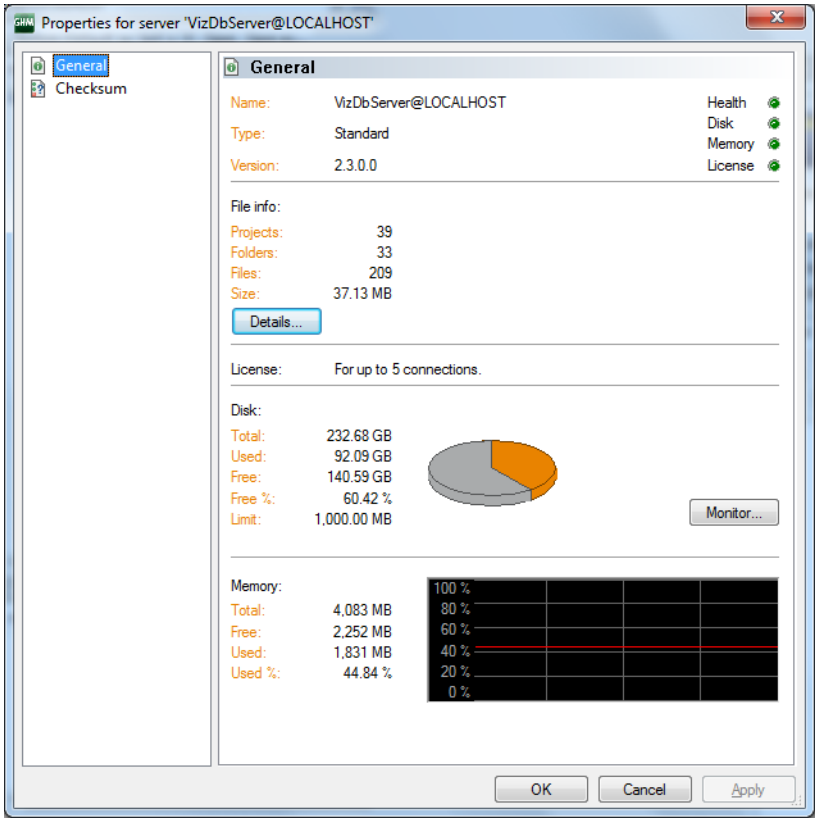
To view server properties

- In the Servers and Folders panel, right-click the server and select **Properties**.



General Server Information

General Server Properties



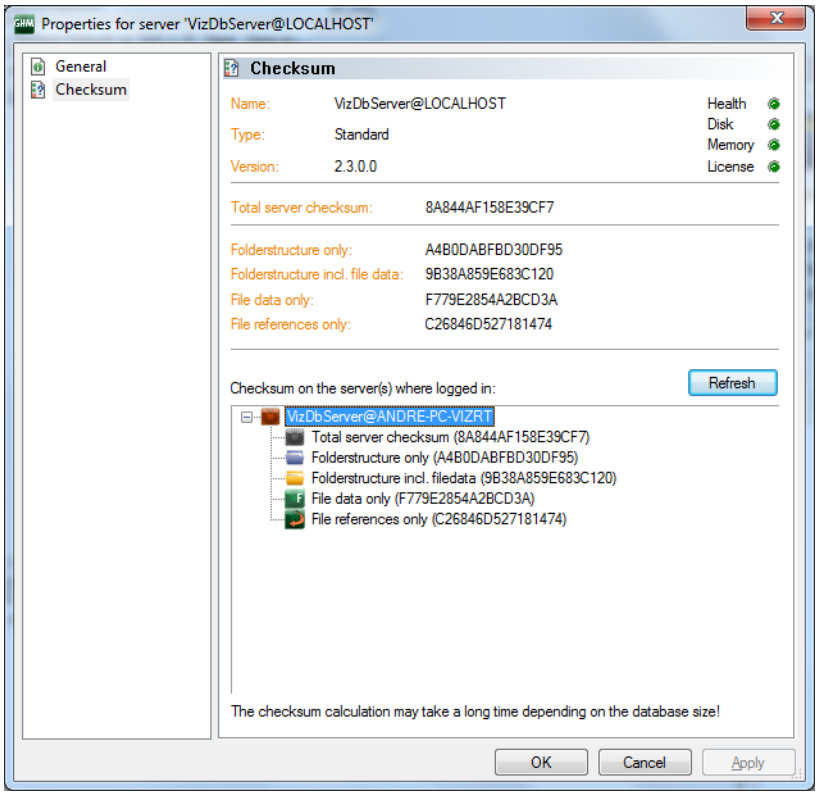
In addition to the server's name, type and version, general server information includes:

- License
- Disk
- Memory
- Health
- Server Details

Checksum Information

View the checksum when you want to compare two or more Viz Graphic Hub servers to see how identical they are. This is useful after having performed replication operations or when you have a real-time deploy agent. Identical servers will have a checksum of 00.

Server Checksum Properties



In addition to the server's name, type and version, checksum server information includes:

- License
- Disk
- Memory
- Health
- Server Details

Use the **Refresh** button to update the checksum information for the servers you are currently logged in to.

Checksum information includes:

- Total server checksum
- Folder structure (including file data)
- File data only
- File references only

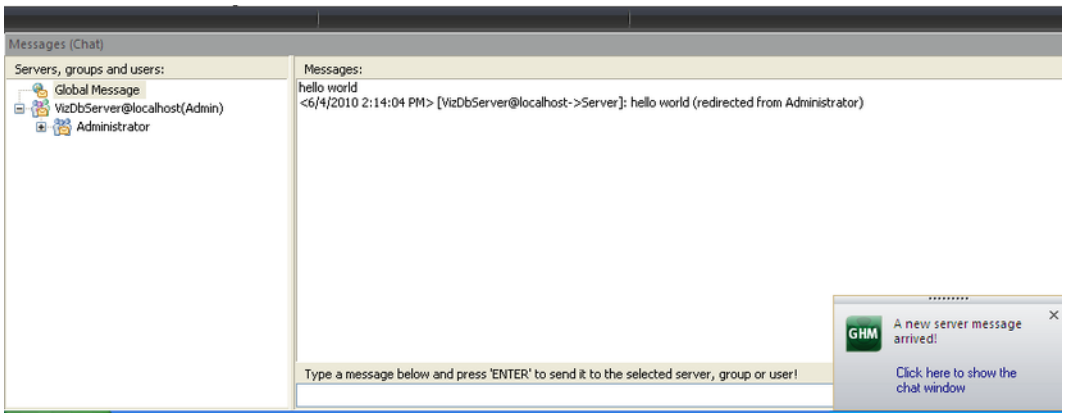
Identical servers will have a checksum of 00.

6.1.5 Chatting with Artists

Users can communicate with each other while logged in to Viz Graphic Hub. This chat functionality is also used to receive global messages from Viz Graphic Hub, such as information about a system shutdown. The messages that are sent and received are saved throughout the session.

If your dongle expires or is otherwise invalid, you will receive messages in the chat panel with increasing frequency until you renew it.

Tip: The chat feature is available from both Viz Graphic Hub Manager and Viz Artist.



To open the chat panel

- Click *View -> Messages (Chat).*
- To hide the chat panel, perform repeat the step above, or
- Press <F6>, or
- Press <CTRL+H>.

Note: If receiving a message while the Chat panel is hidden, the panel will automatically open.

To send an instant message

1. Perform the procedure To open the chat panel.
2. Select the recipient from the left panel.
3. Type a message text in the box, and then press <ENTER>.

   The message will then be sent to the defined Viz Graphic Hub Manager and/or Viz Artist user(s).

Tip: Messages sent to **Global Message** are delivered to everyone. Messages sent to a group are delivered to every group member currently logged in.

6.1.6 Server Notifications

The Viz Graphic Hub Server issues messages in the following scenarios:

- **Viz GH needs administrative attention**: If you get this message, see Monitoring Servers.
- **License errors or expiration**: If you get this message, see License.
- **Low memory**: If you get this message, see Memory.
- **Low disk space**: If you get this message, see Disk.

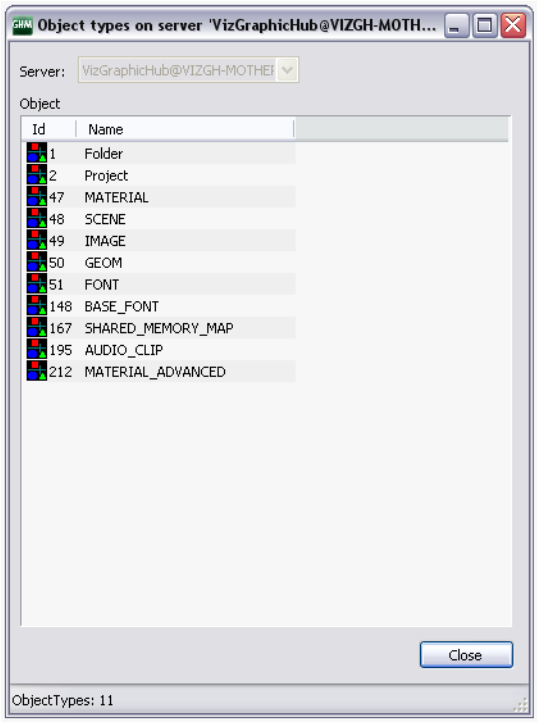
6.1.7 Monitoring Object Types

From this window you can view at a glance the object types on a selected server. Object types are scenes, images, geometry types, materials, fonts, etc.

To monitor item types

1. Click *View -> Object Types,* or press <CTRL+B>, or <CTRL+F6>.

   The object types window is shown.



2. If logged in to more than one server, select which database to monitor from the Server list.

Each object type is shown with its corresponding ID.

6.1.8 Reporting

Reports can be generated manually or automatically.

- Manual Exporting of Reports
- Automatic Exporting of Reports

Manual Exporting of Reports

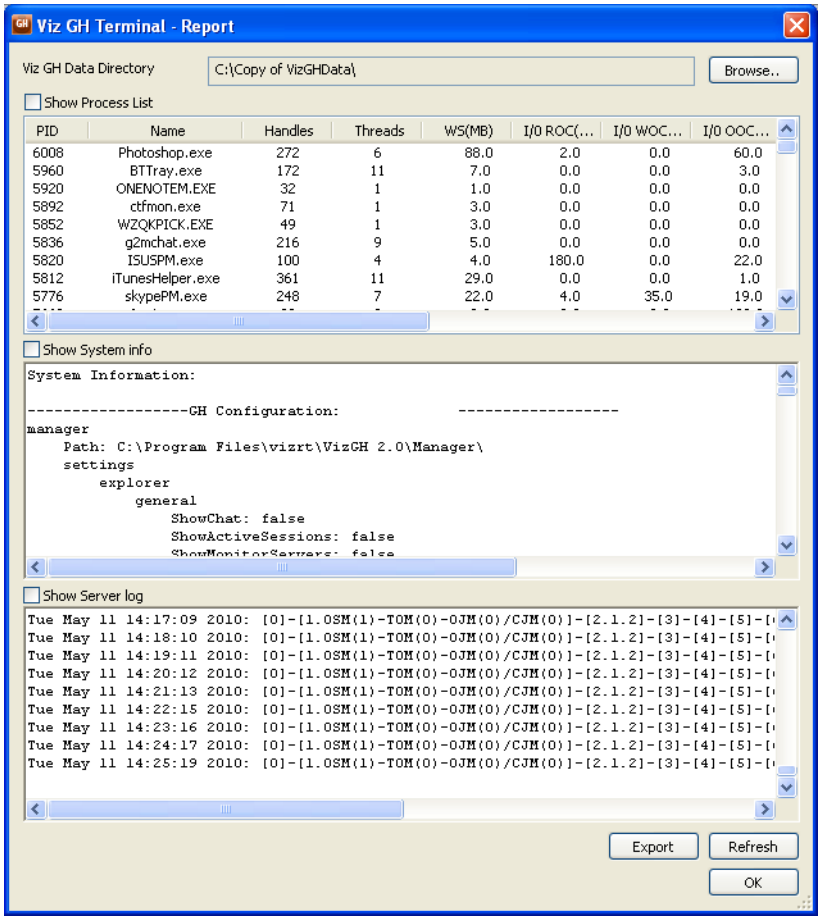
Reports are essential troubleshooting tools whenever there is any kind of system error. Generating a report should be one of your first actions whenever you are engaged in finding a solution to a problem in Viz Graphic Hub.

To this end, you can also configure Viz Graphic Hub for the Automatic Exporting of Reports whenever there is an unexpected server shutdown.

IMPORTANT! In the reports folder, there is a file called SystemInfo.txt. Before sending this file anywhere, be sure to read it and delete any information contained therein that could compromise your company's security policy and interests.

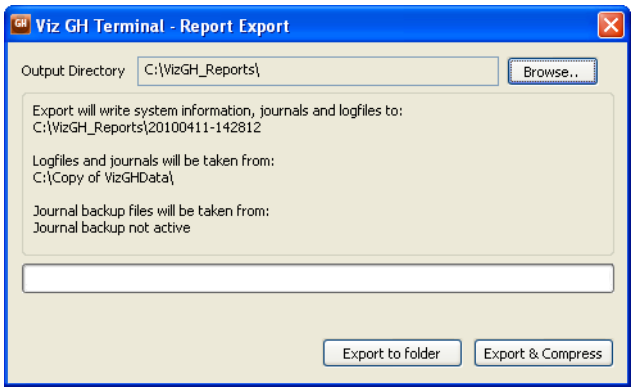
To manually generate a report

1. In the Viz Graphic Hub Terminal, from the main menu, click **Report**.
   The report window is shown.

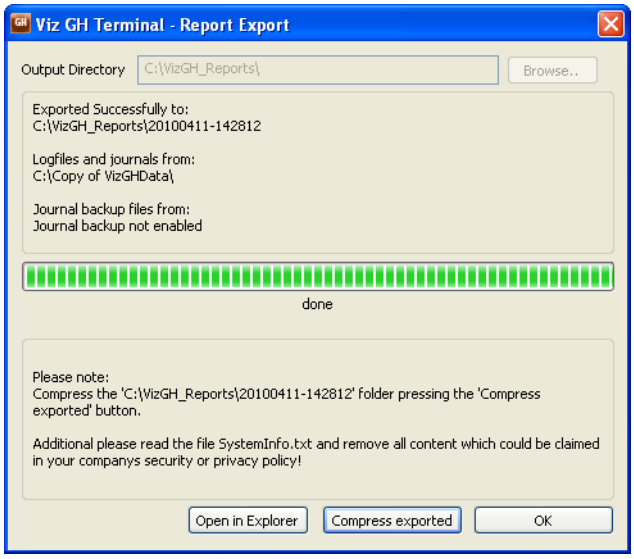


2. Click the **Export** button.

The Report Export window is shown.



3. Click the **Browse** button if you want to redefine the reports' destination folder.
4. Select one of the following options:
   - Click **Export to folder** to simply place the report files in the destination folder.
   - Click **Export & Compress** to zip the report files (for easier transferring) before placing them in the destination folder.



5. Once the report has been exported, you have three options:
   - Open Windows Explorer to view it.
   - Compress the exported files (if you realize that they are too big).
   - Do nothing - click **OK**.

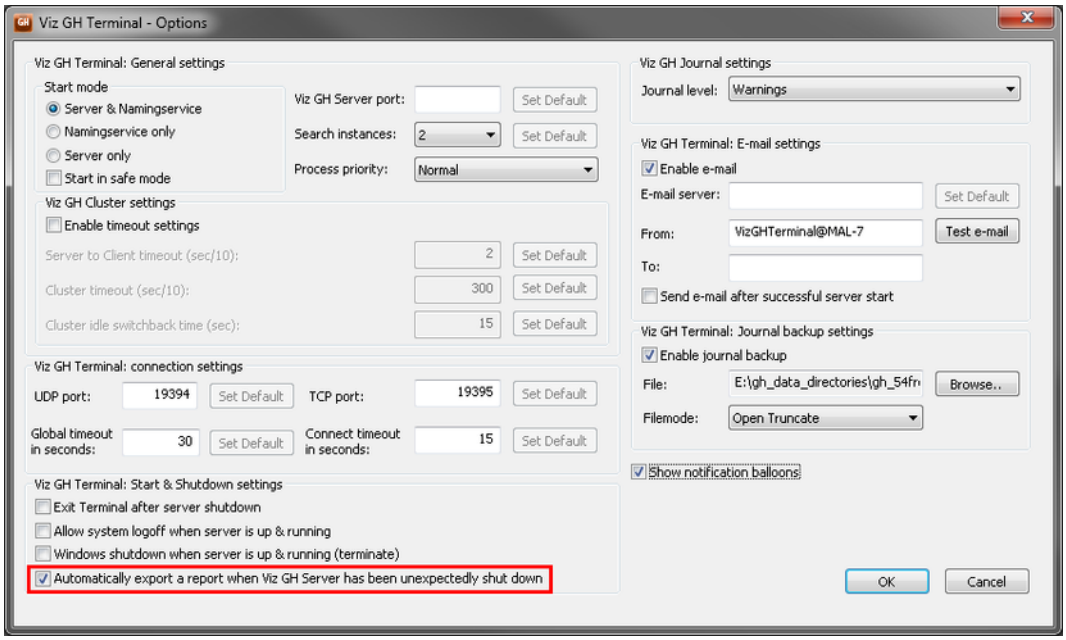
Automatic Exporting of Reports

As well as the Manual Exporting of Reports containing errors, you have the option of setting Viz Graphic Hub Terminal to automatically export reports whenever an defined error occurs (such as unexpected server shut down).

To set up automatic exporting of reports

1. In Viz Graphic Hub Terminal, from the main menu, click **Options**.

2. Under the Viz Graphic Hub Terminal: Start & Shutdown Settings, check the **Automatically export a report when Viz Graphic Hub Server has been unexpectedly shut down** check box.



3. Click **OK**.

6.2 Working with the Journal

The journal records all server activities. When faced with troubleshooting scenarios, the journal is a good place to search for clues. The activities logged in the journal are the creation, modification and deletion of objects in Viz Artist, as well as other information messages, warnings, errors and deploy task information.

- Querying the Journal
- Exporting Journal Entries
- Importing Journal Entries
- Configuring Email Notifications

6.2.1 Querying the Journal

This section contains the following procedures:

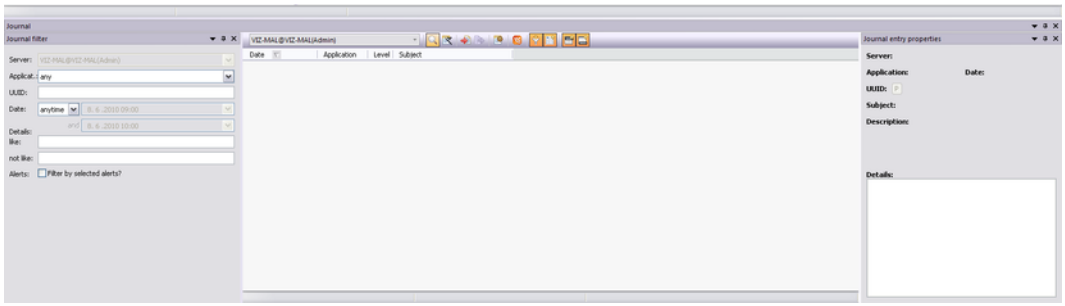
- To view the journal
- To search the journal with filter settings
- To view a live feed of server activities

To view the journal

- Click *Server -> Administer journal entries*, or
- Press <CTRL+SHIFT+F6>.

  The journal is shown in the bottom panel.

Journal



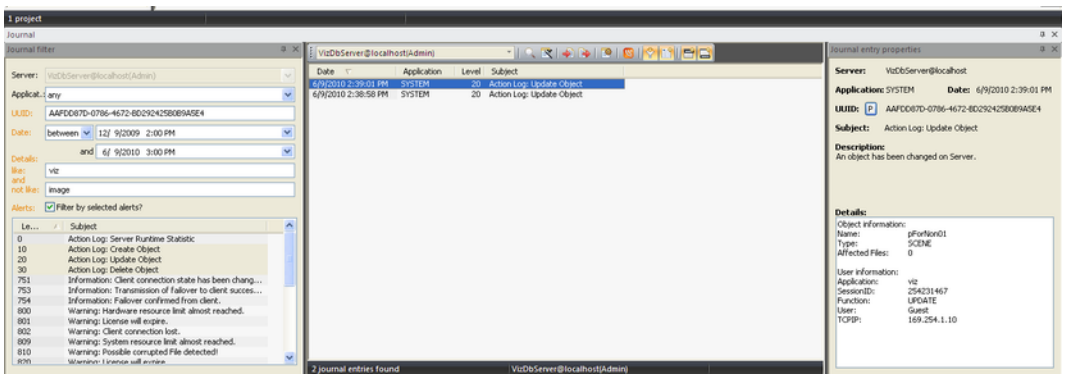
To search the journal with filter settings

1. Perform the procedure To view the journal.
2. In the Journal filter, from the Server drop down box, select a server.
3. Select an application. Your options are:
   - **Any**: Searches **System** and **Viz GH Deploy**.
   - **System**: Viz Graphic Hub Server. Any work done on Viz Graphic Hub will be logged in the system.
   - **Viz GH Deploy**: All Direct Deploy Copy (DDC) tasks, successful or failed, plus warnings and other pertinent information, are logged in the journal.
4. Optionally, enter a UUID of a folder or file.

   Note: Adding a UUID to the search criteria may provide hints toward finding and resolving corrupted files. See the troubleshooting procedure To restore corrupted files.
5. From the **Date** drop down box, select *one* of the following options:
   - **Anytime**
   - **From**: Selecting this option will prompt you to also enter a beginning date and time.
   - **Until**: Selecting this option will prompt you to also enter an ending date and time.
   - **Between**: Selecting this option will prompt you to also enter a beginning and ending date and time.
6. In the **Details like** field, enter free text like name of the task, name of the agent, or any description that may figure in the task.
7. In the **Details not like** field, enter free text like name of the task, name of the agent, or any description that you want to exclude from the task search.
8. Check the **Alerts** check box if you wish to filter by selected alerts.

   There are various Action Logs, information messages, warnings and errors to choose from.
9. Optionally, click the Optimize Search for Faster Export button.

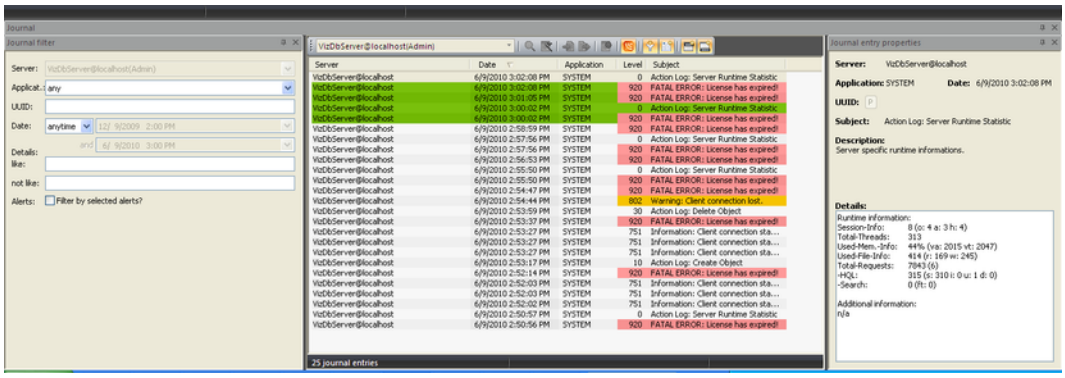
10. In the Journal, click the Search button.



The search results are shown in the panel below. When one is selected, the details are shown in the panel to the right.

To view a live feed of server activities

1. Follow the procedure To search the journal with filter settings.
2. In the journal toolbar, click the Feed button.



The journal is now updated in real time.

- **Green** entries are new journal entries.
- **Yellow** entries are warnings.
- **Red** entries are errors.
- Only the **Level** and **Subject** columns are colored in red or yellow when there are warnings and errors to report.

6.2.2 Exporting Journal Entries

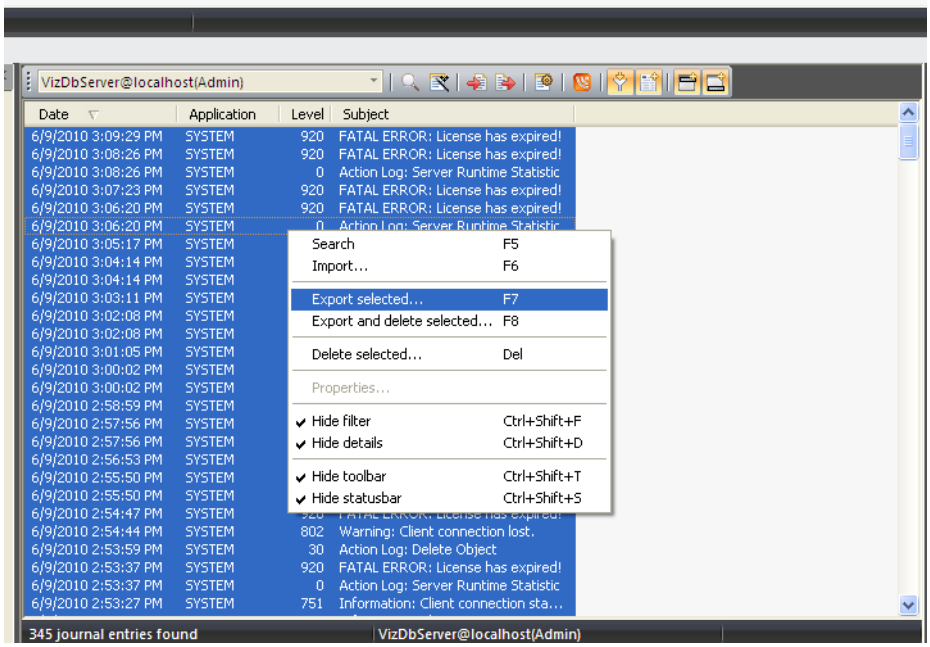
There are two modes for exporting journal entries:

- To manually export journal entries
- To automatically export journal entries

To manually export journal entries

1. Follow the procedure To search the journal with filter settings.

2. In the journal, select the entries you wish to export.



Tip: Press <CTRL+A> to select all entries.

3. Right-click the selection and select **Export Selected**.

Note: You can also select **Export and Delete Selected** which will also free up disk space and increase performance.

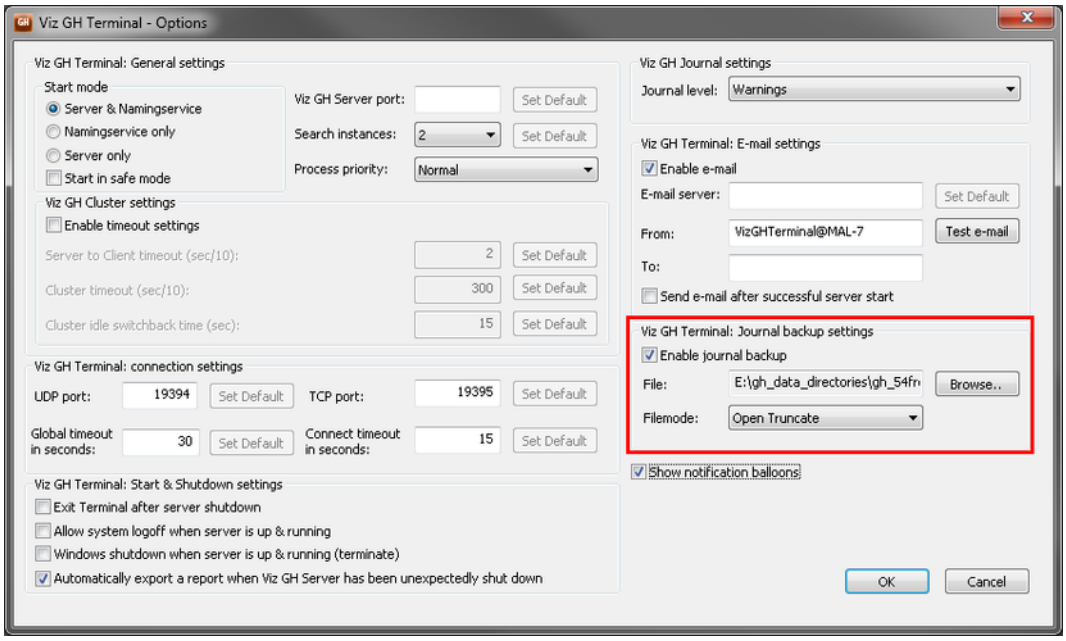
You are prompted to select a location for the exported file.

4. Select the location, optionally enter a file name, and click **Save**.

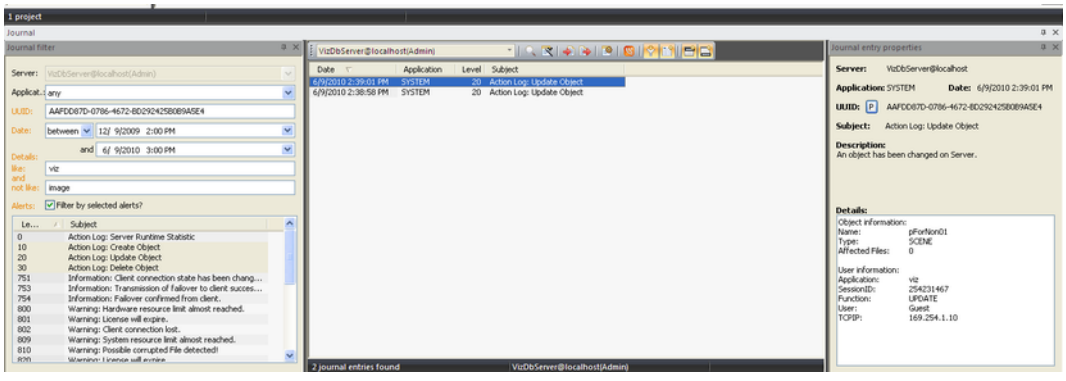
To automatically export journal entries

1. Make sure that the Viz Graphic Hub Server is shut down via the Viz Graphic Hub Terminal.

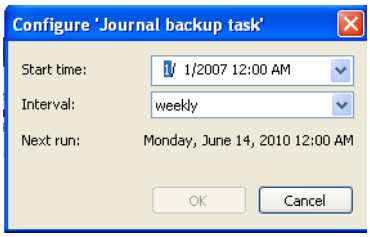
2. In Viz Graphic Hub Terminal, click **Options**.



3. Check the **Enable journal back up** check box.
4. Click **Browse** and select a location for the exported files to be saved.
5. Select a **File Mode**. Your options are:
   - **Open Truncate** - All entries are saved to a single file. Newest entries are at the end.
   - **New by Date** - A new file is created for each date.
   - Click **OK**.
6. Restart the Viz Graphic Hub Server.
7. Start Viz Graphic Hub Manager and log into the required server.
8. Perform the procedure to To view the journal.
9. In the journal toolbar, click the button to show the backup task configuration.



You are prompted to set the frequency of the automatic export.



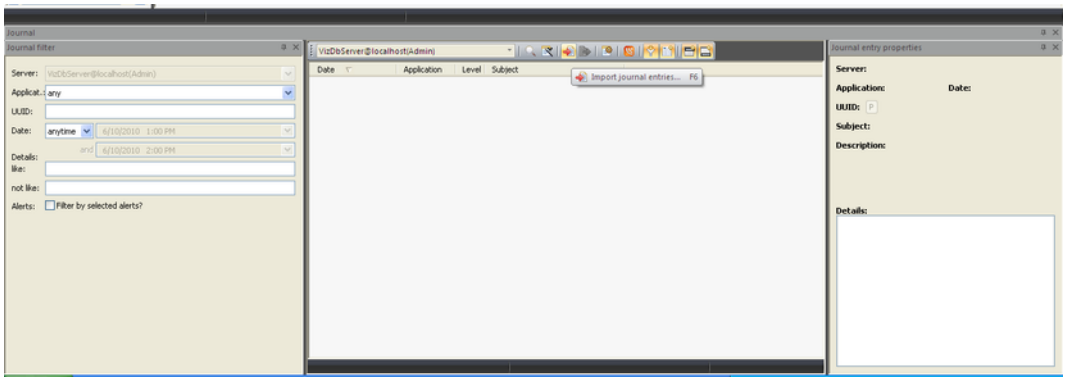
10. Select the start date and time.
11. Select the frequency.
12. Click **OK**.

6.2.3 Importing Journal Entries

Exported journal entries can be reimported by other users for help with troubleshooting.

To import journal entries

1. Perform the procedure To view the journal.
2. In the journal toolbar click the Import Journal Entries button.



You are prompted to select an XML file for import.

3. Select the desired file and click **Open**.

   The file is loaded into the journal.

6.2.4 Configuring Email Notifications

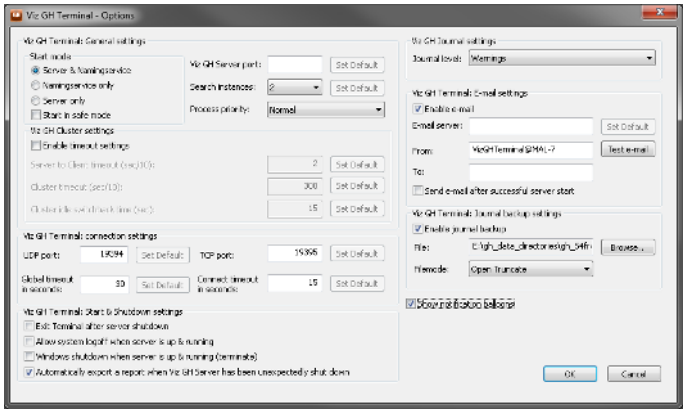
You can arrange emails to be sent regarding specific types of journal entries. This type of journal information includes:

- Action Log
- Information
- Warnings
- Errors
- Deploy task information

The procedure involves enabling mail to be sent from the Viz Graphic Hub Terminal, and then configuring the which messages are to be sent and when in the Viz Graphic Hub Manager.

To enable email

1. If running, shut down the Viz Graphic Hub Server.
2. From the Viz Graphic Hub Terminal, click **Options**.



3. In **Viz GH Journal settings**, select **All** from the Journal level drop down box.
4. Check the **Enable Mail** check box.
5. In the **Mail Server** field, enter your SMTP mail server.

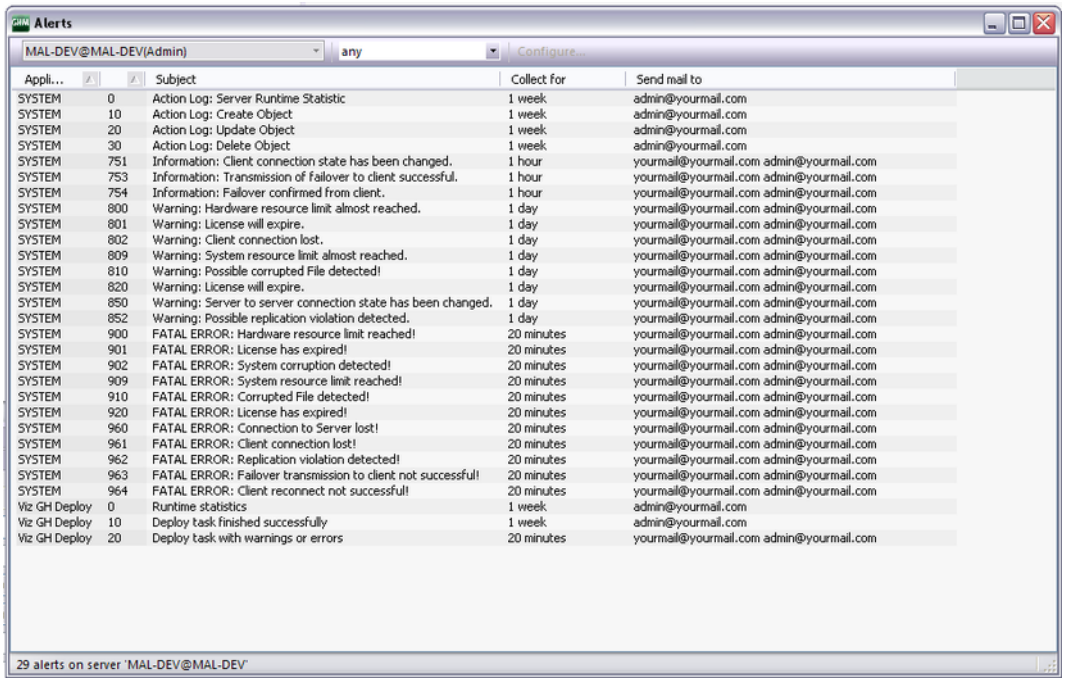
   Note: Popmail servers do not work.

6. In the **From** field, enter an email address from which the mails are to be sent.
7. In the **To** field, enter a valid email address to which emails are to be sent.
8. Click **OK**.
9. Restart the Viz Graphic Hub Server.

