How to verify the checksum of a downloaded file in Windows

Here is a way of verifying the checksum, for example, of a BIOS update file that would be downloaded from Dell Support website for the purpose of updating the BIOS on the motherboard of a particular model Dell PowerEdge T110 II Server.

Dell's recommendation with respect to the downloaded file:

To ensure the integrity of your download, please verify the checksum value.

MD5: 7c68c361de9a3b38fa5aa2cb6e70e1d2

SHA1: 6e58d7caccb6a626d5ffc8f702bb444358ea5c5d

SHA-256: f1ec6eea936a0fffed580e6c301149054cd4918113d0aea3b800945c607027bf

Steps to verify the checksum.

1. In Windows, open a command prompt; that is, right click the Windows Start button and enter "cmd.exe" (without the quotes) and click OK, or, next to Start button, search "cmd" or "cmd.exe" or "command prompt" (without the quotes) and open the top search results for cmd.exe or command prompt. A command prompt window should open as follows.

```
Microsoft Windows [Version 10.0.19045.3803]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Username>
```

1. Change to the subdirectory path where the downloaded file is located

```
C:\Users\Username> cd c:\users\pc\downloads\T110-
II_BIOS_5R0T5_WN64_2.10.0_01\
```

2. Run the CertUtil -hashfile command and insert the filename of the downloaded file and append either SHA256 or MD5 or SHA1

```
c:\Users\Username\Downloads\T110-II_BIOS_5R0T5_WN64_2.10.0_01> certUtil -
hashfile T110-II_BIOS_5R0T5_WN64_2.10.0_01.EXE SHA256

SHA256 hash of T110-II_BIOS_5R0T5_WN64_2.10.0_01.EXE:
f1ec6eea936a0fffed580e6c301149054cd4918113d0aea3b800945c607027bf

CertUtil: -hashfile command completed successfully.
```

```
c:\Users\Username\Downloads\T110-II_BIOS_5R0T5_WN64_2.10.0_01>
```

3. Visually compare the generated hash checksum value in the above example to the expected given SHA-256 checksum value. If they match, then you have verified the integrity of the downloaded file.

```
Generated SHA256:
f1ec6eea936a0fffed580e6c301149054cd4918113d0aea3b800945c607027bf

Expected SHA-256:
f1ec6eea936a0fffed580e6c301149054cd4918113d0aea3b800945c607027bf
```

Here is another example, this time generating an MD5 checksum.

```
c:\Users\Username\Downloads\T110-II_BIOS_5R0T5_WN64_2.10.0_01> certUtil -
hashfile T110-II_BIOS_5R0T5_WN64_2.10.0_01.EXE MD5

MD5 hash of T110-II_BIOS_5R0T5_WN64_2.10.0_01.EXE:
7c68c361de9a3b38fa5aa2cb6e70e1d2

CertUtil: -hashfile command completed successfully.

c:\Users\Username\Downloads\T110-II_BIOS_5R0T5_WN64_2.10.0_01>
```

Visually compare the expected MD5 checksum value with the generated MD5 checksum value:

```
Expected MD5: 7c68c361de9a3b38fa5aa2cb6e70e1d2

Generated MD5: 7c68c361de9a3b38fa5aa2cb6e70e1d2
```