

## **Configure audit client access** StorageGRID

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# **Table of Contents**

Configure audit client access	 	1
Configure audit clients for CIFS	 	1
Configure the audit client for NFS	 	11

# **Configure audit client access**

The Admin Node, through the Audit Management System (AMS) service, logs all audited system events to a log file available through the audit share, which is added to each Admin Node at installation. For easy access to audit logs, you can configure client access to audit shares for both CIFS and NFS.

The StorageGRID system uses positive acknowledgment to prevent loss of audit messages before they are written to the log file. A message remains queued at a service until the AMS service or an intermediate audit relay service has acknowledged control of it.

For more information, see Review audit logs.



Audit export through CIFS/Samba has been deprecated and will be removed in a future StorageGRID release. If you have the option to use CIFS or NFS, choose NFS.

## **Configure audit clients for CIFS**

The procedure used to configure an audit client depends on the authentication method: Windows Workgroup or Windows Active Directory (AD). When added, the audit share is automatically enabled as a read-only share.



Audit export through CIFS/Samba has been deprecated and will be removed in a future StorageGRID release.

## Configure audit clients for Workgroup

Perform this procedure for each Admin Node in a StorageGRID deployment from which you want to retrieve audit messages.

## What you'll need

- You have the Passwords.txt file with the root/admin account password (available in the SAID package).
- You have the Configuration.txt file (available in the SAID package).

## About this task

Audit export through CIFS/Samba has been deprecated and will be removed in a future StorageGRID release.

## Steps

- 1. Log in to the primary Admin Node:
  - a. Enter the following command: ssh admin@primary\_Admin\_Node\_IP
  - b. Enter the password listed in the Passwords.txt file.
  - c. Enter the following command to switch to root:  ${\tt su}\,$  –
  - d. Enter the password listed in the <code>Passwords.txt</code> file.

When you are logged in as root, the prompt changes from \$ to #.

2. Confirm that all services have a state of Running or Verified: storagegrid-status

If all services are not Running or Verified, resolve issues before continuing.

- 3. Return to the command line, press Ctrl+C.
- 4. Start the CIFS configuration utility: config cifs.rb

```
_____
| Shares
                | Authentication
                                | Config
                                             _____
| add-audit-share | set-authentication | validate-config |
| enable-disable-share | set-netbios-name
                                | help
| add-user-to-share | join-domain
                                | exit
| remove-user-from-share | add-password-server |
modify-group | remove-password-server |
                | add-wins-server
                                _____
                | remove-wins-server |
```

5. Set the authentication for the Windows Workgroup:

If authentication has already been set, an advisory message appears. If authentication has already been set, go to the next step.

- a. Enter: set-authentication
- b. When prompted for Windows Workgroup or Active Directory installation, enter: workgroup
- c. When prompted, enter a name of the Workgroup: workgroup name
- d. When prompted, create a meaningful NetBIOS name: netbios\_name

or

Press Enter to use the Admin Node's hostname as the NetBIOS name.

The script restarts the Samba server and changes are applied. This should take less than one minute. After setting authentication, add an audit client.

e. When prompted, press Enter.

The CIFS configuration utility is displayed.

- 6. Add an audit client:
  - a. Enter: add-audit-share



The share is automatically added as read-only.

b. When prompted, add a user or group: user

- c. When prompted, enter the audit user name: audit user name
- d. When prompted, enter a password for the audit user: password
- e. When prompted, re-enter the same password to confirm it: password
- f. When prompted, press Enter.

The CIFS configuration utility is displayed.

There is no need to enter a directory. The audit directory name is predefined.

- 7. If more than one user or group is permitted to access the audit share, add the additional users:
  - a. Enter: add-user-to-share

A numbered list of enabled shares is displayed.

- b. When prompted, enter the number of the audit-export share: share number
- c. When prompted, add a user or group: user

or group

- d. When prompted, enter the name of the audit user or group: audit\_user or audit\_group
- e. When prompted, press Enter.

The CIFS configuration utility is displayed.