To configure the sending of emails

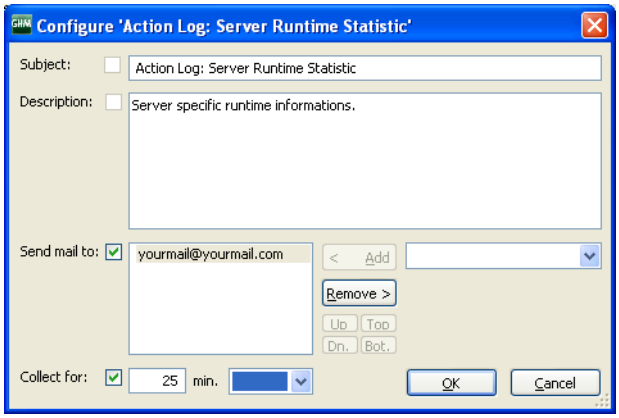
1. In Viz Graphic Hub Manager, click **Server - Configure alerts**.

The Alerts window is shown.



2. From the list, select one or more subjects about which you wish to be informed by email.
3. Click the **Configure** button.

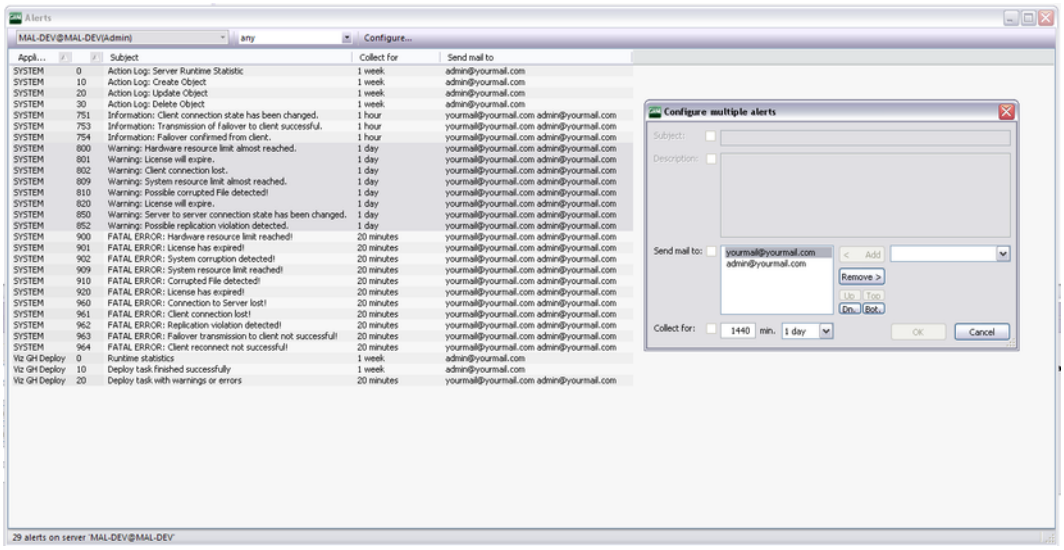
   The Configure Email window is shown.



4. From the drop down box in the lower-right corner, enter or select the address(es) to which the email alerts are to be sent.
5. At the bottom left, if you wish to override the default, enter an interval in minutes or select a pre-defined interval from the drop down box. Data will be collected and messages will be sent at this frequency.
6. Click **OK**.

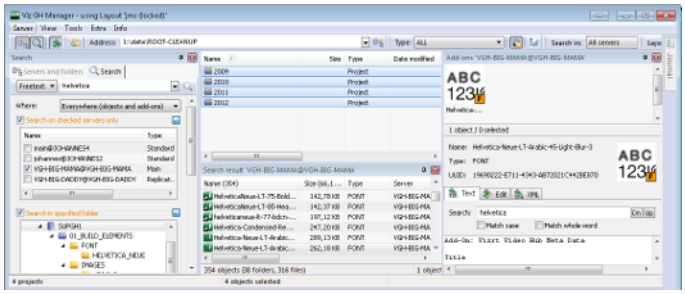
Note: If you click **Cancel**, you can still save the mail for future use, without it actually being sent.

Messages to be sent now figure in the Alerts window.



6.3 Searching

The Viz Graphic Hub Manager's Search functions can search for items, folders or project on one or more servers.



There are two types of searches available in the GH Manager, To search with Free text searchVizBold **(which includes a** Quick SearchVizBold **) and** Standard SearchVizBold .

If the search panel is not open, see To view the Search panel. Search results are shown in the Results panel and results can be filtered per server, if the search was over more than one server.

To view the Search panel

1. In the main tool bar click on *View -> Panes -> Search.*
2. Click on Search to open or close the Search panel.

This section contains information on the following topics:

- Free Text Search
- Standard Search
- Search String Syntax

- Best Practices for Searches

6.3.1 Free Text Search

The free text search searches for files, folders or projects and can include any or all of the these search strings (see Search String Syntax):

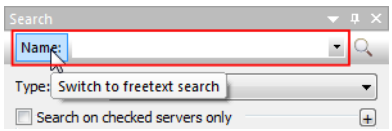
- File names
- Folder names
- File owners
- File UUID (if enabled in Viz Graphic Hub)
- File type (geometry, font, images, etc.)
- Assigned keywords

This section contains information on the following procedures:

- To search with Free text search
- Search by checked servers only

To search with Free text search

1. In the Search panel (To view the Search panel) toggle the Name / Freetext field to **Freetext**.



2. In the **Freetext** field enter the search parameters (for best results see Search String Syntax).
3. In the **Where** drop down box, select where to search:
   - Everywhere (objects and Add-ons)
   - In objects (files and folders only)
   - In add-ons (metadata only)
4. If more than one server is open, click in the Search by checked servers only box to select the server or servers to be searched.

   Note: If **Search on checked servers only is checked than at least one server must be selected.**

5. If only one server is open or selected, select which folder is to be searched, if required:
   1. Click in the Search in specified folder check box.
   2. Select the folder to be searched.
   3. Click in the **Search in Sub-folders** check box, if required.
6. Press <ENTER> or click on the search icon .

Note: To open or hide search criteria click on the icon, to the right of each search criteria.

Search by checked servers only

- If more than one server is open click in the **Search on checked servers only and select the required server or servers to be searched.**

Go to To search with Free text search.

Note: To search with all available search criteria, only one server can be searched at a time.

Note: If **Search on checked servers only is checked than at least one server must be selected.**

Quick Search

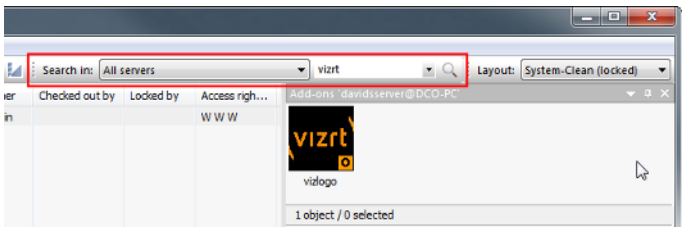
The Quick Search function gives a quick means to search for a file, folder or project.

To view the Quick Search bar

1. In the main tool bar click on *View -> Toolbars -> Quick search.*
2. Click on Quick search to open or close the Quick search toolbar.

To use the Quick Search function

1. In the Quick search tool bar click in the Servers drop down box and select the server or all servers to be searched.
2. In the text field enter the search string.
3. Press <ENTER> or click on the search icon .



6.3.2 Standard Search

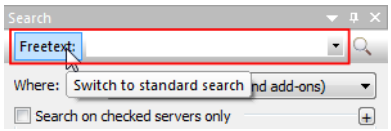
The Standard search searches for files with more detailed search options. Search by one or a combination of different search criteria.

This section contains information on the following procedures:

- To search with Standard search
- Search by checked servers only
- Search by specified folder
- Search by advanced properties
- Search by selected keywords
- Search by References
- Search by checked servers only

To search with Standard search

1. In the Search panel (To view the Search panel) toggle the Name / Freetext field to **Name**.



2. In the **Name** field enter name search parameters, if required.
3. From the **Type** drop down box, select the item type to be searched for.
4. Click on the check boxes to add search criteria as required:

Note: If more than one server is open or selected, only the Search by advanced properties criteria is available (see Search by checked servers only).

- Search by checked servers only
- Search by specified folder
- Search by advanced properties
- Search by selected keywords
- Search by References
- Search by checked servers only

5. Press <ENTER> or click on the search icon .

Note: To open or hide search criteria click on the icon, to the right of each search criteria.

Search by checked servers only

- If more than one server is open click in the **Search on checked servers only and select the required server or servers to be searched.**

Go to To search with Standard search.

Note: To search with all available search criteria, only one server can be searched at a time.

Note: If **Search on checked servers only is checked than at least one server must be selected.**

Search by specified folder

1. Check the **Search in specified folder** check box.
2. Select a folder to search in.
3. If required, check the **Search in subfolders** check box.
4. If required, add more search criteria (To search with Standard search).
5. Press <ENTER> or click on the search icon to search.

Search by advanced properties

1. Check the **Search by Advanced Properties** check box.
2. Enter search parameters as required:
   - **Size:** Searches for items that are either at least, at most, or between the defined size(s) in KB.
   - **Created:** Searches for items created either after, before, or between the defined date(s).
   - **Modified:** Searches for items modified either after, before, or between the defined date(s).
   - **Use group instead of users:** If selected, the next four options will apply to groups instead of users.

   Note: Only registered users/groups will be available from the lists.

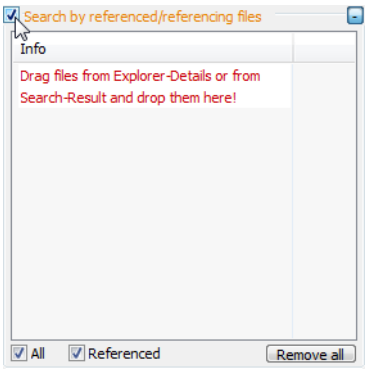
   - **Owned by:** Searches for items owned by user.
   - **Modified by:** Searches for items that was last modified by the defined user.
   - **Checked out by:** Searches for items checked out by the defined user.
   - **Search by access rights:** If selected, searches for items that have write permission either on user (UW), group (GW), or world (WW) level.
3. If required, add more search criteria (To search with Standard search).
4. Press <ENTER> or click on the search icon to search.

Search by selected keywords

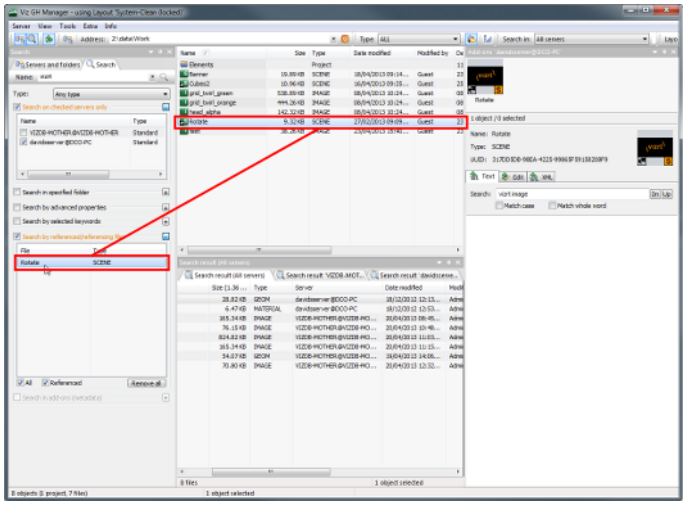
1. Check the **Search by selected keywords** check box.
2. In the upper field enter the first characters of the keyword, or enter * to list all available keywords.
3. A list of available keywords that match the characters will then show in the keywords list.
4. Select one or more keywords that match the search criteria.
5. Check or uncheck the **All** check box:
   - **Checked:** Search for Scenes or Geometries which contain all search items.
   - **Not checked:** Search for Scenes and Geometries which contain at least one of the search items.
6. If required, add more search criteria (To search with Standard search).
7. Press <ENTER> or click on the search icon to search.

Search by References

1. Check the **Search by Referenced/Referencing Files** check box.



2. Drag and drop an item or items into the drop area.



3. Make sure that the Reference check box is checked.
4. Check or uncheck the **All** check box:
   - **Checked:** Search for Scenes or Geometries which contain all search items.
   - **Not checked:** Search for Scenes and Geometries which contain at least one of the search items.
5. If required, add more search criteria (To search with Standard search).
6. Press <ENTER> or click on the search icon to search.

Tip: To remove items from the drop area, right-click the item and select **Remove Selected**.

Tip: To view a file in the drop area in the Explorer, right-click the desired item, and select **Open Containing Folder in Explorer**.

Tip: To open the Properties window for an item, right-click the desired item, and select **Properties**.

Tip: Use **Search by References to** search and replace Images or Fonts referenced by several Scenes or Geometries, with different Images or Fonts. For

example, if a company logo changes, search for the image references, select each required Scene and replace the image (see Replacing Item References).

6.3.3 Search String Syntax

Free text search string syntax is very similar to the search string syntax of other comparable web search engines.

Example: zebra scene -project -folder

In the above example, the search will be conducted on any item names, item owners, UUIDs, item types, and keywords that include the string **`zebra`** and **`scene`**. This search *excludes* projects and folders, plus any of the other searched items that include the words **`project`** and **`folder`**.

Example: giraffe -image -geometry

In the above example, the search will be conducted on any item names, item owners, UUIDs, item types and keywords that include the string **`giraffe`**. This search *excludes* images and geometries, plus any of the other searched items that include the words **`image`** and **`geometry`**.

6.3.4 Best Practices for Searches

Viz Graphic Hub Manager's search capabilities are powerful enough to replace the need for browsing for items in the server tree. This is meant make your Graphic Hub work faster and easier.

For example, if you have just created a scene on your design cluster, and you know the scene name is **soccer**, just search for **`scene soccer.`** From the results, you can simply drag and drop it to deploy it to your playout Engine.

Another example using the search feature for cleaning up a server. If you have a complex tree structure, it may be cumbersome to find all the correct scenes you are looking for. You could create a new and elegant tree structure and then find all the scenes in the old one by searching by date and size. In this way, you can populate the new structure with relevant objects in a logical order, and easily get rid of items that are too old or too large, etc.

6.4 Importing External Images

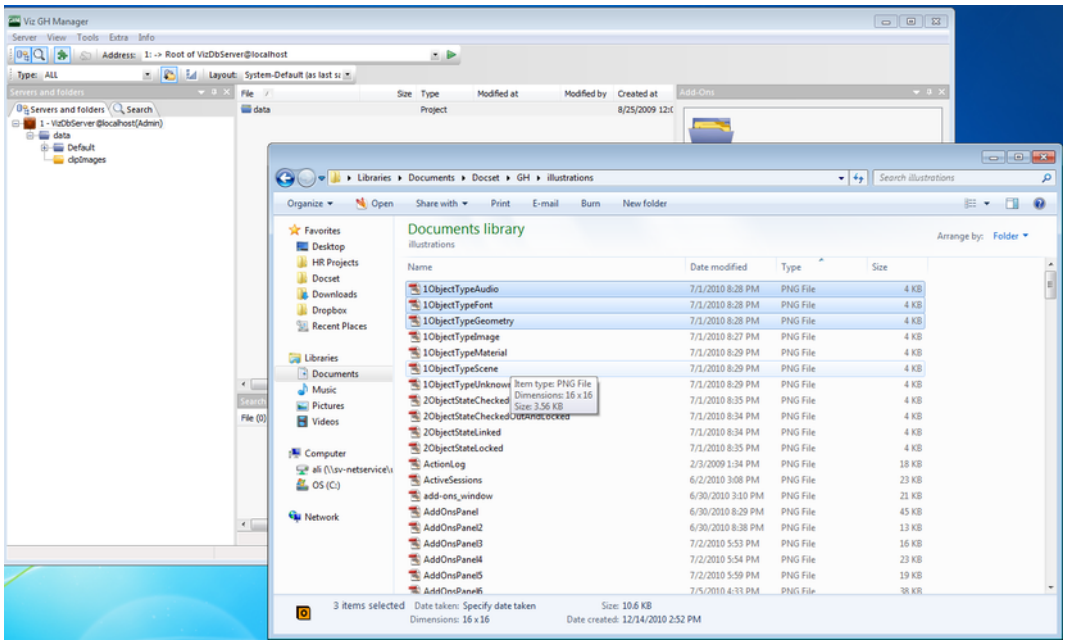
You can import external images from Windows Explorer directly into the Viz Graphic Hub Manager. These images will then be available on all connected Viz Graphic Hubs.

It is recommended that you import images of sufficient quality to be worked on in Viz Artist. However, you do have the option to compress images when importing them.

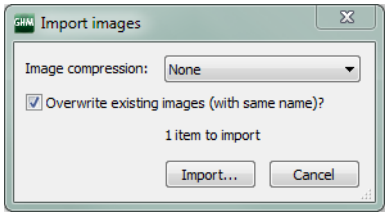
To import external images

1. Select one or more images in Windows Explorer.

2. Drag the selected images onto a folder in the right panel.



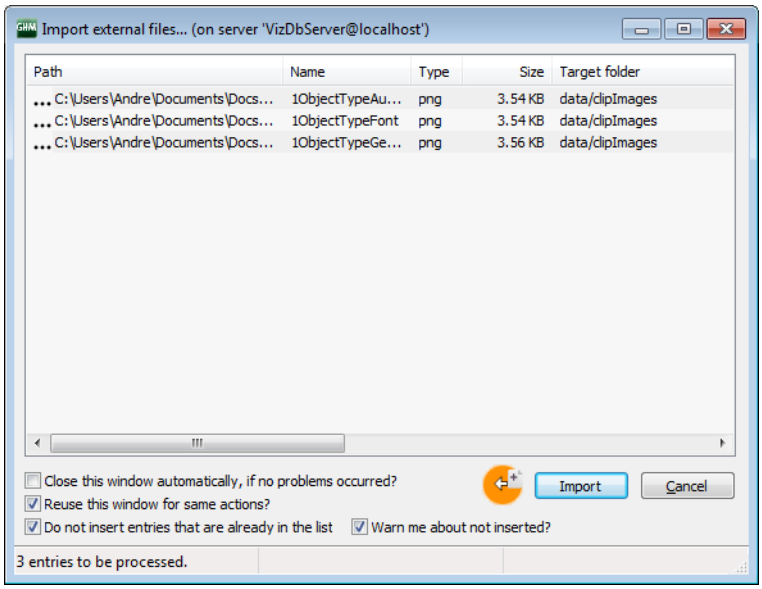
You are presented with the following options.



3. Select the image compression. Your options are:
   - **None**
   - **Select automatically**: If the source image has an alpha channel, DXT5 will be used. If the source image does not have an alpha channel, DXT1 will be used.
   - **DXT1**: Works best on images without an alpha channel.
   - **DXT5**: Works best on images with an alpha channel.
4. If you wish to overwrite any existing images in the target director that have the same name, check the **Overwrite existing images** check box.

   Otherwise, an extension to the file name will be added to the newly imported images.
5. Click **Import**.

The Action Log appears.



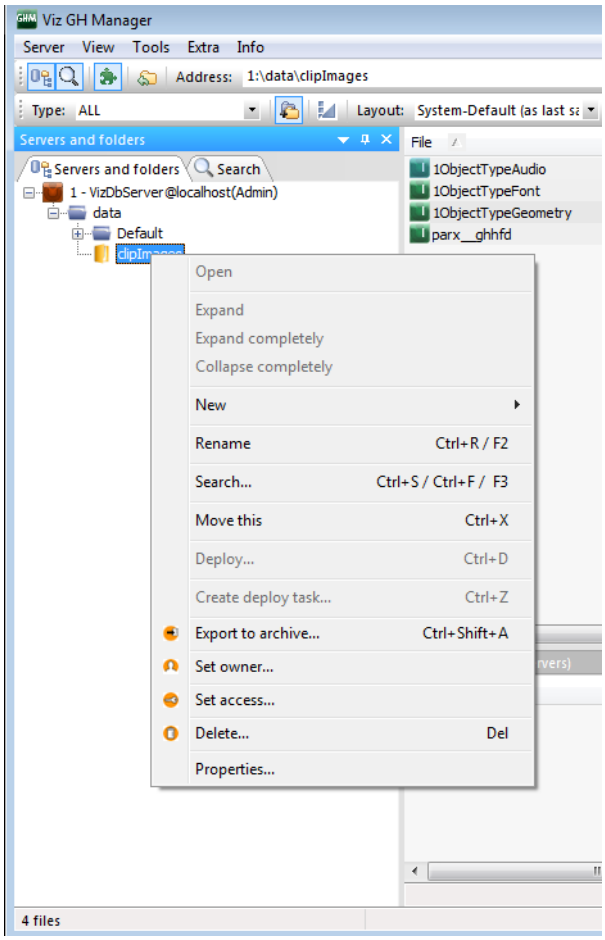
6. Click **Import**.
7. In the Action Log, click **Close**.

6.5 Exporting to a Viz 3.x Archive (*.via)

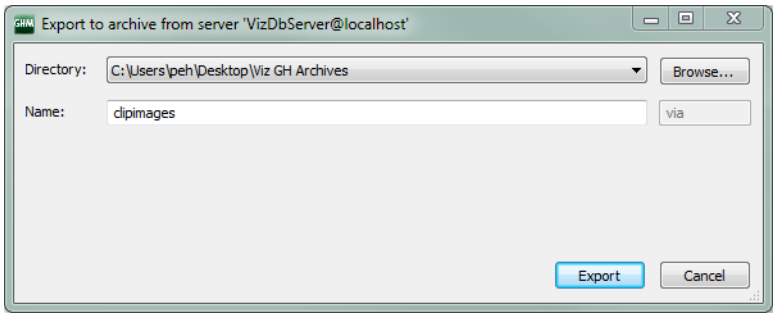
You can export folders and/or files to Viz archive files (*.via). These can be subsequently re-imported following the procedure for Importing a Viz 3.x Archive (*.via).

To export to an archive

1. In the left panel, right-click the object to be exported and select Export to archive.



The following window is shown.



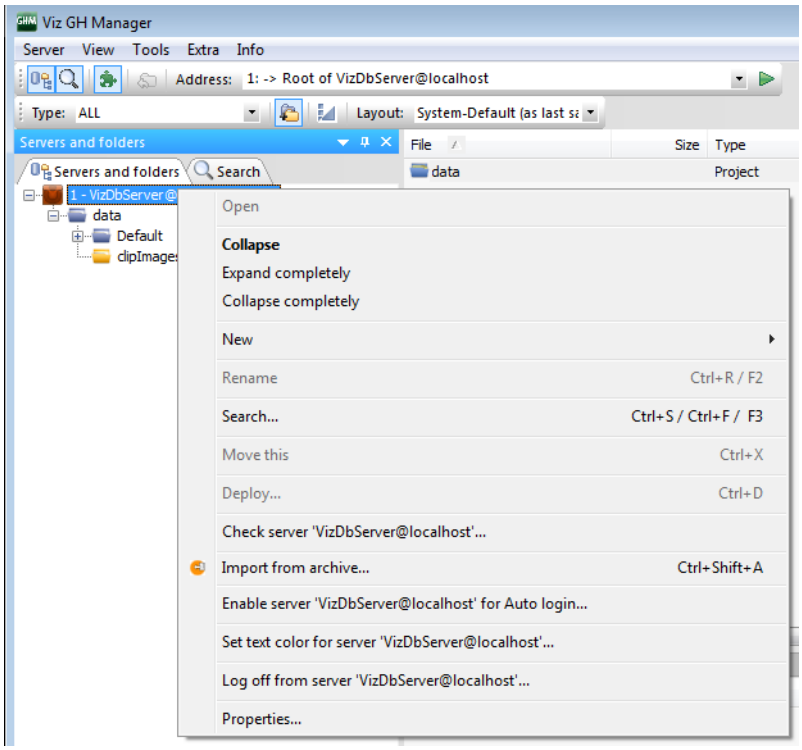
2. Click **Browse** to select a destination folder.
3. Enter a name for the archive.
4. Click **Export**.

6.6 Importing a Viz 3.x Archive (*.via)

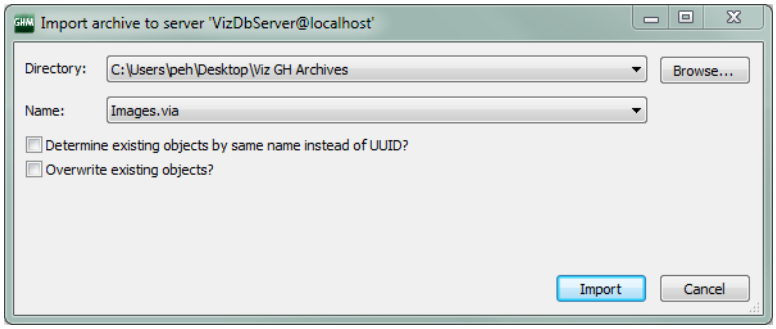
You can import an archive file directly into Viz Graphic Hub.

To import an archive

1. In the left panel, right-click the target server and select **Import from archive**.



The following window is shown.



2. Click **Browse** to select a source folder.
3. Select the archive.
4. To check for existing objects that exist with the same name (but a different UUID), check **Determine existing objects by same name instead of UUID**.
5. To overwrite objects that exist with the same UUID, check **Overwrite existing objects**.
6. Click **Import**.

6.7 Importing Viz 2.x Data and Archives

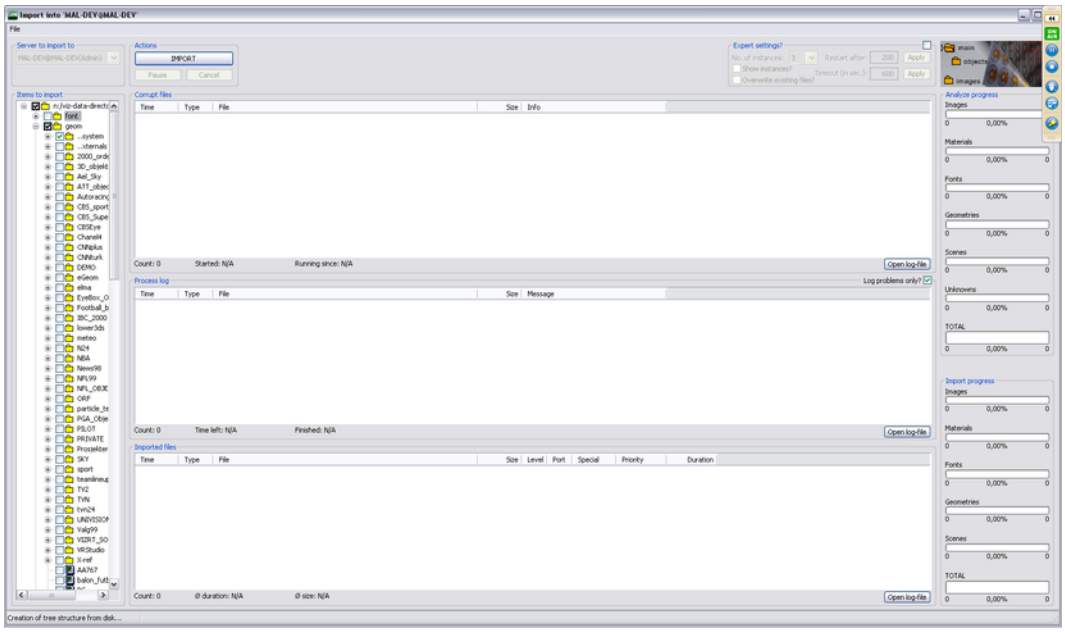
To use items from other data directories, they must be imported into the Viz Graphic Hub. In Viz Graphic Hub Manager, you can import either data directories or archives created with Viz Artist 2.x.

Tip: When importing single items from a data directory or an archive, referenced files will also be imported.

This section contains information on the following topics:

6.7.1 Import Window

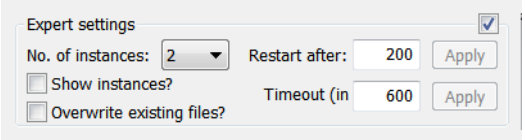
Import Window



6.7.2 Expert Settings

In the upper-right corner of the Import Window, there are a number of optional Expert Settings that you can use during import operations.

Expert Settings



- **Expert settings**: Select to enable expert settings.
- **No. of instances**: Number of import threads allows to run asynchronously.
- **Show instances**: Select to show all current import threads.
- **Overwrite existing files**: Select this option before starting the import operation if you want imported files to overwrite Viz 3.x files on the Viz Graphic Hub.

- **Restart after**: Enter a value representing the number of objects after which the import executable will restart.
- **Timeout**: If the import executable takes longer than the value specified here, the import operation will restart.

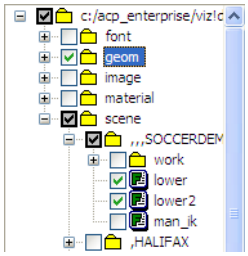
6.7.3 Importing Data Directories

If you wish to overwrite existing directories, enable this first in the Expert Settings.

To import a Viz 2.x data directory

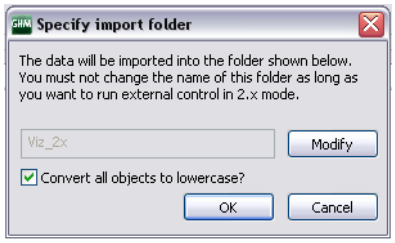
1. Click *Server -> Import -> Viz 2.x data.*
2. Select a Viz 2.x data folder to import from, and click **Open**.

   The Import Window is shown.
3. Select the files you wish to import in the left panel.



4. Click the **IMPORT** button.

   You are prompted to select a directory to store resulting log files.



5. Click **Modify** and select a directory.
6. Select the **Convert all objects to lower case check box**. This gives full Viz 3.x compatibility with Viz Artist and Viz Trio.
7. Click **OK**.

Depending on the size of the directory, the import process may take some time. The import window keeps you updated of progress.

6.7.4 Importing Viz 2.x Archives

You can import Viz Artist 2.x archive files (`*.eva`) into a Viz 3.x system using Viz Graphic Hub Manager.

To import a Viz 2.x archive

1. Click *Server -> Import -> Viz 2.x archive(s)* to import entire archive(s);

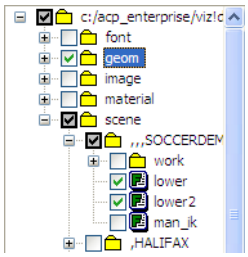
   Click *Server -> Import -> Viz 2.x archive(s)*; click *Server -> Import -> Manually selected Viz 2.x archive(s)* to import individual files from one or more archives.

2. For automatic, select a folder housing archives to import, and click **Open**;

   For manual, select an `.eva` archive file, and click **Open**.

   The Import Window is shown.

3. Select the desired files from the left panel.



4. Click the **IMPORT** button.

   You are prompted to select a directory to store resulting log files.

5. Click **Modify** and select a directory.
6. Select the **Convert all objects to lower case check box**. This gives full Viz 3.x compatibility with Viz Artist and Viz Trio.
7. Click **OK**.

Depending on the size of the directory, the import process may take some time. The import window keeps you updated of progress.

6.7.5 Resuming a Cancelled/Crashed Import Operation

If an error occurs and the import procedure crashes, or the import is cancelled, it is possible to resume from where the import ended.

When an import operation is not carried through correctly, an import backup file will automatically be created. This backup file is used to resume the import procedure.

Note: As the log file for an import is created on the hard disk of the physical machine, the import can only be resumed on the machine it has been cancelled on.

To resume a cancelled/crashed import operation

1. Click *Server -> Import -> Resume from cancelled or crashed import.*
2. Select a backup file to import, and click **Open**.

   The Import Window is shown.

3. Click the **IMPORT** button.
4. Click **OK**.

Depending on the size of the directory, the import process may take some time. The import window keeps you updated of progress.

Tip: If resuming from a crashed import, check the selection of items to prevent the crash from happening again. Also, it is possible to automatically start the import when resuming, by enabling this option in the Preferences window.

6.8 Locating Duplicates

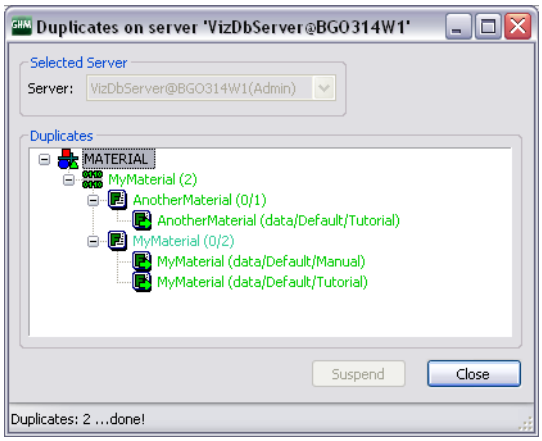
When items are copied from one project or folder to another (as occurs with the procedures To create a linked file and To create a duplicate file(s)), the copy will exist as a duplicate of the original item. As long as neither the original item nor the copy is modified, they will remain duplicates, since the checksum of both objects is the same.

Tip: The items can be renamed, and still remain duplicates.

To locate the duplicates in Viz Graphic Hub

1. Click *View -> Duplicates*, or press <CTRL+N>, or <CTRL+F5>.

   The duplicates window is shown.



   The duplicates window lists all the duplicates in the selected server, sorted by the names of the items. If duplicates carry different names, this will also be shown.

2. Right-click a duplicate for more information about it. This will open a menu with the following options:

   - **Open Containing Folder in Explorer -** Jumps to the project or folder in the Servers and Folders Panel, where the selected item is placed.
   - **Properties -** Opens the Item Properties window, which shows detailed information about the selected item.

Caution: It is only possible to view the items in the Duplicates window, not delete them. Delete duplicates with great caution as it will almost certainly bring about the misplacement or loss of work of the various users on a server. It is recommended that you only delete duplicates when you are the only user of a Viz Graphic Hub on a localhost, to save disk space.

6.9 Metadata

Viz Graphic Hub supports keywords and add-ons that work like metadata to help you to dynamically organize your files better and enhance search capabilities.

This section contains information on the following topics:

6.9.1 Keywords

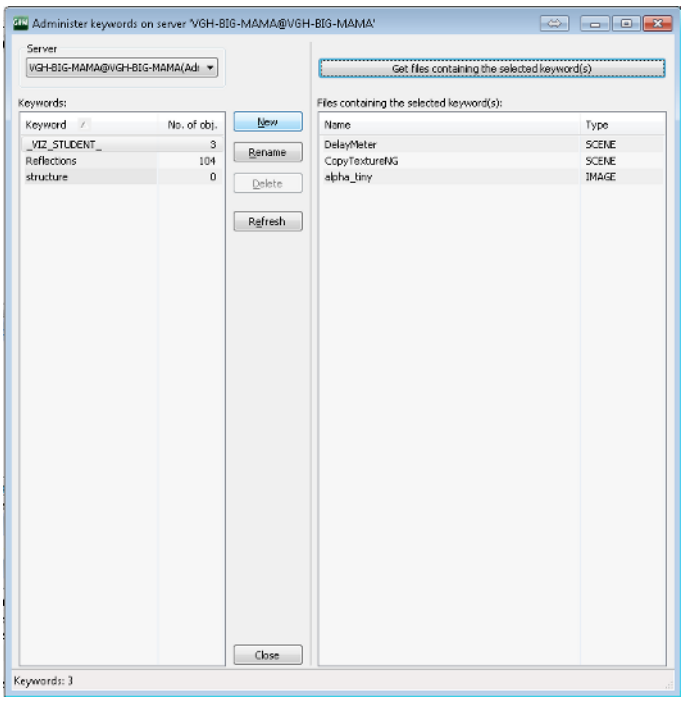
Keywords can be assigned to files to enhance the search capability. Up to 20 keywords can be assigned to a file. Keywords can be seen in the keyword window.

This section contains information on the following procedures:

To open the Administer Keywords window

- Click *Tools -> Administer Keywords*, or
- <CTRL+K>, or

- <CTRL+F10>



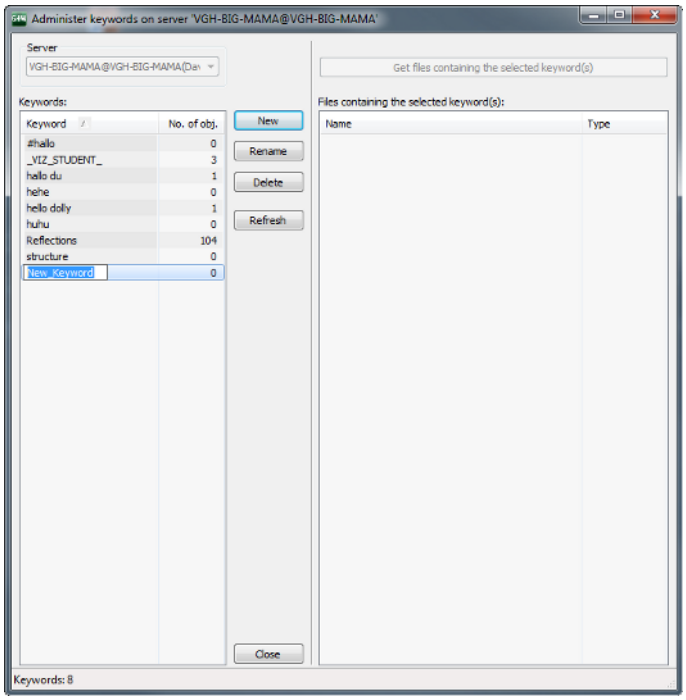
To view files which use a selected keyword(s)

1. Open the **Administer Keywords...** window (see To open the Administer Keywords window).
2. Click on a keyword(s).
3. View the files which used the selected keywords:
   - Click on **Get files containing the selected keyword(s)**, or
   - Right-click selected keywords and click on **Get assigned files**, or
   - Double click a selected keyword
4. All files assigned with the selected keywords show in the right side panel.

