POWERSHELL MODULE SYSINFO

24/10/2018 by STEPHANOS — 5 COMMENTS

In this post I will provide you with some information about PowerShell Module SysInfo, which I wrote and published in PowerShell Gallery. This is my second module that I publish and I hope that you will like it. It is being sometime to write a post as I was preparing this module along with its documentation of each command included.

Lets see below what it does.

Module description

The aim of SysInfo module to provide an easier way to system administrators retrieve the information that they want from their systems and the output would be easily readable.

SysInfo module will help you get the system information that you need from local and remote machines. It is a simple module that will allow you to utilize CIM cmdlets in an easier way. Instead of trying to find the class name and filter based on the return code to get the exact data that you need, you can get what you need with SysInfo module. It utilizes CIM cmdlets to get the information from local and remote computer but the output of the properties of the system components has no codes. Codes have been converted into a more readable format, giving you the actual meaning of each code. As different types of sizes are provided in bytes, which in many times this is not helpful, additional properties will be included in the output, providing you the size also in other format that will help you out perform your job.

Let see the differences of using the CIM cmdlets to get system information and cmdlet of SysInfo module.

Easy to remember cmdlets

Cmdlets have been named based on the class name that is used to get the information from the system. This will help those that they are already using

[adinserter name="In Article"]

