

Windows 10 - Identify File System, Set File Permission, and Copy

This presentation is two sets. The first set identifies the file system, set file permissions and copies a file graphically. The second set identifies the file system, set file permissions and copies a file on the command line.

Operating System: Windows 10 Anniversary Update

Preuss

9/23/2016



Recycle Bin

The presentation logs onto Windows.

The screenshot shows a Windows File Explorer window titled "MSCTC (E:)" with the address bar set to "This PC > MSCTC (E:)". The main pane displays a single file:

| Name | Date modified | Type | Size |
|----------------------------------|--------------------|-----------------|----------|
| network_protocols_map_poster.iso | 8/31/2016 10:40 AM | Disc Image File | 5,142 KB |

The left sidebar shows the navigation pane with "MSCTC (E:)" selected. A yellow callout box with a black border and a yellow arrow pointing to the "Local Disk (C:)" and "MSCTC (E:)" entries in the sidebar contains the following text:

On this system, the presentation will use the "Local Disk (C:)" and "MSCTC (E:)" . MSCTC is a USB drive connected to the system.

The screenshot shows a Windows File Explorer window titled "Drive Tools E:\". The left sidebar shows the navigation pane with "This PC" expanded and "MSCTC (E:)" selected. A context menu is open over the drive, listing various actions. The "Properties" option at the bottom of the menu is highlighted in blue. A yellow callout box with a white arrow points to the "Properties" option. The main pane shows a table with one file: "oster.iso", "8/31/2016 10:40 AM", "Disc Image File", and "5,142 KB".

| Date modified | Type | Size |
|--------------------|-----------------|----------|
| 8/31/2016 10:40 AM | Disc Image File | 5,142 KB |

The presentation right clicks on a drive as shown. The presentation selects "Properties" on the menu shown.

The screenshot shows a Windows File Explorer window titled "MSCTC (E:)" with a "Drive Tools" ribbon tab. A "MSCTC (E:) Properties" dialog box is open, displaying the "General" tab. The drive name is "MSCTC", the type is "USB Drive", and the file system is "FAT". A yellow callout box with a black border and arrow points to the "File system: FAT" text, containing the text: "The file system information is found under the 'General' tab as shown." The background shows a file list with columns for Name, Date modified, Type, and Size, with one item listed as "Disc Image File" of size "5,142 KB".

The screenshot shows a Windows File Explorer window titled "Drive Tools" at "C:\". The left sidebar shows "Local Disk (C:)" selected. A context menu is open over the drive, listing options such as "Expand", "Turn on BitLocker", "Scan with Windows Defender...", "Open in new window", "Pin to Quick access", "Share with", "Restore previous versions", "Pin to Start", "Format...", "Copy", "Paste", "Rename", "New", and "Properties". The "Properties" option is highlighted in blue. A yellow callout box with a white arrow points to the "Properties" option, containing the text: "The presentation right clicks on a drive as shown. The presentation selects 'Properties' on the menu shown."

| Date modified | Type | Size |
|--------------------|-------------|------|
| 7/16/2016 6:47 AM | File folder | |
| 8/22/2016 6:13 PM | File folder | |
| 9/13/2016 8:47 AM | File folder | |
| 9/20/2016 11:14 AM | File folder | |
| 9/14/2016 8:45 AM | File folder | |
| 8/11/2016 6:33 PM | File folder | |

The screenshot shows a Windows File Explorer window with the 'Local Disk (C:)' selected. The 'Local Disk (C:) Properties' dialog box is open, displaying the 'General' tab. A yellow callout box with a black border and arrow points to the 'File system: NTFS' field. The dialog also shows 'Type: Local Disk', 'Used space: 16,077.2', 'Free space: 47,820.8', and 'Capacity: 63,898.7'. At the bottom, there are checkboxes for 'Compress this drive to save disk space' (unchecked) and 'Allow files on this drive to have contents indexed in addition to file properties' (checked). Buttons for 'OK', 'Cancel', and 'Apply' are at the bottom of the dialog.

| Property | Value |
|-------------|------------|
| Type | Local Disk |
| File system | NTFS |
| Used space | 16,077.2 |
| Free space | 47,820.8 |
| Capacity | 63,898.7 |

The file system information is found under the "General" tab as shown.