To create a keyword

1. Open the **Administer Keywords...** window (see To open the Administer Keywords window).

2. Click the **New** button. In the left panel, a new keyword is created.



3. Enter a name for the new keyword.

   Note: If the keyword name entered is not a valid name, a prompt window will open to provide a valid name based on the entered name.

4. Press <ENTER>.

To delete a keyword(s)

A keyword can only be deleted if it is not assigned to a file or folder. Look in the **No. of Obj.** field to see how many files or folders the keyword(s) are assigned to.

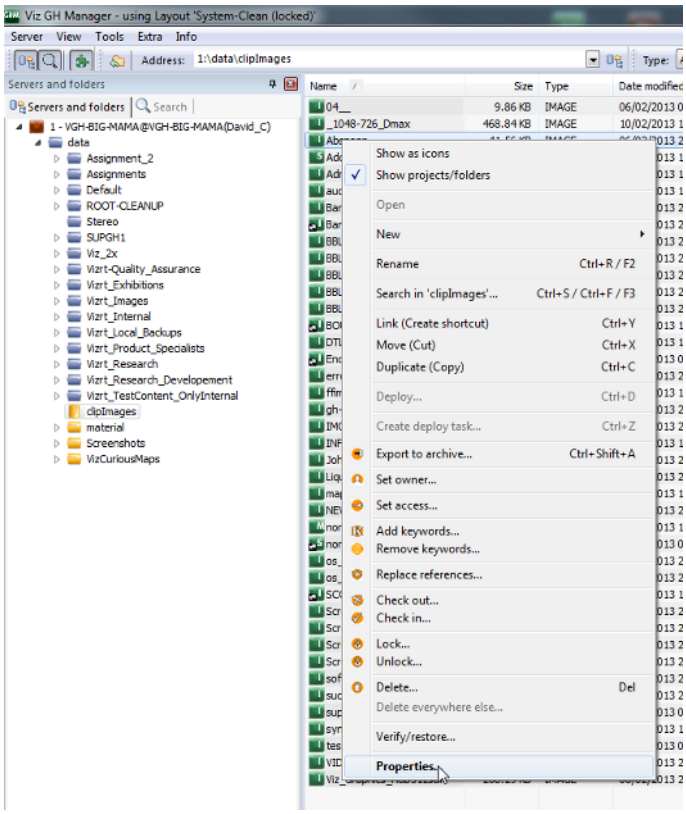
Note: If multiple keywords are selected, only the keywords with no assigned files or folders will be deleted.

1. Open the **Administer Keywords...** window (see To open the Administer Keywords window).
2. In the left panel, click on the keyword(s) to delete.
3. Click the **Delete** button.
4. Click **Yes** in the delete confirm window.

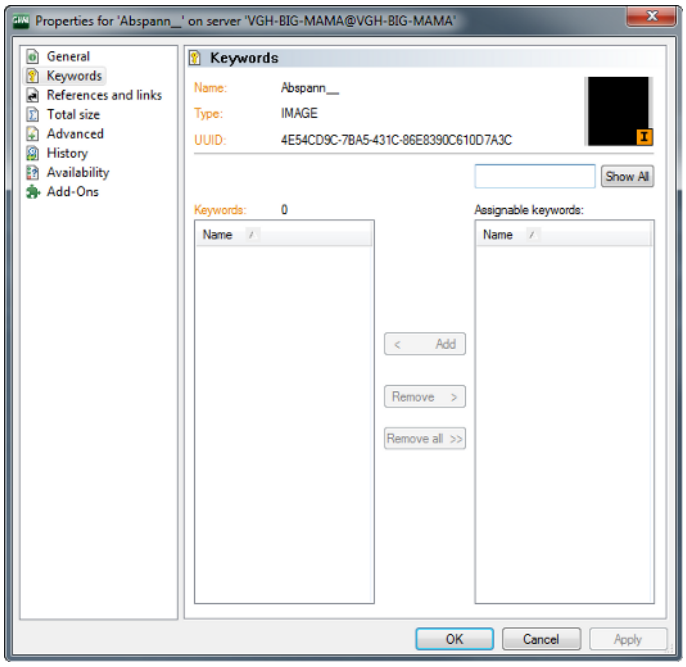
To assign a keyword(s) to an item

1. Right-click a file in the File panel to open the file context menu.

2. Click **Properties**...



3. Click on **Keywords**, in the **Properties for <file name>** window that opens.



4. Select/find a keyword(s) to assign to the file:
    1. Enter a keyword name in the search box.
    2. Click on **Search**.

Tip: Wildcards such as ***** or **?** can be used in the keywords search string.

or

- Click **Show All** to see all available keywords.

5. Click a keyword, in the **Assignable keywords** panel, to select it.
6. Click the **< Add** button.

Note: Up to 20 keywords can be assigned to one file.

7. Click **OK**.

To assign a keyword(s) with the file context menu

To assign a keyword(s) with the file context menu is better for on-the-fly keyword additions, but does not show any other data about the keyword(s) which are assigned.

1. Right-click a file in the File panel to open the file context menu.
2. Click **Add keywords...**
3. Search for available keywords:
   - Type the name of a keyword, or

   Tip: As the keyword name is typed a list of keywords will show.

   - Type * to show all available keywords
4. Click on the required keyword(s).
5. Click on Add...
6. Click **Add** in the Add keywords... window.
7. Click **Close**.

To remove a keyword(s) from an item

With this procedure a keyword(s) is first selected then the file(s). The advantage to that method is greater visibility of information regarding each keyword and where it is used.

1. Open the **Administer Keywords...** window (see To open the Administer Keywords window).
2. Click on a keyword(s) in the list of available keywords.
3. View the files which used the selected keywords:
   - Click on **Get files containing the selected keyword(s)**, or
   - Right-click selected keywords and click on **Get assigned files**, or
   - Double click a selected keyword

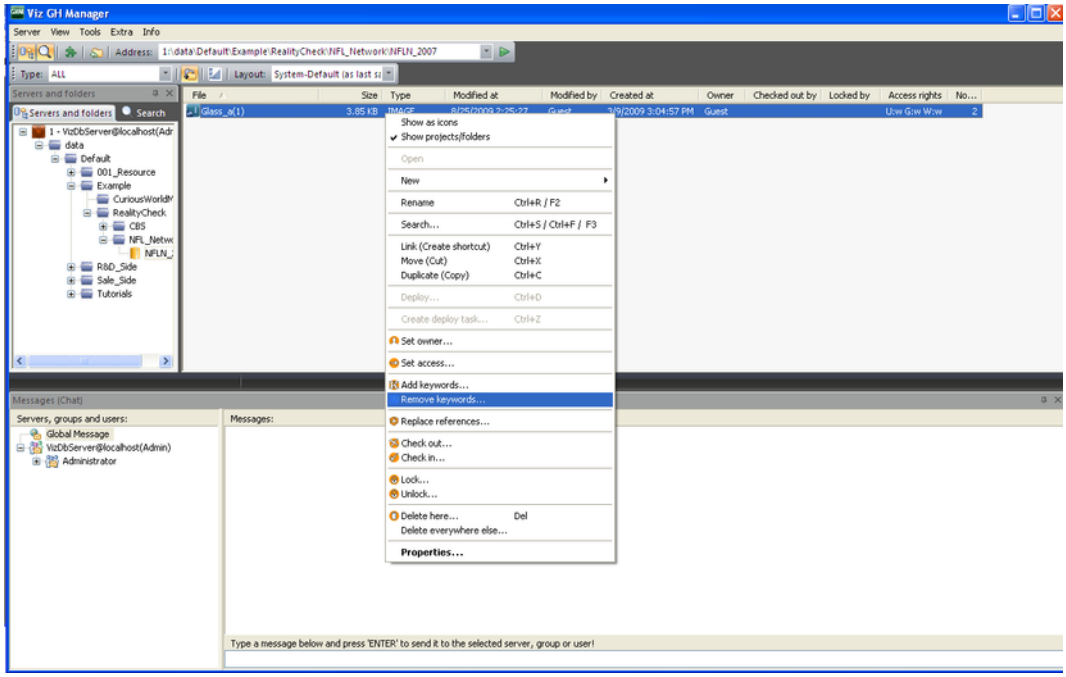
   All files assigned with the selected keyword(s) show in the right side panel.
4. Right-click on the file(s) from which the keyword is to be removed.
5. Click **Remove keyword(s)**.
6. Click **Remove...**. in the **Remove keywords from <file name>...** window.
7. Click **Remove** in the **Remove keywords...** window.

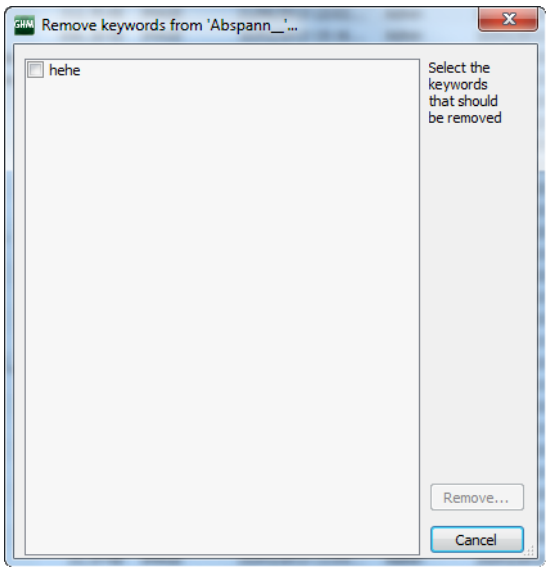
8. Click **Close.**

To remove a keyword(s) with the item context menu

To remove a keyword(s) with the file context menu is better for on-the-fly keyword removal, but does not show any other data about the keyword(s) which are to be deleted.

1. Right-click a file in the File panel to open the file context menu.
2. Click **Remove Keywords**...





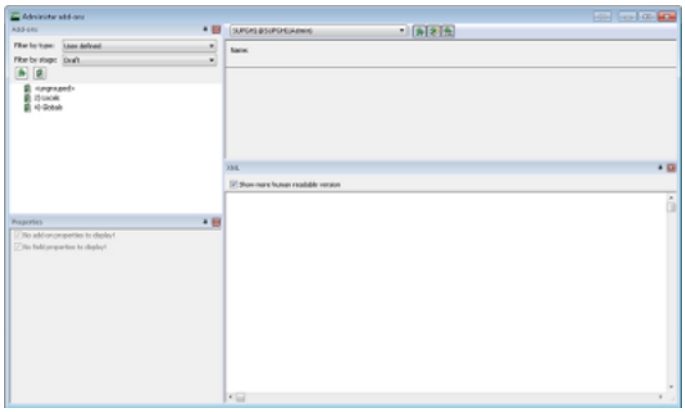
3. Select the keyword(s) to be removed
4. Click **Remove...**.
5. Click **Remove** in the **Remove keywords...** window
6. Click **Close**

6.9.2 Add-ons

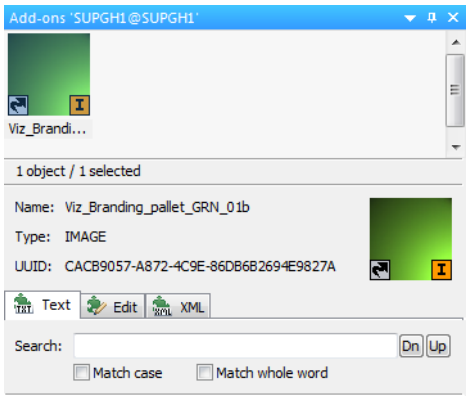
Add-ons are a solution for creating templates to assign custom metadata to objects in the Viz Graphic Hub. This provides another dimension to for searching, tagging and organizing objects. Add-ons work similarly to Keywords but are actually more extendible.

Add-ons are administered from the Add-ons window. They are assigned from the Add-ons Panel.

Add-ons Window



Add-ons Panel



Each add-on can have several entries. Entries can be numbers, strings, UUID, date and XML (for use by external applications). Each entry also has a Proposal, which will set out the options for the add-on in an eventual drop down box. You can also add informational text for a tool tip, which will be shown when you mouse over the region of its name in the add-ons window.

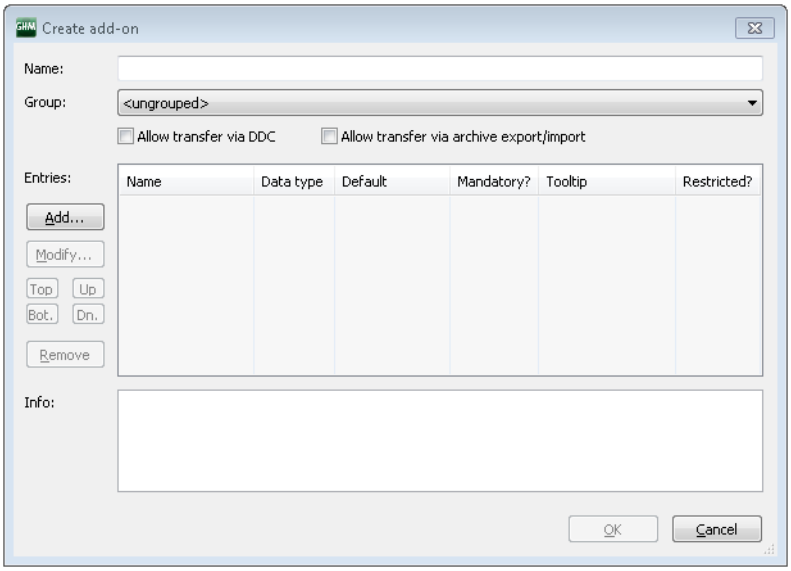
One use case for add-ons is approval states. You can create an add-on with the parameters of **Draft**, **Pending**, and **Approved**. If an art director does not want any scene on the design cluster to be make it to the playout engine, he can use the Searching functionality to take all new scenes, assign the add-on, and then only deploy scenes that he has personally approved to the playout engine.

This section contains information on the following procedures:

- To create a new add-on
- To create an Add-on group

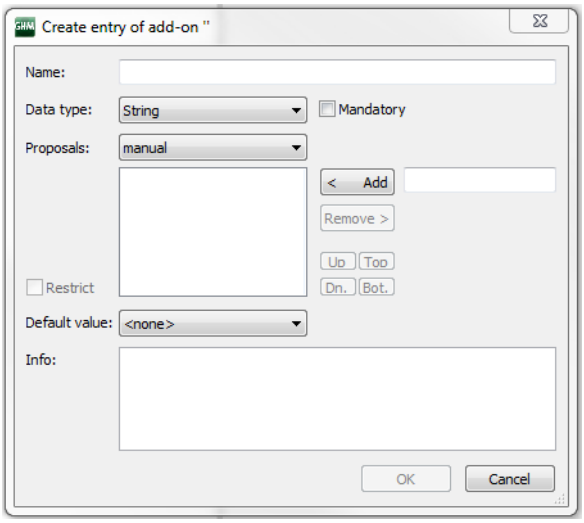
To create a new add-on

1. Open the Viz Graphic Hub Manager
2. Open the Administer add-ons window:
   - Click *Tools -> Administer add-ons...*, or
   - Press <CTRL+SHIFT+F8>
3. Open the **Create add-on** window:
   - In the **Administer add-ons** window click the **Create new add-on...** button , or
   - Right-click in the Add-ons quadrant and select **Create new add-on..., or**
   - Click in the Add-ons quadrant and press <CTRL+1>



4. In the **Name** field, enter a name for the add-on.
5. From the Group drop down box, select from:
   - **ungrouped:** the new add-on will not be in a group.
   - **<group name>: Select a group to put the new add-on.**
6. Check the Allow transfer via DCC, if required (when checked, the add-on will be transferred through DDC (Direct Deploy Copy)).
7. Check the Allow transfer via archive export/import, if required (when checked, the add-on may be transferred via Archives (exported/imported)).

8. Click the **Add...** button. The **Create entry of add-on <add-on name>** is shown.



9. In the **Name** field, enter a name for the add-on entry.
10. From the **Data Type** drop down box, select one of the following options:
    - **Number**: Only manual proposals supported.
    - **String**: Supports manual proposals and having all registered users as a proposal option.
    - **Date**: No proposals supported, namely selecting a date from a calendar.
    - **UUID**: No proposals supported.
    - **XML**: No proposals supported.
11. Check the **Mandatory** check box for it to be mandatory for this entry to have a value. Uncheck it for the entry to be optional.
12. From Proposal drop down box, make sure **Manual** is selected.

    Note: If the Data Type is String, the option of selecting <all users> as the Proposal is available. In this case, no further Proposal configuration is required.

13. In the **Add** field, enter an option that will be available for selection and click the **Add** button. Repeat for as many options as you want to have in your proposal.

    You can also remove options by clicking the **Remove** button, as well as changing the order in which options will appear by clicking the **Up**, **Down**, **Top** and **Bottom** buttons.
14. Check the **Restrict** check box to restrict the proposal entries to what you have added above. Uncheck it to allow user-defined entries in addition to your proposal options.
15. From the **Default value** drop down box, select one of the following options:
    - **<none>:** There will be no default value assigned. Not available if the entry is restricted.
    - **<user defined>**: The value will be defined when assigning the add-on. Not available if the entry is restricted.
    - **<current user>:** The logged-in user will be the default value. The other proposal values will also be available.

- **<current time>**: The current date and time will be the default value. Only valid if the Data Type is Date.
- Any of the other proposals you have defined above.

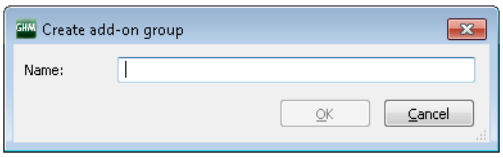
16. In the **Info** field, enter any text that you wish to appear as a tool tip when mousing over the add-on once it has been published.

    Caution: Any text you enter in this field will be exposed to end users.

17. Click **OK**.

To create an Add-on group

1. Open the Viz Graphic Hub Manager.
2. Open the Administer add-ons window:
   - Click *Tools -> Administer add-ons...*, or
   - Press <CTRL+SHIFT+F8>
3. Open the **Create add-on group** window:
   - In the **Administer add-ons** window click the **Create new add-on group...** button , or
   - Right-click in the Add-ons quadrant and select **Create new add-on group**..., or
   - Click in the Add-ons quadrant and press <CTRL+2>



4. In the **Name** field, enter a name for the add-on group

   Note: Make sure that the new Group name is unique.

5. Click the **OK** button. The new Add-on group will show in the **Add-ons quadrant.**

   Note: Add-ons can be dragged from group to group as required.

To publish an Add-on

IMPORTANT! Add-ons are automatically saved during the creation process and can be modified as required. But the Add-on cannot be assigned until it has been published. As long as the Add-on is assigned to any item on the server, it cannot be deleted. If the Add-on is not (no longer) assigned to any item on the server, it can be deleted.

1. In the Add-ons quadrant of the Add-ons Window, right-click the add-on and select **Publish add-on**.

   You are queried if you are sure you want to publish this add-on.

2. If the add-on is ready for use, click **Yes**.

To filter add-ons by type

- In the Add-ons quadrant of the Add-ons Window, from the **Filter by type** drop down box, select one of the following options:
  - **All**: All add-ons
  - **User-defined**: All add-ons created by any users
  - **Viz**: External metadata created by another Viz application
  - **System**: All Viz Graphic Hub server-delivered add-ons

To filter add-ons by stage

- In the Add-ons quadrant of the Add-ons Window, from the **Filter by stage** drop down box, select one of the following options:
  - **All**: All add-ons
  - **Draft**: Unpublished add-ons
  - **Published**: Published add-ons
  - **Retired**: Add-ons retired from active use (because they can be withdrawn from service but not deleted from the system).
  - **Imported**: Metadata exported to Viz Graphic Hub by other Viz applications.
  - **Copied**: Transferred in a deploy operation.
  - **From archive**: Add-ons exported by Viz Engine and re-imported from a Viz Artist archive to the Viz Graphic Hub.

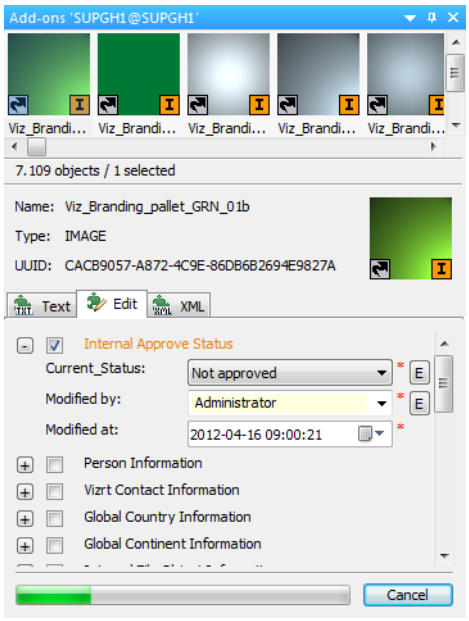
To Sort Add-ons and Add-on Groups

1. Open the Administer add-ons window:
   - Click *Tools -> Administer add-ons...*, or
   - Press <CTRL+SHIFT+F8>
2. In the Add-ons panel click on an Add-on or an Add-on Group.
3. Drag the Add-on or an Add-on Group to its new location.

To assign an add-on

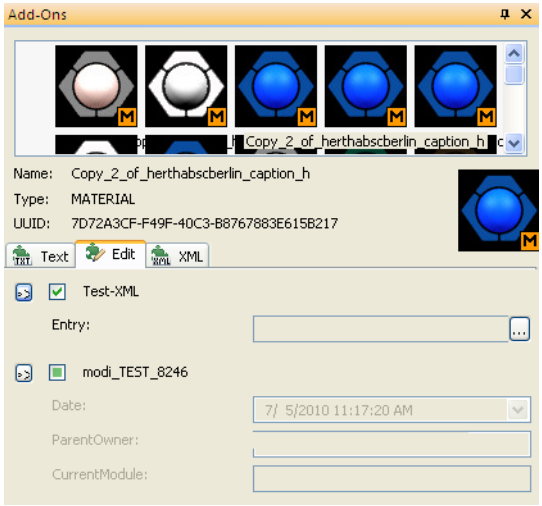
1. Enable the Add-ons Panel.
2. Select one or more files and drag them into the add-ons header.
   - To remove a file from the add-ons header, click it and press <DELETE>.
3. Click the **Edit** tab.

Add-ons available for assignment are shown.



4. Click the button to the left of an add-on to expand it.
5. Check the check box beside the add-on to select it.
6. Do *one* of the following:
   - Select a value from the proposals drop down box.
   - Enter a value in the field (allowed only if the add-on is unrestricted).
   - Click the **E** button to the right of the add-on to edit the proposals (allowed only if the add-on is unrestricted).
   - Select a date (allowed only if the add-on is for the Date data type).

Note: If you have selected multiple items and some already have add-ons with different values, you are alerted to the fact by a square filling the check-box. If you wish to override the existing values, un-check and check again for the square to be replaced by a check mark.



7. Click **Apply**.

To retire an add-on

1. In the Add-ons quadrant of the Add-ons Window, right-click the add-on and select **Retire add-on**.

   You are queried if you are sure you want to publish this add-on.
2. If the add-on is ready for use, click **Yes**.

   The add-on is no longer available for use.

6.10 Replacing Item References

By replacing references it is possible to replace, for example, Images or Fonts referenced by Scenes or Geometries, with different Images or Fonts. It is only possible to replace an Image with an Image, or a Font with a Font.

To replace references is practical, for example, when rebranding a corporate identity.

Caution: Do not replace references at random. Make sure that the replacement items are compatible in terms of size, scale, color, and other Viz Artist properties used for playout. Research and test before replacing references.

Caution: Use the replace item references feature with care, it can be potentially harmful. For example, if the image to be replaced is in a Scene which is currently on-air.

IMPORTANT! There is no UNDO to this procedure. Be very careful, and try this procedure first on one or two Scenes only.

This section contains information on the following procedures:

- To find items referenced by Scenes or Geometries
- To replace references

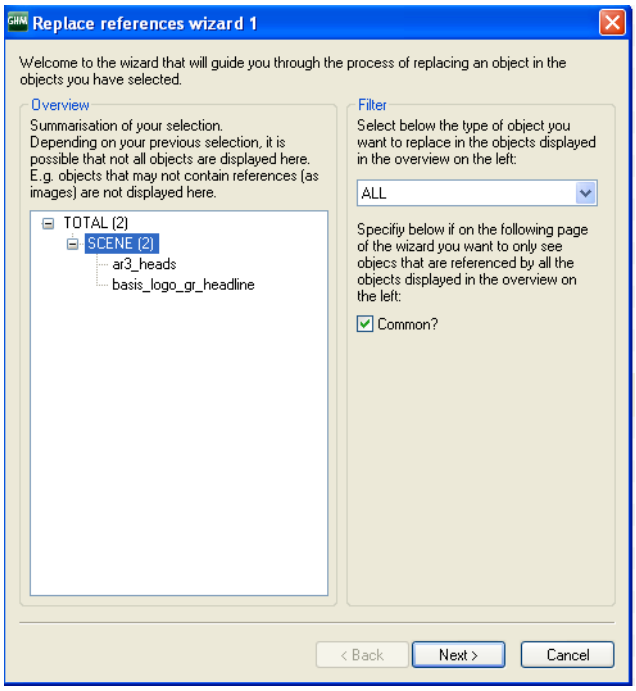
To find items referenced by Scenes or Geometries

- Go to To search with Standard search and do a Search by References.

To replace references

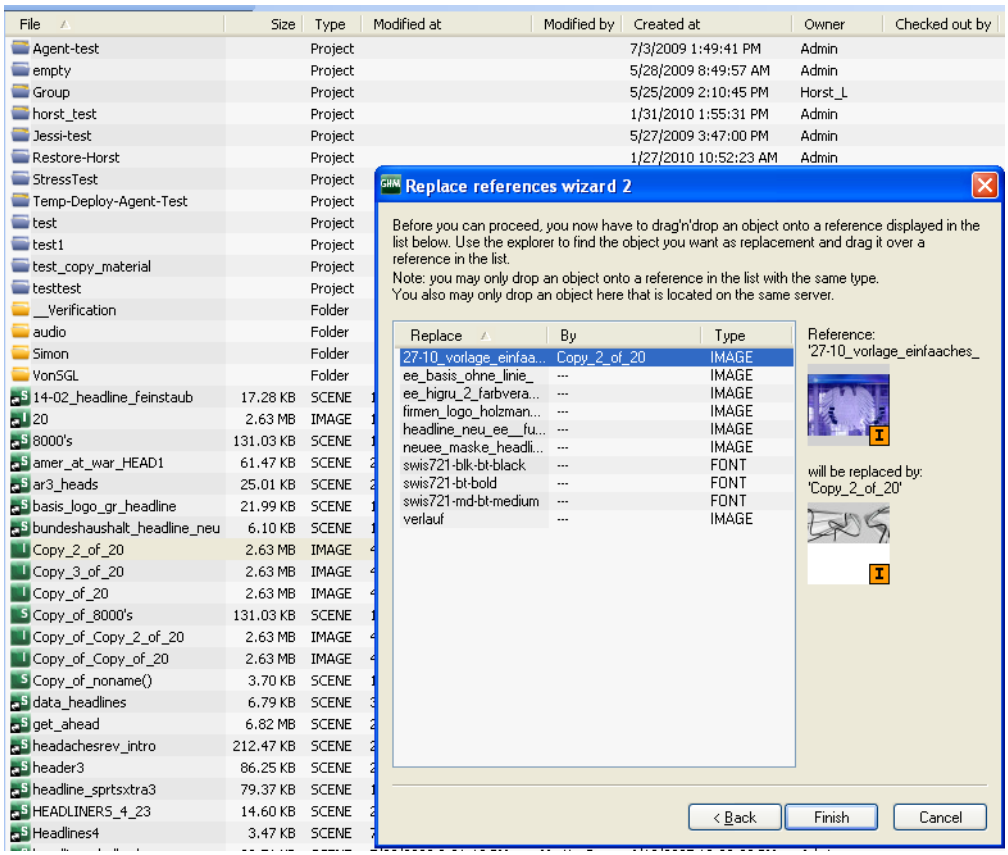
1. In the Viz Graphic Hub Manger, right-click the desired item or items and select **Replace Reference**s...

The Replace References wizard opens.



2. Optional: In the Filter panel select which type of object to replace from the drop down box. Options are:
   - All
   - Image
   - Font
   - Geometry
   - Audio

3. Click **Next**.



4. Drag replacement items onto the listed items of the same type.
5. Click **Finish**. The Action Log for replacing references is shown.
6. Click **Replace**.

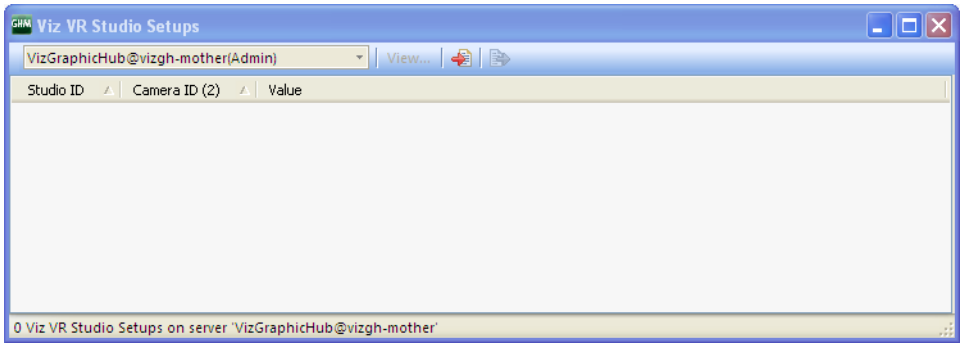
6.11 Enabling Viz Graphic Hub for a Virtual Studio

The XML necessary to support a virtual set environment is generally obtained from Vizrt Support. The following procedure indicates how to import that XML file.

To enable Viz Graphic Hub for a Virtual Studio

1. From the main menu, select *Extra -> Viz VR Studio Setup.*

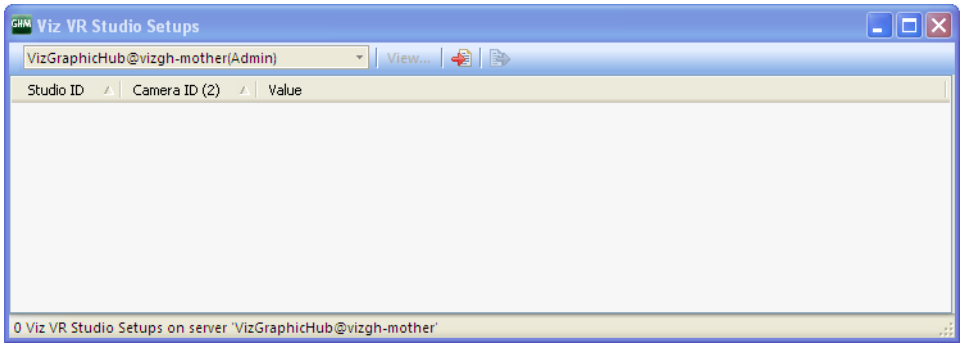
   The Viz VR Studio Setup window is shown.



2. On the toolbar, click the Import button.
3. Select the XML file and click **Open**.

To export Viz Virtual Studio settings

1. From the main menu, select *Extra -> Viz VR Studio Setup.*
   The Viz VR Studio Setup window is shown.



2. On the toolbar, click the Export button.
3. Name the XML file and click **Save**.

7 Administrator Operations

This section contains information on the following topics:

7.1 Back Up and Restore

The backup and restore operations in Viz Graphic Hub is an incremental process. If one backup or restore operation succeeds, all subsequent operations copy the difference from the successful backup/restore to the current operation. Restore points are created to accomplish this process.

The first restore point holds information about the original data directory. The second point holds information about changes from the startup to the first backup. The third point holds information from the first to second backup, and so on. If no changes have been made since the previous backup, Viz Graphic Hub will not create a new restore point.

Example: The first backup finished successfully at 01.01.2009 00:00:10 and the second at 01.01.2009 12:00:00. Between the backups, one scene was modified; “MyScene”. The latest restore point would then only contain data regarding this scene. If restoring to the previous point, only “MyScene” will reset to its status at 01.01.2009 00:00:10.

There are two kinds of backup: internal and external.

Internal backups are done via the Viz Graphic Hub Terminal and provide the option of excluding informational data from the Journal. Although it reduces the amount of restore points, it also vastly reduces the amount of space required on your machine’s hard disk.

External backups are done via the command line. It is a full backup and requires you to prepare a batch file for execution.

This section contains information on the following topics:

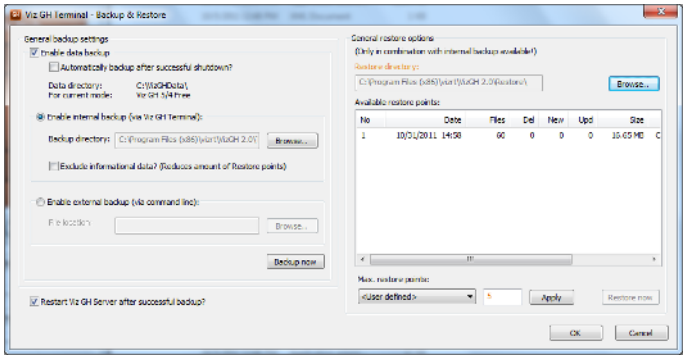
7.1.1 Taking Backup

To backup the database

1. Stop Viz Graphic Hub, if it is running.

2. In Viz Graphic Hub Terminal's main menu, click **Backup**.

The Data Directory Backup window is shown.

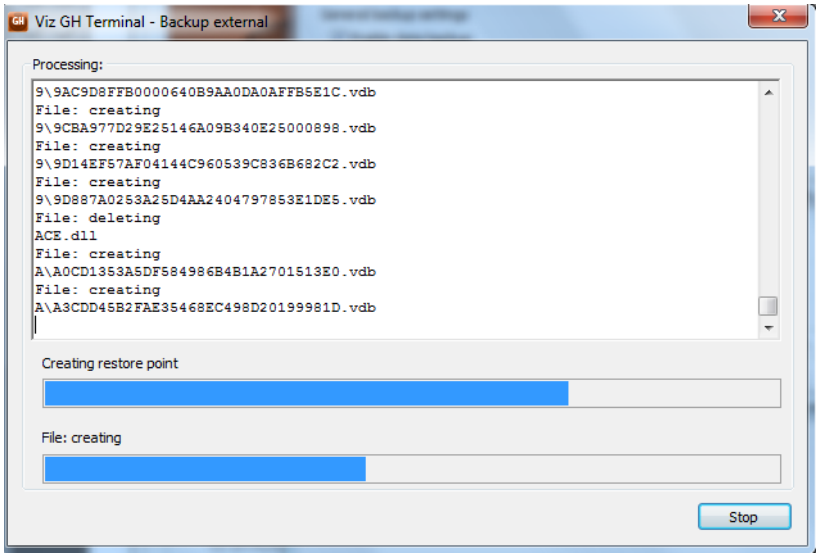


3. Check the **Enable backup data** check box.
4. If you want to back up every time the system is shut down, check the **Automatically backup after successful showdown** check box.
5. For an internal backup, select the **Enable Internal backup** radio button.
   - Click the **Browse** button, and set the backup directory.
   - Optionally, check the **Exclude informational data** check box to reduce the number of restore points and space taken by the backup on the machine's hard disk.
6. For an external backup, select the **Enable External backup** radio button.
   - Click the **Browse** button, and select the `*.bat` file to be executed for the backup operation.
7. Optionally, if backup should be performed automatically after a successful Viz Graphic Hub Server shutdown, select the requisite check box.

Note: This can be useful for taking regular backups - all you need to do is shut down the server. If selected, *every time* you shut down Viz Graphic Hub, a backup will be taken. Over time, this will take up a lot of hard disk space.

8. Click the **Backup now** button.

   The back up operation is performed. The time required depends on how often back up is taken, as well as the size of the data directory.