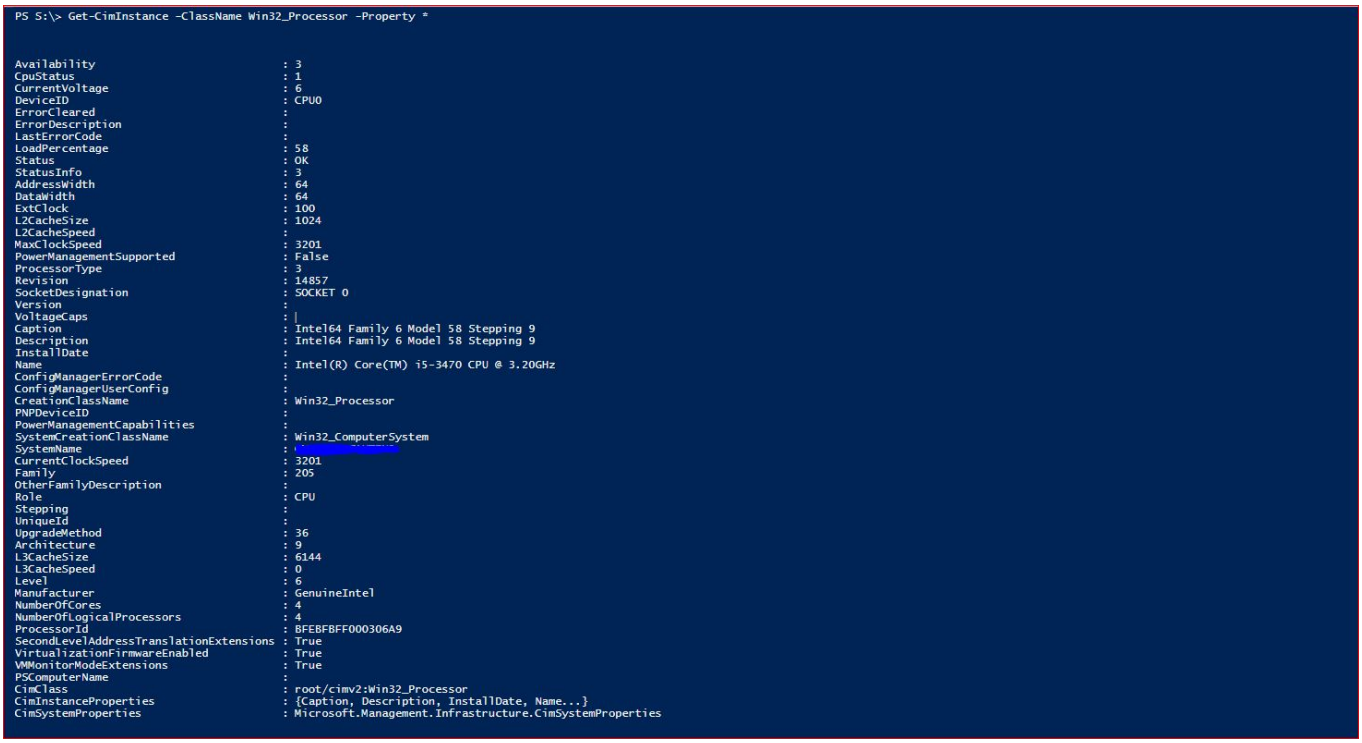
Example 1

Get processor information

CIM cmdlet:

```
Get-CimInstance -ClassName Win32_Processor -Property *
```

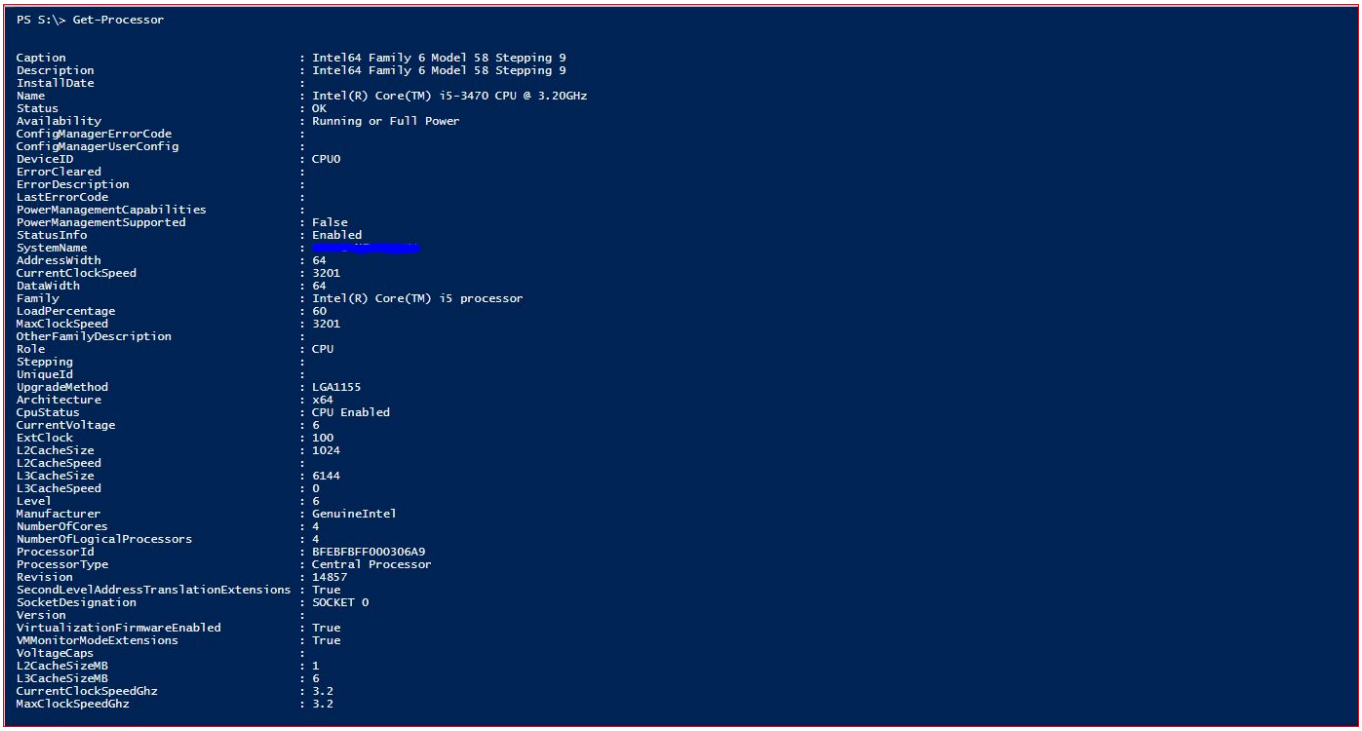
CIM Output:



SysInfo cmdlet:

```
Get-Processor
```

SysInfo Output:



```
PS S:\> Get-Processor


Caption                                 : Intel64 Family 6 Model 58 Stepping 9
Description                             : Intel64 Family 6 Model 58 Stepping 9
InstallDate                             :
Name                                    : Intel(R) Core(TM) i5-3470 CPU @ 3.20GHz
Status                                  : OK
Availability                            : Running or Full Power
ConfigManagerErrorCode                  :
ConfigManagerUserConfig                 :
DeviceID                                : CPU0
ErrorCleared                            :
ErrorDescription                        :
LastErrorCode                           :
PowerManagementCapabilities             :
PowerManagementSupported                : False
StatusInfo                              : Enabled
SystemName                              : [redacted]
AddressWidth                            : 64
CurrentClockSpeed                       : 3201
DataWidth                               : 64
Family                                  : Intel(R) Core(TM) i5 processor
LoadPercentage                          : 60
MaxClockSpeed                           : 3201
OtherFamilyDescription                  :
Role                                    : CPU
Stepping                                :
UniqueId                                :
UpgradeMethod                           : LGA1155
Architecture                            : x64
CpuStatus                               : CPU Enabled
CurrentVoltage                          : 6
ExtClock                                : 100
L2CacheSize                             : 1024
L2CacheSpeed                            :
L3CacheSize                             : 6144
L3CacheSpeed                            : 0
Level                                   : 6
Manufacturer                            : GenuineIntel
NumberOfCores                           : 4
NumberOfLogicalProcessors               : 4
ProcessorId                             : BFEBFBFF000306A9
ProcessorType                           : Central Processor
Revision                                : 14857
SecondLevelAddressTranslationExtensions : True
SocketDesignation                       : SOCKET 0
Version                                 :
VirtualizationFirmwareEnabled           : True
VMMonitorModeExtensions                 : True
VoltageCaps                             :
L2CacheSizeMB                           : 1
L3CacheSizeMB                           : 6
CurrentClockSpeedGhz                    : 3.2
MaxClockSpeedGhz                        : 3.2
```

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Example 2

Get information of local disk on a computer system.

CIM cmlet:

```
Get-CimInstance -ClassName Win32_LogicalDisk -Property * | Whe
```

CIM Output:

```
PS S:\> Get-CimInstance -ClassName Win32_LogicalDisk -Property * | Where-Object {$_.DriveType -eq 3}


Status                    :
Availability              :
DeviceID                  : C:
StatusInfo                :
Caption                   : C:
Description               : Local Fixed Disk
InstallDate               :
Name                      : C:
ConfigManagerErrorCode    :
ConfigManagerUserConfig   :
CreationClassName         : Win32_LogicalDisk
ErrorCleared              :
ErrorDescription          :
LastErrorCode             :
PNPDeviceID               :
PowerManagementCapabilities :
PowerManagementSupported  :
SystemCreationClassName   : Win32_ComputerSystem
SystemName                : [redacted]
Access                    : 0
BlockSize                 :
ErrorMethodology          :
NumberOfBlocks            :
Purpose                   :
FreeSpace                 : 65881661440
Size                      : 240054693888
Compressed                : False
DriveType                 : 3
FileSystem                : NTFS
MaximumComponentLength    : 255
MediaType                 : 12
ProviderName              :
QuotasDisabled            :
QuotasIncomplete          :
QuotasRebuilding          :
SupportsDiskQuotas        : False
SupportsFileBasedCompression : True
VolumeDirty               :
VolumeName                :
VolumeSerialNumber        : BA47DDCD
PSComputerName            :
CimClass                  : root/cimv2:Win32_LogicalDisk
CimInstanceProperties     : {Caption, Description, InstallDate, Name...}
CimSystemProperties       : Microsoft.Management.Infrastructure.CimSystemProperties
```

SysInfo cmdlet:

`Get-LocalDisk`

SysInfo Output:

```
PS S:\> get-localdisk


Caption                   : C:
Description               : Local Fixed Disk
InstallDate               :
Name                      : C:
Status                    :
Availability              :
ConfigManagerErrorCode    :
ConfigManagerUserConfig   :
DeviceID                  : C:
ErrorCleared              :
ErrorDescription          :
LastErrorCode             :
PowerManagementCapabilities :
PowerManagementSupported  :
StatusInfo                :
SystemName                : [redacted]
Access                    :
BlockSize                 :
ErrorMethodology          :
NumberOfBlocks            :
Purpose                   :
FreeSpace                 : 65857327104
Size                      : 240054693888
Compressed                : False
DriveType                 : Local Disk
FileSystem                : NTFS
MaximumComponentLength    : 255
MediaType                 : Fixed hard disk media
ProviderName              :
QuotasDisabled            :
QuotasIncomplete          :
QuotasRebuilding          :
SupportsDiskQuotas        : False
SupportsFileBasedCompression : True
VolumeDirty               :
VolumeName                :
VolumeSerialNumber        : BA47DDCD
SizeKB                    : 234428412
SizeMB                    : 228934
SizeGB                    : 223.57
SizeTB                    : 0.22
FreeSpaceKB               : 64313796
FreeSpaceMB               : 62806.44
FreeSpaceGB               : 61.33
FreeSpaceTB               : 0.06
```

CIM output codes converted into meaningful information

As you may say in the examples above, CIM cmdlets provide the numbers in some case as property values. Each number has a meaning. By using SysInfo cmdlets, it will provide you with the exact meaning of each property. Lets compare few results below:

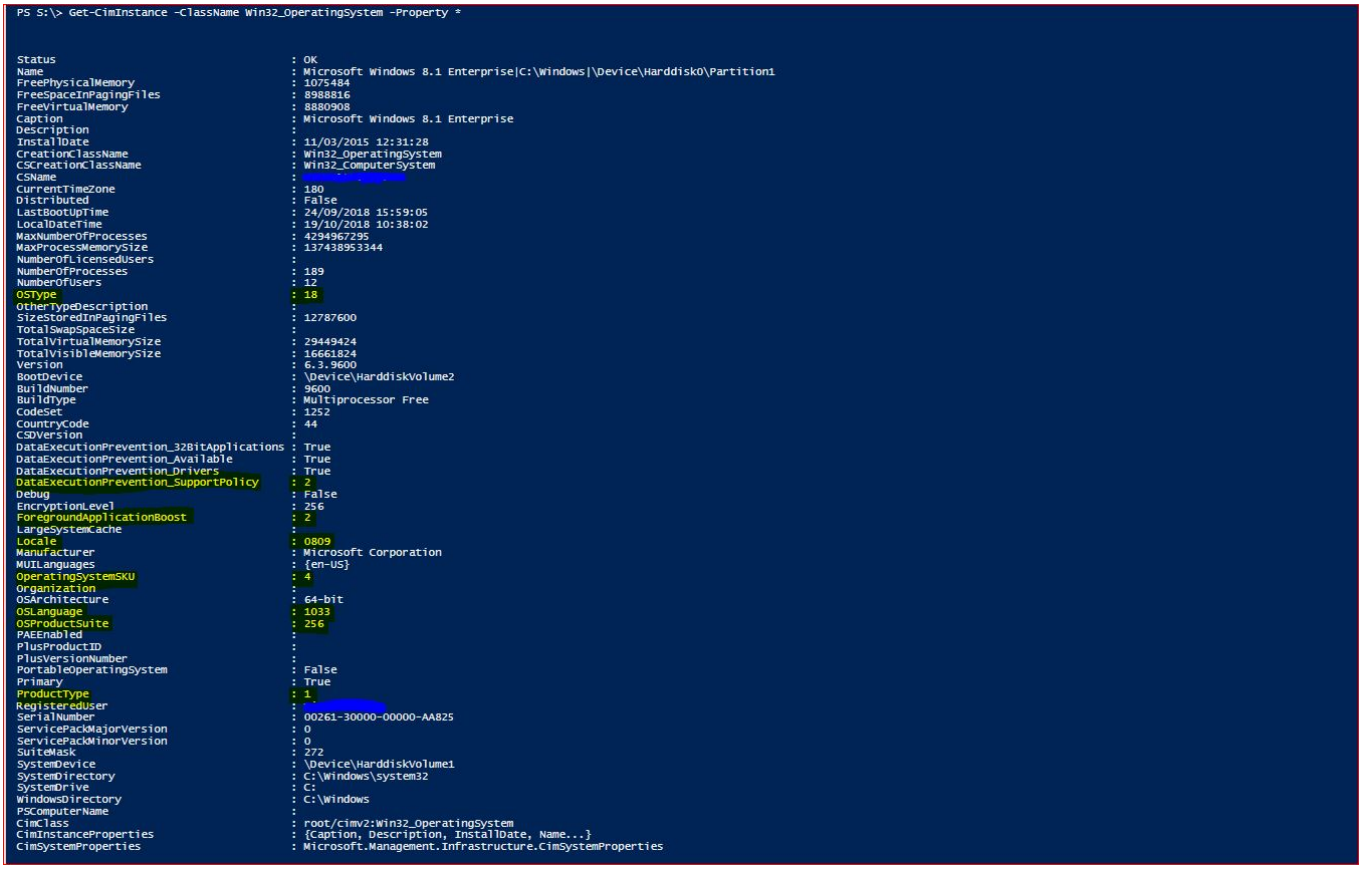
Example 3

In this example we will see the information for the operating system.

