

CREATING CHECKSUMS IN MD5SUMMER: INSTRUCTIONS

Checksums are an important tool for digital preservation that are used to ensure that a digital file or collection has not changed over time. A checksum is a unique set of letters and numbers that acts like a fingerprint for a digital file in that no two files have the same checksum. If a file is altered for any reason, the checksum will change. Checksums can reveal if a file has changed in any way. A file that has changed unexpectedly may be corrupt, which should prompt further investigation. One commonly used checksum is the MD5 checksum (abbreviation of *Message-Digest*).

MD5summer is an application for Microsoft Windows 9x, NT, ME, 2000 and XP which generates and verifies MD5 checksums. Its output file is compatible with the output of the Linux GNU MD5Sum, and it also reads Linux generated files. It is released under the General Public License and can be downloaded here: <u>http://www.md5summer.org/download.html</u>

Running a checksum using MD5Summer

- 1. Open MD5Summer.
- 2. Choose a folder from your directory list.
- 3. Click Create sums.



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cg145b01f02_sampledoc1. cg145b01f03_sampledoc2. cg145b01f03_sampledoc3. cg145b01f04_sampledoc10 cg145b01f04_sampledoc12 cg145b01f04_sampledoc12 cg145b01f04_sampledoc12 cg145b01f04_sampledoc14 cg145b01f04_sampledoc15 cg145b01f04_sampledoc15 cg145b01f04_sampledoc16 cg145b01f04_sampledoc16 cg145b01f04_sampledoc16 cg145b01f04_sampledoc16	olders:	Number o	f Items: 0
Select All Clear List	cg145b01f02_sample cg145b01f03_sample cg145b01f03_sample cg145b01f04_sample cg145b01f04_sample cg145b01f04_sample cg145b01f04_sample cg145b01f04_sample cg145b01f04_sample	edoc1. edoc2. edoc3 edoc10 edoc12 edoc12 edoc13 edoc14 edoc15 edoc15 edoc15	
	Select All	Clear List	OK Capics

- 5. Click **Add** Once the desired files are selected.
- 6. Click **OK** and a dialog box will pop up to save the .md5 file.

C:\Users\lotus.norton-wisla\Deskto C:\Users\lotus.norton-wisla\De
C:\Users\lotus.norton-wisla\Deskto C:\Users\lotus.norton-wisla\Deskto C:\Users\lotus.norton-wisla\Deskto C:\Users\lotus.norton-wisla\Deskto C:\Users\lotus.norton-wisla\Deskto C:\Users\lotus.norton-wisla\Deskto

7. Name the checksum file and **Save** it within the folder you are checking. Then **Save**.

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Verifying Checksums in MD5Summer

After you have created a checksum, you will want to check it periodically to ensure that your files have not changed unexpectedly. Follow the instructions below to verify that your files have not changed.

- 1. Open MD5Summer from your Desktop.
- 2. Click Verify sums.
- 3. Select the checksum file (.md5 extension) you wish to verify.

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œ.	Name	*	Date modified	Туре
Recent Places	Sample Fil	les for Running Checksums.md5	1/7/2016 12:54 PM	MD5 File
Desktop				
A COLOR				
Libraries				
Computer				
	•	m		,
Network	File name:	m Sample Files for Running Checksu	ms 🔻	• Open
Network	 ✓ File name: Files of type: 	m Sample Files for Running Checksu All MD5 files (*.md5;*.bd)	ms •	, Open Cancel
Network	File name: Files of type:	III Sample Files for Running Checksu All MD5 files (*.md5;*.bd) Scanning WSU-Univ-wid	ms	Vpen Cancel

4. The program will compare the current files to the previously generated checksum. If nothing has changed, a green dot will appear next to all files. This means that the file is OK/Done (or unchanged).

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5. If you would like to see what happens when a file is changed, change the filename of one of the files, delete a file, or change the file in another way.

6. Click **Verify Sums** again. The following screenshot shows the results of manually changing the filename, resulting in an error: "Checksum did not match" with a red dot next to the file. The same result would come from any other change to the file, such as data loss or deletion.

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File		MD5 Has	h	
C145B2F13_web_645a	- Copy.tif	Checksu	m did not match.	
C145B2F13_web_645e	- Copy.tif	08b3dc1	08eef87a162b976d1ad477d5c	
C145B2F13_web_645g	- Copy.tif	b5f0320	e9a5e3662bf8d520ca9c591fe	
C145B2F13_web_649 ·	- Copy.tif	3f17f36	72f968829d5efb375596db75b	
C145B2F13_web_650 ·	- Copy.tif	c8237e0	1734bbdaa913a1ed0dfe83db2	
C145B2F13_web_651 ·	- Copy.tif	241f4be	d938ae95cc45e70a684ffed0a	
cg145b01f02_sampled	doc1.pdf	263274a	1c2a4bd377319f0f7085d597a	
cg145b01f03_sampled	doc2.pdf	dfaa5f7	7781b4288e9057a0e4d16c900	
cg145b01f03_sampled	doc3.pdf	abdb643	6e75e5d2be3df8157b67e1166	
cg145b01f04_sampled	doc10.pdf	c3b1eba	c6e20d8107ef9124dca958e6e	•
<pre><ey done="" ok="" pre="" processing<="" unprocessed=""></ey></pre>	Batch (26 of 2 File:	6): 100%	File Information Path: C:\Users\lotus.norton-wisla\Des Name: cg145b02f10_sampledoc20.pdf	:kt
Error (1 so far) 3 Sec	Save	Close	Size: 447.87 Kb	

7. Investigate the changed file. If the change is due to an intentional action by you or your institution, then run another checksum to replace the old checksum. If the change is not intentional, look at the last modified date and open the file to see if there is any meaningful difference. If the file is corrupt or cannot be recovered, you will need to replace it with a backup. This action should be recorded and the directory drive containing the file should be monitored closely to ensure that the corrupted file is not a sign of equipment failure. After the problem has been fixed, create another checksum to replace the old checksum.