9. When the backup operation is finished, click the **OK** button to close the window.

7.1.2 Restoring Files

When restoring files, observe the following best practices:

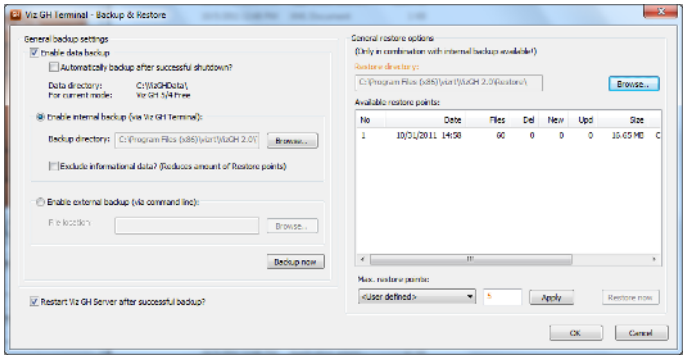
- **Data directories**: It is not recommended to restore files to the existing data directory. Instead, create a new directory and restore the files there. Then start the Viz Graphic Hub Server with the restored data directory.
- **Deleting restore points**: When deleting a restore point, the selected point and also all pending restore points (with later dates) will be deleted. To make sure that the remaining backup data includes the latest files, execute the backup operation one more time.
- **The first restore point**: Taking the first backup and restoring the oldest restore point may take a long time, depending on the data directory size. Because of this, the “Automatically backup after successful shutdown” check box should not be selected before the first backup execution has been carried through successfully.

To restore previously backed up files

1. Stop Viz Graphic Hub, if it is running.

2. In Viz Graphic Hub Terminal's main menu, click **Backup**.

The Backup and Restore window is shown.



3. Wait until Viz Graphic Hub Terminal has loaded all available restore points from the defined backup directory.
4. In the General Restore Options panel, click the **Browse** button next to the Restore Directory to set it.

Caution: Do not restore files to an existing data directory. Instead, create a new directory and restore the files there.

---

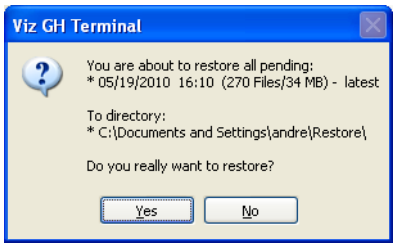
5. In the Max. restore points drop down box, either leave the default as **Unlimited**, or select **User defined**.
   - If you select user defined, enter the maximum number of restore points to be allowed.

Tip: This options can save considerable hard disk space. When you select a user-defined level of maximum restore points, Viz Graphic Hub Terminal

will delete all other previous restore points (beyond the maximum). Also, subsequent back-ups will overwrite the oldest one. You are prompted before this happens (when changing the number of maximum restore points).

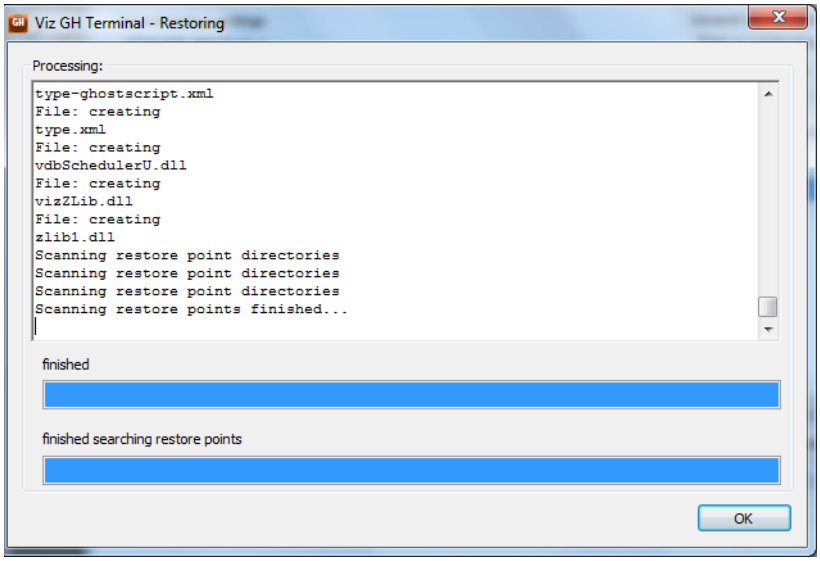
6. In the Available Restore Points list, click a restore point, and then press the **Restore now** button.

   A warning message will appear with details about the restore action that is about to be performed. Read this message carefully to prevent data loss.



7. Click **Yes**.

   The restore operation is executed.



8. Click the **OK** button to close the dialog.
9. Click the **OK** button to close the Backup and Restore window.

7.2 Direct Deploy Copy (DDC)

The method for replication and synchronization is the Deploy Direct Copy (DDC) functionality.

The Viz Graphic Hub deploy solution makes it possible to copy folders/projects/items with all necessary data (referenced folders/projects/items) from one server to another. For example, if deploying a scene, all items that are referenced by this scene (images, materials, and so on) will also be deployed.

This section contains information on the following topics:

- Deploy Agent Behavior Overview
- Global Viz Graphic Hub Deploy Properties

- Rebuild Structure Under Target Folder
- Copy to target folder only
- Multi Server DeployVizBold
- Server to Server DeployVizBold
- Scheduling Deploy Tasks
- Maintaining Deploy Agents and Tasks

See Also

- Deploy Preferences
- Deploy Troubleshooting

7.2.1 Deploy Agent Behavior Overview

Standard Behavior

The standard behavior copies the whole folder structure from the source server to the destination server, except when 'copy to target folder' only is selected. This behavior makes sure that the folders on the source and destination servers have the same UUID.

Supported scheduling:

- Real-time
- Time steered
- User triggered

Supported data mode:

- Folder based (Only a single folder can be selected per task)
- File based: in 'Copy to target folder only' mode (Multiple files can be selected per task, folders are not allowed)
- Search criteria based: in 'Copy to target folder only' mode (Copies all files that result from executing the search criteria, folders are ignored)

Supported options:

- **Real-time**

  Real-time is supported with:

  - Rebuild original structure
  - Rebuild structure under target folder

  Real-time supports to:

  - Remove deleted objects on target server(s)
  - Synchronize users, groups, keywords, add on templates, etc.
- **Time steered**

  Time steered is supported with:

  - Copy to target folder only
  - Rebuild original structure
  - Rebuild structure under target folder
- **User triggered**

User triggered is supported with

- Copy to target folder only
- Rebuild original structure
- Rebuild structure under target folder

DDC behavior

The DDC behavior creates only folders on the destination server which contain files that have to be copied by the task. This behavior ignores the UUID of folders and makes sure that all folders have the correct name in the structure. Real-time cannot be supported in this mode.

Supported scheduling:

- Time steered
- User triggered

Supported data mode:

- Folder based (Only a single folder can be selected per task)
- File based (Multiple files can be selected per task, folders are not allowed)
- Search criteria based (Copies all files that result from executing the search criteria, folders are ignored)

Supported options:

- **Time steered**

  Time steered is supported with:

  - Copy to target folder only
  - Rebuild original structure
  - Rebuild structure under target folder
- **User triggered**

  User triggered is supported with:

  - Copy to target folder only
  - Rebuild original structure
  - Rebuild structure under target folder

Additional information to data modes

- **File based:** The task will not be able to execute if the objects to deploy contain folders
- **Search criteria based:** The task will ignore all folders that are contained in the result of the search .

Standard and DDC Supported Options

Data Mode	Options	Standard behavior			DDC behavior		
Folder based	Copy to target folder only		X	X		X	X

Data Mode	Options	Standard behavior			DDC behavior		
	Rebuild original structure	X	X	X		X	X
	Rebuild structure under target folder	X	X	X		X	X
File based	Copy to target folder only		X	X		X	X
	Rebuild original structure					X	X
	Rebuild structure under target folder					X	X
Search criteria based	Copy to target folder only		X	X		X	X
	Rebuild original structure					X	X
	Rebuild structure under target folder					X	X
X = Supported Options		Real-time	Time steered	User triggered	Real-time	Time steered	User triggered
		Scheduling					

Note: X = Supported Options

7.2.2 Global Viz Graphic Hub Deploy Properties

The Properties of Deploy Agent <Agent name> panel shows the properties and configuration settings for global Viz Graphic Hub Deploy agent.

This section contains information on the following topics:

To open the Properties of Deploy Agent

1. Click the **Running deploy tasks** tab.
2. Right click the deploy agent and click **Properties of deploy agent <agent name>...**
3. The Properties of Deploy Agent <agent name> shows.

Statistics Panel

In the Statistics panel **Viz Graphic Hubs currently in use** contains the Viz Graphic Hubs currently used for Viz GH Deploy Agent. These Viz Graphic Hubs are the source servers of one or multiple tasks. Viz GH Deploy Agent automatically removes all unused Viz Graphic Hub source servers.

In certain cases a Viz Graphic Hub can be lost or cannot be contacted by Viz Graphic Hub Deploy Agent. If this happens the add and remove can be done manually.

Note: A Viz Graphic Hub Deploy Agent which is configured in as high availability partner originally cannot remove or add Viz Graphic Hubs.

To Add a Viz Graphic Hub

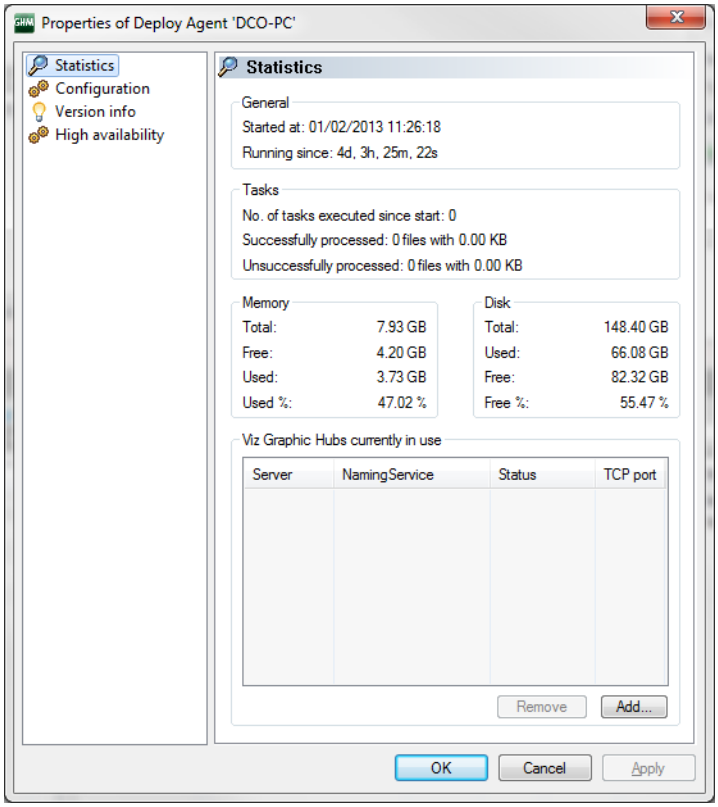
(Which is not registered in the Deploy Agent)

1. Open the Properties of Deploy Agent window (see To open the Properties of Deploy Agent).
2. Open the **Select Viz Graphic Hub to add** window.
   - Click **Add... , or**
   - Right click in the **Viz Graphic Hubs currently in use** box, and click **Add...**
3. Select a Viz Graphic Hub to be added, from the drop down box.
4. Click **OK** or **Apply**.

Note: The added Viz Graphic Hub status will be ‘to be added’ until **OK** or **Apply** has been clicked (when not highlighted, the ‘to be added’ Viz Graphic Hub will show purple).

Note: If a Viz Graphic Hub added does not contain a valid task for the current Viz Graphic Hub Deploy Agent the Viz Graphic Hub will be automatically removed again. It is not possible to add or remove multiple Viz Graphic Hubs at once.

Statistics Panel



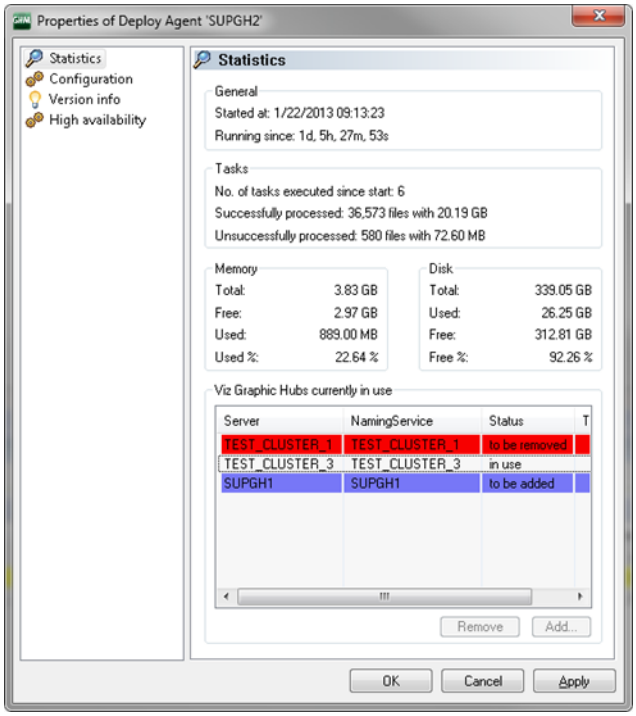
To remove a Viz Graphic Hub

1. Open the Properties of Deploy Agent window (see To open the Properties of Deploy Agent).
2. Click the Viz Graphic Hub to be removed.
3. Remove the Viz Graphic Hub:
   - Click **Remove**, or
   - Right click the selected Viz Graphic Hub and click **Remove selected** from the context menu
4. Click **OK** or **Apply**.

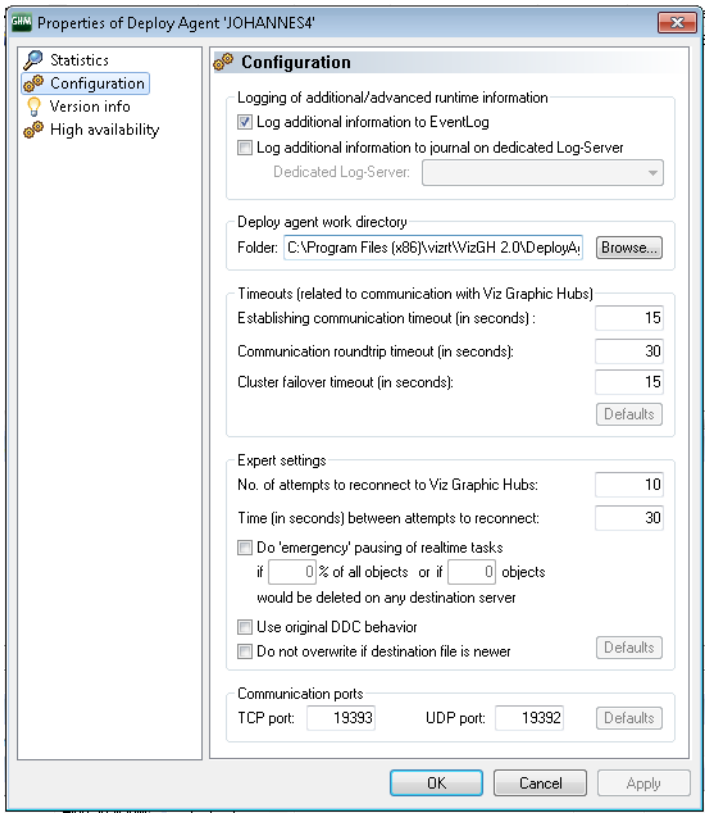
Note: The selected Viz Graphic Hub status will be 'to be removed' until **OK** or **Apply** has been clicked (when not highlighted, the 'to be removed' Viz Graphic Hub will show red).

Note: If a Viz Graphic Hub removed contains any running tasks the remove will not be successful. Either click **Cancel** or undo the change via the context menu. If a removed Viz Graphic Hub is not reachable by Viz Graphic Hub Deploy Agent a message will show where it is able to select a forced remove or cancel the action. It is not possible to add or remove multiple Viz Graphic Hubs at once.

Viz Graphic Hubs selected to be Added or Removed



Configuration Panel



- **Logging of additional/advanced runtime information:**

    - **Log additional information to EventLog:** Configures the Deploy Agent to log warnings and errors to the event log of the source server of the task that caused the issues.
    - **Log additional information to journal on dedicated Log-Server:** Configures the Deploy Agent to log warnings and errors of all tasks to the event log of a specified server.
- **Deploy agent work directory:**
    - **Folder:** Defines where the Deploy Agent will keep its configuration file and temporary data.
- **Timeouts (related to communication with Viz Graphic Hubs):** Changing the values of the timeout settings may have a significant impact on the behavior of the deploy agent. The default values have been tested in a LAN setting as well as for long range deploy tasks and should only be changed if the deploy agent has problems with servers that are connected via a slow / congested network or have a high server load. Increasing the timeout values may solve the problems in this case, decreasing will not improve the general performance of the agent and is not recommended.
    - **Establishing communication timeout (in seconds):** Specifies the maximum amount of time for a Deploy Agent is allowed to connect to a server. If the server does not respond in this period due to network characteristics or server load, it will be considered as offline.
    - **Communication roundtrip timeout (in seconds):** Specifies the maximum amount of time for the deploy agent to wait for a reply from the server. If the server does not respond in this period due to network characteristics or server load, the affected task may be paused by the agent.
    - **Cluster failover timeout (in seconds):** This option is relevant for agents that operate in a setting with a failover server. If a main server becomes unavailable, this timeout specifies the period that a task is waiting for a notification from the failover server to switch over. If this time exceeds, the agent will manually try to connect to the failover server.
- **Expert settings:**
    - **No. of attempts to reconnect to Viz Graphic Hubs: Set the number of times the agent is to attempt to connect to Viz Graphic Hubs**
    - Time (in seconds) between attempts to reconnect: Set the time between each attempt to reconnect to Viz Graphic Hubs
    - Do emergency pausing of realtime tasks: Click in the box to do emergency pausing of realtime tasks. Set the % of all objects or the number of objects.
    - **Use original DDC behavior for non realtime tasks:** This option is set globally for the deploy agent and affects all tasks. The major difference to the normal mode is that the “deploy under target folder” restriction of having no folder on source and destination that has the same UUID but an incompatible path does not apply. If the Deploy Agent discovers a folder with the same UUID but different path, a new folder with a new UUID is created in the expected path. Additionally, this mode does not create the entire folder structure in the target folder, but creates only the folders that need to exist to deploy referenced files. This feature has a significant impact on the performance of the Deploy Agent, and should be chosen wisely as it will affect all non-realtime tasks that are executed by the agent
    - **Do not overwrite if destination file is newer:** If set, the file on the destination server will not be overwritten, if it has a modification date/time newer than the source file. The default setting (=option is not checked) will always overwrite the file with the source-file.

- **Communications ports:**
  - **TCP port: Set the port number**
  - UDP port: Set the port number

Version info Panel

Show version information for:

- The Deploy Agent
- The Tasks scheduler
- The Viz Graphic Hub interface

High Availability Panel

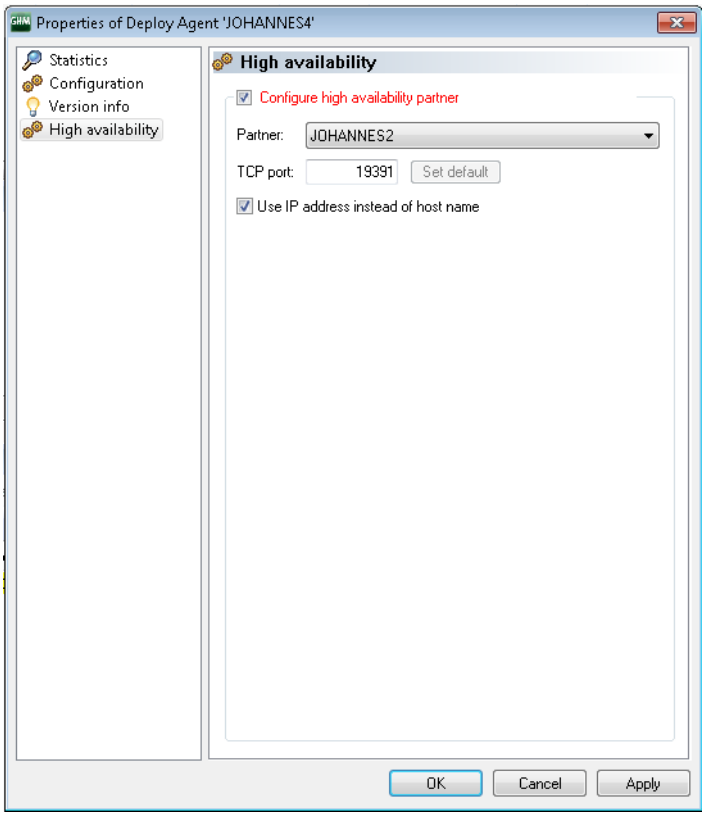
When a new High Availability Partner is configured, the configuration of these values will automatically transfer to the High Availability Partner:

- **Timeouts:**
  - Establishing communication timeout (in seconds)
  - Communication roundtrip timeout (in seconds)
  - Cluster failover timeout (in seconds)
- **Expert settings:**
  - Do emergency pausing of realtime tasks
- Use the original DDC behavior for non realtime tasks.

IMPORTANT! When the High Availability Partner is disconnected the configuration values return to their default values.

Note: From Deploy Agent version 1.4.1it is possible to configure high availability partners using hostnames or IP addresses

High Availability window



To configure a High Availability partner

1. Click in the **Configure high availability partner** check box.
2. Select the Deploy agent from the **Partner** drop down box.
3. Click the **Use IP address instead of host name** box if required.

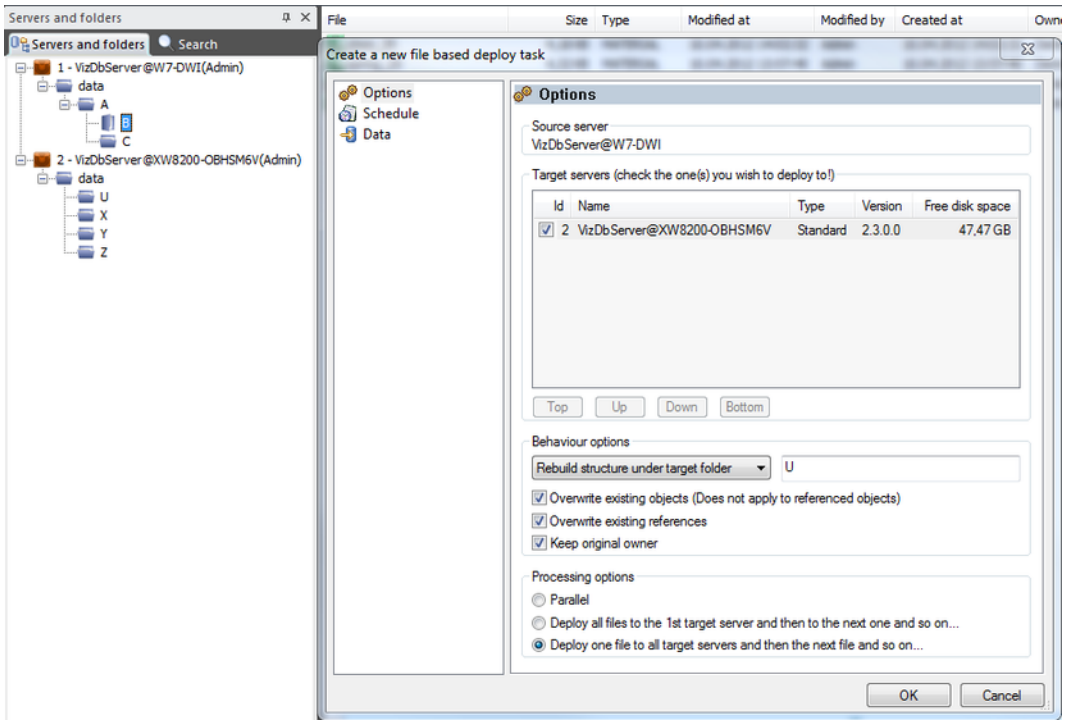
   Note: If the High Availability partner configuration is set to use IP addresses, the clients need to have fix IP-addresses.

4. Click **OK** or **Apply**.

7.2.3 Rebuild Structure Under Target Folder

Creating a new file based deploy task

The Options panel shows a deploy task configuration where the folder [B] of Server 1 is deployed to Folder [U] of Server 2.

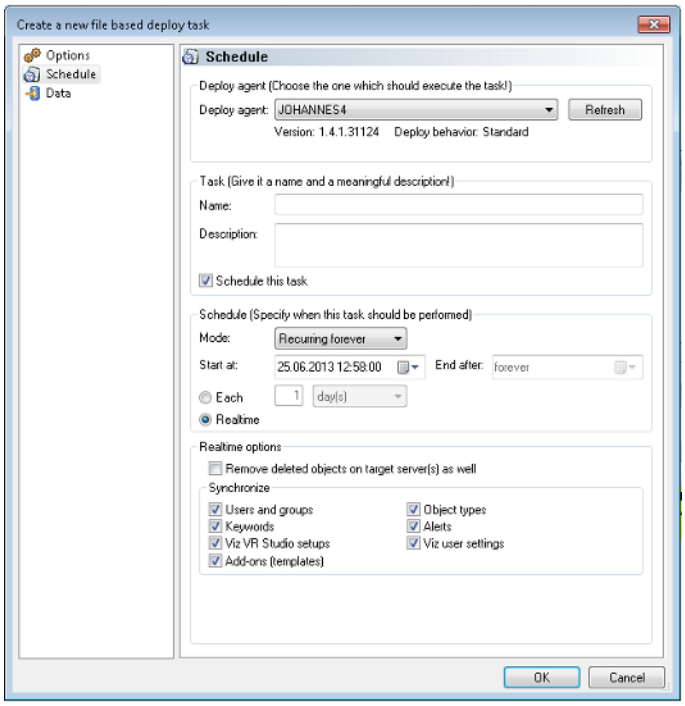


The Options panel offers various settings to configure the deploy task:

- **Behavior options:**
  - **Overwrite existing objects:** If there is a file in folder [B] or any of its subfolders and the same file exists on the destination server (a file with the same UUID), then the file will be overwritten on the destination if the content is different.
  - **Overwrite existing references:** If there is a file [F] in folder [B] or any of its subfolders with a reference to file R and file R exists on the destination server (a file with the same UUID), then file R will be overwritten on the destination if the content is different.
  - **Keep original owner:** If there is a file in folder [B] or any of its subfolders and the same file exists on the destination server (a file with the same UUID), then the owner of the destination file won't be changed if it differs from the source file.
- **Processing options:**
  - **Parallel:** If multiple destinations are selected, the destinations will be synchronized in parallel.
  - **Deploy all files to 1st target server and then to the next and so on...:** If multiple destinations are selected, the destinations will be fully synchronized one at a time.
  - **Deploy one file to all target servers and then the next file and so on...:** If multiple destinations are selected, missing files will be copied to all destinations one at a time.

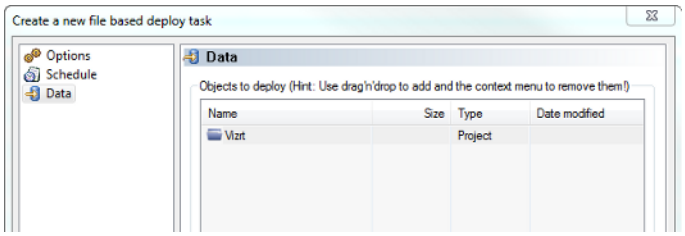
The Schedule panel shows the settings that are available to schedule the new deploy task.

Apart from the general settings, Rebuild Structure Under Target Folder tasks also supports the deletion of files on the target server. Files will only be deleted if they are removed from the source folder [B] or any of its subfolders and the file also exists on the destination server in folder [U] or any of its subfolders. If the file on the destination also has folder links outside folder U, then only the folder links inside the target structure are removed.



- **Deploy agent:** Select the Deploy Agent to be used. The version number and deploy behavior of the selected Deploy Agent is shown below the drop down box.
- **Task:** Enter a name and description for the new deploy task.
  - **Schedule this task:** Click to enable or disable the Schedule field.
- **Schedule:** Create a schedule for the new deploy task:
  - **Mode:** Select either, Once, Recurring or Recurring forever
  - **Start at/End after:** Options depend on the set Mode. Set the start and finish of a new deploy task
  - **Each:** Select how often the task should start from the drop down box.
  - **Realtime:** Click to enable or disable the Realtime options field.
- **Realtime options:**
  - **Remove deleted objects on target server(s) as well:** ???????
  - **Synchronize:** Synchronize options can be chosen separately. Check each box as required.

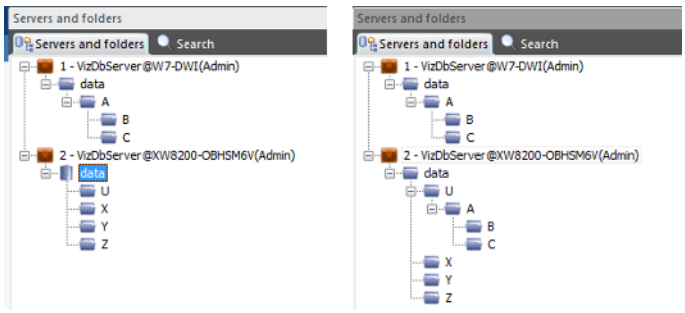
The Data panel shows that folder [B] will be used as source for the new deploy task.



Behavior

Before and after deployment comparison shows the behavior of the deploy task.

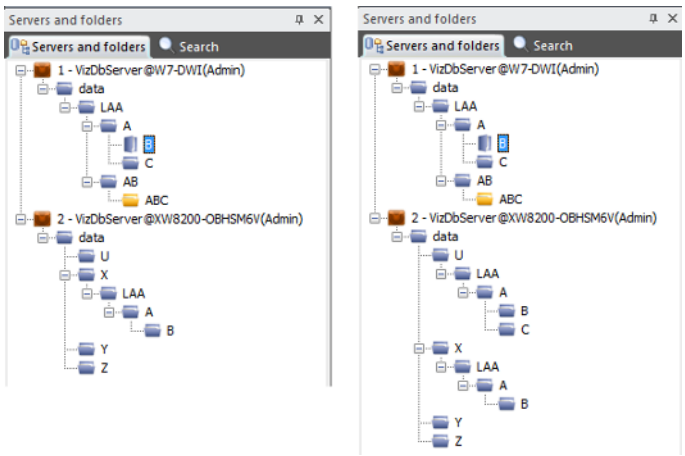
Before and after deployment comparison



To create a consistent deployment, not only folder [B] and its subfolders but the entire folder structure of the source server is created under the target folder on the destination server. This means that there must not exist any folder / project on both servers (apart from already synchronized folders with the correct path). The deploy task will go out of sync such a configuration is discovered. This restriction does not apply to files, but one needs to pay attention that content of files outside the target structure may be changed by this task by this task.

Before and after DDC deployment shows an example deployment of the same deploy task setup as described before, but the option “Use original DDC behavior for non-realtime tasks” has been enabled and the schedule has been changed from realtime to a recurring task (see section “Expert settings”).

Before and after DDC deployment

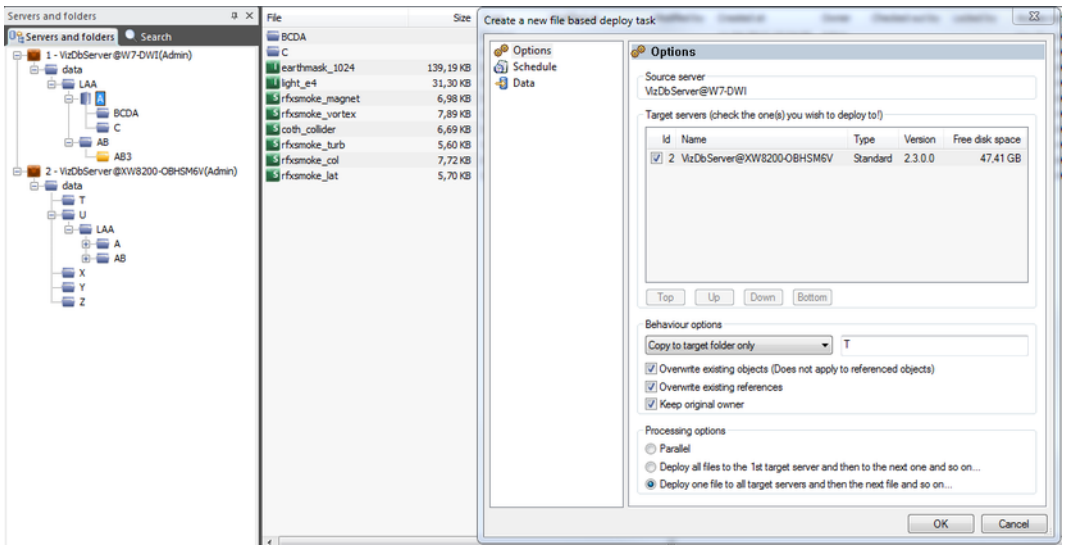


This has the effect that only folders that are needed for deployment will be created, in this case the task creates all folders on the path to folder [B] and additionally folder [C] as it contains either a reference or a folder link from a file that is deployed. Folders [AB] and [ABC] are skipped and not deployed to the destination server. Furthermore, folder [X] on the destination server already contained folders LAA, [A] and B, which means that the deploy agent had to create new folders with new UUIDs under folder [U].

7.2.4 Copy to target folder only

Copy to target folder only shows folder [A] being deployed from the source server to folder [T] on the destination server in “Copy to target folder only” mode.

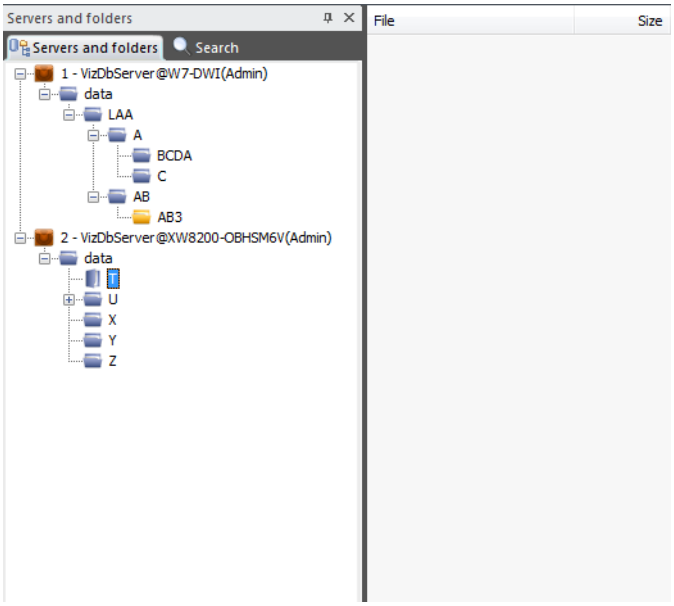
Copy to target folder only



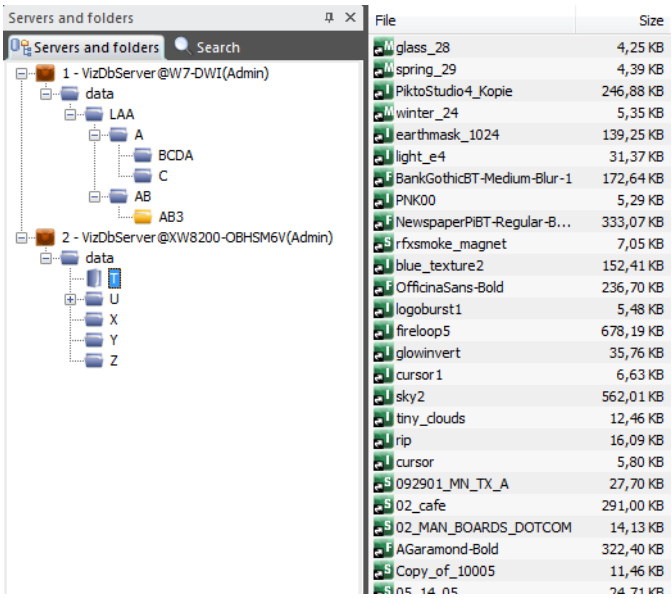
In this case the structure of the source server is ignored and all files from folder [A] and its subfolders are copied directly into folder [T].

Before copy to target folder only shows that only files were deployed to folder [T], but no subfolders were created.