- f. Repeat these substeps for each additional user or group that has access to the audit share.
- 8. Optionally, verify your configuration: validate-config

The services are checked and displayed. You can safely ignore the following messages:

```
Can't find include file /etc/samba/includes/cifs-interfaces.inc
Can't find include file /etc/samba/includes/cifs-filesystem.inc
Can't find include file /etc/samba/includes/cifs-custom-config.inc
Can't find include file /etc/samba/includes/cifs-shares.inc
rlimit_max: increasing rlimit_max (1024) to minimum Windows limit
(16384)
```

a. When prompted, press Enter.

The audit client configuration is displayed.

b. When prompted, press Enter.

The CIFS configuration utility is displayed.

- 9. Close the CIFS configuration utility: exit
- 10. Start the Samba service: service smbd start

11. If the StorageGRID deployment is a single site, go to the next step.

or

Optionally, if the StorageGRID deployment includes Admin Nodes at other sites, enable these audit share as required:

- a. Remotely log in to a site's Admin Node:
  - i. Enter the following command: ssh admin@grid\_node\_IP
  - ii. Enter the password listed in the Passwords.txt file.
  - iii. Enter the following command to switch to root: su -
  - iv. Enter the password listed in the Passwords.txt file.
- b. Repeat the steps to configure the audit share for each additional Admin Node.
- c. Close the remote secure shell login to the remote Admin Node: exit
- 12. Log out of the command shell: exit

## **Configure audit clients for Active Directory**

Perform this procedure for each Admin Node in a StorageGRID deployment from which you want to retrieve audit messages.

#### What you'll need

- You have the Passwords.txt file with the root/admin account password (available in the SAID package).
- · You have the CIFS Active Directory username and password.
- You have the Configuration.txt file (available in the SAID package).



Audit export through CIFS/Samba has been deprecated and will be removed in a future StorageGRID release.

#### Steps

- 1. Log in to the primary Admin Node:
  - a. Enter the following command: ssh admin@primary\_Admin\_Node\_IP
  - b. Enter the password listed in the Passwords.txt file.
  - c. Enter the following command to switch to root: su -
  - d. Enter the password listed in the <code>Passwords.txt</code> file.

When you are logged in as root, the prompt changes from \$ to #.

2. Confirm that all services have a state of Running or Verified: storagegrid-status

If all services are not Running or Verified, resolve issues before continuing.

- 3. Return to the command line, press Ctrl+C.
- 4. Start the CIFS configuration utility: config\_cifs.rb

Shares		Authentication		Config	
add-audit-share		set-authentication		validate-config	
enable-disable-share		set-netbios-name		help	
add-user-to-share		join-domain		exit	
remove-user-from-share		add-password-server			
modify-group		remove-password-server			
I		add-wins-server			
		remove-wins-server	Ι		

5. Set the authentication for Active Directory: set-authentication

In most deployments, you must set the authentication before adding the audit client. If authentication has already been set, an advisory message appears. If authentication has already been set, go to the next step.

- a. When prompted for Workgroup or Active Directory installation: ad
- b. When prompted, enter the name of the AD domain (short domain name).
- c. When prompted, enter the domain controller's IP address or DNS hostname.
- d. When prompted, enter the full domain realm name.

Use uppercase letters.

e. When prompted to enable winbind support, type **y**.

Winbind is used to resolve user and group information from AD servers.

- f. When prompted, enter the NetBIOS name.
- g. When prompted, press Enter.

The CIFS configuration utility is displayed.

- 6. Join the domain:
  - a. If not already started, start the CIFS configuration utility: config\_cifs.rb
  - b. Join the domain: join-domain
  - c. You are prompted to test if the Admin Node is currently a valid member of the domain. If this Admin Node has not previously joined the domain, enter: no
  - d. When prompted, provide the Administrator's username: administrator\_username

where *administrator\_username* is the CIFS Active Directory username, not the StorageGRID username.

e. When prompted, provide the Administrator's password: administrator password

were administrator\_password is the CIFS Active Directory username, not the StorageGRID

password.

f. When prompted, press Enter.

The CIFS configuration utility is displayed.

- 7. Verify that you have correctly joined the domain:
  - a. Join the domain: join-domain
  - b. When prompted to test if the server is currently a valid member of the domain, enter: y

If you receive the message "Join is OK," you have successfully joined the domain. If you do not get this response, try setting authentication and joining the domain again.

c. When prompted, press Enter.

