

Cluster

- Get-Cluster
- Move-Cluster
- New-Cluster
- Remove-Cluster
- Set-Cluster
- Get-DrscClusterGroup
- New-DrscClusterGroup
- Remove-DrscClusterGroup
- Set-DrscClusterGroup
- Get-DrscRecommendation
- Invoke-DrscRecommendation
- Get-DrscRule
- New-DrscRule
- Remove-DrscRule
- Set-DrscRule
- Get-DrscVMHostRule
- New-DrscVMHostRule
- Remove-DrscVMHostRule
- Set-DrscVMHostRule
- Get-HAPrimaryVMHost
- Get-ResourcePool
- Move-ResourcePool
- New-ResourcePool
- Remove-ResourcePool
- Set-ResourcePool

vCenter Server

- Get-AdvancedSetting
- New-AdvancedSetting
- Remove-AdvancedSetting
- Set-AdvancedSetting
- Get-AlarmAction
- New-AlarmAction
- Remove-AlarmAction
- Get-AlarmActionTrigger
- New-AlarmActionTrigger
- Remove-AlarmActionTrigger
- Get-AlarmDefinition
- Set-AlarmDefinition
- Get-Annotation
- Set-Annotation
- Get-ContentLibraryItem
- Get-CustomAttribute
- New-CustomAttribute
- Remove-CustomAttribute
- Set-CustomAttribute
- Get-Datacenter
- Move-Datacenter
- New-Datacenter
- Remove-Datacenter
- Set-Datacenter
- Get-ErrorReport
- Get-Folder
- Move-Folder
- New-Folder
- Remove-Folder
- Set-Folder
- Get-Inventory
- Move-Inventory
- Remove-Inventory
- Get-OSCustomizationNicMapping
- New-OSCustomizationNicMapping
- Remove-OSCustomizationNicMapping
- Set-OSCustomizationNicMapping
- Get-OSCustomizationSpec
- New-OSCustomizationSpec
- Remove-OSCustomizationSpec
- Set-OSCustomizationSpec
- Get-OvfConfiguration
- Get-Stat
- Get-StatInterval
- New-StatInterval
- Remove-StatInterval
- Set-StatInterval
- Get-StatType
- Get-Tag
- New-Tag
- Remove-Tag
- Set-Tag
- Get-TagAssignment
- New-TagAssignment
- Remove-TagAssignment
- Set-TagAssignment
- Get-TagCategory
- Remove-TagCategory
- Set-TagCategory
- Get-Task
- Stop-Task
- Wait-Task
- Export-VApp
- Get-VApp
- Import-VApp
- Move-VApp
- New-VApp
- Remove-VApp
- Set-VApp
- Start-VApp
- Stop-VApp
- Get-VIAccount
- Get-VIEvent
- Get-View
- New-VIInventoryDrive
- New-NetworkAdapter
- Remove-NetworkAdapter
- Set-NetworkAdapter
- Add-PassthroughDevice
- Get-PassthroughDevice
- Remove-PassthroughDevice
- Get-ScsiController
- New-ScsiController
- Set-ScsiController
- Get-Snapshot
- New-Snapshot
- Remove-Snapshot
- Set-Snapshot
- Get-Template
- Move-Template
- New-Template
- Remove-Template
- Set-Template
- Dismount-Tools
- Mount-Tools
- Update-Tools
- Wait-Tools
- Get-UsbDevice
- Remove-UsbDevice
- Get-VM
- Move-VM
- New-VM
- Remove-VM
- Restart-VM
- Set-VM
- Start-VM
- Stop-VM
- Suspend-VM
- Open-VMConsoleWindow
- Get-VMGuest
- Restart-VMGuest
- Stop-VMGuest
- Suspend-VMGuest
- Copy-VMGuestFile
- Get-VMQuestion
- Set-VMQuestion
- Get-VMResourceConfiguration
- Set-VMResourceConfiguration
- Invoke-VMScript
- Get-VMStartPolicy
- Set-VMStartPolicy

