

PowerCLI Quick Reference

Virtual Switch Operations

To list all Virtual Switches attached to a VM and some of their properties:

```
Get-VirtualSwitch -VM "MS Win XP SP2"
```

To create a new Virtual Switch:

```
New-VirtualSwitch -VMHost 10.23.112.234 -Name Switch02
```

To Remove a Virtual Switch:

```
$vs = Get-VirtualSwitch -VMHost 10.23.122.345 -Name VS23  
Remove-VirtualSwitch -VirtualSwitch $vs
```

To change the configuration of a Virtual Switch:

```
$vs = New-VirtualSwitch -VMHost 10.23.115.67 -Name  
VirtSwitch
```

```
Set-VirtualSwitch -VirtualSwitch $vs -MTU 500
```

Port Group Operations

To list all the port groups and some of their properties:

```
$vs = Get-VirtualSwitch -VMHost 10.23.112.123 -Name Switch02  
Get-VirtualPortGroup -VirtualSwitch $vs
```

To add a new port group to a virtual switch:

```
$vs = Get-VirtualSwitch -VMHost 10.23.112.123 -Name Switch02
```

```
$vpg = New-VirtualPortGroup -VirtualSwitch $vs -Name VPG1
```

Other port group cmdlets:

```
Remove-VirtualPortGroup  
Set-VirtualPortGroup
```

Datacenter Operations

To list all datacenters from a vSphere server:

```
Get-Datacenter
```

To add a new datacenter:

```
New-Datacenter -Name France
```

Other datacenter cmdlets:

```
Move-Datacenter  
Remove-Datacenter  
Set-Datacenter
```

DRS Rules

Retrieve a list of DRS rules for the specified clusters:

```
Get-DrsRule -Cluster  
"Production"
```

Other DRS Rule cmdlets:

```
New-DrsRule  
Remove-DrsRule  
Set-DrsRule
```

Datastore Operations

To list all datastores and their properties:

```
Get-Datastore
```

Other Datastore cmdlets:

```
New-Datastore  
Remove-Datastore  
Set-Datastore
```

Folder Operations

The below is a list of all Folder related Cmdlets, use the Get-Help function for example uses:

```
Get-Folder  
Move-Folder  
New-Folder  
Remove-Folder  
Set-Folder
```

PowerCLI Quick Reference

Task Information

To list all tasks for a vSphere Server and some of their properties:

```
Get-Task -Server 10.23.112.235 -Status Error
```

To stop a Task (Example stops the task of removing the VM):

```
Stop-Task -Task (Remove-VM -VM "MS Win XP SP2" -Confirm -  
RunAsync)
```

To wait until a task is completed before continuing:

```
Wait-Task -Task (Remove-VM -VM "MS Win XP SP2" -Confirm -  
RunAsync)
```

Snapshot Operations

To list all the snapshots for all virtual machines:

```
Get-VM | Get-Snapshot
```

To snapshot a VM:

```
New-Snapshot -VM "XP SP2" -Name BeforePatch1
```

To remove a snapshot:

```
Remove-Snapshot -Snapshot $snapshot1 -RemoveChildren
```

Other snapshot cmdlets:

```
Set-Snapshot
```

Cluster Operations

To list all the Clusters on the connected vSphere Server and some of their properties:

```
Get-Cluster
```

To add a new Cluster:

```
New-Cluster -Name MyCluster -DRSEnabled -DRSMode  
FullyAutomated
```

Other Cluster cmdlets:

```
Move-Cluster  
Remove-Cluster
```

Resource Pool Operations

To list all Resource Pools on the connected vSphere Server and some of their properties:

```
Get-ResourcePool
```

To create a new resource pool:

```
$clusterRootRP = Get-ResourcePool -Location ( Get-Cluster  
ResearchAndDevelopmentCluster ) -Name Resources
```

```
New-ResourcePool -Location $clusterRootRP -Name  
DevelopmentResources -CpuExpandableReservation $true -  
CpuReservationMhz 500 -CpuSharesLevel high -  
MemExpandableReservation $true -MemReservationMB 500 -  
MemSharesLevel high
```

Other Resource Pool cmdlets:

```
Move-ResourcePool  
Remove-ResourcePool  
Set-ResourcePool
```

PowerCLI Quick Reference by Alan Renouf <http://virtu-al.net>

Getting Started

To find out what cmdlets are available, type:

```
Get-VICommand
```

To show documentation for all available cmdlets:

```
Get-PowerCLIDocumentation
```

For help with a cmdlet type:

```
Get-Help cmdlet-name -Full | More
```

How to connect to a VC or Host

To connect to a vCenter Server. Start a new session or re-establish a previous session with a vCenter server. Multiple connections are now available.

```
$srv = Connect-VIServer -Server 10.23.115.133 -User Admin -  
Password Pass01  
$srv2 = Connect-VIServer -Server 192.168.0.3 -User Admin2 -  
Password Pass02
```

To disconnect from a connected vCenter Server.

```
Disconnect-VIServer -Server $srv -Confirm:$false
```

Security Operations

The below is a list of security cmdlets, use the Get-Help function for example uses:

```
Get-VIPermission -Entity (Get-Datacenter) -Principal  
Administrator
```

Other security cmdlets:

```
Get-VIPrivilege  
Get-VIRole  
Set-VIPermission  
Set-VIRole  
New-VIPermission  
New-VIRole  
Remove-VIPermission  
Remove-VIRole
```

I Need Help !