The CIFS configuration utility is displayed.

- 8. Add an audit client: add-audit-share
  - a. When prompted to add a user or group, enter: user
  - b. When prompted to enter the audit user name, enter the audit user name.
  - c. When prompted, press Enter.

The CIFS configuration utility is displayed.

9. If more than one user or group is permitted to access the audit share, add additional users: add-userto-share

A numbered list of enabled shares is displayed.

- a. Enter the number of the audit-export share.
- b. When prompted to add a user or group, enter: group

You are prompted for the audit group name.

- c. When prompted for the audit group name, enter the name of the audit user group.
- d. When prompted, press Enter.

The CIFS configuration utility is displayed.

- e. Repeat this step for each additional user or group that has access to the audit share.
- 10. Optionally, verify your configuration: validate-config

The services are checked and displayed. You can safely ignore the following messages:

- Can't find include file /etc/samba/includes/cifs-interfaces.inc
- $^\circ$  Can't find include file /etc/samba/includes/cifs-filesystem.inc
- ° Can't find include file /etc/samba/includes/cifs-interfaces.inc
- ° **Can't find include file** /etc/samba/includes/cifs-custom-config.inc

- Can't find include file /etc/samba/includes/cifs-shares.inc
- rlimit\_max: increasing rlimit\_max (1024) to minimum Windows limit (16384)



Do not combine the setting 'security=ads' with the 'password server' parameter. (by default Samba will discover the correct DC to contact automatically).

- a. When prompted, press **Enter** to display the audit client configuration.
- b. When prompted, press Enter.

The CIFS configuration utility is displayed.

- 11. Close the CIFS configuration utility: exit
- 12. If the StorageGRID deployment is a single site, go to the next step.

or

Optionally, if the StorageGRID deployment includes Admin Nodes at other sites, enable these audit shares as required:

- a. Remotely log in to a site's Admin Node:
  - i. Enter the following command: ssh admin@grid\_node\_IP
  - $ii. \ \mbox{Enter the password listed in the Passwords.txt file.}$
  - iii. Enter the following command to switch to root: su -
  - iV. Enter the password listed in the Passwords.txt file.
- b. Repeat these steps to configure the audit shares for each Admin Node.
- c. Close the remote secure shell login to the Admin Node: exit
- 13. Log out of the command shell: exit

## Add a user or group to a CIFS audit share

You can add a user or group to a CIFS audit share that is integrated with AD authentication.

## What you'll need

- You have the Passwords.txt file with the root/admin account password (available in the SAID package).
- You have the Configuration.txt file (available in the SAID package).

#### About this task

The following procedure is for an audit share integrated with AD authentication.



Audit export through CIFS/Samba has been deprecated and will be removed in a future StorageGRID release.

## Steps

1. Log in to the primary Admin Node:

- a. Enter the following command: ssh admin@primary Admin Node IP
- b. Enter the password listed in the Passwords.txt file.
- c. Enter the following command to switch to root: su -
- d. Enter the password listed in the <code>Passwords.txt</code> file.

When you are logged in as root, the prompt changes from \$ to #.

2. Confirm that all services have a state of Running or Verified. Enter: storagegrid-status

If all services are not Running or Verified, resolve issues before continuing.

- 3. Return to the command line, press Ctrl+C.
- 4. Start the CIFS configuration utility: config cifs.rb

Shares		Authentication		Config	
add-audit-share   enable-disable-share   add-user-to-share   remove-user-from-share   modify-group 		set-authentication set-netbios-name join-domain add-password-server remove-password-server add-wins-server remove-wins-server	         	validate-config help exit	

5. Start adding a user or group: add-user-to-share

A numbered list of audit shares that have been configured is displayed.

6. When prompted, enter the number for the audit share (audit-export): audit share number

You are asked if you would like to give a user or a group access to this audit share.

- 7. When prompted, add a user or group: user or group
- 8. When prompted for the user or group name for this AD audit share, enter the name.

The user or group is added as read-only for the audit share both in the server's operating system and in the CIFS service. The Samba configuration is reloaded to enable the user or group to access the audit client share.

9. When prompted, press Enter.

The CIFS configuration utility is displayed.