Virtual Machine

- Get-CDDrive
- New-CDDrive
- Remove-CDDrive
- Set-CDDrive
- Get-FloppyDrive
- New-FloppyDrive
- Remove-FloppyDrive
- Set-FloppyDrive
- Copy-HardDisk
- Get-HardDisk
- Move-HardDisk
- New-HardDisk
- Remove-HardDisk
- Set-HardDisk
- Get-NetworkAdapter
- New-NetworkAdapter
- Remove-NetworkAdapter
- Set-NetworkAdapter
- Add-PassthroughDevice
- Get-PassthroughDevice
- Remove-PassthroughDevice
- Get-ScsiController
- New-ScsiController
- Set-ScsiController
- Get-Snapshot
- New-Snapshot
- Remove-Snapshot
- Set-Snapshot
- Get-Template
- Move-Template
- New-Template
- Remove-Template
- Set-Template
- Dismount-Tools
- Mount-Tools
- Update-Tools
- Wait-Tools
- Get-UsbDevice
- Remove-UsbDevice
- Get-VM
- Move-VM
- New-VM
- Remove-VM
- Restart-VM
- Set-VM
- Start-VM
- Stop-VM
- Suspend-VM
- Open-VMConsoleWindow
- Get-VMGuest
- Restart-VMGuest
- Stop-VMGuest
- Suspend-VMGuest
- Copy-VMGuestFile
- Get-VMQuestion
- Set-VMQuestion
- Get-VMResourceConfiguration
- Set-VMResourceConfiguration
- Invoke-VMScript
- Get-VMStartPolicy
- Set-VMStartPolicy

Common Infrastructure Service

- Get-CisCommand
- Connect-CisServer
- Disconnect-CisServer
- Get-CisService

NSX-T

- Connect-NsxtServer
- Disconnect-NsxtServer
- Get-NsxtService

PowerCLI

- Get-PowerCLIConfiguration
- Set-PowerCLIConfiguration
- Get-PowerCLIVersion
- Get-VICommand
- Get-VICredentialStoreItem
- New-VICredentialStoreItem
- Remove-VICredentialStoreItem

