

(SS64)

CMD

Syntax

Search

Windows Environment Variables

Environment variables are mainly used within batch files, they can be created, modified and deleted for a session using the [SET](#) command. To make permanent changes, use [SETX](#)

Variables can be displayed using either [SET](#) or [ECHO](#).

Variables have a percent sign on both sides: %ThisIsAVariable%

The variable name can include spaces, punctuation and mixed case: %_Another Ex.ample%

(This is unlike [Parameter variables](#) which only have one % sign and are always one character long: %A)

A variable name may include any of the following characters:

A-Z, a-z, 0-9, # \$ ' () * + , - . ? @ [] _ ` { } ~

Array variables

Unlike PowerShell, which [fully supports arrays](#), there is no built in support for array variables within the CMD shell. However with some effort you can replicate this functionality using a series of separate variables, named to represent the array:

```
Set elem[1]=First element
Set elem[2]=Second one
Set elem[3]=The third one
```

To perform array indexing operations with these, use [EnableDelayedExpansion](#) and a reference like !elem[%var%! this is explained fully in [this StackOverflow Q/A](#).

Standard (built-in) Environment Variables

Variable	Volatile (Read-Only)	Default value in Windows 7/10/2008 (assuming the system drive is C:)
ALLUSERSPROFILE		C:\ProgramData
APPDATA		C:\Users\{username}\AppData\Roaming
CD	Y	The current directory (string).
ClientName	Y	Terminal servers only - the ComputerName of a remote host.
CMDEXTVERSION	Y	The current Command Processor Extensions version number. (NT = "1", Win2000+ = "2".)
CMDCMDLINE	Y	The original command line that invoked the Command Processor .
CommonProgramFiles		C:\Program Files\Common Files
COMMONPROGRAMFILES (x86)		C:\Program Files (x86)\Common Files
COMPUTERNAME		{computername}
COMSPEC		C:\Windows\System32\cmd.exe or if running a 32 bit WOW - C:\Windows\SysWOW64\cmd.exe
DATE	Y	The current date using same region specific format as DATE .
ERRORLEVEL	Y	The current ERRORLEVEL value, automatically set when a program exits.
FPS_BROWSER_APP_PROFILE_STRING FPS_BROWSER_USER_PROFILE_STRING		Internet Explorer Default These are undocumented variables for the Edge browser in Windows 10.
HighestNumaNodeNumber	Y (hidden)	The highest NUMA node number on this computer.

HOMEDRIVE	Y	C:
HOMEPATH	Y	\Users\{username}
LOCALAPPDATA		C:\Users\{username}\AppData\Local
LOGONSERVER		\\{domain_logon_server}
NUMBER_OF_PROCESSORS	Y	The Number of processors running on the machine.
OS	Y	Operating system on the user's workstation.
PATH	User and System	C:\Windows\System32\;C:\Windows\;C:\Windows\System32\Wbem;{plus program paths}
PATHEXT		.COM; .EXE; .BAT; .CMD; .VBS; .VBE; .JS ; .WSF; .WSH; .MSC The syntax is like the PATH variable - semicolon separators.
PROCESSOR_ARCHITECTURE	Y	AMD64/IA64/x86 This doesn't tell you the architecture of the processor but only of the current process, so it returns "x86" for a 32 bit WOW process running on 64 bit Windows. See detecting OS 32/64 bit
PROCESSOR_ARCHITECTURE		=%ProgramFiles% (only available on 64 bit systems)
PROCESSOR_IDENTIFIER	Y	Processor ID of the user's workstation.
PROCESSOR_LEVEL	Y	Processor level of the user's workstation.
PROCESSOR_REVISION	Y	Processor version of the user's workstation.
ProgramW6432		=%PROCESSOR_ARCHITECTURE% (only available on 64 bit systems)
ProgramData		C:\ProgramData
ProgramFiles		C:\Program Files or C:\Program Files (x86)
ProgramFiles(x86) ¹		C:\Program Files (x86)
PROMPT		Code for current command prompt format, usually \$P\$G C:>
PSModulePath		%SystemRoot%\system32\WindowsPowerShell\v1.0\Modules\
Public		C:\Users\Public
RANDOM	Y	A random integer number, anything from 0 to 32,767 (inclusive).
%SessionName%		Terminal servers only - for a terminal server session, SessionName is a combination of the connection name, followed by #SessionNumber. For a console session, SessionName returns "Console".
SYSTEMDRIVE		C:
SYSTEMROOT		By default, Windows is installed to C:\Windows but there's no guarantee of that, Windows can be installed to a different folder, or a different drive letter. systemroot is a read-only system variable that will resolve to the correct location. NT 4.0, Windows 2000 and Windows NT 3.1 default to C:\WINNT
TEMP and TMP	User Variable	C:\Users\{Username}\AppData\Local\Temp Under XP this was {username}\Local Settings\Temp
TIME	Y	The current time using same format as TIME .
UserDnsDomain	Y User Variable	Set if a user is a logged on to a domain and returns the fully qualified DNS domain that the currently logged on user's account belongs to.
USERDOMAIN		{userdomain}
USERDOMAIN_roamingprofile		The user domain for RDS or standard roaming profile paths. Windows 8/10/2012 (or Windows 7/2008 with Q2664408)