- 10. Repeat these steps for each user or group that has access to the audit share.
- 11. Optionally, verify your configuration: validate-config

The services are checked and displayed. You can safely ignore the following messages:

- · Can't find include file /etc/samba/includes/cifs-interfaces.inc
- · Can't find include file /etc/samba/includes/cifs-filesystem.inc
- · Can't find include file /etc/samba/includes/cifs-custom-config.inc
- · Can't find include file /etc/samba/includes/cifs-shares.inc
  - a. When prompted, press Enter to display the audit client configuration.
  - b. When prompted, press Enter.
- 12. Close the CIFS configuration utility: exit
- 13. Determine if you need to enable additional audit shares, as follows:
  - If the StorageGRID deployment is a single site, go to the next step.
  - If the StorageGRID deployment includes Admin Nodes at other sites, enable these audit shares as required:
    - a. Remotely log in to a site's Admin Node:
      - i. Enter the following command: ssh admin@grid\_node\_IP
      - ii. Enter the password listed in the Passwords.txt file.
      - iii. Enter the following command to switch to root: su -
      - iv. Enter the password listed in the Passwords.txt file.
    - b. Repeat these steps to configure the audit shares for each Admin Node.
    - c. Close the remote secure shell login to the remote Admin Node: exit
- 14. Log out of the command shell: exit

## Remove a user or group from a CIFS audit share

You cannot remove the last user or group permitted to access the audit share.

## What you'll need

- You have the Passwords.txt file with the root account passwords (available in the SAID package).
- You have the Configuration.txt file (available in the SAID package).

#### About this task

Audit export through CIFS/Samba has been deprecated and will be removed in a future StorageGRID release.

#### Steps

- 1. Log in to the primary Admin Node:
  - a. Enter the following command: ssh admin@primary\_Admin\_Node\_IP
  - b. Enter the password listed in the Passwords.txt file.
  - c. Enter the following command to switch to root: su -
  - d. Enter the password listed in the <code>Passwords.txt</code> file.

When you are logged in as root, the prompt changes from \$ to #.

Shares		Authentication		Config	
add-audit-share		set-authentication	Ι	validate-config	
enable-disable-share		set-netbios-name	Ι	help	
add-user-to-share		join-domain	Ι	exit	
remove-user-from-share		add-password-server	Ι		
modify-group		remove-password-server	Ι		
I		add-wins-server	Ι		
1		remove-wins-server	I		

3. Start removing a user or group: remove-user-from-share

A numbered list of available audit shares for the Admin Node is displayed. The audit share is labeled auditexport.

- 4. Enter the number of the audit share: audit share number
- 5. When prompted to remove a user or a group: user or group

A numbered list of users or groups for the audit share is displayed.

6. Enter the number corresponding to the user or group you want to remove: number

The audit share is updated, and the user or group is no longer permitted access to the audit share. For example:

```
Enabled shares

1. audit-export

Select the share to change: 1

Remove user or group? [User/group]: User

Valid users for this share

1. audituser

2. newaudituser

Select the user to remove: 1

Removed user "audituser" from share "audit-export".

Press return to continue.
```

- 7. Close the CIFS configuration utility: exit
- 8. If the StorageGRID deployment includes Admin Nodes at other sites, disable the audit share at each site as required.

9. Log out of each command shell when configuration is complete: exit

## Change a CIFS audit share user or group name

You can change the name of a user or a group for a CIFS audit share by adding a new user or group and then deleting the old one.

## About this task

Audit export through CIFS/Samba has been deprecated and will be removed in a future StorageGRID release.

## Steps

- 1. Add a new user or group with the updated name to the audit share.
- 2. Delete the old user or group name.

## **Related information**

- Add a user or group to a CIFS audit share
- Remove a user or group from a CIFS audit share

## Verify CIFS audit integration

The audit share is read-only. Log files are intended to be read by computer applications and verification does not include opening a file. It is considered sufficient verification that the audit log files appear in a Windows Explorer window. Following connection verification, close all windows.

## **Configure the audit client for NFS**

The audit share is automatically enabled as a read-only share.

## What you'll need

- You have the Passwords.txt file with the root/admin password (available in the SAID package).
- You have the Configuration.txt file (available in the SAID package).
- The audit client is using NFS Version 3 (NFSv3).