Documents

File Home Share View

This PC > Documents > Search Documents

| Name | Date modified | Type | Size |
|-------------------------|-------------------|----------------------|--------|
| Documents | | | |
| Pictures | | | |
| cptr1104 | 9/21/2016 8:22 AM | File folder | |
| cptr1138 | 9/21/2016 1:49 PM | File folder | |
| csci1110 | 9/23/2016 9:05 AM | File folder | |
| Custom Office Templates | 8/22/2016 6:31 PM | File folder | |
| examples | 9/23/2016 8:50 AM | File folder | |
| pong | 8/29/2016 9:11 AM | File folder | |
| accountinfo01.txt | 9/21/2016 4:36 PM | Text Document | 5 KB |
| Databa | 33 PM | Microsoft Access ... | 344 KB |
| softwa | 3 PM | Text Document | 6 KB |

- Open
- Print
- Edit
- Scan with Windows Defender...
- Open with >
- Previous versions >
- cut
- Renam
- Properties

9 items | 1 item selected 5.60 KB

The presentation right clicks on a file as shown. This is a copy of a file used for this demonstration. The presentation selects "Properties" from the menu as shown.

Documents

File Home Share View

This PC > Documents

Search Documents

Documents

Pictures
 cptr1104
 Word Module 1
 Word Module 2
 Word Module 3
 OneDrive
 This PC
 Desktop
 Documents
 Downloads
 Music
 Pictures
 Videos
 Local Disk (C:)
 MSCTC (E:)
 MSCTC (E:)
 Network

Name
 cptr1104
 cptr1138
 csci1110
 Custom
 example
 pong
 account
 Databas
 software

software01.txt Properties
 General Security Details Previous Versions
 Object name: C:\Users\preuss\Documents\software01.txt
 The presentation selects the "Edit" button.
 To change permissions, click Edit. Edit...
 Permissions for SYSTEM

| | Allow | Deny |
|---------------------|-------|------|
| Full control | ✓ | |
| Modify | ✓ | |
| Read & execute | ✓ | |
| Read | ✓ | |
| Write | ✓ | |
| Special permissions | | |

 For special permissions or advanced settings, click Advanced. Advanced
 OK Cancel Apply

9 items | 1 item selected 5.60 KB

The screenshot shows a Windows File Explorer window with the 'Documents' folder selected. A 'software01.txt Properties' dialog is open, with the 'Security' tab active. Within this dialog, the 'Permissions for software01.txt' sub-dialog is also open, showing the 'Security' tab. A yellow callout box with the text 'The presentation selects the "Add" button.' has an arrow pointing to the 'Add...' button. Below the callout, a table shows the permissions for the SYSTEM user.

| Permissions for SYSTEM | Allow | Deny |
|------------------------|-------------------------------------|--------------------------|
| Full control | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Modify | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Read & execute | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Read | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Write | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

The presentation enters the logon name to add permissions. The example uses the "guest" account. The presentation selects "OK" to continue.

File Explorer: Documents > This PC > Documents

software01.txt Properties

Permissions for software01.txt

Users or Groups

This object type: Groups, or Built-in security principals

Location: C:\Users\CPTR1104

Enter the object names to select (examples): guest

| | | |
|----------------|-------------------------------------|--------------------------|
| Full control | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Modify | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Read & execute | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Read | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Write | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Buttons: OK, Cancel, Apply