VMware Cloud on AWS

- Connect-Vmc
- Disconnect-Vmc
- Get-VmcService

Storage Utility

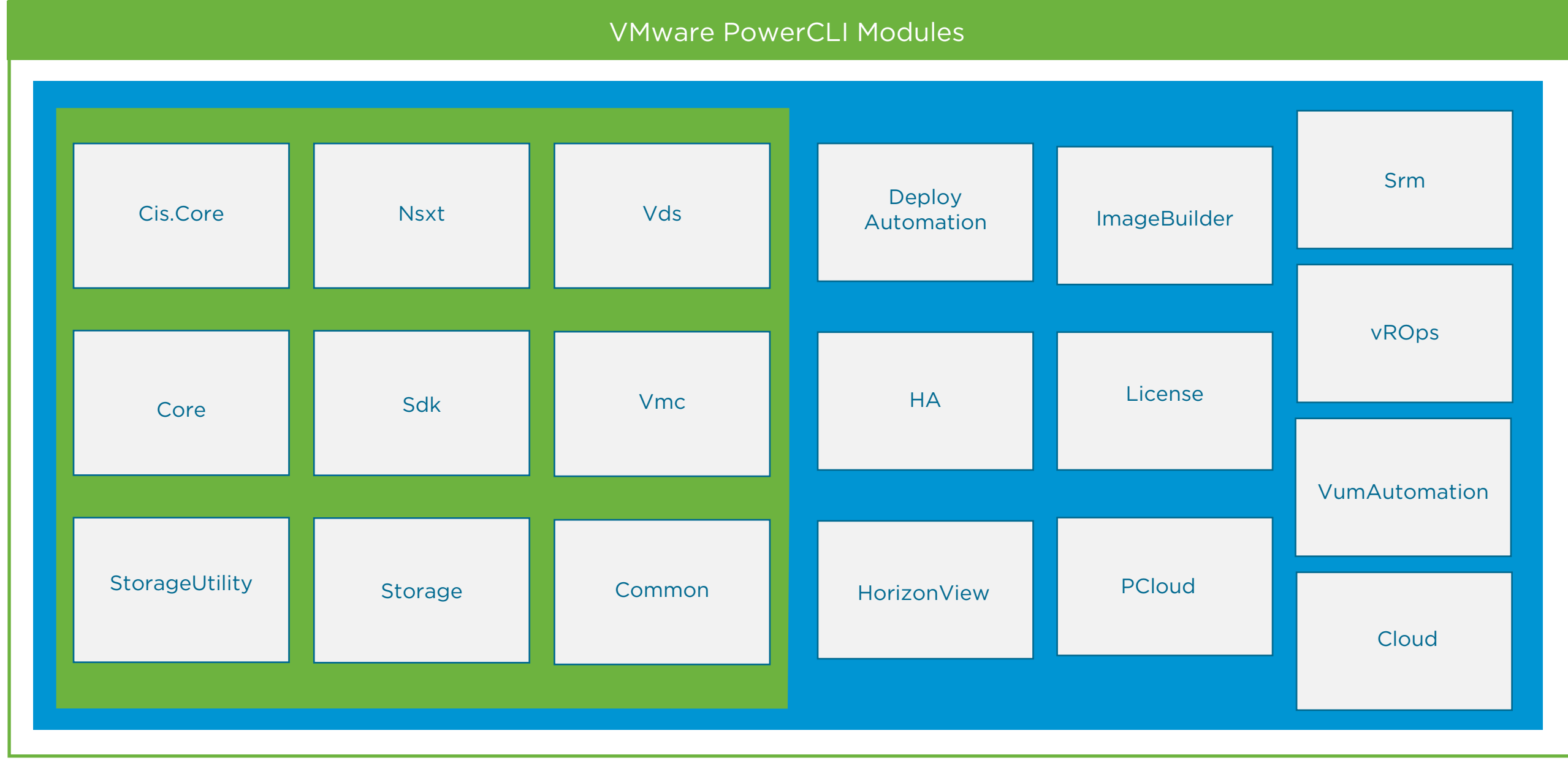
- Update-VmfsDatastore

ESXi Host

- Get-Datastore
- Move-Datastore
- New-Datastore
- Remove-Datastore
- Set-Datastore
- Get-DatastoreCluster
- New-DatastoreCluster
- Remove-DatastoreCluster
- Set-DatastoreCluster
- New-DatastoreDrive
- Copy-DatastoreItem
- Get-ESXCLI
- Get-ESXTop
- Get-IscsiHbaTarget
- New-IscsiHbaTarget
- Remove-IscsiHbaTarget
- Set-IscsiHbaTarget
- Get-Log
- Get-LogType
- Get-NicTeamingPolicy
- Set-NicTeamingPolicy
- Get-ScsiLun
- Set-ScsiLun
- Get-ScsiLunPath
- Set-ScsiLunPath
- Get-SecurityPolicy
- Set-SecurityPolicy
- Get-VirtualPortGroup
- New-VirtualPortGroup
- Remove-VirtualPortGroup
- Set-VirtualPortGroup
- Get-VirtualSwitch
- New-VirtualSwitch
- Remove-VirtualSwitch
- Set-VirtualSwitch
- Add-VirtualSwitchPhysicalNetworkAdapter
- Remove-VirtualSwitchPhysicalNetworkAdapter
- Add-VMHost
- Get-VMHost
- Move-VMHost
- Restart-VMHost
- Set-VMHost
- Start-VMHost
- Stop-VMHost
- Suspend-VMHost
- Get-VMHostAccount
- New-VMHostAccount
- Remove-VMHostAccount
- Set-VMHostAccount
- Get-VMHostAdvancedConfiguration
- Set-VMHostAdvancedConfiguration
- Get-VMHostAuthentication
- Set-VMHostAuthentication
- Get-VMHostAvailableTimezone
- Set-VMHostAvailableTimezone
- Get-VMHostDiagnosticPartition
- Set-VMHostDiagnosticPartition
- Get-VMHostDisk
- Format-VMHostDiskPartition
- Get-VMHostFirewallDefaultPolicy
- Set-VMHostFirewallDefaultPolicy
- Get-VMHostFirewallException
- Set-VMHostFirewallException
- Get-VMHostFirmware
- Set-VMHostFirmware
- Get-VMHostHardware
- Set-VMHostHardware
- Get-VMHostHba
- Set-VMHostHba
- Restart-VMHostModule
- Set-VMHostModule
- Get-VMHostNetwork
- Set-VMHostNetwork
- Get-VMHostNetworkAdapter
- New-VMHostNetworkAdapter
- Remove-VMHostNetworkAdapter
- Set-VMHostNetworkAdapter
- Add-VMHostNtpServer
- Get-VMHostNtpServer
- Remove-VMHostNtpServer
- Set-VMHostNtpServer
- Get-VMHostPatch
- Install-VMHostPatch
- Get-VMHostPciDevice
- Set-VMHostPciDevice
- Export-VMHostProfile
- Get-VMHostProfile
- Import-VMHostProfile
- Invoke-VMHostProfile
- New-VMHostProfile
- Remove-VMHostProfile
- Set-VMHostProfile
- Test-VMHostProfileCompliance
- Get-VMHostProfileRequiredInput
- Set-VMHostProfileRequiredInput
- Get-VMHostRoute
- New-VMHostRoute
- Remove-VMHostRoute
- Set-VMHostRoute
- Get-VMHostService
- Restart-VMHostService
- Set-VMHostService
- Start-VMHostService
- Stop-VMHostService
- Get-VMHostSnmpp
- Set-VMHostSnmpp
- Test-VMHostSnmpp
- Get-VMHostStartPolicy
- Set-VMHostStartPolicy
- Get-VMHostStorage
- Set-VMHostStorage
- Get-VMHostSysLogServer
- Set-VMHostSysLogServer