USERNAME	{username}
USERPROFILE	%SystemDrive%\Users\{username} This is equivalent to the \$HOME environment variable in Unix/Linux
WINDIR	%WinDir% pre-dates Windows NT and seems to be superseded by %SystemRoot% Set by default as windir=%SystemRoot% %windir% is a regular variable and can be changed, which makes it less robust than %systemroot%

¹ Only on [64 bit systems](#), is used to store 32 bit programs.

Unless stated otherwise, all the variables above are System variables

Environment variables are stored in the registry:

User Variables: HKEY_CURRENT_USER\Environment

System Variables: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Environment

By default, files stored under **Local Settings** do not roam with a roaming profile.

Dynamic environment variables are read-only and are computed each time the variable is expanded. When all variables are listed with SET, these will not appear in the list. Do not attempt to directly SET a dynamic variable.

Undocumented Dynamic variables (read only)

%_APPDIR_% The directory path to the current application .exe, terminated with a trailing backslash. (Global) - [discuss](#)

%_CD_% The current directory, terminated with a trailing backslash. (Global)

%C:_% The current directory of the C: drive.

%D:_% The current directory of the D: drive if drive D: has been accessed in the current CMD session.

%DPATH% Related to the (deprecated) [DPATH](#) command.

%=ExitCode% The most recent exit code returned by an external command, such as CMD /C EXIT *n*, converted to **hex**.

%=ExitCodeAscii% The most recent exit code returned by an external command, as [ASCII](#). (Values 0-32 do not display because those map to ASCII control codes.)

%FIRMWARE_TYPE% The boot type of the system: [Legacy](#) ,UEFI,Not implemented ,Unknown Windows 8/2012.

%KEYS% Related to the (deprecated) KEYS command.

More detail on these undocumented variables can be found in [this stackoverflow answer](#) from Dave Benham.

Undocumented Dynamic variables (read/write)

%_COMPAT_LAYER% Set the ExecutionLevel to either RunAsInvoker (asInvoker), [RunAsHighest](#)(highestAvailable) or RunAsAdmin(requireAdministrator) for more see [elevation](#) and [Q286705](#) / [Application Compatibility Toolkit](#) for other Compatibility Layers (colours,themes etc).

Pass variables between batch scripts

There are several ways to pass values between batch files, or between a batch file and the command line, see the [CALL](#) and [SETLOCAL](#) pages for full details.

A child process by default inherits a copy of all environment variables from its parent, this makes environment variables unsuitable for storing *secret* information such as API keys or user passwords, especially in rare occasions like crashes where a crash log will often include the full OS environment at the time of the crash. PowerShell/Get-Credential is a more secure approach.

"Men may be convinced, but they cannot be pleased against their will. But though taste is obstinate, it is very variable, and time often prevails when arguments have failed" ~ Samuel Johnson

Related:

[PowerShell](#) - Working with Environment variables
[User Shell Folders](#) - Standard folder locations.

[Detecting 32 vs 64 bit Windows](#)

[CALL](#) - Evaluate environment variables

[SET](#) - View environment variables, set local variables

[SETX](#) - Set environment variables

[Q100843](#) - The four types of environment variable

[Q286705](#) - Set compatibility variables

[Q242557](#) - Registry Settings for Folder Redirection

[StackOverflow](#) - Storing a Newline in a variable

[Managing Roaming User Data Deployment Guide](#) - Microsoft.com (Word Doc)