Before copy to target folder only



After copy to target folder only



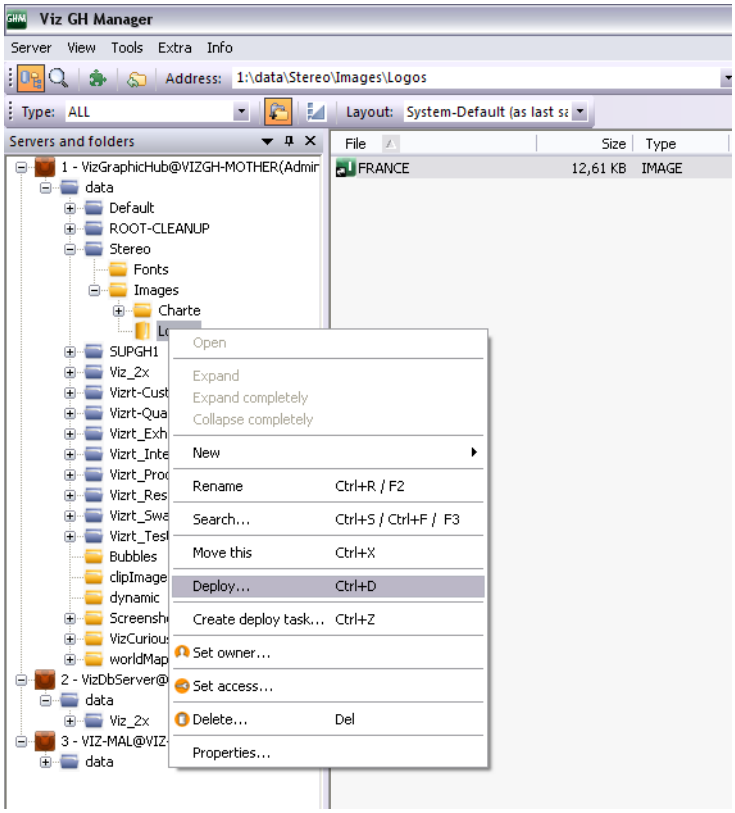
Note that referenced files outside the source structure will also be deployed into the target folder. Since there might be files from multiple folders deployed into a single folder, it is possible that the target folder will contain multiple files with the same name.

7.2.5 Multi Server Deploy

Multi Server Deploy acts to deploy one or more folders/projects/items in exactly the same folder structure to two or more selected servers.

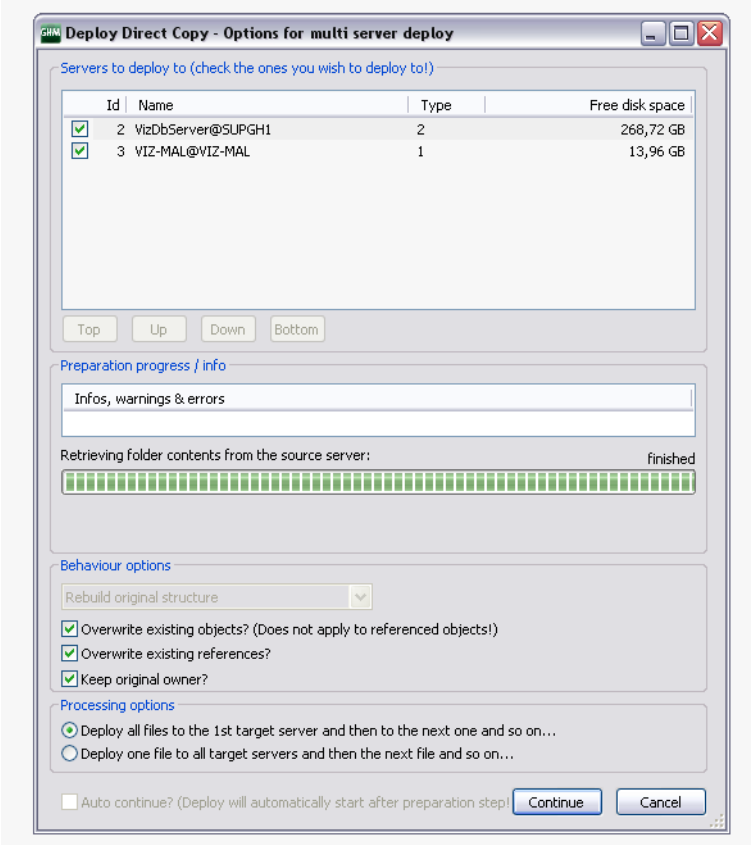
To replicate on multiple servers

1. In Viz Graphic Hub Manager, log in to two or more servers.
2. Right-click a folder/project/item in the Servers and Folders panel or Files panel, and then from the menu that appears, select **Deploy**.



Alternatively, press <CTRL+D>.

The Deploy Direct Copy window is shown, and the analysis process begins.



3. In the list, select the target servers where the folders/projects/items should be deployed.

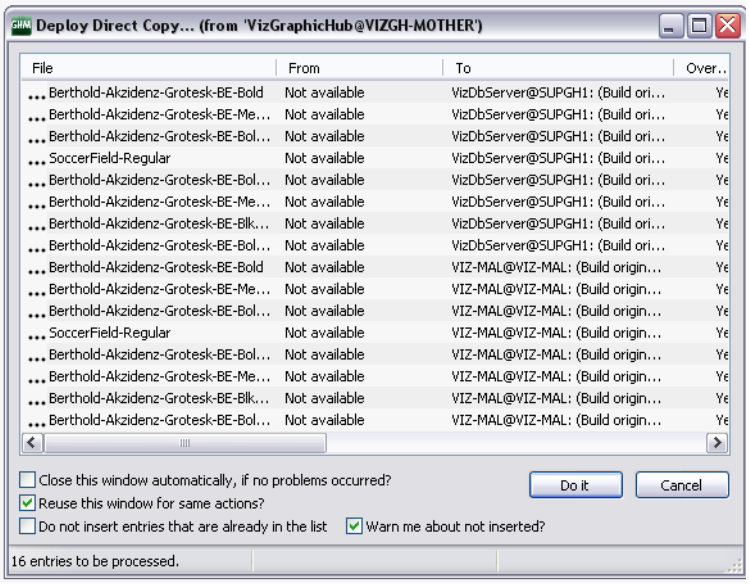
   Tip: The servers can be sorted by clicking the Top, Up, Down, or Bottom buttons. This will increase/decrease the priority level of a specific server.

4. Enable/disable the following behavior options:
   - Overwrite existing objects (does not apply to referenced items)
   - Overwrite existing references
   - Keep original owner
5. Select one of the following processing options:
   - Deploy all files to the first target server, then the next server in the queue, and so on
   - Deploy one file to all target servers, then the next file in the queue, and so on

   Tip: You can predefine the options in Steps 4 and 5 by clicking *Tools -> Edit Preferences -> Deploy Direct Copy.* Once defined, these preferences will be set as defaults for every deploy operation you configure.

6. Click the **Continue** button.

The Action Log for deleting files is activated.



7. Click the **Do It** button.

   The folders/projects/items will then be deployed.

8. When the deploy process is finished, check the Action Log for possible errors, and if necessary, attempt to redeploy any unsuccessful files.

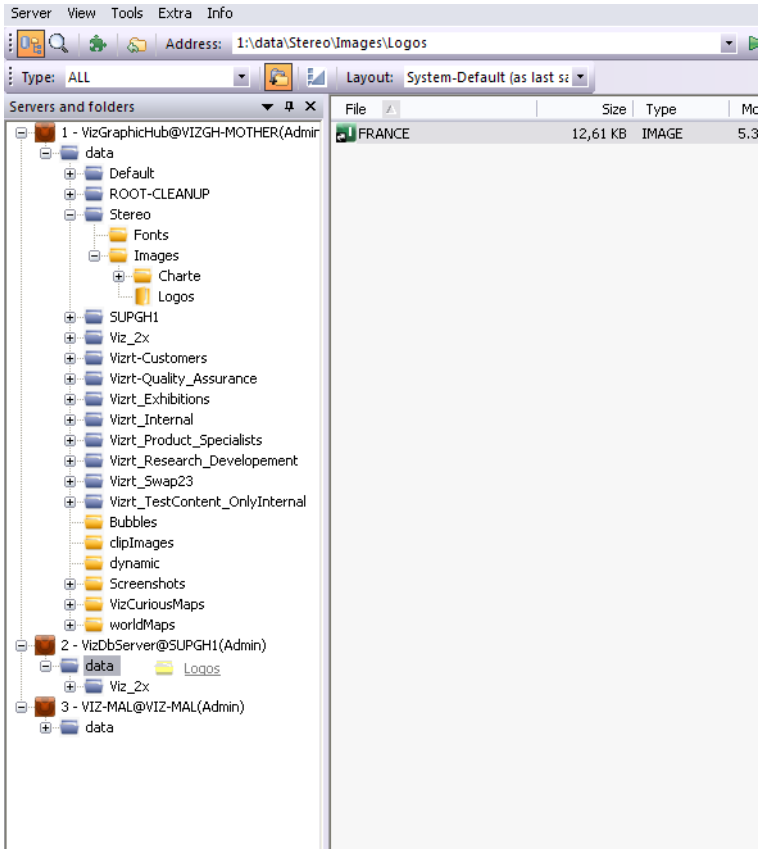
7.2.6 Server to Server Deploy

Server to Server Deploy acts to deploy one or more folders/projects/items to one other server. The original structure can be rebuilt, the folders/projects/items can be copied to the target folder, or the structure can be rebuilt under the target folder.

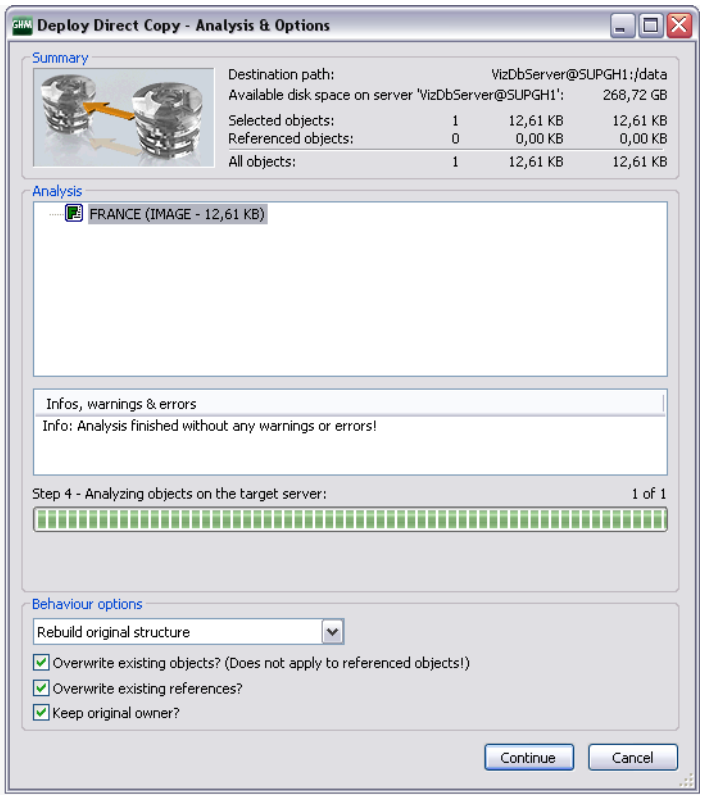
To replicate on one target server

1. In Viz Graphic Hub Manager, log in to two servers.

2. In the Servers and Folders panel, select source files/folders/items, and then drag them to the target folder in the desired server.



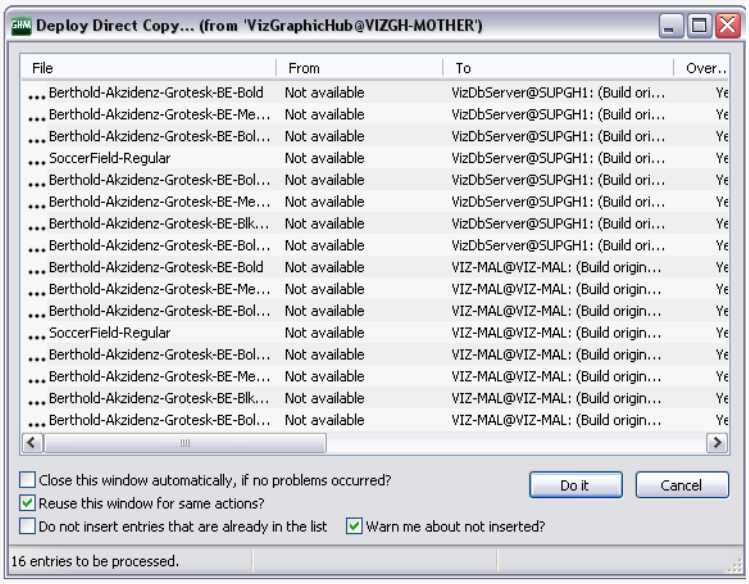
The Deploy Direct Copy window is shown, and the analysis process begins.



3. Select one of the following behavior options:
   - **Rebuild original structure:** Copies an exact replicate of all selected folders/projects/items and its references from source to destination server.
   - **Copy to target folder only:** Copies all selected folders/projects/items and its references from the source server to the destination folder on the destination server.
   - **Rebuild structure under target folder:** Copies an exact replicate of all selected folders/projects/items and its references from the source server to the destination folder on the destination server.
4. Enable/disable the following behavior options:
   - Overwrite existing objects (does not apply to referenced items)
   - Overwrite existing references
   - Keep original owner

   Tip: You can predefine the options in Steps 3 and 4 by clicking *Tools -> Edit Preferences -> Deploy Direct Copy.* Once defined, these preferences will be set as defaults for every deploy operation you configure.
5. Click the **Continue** button.

The Action Log for deleting files is activated.



6. Click the **Do It** button.

   The folders/projects/items will then be deployed.

7. When the deploy process is finished, check the Action Log for possible errors, and if necessary, attempt to redeploy any unsuccessful files.

7.2.7 Scheduling Deploy Tasks

You have the option of scheduling deploy tasks at programmed intervals. This is useful if you want to replicate data for safekeeping on a regular basis.

Note: As a prerequisite, you must have the Viz Graphic Hub Deploy Agent service installed. See Deploy Agent Requirements before proceeding.

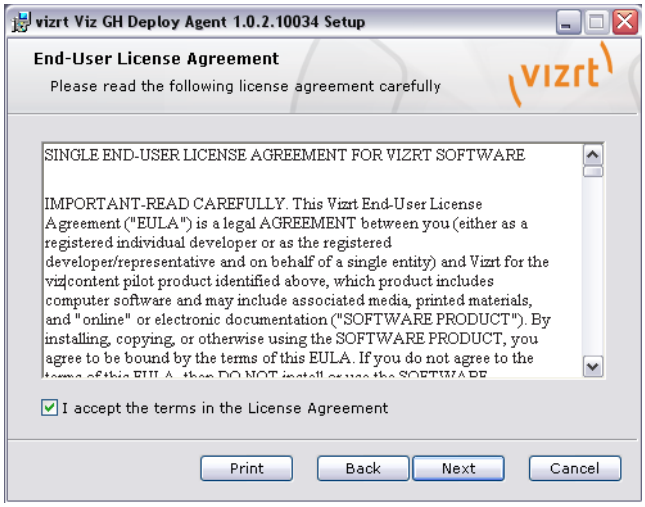
To install Viz Graphic Hub Deploy Agent

1. Double-click the **VizGHDeployAgent.xx.xx.msi** file.

The installation wizard launches

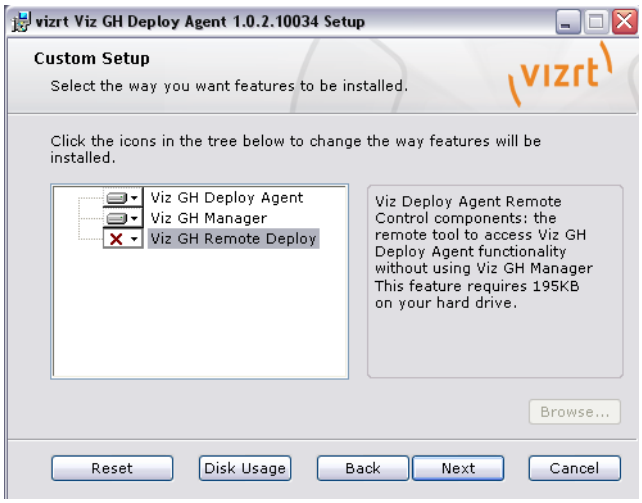
2. Click **Next** to proceed.

   The license agreement is shown.



3. Read the license agreement, check the **I agree** check box, and click **Next** to proceed.

The Custom Setup window is shown.

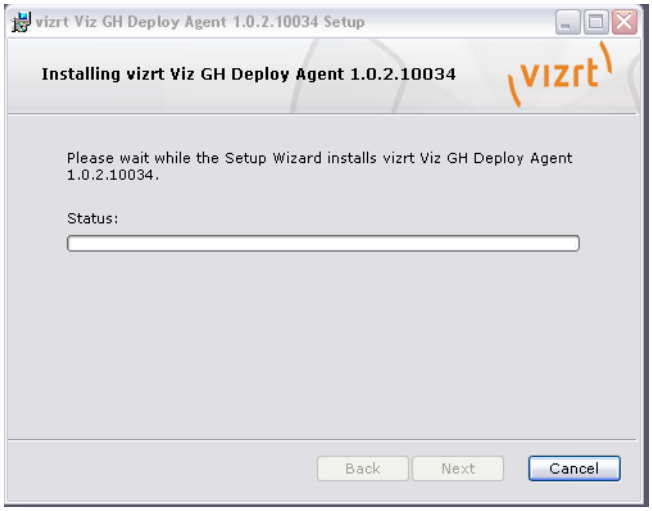


4. Click **Next** to proceed.

   Viz Graphic Hub Deploy Agent is ready to be installed.

5. Click **Install**.

   The application installs on your machine.

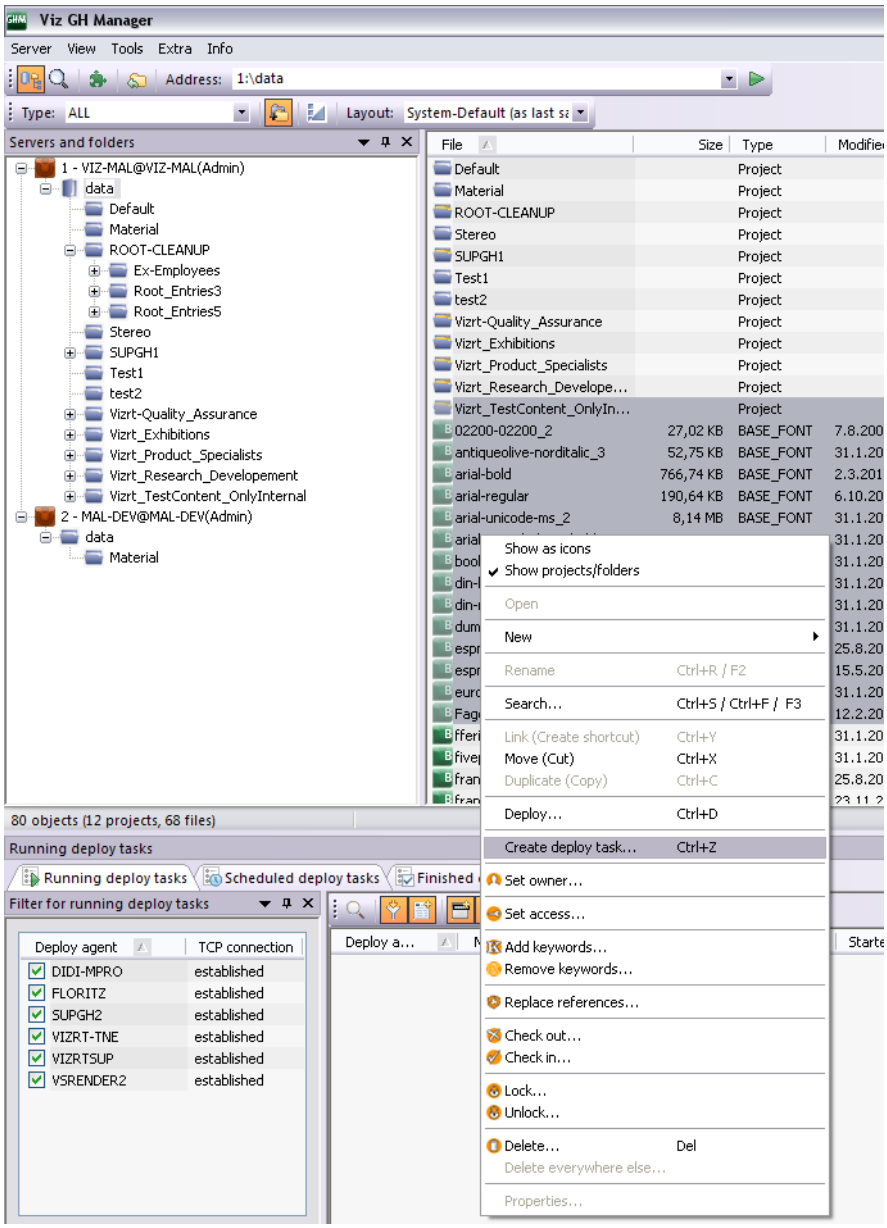


The installation finishes.

6. Click **Finish**.

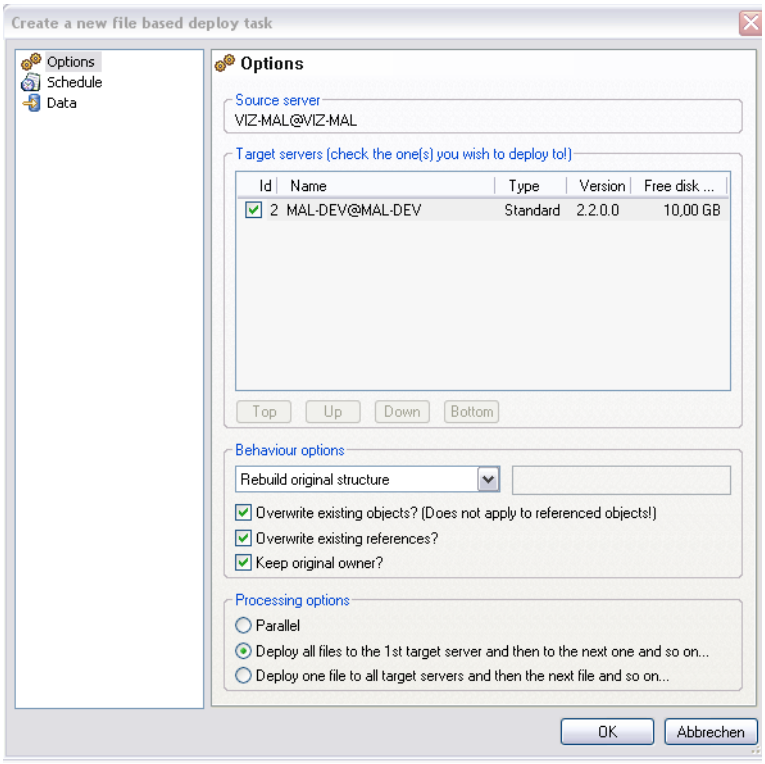
To schedule a deploy task

1. In Viz Graphic Hub Manager, log into two or more servers.



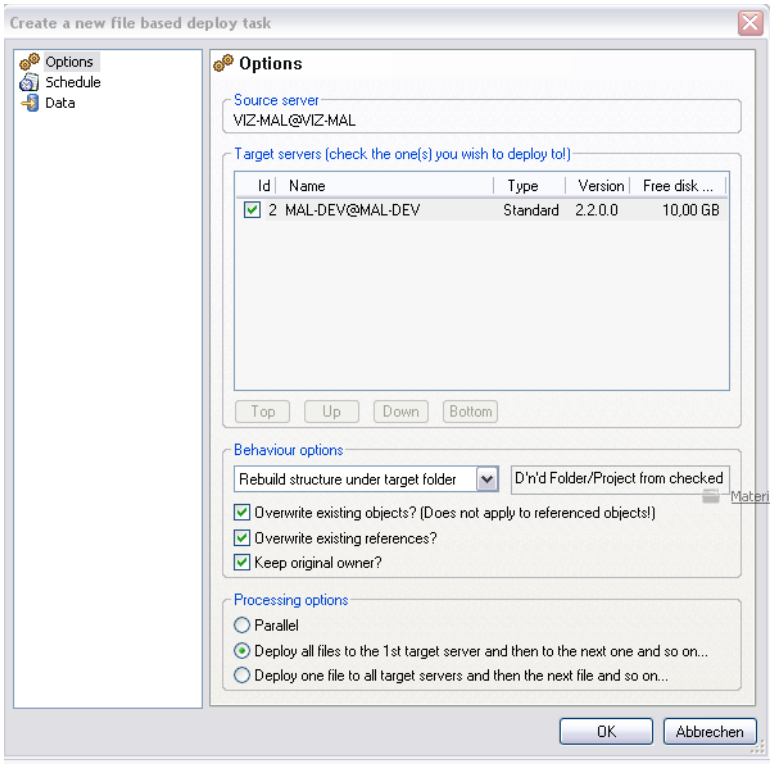
2. Right-click a folder/project/item in the Servers and Folders panel or Files panel, and then from the menu that appears, select **Create Deploy Task**.

The Create New Deploy Task window is shown.



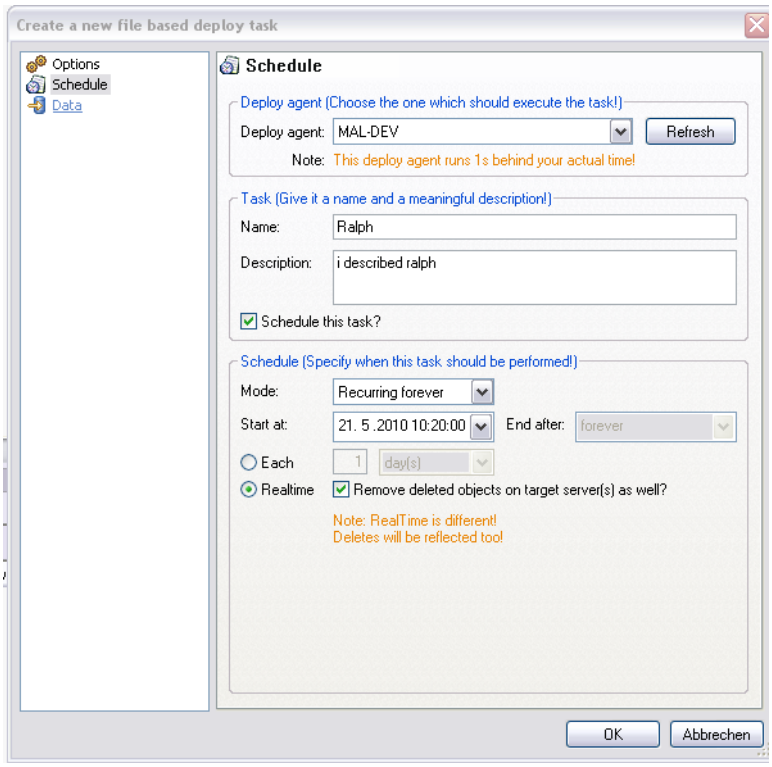
3. Select one or more target servers.
4. Select one of the behavior options:
   - **Rebuild original structure:** Copies an exact replicate of all selected folders/projects/items and its references from source to destination server.
   - **Copy to target folder only:** Copies all selected folders/projects/items and its references from the source server to the destination folder on the destination server.
   - **Rebuild structure under target folder:** Copies an exact replicate of all selected folders/projects/items and its references from the source server to the destination folder on the destination server.

Tip: For Copy to Target Folder Only and Rebuilt Structure Under Target Folder, you can also drag folders or projects into the field beside the Behavior Options drop down box.



5. Enable/disable the following behavior options:
   - Overwrite existing objects (does not apply to referenced items)
   - Overwrite existing references
   - Keep original owner
6. Select one of the following processing options:
   - Deploy all files to the first target server, then the next server in the queue, and so on
   - Deploy one file to all target servers, then the next file in the queue, and so on

7. In the left panel, click **Schedule**.



8. From the **Deploy Agent** drop down box, select a deploy agent.

   Tip: If you have several deploy agents installed on various machines, and you intend to schedule many tasks, use a different deploy agent for each task for the purpose of load balancing.

9. Name and describe the task in the fields provided.
10. Check the **Schedule this task** check box.

    Note: If you uncheck this box, the deploy task will execute right away, rather than wait for a scheduled time.

11. From the **Mode** drop down box, select one of the following options:
    - Once
    - Recurring
    - Recurring forever
12. In the **Start at** drop down box, click to select a date from the calendar, and if necessary, adjust the time.

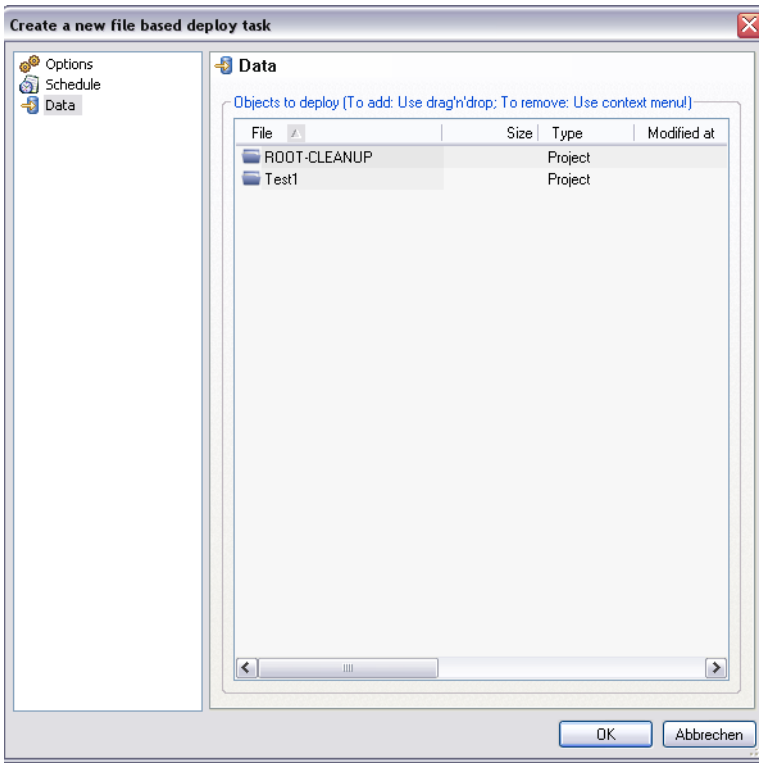
    Note: You cannot schedule tasks to begin in the past.

13. If your mode is **Recurring**, in the **End after** drop down box, click to select a date from the calendar, and if necessary, adjust the time.
14. Select *one* of the following radio button options:
    - **Each** - select an interval

- **Realtime** - the deploy task will occur every time there is a change in the database. With this selection, you can optionally **Remove deleted objects on the target server as well**.

Note: Realtime tasks cannot be modified later.

15. In the left panel, click **Data** and drag any additional folders or files into the right panel, as necessary.



Caution: Do not drag subfolders of any folders that are already in the right panel.

Note: You cannot drag files into the right panel for Realtime tasks.

16. Click **OK** to create the deploy task.

7.2.8 Maintaining Deploy Agents and Tasks

You have the following options regarding your deploy tasks:

- To view running deploy tasks
- To view scheduled deploy tasks
- To view finished deploy tasks
- To modify a deploy task
- To search scheduled deploy tasks
- To search finished deploy tasks
- To maintain deploy agents

To view running deploy tasks

- In Viz Graphic Hub Manager, from the main menu, click *Tools -> Administer Tasks -> Running deploy tasks.*

  All running deploy agents and tasks are shown in the Journal.

To view scheduled deploy tasks

- In Viz Graphic Hub Manager, from the main menu, click *Tools -> Administer Tasks -> Scheduled deploy tasks.*

  All scheduled deploy tasks are shown in the Journal.

To view finished deploy tasks

- In Viz Graphic Hub Manager, from the main menu, click *Tools -> Administer Tasks -> Finished deploy tasks.*

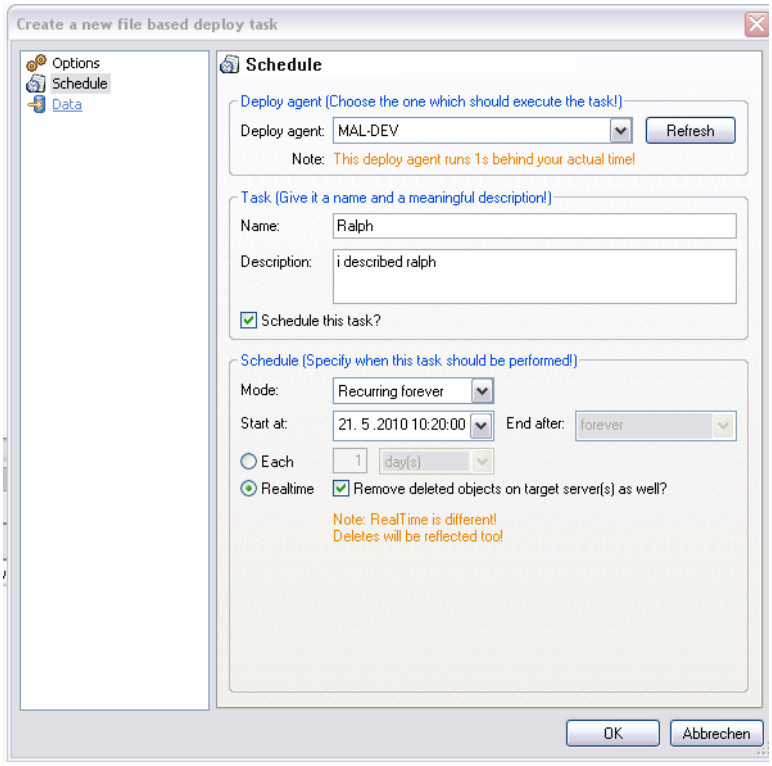
  All finished deploy tasks are shown in the Journal.

To modify a deploy task

Note: Modifications will not affect tasks that are currently running. If you modify such a task, the changes will only take place at the next interval.

1. Make sure you are logged into the source server for which you wish to modify the deploy task.
2. Show the deploy tasks in the Journal, in accordance with one of the procedures above.
3. Right-click the task and select **Properties**.

   The Schedule Deploy Task window is shown.

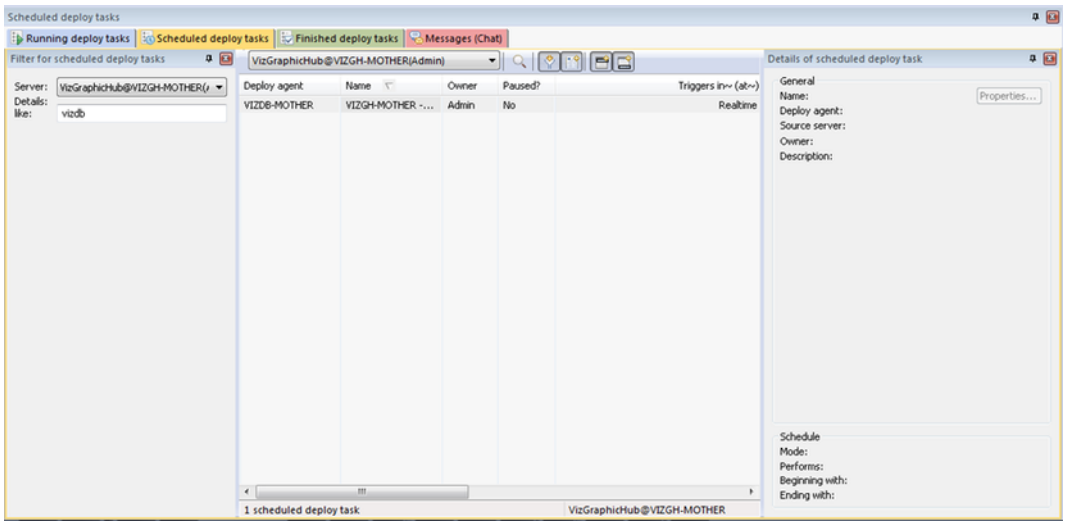


4. Continue with the procedure To schedule a deploy task from step 3 onward.

To search scheduled deploy tasks

1. Perform the procedure To view scheduled deploy tasks.

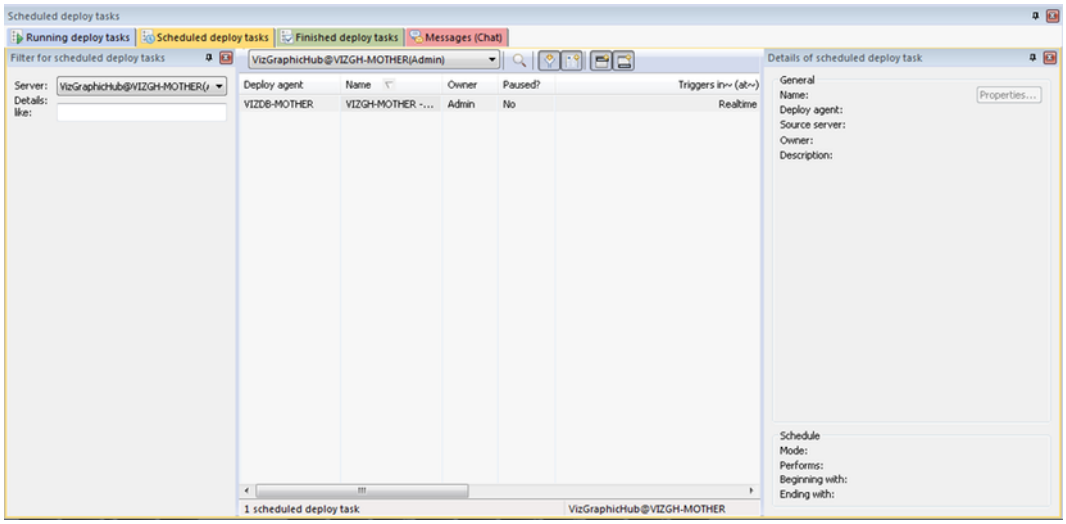
   The Journal is enabled for searching scheduled deploy tasks.