Recycle Bin

Documents

File Home Share View

← → ↕ ↑ > This PC > Documents

Search Documents

Documents

Pictures

cptr1104

Word Module 1

Word Module 2

Word Module 3

Name

cptr1104

cptr1138

csci1110

Custom

example

pong

software01.txt Properties

General Security Details Previous Versions

Permissions for software01.txt

Security

Object name: C:\Users\preuss\Documents\software01.txt

Group or user names:

SYSTEM

preuss (WIN10-CPTR1104\preuss)

Guest (WIN10-CPTR1104\Guest)

Administrators (WIN10-CPTR1104\Administrators)

Add... Remove

Permissions for Guest

| | Allow | Deny |
|----------------|-------------------------------------|--------------------------|
| Full control | <input type="checkbox"/> | <input type="checkbox"/> |
| Modify | <input type="checkbox"/> | <input type="checkbox"/> |
| Read & execute | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Read | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Write | <input type="checkbox"/> | <input type="checkbox"/> |

OK Cancel Apply

5 KB

344 KB

6 KB

MSCTC (E:)

MSCTC (E:)

Network

9 items 1 item selected 5.60 KB

The presentation selects the "guest" account. The presentation insures only the desired permissions are checked under the "Allow" column. The presentation want "guest" to have "Read" and "Read & Execute" only as shown. The presentation selects "OK" to continue.

Documents

File Home Share View

This PC > Documents

Documents

software01.txt Properties

General Security Details Previous Versions

Object name: C:\Users\preuss\Documents\software01.txt

Group or user names:

- SYSTEM
- preuss (WIN10-CPTR1104\preuss)
- Guest (WIN10-CPTR1104\Guest)**
- Administrators (WIN10-CPTR1104\Administrators)

To change permissions, click Edit. [Edit...]

| Permissions for Guest | Allow | Deny |
|-----------------------|-------|------|
| Full control | | |
| Modify | | |
| Read & execute | ✓ | |
| Read | ✓ | |
| Write | | |
| Special permissions | | |

For special permissions or advanced settings, click Advanced. [Advanced]

[OK] [Cancel] [Apply]

The presentation sees the permission are correct. The presentation documents (screen shot) the settings and selects "OK" to continue.



File Explorer window showing the contents of the MSCTC (E:) drive. The address bar shows 'This PC > MSCTC (E:)'. The left sidebar shows the navigation pane with 'MSCTC (E:)' selected. The main pane displays a table of files:

| Name | Date modified | Type | Size |
|----------------------------------|--------------------|-----------------|----------|
| network_protocols_map_poster.iso | 8/31/2016 10:40 AM | Disc Image File | 5,142 KB |
| software01.txt | 9/22/2016 3:08 PM | Text Document | 6 KB |

A yellow callout box is overlaid on the main pane with the text: "The presentation copies the file to the USB drive as shown."

At the bottom of the window, it shows "2 items | 1 item selected 5.60 KB".

Recycle Bin

File Home Share View

This PC > MSCTC (E:)

- Documents
- Pictures
- cptr1104
- Word Module 1
- Word Module 2
- Word Module 3
- OneDrive
- This PC
 - Desktop
 - Documents
 - Downloads
 - Music
 - Pictures
 - Videos
- Local Disk (C:)
- MSCTC (E:)
- MSCTC (E:)
- Network

2 items | 1 item selected 5.60 KB

software01.txt Properties

General Details

software01.txt

Type of file: Text Document (.txt)

Opens with: Notepad [Change...]

Location: E:\

Size: 5.60 KB (5,744 bytes)

Size on disk: 32.0 KB (32,768 bytes)

Created: Today, September 23, 2016, 9:44:10 AM

Modified: Yesterday, September 22, 2016, 3:08:56 PM

Accessed: Today, September 23, 2016

Attributes: Read-only Hidden [Advanced...]

[OK] [Cancel] [Apply]

Search MSCTC (E:)

| Name | Size |
|------------|----------|
| Image File | 5,142 KB |
| Document | 6 KB |

The presentation right clicks on the file. Remember, this is the copy on the USB drive. The permissions are not under the "General" tab.

