Display information about audit policies applied to files and directories

ONTAP 9

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Display information about audit policies using the Windows Security tab

You can display information about audit policies that have been applied to files and directories by using the Security tab in the Windows Properties window. This is the same method used for data residing on a Windows server, which enables customers to use the same GUI interface that they are accustomed to using.

About this task

Displaying information about audit policies applied to files and directories enables you to verify that you have the appropriate system access control lists (SACLs) set on specified files and folders.

To display information about SACLs that have been applied to NTFS files and folders, complete the following steps on a Windows host.

Steps

1. From the **Tools** menu in Windows Explorer, select **Map network drive**.
2. Complete the **Map Network Drive** dialog box:

   a. Select a **Drive** letter.

   b. In the **Folder** box, type the IP address or SMB server name of the storage virtual machine (SVM) containing the share that holds both the data you would like to audit and the name of the share.

      If your SMB server name is “SMB_SERVER” and your share is named “share1”, you should enter `\\SMB_SERVER\share1`.

      > You can specify the IP address of the data interface for the SMB server instead of the SMB server name.

   c. Click **Finish**.

   The drive you selected is mounted and ready with the Windows Explorer window displaying files and folders contained within the share.

3. Select the file or directory for which you display auditing information.
4. Right-click on the file or directory, and select **Properties**.
5. Select the **Security** tab.
6. Click **Advanced**.
7. Select the **Auditing** tab.
8. Click **Continue**.

   The Auditing box opens. The **Auditing entries** box displays a summary of users and groups that have SACLs applied to them.

9. In the **Auditing entries** box select the user or group whose SACL entries you want displayed.
10. Click **Edit**.

    The Auditing entry for <object> box opens.

11. In the **Access** box, view the current SACLs that are applied to the selected object.
12. Click **Cancel** to close the **Auditing entry for <object>** box.
13. Click **Cancel** to close the **Auditing** box.

Display information about NTFS audit policies on FlexVol volumes using the CLI

You can display information about NTFS audit policies on FlexVol volumes, including what the security styles and effective security styles are, what permissions are applied, and information about system access control lists. You can use the information to validate your security configuration or to troubleshoot auditing issues.

About this task

Displaying information about audit policies applied to files and directories enables you to verify that you have the appropriate system access control lists (SACLs) set on specified files and folders.

You must provide the name of the storage virtual machine (SVM) and the path to the files or folders whose audit information you want to display. You can display the output in summary form or as a detailed list.

- NTFS security-style volumes and qtrees use only NTFS system access control lists (SACLs) for audit policies.
- Files and folders in a mixed security-style volume with NTFS effective security can have NTFS audit policies applied to them.

  Mixed security-style volumes and qtrees can contain some files and directories that use UNIX file permissions, either mode bits or NFSv4 ACLs, and some files and directories that use NTFS file permissions.

- The top level of a mixed security-style volume can have either UNIX or NTFS effective security and might or might not contain NTFS SACLs.
- Because Storage-Level Access Guard security can be configured on a mixed security-style volume or qtree even if the effective security style of the volume root or qtree is UNIX, the output for a volume or qtree path where Storage-Level Access Guard is configured might display both regular file and folder NFSv4 SACLs and Storage-Level Access Guard NTFS SACLs.
- If the path that is entered in the command is to data with NTFS effective security, the output also displays information about Dynamic Access Control ACEs if Dynamic Access Control is configured for the given file or directory path.
- When displaying security information about files and folders with NTFS effective security, UNIX-related output fields contain display-only UNIX file permission information.

  NTFS security-style files and folders use only NTFS file permissions and Windows users and groups when determining file access rights.

- ACL output is displayed only for files and folders with NTFS or NFSv4 security.

This field is empty for files and folders using UNIX security that have only mode bit permissions applied (no NFSv4 ACLs).

- The owner and group output fields in the ACL output apply only in the case of NTFS security descriptors.

Step

1. Display file and directory audit policy settings with the desired level of detail:

If you want to display information…	Enter the following command…
In summary form	`vserver security file-directory show -vserver vserver_name -path path`
As a detailed list	`vserver security file-directory show -vserver vserver_name -path path -expand-mask true`

Examples

The following example displays the audit policy information for the path `/corp` in SVM vs1. The path has NTFS effective security. The NTFS security descriptor contains both a SUCCESS and a SUCCESS/FAIL SACL entry.

```
cluster::> vserver security file-directory show -vserver vs1 -path /corp
                Vserver: vs1
              File Path: /corp
      File Inode Number: 357
         Security Style: ntfs
        Effective Style: ntfs
         DOS Attributes: 10
 DOS Attributes in Text: ----D---
Expanded Dos Attributes: -
           Unix User Id: 0
          Unix Group Id: 0
         Unix Mode Bits: 777
 Unix Mode Bits in Text: rwxrwxrwx
                   ACLs: NTFS Security Descriptor
                         Control:0x8014
                         Owner:DOMAIN\Administrator
                         Group:BUILTIN\Administrators
                         SACL - ACEs
                           ALL-DOMAIN\Administrator-0x100081-OI|CI|SA|FA
                           SUCCESSFUL-DOMAIN\user1-0x100116-OI|CI|SA
                         DACL - ACEs
                           ALLOW-BUILTIN\Administrators-0x1f01ff-OI|CI
                           ALLOW-BUILTIN\Users-0x1f01ff-OI|CI
                           ALLOW-CREATOR OWNER-0x1f01ff-OI|CI
                           ALLOW-NT AUTHORITY\SYSTEM-0x1f01ff-OI|CI
```