How to Get More Information

For more information and help with the vSphere PowerCLI use the following cmdlets:

```
Get-VICommand  
Get-PowerCLIHelp  
Get-PowerCLICommunity
```

Make sure you visit the following sites for PowerShell Podcasts:

<http://get-scripting.blogspot.com/>
<http://powerscripting.net/>

These cmdlets are a reference of the PowerCLI Version 4.0 U1 cmdlets
For more great scripts and PowerCLI help visit <http://virtu-al.net>



PowerCLI Quick Reference

Virtual Machine Operations

To list all VM's on the connected vSphere Server and some of their properties:
`Get-VM`

To create a new VM:

```
$esxhost = Get-VMHost "ESXHost01.mydomain.com"
New-VM -Name XPVM -VMHost $esxhost -DiskMB 4000 -MemoryMB 256
```

To Remove a VM:

```
Remove-VM "myVM" -DeleteFromDisk
```

To Move a VM:

```
Get-VM -Name XP_VC_Tech | Move-VM -Destination (Get-VMHost 10.23.112.235)
```

Change the configuration of a VM:

```
Set-VM -VM "Win XP SP1" -Name "Win XP SP2" -GuestId "winXPProGuest" -Description "My updated Win XP virtual machine."
```

Other VM specific cmdlets:

<code>Start-VM</code>	<code>Stop-VM</code>
<code>Suspend-VM</code>	<code>Restart-VM</code>

The below is a list of all other VM related Cmdlets, use the Get-Help function for example uses:

<code>Get-CDDrive</code>	<code>New-CDDrive</code>
<code>Remove-CDDrive</code>	<code>Set-CDDrive</code>
<code>New-FloppyDrive</code>	<code>Get-FloppyDrive</code>
<code>Set-FloppyDrive</code>	<code>Remove-FloppyDrive</code>
<code>Get-HardDisk</code>	<code>New-HardDisk</code>
<code>Set-HardDisk</code>	<code>New-NetworkAdapter</code>
<code>Get-NetworkAdapter</code>	<code>Remove-NetworkAdapter</code>
<code>Set-NetworkAdapter</code>	<code>Get-VMGuest</code>
<code>Restart-VMGuest</code>	<code>Shutdown-VMGuest</code>
<code>Suspend-VMGuest</code>	<code>Set-VMResourceConfiguration</code>
<code>Get-VMResourceConfiguration</code>	<code>Get-VMStartPolicy</code>
<code>Set-VMStartPolicy</code>	<code>Set-VMHostStorage</code>
<code>Set-VMHostHba</code>	<code>Get-VMHostHba</code>
<code>Set-VMQuestion</code>	<code>Get-VMQuestion</code>

VM Invoked Operations

To Run a script or command inside a VM:

```
Invoke-VMScript -VM myVM -ScriptText "dir"
```

Other Invoked cmdlets:

<code>Get-VMGuestNetworkInterface</code>	<code>Set-VMGuestRoute</code>
<code>New-VMGuestRoute</code>	<code>Set-VMGuestNetworkInterface</code>
<code>Copy-VMGuestFile</code>	<code>Remove-VMGuestRoute</code>
<code>Get-VMGuestRoute</code>	

PowerCLI Books



vSphere 4.0 Quick Start Guide

<http://amzn.com/1439263450>



Managing VMware Infrastructure with Windows PowerShell

<http://amzn.com/0982131402>

PowerCLI Quick Reference

Host Operations

To list all the vSphere Servers (VMHost) on the connected vSphere Server and some of their properties:

```
Get-VMHost
```

To add a new VMHost:

```
Add-VMHost 10.23.113.24 -Location (Get-Datacenter Main) -User root -Password MyPass
```

To remove a VMHost:

```
Remove-VMHost 10.22.112.235
```

To move a VMHost:

```
Move-VMHost 10.23.112.113 -Destination (Get-Datacenter MyDatacenter)
```

To change the state of a VMHost:

```
Set-VMHost -VMHost "Host01" -State "Disconnected"
```

The below is a list of all other VMHost related Cmdlets, use the Get-Help function for example uses:

<code>Get-VMHostAccount</code>	<code>New-VMHostAccount</code>
<code>Remove-VMHostAccount</code>	<code>Set-VMHostAccount</code>
<code>Set-VMHostAdvancedConfiguration</code>	<code>Set-VMHostFirmware</code>
<code>Get-VMHostDiagnosticPartition</code>	<code>Get-VMHostModule</code>
<code>Set-VMHostFirewallDefaultPolicy</code>	<code>Set-VMHostNetwork</code>
<code>Set-VMHostFirewallException</code>	<code>New-VMHostNetworkAdapter</code>
<code>Get-VMHostFirmware</code>	<code>Set-VMHostNetworkAdapter</code>
<code>Set-VMHostModule</code>	<code>Add-VMHostNtpServer</code>
<code>Get-VMHostNetwork</code>	<code>Restart-VMHostService</code>
<code>Remove-VMHostNetworkAdapter</code>	<code>Start-VMHostService</code>
<code>Get-VMHostAdvancedConfiguration</code>	<code>Set-VMHostSnmpp</code>
<code>Get-VMHostAvailableTimeZone</code>	<code>Get-VMHostNetworkAdapter</code>
<code>Set-VMHostDiagnosticPartition</code>	<code>Set-VMHostStartPolicy</code>
<code>Get-VMHostFirewallDefaultPolicy</code>	<code>Get-VMHostStorage</code>
<code>Get-VMHostFirewallException</code>	<code>Get-VMHostNtpServer</code>
<code>Get-VMHostService</code>	<code>Remove-VMHostNtpServer</code>
<code>Set-VMHostService</code>	<code>Get-VMHostStartPolicy</code>
<code>Stop-VMHostService</code>	<code>Get-VMHostSysLogServer</code>
<code>Get-VMHostSnmpp</code>	<code>Set-VMHostSysLogServer</code>
<code>Test-VMHostSnmpp</code>	
<code>Restart-VMHost</code>	<code>Stop-VMHost</code>
<code>Start-VMHost</code>	<code>Suspend-VMHost</code>

API Operations

Returns a vSphere .Net view object by specified search criteria.

```
$vm = Get-View -ViewType VirtualMachine -Filter @{ "Name" = "MS Win XP SP2" }
```

```
$hostView = Get-View -ID $vm.Runtime.Host
```

```
$hostView.Summary.Runtime
```

Another Example:

```
(Get-View (Get-Host 'ESX1' | get-view).ConfigManager.VmotionSystem).SelectVnic('vmk0')
```

PowerCLI Quick Reference

Other Operations

The below is a list of all other cmdlets, use the Get-Help function for example uses:

<code>New-CustomField</code>	<code>Remove-CustomField</code>
<code>Set-CustomField</code>	
<code>Get-Inventory</code>	<code>Move-Inventory</code>
<code>Remove-Inventory</code>	
<code>Get-Log</code>	<code>Get-LogType</code>
	<code>Get-OSCustomizationSpec</code>
<code>New-OSCustomizationSpec</code>	<code>Remove-OSCustomizationSpec</code>
<code>Set-OSCustomizationSpec</code>	
<code>Get-ScsiLun</code>	<code>Set-ScsiLun</code>
<code>Get-ScsiLunPath</code>	<code>Set-ScsiLunPath</code>
	<code>Get-Stat</code>
<code>Get-StatInterval</code>	<code>New-StatInterval</code>
<code>Remove-StatInterval</code>	<code>Set-StatInterval</code>
<code>Get-StatType</code>	
<code>Get-Template</code>	<code>New-Template</code>
<code>Remove-Template</code>	<code>Set-Template</code>
	<code>Dismount-Tools</code>
<code>Mount-Tools</code>	<code>Update-Tools</code>
<code>Get-VIEvent</code>	<code>Get-VICredentialStoreItem</code>
<code>Get-VIObjectByVIView</code>	<code>New-VICredentialStoreItem</code>
	<code>Remove-VICredentialStoreItem</code>
<code>Add-PassthroughDevice</code>	<code>Get-PassthroughDevice</code>
<code>Remove-PassthroughDevice</code>	
<code>Apply-DrsRecommendation</code>	<code>Get-DrsRecommendation</code>
	<code>Copy-DatastoreItem</code>
	<code>Copy-HardDisk</code>
<code>Remove-HardDisk</code>	<code>Set-Annotation</code>
<code>Get-Annotation</code>	<code>Get-CustomAttribute</code>
	<code>Set-CustomAttribute</code>
<code>New-CustomAttribute</code>	
<code>Remove-CustomAttribute</code>	<code>Get-IsCsiHbaTarget</code>
<code>New-IsCsiHbaTarget</code>	<code>Remove-IsCsiHbaTarget</code>
<code>Set-IsCsiHbaTarget</code>	<code>Get-NicTeamingPolicy</code>
<code>Set-NicTeamingPolicy</code>	<code>New-OSCustomizationNicMapping</code>
<code>Get-OSCustomizationNicMapping</code>	
<code>Set-OSCustomizationNicMapping</code>	
<code>Get-PowerCLIConfiguration</code>	<code>Get-PowerCLIVersion</code>
	<code>Remove-OSCustomizationNicMapping</code>
<code>Move-Template</code>	<code>Install-VMHostPatch</code>
<code>Set-PowerCLIConfiguration</code>	
<code>Get-UsbDevice</code>	<code>Remove-UsbDevice</code>

vApp Operations

The below is a list of vApp cmdlets, use the Get-Help function for example uses:

```
New-VApp -Name MyVApp -CpuLimitMhz 4000 -CpuReservationMhz 1000 -Location (Get-VMHost MyHost)
```

Other vApp cmdlets:

```
Remove-VApp
Set-VApp
Start-VApp
Stop-VApp
Export-VApp
Get-VApp
Import-VApp
```