CIM cmdlet:

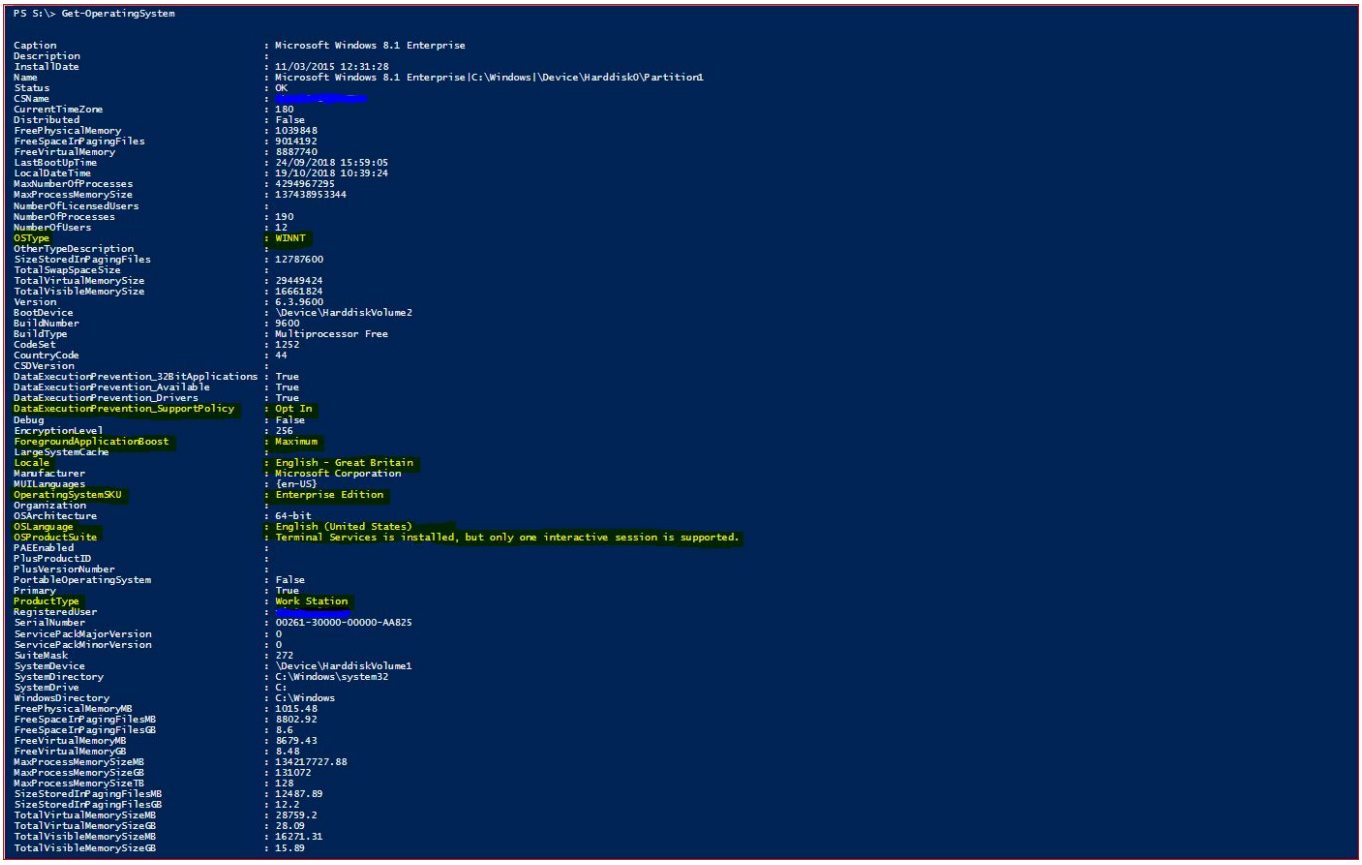
```
Get-CimInstance -ClassName Win32_OperatingSystem -Property *
```

CIM cmdlet output for Operating System information:



```
Get-OperatingSystem
```

SysInfo cmdlet output for Operating System information:



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Example 4

In this example we will see different properties of cache memory information that numbers in properties have been converted.

CIM cmdlet:

```
Get-CimInstance -ClassName Win32_CacheMemory -Property * |
    Select-Object -Property Name,Purpose,Availability,StatusIn
        Associativity,CacheType,CurrentSRAM,ErrorAccess,
        ErrorCorrectType,ErrorDataOrder,ErrorInfo,Level,
```