Recycle Bin

File Explorer: E:\

File Home Share View

This PC > MSCTC (E:)

- Documents
- Pictures
- cptr1104
- Word Module 1
- Word Module 2
- Word Module 3
- OneDrive
- This PC
 - Desktop
 - Documents
 - Downloads
 - Music
 - Pictures
 - Videos
 - Local Disk (C:)
 - MSCTC (E:)
 - MSCTC (E:)
 - Network

2 items | 1 item selected 5.60 KB

software01.txt Properties

General Details

| Property | Value |
|-------------------|--------------------------|
| File | |
| Name | software01.txt |
| Type | Text Document |
| Folder path | E:\ |
| Size | 5.60 KB |
| Date created | 9/23/2016 9:44 AM |
| Date modified | 9/22/2016 3:08 PM |
| Attributes | A |
| Availability | Available offline |
| Owner | Everyone |
| Computer | WIN10-CPTR1104 (this PC) |

[Remove Properties and Personal Information](#)

OK Cancel Apply

Search MSCTC (E:)

| Name | Size |
|------------|----------|
| Image File | 5,142 KB |
| Document | 6 KB |

The presentation right clicks on the file. Remember, this is the copy on the USB drive. The permissions are not under the "Details" tab. This file system must not be capable of setting permissions.



Recycle Bin



Most used

- Get Started
- Skype Preview
- Maps
- Mozilla Firefox
- People
- Calculator
- #
- 3D Builder
- A
- Access 2016
- Alarms & Clock
- C
- Calculator

Life at a glance

| | | |
|----------|-----|-----|
| 10a | 11a | 12p |
| | | |
| 62° | 64° | 67° |
| Moorhead | | |

Microsoft Edge

| | | |
|-----------------|---------------------|--------------------|
| Word 2016 | Excel 2016 | Command Prompt |
| Access 2016 | PowerPoint 2016 | Notepad |

Now, the presentation will use the command line to do the project.

Power

C:\> Command Prompt

— □ ×

```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.
```

```
C:\Users\preuss>cd Documents
```

```
C:\Users\preuss\Documents>
```

The presentation opens the command prompt as shown.
The "cd Documents" command makes life a bit easier.

Sometimes the screen is very different. The complete
command sequence to your Documents folder follows.

```
c:
cd %HOMEPATH%\Documents
```

C:\ Command Prompt

— □ ×

```
Microsoft Windows [Version 10.0.14393]  
R(c) 2016 Microsoft Corporation. All rights reserved.
```

```
C:\Users\preuss>cd Documents
```

```
C:\Users\preuss\Documents>fsutil fsinfo drives
```

```
Drives: A:\ C:\ D:\ E:\
```

```
C:\Users\preuss\Documents>_
```

The presentation uses the "fsutil" command as show to list all the attached drives.

C:\> Command Prompt

— □ ×

```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.
```

```
C:\Users\preuss>cd Documents
```

```
C:\Users\preuss\Documents>fsutil fsinfo drives
```

```
Drives: A:\ C:\ D:\ E:\
```

```
C:\Users\preuss\Documents>fsutil fsinfo volumeinfo c:
```

The presentation uses the "fsinfo" command to gather information about drive "c:" as shown.



Command Prompt

— □ ×

```
C:\Users\preuss\Documents>fsutil fsinfo volumeinfo c:
```

```
Volume Name :  
Volume Serial Number : 0xeb13cc0  
Max Component Length : 255  
File System Name : NTFS  
Is ReadWrite  
Supports Case-sensitive filenames  
Preserves Case of filenames  
Supports Unicode in filenames  
Preserves & Enforces ACL's  
Supports file-based Compression  
Supports Disk Quotas  
Supports Sparse files  
Supports Reparse Points  
Supports Object Identifiers  
Supports Encrypted File System  
Supports Named Streams  
Supports Transactions  
Supports Hard Links  
Supports Extended Attributes  
Supports Open By FileID  
Supports USN Journal
```

