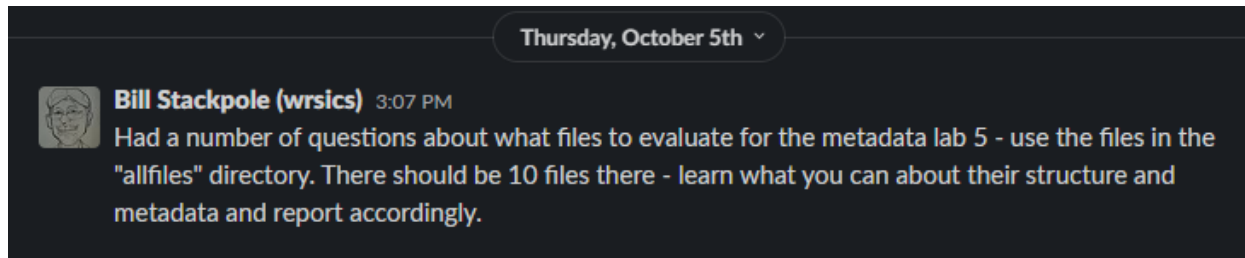


As mentioned in the slack announcement. We have to work with the metadata of the files in the "allfiles" directory. Announcement date **05/10/2023**.



Only command line tools are used in the **Kali Linux 2023.1**.

Tool used:

1. Exiftool v12.67

Bash script that I created:

[simplymetadata.sh](#)

How to use the script:

- **Exiftool v12.67** and **diff** commands must be installed kali 2023.1.
- The script takes only one argument and that is the directory path that contains only files, not any directories.
 - Command: `./simplymetadata.sh path/to/target/target/directory/`
- Set the file script permissions using this command: `chmod 750 ./simplymetadata.sh`

[file_metadata.txt](#)

[SECTION 1]

Command used: `exiftool path/to/target/directory`

See the file_metadata.txt under “**metadata of each file**” section

[SECTION 2]

Command used: `exiftool -a -u -g1 path/to/target/directory | grep -oP -- "----\K[^\-]*(?=----)" | sort -u`

See the file_metadata.txt under “**unique tags**” section

[SECTION 3]

Command used to scrub the metadata is: `exiftool -all= path/to/file`

File	Tool	Changeable Elements	Reason	Method
First.jpg	Exiftool	Exif Byte Order Make Camera Model Name Orientation X Resolution Y Resolution Resolution Unit Modify Date Y Cb Cr Positioning Exposure Time F Number Exif Version Date/Time Original Create Date Components Configuration Shutter Speed Value Aperture Value Brightness Value Max Aperture Value Metering Mode Light Source Flash Focal Length Flashpix Version Color Space Exif Image Width Exif Image Height Interoperability Index Interoperability Version Scene Type Custom Rendered Exposure Mode White Balance Digital Zoom Ratio Scene Capture Type Contrast Saturation Sharpness Compression Thumbnail Offset Thumbnail Length Aperture Shutter Speed Thumbnail Image	These are the only elements that could be changed or scrubbed. Notice how metadata like file name and file path are not in the list. The reason is that those data are critical for the file and are probably system data and could be removed, but they can also be changed along with the list of elements in the list.	Stored the metadata of the file in a temp.txt file. Second, Scrubbed the metadata. Third, stored the metadata of the file again in a temp_scrub.txt file. Finally, use the diff command to see the difference. The metadata that is removed are the most likely the ones that are changeable.

		Focal Length File Size File Modification Date/Time File Inode Change Date/Time		
First.pdf	Exiftool	File Size File Modification Date/Time File Access Date/Time File Inode Change Date/Time Title Author Keywords Creator Create Date Modify Date Producer	These are the only elements that could be changed or scrubbed. Notice how metadata like file name and file path are not in the list. The reason is that those data are critical for the file and are probably system data and could be removed, but they can also be changed along with the list of elements in the list.	Same method used
First.png *	Exiftool	No element	<p>Note: Exiftool error when scrubbing the metadata and could not change or delete any metadata</p> <p>The file extension is different from what the file type is in the metadata.</p> <p>Error: Not a valid PNG (looks more like a PDF) - ./allfiles/First.png</p>	Same method used
Second.jpg	Exiftool	File Size File Modification Date/Time File Access Date/Time File Inode Change Date/Time Exif Byte Order Make Camera Model Name	These are the only elements that could be changed or scrubbed. Notice how metadata like file name and file path are not in the	Same method used

		Orientation X Resolution Y Resolution Resolution Unit Modify Date Y Cb Cr Positioning Exposure Time F Number Exif Version Date/Time Original Create Date Components Configuration Shutter Speed Value Aperture Value Brightness Value Max Aperture Value Metering Mode Light Source Flash Focal Length MakerNotes Flashpix Version Color Space Exif Image Width Exif Image Height Interoperability Index Interoperability Version Scene Type Custom Rendered Exposure Mode White Balance Digital Zoom Ratio Scene Capture Type Contrast Saturation Sharpness Compression Thumbnail Offset Thumbnail Length	list. The reason is that those data are critical for the file and are probably system data and could be removed, but they can also be changed along with the list of elements in the list.	
Second.pdf*	Exiftool	No element	Note: Exiftool error when scrubbing the metadata and could not change or delete any metadata	Same method used

			<p>The file extension is different from what the file type is in the metadata.</p> <p>Error: Not a valid PDF (looks more like a JPEG) - ./allfiles/Second.pdf</p>	
Second.png	Exiftool	<p>> File Modification Date/Time : 2023:10:11 09:35:25-04:00</p> <p>> File Access Date/Time : 2023:10:11 09:35:25-04:00</p> <p>> File Inode Change Date/Time : 2023:10:11 09:35:25-04:00</p> <p>20,24d19</p> <p>< Pixels Per Unit X : 2835</p> <p>< Pixels Per Unit Y : 2835</p> <p>< Pixel Units : meters</p> <p>< Modify Date : 2013:07:31 14:39:29</p> <p>< Comment : Secret bank robbery plans</p>	<p>These are only metadata that can probably be changed by the tool. I choose to keep the value of the elements because there is a interesting comment.</p>	Same method used
Secrets.jpeg*	Exiftool	No element	<p>Note: Exiftool error when scrubbing the metadata and could not change or delete any metadata</p> <p>The file extension is different from what the file type is in the metadata.</p> <p>Error: Not a valid JPEG (looks more like a PDF) - ./allfiles/Secrets.jpeg</p>	Same method used
Secrets.jpg*	Exiftool	No element	<p>Note: Exiftool error when scrubbing the metadata and could not change or delete any metadata</p>	Same method used

			<p>The file extension is different from what the file type is in the metadata.</p> <p>Error: Not a valid JPG (looks more like a PDF) - ./allfiles/Secrets.jpg</p>	
Secrets.pdf*	Exiftool	No element	<p>Note: Exiftool error when scrubbing the metadata and could not change or delete any metadata</p> <p>The file password protected. Probably needs a password before scrubbing or changing any metadata.</p> <p>Error: Document is password protected (use Password option) - ./allfiles/Secrets.pdf</p>	Same method used
Secrets.png*	Exiftool	No element	<p>Note: Exiftool error when scrubbing the metadata and could not change or delete any metadata</p> <p>The file extension is different from what the file type is in the metadata.</p> <p>Error: Not a valid PNG (looks more like a PDF) - ./allfiles/Secrets.png</p>	Same method used