Virtual Machine

- Get-VMHostProfile
- Import-VMHostProfile
- Invoke-VMHostProfile
- New-VMHostProfile
- Remove-VMHostProfile
- Set-VMHostProfile
- Test-VMHostProfileCompliance
- Get-VMHostProfileRequiredInput
- Set-VMHostProfileRequiredInput
- Get-VMHostRoute
- New-VMHostRoute
- Remove-VMHostRoute
- Set-VMHostRoute
- Get-VMHostService
- Restart-VMHostService
- Set-VMHostService
- Start-VMHostService
- Stop-VMHostService
- Get-VMHostSnmpp
- Set-VMHostSnmpp
- Test-VMHostSnmpp
- Get-VMHostStartPolicy
- Set-VMHostStartPolicy
- Get-VMHostStorage
- Set-VMHostStorage
- Get-VMHostSysLogServer
- Set-VMHostSysLogServer



vSphere Distributed Switch

- Get-VDBlockedPolicy
- Set-VDBlockedPolicy
- Get-VDPort
- Set-VDPort
- Export-VDPortGroup
- Get-VDPortGroup
- New-VDPortGroup
- Remove-VDPortGroup
- Set-VDPortGroup
- Get-VDPortgroupOverridePolicy
- Set-VDPortgroupOverridePolicy
- Get-VDSecurityPolicy
- Set-VDSecurityPolicy
- Export-VDSwitch
- Get-VDSwitch
- New-VDSwitch
- Remove-VDSwitch
- Set-VDSwitch
- Add-VDSwitchPhysicalNetworkAdapter
- Remove-VDSwitchPhysicalNetworkAdapter
- Get-VDSwitchPrivateVlan
- New-VDSwitchPrivateVlan
- Remove-VDSwitchPrivateVlan
- Get-SpbnReplicationGroup
- Set-SpbnReplicationGroup
- Start-SpbnReplicationPrepareFailover
- Start-SpbnReplicationReverse
- Start-SpbnReplicationTestFailover
- Stop-SpbnReplicationTestFailover
- New-SpbnRule
- Export-SpbnStoragePolicy
- Get-SpbnStoragePolicy
- Import-SpbnStoragePolicy
- New-SpbnStoragePolicy

Storage

- Add-KeyManagementServer
- Get-KeyManagementServer
- Remove-KeyManagementServer
- Set-KeyManagementServer
- Get-KmpClientCertificate
- New-KmpClientCertificate
- Get-KmsCluster
- Set-KmsCluster
- Remove-VasaProvider
- New-VasaProvider
- Get-VasaProvider
- Remove-VasaProvider
- Get-VasaStorageArray
- Copy-VDisk
- Get-VDisk
- Move-VDisk
- New-VDisk
- Remove-VDisk
- Set-VDisk
- Get-SpbnCapability
- Get-SpbnCompatibleStorage
- Get-SpbnEntityConfiguration
- Set-SpbnEntityConfiguration
- Get-SpbnFaultDomain
- Get-SpbnPointInTimeReplica
- Start-SpbnReplicationFailover
- Get-SpbnReplicationGroup
- Sync-SpbnReplicationGroup
- Get-SpbnReplicationPair
- Start-SpbnReplicationPrepareFailover
- Start-SpbnReplicationReverse
- Start-SpbnReplicationTestFailover
- Stop-SpbnReplicationTestFailover
- New-SpbnRule
- Export-SpbnStoragePolicy
- Get-SpbnStoragePolicy
- Import-SpbnStoragePolicy
- New-SpbnStoragePolicy