The results of "fsinfo" are shown. The presentation runs the "fsinfo" command as shown at the bottom. The >> sends the screen text to the file "drive_info01.txt". The file name may change, but ending the name with .txt is highly recommended.

```
C:\Users\preuss\Documents>fsutil fsinfo volumeinfo c: >> drive_info01.txt
```



C:\ Command Prompt

```
C:\Users\preuss\Documents>fsutil fsinfo volumeinfo e:.
```

The presentation uses the "fsinfo" command to gather information about drive "e:" as shown.

Command Prompt

```
C:\Users\preuss\Documents>fsutil fsinfo volumeinfo e:
```

```
Volume Name : MSCTC  
Volume Serial Number : 0x9627beba  
Max Component Length : 255  
File System Name : FAT  
Is ReadWrite  
Preserves Case of filenames  
Supports Unicode in filenames  
Supports Encrypted File System
```

```
C:\Users\preuss\Documents>fsutil fsinfo volumeinfo e: >> drive_info01.txt
```

```
C:\Users\preuss\Documents>
```

The results of "fsinfo" are shown. The presentation runs the "fsinfo" command as shown at the bottom. The >> sends the screen text to the file "drive_info01.txt". The file name may change, but ending the name with .txt is highly recommended.

Command Prompt

C:\Users\preuss\Documents>dir

Volume in drive C has no label.

Volume Serial Number is BEB1-3CC0

Directory of C:\Users\preuss\Documents

| | | | |
|------------|----------|-----------|---------------------------|
| 09/23/2016 | 09:48 AM | <DIR> | . |
| 09/23/2016 | 09:48 AM | <DIR> | .. |
| 09/21/2016 | 04:36 PM | | 4,261 accountinfo01.txt |
| 09/21/2016 | 08:22 AM | <DIR> | cptr1104 |
| 09/21/2016 | 01:49 PM | <DIR> | cptr1138 |
| 09/23/2016 | 09:05 AM | <DIR> | csci1110 |
| 08/22/2016 | 06:31 PM | <DIR> | Custom Office Templates |
| 09/21/2016 | 12:33 PM | | 352,256 Database1.accdb |
| 09/23/2016 | 09:49 AM | | 764 drive_info01.txt |
| 09/23/2016 | 08:50 AM | <DIR> | examples |
| 09/20/2016 | 03:02 PM | | 2,990 list01.txt |
| 08/29/2016 | 09:11 AM | <DIR> | pong |
| 09/22/2016 | 03:08 PM | | 5,744 software01.txt |
| | | 5 File(s) | 366,015 bytes |
| | | 8 Dir(s) | 47,820,484,608 bytes free |

C:\Users\preuss\Documents>icacls list01.txt /grant guest:(R)

The "dir" command lists all the files in the current folder. The presentation uses the "icacls" command to change the permission settings for "list01.txt"

The logon "guest" will have "Read" permission only to the file "list01.txt".

C:\ Command Prompt

— □ ×

```
C:\Users\preuss\Documents>icacls list01.txt /grant guest:(R)
processed file: list01.txt
Successfully processed 1 files; Failed processing 0 files

C:\Users\preuss\Documents>
```

The permission change for "guest" on the file "list01.txt" is successful.

Command Prompt

— □ ×

```
C:\Users\preuss\Documents>icacls list01.txt /grant guest:(R)
processed file: list01.txt
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt
list01.txt WIN10-CPTR1104\Guest:(R)
           NT AUTHORITY\SYSTEM:(I)(F)
           BUILTIN\Administrators:(I)(F)
           WIN10-CPTR1104\preuss:(I)(F)
```

```
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>
```

The presentation uses the "icacls" command to check the permission settings as shown.

