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Windows 11 Help on 'ICACLS' command

C:\>HELP ICACLS

ICACLS name /save aclfile [/T] [/C] [/L] [/Q]

stores the DACLs for the files and folders that match the name into aclfile for later use with /restore. Note that SACLs, owner, or integrity labels are not saved.

ICACLS directory [/substitute SidOld SidNew [...]] /restore aclfile
[C] [L] [Q]

applies the stored DACLs to files in directory.

ICACLS name /setowner user [/T] [/C] [/L] [/Q]

changes the owner of all matching names. This option does not force a change of ownership; use the takeown.exe utility for that purpose.

ICACLS name /findsid Sid [/T] [/C] [/L] [/Q]

finds all matching names that contain an ACL explicitly mentioning Sid.

ICACLS name /verify [/T] [/C] [/L] [/Q]

finds all files whose ACL is not in canonical form or whose lengths are inconsistent with ACE counts.

ICACLS name /reset [/T] [/C] [/L] [/Q]

replaces ACLs with default inherited ACLs for all matching files.

ICACLS name [/grant[:r] Sid:perm[...]]

[/deny Sid:perm [...]]

[/remove[:g:d]] Sid[...] [/T] [/C] [/L] [/Q]

[/setintegritylevel Level:policy[...]]

`/grant[:r] Sid:perm` grants the specified user access rights. With `:r`, the permissions replace any previously granted explicit permissions. Without `:r`, the permissions are added to any previously granted explicit permissions.

`/deny Sid:perm` explicitly denies the specified user access rights. An explicit deny ACE is added for the stated permissions and the same permissions in any explicit grant are removed.

`/remove[:[g|d]] Sid` removes all occurrences of Sid in the ACL. With `:g`, it removes all occurrences of granted rights to that Sid. With `:d`, it removes all occurrences of denied rights to that Sid.

`/setintegritylevel [(CI)(OI)]Level` explicitly adds an integrity ACE to all matching files. The level is to be specified as one of:

L[ow]

M[edium]

H[igh]

Inheritance options for the integrity ACE may precede the level and are applied only to directories.

`/inheritance:e|d|r`

e - enables inheritance

d - disables inheritance and copy the ACEs

r - remove all inherited ACEs

Note:

Sids may be in either numerical or friendly name form. If a numerical form is given, affix a * to the start of the SID.

`/T` indicates that this operation is performed on all matching files/directories below the directories specified in the name.

`/C` indicates that this operation will continue on all file errors. Error messages will still be displayed.

`/L` indicates that this operation is performed on a symbolic link itself versus its target.

`/Q` indicates that icacls should suppress success messages.

ICACLS preserves the canonical ordering of ACE entries:

Explicit denials

Explicit grants

Inherited denials

Inherited grants

perm is a permission mask and can be specified in one of two forms:

a sequence of simple rights:

N - no access

F - full access

M - modify access

RX - read and execute access

R - read-only access

W - write-only access

D - delete access

a comma-separated list in parentheses of specific rights:

DE - delete

RC - read control

WDAC - write DAC

WO - write owner

S - synchronize

AS - access system security

MA - maximum allowed

GR - generic read

GW - generic write

GE - generic execute

GA - generic all

RD - read data/list directory

WD - write data/add file

AD - append data/add subdirectory

REA - read extended attributes

WEA - write extended attributes

X - execute/traverse

DC - delete child

RA - read attributes

WA - write attributes

inheritance rights may precede either form and are applied only to directories:

(OI) - object inherit

(CI) - container inherit

(IO) - inherit only

(NP) - don't propagate inherit

(I) - permission inherited from parent container

Examples:

```
icacls c:\windows\* /save AclFile /T
```

- Will save the ACLs for all files under c:\windows and its subdirectories to AclFile.

```
icacls c:\windows\ /restore AclFile
```

- Will restore the Acls for every file within AclFile that exists in c:\windows and its subdirectories.

```
icacls file /grant Administrator:(D,WDAC)
```

- Will grant the user Administrator Delete and Write DAC permissions to file.

```
icacls file /grant *S-1-1-0:(D,WDAC)
```

- Will grant the user defined by sid S-1-1-0 Delete and Write DAC permissions to file.