vSAN

- Get-VsanClusterConfiguration
- Set-VsanClusterConfiguration
- Start-VsanClusterDiskUpdate
- Test-VsanClusterHealth
- Start-VsanClusterRebalance
- Stop-VsanClusterRebalance
- Get-VsanDisk
- New-VsanDisk
- Remove-VsanDisk
- Set-VsanDiskGroup
- New-VsanDiskGroup
- Remove-VsanDiskGroup
- Set-VsanDiskTarget
- Test-VsanNetworkPerformance
- Repair-VsanObject
- Get-VsanResyncingComponent
- Get-VsanRuntimeInfo
- Get-VsanSpaceUsage
- Get-VsanStat
- Test-VsanStoragePerformance
- Get-VsanView
- Test-VsanVMCreation
- Get-VsanScsiInitiatorGroupTargetAssociation
- New-VsanScsiInitiatorGroupTargetAssociation
- Remove-VsanScsiInitiatorGroupTargetAssociation
- Get-VsanScsiLun
- New-VsanScsiLun
- Remove-VsanScsiLun
- Set-VsanScsiLun
- Get-VsanScsiTarget
- New-VsanScsiTarget
- Remove-VsanScsiTarget
- Set-VsanScsiTarget
- Test-VsanNetworkPerformance
- Repair-VsanObject
- Get-VsanResyncingComponent
- Get-VsanRuntimeInfo
- Get-VsanSpaceUsage
- Get-VsanStat
- Test-VsanStoragePerformance
- Get-VsanView
- Test-VsanVMCreation

vCloud Director

- Get-Catalog
- Get-CIAccessControlRule
- New-CIAccessControlRule
- Remove-CIAccessControlRule
- Set-CIAccessControlRule
- Add-CIDatastore
- Get-CIDatastore
- Get-CINetworkAdapter
- Set-CINetworkAdapter
- Get-CIRole
- Connect-CIServer
- Disconnect-CIServer
- Get-CIUser
- Get-CIVApp
- Import-CIVApp
- New-CIVApp
- Remove-CIVApp
- Restart-CIVApp
- Set-CIVApp
- Start-CIVApp
- Stop-CIVApp
- Suspend-CIVApp
- Restart-CIVAppGuest
- Get-CIVAppNetwork
- New-CIVAppNetwork
- Remove-CIVAppNetwork
- Set-CIVAppNetwork
- Get-CIVAppStartRule
- Set-CIVAppStartRule
- Get-CIVAppTemplate
- Import-CIVAppTemplate
- New-CIVAppTemplate
- Remove-CIVAppTemplate
- Set-CIVAppTemplate
- Get-CIVView
- Get-CIVM
- New-CIVM
- Restart-CIVM
- Start-CIVM
- Stop-CIVM
- Suspend-CIVM
- Restart-CIVMGuest
- Stop-CIVMGuest
- Get-CIVMTemplate
- Search-Cloud

vSphere Auto Deploy

- Switch-ActiveDeployRuleSet
- Get-AutoDeployCommand
- Export-AutoDeployState
- Import-AutoDeployState
- Repair-DeployImageCache
- Get-DeployMachineIdentity
- Set-DeployMachineIdentity
- Get-DeployOption
- Add-DeployRule
- Set-DeployOption
- New-DeployRule
- Remove-DeployRule
- Get-DeployRule
- New-DeployRule
- Remove-DeployRule
- Get-DeployRuleSet
- Set-DeployRuleSet
- Repair-DeployRuleSetCompliance
- Test-DeployRuleSetCompliance
- Set-ESXImageProfileAssociation
- Add-ProxyServer
- Get-ProxyServer
- Remove-ProxyServer
- Add-ScriptBundle
- Get-ScriptBundle
- Get-VMHostAttributes
- Get-VMHostImageProfile
- Get-VMHostMatchingRules

vRealize Operations Manager

- Get-OMAlert
- Set-OMAlert
- Get-OMAlertDefinition
- Get-OMAlertSubType
- Get-OMAlertType
- Get-OMRecommendation
- Get-OMResource
- Connect-OMServer
- Disconnect-OMServer
- Get-OMStat
- Get-OMStatKey
- Get-OMUser
- Get-vROpsCommand

vSphere Update Manager

- Get-Baseline
- Remove-Baseline
- Get-Compliance
- Test-Compliance
- Update-Entity
- Add-EntityBaseline
- Remove-EntityBaseline
- Copy-Patch
- Get-Patch
- Sync-Patch
- Get-PatchBaseline
- New-PatchBaseline
- Get-ImageBuilderCommand