## About this task

Perform this procedure for each Admin Node in a StorageGRID deployment from which you want to retrieve audit messages.

## Steps

- 1. Log in to the primary Admin Node:
  - a. Enter the following command: ssh admin@primary\_Admin\_Node\_IP
  - b. Enter the password listed in the <code>Passwords.txt</code> file.
  - c. Enter the following command to switch to root:  ${\tt su}\,$  –
  - d. Enter the password listed in the Passwords.txt file.

When you are logged in as root, the prompt changes from \$ to #.

2. Confirm that all services have a state of Running or Verified. Enter: storagegrid-status

If any services are not listed as Running or Verified, resolve issues before continuing.

- 3. Return to the command line. Press Ctrl+C.
- 4. Start the NFS configuration utility. Enter: config nfs.rb

```
      Shares
      Clients
      Config

      add-audit-share
      add-ip-to-share
      validate-config

      enable-disable-share
      remove-ip-from-share
      refresh-config

      |
      |
      |
      help

      |
      |
      |
      |
```

- 5. Add the audit client: add-audit-share
  - a. When prompted, enter the audit client's IP address or IP address range for the audit share: client\_IP\_address
  - b. When prompted, press Enter.
- 6. If more than one audit client is permitted to access the audit share, add the IP address of the additional user: add-ip-to-share
  - a. Enter the number of the audit share: audit\_share\_number
  - b. When prompted, enter the audit client's IP address or IP address range for the audit share: *client\_IP\_address*
  - c. When prompted, press Enter.

The NFS configuration utility is displayed.

- d. Repeat these substeps for each additional audit client that has access to the audit share.
- 7. Optionally, verify your configuration.
  - a. Enter the following: validate-config

The services are checked and displayed.

b. When prompted, press Enter.

The NFS configuration utility is displayed.

- c. Close the NFS configuration utility: exit
- 8. Determine if you must enable audit shares at other sites.
  - If the StorageGRID deployment is a single site, go to the next step.
  - If the StorageGRID deployment includes Admin Nodes at other sites, enable these audit shares as required:

- a. Remotely log in to the site's Admin Node:
  - i. Enter the following command: ssh admin@grid node IP
  - ii. Enter the password listed in the Passwords.txt file.
  - iii. Enter the following command to switch to root: su -
  - iv. Enter the password listed in the Passwords.txt file.
- b. Repeat these steps to configure the audit shares for each additional Admin Node.
- c. Close the remote secure shell login to the remote Admin Node. Enter: exit
- 9. Log out of the command shell: exit

NFS audit clients are granted access to an audit share based on their IP address. Grant access to the audit share to a new NFS audit client by adding its IP address to the share, or remove an existing audit client by removing its IP address.

## Add an NFS audit client to an audit share

NFS audit clients are granted access to an audit share based on their IP address. Grant access to the audit share to a new NFS audit client by adding its IP address to the audit share.

## What you'll need

- You have the Passwords.txt file with the root/admin account password (available in the SAID package).
- You have the Configuration.txt file (available in the SAID package).
- The audit client is using NFS Version 3 (NFSv3).

## Steps

- 1. Log in to the primary Admin Node:
  - a. Enter the following command: ssh admin@primary\_Admin\_Node\_IP
  - b. Enter the password listed in the Passwords.txt file.
  - c. Enter the following command to switch to root: su -
  - d. Enter the password listed in the <code>Passwords.txt</code> file.

When you are logged in as root, the prompt changes from \$ to #.

2. Start the NFS configuration utility: config nfs.rb

Shares	Clients	Config
add-audit-share   enable-disable-share   	add-ip-to-share   remove-ip-from-share 	validate-config   refresh-config   help   exit

3. Enter: add-ip-to-share

A list of NFS audit shares enabled on the Admin Node is displayed. The audit share is listed as: /var/local/audit/export

- 4. Enter the number of the audit share: audit\_share\_number
- 5. When prompted, enter the audit client's IP address or IP address range for the audit share: *client\_IP\_address*

The audit client is added to the audit share.

6. When prompted, press Enter.

The NFS configuration utility is displayed.