Command Prompt

— □ ×

```
C:\Users\preuss\Documents>icacls list01.txt /grant guest:(R)
processed file: list01.txt
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt
list01.txt WIN10-CPTR1104\Guest:(R)
           NT AUTHORITY\SYSTEM:(I)(F)
           BUILTIN\Administrators:(I)(F)
           WIN10-CPTR1104\preuss:(I)(F)
```

```
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt >> drive_info01.txt
```

The presentation sends a copy of the permission settings to "drive__info01.txt" as shown.

The presentation is collecting all the required evidence in one file.

C:\ Command Prompt

— □ ×

```
C:\Users\preuss\Documents>icacls list01.txt /grant guest:(R)
processed file: list01.txt
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt
list01.txt WIN10-CPTR1104\Guest:(R)
           NT AUTHORITY\SYSTEM:(I)(F)
           BUILTIN\Administrators:(I)(F)
           WIN10-CPTR1104\preuss:(I)(F)
```

```
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt >> drive_info01.txt
```

```
C:\Users\preuss\Documents>copy list01.txt e:\
```

Since the file "list01.txt" is in the current folder, the presentation uses the shown "copy" command. This copies the file "list01.txt" to the root of drive "E:".

Command Prompt

— □ ×

```
C:\Users\preuss\Documents>icacls list01.txt /grant guest:(R)
processed file: list01.txt
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt
list01.txt WIN10-CPTR1104\Guest:(R)
            NT AUTHORITY\SYSTEM:(I)(F)
            BUILTIN\Administrators:(I)(F)
            WIN10-CPTR1104\preuss:(I)(F)
```

```
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt >> drive_info01.txt
```

```
C:\Users\preuss\Documents>copy list01.txt e:\
1 file(s) copied.
```

```
C:\Users\preuss\Documents>_
```

The copy is successful.

```
C:\Users\preuss\Documents>icacls list01.txt /grant guest:(R)
processed file: list01.txt
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls list01.txt
list01.txt WIN10-CPTR1104\Guest:(R)
           NT AUTHORITY\SYSTEM:(I)(F)
           BUILTIN\Administrators:(I)(F)
           WIN10-CPTR1104\preuss:(I)(F)
```

The presentation checks the permission settings for "list01.txt" on drive "E:" as shown.

```
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>icacls drive_info01.txt
```

```
C:\Users\preuss\Documents>icacls e:\list01.txt
1 file(s)
```

```
C:\Users\preuss\Documents>icacls e:\list01.txt
e:\list01.txt No permissions are set. All users have full control.
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\preuss\Documents>
```

```
C:\Users\preuss\Documents>icacls e:\list01.txt >> drive_info01.txt_
```

The presentation sends a copy of the "list01.txt" on drive "E:\\" to the file "drive__info01.txt" as shown.

Command Prompt

```
C:\Users\preuss\Documents>icacls e:\list01.txt >> drive_info01.txt
```

```
C:\Users\preuss\Documents>notepad drive_info01.txt_
```

The presentation uses notepad to view the collected data.

Command Prompt

C:\Users\nprouse\Documents>icacls e:\list01.txt >> drive_info01.txt

drive_info01.txt - Notepad

File Edit Format View Help

```
Volume Name :  
Volume Serial Number : 0xbeb13cc0  
Max Component Length : 255  
File System Name : NTFS  
Is ReadWrite  
Supports Case-sensitive filenames  
Preserves Case of filenames  
Supports Unicode in filenames  
Preserves & Enforces ACL's  
Supports file-based Compression  
Supports Disk Quotas  
Supports Sparse files  
Supports Reparse Points  
Supports Object Identifiers  
Supports Encrypted File System  
Supports Named Streams  
Supports Transactions  
Supports Hard Links  
Supports Extended Attributes  
Supports Open By FileID  
Supports USN Journal  
Volume Name : MSCTC  
Volume Serial Number : 0x9627beba  
Max Component Length : 255
```

This is a partial list of the data in "drive__info01.txt".