Output:

```
PS S:\> Get-CimInstance -ClassName Win32_CacheMemory -Property * |
    Select-Object -Property Name,Purpose,Availability,StatusInfo,
        Associativity,CacheType,CurrentSRAM,ErrorAccess,
        ErrorCorrectType,ErrorDataOrder,ErrorInfo,Level,
        Location,ReadPolicy,ReplacementPolicy,SupportedSRAM,
        WritePolicy


Name              : Cache Memory
Purpose           : CPU Internal L2
Availability      : 3
StatusInfo        : 3
Associativity     : 7
CacheType         : 5
CurrentSRAM       : {1}
ErrorAccess       :
ErrorCorrectType  : 6
ErrorDataOrder    :
ErrorInfo         :
Level             : 4
Location          : 0
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : {1}
WritePolicy       : 4

Name              : Cache Memory
Purpose           : CPU Internal L1
Availability      : 3
StatusInfo        : 3
Associativity     : 7
CacheType         : 4
CurrentSRAM       : {1}
ErrorAccess       :
ErrorCorrectType  : 4
ErrorDataOrder    :
ErrorInfo         :
Level             : 3
Location          : 0
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : {1}
WritePolicy       : 4

Name              : Cache Memory
Purpose           : CPU Internal L3
Availability      : 3
StatusInfo        : 3
Associativity     : 9
CacheType         : 5
CurrentSRAM       : {1}
ErrorAccess       :
ErrorCorrectType  : 6
ErrorDataOrder    :
ErrorInfo         :
Level             : 5
Location          : 0
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : {1}
WritePolicy       : 3
```

SysInfo cmdlet:

```
Get-CacheMemory |
    Select-Object -Property Name,Purpose,Availability,StatusIn
        Associativity,CacheType,CurrentSRAM,ErrorAccess,
        ErrorCorrectType,ErrorDataOrder,ErrorInfo,Level,
        Location,ReadPolicy,ReplacementPolicy,SupportedSRAM,
        WritePolicy
```

Output:

```
PS S:\> Get-CacheMemory |
    Select-Object -Property Name,Purpose,Availability,StatusInfo,
        Associativity,CacheType,CurrentSRAM,ErrorAccess,
        ErrorCorrectType,ErrorDataOrder,ErrorInfo,Level,
        Location,ReadPolicy,ReplacementPolicy,SupportedSRAM,
        WritePolicy


Name              : Cache Memory
Purpose           : CPU Internal L2
Availability      : Running or Full Power
StatusInfo        : Enabled
Associativity     : 8-way Set-Associative
CacheType         : Unified
CurrentSRAM       : Unknown
ErrorAccess       :
ErrorCorrectType  : Multi-bit ECC
ErrorDataOrder    :
ErrorInfo         :
Level             : Secondary
Location          :
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : Unknown
WritePolicy       : Write Through

Name              : Cache Memory
Purpose           : CPU Internal L1
Availability      : Running or Full Power
StatusInfo        : Enabled
Associativity     : 8-way Set-Associative
CacheType         : Data
CurrentSRAM       : Unknown
ErrorAccess       :
ErrorCorrectType  : Parity
ErrorDataOrder    :
ErrorInfo         :
Level             : Primary
Location          :
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : Unknown
WritePolicy       : Write Through

Name              : Cache Memory
Purpose           : CPU Internal L3
Availability      : Running or Full Power
StatusInfo        : Enabled
Associativity     : Invalid Code
CacheType         : Unified
CurrentSRAM       : Unknown
ErrorAccess       :
ErrorCorrectType  : Multi-bit ECC
ErrorDataOrder    :
ErrorInfo         :
Level             : Tertiary
Location          :
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : Unknown
WritePolicy       : Write Back
```


Units conversion

SysInfo module will convert units of properties in more readable format and this will allow you to used the units that you like. Some properties related to size will be provided in bytes and others in KBytes. By using SysInfo, it will calculate automatically and convert those properties and it will add extra properties accordingly based on the size.

Let see some examples to better understand. The last properties in each screenshot are the calculated properties that have been added to the output object.

Get-Processor

```
PS S:\> Get-Processor

Caption                                 : Intel64 Family 6 Model 58 Stepping 9
Description                             : Intel64 Family 6 Model 58 Stepping 9
InstallDate                             :
Name                                    : Intel(R) Core(TM) i5-3470 CPU @ 3.20GHz
Status                                  : OK
Availability                            : Running or Full Power
ConfigManagerErrorCode                  :
ConfigManagerUserConfig                 :
DeviceID                                : CPU0
ErrorCleared                            :
ErrorDescription                        :
LastErrorCode                           :
PowerManagementCapabilities             :
PowerManagementSupported                : False
StatusInfo                              : Enabled
SystemName                              : [redacted]
AddressWidth                            : 64
CurrentClockSpeed                       : 3201
DataWidth                               : 64
Family                                  : Intel(R) Core(TM) i5 processor
LoadPercentage                          : 60
MaxClockSpeed                           : 3201
OtherFamilyDescription                  :
Role                                    : CPU
Stepping                                :
UniqueId                                :
UpgradeMethod                           : LGA1155
Architecture                            : x64
CpuStatus                               : CPU Enabled
CurrentVoltage                          : 6
ExtClock                                : 100
L2CacheSize                             : 1024
L2CacheSpeed                            :
L3CacheSize                             : 6144
L3CacheSpeed                            : 0
Level                                   : 6
Manufacturer                            : GenuineIntel
NumberOfCores                           : 4
NumberOfLogicalProcessors               : 4
ProcessorId                             : BFEBFBFF000306A9
ProcessorType                           : Central Processor
Revision                                : 14857
SecondLevelAddressTranslationExtensions : True
SocketDesignation                       : SOCKET 0
Version                                 :
VirtualizationFirmwareEnabled           : True
VMMonitorModeExtensions                 : True
VoltageCaps                             :
L2CacheSizeMB                           : 1
L3CacheSizeMB                           : 6
CurrentClockSpeedGhz                    : 3.2
MaxClockSpeedGhz                        : 3.2
```