- 7. Repeat the steps for each audit client that should be added to the audit share.
- 8. Optionally, verify your configuration: validate-config

The services are checked and displayed.

a. When prompted, press Enter.

The NFS configuration utility is displayed.

- 9. Close the NFS configuration utility: exit
- 10. If the StorageGRID deployment is a single site, go to the next step.

Otherwise, if the StorageGRID deployment includes Admin Nodes at other sites, optionally enable these audit shares as required:

- a. Remotely log in to a site's Admin Node:
  - i. Enter the following command: ssh admin@grid\_node\_IP
  - ii. Enter the password listed in the <code>Passwords.txt</code> file.
  - iii. Enter the following command to switch to root: su -
  - iv. Enter the password listed in the Passwords.txt file.
- b. Repeat these steps to configure the audit shares for each Admin Node.
- c. Close the remote secure shell login to the remote Admin Node: exit

11. Log out of the command shell: exit

## Verify NFS audit integration

After you configure an audit share and add an NFS audit client, you can mount the audit client share and verify that the files are available from the audit share.

## Steps

1. Verify connectivity (or variant for the client system) using the client-side IP address of the Admin Node hosting the AMS service. Enter: ping IP\_address

Verify that the server responds, indicating connectivity.

2. Mount the audit read-only share using a command appropriate to the client operating system. A sample Linux command is (enter on one line):

```
mount -t nfs -o hard,intr Admin_Node_IP_address:/var/local/audit/export
myAudit
```

Use the IP address of the Admin Node hosting the AMS service and the predefined share name for the audit system. The mount point can be any name selected by the client (for example, *myAudit* in the previous command).

3. Verify that the files are available from the audit share. Enter: 1s myAudit /\*

where *myAudit* is the mount point of the audit share. There should be at least one log file listed.

## Remove an NFS audit client from the audit share

NFS audit clients are granted access to an audit share based on their IP address. You can remove an existing audit client by removing its IP address.

## What you'll need

- You have the Passwords.txt file with the root/admin account password (available in the SAID package).
- You have the Configuration.txt file (available in the SAID package).

## About this task

You cannot remove the last IP address permitted to access the audit share.

## Steps

- 1. Log in to the primary Admin Node:
  - a. Enter the following command: ssh admin@primary\_Admin\_Node\_IP
  - b. Enter the password listed in the Passwords.txt file.
  - c. Enter the following command to switch to root: su -
  - d. Enter the password listed in the <code>Passwords.txt</code> file.

When you are logged in as root, the prompt changes from \$ to #.

2. Start the NFS configuration utility: config\_nfs.rb

Shares	Clients	Config
add-audit-share   enable-disable-share   	add-ip-to-share   remove-ip-from-share 	validate-config refresh-config help exit

3. Remove the IP address from the audit share: remove-ip-from-share

A numbered list of audit shares configured on the server is displayed. The audit share is listed as: /var/local/audit/export

4. Enter the number corresponding to the audit share: audit\_share\_number

A numbered list of IP addresses permitted to access the audit share is displayed.

5. Enter the number corresponding to the IP address you want to remove.

The audit share is updated, and access is no longer permitted from any audit client with this IP address.

6. When prompted, press Enter.

The NFS configuration utility is displayed.

- 7. Close the NFS configuration utility: exit
- 8. If your StorageGRID deployment is a multiple data center site deployment with additional Admin Nodes at the other sites, disable these audit shares as required:
  - a. Remotely log in to each site's Admin Node:
    - i. Enter the following command: ssh admin@grid\_node\_IP
    - ii. Enter the password listed in the Passwords.txt file.
    - iii. Enter the following command to switch to root: su -
    - iv. Enter the password listed in the Passwords.txt file.
  - b. Repeat these steps to configure the audit shares for each additional Admin Node.
  - c. Close the remote secure shell login to the remote Admin Node:  $\mathtt{exit}$
- 9. Log out of the command shell: exit

## Change the IP address of an NFS audit client

Complete these steps if you need to change the IP address of an NFS audit client.

#### Steps

- 1. Add a new IP address to an existing NFS audit share.
- 2. Remove the original IP address.

## **Related information**

- Add an NFS audit client to an audit share
- Remove an NFS audit client from the audit share

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