The following example displays the audit policy information for the path `/datavol1` in SVM vs1. The path contains both regular file and folder SACLs and Storage-Level Access Guard SACLs.

```
cluster::> vserver security file-directory show -vserver vs1 -path
/datavol1

                Vserver: vs1
              File Path: /datavol1
        File Inode Number: 77
         Security Style: ntfs
        Effective Style: ntfs
         DOS Attributes: 10
 DOS Attributes in Text: ----D---
Expanded Dos Attributes: -
           Unix User Id: 0
          Unix Group Id: 0
         Unix Mode Bits: 777
 Unix Mode Bits in Text: rwxrwxrwx
                   ACLs: NTFS Security Descriptor
                         Control:0xaa14
                         Owner:BUILTIN\Administrators
                         Group:BUILTIN\Administrators
                         SACL - ACEs
                           AUDIT-EXAMPLE\marketing-0xf01ff-OI|CI|FA
                         DACL - ACEs
                           ALLOW-EXAMPLE\Domain Admins-0x1f01ff-OI|CI
                           ALLOW-EXAMPLE\marketing-0x1200a9-OI|CI

                         Storage-Level Access Guard security
                         SACL (Applies to Directories):
                           AUDIT-EXAMPLE\Domain Users-0x120089-FA
                           AUDIT-EXAMPLE\engineering-0x1f01ff-SA
                         DACL (Applies to Directories):
                           ALLOW-EXAMPLE\Domain Users-0x120089
                           ALLOW-EXAMPLE\engineering-0x1f01ff
                           ALLOW-NT AUTHORITY\SYSTEM-0x1f01ff
                         SACL (Applies to Files):
                           AUDIT-EXAMPLE\Domain Users-0x120089-FA
                           AUDIT-EXAMPLE\engineering-0x1f01ff-SA
                         DACL (Applies to Files):
                           ALLOW-EXAMPLE\Domain Users-0x120089
                           ALLOW-EXAMPLE\engineering-0x1f01ff
                           ALLOW-NT AUTHORITY\SYSTEM-0x1f01ff
```

Ways to display information about file security and audit policies

You can use the wildcard character (*) to display information about file security and audit policies of all files and directories under a given path or a root volume.

The wildcard character (*) can be used as the last subcomponent of a given directory path below which you want to display information of all files and directories.

If you want to display information of a particular file or directory named as "*", then you need to provide the complete path inside double quotes (" ").

Example

The following command with the wildcard character displays the information about all files and directories below the path `/1/` of SVM vs1:

```
cluster::> vserver security file-directory show -vserver vs1 –path /1/*

                    Vserver: vs1
                  File Path: /1/1
            Security Style: mixed
           Effective Style: ntfs
            DOS Attributes: 10
     DOS Attributes in Text: ----D---
    Expanded Dos Attributes: -
              Unix User Id: 0
             Unix Group Id: 0
            Unix Mode Bits: 777
     Unix Mode Bits in Text: rwxrwxrwx
                       ACLs: NTFS Security Descriptor
                             Control:0x8514
                             Owner:BUILTIN\Administrators
                             Group:BUILTIN\Administrators
                             DACL - ACEs
                             ALLOW-Everyone-0x1f01ff-OI|CI (Inherited)
                    Vserver: vs1
                  File Path: /1/1/abc
            Security Style: mixed
           Effective Style: ntfs
            DOS Attributes: 10
     DOS Attributes in Text: ----D---
    Expanded Dos Attributes: -
              Unix User Id: 0
             Unix Group Id: 0
            Unix Mode Bits: 777
     Unix Mode Bits in Text: rwxrwxrwx
                       ACLs: NTFS Security Descriptor
                             Control:0x8404
                             Owner:BUILTIN\Administrators
                             Group:BUILTIN\Administrators
                             DACL - ACEs
                             ALLOW-Everyone-0x1f01ff-OI|CI (Inherited)
```

The following command displays the information of a file named as "*" under the path `/vol1/a` of SVM vs1. The path is enclosed within double quotes (" ").

```
cluster::> vserver security file-directory show -vserver vs1 -path
"/vol1/a/*"

                Vserver: vs1
              File Path: “/vol1/a/*”
         Security Style: mixed
        Effective Style: unix
         DOS Attributes: 10
  DOS Attributes in Text: ----D---
Expanded Dos Attributes: -
           Unix User Id: 1002
          Unix Group Id: 65533
         Unix Mode Bits: 755
  Unix Mode Bits in Text: rwxr-xr-x
                    ACLs: NFSV4 Security Descriptor
                          Control:0x8014
                          SACL - ACEs
                            AUDIT-EVERYONE@-0x1f01bf-FI|DI|SA|FA
                          DACL - ACEs
                            ALLOW-EVERYONE@-0x1f00a9-FI|DI
                            ALLOW-OWNER@-0x1f01ff-FI|DI
                            ALLOW-GROUP@-0x1200a9-IG
```