Get-LocalDisk

```
PS S:\> get-localdisk

Caption                     : C:
Description                 : Local Fixed Disk
InstallDate                 :
Name                        : C:
Status                      :
Availability                :
ConfigManagerErrorCode      :
ConfigManagerUserConfig     :
DeviceID                    : C:
ErrorCleared                :
ErrorDescription            :
LastErrorCode               :
PowerManagementCapabilities :
PowerManagementSupported    :
StatusInfo                  :
SystemName                  : [redacted]
Access                      :
BlockSize                   :
ErrorMethodology            :
NumberOfBlocks              :
Purpose                     :
FreeSpace                   : 65857327104
Size                        : 240054693888
Compressed                  : False
DriveType                   : Local Disk
FileSystem                  : NTFS
MaximumComponentLength      : 255
MediaType                   : Fixed hard disk media
ProviderName                :
QuotasDisabled              :
QuotasIncomplete            :
QuotasRebuilding            :
SupportsDiskQuotas          : False
SupportsFileBasedCompression : True
VolumeDirty                 :
VolumeName                  :
VolumeSerialNumber          : BA47DDCD
SizeKB                      : 234428412
SizeMB                      : 228934
SizeGB                      : 223.57
SizeTB                      : 0.22
FreeSpaceKB                 : 64313796
FreeSpaceMB                 : 62806.44
FreeSpaceGB                 : 61.33
FreeSpaceTB                 : 0.06
```

Get-CacheMemory

```
PS S:\> Get-CacheMemory |
    Select-Object -Property Name,Purpose,Availability,StatusInfo,
        Associativity,CacheType,CurrentSRAM,ErrorAccess,
        ErrorCorrectType,ErrorDataOrder,ErrorInfo,Level,
        Location,ReadPolicy,ReplacementPolicy,SupportedSRAM,
        WritePolicy


Name              : Cache Memory
Purpose           : CPU Internal L2
Availability      : Running or Full Power
StatusInfo        : Enabled
Associativity     : 8-way Set-Associative
CacheType         : Unified
CurrentSRAM       : Unknown
ErrorAccess       :
ErrorCorrectType  : Multi-bit ECC
ErrorDataOrder    :
ErrorInfo         :
Level             : Secondary
Location          :
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : Unknown
WritePolicy       : Write Through

Name              : Cache Memory
Purpose           : CPU Internal L1
Availability      : Running or Full Power
StatusInfo        : Enabled
Associativity     : 8-way Set-Associative
CacheType         : Data
CurrentSRAM       : Unknown
ErrorAccess       :
ErrorCorrectType  : Parity
ErrorDataOrder    :
ErrorInfo         :
Level             : Primary
Location          :
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : Unknown
WritePolicy       : Write Through

Name              : Cache Memory
Purpose           : CPU Internal L3
Availability      : Running or Full Power
StatusInfo        : Enabled
Associativity     : Invalid Code
CacheType         : Unified
CurrentSRAM       : Unknown
ErrorAccess       :
ErrorCorrectType  : Multi-bit ECC
ErrorDataOrder    :
ErrorInfo         :
Level             : Tertiary
Location          :
ReadPolicy        :
ReplacementPolicy :
SupportedSRAM     : Unknown
WritePolicy       : Write Back
```


PowerShell Module Cmdlets List

- Get-1394Controller
- Get-BaseBoard
- Get-Battery
- Get-BIOS
- Get-Bus
- Get-CacheMemory
- Get-CDROMDrive
- Get-CompactDisc
- Get-Desktop
- Get-DesktopMonitor
- Get-DiskDrive
- Get-DiskPartition
- Get-Fan