2. From the Filter, using the **Server** drop down box, select a server.
3. In the **Details like** field, enter free text like name of the task, name of the agent, or any description that may figure in the task.
4. In the Journal, click the Search button.

   The search results are shown in the panel below. The **Triggers in** column shows when the scheduled deploy task is set to run next.

   When one is selected, the deploy task's details are shown in the panel to the right.

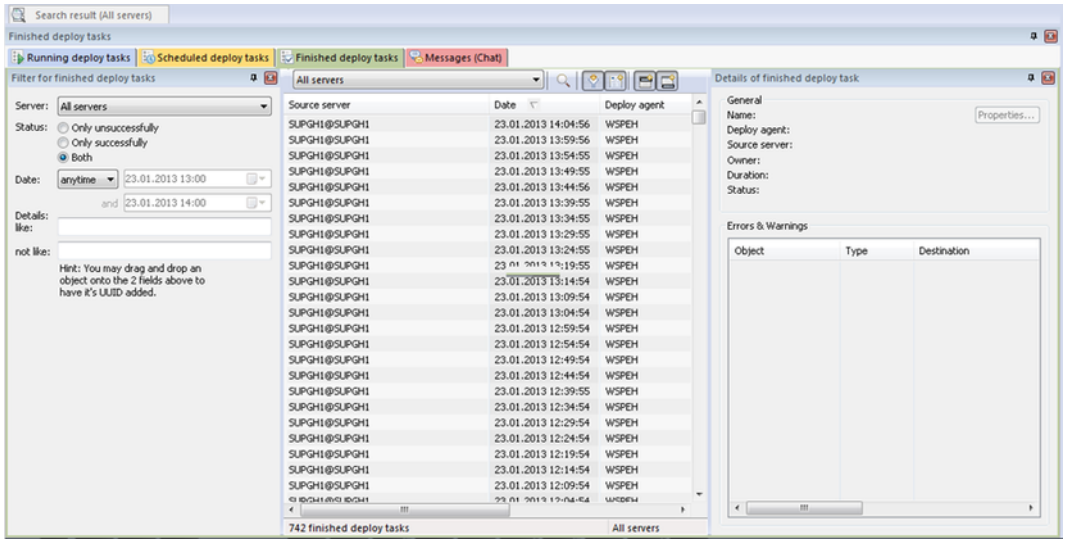


5. To modify the deploy task, do *one* of the following:
   - Right-click the deploy task in the results panel and select **Properties**.
   - In the details panel, click the **Properties** button.
6. Continue with the procedure To schedule a deploy task from step 3 onward.

To search finished deploy tasks

1. Perform the procedure To view finished deploy tasks.

   The Journal is enabled for searching deploy tasks.



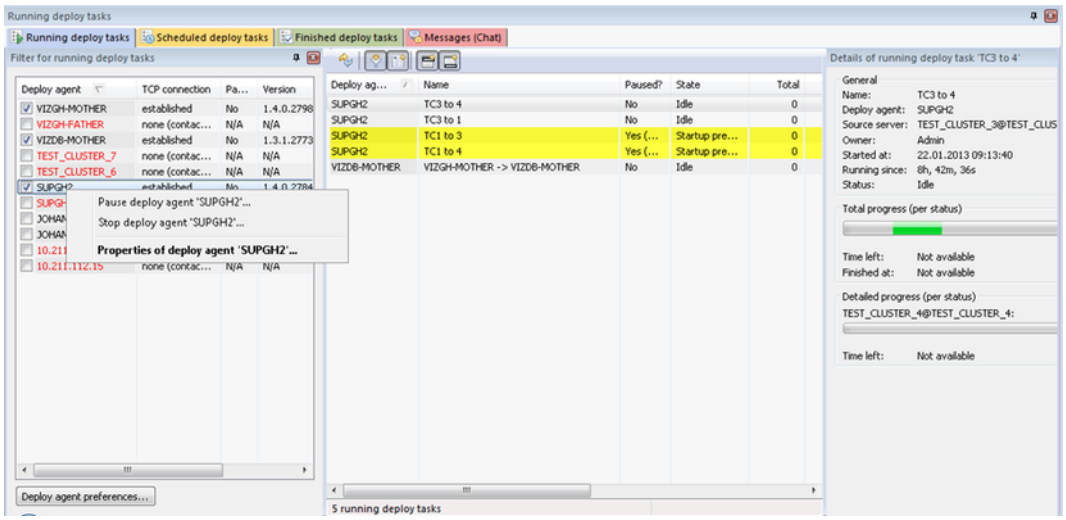
2. From the Filter, using the **Server** drop down box, select a server.
3. Select a task **Status**. Your options are:
   - Only unsuccessful
   - Only successful
   - Both
4. From the **Date** drop down box, select *one* of the following options:
   - **Anytime**
   - **From**: Selecting this option will prompt you to also enter a beginning date and time.
   - **Until**: Selecting this option will prompt you to also enter an ending date and time.
   - **Between**: Selecting this option will prompt you to also enter a beginning and ending date and time.
5. In the **Details like** field, enter free text like name of the task, name of the agent, or any description that may figure in the task.
6. In the **Details not like** field, enter free text like name of the task, name of the agent, or any description that you want to exclude from the task search.
7. In the Journal, click the Search button.

   The search results are shown in the panel below. When one is selected, the finished deploy task's details are shown in the panel to the right. There are general details as well as any errors and warnings.

To maintain deploy agents

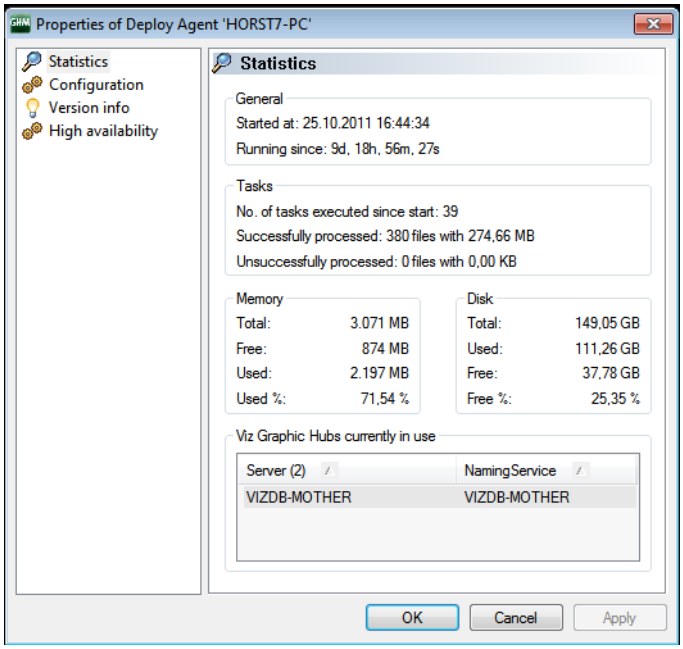
1. Launch Viz Graphic Hub Manager on the machine where the deploy agent is meant to run.
2. Log into the source server(s).

3. Perform the procedure To view running deploy tasks.

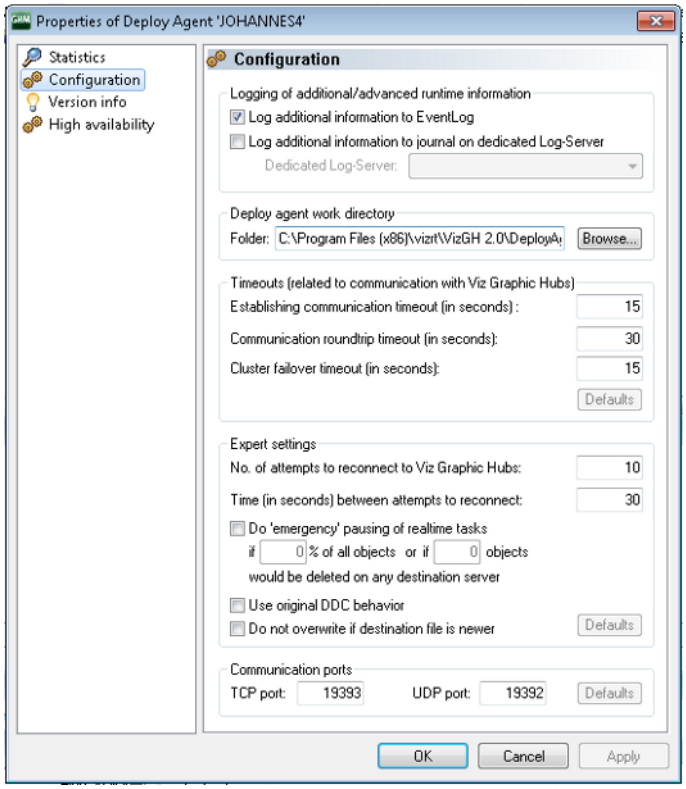


4. In the left panel, right-click the relevant deploy agent and select **Properties**.

   The deploy agent properties window is shown. The Statistics link is selected by default. The data shown here is for information purposes only.



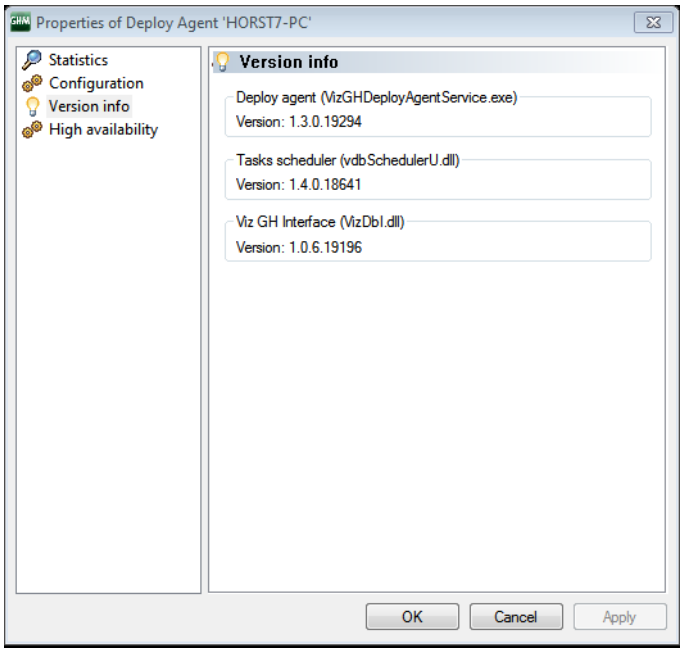
5. Click the **Configuration** link.



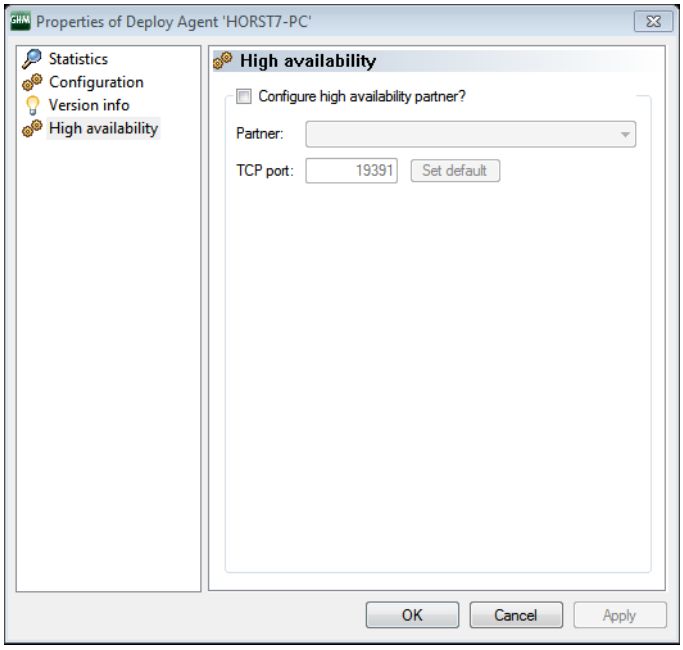
6. Configure the following parameters as necessary:
   - **Log additional information to EventLog**: Select this option to include debugging information, as well as records of the start of tasks, in the Windows event log.
   - **Log additional information to journal on dedicated log server**: Select this option to include debugging information, as well as records of the start of tasks, in the Viz Graphic Hub server log, on one of the servers available in the **Dedicated Log Server** drop down box.
   - **Deploy agent work directory**: The path and folder which acts as the temporary buffer for the deploy agent. Setting this to a different drive can improve performance and can additionally put it where access rights may differ. The deploy agent process must have full access rights on the selected directory.
   - **Timeouts:** Set the timeouts times for each item as required.
   - **Expert settings**: Consult your Vizrt CA representative before changing any of these settings:
   - **Do ‘emergency’ pausing of realtime tasks**: In the event that there is a risk of too many files being deleting on the destination server, select this option and assign a threshold as a percentage or number of files beyond which the deploy agent will pause the task. If such a task is paused, you will find it upon performing the procedure To search finished deploy tasks. You are always able to resume the task.
   - **TCP port**: Default is 19393. Change only after consultation with your network administrator, if there are firewall issues.
   - **UDP port**: Default is 19392. Change only after consultation with your network administrator, if there are firewall issues.

Note: Changing TCP or UDP setting will require changes to the Viz Graphic Hub Manager preferences: click *Tools -> Edit preferences* and in the left panel select **Deploy**.

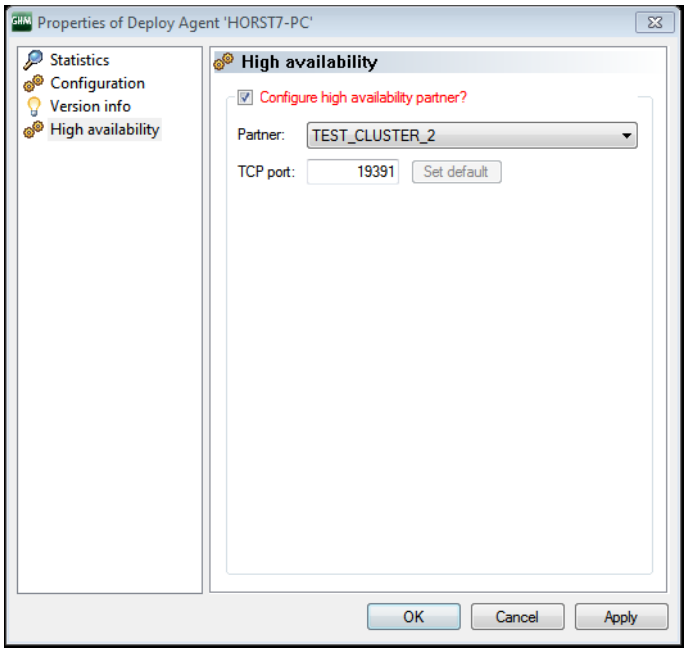
7. Click the **Version Info** link.



8. When reporting a problem, be sure to include this version information.
9. Click **OK** to dismiss the Deploy Agent Properties window.
10. Click the **High Availability** link.



11. To configure a high availability partner, select the respective check box.



12. From the **Partner** drop down box, select the alternative to take over in case of failover.

    Note: In general, it is recommended that you use the default TCP port.

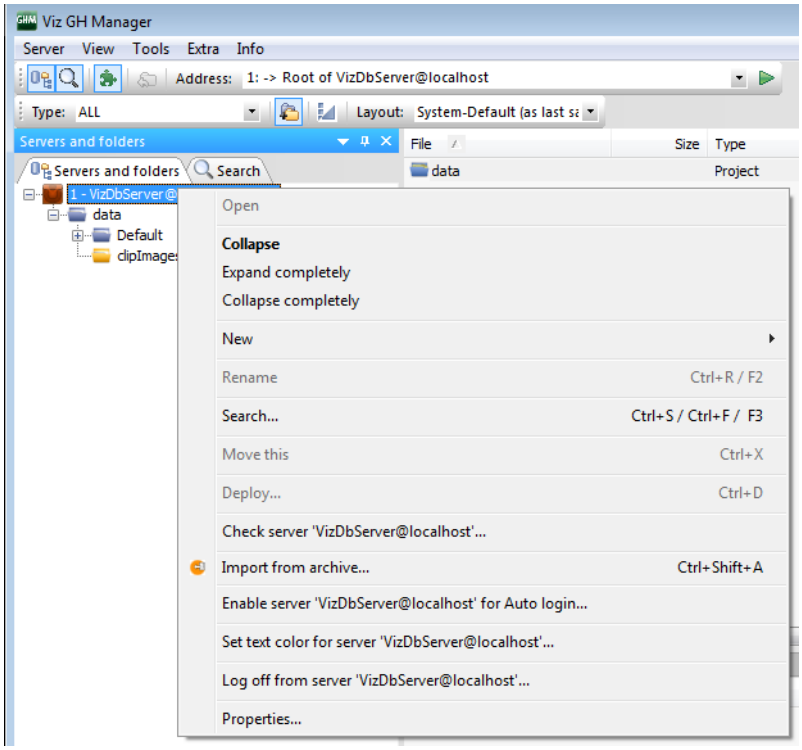
13. Click **OK**.

7.3 Finding and Fixing Data Errors

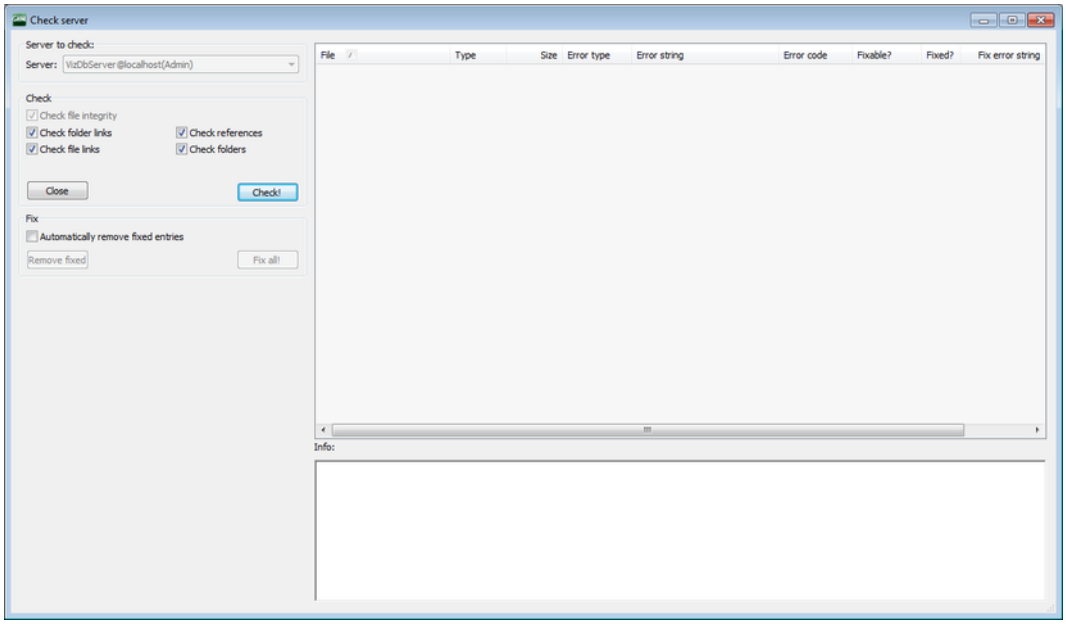
Much like the Check Disk feature in Windows, Viz Graphic Hub Manager allows you to search for and fix data errors on the Viz Graphic Hub.

To find data errors

1. In the left panel, right-click the server to be checked and select **Check server <server name>**.

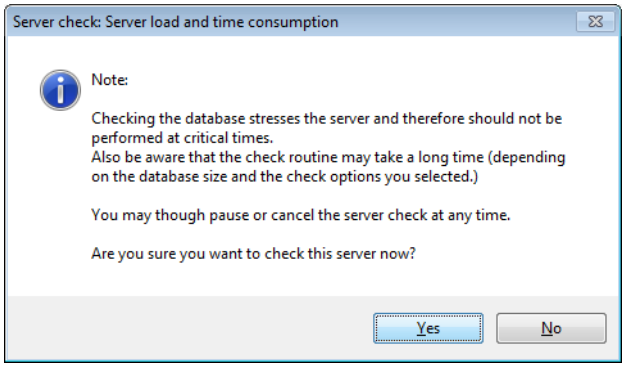


The check server window is shown.



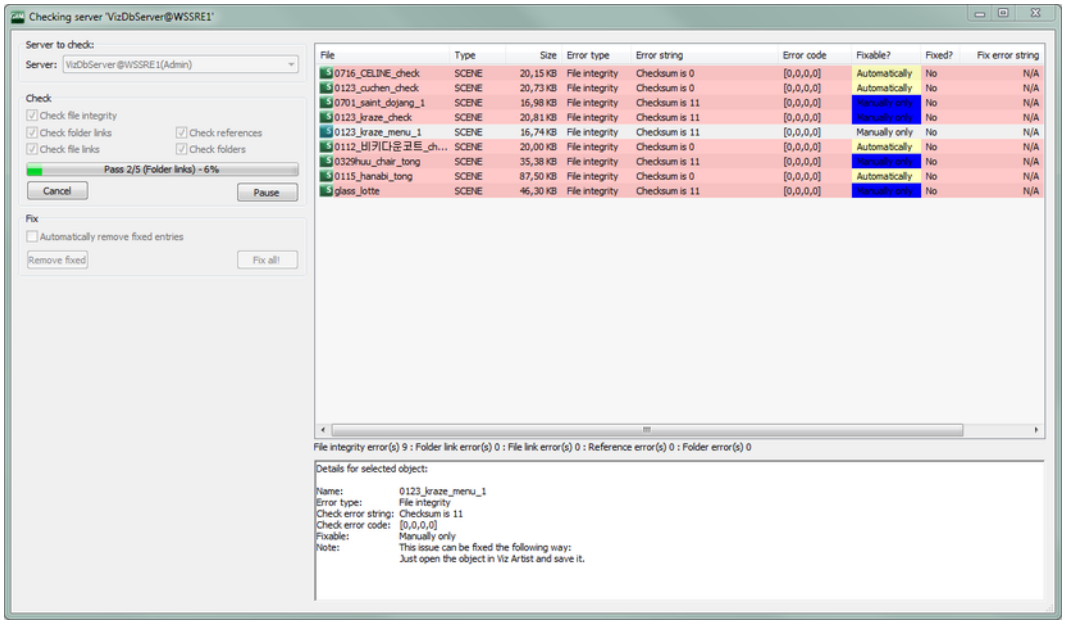
2. In the left panel, select all the options to check for. Your options are:
   - Check folder links
   - Check file links
   - Check references
   - Check folders
3. Click the **Check!** button.

You are advised that checking for data errors can be time consuming and resource heavy, and should not be done at peak hours.



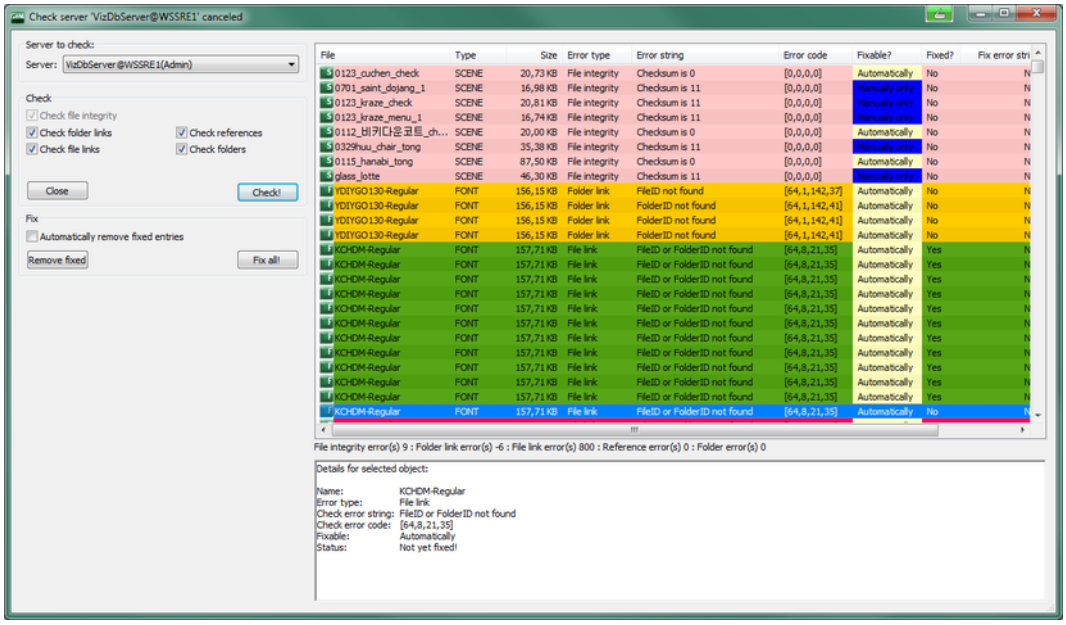
4. Click **Yes** to proceed.

Any errors found are shown in the right panel. Clicking on an error shows more detailed information in the bottom panel.



To fix data errors

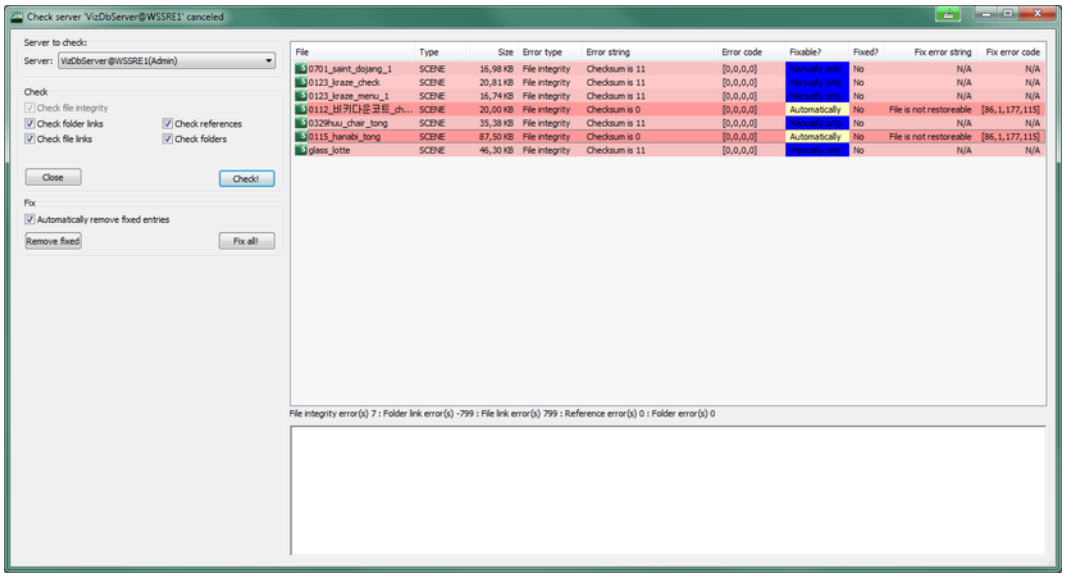
1. If you do not require a log of errors that have been fixed, check **Automatically remove fixed entries**.



2. Click the **Fix all!** button.

   Note: You also have the option of selecting only certain errors in the right panel, right-clicking, and fixing only the selected entries.

3. Any errors that cannot be fixed will remain in the right panel. Click the entry and follow the instructions in the bottom panel.



7.4 Managing Users and Groups

From the Administer Users and Administer Groups windows it is possible to manage all the users and groups in Viz Graphic Hub.

Every user that works with the Viz Graphic Hub, either directly or from a client application, must:

- Have their own user profile
- Belong to a Group

The User and Group management system monitors who creates items, who owns items, and who has rights to modify the various items in the Viz Graphic Hub.

The permission settings on group level are the default settings for all assigned users, but it is possible to change the permission on user level afterwards. It is possible that one specific user has more or less permissions as the original defined base permission settings of the underlying group (like a super-user or restricted user).

User and Group permission settings are always related to a folder or file permission setting.

Example: User 1 of Group A has, on User and Group level, ‘no world write rights’ activated. This means that it is not possible to override or delete a file or folder which is owned by another User from a different Group.

Example: User 2 of Group A has, on Group level, 'group write rights' activated but not on User level (restricted user). This means that User 2 is only permitted to overwrite or delete their own files in their own folder structure.

This section contains information on the following topics:

7.4.1 Groups

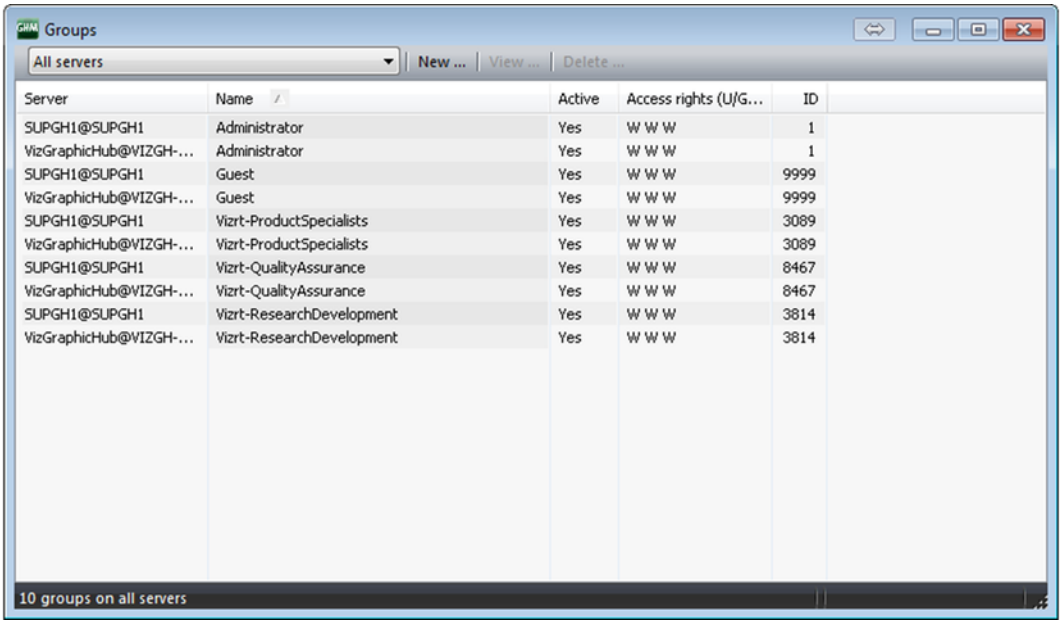
This section contains information on the following topics:

To open the Administer Groups window

- Click *Tools -> Administer Users and Groups -> Administer groups*

Note: All Viz Graphic Hub Manager users can view Users and Groups. Only an administrator can create new Users or Groups, or modify existing ones.

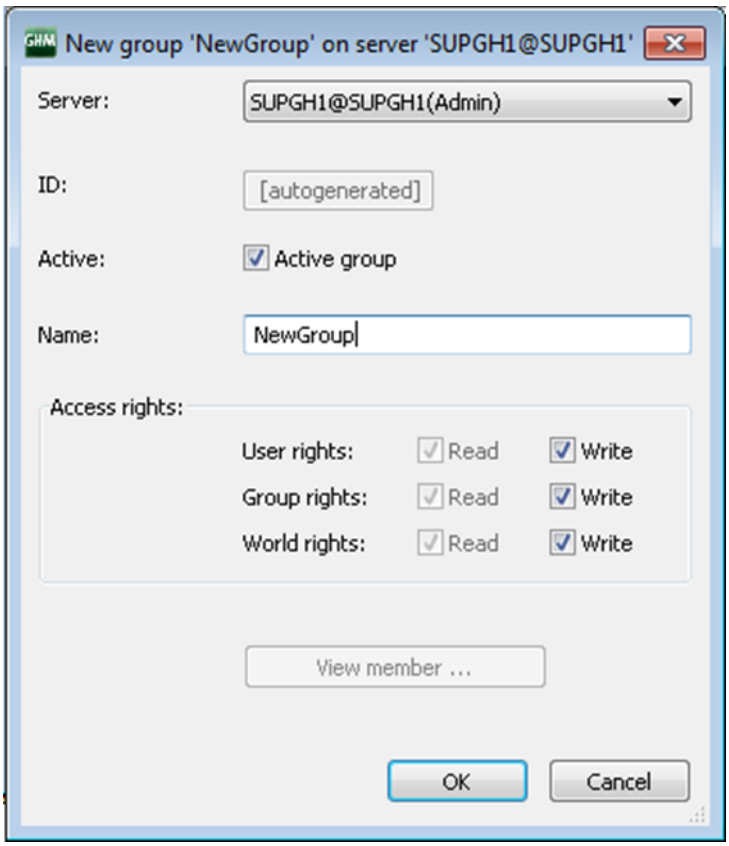
Groups window



To create a new group

1. Open the Administer Groups window (see To open the Administer Groups window).
2. Select either:
   - **New... or**
   - Right click, and click **Create new group...** from the context menu, or

- Press <F6>/<Insert>



3. Select the destination server from the **Server** drop down box.

   Note: If the group-list is filtered, the server cannot be changed.

4. The new group **ID** value is automatically generated.
5. Check or un-check the **Active** box to make the new group active or inactive.

   Note: If a group is inactive, no members can be added.

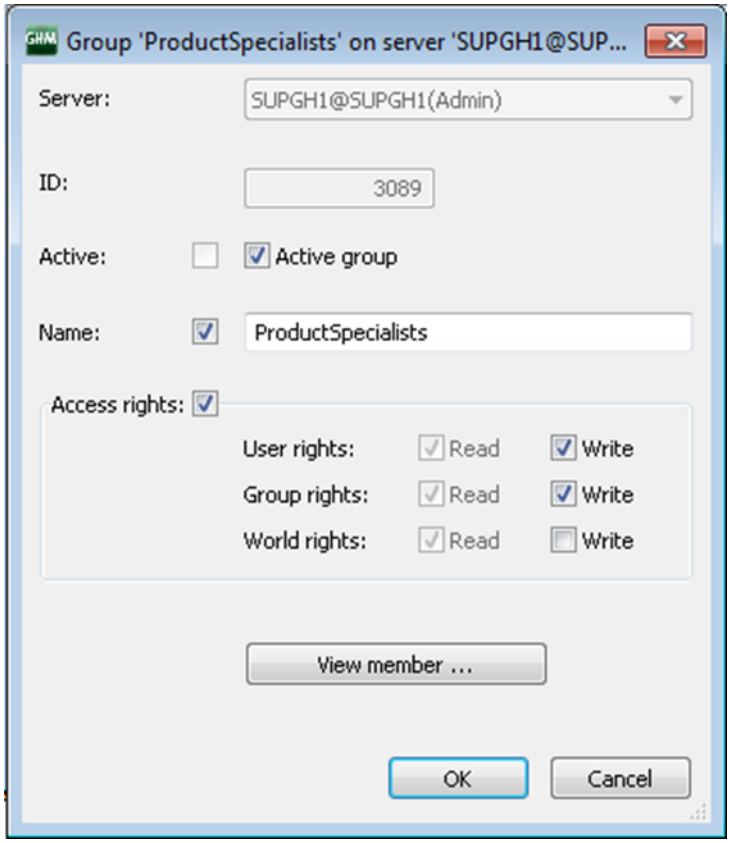
6. In the Name box give the new group a unique name.
7. Specify the user account access rights:
   - **User rights: User may overwrite their files and create files.**
   - **Group rights:** User can overwrite files which belong to the group, of which they are a member of.
   - **World rights:** User may overwrite files which belong to anyone.
8. Click **OK**.

To edit a group

Note: Only available with administrator privileges and with a single server selected.

1. Open the Administer Groups window (see To open the Administer Groups window).

2. Select either:
   - **Edit... or**
   - Right click, and click **Edit selected group...** from the context menu, or
   - Press <F4>



3. The server destination can not be changed.
4. The group ID value can not be changed.
5. Check the **Active** box to make the new group active, if required. If changed from active to inactive or inactive to active the modified check box is checked. If the modified check box is un-checked, the change will be ignored.

   Note: If a group is inactive, no members can be added.

6. In the **Name** box enter a new unique group name, if required. If changes are made in the text box the modified check box is checked. If the modified check box is un-checked, the change will be ignored.
7. Specify the user account access rights, if required:
   - **User rights: User may overwrite their files and create files.**
   - **Group rights:** User can overwrite files which belong to the group, of which they are a member of.
   - **World rights:** User may overwrite files which belong to anyone.
8. Click the **View member** button to see all the group members
9. Click **OK**.

To delete a group or groups

Note: Only available with administrator rights.

Note: Groups which contain members cannot be deleted.