Image Builder

- Compare-ExsiImageProfile
- Export-ExsiImageProfile
- Get-ExsiImageProfile
- New-ExsiImageProfile
- Remove-ExsiImageProfile
- Set-ExsiImageProfile
- Add-ExsSoftwareDepot
- Get-ExsSoftwareDepot
- Remove-ExsSoftwareDepot
- Add-ExsSoftwarePackage
- Get-ExsSoftwarePackage
- Remove-ExsSoftwarePackage
- Get-ImageBuilderCommand

Horizon View

- Get-HvCommand
- Connect-HVServer
- Disconnect-HVServer

vSphere Licensing

- Get-LicenseDataManager
- Get-LicensingCommand

SRM

- Connect-SrmServer
- Disconnect-SrmServer

vCloud Air

- Get-PIComputeInstance
- Get-PIDatacenter
- Connect-PIServer
- Disconnect-PIServer

High Availability

- Get-Drmlinfo

Installing PowerCLI

Installation of PowerCLI is from the PowerShell Gallery and is done directly from within PowerShell

Windows Prerequisites:

- PowerShell 5.x (OR manually install PowerShellGet)
- Uninstall PowerCLI 6.5 RT (OR any other previous versions)
- Internet Connectivity

MacOS/Linux Prerequisites:

- PowerShell Core 6.0.1+
- Internet Connectivity

Installation:

- Open a PowerShell Session
- Run: `Install-Module VMware.PowerCLI -Scope CurrentUser`

Connect to vCenter Server or ESXi

To connect to a VMware vCenter server or ESXi Host: Start a new PowerShell Session

```
$srv = Connect-VIServer -Server "vcenter.fqdn" -User Admin -Password Pass01
```

To disconnect from the connected vSphere server:

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

Getting Started Samples

To list all the snapshots for all virtual machines:

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

Top 5 VM memory allocation:

```
Get-VM | Sort-Object -Property MemoryGB -Descending | Select -First 5
```

Total memory available on all ESXi:

```
$vs = Get-VirtualSwitch -VMHost "vmhost.fqdn" -Name "Switch01"
$vsanDiskGroup = Get-VsanDiskGroup -VMHost "vmhost.fqdn"
Get-VsanDisk -VsanDiskGroup $vsanDiskGroup
```

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

```
$vs = Get-VirtualSwitch -VMHost "vmhost.fqdn" -Name "Switch01"
Get-VirtualPortGroup -VirtualSwitch $vs
```

To list all of the disks within a VSAN disk group for an ESXi host:

```
$vsanDiskGroup = Get-VsanDiskGroup -VMHost "vmhost.fqdn"
Get-VsanDisk -VsanDiskGroup $vsanDiskGroup
```

Remotely Invoke Commands:

```
Invoke-VMScript -VM "LABTEST1" -ScriptText "dir" -GU Administrator -GP "VMware!"
```

Community Repository

The VMware PowerCLI Community Repository is a central location where anyone can contribute their own resources. The repository features a Principles of Operations document to help guide contributors along the process of using, creating, and updating resources which are contained within the repository.

Link: <https://github.com/vmware/PowerCLI-Example-Scripts>

Featured Modules:	Featured Scripts:
<ul style="list-style-type: none"> - VMware on AWS - Horizon View Helper - VM Encryption 	<ul style="list-style-type: none"> - Home Lab Deployment - Affinity Rule Creation - LUN Path Report

Additional Resources

Official PowerCLI Blog - <http://blogs.vmware.com/PowerCLI/>

Documentation - <https://code.vmware.com/tool/vmware-powercli>

VMware PowerCLI Community - <http://vmware.com/go/powercli>

Twitter - <https://twitter.com/PowerCLI>

LinkedIn - <http://www.linkedin.com/groups/PowerCLI-Users-162324>

Facebook - <https://www.facebook.com/vmwarepowercli>

Slack - <https://code.vmware.com/web/code/join>

VMware Education Course: Data Center Automation with vRealize Orchestrator and vSphere PowerCLI - https://mylearn.vmware.com/mgreq/courses.cf?m=one&id_subject=71972

Third-Party PowerCLI training from Pluralsight - <http://www.pluralsight.com>