- Get-HeatPipe
- Get-IDEController
- Get-InfraredDevice
- Get-Keyboard
- Get-LocalDisk
- Get-LogicalDisk
- Get-MemoryArray
- Get-MemoryDevice
- Get-MotherboardDevice
- Get-Mouse
- Get-NetworkAdapter
- Get-NetworkAdapterConfiguration
- Get-NetworkDrive
- Get-OperatingSystem
- Get-OpticalSensor
- Get-PhysicalMemory
- Get-PhysicalMemoryArray
- Get-PointingDevice
- Get-PortableBattery
- Get-PrinterConfiguration
- Get-PrinterInfo
- Get-Processor
- Get-RAMDisk
- Get-Refrigeration
- Get-RemovableDisk
- Get-SCSIController
- Get-SoundDevice
- Get-SystemEnclosure
- Get-TapeDrive
- Get-TemperatureProbe
- Get-TouchPad
- Get-TouchScreen

- Get-VoltageProbe

Hope you like SysInfo module.

You feedback is appreciated.

If you have any questions or anything else please let me know in the comments below.

[adinserter name="In Article"]

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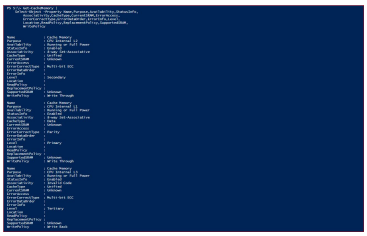
- PowerShell Scripts
- PowerShell Tutorial
- PowerShell Modules
- Modules Cmdlets
- PowerShell Gallery | SysInfo
- GitHub – SConstantinou/SysInfo
- Install-Module – Microsoft Docs
- Import-Module – Microsoft Docs

[adinserter name="Matched-Content"]

Summary



Article Name	PowerShell Module SysInfo
Description	PowerShell Module SysInfo. In this tutorial you will find information about PowerShell Module SysInfo and its use. Stephanos Constantinou Blog
Author	Stephanos
Publisher Name	Stephanos Constantinou Blog
Publisher Logo	

FILED UNDER: POWERSHELL MODULES

TAGGED WITH: WIN32_1394CONTROLLER, WIN32_BASEBOARD, WIN32_BATTERY, WIN32_BIOS, WIN32_BUS, WIN32_CACHEMEMORY, WIN32_CDROMDRIVE, WIN32_COMPUTERSYSTEM, WIN32_DESKTOP, WIN32_DESKTOPMONITOR, WIN32_DISKDRIVE, WIN32_DISKPARTITION, WIN32_FAN, WIN32_FLOPPYCONTROLLER, WIN32_FLOPPYDRIVE, WIN32_HEATPIPE, WIN32_IDECONTROLLER, WIN32_INFRAREDDEVICE, WIN32_KEYBOARD, WIN32_LOGICALDISK, WIN32_MEMORYARRAY, WIN32_MEMORYDEVICE, WIN32_MOTHERBOARDDEVICE, WIN32_NETWORKADAPTER, WIN32_NETWORKADAPTERCONFIGURATION, WIN32_OPERATINGSYSTEM, WIN32_PHYSICALMEMORY, WIN32_PHYSICALMEMORYARRAY, WIN32_POINTINGDEVICE, WIN32_PORTABLEBATTERY, WIN32_PRINTER, WIN32_PRINTERCONFIGURATION, WIN32_PROCESS, WIN32_PROCESSOR, WIN32_REFRIGERATION, WIN32_SCSICONTROLLER, WIN32_SOUNDDEVICE, WIN32_SYSTEMENCLOSURE, WIN32_TAPEDRIVE, WIN32_TEMPERATUREPROBE, WIN32_USBCONTROLLER, WIN32_VIDEOCONTROLLER, WIN32_VOLTAGEPROBE

Comments

This module steps on get-network adapter that is part of the system. To install it requires clobber. Can you rename to remediate this.

Reply

Stephanos says
13/11/2018 at 15:54

Hello,

The default cmdlet is Get-NetAdapter. Have you checked that there is nothing else custom that you have specified in your system? Can you run Get-Command Get-NetworkAdapter and check the source of the cmdlet or function?

Thanks
Stephanos

Reply

Stephanos says
20/11/2018 at 17:09

Hello,

I found out that some cmdlets have naming conflict with VMWare PowerCLI. I have renamed those cmdlets in order to avoid the conflicts.

Thanks
Stephanos

VÃ¡clav Domin says
13/11/2018 at 16:27

Hallo,
plan You detecting TPM chipset a show information about it?

Reply

Stephanos says
13/11/2018 at 16:54

Hello,

Currently I have not added TPM information but I will try to add it in my next updates.

Thanks
Stephanos

Reply

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