1. Open the Administer Groups window (see To open the Administer Groups window).
2. Select the Group or Groups to be delete:
   - Click on a Group, or
   - Press <CTRL> and click on Groups to multi select
3. Select either:
   - **Delete... or**
   - Right click on the selection and click **Delete selected group...** from the context menu, or
   - Press DELETE.
4. Click **OK**.

To view a group

Note: Only available if logged in with no Administration rights or if there are multiple users, over different servers.

1. Open the Administer Groups window (see To open the Administer Groups window).
2. Click on the group or groups to be viewed.
3. Select either:
   - **View... or**
   - Right click and select **View selected group...** from the context menu, or
   - Click on a group and press <F4>
4. The Group window opens. No items can be edited.
5. Click the **View member** button to see all the group members
6. Click **Close**.

7.4.2 Users

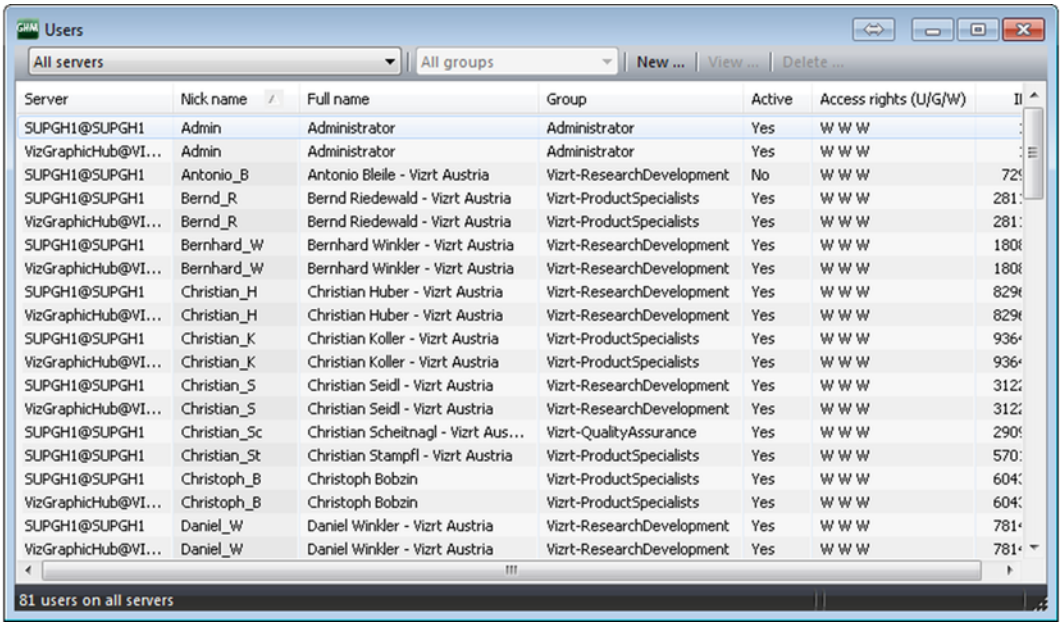
This section contains information on the following topics:

To open the Administer Users window

- Click *Tools -> Administer Users and Groups -> Administer users...* **, or**
- Press <CTRL+F9>, or
- Press <CTRL+U>

The Users window shows all available users on all active servers.

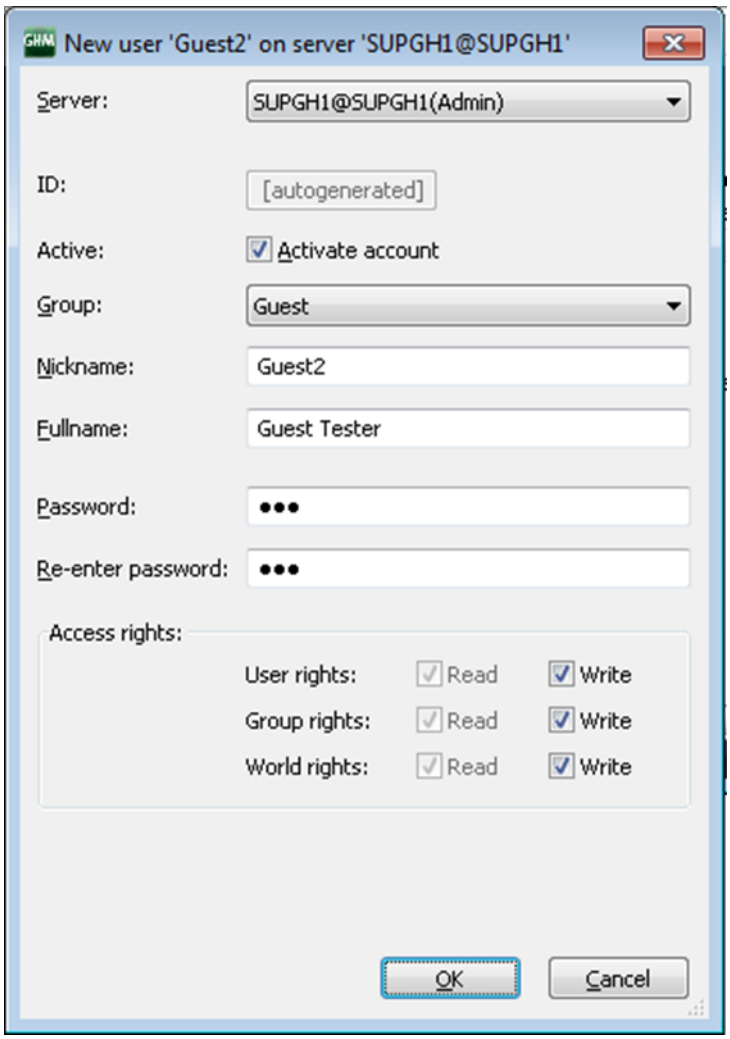
Note: To narrow the users list first select a Server then select a Group from the Server and Group drop down boxes.



Create a new user account

1. Open the Administer Users window (see To open the Administer Users window).
2. Select either:
   - **New... or**
   - Right click, and click **Create new user...** from the context menu, or

- Press <F6>/<Insert>



3. Select the destination server from the **Server** drop down box.

   Note: If the user list shows users of one server only, the server will be preset and cannot be changed.

4. The new group **ID** value is automatically generated.
5. Check or un-check the **Active** box to make the new user account active or inactive.

   Note: If the user account is inactive, the user cannot log in or work with the items in the database.

6. In the **Group** box select which group the new user belong too.

   Note: If user list is filtered to show only users of a specific group, this group will be preset and cannot be changed.

7. In the **Nickname** box give the new user a unique nickname.
8. In the **Fullname** box enter the new user's full name.

9. Enter a user **Password**. Repeat the password in the **Re-enter the password** box.

   Note: Leave both the Password and Re-enter password boxes empty if no password is required.

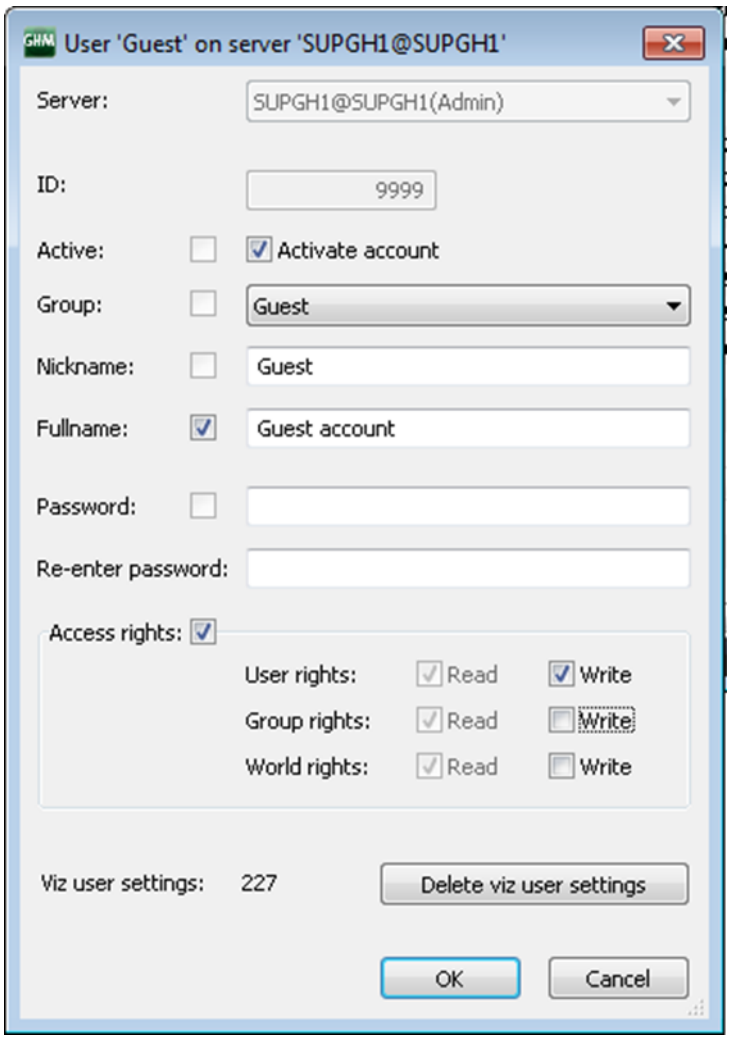
10. Specify the new user account access rights:
    - **User rights: User may overwrite their files and create files.**
    - **Group rights:** User can overwrite files which belong to the group, of which they are a member of.
    - **World rights:** User may overwrite files which belong to anyone.
11. Click **OK**.

To edit a User account

Note: Only available with administrator privileges.

1. Open the Administer Users window (see To open the Administer Users window).
2. Select either:
   - **Edit... or**
   - Right click, and click **Edit selected user...** from the context menu, or

- Press <F4>



3. The user account **Server** can not be changed.
4. The user account **ID** value can not be changed.
5. Check or un-check the **Active** box to make the new user account active or inactive, if required.

   Note: If user account is inactive, the user cannot log in or work with the items in the database.

6. In the **Group** box select the group the user account belongs too, if required.
7. In the **Nickname** box give the user a new unique nickname, if required.
8. In the **Fullname** box change the user's full name, if required.
9. Enter a new user **Password**, if required. Repeat the password in the **Re-enter the password** box.

   Note: Leave both the Password and Re-enter password boxes empty if no password is required.

10. Change the user account access rights, if required:

- **User rights: User may overwrite their files and create files.**
- **Group rights:** User can overwrite files which belong to the group, of which they are a member of.
- **World rights:** User may overwrite files which belong to anyone.

11. If required, click the **Delete viz user settings** button to delete the user account settings which are, by default, saved together with the user profile.

    Note: Delete viz user settings is only available if one user is to be edited. If more than one user is selected, this button will not show.

12. Click **OK**.

To delete a User account(s)

Note: Only available with administrator privileges.

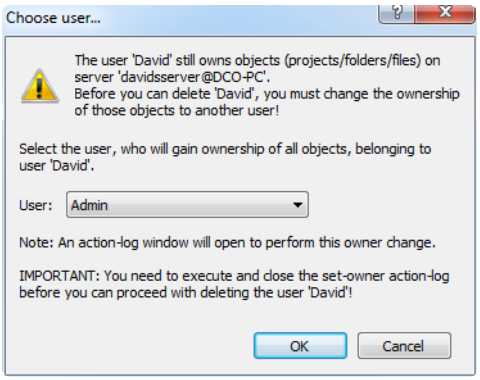
Note: The built-in administrator can not be deleted.

1. Open the **Administer Users** window.
2. Click the User(s) to be deleted. Press <CTRL> and click to multi select.

   Note: Users on multiple servers can not be deleted in one step.

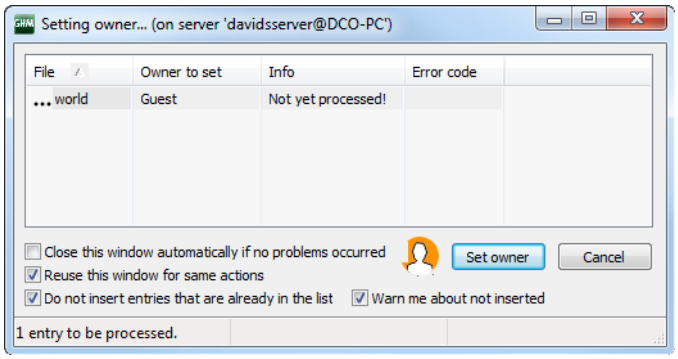
3. Select either:
   - **Delete...** or
   - Right-click on the selection and click **Delete selected users...** , or
   - Press <DEL>
4. Click **OK**.

   A User can not be deleted if they own an object(s) in the Graphic Hub. If a User to be deleted owns any objects the **Choose user...** window will open when **OK** is clicked on. Use this window to transfer object ownership to another User.



5. In the **Choose user...** window select the User to be assigned the object(s), from the drop down box.

6. Click **OK** to open the **Setting owner...** window.

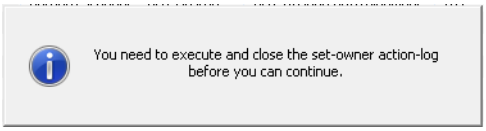


IMPORTANT! The **Choose user...** window puts all objects, of the selected User, in an Action Log window (**Setting owner...**), where ownership changes.

7. Click **Set owner**.
8. Click **Close**.

IMPORTANT! The owner change must be done before delete can continue. If the User still owns an object(s), the delete will fail.

If the **Users** window is clicked on before **Set Owner** is clicked on, in the S**etting owner...** window this message will show:



To view a user account

Note: Only available if logged in with no Administration rights or if there are multiple users, over different servers.

1. Open the Administer user's window.
2. Click on the user or user's accounts to be viewed.
3. Select either:
   - **View... or**
   - Right click and select **View selected user...** from the context menu, or
   - Click on a user account and press <F4>
4. The User window opens. No items can be edited.
5. Click **Close**.

8 Viz Graphic Hub REST

The Viz Graphic Hub REST is a web-service for Viz Graphic Hub. It is an interface to retrieve and send data to and from Viz Graphic Hub via HTTP requests.

This section contains information on the following topics:

8.1 Important Before Installation

- Viz Graphic Hub REST requires an up and running Viz Graphic Hub 2.3.1 or higher during installation and configuration.
- In replication clusters, the Viz Graphic Hub REST cannot be installed on the host that is running the Viz Graphic Hub Server.
- Vizrt recommends using *Google Chrome* version 21 or higher to configure Viz Graphic Hub REST and view the demo page.
- Viz Graphic Hub REST also works together with:
  - Opera version 15 and a higher
  - Firefox version 5 or higher
  - Safari version 5 or higher
  - Internet Explorer version 8 or higher

Note: All other web browsers and versions older than the ones listed above are untested and not officially supported.

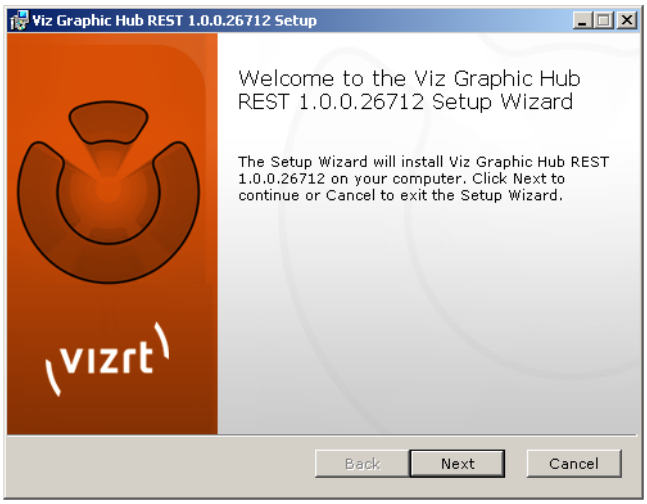
8.2 Installation

This section describes how to install Viz Graphic Hub REST.

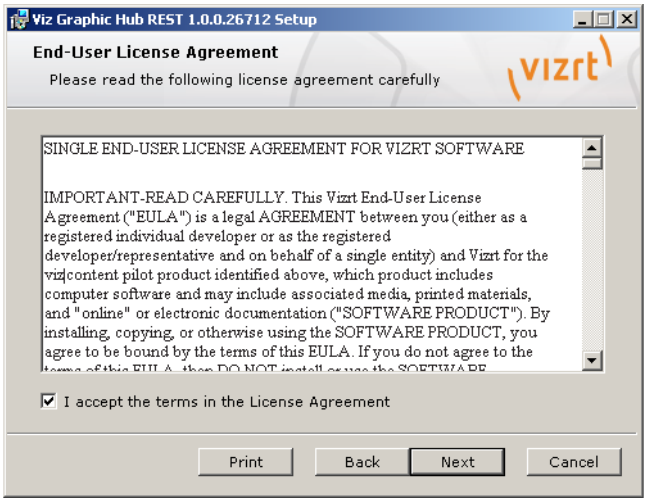
Note: For details on how to install Viz Graphic Hub REST Demo, see Installing Viz Graphic Hub REST Demo.

To install Viz Graphic Hub REST

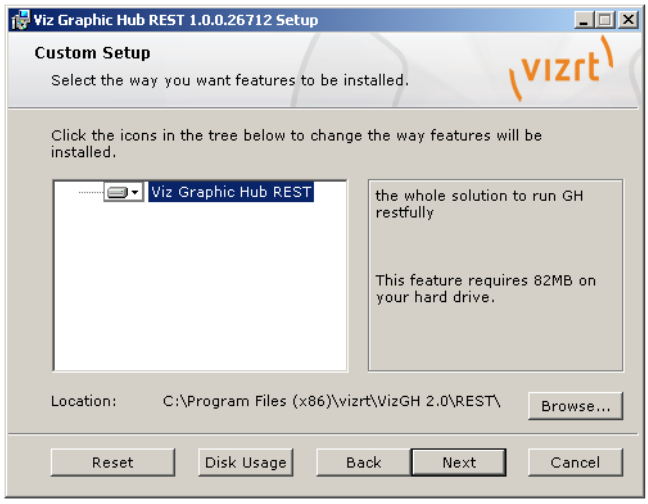
1. Run the *VizGraphicHubREST.x.x.msi* file.



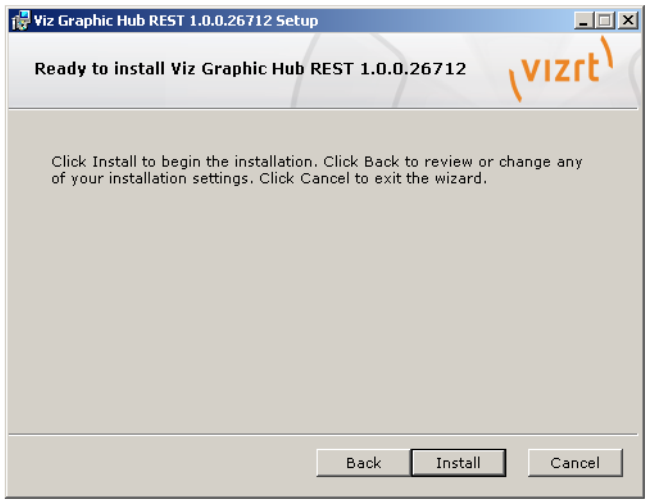
2. Click the **Next** button.



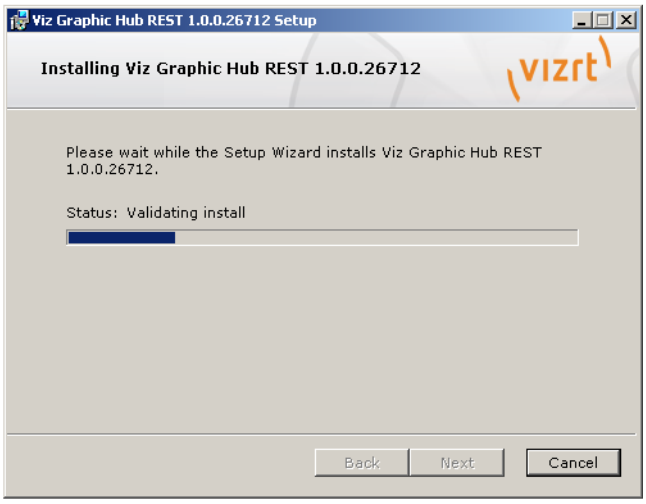
3. In the panel that appears, select the **I accept the terms in the License Agreement** check box.
4. Click the **Next** button.



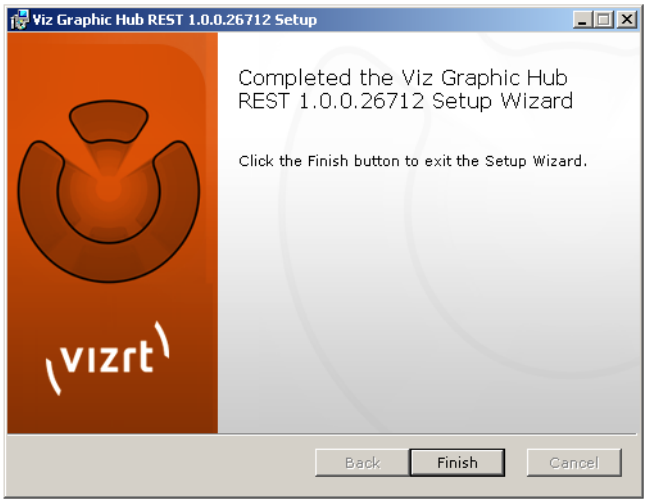
5. In the panel that appears, click the **Next** button.



6. In the panel that appears, click the **Install** button.



The Viz Graphic Hub REST is then installed on the machine.



7. In the panel that appears, click the **Finish** button.

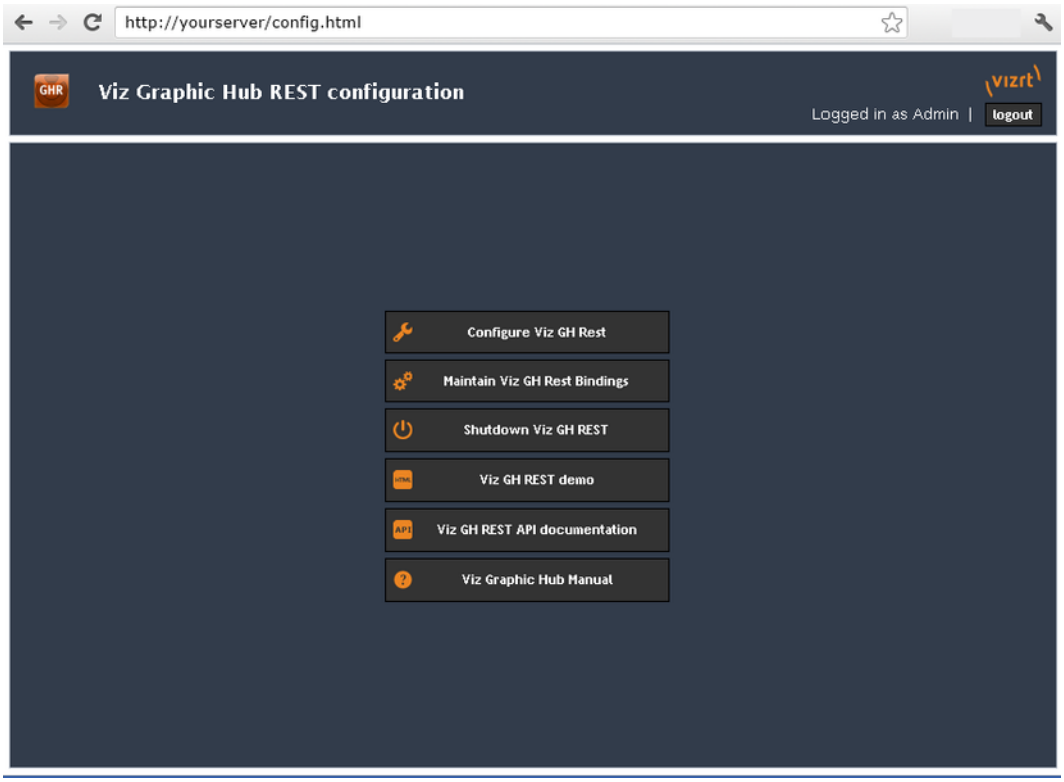
When completing the installation process by clicking on the **Finish** button, the installer will open the Viz Graphic Hub REST configuration page in your standard web browser.

Note: Please make sure that your browser type and version is supported by Viz Graphic Hub REST, see Important Before Installation.

8.3 Configuration

The Viz Graphic Hub REST configuration tool is loaded automatically after installation. To load the page manually, open a supported web browser and type *http://127.0.0.1/config.html* in the address bar.

Note: Please make sure that your browser type and version is supported by Viz Graphic Hub REST, see Important Before Installation. Also make sure that no other server is running on port 80, see Troubleshooting.



The start page provides links to various configuration categories:

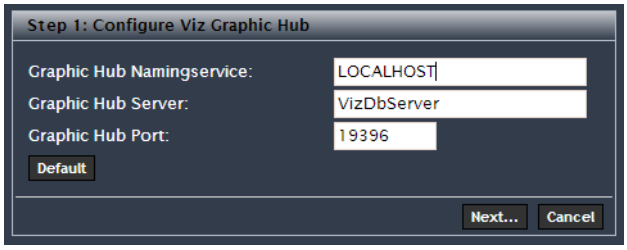
- Configure Viz Graphic Hub REST
- Maintain Viz Graphic Hub REST Bindings
- Shutdown Viz Graphic Hub REST
- Viz Graphic Hub REST Demo
- Viz Graphic Hub REST API Documentation
- Viz Graphic Hub User Guide

8.3.1 Configure Viz Graphic Hub REST

This section describes how to configure Viz Graphic Hub REST.

To configure Viz Graphic Hub

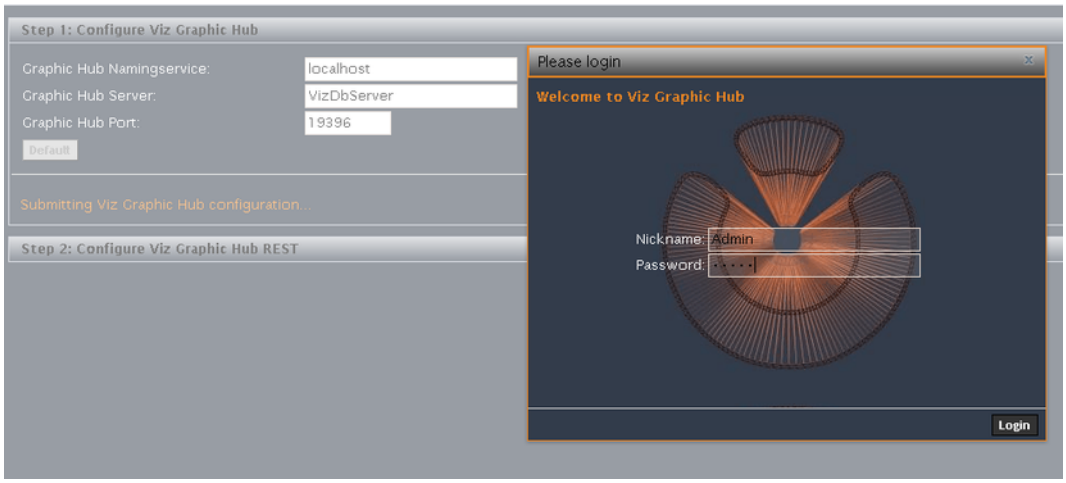
1. Click the **Configure Viz Graphic Hub REST** button in the Configuration.



2. In the window that opens, enter the settings of the Viz Graphic Hub the Viz Graphic Hub REST should be connected with:
   - Viz Graphic Hub Namingservice
   - Viz Graphic Hub Server
   - Viz Graphic Hub Port

   Tip: If the Viz Graphic Hub REST is running on the same host as the Viz Graphic Hub Server, then the default settings can be left unchanged.

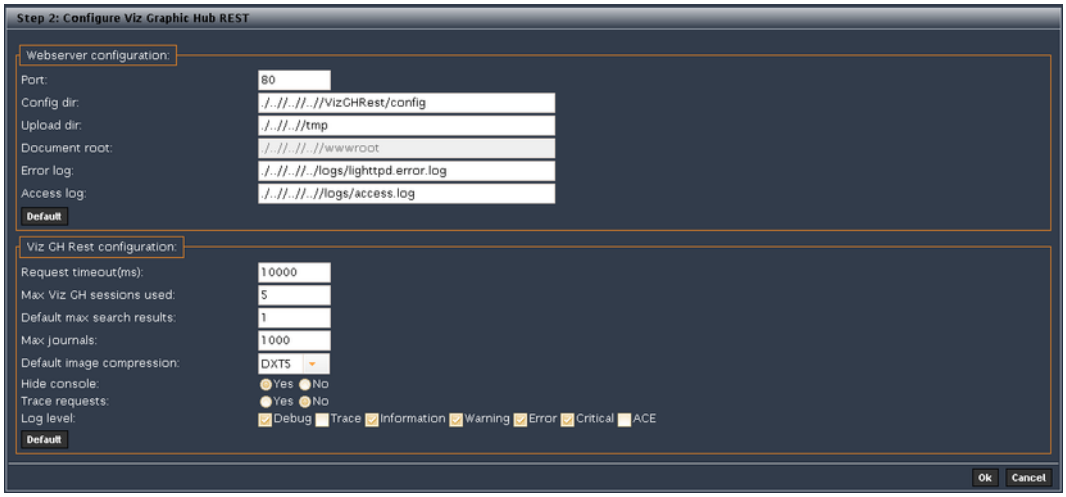
3. Click the **Next** button.



   The Click the Next button window opens if you are logged out from the specified Viz Graphic Hub Server.

4. In the Click the Next button window, enter administrative login credentials for the specified Viz Graphic Hub Server:
   - Nickname (default is *Admin*)
   - Password (default is *VizDb*)

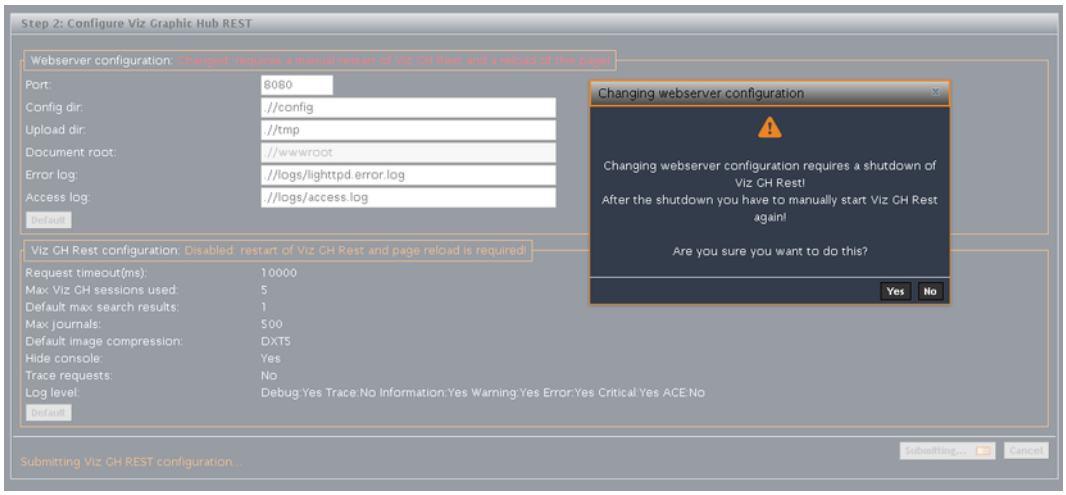
Note: The login credentials are case sensitive.



After a successful login, the window above will open. This window allows you to configure webserver and REST specific settings. In most cases, the default settings can be left unchanged.

5. Enter various **Webserver configuration** settings:
   - **Port:** The webserver port, see Troubleshooting for details
   - **Config dir:** The directory where Viz Graphic Hub REST configuration files reside
   - **Upload dir:** A temporary directory for uploads
   - **Document root:** The webserver home/root directory
   - **Error log:** The webserver error log text file
   - **Access log:** The webserver connection log text file

Note: Changing any of the webserver configuration values will require a shutdown of Viz Graphic Hub REST.



After the automatic shutdown has been initiated, a dialog will prompt the user to manually restart Viz Graphic Hub REST. When restarted, the Viz Graphic Hub REST configuration settings will be updated.

6. Enter various **Viz Graphic Hub REST configuration** settings:
   - **Request timeout (ms):** Specifies after how many milliseconds Viz Graphic Hub REST will stop a specific request. Changing this value could stop execution of some or all requests to Viz Graphic Hub REST prematurely.
   - **Max Viz GH sessions used:** Maximum amount of sessions per Viz Graphic Hub user
   - **Default max search results:** If not defined differently in the open search parameter *count*, this value will be used as the maximum number of shown search results.
   - **Max journals:** Maximum number of journals retrievable by Viz Graphic Hub REST. This value has a significant influence on the overall performance of a system.
   - **Default image compression:** Defines the compression quality of imported images. Although *DXT5* uses most space on Viz Graphic Hub, this image compression quality is recommended, as it provides the highest quality.
   - **Hide console:** Hides or shows the Viz Graphic Hub REST console. This is useful when debugging.
   - **Trace requests:** Whether or not to spend time evaluating requests through the console output.
   - **Log level:** Log levels for output to console and the Viz Graphic Hub REST log file. Various log levels are; Debug, Trace, Information, Warning, Error, Critical, and ACE.
7. Click the **Ok** button.

The Viz Graphic Hub REST configuration settings will then be applied, and Viz Graphic Hub REST is ready to use.

8.3.2 Maintain Viz Graphic Hub REST Bindings

The Maintenance section of the Configuration shows information about the currently configured Viz Graphic Hub connection, its bindings and failover Viz Graphic Hubs.

To open the Maintenance section, click the **Maintain Viz GH REST Bindings** button.

The Maintenance section contains various panels:

- Viz Graphic Hub Rest to Viz Graphic Hub Bindings
- Viz Graphic Hub Failover servers
- Viz Graphic Hub connection timeouts

Viz Graphic Hub Rest to Viz Graphic Hub Bindings

Viz Graphic Hub REST is automatically registered and the configuration is stored when connecting to a Viz Graphic Hub for the first time.

Viz Graphic Hub REST to Viz Graphic Hub bindings

The Viz Graphic Hub REST to Viz Graphic Hub bindings enable third party applications to discover the currently connected Viz Graphic Hub REST servers on a Viz Graphic Hub.

- **Protocol:** The protocol to reach the specified Viz Graphic Hub REST
- **Hostname:** The hostname (or IP address) to reach the specified Viz Graphic Hub REST

Tip: The hostname can be changed to an IP address if Viz Graphic Hub REST is not reachable through the hostname.

- **Port:** The webserver port to reach the specified Viz Graphic Hub REST
- **Service doc path:** The path where the service doc is configured on the specified Viz Graphic Hub REST
- **Service doc accept type:** Defines the http request headers accept type to retrieve the service document on the given service document path

Actions will be applied by clicking the **Ok** button.

If Viz Graphic Hub REST is running as a replication cluster (failover/load balanced) you have to change the binding configuration to your Squid node, see Viz Graphic Hub Failover servers.

To remove a Viz Graphic Hub REST binding from the list, select the **Delete** check box. Accidentally deleted Viz Graphic Hub REST bindings can be re-applied by configuring the deleted Viz Graphic Hub REST again.

Viz Graphic Hub Failover servers

A Viz Graphic Hub failover server can be added in addition to the currently connected Viz Graphic Hub.

Viz Graphic Hub failover servers

Viz Graphic Hub failover servers must have fully synchronized content with the currently configured Viz Graphic Hub.

Tip: Synchronizing the content between multiple Graphic Hubs can be achieved by using the Viz Graphic Hub Deploy Agent.

- **Namingservice:** Failover Viz Graphic Hub namingservice
- **Server:** Failover Viz Graphic Hub server
- **Port:** Failover Viz Graphic Hub port

Actions will be applied by clicking the **Ok** button.

To remove a failover server from the list, select the **Delete** check box.

To add a new failover server, click the **Add failover server** button, and enter the **Namingservice**, **Server** and **Port** details.

You can test the failover servers by:

1. Performing a request to Viz Graphic Hub REST (for example *http://127.0.0.1/users/*)
2. Shutting down the configured Viz Graphic Hub
3. Performing the same request to Viz Graphic Hub REST again

If the first failover server is configured correctly, the responses should match (error code and content).

Viz Graphic Hub connection timeouts

The connection timeouts define the connectivity settings between Viz Graphic Hub REST and Viz Graphic Hub.

Viz Graphic Hub connection timeouts

The Viz Graphic Hub connection timeouts values are configured in seconds. In an unstable network environment, Viz Graphic Hub REST will benefit from increasing the timeouts.

- **Global timeout:** Defines how long Viz Graphic Hub REST should wait for a request to Viz Graphic Hub REST to return. Default is *30* seconds.
- **Connect timeout:** Defines how long Viz Graphic Hub REST should wait to connect or re-connect to a Viz Graphic Hub. Default is *15* seconds.

Actions will be applied by clicking the **Ok** button.

