

How to Validate the Integrity of a Downloaded File from Cisco.com

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Introduction

This document shows how to easily verify the checksum of a file downloaded off the Cisco Download Software site onto a Windows, Mac or Linux PC and on any MDS or NX-OS switch.

How to Validate the Integrity of a Downloaded File from Cisco.com?

From the Cisco Download Software link, place the cursor over the file you want to download and this gives additional file details, which includes the MD5 and SHA512 checksum, as shown in the image:

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MDS 9148S 16G Multilayer Fabric Switch

The screenshot shows the Cisco Download Software interface for the MDS 9148S 16G Multilayer Fabric Switch. The main content area displays a table of file information for Release 8.1(1). A 'Details' popup window is open, showing the following information:

File Information	Release Date	Size
Cisco MDS 9148S Multilayer Fabric Switch - Kick Start Image for NXOS 8.1(1) m9100-s5ek9-kickstart-mz.8.1.1.bin	03-MAY-2017	23.85 MB

Description:	Cisco MDS 9148S Multilayer Fabric Switch - Kick Start Image for NXOS 8.1(1)
Release:	8.1(1)
Release Date:	03/May/2017
File Name:	m9100-s5ek9-kickstart-mz.8.1.1.bin
Size:	23.85 MB (25008128 bytes)
MD5 Checksum:	2dc155945b35f96e129ca8e143780255
SHA512 Checksum:	8ed2c70b879ed76be2f149f70a1d35c9...

Additional links in the details popup include: [MDS-Release Notes](#) | [Release Notes for 8.1\(1\)](#) | [Field Notices](#)

On a Windows PC, there is an inbuilt tool **certutil** which you can use with the MD5 or SHA512 hash algorithms (amongst others) to establish the unique checksum of any file.

certutil -hashfile <filename> MD5|SHA512

Using the above m9100-s5ek9-kickstart-mz.8.1.1.bin file as an example:

```
c:\Temp>certutil -hashfile m9100-s5ek9-kickstart-mz.8.1.1.bin MD5
MD5 hash of file m9100-s5ek9-kickstart-mz.8.1.1.bin:
2d c1 55 94 5b 35 f9 6e 12 9c a8 e1 43 78 02 55
CertUtil: -hashfile command completed successfully.
```

```
c:\Temp>certutil -hashfile m9100-s5ek9-kickstart-mz.8.1.1.bin SHA512
SHA512 hash of file m9100-s5ek9-kickstart-mz.8.1.1.bin:
8e d2 c7 0b 87 9e d7 6b e2 f1 49 f7 0a 1d 35 c9 2e 75 75 bc 2f 88 1b 49 73 b6 a4 a8 db 44 98 78
2d 14 5d 6d a6 f4 e5 08 71 ce 98 21 86 2a 76 a7 26 72 2b e3 b1 fc 0b a6 08 12 9e c7 3d 6e c2 ff
CertUtil: -hashfile command completed successfully.
c:\Temp>
```

On a Mac, you can use **md5** or **shasum -a 512 <filename>** to achieve this:

```
$ md5 m9100-s5ek9-kickstart-mz.8.1.1.bin
MD5 (m9100-s5ek9-kickstart-mz.8.1.1.bin) = 2dc155945b35f96e129ca8e143780255
```

```
$ shasum -a 512 m9100-s5ek9-kickstart-mz.8.1.1.bin
8ed2c70b879ed76be2f149f70ald35c92e7575bc2f881b4973b6a4a8db4498782d145d6da6f4e50871ce9821862a76a7
26722be3b1fc0ba608129ec73d6ec2ff m9100-s5ek9-kickstart-mz.8.1.1.bin
```

On a Linux or Unix machine, use **md5sum** or **sha512sum** typically located in **/usr/bin** i.e. :

```
$ md5sum m9100-s5ek9-kickstart-mz.8.1.1.bin
2dc155945b35f96e129ca8e143780255 m9100-s5ek9-kickstart-mz.8.1.1.bin
```

```
$ sha512sum m9100-s5ek9-kickstart-mz.8.1.1.bin
8ed2c70b879ed76be2f149f70ald35c92e7575bc2f881b4973b6a4a8db4498782d145d6da6f4e50871ce9821862a76a7
26722be3b1fc0ba608129ec73d6ec2ff m9100-s5ek9-kickstart-mz.8.1.1.bin
```

Once the file is transferred to the MDS or Nexus bootflash, you can check the **md5sum** or **sha512sum** with:

```
MDSswitch# show file bootflash:m9100-s5ek9-kickstart-mz.8.1.1.bin ?
<CR>
> Redirect it to a file
>> Redirect it to a file in append mode
cksum Displays CRC checksum for a file
md5sum Displays MD5 checksum for a file
sha256sum Displays SHA256 checksum for a file
sha512sum Displays SHA512 checksum for a file
| Pipe command output to filter
```

```
MDSswitch# show file bootflash:m9100-s5ek9-kickstart-mz.8.1.1.bin md5sum
2dc155945b35f96e129ca8e143780255
```

```
MDSswitch# show file bootflash:m9100-s5ek9-kickstart-mz.8.1.1.bin sha512sum
8ed2c70b879ed76be2f149f70ald35c92e7575bc2f881b4973b6a4a8db4498782d145d6da6f4e50871ce9821862a76a7
26722be3b1fc0ba608129ec73d6ec2ff
```

From above, you can see that the m9100-s5ek9-kickstart-mz.8.1.1.bin file off the Cisco Download Software site, the Windows, Mac or Linux PC and the MDS switch has the same **md5sum** and **sha512sum** characters.

This confirms the validity of the file transferred to the switch.

Note: Earlier NX-OS versions may not have the **sha512sum** option but **md5sum** should be present on all versions.