

**NAME**

verify\_manifest - Verify a checksum manifest of a folder or file

**SYNOPSIS**

```
verify_manifest -i input_path [-m manifest_file]
```

```
verify_manifest -h | -x
```

**DESCRIPTION**

**Bash AVpres** is a collection of Bash scripts for audio-visual preservation. One of these small programs is **verify\_manifest**. It creates a checksum manifest of a folder or file.

Bash version 3.2 or later is strongly recommended. We advise to use the current version 5.2.

**OPTIONS****BASIC OPTIONS**

**-i** *input\_path*, **--input=***input\_path*  
path to an input folder or file

**-m** *manifest\_file*, **--manifest=***manifest\_file*  
path to the manifest file

If this parameter is not passed, then the script uses for a folder:

```
<input_path>_<algorithm>.txt
```

and for a file:

```
<input_path>_<extension>_<algorithm>.txt
```

**ADVANCED OPTIONS**

The arguments of the advanced options can be overwritten by the user. Please remember that any string containing spaces must be quoted, or its spaces must be escaped.

**--algorithm=**(*xxh32|xxh64|xxh128|md5|sha1|sha256|sha512|crc32*)

We advise to use a faster non-cryptographic hash functions, because we consider that, for archival purposes, there is no necessity to apply a more complex unkeyed cryptographic hash function. The algorithm name can be passed in upper or lower case letters.

The default algorithm is xxHash 128:

**--algorithm=xxh128**

Note that until end of 2020 the default algorithm was MD5, which has the same checksum size than the xxHash 128 algorithm. Therefore, if you verify files with an MD5 checksum, then you may pass the option **--algorithm=md5** in order to speed-up the verification.

Also xxHash 32 and CRC-32 have the same checksum size. If the algorithm is not specified, then xxHash 32 is checked before CRC-32.

The script needs external commands to compute recursively the hash checksums of all elements inside the folder. Run either **make\_manifest -x** or **make\_manifest --options** to see the actual default tools on a specific computer.

**--xxh32='/bin/xxhsum -H32'**

xxHash 32 command

**--xxh64='/bin/xxhsum -H64'**

xxHash 64 command

**--xxh128='/bin/xxhsum -H128'**

xxHash 128 command

**--md5='/bin/md5sum'**

MD5 command

**--sha1='/bin/sha1sum'**

SHA-1 command

**--sha256='/bin/sha256sum'**

SHA-256 command

**--sha512='/bin/sha512sum'**

SHA-512 command

**--crc32='/bin/crc32'**

CRC-32 command

**--exclusion=(*file\_list*)**

The exclusion *file\_list* is defined as an array and its default value is:

```
exclusion=( '.DS_Store' 'desktop.ini' )
```

To avoid any exclusion, use an empty array:

```
exclusion=()
```

Output file default parameters:

**--suffix='<algorithm>'**

The suffix is inserted at the end of the filename, immediately before the period and the extension.

Note that a preceding underscore, if wished, must be added.

**--extension='txt'**

As it is a text file the default value is 'txt'.

## INFORMATIVE OPTIONS

**-h, --help**

display a help message

**-x, --options**

display the advanced options with their default arguments and indicate if a local configuration has been defined or not

## NOTES

The '.DS\_Store' files generated by macOS and the 'desktop.ini' files generated by Windows are deleted before verifying the checksum manifest. You can modify the default exclusion file list in the configuration file.

## CONFIGURATION FILE

An external configuration file

```
${HOME}/.config/AVpres/Bash_AVpres/verify_manifest.txt
```

can be defined, allowing the script to import alternate default values for the following options:

default\_algorithm

md5

sha1

sha256

sha512

xxh32  
xxh64  
xxh128  
crc32  
suffix  
extension  
exclusion

## LOG FILES

Temporary log files are stored at

```
/tmp/AVpres/verify_manifest.XXXXXXXXXX
```

The log files can be used for debugging, for example by running **cat** on the address prompted with fatal error messages:

```
cat /tmp/AVpres/verify_manifest.XXXXXXXXXX
```

## SEE ALSO

Yann Collet: "xxHash fast digest algorithm", version 0.1.1, 2018-10-10  
[https://github.com/Cyan4973/xxHash/blob/dev/doc/xxhash\\_spec.md](https://github.com/Cyan4973/xxHash/blob/dev/doc/xxhash_spec.md)

**RFC 1321**, "The MD5 Message-Digest Algorithm", April 1992  
<https://www.rfc-editor.org/info/rfc1321>

**RFC 3174**, "US Secure Hash Algorithm (SHA1)", September 2001  
<https://www.rfc-editor.org/info/rfc3174>

"Descriptions of SHA-256, SHA-384, and SHA-512"  
<https://web.archive.org/web/20130526224224/http://csrc.nist.gov/groups/STM/cavp/documents/shs/sha256-384-512.pdf>

**make\_manifest(1)** and **update\_manifest(1)**.

**xxhsum(1)**, **md5sum(1)**, **sha1sum(1)**, **sha256sum(1)** and **sha512sum(1)**.

## COPYRIGHT

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## LICENSE

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#### **DISCLAIMER**

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