8.3.3 Shutdown Viz Graphic Hub REST

To gracefully shutdown Viz Graphic Hub REST, click the **Shutdown Viz GH REST** button in the Configuration.

8.3.4 Viz Graphic Hub REST Demo

The Viz Graphic Hub REST demo page is provided in a separate installer. After installation, the demo can be accessed by clicking the **Viz GH REST Demo** link in the Configuration, or entering *http://127.0.0.1/demo.html* in the web browser address bar.

8.3.5 Viz Graphic Hub REST API Documentation

The Viz Graphic Hub REST API documentation provides a programmer with the necessary information to use the Viz Graphic Hub REST API. The API documentation can be accessed by clicking the **Viz GH REST API Documentation** link in the

Configuration, or entering *http://127.0.0.1/doc/documentation.html* in the web browser address bar.

8.3.6 Viz Graphic Hub User Guide

The *Viz Graphic Hub User Guide* provides the full Viz Graphic Hub documentation. This User's Guide can be accessed by clicking the **Viz Graphic Hub User's Guide** link in the Configuration, or entering *http://127.0.0.1/help/index.html* in the web browser address bar.

8.4 Failover/Load Balancing

Optionally it is possible to setup Viz Graphic Hub REST to support failover and load balancing. Viz Graphic Hub REST is a standard HTTP server, so there is no need for integrated failover or load balancing logic. This can easily be achieved by setting up a failover and load balancing cluster. Vizrt recommends using *Squid* for this purpose. Squid is a very powerful tool and it can be used in a variety of cases combined. Therefore Vizrt recommends that your Squid proxy and the DNS failover is set up by a network professional. Also note that intensive testing of all applications using Viz Graphic Hub REST with every setup with Squid is required.

The following example shows how to set up Viz Graphic Hub REST using Squid as a reverse proxy used as static cache, load balancer and failover. To successfully run and configure this example, you need 3 separate servers and 1 Viz Graphic Hub running on a 4th server. This is the minimal failover configuration for Viz Graphic Hub REST. The Squid server will be mentioned as *server3* in the example below. Server3 contains 2 NICs in the example below (not necessary). You do not have to install and configure Viz Graphic Hub REST on server3.

8.4.1 Important Before Installation

Squid for Windows can be downloaded here: *http://sourceforge.net/projects/squidwindowsmsi/*.

8.4.2 Installing and Configuring Squid

1. Install Viz Graphic Hub REST on 2 or more separate servers; server1, server2, and server3 (optional).
2. Install Viz Graphic Hub REST Demo on all of the servers where Viz Graphic Hub REST has been installed for testing purposes.
3. Configure all instances of Viz Graphic Hub REST to connect to the same Viz Graphic Hub (server4).
4. If Viz Graphic Hub REST is installed on server3, configure server3 webserver settings to use port *8080* instead of port *80*.
5. Download the Squid installer for Windows, see Important Before Installation.
6. Install Squid on a third server (server3), using the default install location; **`c:\squid\`**.
7. Configure Squid by editing **`c:\squid\etc\squid.conf`**. Replace the whole file content with the following configuration text:

```
#
# squid config needed
#
```

```
acl all src all
acl manager proto cache_object
#
http_port 80 accel defaultsite=server3.company.internal vhost
#
# all cache Viz GH REST
#
#
cache_peer 10.211.1.1 parent 80 0 no-query originserver round-robin
 login=PASS name=server1
cache_peer 10.211.1.2 parent 80 0 no-query originserver round-robin
 login=PASS name=server2
#
cache_peer 10.211.1.3 parent 8080 0 no-query originserver round-robin
 login=PASS name=server3nic1
cache_peer 10.211.1.4 parent 8080 0 no-query originserver round-robin
 login=PASS name=server3nic2
#
# entry vhost declaration
#
acl registered_name_hostdomain dstdomain server3.company.internal
acl registered_name_host dstdomain server3
acl registered_name_ip dstdomain 10.211.1.3
acl registered_name_ip2 dstdomain 10.211.1.4
#
# entry vhost registration and redirection allowance
#
http_access allow registered_name_hostdomain
http_access allow registered_name_host
http_access allow registered_name_ip
http_access allow registered_name_ip2
http_access deny all
cache_peer_access server1 allow registered_name_hostdomain
cache_peer_access server1 allow registered_name_host
cache_peer_access server1 allow registered_name_ip
cache_peer_access server1 allow registered_name_ip2
cache_peer_access server2 allow registered_name_hostdomain
cache_peer_access server2 allow registered_name_host
cache_peer_access server2 allow registered_name_ip
cache_peer_access server2 allow registered_name_ip2
cache_peer_access server3nic1 allow registered_name_hostdomain
cache_peer_access server3nic1 allow registered_name_host
cache_peer_access server3nic1 allow registered_name_ip
cache_peer_access server3nic1 allow registered_name_ip2
cache_peer_access server3nic2 allow registered_name_hostdomain
cache_peer_access server3nic2 allow registered_name_host
cache_peer_access server3nic2 allow registered_name_ip
cache_peer_access server3nic2 allow registered_name_ip2
cache_peer_access server1 deny all
cache_peer_access server2 deny all
cache_peer_access server3nic1 deny all
cache_peer_access server3nic2 deny all
never_direct allow all
#
# general settings
#
```

```
forwarded_for on
connect_timeout 10.0
peer_connect_timeout 5.0
cache_mem 256 MB
#cache_dir ufs C://YOUR/CACHE/DIRECTORY/HERE 1000 16 256
maximum_object_size 512 MB
quick_abort_max 1 MB
refresh_pattern ^http: 1440 80% 10080 reload-into-ims
```

8. Install Squid as a service using the command line:

   ```
   C:\squid\sbin\squid.exe -i
   ```

9. Start Squid via the command line:

   ```
   net start squid
   ```

10. Open *http://server3. company.internal:8080/config.html* in your browser
11. Go to *Maintenance*.
12. Delete the binding entries for server1 and server2.
13. Modify the current binding hostname to *server3.company.internal*.
14. Modify the current binding port to *80*.
15. Click the **Ok** button to save your modifications.
16. Test your failover/load balancer in your browser by entering *http://server3. company.internal/demo.html*.

Important Notes

- Never call the configuration site through the cluster URL. Always use the direct server configuration URL instead (*http://10.211.1.1/config.html*).
- All Viz Graphic Hub REST nodes in a failover/load balanced cluster should always be configured to connect to the same Viz Graphic Hub.
- Running a Squid cache on the same server as Viz Graphic Hub REST (as shown in the example above) could reduce the performance of both.
- If a server has multiple NICs installed, you can add their IP addresses as *cache_peer* nodes in the Squid configuration.
- All clients should only connect to *server3.company.internal* from now on.
- Adding a DNS failover through the domain controller from *server3.company.internal* to an exactly similar configured server will eliminate your single point of failure.
- Adding more *cache_peer* will increase the performance of the total cluster.
- To increase the performance of big Viz Graphic Hub REST Squid clusters it is recommended to use multiple automatically synchronized Viz Graphic Hubs (through the Viz Graphic Hub Deploy Agent).
- Some API calls will not work with a cluster configuration or multiple Viz Graphic Hubs in a cluster. The REST resource monitoring and statistic will not work in a cluster. The Viz Graphic Hub statistics, journals and sessions will not work in a cluster with clustered Viz Graphic Hub REST connected to multiple Viz Graphic Hubs. The API documentation will provide a hint to this topic for every call.

8.5 Troubleshooting

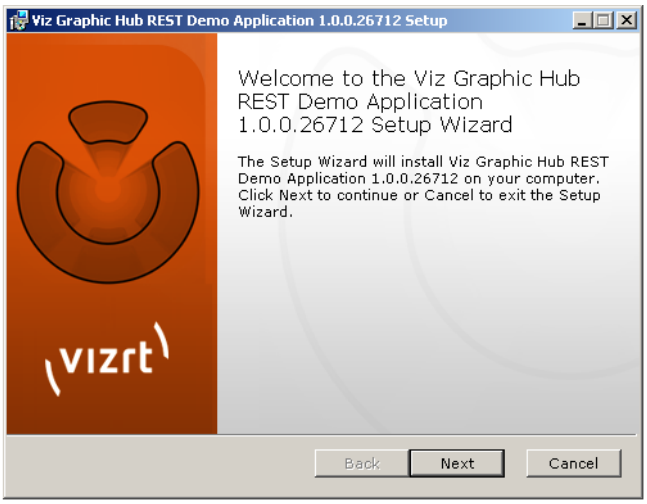
- If the REST agent is installed on a machine that is already hosting an application on port *80*, the agent fails to startup and terminates. To fix this issue you need to manually change the port in the webserver configuration. The file can be found in

the REST agent installation directory at `.\config\rest.conf`. After changing the value of `server.port = new_port` please redirect your browser to the configuration site *http://127.0.0.1: new_port/config.html* to configure Viz Graphic Hub REST.

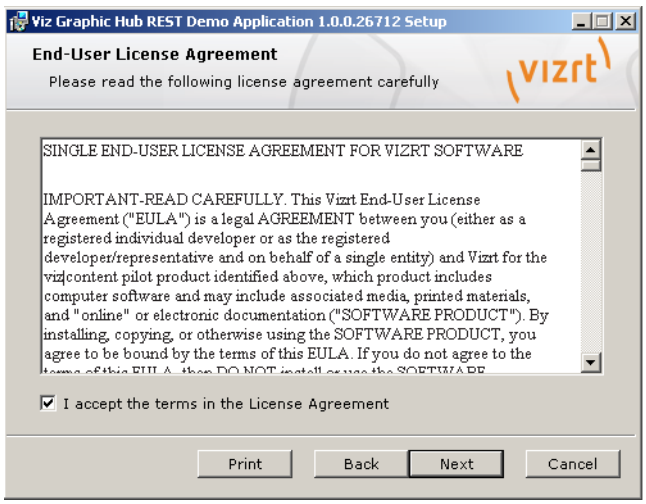
- If the standard browser login appears, please close it. Click logout and login with your Viz Graphic Hub administrator account. Verify the username and password (case sensitive) through a login to your configured Viz Graphic Hub via Viz Graphic Hub REST.
- For trouble related to setting up Squid, please refer to the official documentation for Squid, which can be found here: *http://www.squid-cache.org/Versions/v2/2.7/cfgman/*.
- If having trouble with the configuration page, please try to upgrade your web browser.
- For details on how to install Viz Graphic Hub REST Demo, see Installing Viz Graphic Hub REST Demo.

8.6 Installing Viz Graphic Hub REST Demo

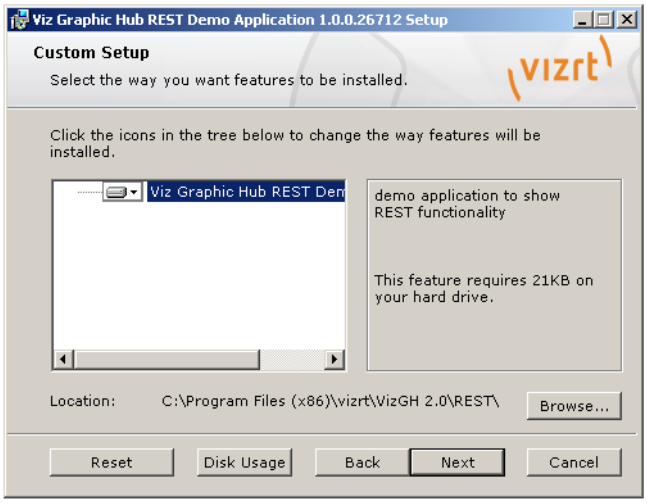
1. Run the *VizGraphicHubRESTDemo.x.x.msi* file.



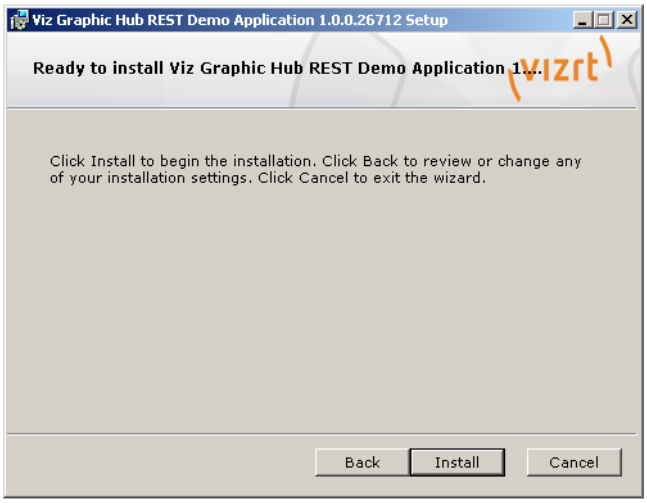
2. Click the **Next** button.



3. In the panel that opens, select the I **accept the terms in the License Agreement** check box.
4. Click the **Next** button.

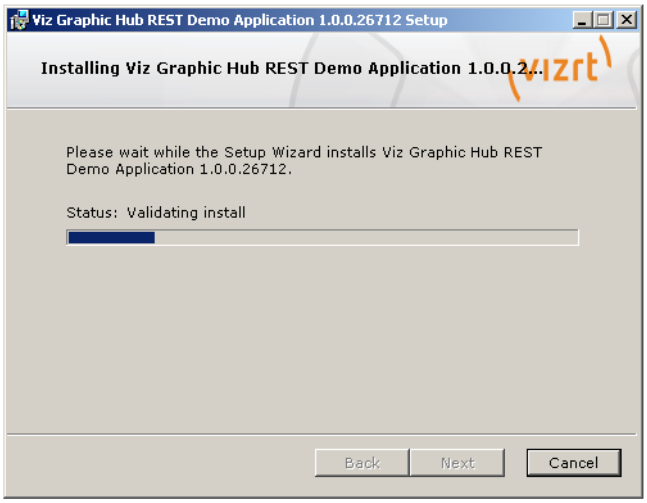


5. In the panel that appears, click the **Next** button.

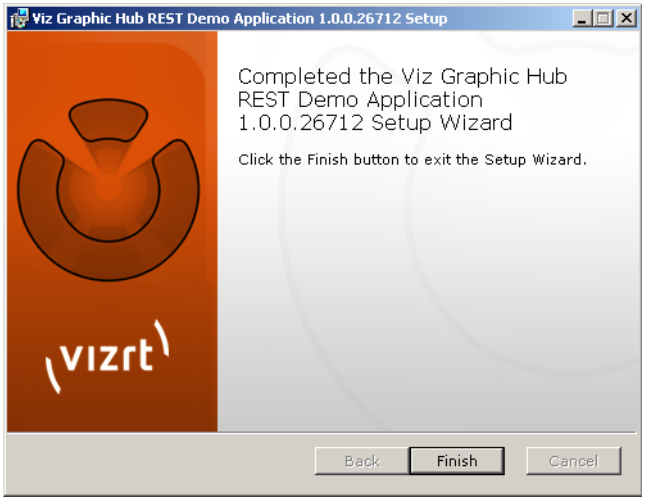


6. In the panel that appears, click the **Install** button.

The application is installed on your machine.



The Viz Graphic Hub REST Demo is then installed on the machine.



7. In the panel that appears, click the **Finish** button.

9 Troubleshooting

This section contains information on the following topics:

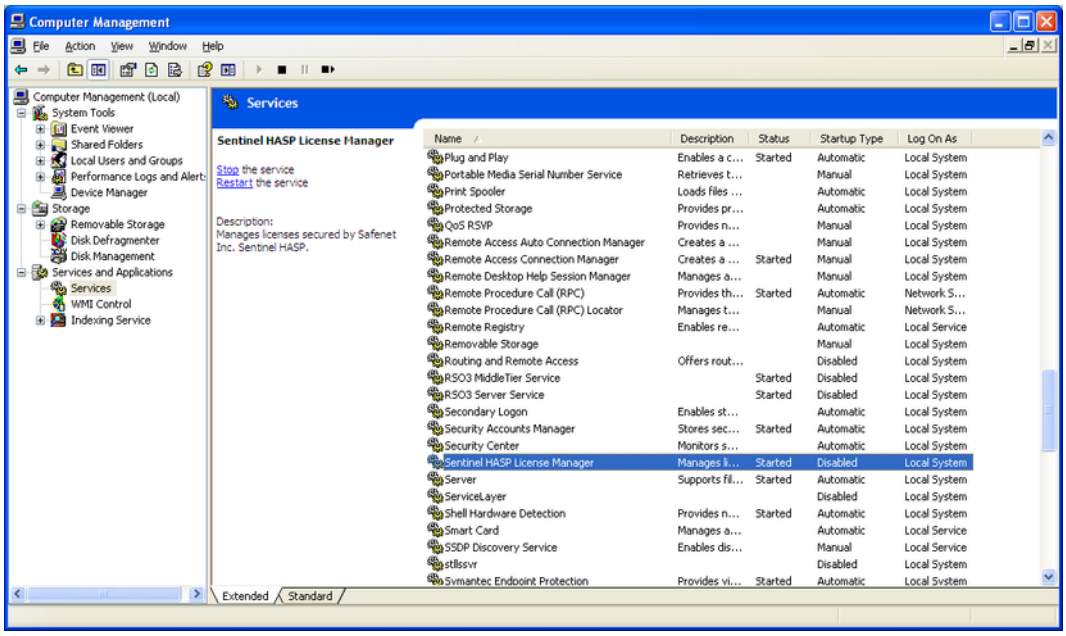
9.1 Installation Fails

Installation fails with a warning that says **Drivers for HASP runtime cannot be installed**.

To start Sentinel HASP License Manager

1. On your Windows desktop, right-click **My Computer** and select **Manage**.

   The Computer Management window appears.



2. In the left panel, expand the node **Service and Applications**.
3. Click **Services**.
4. In the right panel, right-click **Sentinel HASP License Manager** and select **Start**.
5. Install Viz Graphic Hub again.

9.2 Network Troubleshooting

Some network settings can prevent the Viz Graphic Hub applications from finding other running Viz Graphic Hub Terminals in the network.

To locate a machine that a Viz Graphic Hub Terminal is running on, try pinging that machine. If the host is not reachable across the network, the Viz Graphic Hub Terminal will not be reachable either.

It is necessary to run Viz Graphic Hub Terminal in a local network where the settings shown below are identical on every workstation running the terminal application.

To verify network settings

1. On the server machine, click *Start -> Run -> cmd.*
2. In the console, enter **`ipconfig /all`** and press <ENTER>.
3. Browse to the current connected network adapter.
4. Check **Subnet Mask** and **Default Gateway**.
5. Repeat steps 1-3 on the client machine, and see that the Subnet Mask and Default Gateway are identical between client and server.

To solve network and firewall problems

1. Make sure that the client can broadcast to other clients and to the Viz Graphic Hub Server. This means all firewalls between server and clients need to allow broadcast.
2. Make sure the following port settings for the Viz Graphic Hub Terminal, under Options for all System Configurations, are open to firewall traffic in between all clients and servers:
   - TCP Port
   - UDP Port
   - Viz Graphic Hub Server Port
3. Make sure that local firewall applications allow traffic for all Viz products.

9.3 Restoring Corrupted Files

Any save operation from a client (e.g. Viz Artist) via Viz Engine triggers Viz Graphic Hub to back up the old file and create a new one. The new file is streamed to the server until the client informs the server that the operation is complete. After that, Viz Graphic Hub Server deletes the back up file.

A file will be corrupted if Viz Graphic Hub does not get the message from the client indicating that the save operation is done. For example, this can occur if the client application crashes during the save operation.

To restore corrupted files

1. In Viz Graphic Hub Manager, log into the server where the corrupted file is located. See Start Up with a Single Server Login.
2. Perform a search with filters in the Journal for Alert numbers 810 and 910. See To search the journal with filter settings.
3. Browse through all the results and click the **P** button in the Details panel.

If a file has been corrupted, you will be prompted to restore it.

4. Click **Restore**.
5. Repeat steps 3 and 4 until all corrupted files have been restored.
6. To make sure that the file has been completely restored, you can do a search to verify that the restored file's checksum is not 0. See Searching.

9.4 Viz Graphic Hub Manager and Viz Artist Troubleshooting

This section contains information on the following topics:

- Viz Artist Does Not Respond
- Viz Graphic Hub Manager and/or Viz Artist Cannot Find Servers
- Viz Graphic Hub Manager or Viz Artist Does Not React In Server Tree

9.4.1 Viz Artist Does Not Respond

If Viz Artist does not respond, files that were open keep their locks. Viz Graphic Hub usually releases the session within a certain interval, but you should check if Viz Artist is responding to the session release attempt.

To restore Viz Artist after it crashes

1. In Viz Graphic Hub Manager, log into the server where the corrupted file is located. See Start Up with a Single Server Login.
2. Check the Active Session to see how long it takes for the server to clean up the session. See Monitoring Active Sessions.
3. Check the Application Name and the IP address in the Active Sessions window.
4. Once all processes are complete, all related files are unlocked and checked in, and you should be able to perform the procedure To restore corrupted files.

9.4.2 Viz Graphic Hub Manager and/or Viz Artist Cannot Find Servers

When searching for servers, the system cannot detect any.

Solution

1. Disable all network blocking applications, like firewalls, antivirus software, VPNs, virtual network adapters, etc.
2. Ask your system administrator to open necessary ports on the company's firewall between the Viz Graphic Hub Server, Viz Graphic Hub Manager and/or Viz Artist.

See Also

- Network Troubleshooting

9.4.3 Viz Graphic Hub Manager or Viz Artist Does Not React In Server Tree

Sometimes you cannot get into the server tree. This is mostly due to a lost server connection. If you suspect the server connection is lost, a good first step is to click around the server tree. If it does not update, exit the application and log back in.

See Also

- Network Troubleshooting
- Replication Troubleshooting

9.5 Replication Troubleshooting

Most problems with replications can be solved by having a stable network environment. This means that applications which are causing drag on network performance, like global network updates or global virus scans, should not be performed in a replication environment.

To prevent data loss or conflicts between the main and replication servers, the server checks the network card for timeouts. If the timeout is too long, the server shuts down.

This section contains information on the following topics:

- Main Server is Not Available
- Cluster Not Up and Running
- Cluster Configuration on Viz Graphic Hub Terminal
- Journal Log Flooded With Replication Error Messages

See Also

- System Prerequisites
- Detecting and Solving Server Differences

9.5.1 Main Server is Not Available

The main server often shuts down because network connections become unavailable. If this is a common occurrence, perform the procedure below.

To solve cluster timeouts

1. Open Viz Graphic Hub Terminal.
2. Perform the procedure To open the Options window.
3. Configure the Cluster Timeout Settings for Viz Graphic Hub Replication Server Mode, enabling the timeout settings and setting the cluster timeout to a higher value.

Caution: Consult a Vizrt CA professional before enabling this functionality.

9.5.2 Cluster Not Up and Running

A server can become unavailable due to machine problems, network problems, etc.

To restore a healthy cluster environment

1. Open Viz Graphic Hub Terminal on the server that is not running.
2. Click **Start**.
3. Wait until the server resumes its former role.

If it was the main server, it will take some time before it deploys all open transactions and switches back to its original state.

4. Open Viz Graphic Hub Manager and log into the main and replication servers.
5. Open the Server Monitor. See Monitoring Servers.
6. See that the Cluster is up and running and has no open transactions.
7. Make sure that the main and replication servers have reassumed their assigned roles as such.
8. Perform the procedure To detect and solve server differences.

9.5.3 Cluster Configuration on Viz Graphic Hub Terminal

In Viz Graphic Hub Terminal, the message **You are already connected to a cluster** appears, even though the other server in the cluster is not running anymore. Viz Graphic Hub Terminal has most likely not received an automatic update from the other Terminal.

To refresh the connection settings

1. In Viz Graphic Hub Terminal, click **Refresh**.
2. Start the cluster. If it still does not work, exit Viz Graphic Hub Terminal and restart it.

9.5.4 Journal Log Flooded With Replication Error Messages

This may occur if your data directories are not properly synchronized.

To synchronize data directories

1. Shut down the replication server. See Shutting Down a Server.
2. Back up then delete the replication server's data directory.
3. On the main server, and check that there no users are currently working on it.
4. Copy the main server's data directory to the replication server's (now empty) directory.
5. Start up the replication server.
6. Check the Journal for error messages. See Querying the Journal.

9.6 Deploy Troubleshooting

This section contains information on the following topics:

- DDC Data Does Not Transfer Correctly
- Deploy Agent Does Not Transfer All Data
- Deploy Agent Does Not Transfer All Data
- Deploy Task Runs for Too Long

9.6.1 DDC Data Does Not Transfer Correctly

DDC data may not be transferred correctly in the following cases, which are also visible in the DDC Action Log:

- The connection between servers is lost
- A file is locked or checked in
- In other cases, it is necessary to file a bug report. Make sure that you include the exact error code and messages.

9.6.2 Deploy Agent Does Not Transfer All Data

A deploy agent task may not transfer all data correctly in the following cases, which can be viewed after performing the procedure To search finished deploy tasks:

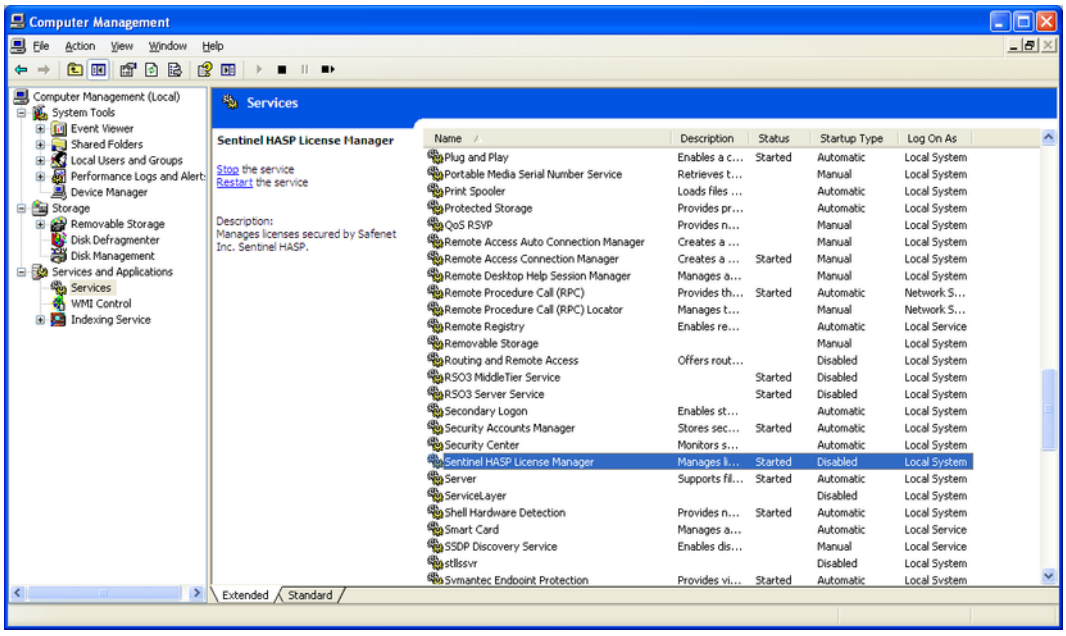
- A file is locked or checked in
- In other cases, review the unsuccessful task details and check all affected files.

9.6.3 Deploy Agent Does Not Run

To maintain the deploy agent service

1. On your Windows desktop of the machine where the deploy agent is installed, right-click **My Computer** and select **Manage**.

   The Computer Management window appears.



2. In the left panel, expand the node **Service and Applications**.
3. Click **Services**.
4. In the right panel, right-click **Viz GH Deploy Agent** and select **Properties**.
5. Click the **General** tab and then click the **Start** button.
6. If the deploy agent service still does not run, continue with the following steps.
7. Click the **Log On** tab.
8. Click the **This account** radio button.
9. Click **Browse**.
10. In the field **Enter the object name to select**, enter **Administrator** and click **OK**.

11. Enter and confirm the valid password for Administrator.
12. Click **OK**.
13. Start the Viz Graphic Hub deploy agent again.
14. If it still does not run, make sure the deploy agents have been stopped.
15. Browse to the deploy agent directory and delete the folder **Open Tasks** and the **deployagent.cfg** file.
16. Start the Viz Graphic Hub deploy agent again.

9.6.4 Deploy Task Runs for Too Long

To release a hanging deploy task

1. In Viz Graphic Hub Manager, log into the source server.
2. Perform the procedure to To open the Active Sessions window.
3. Check the Viz Graphic Hub Deploy session for locked files.
4. If there are locked files, perform the procedure To view running deploy tasks and cancel the affected task.

   The task should restart on its own.

9.7 Running Terminal as a Service Troubleshooting

This section contains information on the following topics:

- Viz Graphic Hub Terminal Does Not Start the Server
- Viz Graphic Hub Terminal Service Does Not Start

9.7.1 Viz Graphic Hub Terminal Does Not Start the Server

This may occur if Viz Graphic Hub is installed as a service but not started as a service.

To start Viz Graphic Hub as a service

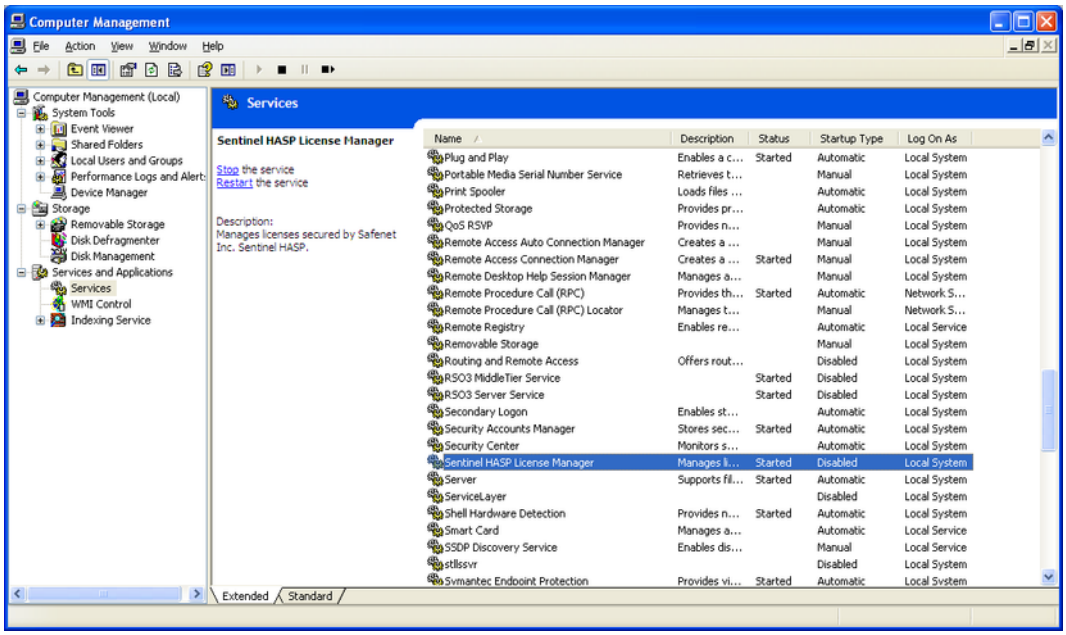
1. Exit Viz Graphic Hub Terminal.
2. Wait until Viz Graphic Hub Terminal starts itself automatically.

9.7.2 Viz Graphic Hub Terminal Service Does Not Start

To start the Viz Graphic Hub service

1. On your Windows desktop of the machine where the deploy agent is installed, right-click **My Computer** and select **Manage**.

The Computer Management window appears.



2. In the left panel, expand the node **Service and Applications**.
3. Click **Services**.
4. In the right panel, right-click **Viz GH Terminal Service Properties** and select **Start**.
5. Wait for the Viz Graphic Hub Terminal to start up. If this does not occur, contact Vizrt CA.

9.8 Dongle Troubleshooting

This section contains information on the following topics:

- Expired License
- Apparently Valid Dongle/License Does Not Work
- General Viz Artist and Viz Graphic Hub Dongle Issues

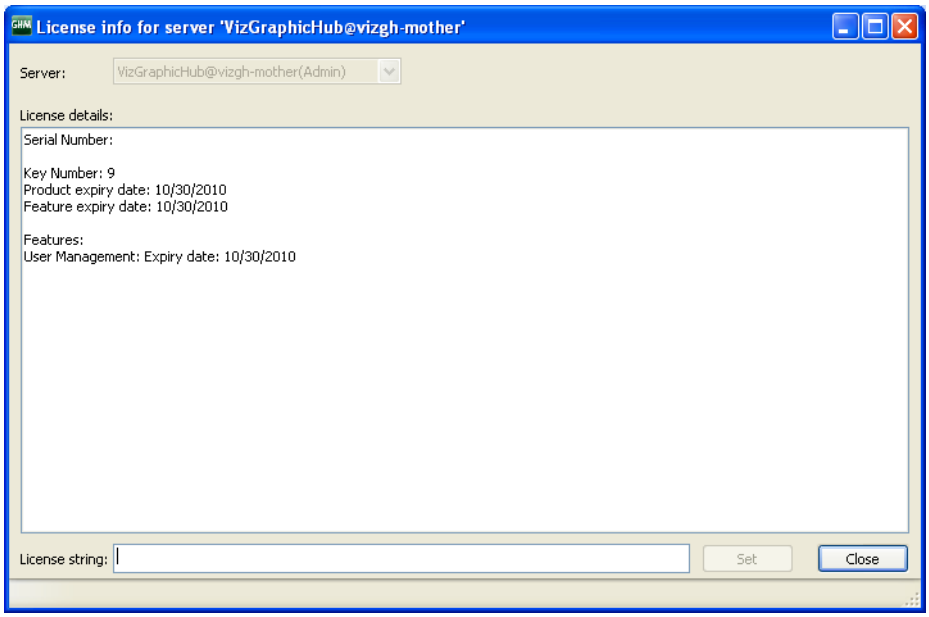
9.8.1 Expired License

If your license has expired, you can enter the new license string straight into Viz Graphic Hub Manager.

To renew the license string

1. Log into a server in Viz Graphic Hub Manager.
2. From the main menu, click *Info -> License info.*

The license info window is shown.



3. Enter the new license string from Vizrt in the field at the bottom and click **Set**.

9.8.2 Apparently Valid Dongle/License Does Not Work

- Close all time-sync programs, like NTP.
- Shut down your anti-virus applications.
- Make sure your dongle is properly connected and the HASP driver is installed and running. See To start Sentinel HASP License Manager.

9.8.3 General Viz Artist and Viz Graphic Hub Dongle Issues

- A Viz Artist dongle does not work with Viz Graphic Hub.
- A Viz Graphic Hub dongle does not work with Viz Artist.
- Make sure you have only one Viz dongle connected to a machine running Viz applications.
- If you do not have a Viz Graphic Hub-enabled dongle, make sure you run Viz Graphic Hub 5/4 Free or Viz Graphic Hub Localhost modes.

9.9 FAQ

- **Question**: Can a Viz Graphic Hub deploy agent deploy outside local network boundaries, i.e. different subnets and gateways?
  - **Answer**: Yes. Log into Viz Graphic Hub Manager with the IP address instead of the hostname. Continue with the procedure To schedule a deploy task.
- **Question**: Can Viz Graphic Hub Manager connect to servers outside local network boundaries, i.e. different subnets and gateways?
  - **Answer**: Yes. Log into Viz Graphic Hub Manager with the IP address instead of the hostname.
- **Question**: Can a replication cluster work outside local network boundaries, if the main and replication servers are not in the same local network?

    - **Answer**: No. Use the deploy agent instead.
- **Question**: Can I share a single data directory over multiple servers?
    - **Answer**: No.
- **Question**: Can deleting or creating files within a data directory solve problems?
    - **Answer**: No.
- **Question**: Can I do a backup of the data directory while the server is still running?
    - **Answer**: Yes, but make sure there is no write access on that Viz Graphic Hub, i.e. when nobody is working on it.
- **Question:** Can a localhost database be accessed from another machine?
    - **Answer:** From Viz Artist, no. A single-user database is only available on the machine it runs on.
- **Question:** Do all Viz Graphic Hub Namingservices on the network contain information about all servers? Why is there a need for more than one namingservice on the network?
    - **Answer:** A Viz Graphic Hub Namingservice only contains information about the servers that have been applied to it. Before a Viz Graphic Hub Server is started, a Viz Graphic Hub Namingservice must be applied to it. Either a local namingservice that is started together with the server can be applied, or another available namingservice in the network is applied. A server cannot be started without connecting to a running namingservice.
- **Question**: Can I kill the VizDb.exe process?
    - **Answer**: No, never. Only use Viz Graphic Hub Terminal or Viz Graphic Hub Manager to shut down a server.
- **Question**: Can I shut down Windows while VizDb.exe is still running?
    - **Answer**: No. Use Viz Graphic Hub Terminal or Viz Graphic Hub Manager to shut down a server before exiting Windows.
- **Question:** Why is the content of the selected project or folder not listed in the Viz Graphic Hub Manager’s File panel?
    - **Answer:** First, make sure that the selected project or folder contains items. Next, make sure that **All** or the correct item type is selected from the Show drop-down list in the Toolbar.